# Project Report Format

1. **INTRODUCTION**
    1.1 Project Overview
    1.2 Purpose
2. **IDEATION PHASE**
    2.1 Problem Statement
    2.2 Empathy Map Canvas
    2.3 Brainstorming
3. **REQUIREMENT ANALYSIS**
    3.1 Customer Journey map
    3.2 Solution Requirement
    3.3 Data Flow Diagram
    3.4 Technology Stack
4. **PROJECT DESIGN**
    4.1 Problem Solution Fit
    4.2 Proposed Solution
    4.3 Solution Architecture
5. **PROJECT PLANNING & SCHEDULING**
    5.1 Project MileStones & Tasks
    5.2 Sprint Delivery Plan
    5.3 Project Progress Tracking
    5.4 Team management tool for agile(e.g.Trello, Jira, etc..)
6. **Project Development**
    6.1 Data Connectivity
    6.2 Data Preparation
    6.3 Dashboard
    6.4 Story
    6.5 Creativity(font and style)
7. **Project Testing**

7.1 Functional & Performance Testing

**8. Project Documentation**

8.1 Project Documentation: (includes Planning, Design, Process, Schedules, Reports etc,)

8.2 Product Documentation: ( Design & Style, Content Sequence, Source code documentation, UX design document,Tableau Public Links, etc.)

