

Ideation Phase

Brainstorm & Idea Prioritization Template

Date	14 june 2025
Team ID	LTVIP2025TMID47623
Project Name	Exploration of Electricity Consumption Patterns
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization :


Problem Statement Chosen :

Government agencies, energy analysts, and policy planners often face challenges in understanding electricity consumption patterns across Indian states and regions. Despite the availability of large volumes of electricity usage data, there is a lack of interactive tools to explore it efficiently and uncover actionable insights.

Our team came together to address the energy analysis challenge using the dataset Consumption.csv, which contains weekly electricity usage data for various Indian states over a two-year period (2019–2020). We reviewed the dataset and agreed on the following problem statement:

"Energy data is often trapped in flat tables or static reports, making it difficult to compare state-wise consumption, detect usage patterns over time, or evaluate the impact of external factors such as the COVID-19 lockdown. There is a need for an interactive dashboard that visually presents electricity usage trends and supports data-driven decision-making for planning, optimization, and awareness.

Brainstorm, Idea Listing and Grouping:

 Idea	Group / Category
Use bar chart to compare average electricity consumption by state	Regional Consumption
Create line chart to visualize monthly consumption trends over 2019–2020	Time Series Analysis
Filled map to display electricity usage by region with color intensity	Geographic Visualization
Area chart to compare electricity usage before and after COVID lockdown	Event Impact Analysis
Highlight table showing quarterly usage by state and region	Consumption Summary
Donut chart to show percentage contribution of each region to total usage	Distribution Insight
Add global filters for Year, Region, and Lockdown	Interactivity
Word cloud to highlight high-usage states or months	Visual Engagement

Add story slides to walk users through the data (Pre-lockdown, During, Post-lockdown)

Storytelling/Presentation

◆ Idea Prioritization

Based on overall impact, ease of implementation, and alignment with project goals, we categorized and prioritized the visualization ideas as follows:

★ Priority	Idea	Justification
High	Bar Chart – Electricity Usage by State	Core to the analysis objective; offers quick comparison across states
High	Line Chart – Monthly Trends (2019–2020)	Highlights seasonal patterns and long-term consumption behavior
High	Filled Map – Usage by Region	Strong geographic insight, highly intuitive for non-technical users
High	Global Filters – Year, Region, Lockdown	Enables interactivity and flexible analysis across dimensions
Medium	Area Chart – Pre- and Post-Lockdown Consumption	Adds value in measuring COVID-19 impact, but optional if time-constrained
Medium	Highlight Table – Quarterly Usage Summary	Adds granularity; useful for policy or financial reporting
Low	Donut Chart – Regional Usage Contribution	Visually engaging but redundant if maps and bar charts are present
Low	Word Cloud – High-Usage States or Months	Appealing for presentation, but not analytical in nature
Optional	Story Dashboard – Sequential Insights (Scenes)	Enhances stakeholder engagement and storytelling, implemented if time allows