Project Design Phase-I
Proposed Solution Template

Date	09 February 2026
Team ID	LTVIP2026TMIDS80901
Project Name	Plugging in to the future : An exploration of electricity consumption patterns
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Electricity consumption datasets are large, multi-dimensional, and difficult to interpret in raw tabular form. Students and analysts struggle to extract meaningful insights such as seasonal trends, peak demand periods, and regional consumption differences using traditional spreadsheet methods. Manual analysis is time-consuming, error-prone, and lacks dynamic comparison capabilities. This results in inefficient decision-making and limited analytical clarity.
2.	Idea / Solution description	The proposed solution is an interactive Tableau-based data visualization system that transforms raw electricity consumption datasets into structured analytical dashboards. The system: • Cleans and preprocesses raw CSV data • Aggregates consumption by month, year, and region • Generates dynamic trend visualizations • Enables region-wise comparison • Provides interactive filters for focused exploration • Highlights peak and low consumption periods
3.	Novelty / Uniqueness	The uniqueness of the solution lies in:

		1. Transforming static electricity datasets into interactive analytical dashboards 2. Enabling multi-dimensional analysis (time-based + region-based comparison simultaneously) 3. Providing dynamic filtering and drill-down capabilities 4. Converting raw data into visual storytelling for academic and analytical purposes
4.	Social Impact / Customer Satisfaction	The project contributes to: • Improving data literacy among students • Enhancing analytical and visualization skills • Reducing cognitive overload caused by large datasets • Supporting informed decision-making in energy studies Customer satisfaction increases because: • Analysis becomes faster • Insights become clearer • Presentation quality improves • Confidence in interpretation increases
5.	Business Model (Revenue Model)	Although developed academically, the solution can evolve into: • Dashboard-as-a-Service (DaaS) for small institutions • Subscription-based analytics platform for energy monitoring • Customized reporting service for energy consumption studies • Consulting services for data visualization and energy analytics
6.	Scalability of the Solution	The solution is scalable in multiple dimensions: 1. Data Scalability – Can handle larger datasets 2. Functional Scalability – Can integrate predictive analytics and forecasting

		3. Deployment Scalability – Can be migrated to cloud platforms 4. User Scalability – Can support multiple users if deployed online