**9. Project Demonstration**

9.1 Project Demo Planning

9.2 Communication

9.3 Demonstration of proposed features

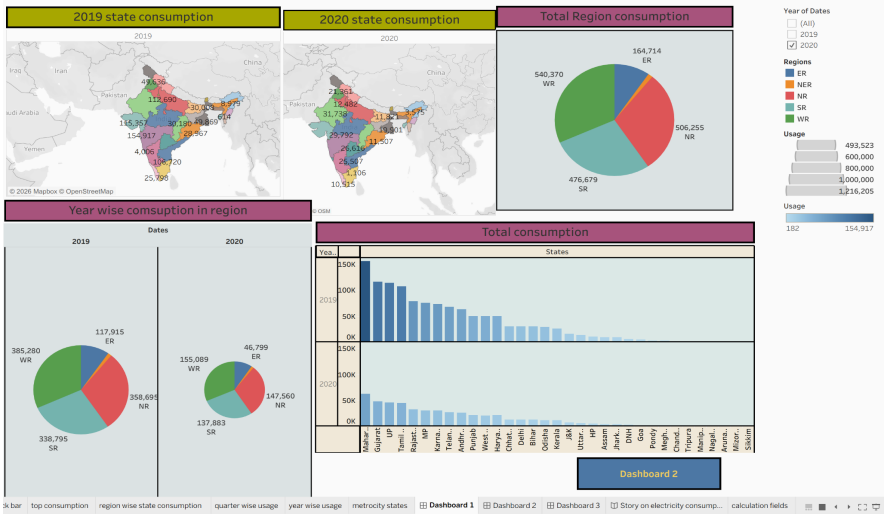
9.4 Team Involvement in demonstration

9.5 Scalability & Future Plan

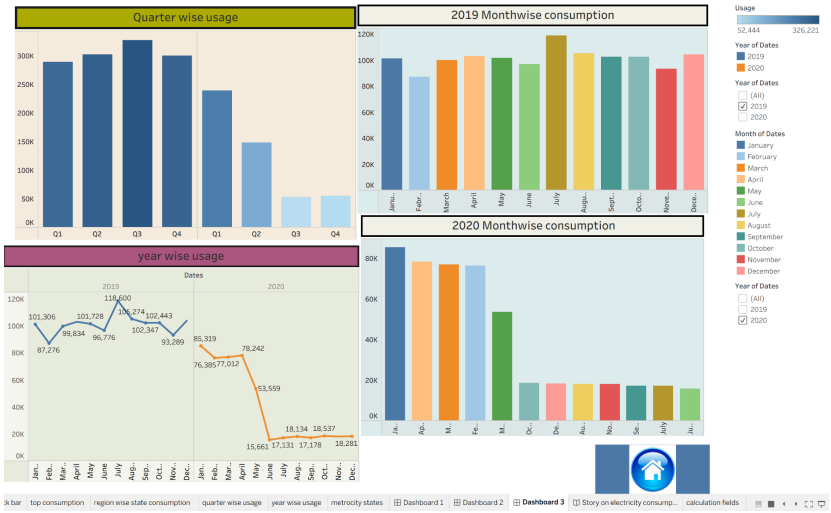
**10 Results**

Output Screenshots

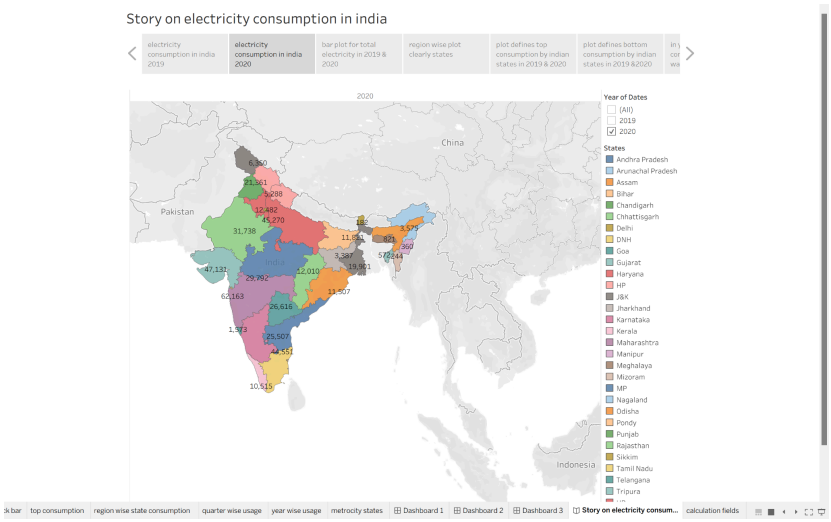
**Dashboards :** 3 Dashboard images

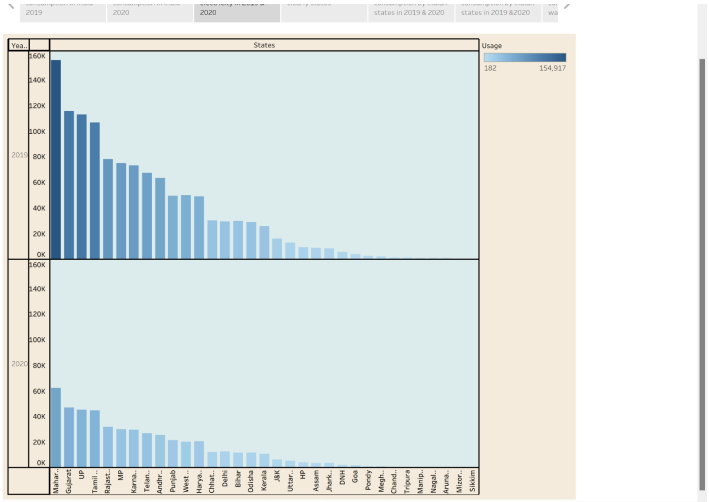

2019 state consumption
2020 state consumption
Total Region consumption
164,714
ER
540,370
WR
506,255
NR
476,679
SR
Year of Dates
(All)
2019
2020
Regions
ER
NER
NR
SR
WR
Usage
493,523
600,000
800,000
1,000,000
1,216,205
Usage
182
154,917
Year wise comsuption in region
Dates
2019
2020
117,915
ER
385,280
WR
358,695
NR
338,795
SR
46,799
ER
155,089
WR
147,560
NR
137,883
SR
Total consumption
States
150K
100K
50K
0K
Dashboard 2
ck bar
top consumption
region wise state consumption
quarter wise usage
year wise usage
metrocity states
Dashboard 1
Dashboard 2
Dashboard 3
Story on electricity consump...
calculation fields


