Project Design Phase
Problem – Solution Fit

Date	14 June 2025
Team ID	LTVIP2025TMID47623
Project Name	**Exploration of Electricity Consumption Patterns**
Maximum Marks	2 Marks

Problem – Solution Fit :

◈ 1. What is the Problem?

Government departments, energy planners, and analysts often struggle to monitor and understand electricity usage patterns across Indian states and regions. Although large datasets are available, they are difficult to explore and interpret in raw form (such as spreadsheets or CSV files).

Due to this lack of visibility and interactivity:

- Decision-makers cannot easily detect usage spikes or seasonal patterns
- It becomes difficult to assess the impact of events like the COVID-19 lockdown
- Static reports fail to support dynamic filtering and multi-variable comparisons

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◈ 2. What is the Idea / Solution?

We propose an interactive Tableau dashboard that visualizes electricity consumption patterns across key dimensions such as state, region, month, and lockdown period. This tool allows energyplanners,analysts, and government stakeholders to dynamically explore and filter data, enabling smarter, data-driven decisions for resource allocation, demand forecasting, and policy planning.

◈ 3. What is the Novelty / Uniqueness?

 Integrates multiple analytical dimensions (state, region, time period, lockdown impact) into a single visual dashboard for electricity usage analysis.

 Empowers non-technical stakeholders (e.g., government planners, energy board officials) to interact with complex data through intuitive filters and visuals.

 Follows a modular design — new years, states, or usage metrics can be added without changing the overall dashboard architecture.

 Incorporates Tableau Story feature to present findings in a structured, narrative-driven format, making insights easier to understand and communicate.

 Highlights temporal and spatial trends (e.g., monthly spikes, regional hotspots) that are difficult to detect in static spreadsheet reports.

◈ 4. What is the Social Impact / Customer Satisfaction?

 Helps government and energy authorities better manage power distribution by identifying high-demand areas and time periods.

 Supports informed energy planning and policy decisions that benefit both urban and rural communities.

 Promotes energy efficiency by revealing usage spikes and helping avoid unnecessary overconsumption.

 Enables quicker response to crises (e.g., lockdowns or seasonal surges) by providing historical trends and comparisons.

 Enhances satisfaction among analysts, planners, and stakeholders who gain faster, more reliable insights through interactive dashboards.

◈ 5. What is the Business Model (Revenue Model)?

=This solution can be offered to government bodies, energy departments, research agencies, or consulting firms as a data-driven dashboard and analytics service. It may be packaged in the following models:

- Annual or quarterly subscriptions for access to dynamic Tableau dashboards hosted on Tableau Public or Tableau Cloud
- Custom setup services for specific regions, departments, or years — tailored insights and filters based on client needs
- Professional reporting service that includes PDF exports, visual summaries, and Tableau Story presentations for stakeholder meetings
- Can be scaled into a SaaS (Software-as-a-Service) solution for energy analytics, offering self-service dashboards hosted securely on the cloud
- Optional integration with government energy portals for real-time visualization of nationwide electricity trends

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◈ 6. How is the Solution Scalable?

 Easily expandable with new electricity usage datasets (e.g., additional years, more states, or new energy sectors)

 Compatible with Tableau Cloud or Tableau Public, allowing for enterprise or public-sector scalability

 Data sources can be connected dynamically using cloud platforms like Google Sheets or cloud-hosted CSVs

 Architecture supports future integration with real-time APIs for live consumption tracking (e.g., smart meters or grid-level reporting)

 Modular dashboard design enables adding new KPIs or filters (e.g., renewable usage, industrial consumption, weather overlays) without redesigning the core structure