Region wise state consumption
ER
Sikkim 466 182
Jharkhand 8,605 3,387
Odisha 28,967 11,507
Bihar 30,008 11,821
West Bengal 49,869 19,901
NER
Mizoram 614 244
Arunachal Pr.. 754 307
Nagaland 777 311
Manipur 895 360
Tripura 1,483 572
Meghalaya 2,018 821
Assam 8,979 3,575
NR
Chandigarh 1,472 611
HP 9,491 3,873
Uttarakhand 12,899 5,288
J&K 15,915 6,350
Delhi 29,458 12,482
Haryana 48,995 20,587
Punjab 49,636 21,361
Rajasthan 78,139 31,738
UP 112,690 45,270
SR
Pondy 2,653 1,106
Kerala 25,798 10,515
Andhra Prad.. 63,097 25,507
Telangana 67,450 26,616
Karnataka 73,077 29,589
Tamil Nadu 106,720 44,551
WR
Goa 4,006 1,573
DNH 5,845 2,419
Chhattisgarh 30,180 12,010
MP 74,975 29,792
Gujarat 115,357 47,131
Maharashtra 154,917 62,163
Top N
Maharashtra
Gujarat
UP
Tamil Nadu
Rajasthan
Bottom N
Maharas...
Gujarat
UP
Tamil Nadu
Rajasthan
MP
Karnataka
Telangana
Andhra Pradesh
Punjab
West Bengal
2019
2020
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
Nagaland
Odisha
Pondy
Punjab
Rajasthan
Sikkim
Tamil Nadu
Telangana
Tripura
UP
Uttarakhand
West Bengal
Top N
5
Bottom N
11
Dashboard 1
Dashboard 3
ck bar
top consumption
region wise state consumption
quarter wise usage
year wise usage
metrocity states
Dashboard 1
Dashboard 2
Dashboard 3
Story on electricity consump...
calculation fields

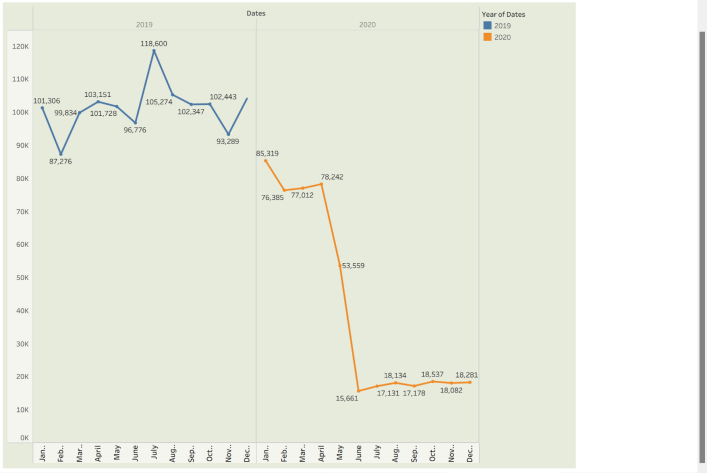



# **Stories :** Few story images




2019
2020
states in 2019 &2020
states in 2019 &2020
Yea..
States
Usage
182
154,917
160K
140K
120K
100K
80K
60K
40K
20K
0K
Mahar..
Gujarat
UP
Tamil..
Rajast..
MP
Karna..
Telan..
Andhr..
Punjab
West..
Harya..
Chhat..
Delhi
Bihar
Odisha
Kerala
J&K
Uttar..
HP
Assam
Jhark..
Dhkl
Goa
Pondy
Megh..
Chand..
Tripura
Manip..
Nagal..
Arunа..
Mizor..
Sikkim




Dates
2019
2020
Year of Dates
2019
2020
120K
110K
100K
90K
80K
70K
60K
50K
40K
30K
20K
10K
0K
101,306
99,834
87,276
103,151
101,728
96,776
118,600
105,274
102,347
102,443
93,289
85,319
76,385
77,012
78,242
53,559
15,661
18,134
17,131
17,178
18,537
18,082
18,281
Jan..
Feb..
Mar..
April
May
June
July
Aug..
Sep..
Oct..
Nov..
Dec..
Jan..
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Mar..
April
May
June
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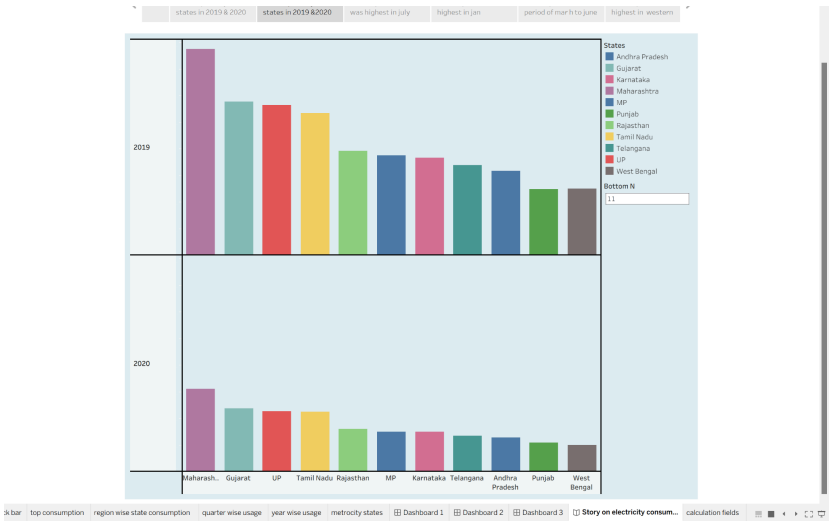
Nov..
Dec..




## 11. ADVANTAGES & DISADVANTAGES

### Advantages

- Helps identify electricity consumption trends over time (daily/monthly/yearly) for better understanding of usage patterns.
- Enables region-wise/state-wise comparison, making it easy to identify high and low consumption areas.
- Interactive dashboards and filters allow quick decision-making without manual calculations.
- Visualizations make complex data easy to interpret for non-technical users.

### Disadvantages

- Insights are limited by the quality and completeness of the dataset used.
- The analysis depends on historical data and may not reflect real-time changes.
- Tableau dashboards require basic tool knowledge to modify or extend.
- Results may not generalize if the dataset represents only specific regions or time periods.
- Static datasets do not capture sudden changes in consumption behavior.

## 12. CONCLUSION

The project successfully analyzed electricity consumption patterns using data visualization techniques. The developed dashboards and story provided clear insights into consumption trends across time and regions. Interactive filters and parameters enabled users to explore the data dynamically and derive meaningful observations. Overall, the project demonstrates how visualization tools can transform raw electricity usage data into actionable insights for understanding consumption behavior and supporting informed decision-making.

- Example 1: Users can quickly identify peak

consumption months using trend charts.

- Example 2: Users can compare electricity usage across regions using interactive filters.

## 13. FUTURE SCOPE

- Integrate real-time data sources to monitor live electricity consumption.
- Apply machine learning models to predict future consumption trends and peak loads.
- Add household-level or sector-wise analysis (residential, commercial, industrial) for deeper insights.
- Include weather and seasonal factors to analyze their impact on consumption patterns.
- Develop a web or mobile interface to make dashboards accessible to a wider audience.

## 14. APPENDIX

Source Code(if any)

https://public.tableau.com/app/profile/vaishnavi.seshapu/viz/finalproject_1_17704597953820/Dashboard1

https://public.tableau.com/app/profile/vaishnavi.seshapu/viz/finalproject_17704583836750/Storyonelectricityconsumptioninindia

Dataset Link

https://drive.google.com/file/d/16RWE5kHXolY8_6Q9Wf4_Ud4UoL1YdZjT/view?usp=sharing

GitHub & Project Demo Link

https://github.com/vaishnavi2211-hash/plugging-into-the-future-an-exploration-of-electricity.git

https://drive.google.com/file/d/1DfiJK_DLiynj2gfd2ILBhnAYQk_fAREo/view?usp=sharing