

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

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| Date          | 22 February 2026   |
| Team ID       | LTVIP2026TMIDS35954  |
| Project Name  | Plugging into the Future: An Exploration of Electricity Consumption Patterns Using Tableau |
| Maximum Marks | 4 Marks  |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task)  |
|--------|-------------------------------|---|
| FR-1   | Data Collection & Import      | Import electricity consumption dataset into Tableau<br>Support CSV/Excel data format<br>Clean and prepare dataset for visualization   |
| FR-2   | Data Processing               | Perform data cleaning (remove null values, formatting)<br>Create calculated fields for year, region and monthly usage<br>Categorize states into regions (WR, NR, SR, ER, NER)   |
| FR-3   | Visualization Creation        | Create yearly electricity consumption trend chart<br>Create region-wise consumption pie chart<br>Create Top N and Bottom N states bar charts<br>Create month-wise consumption charts<br>Create India state consumption maps |
| FR-4   | Dashboard Development         | Build interactive dashboards combining multiple visualizations<br>Enable filtering by year and region<br>Add titles, legends and labels for clarity<br>Provide comparative view of 2019 vs 2020 data                        |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

| FR No. | Non-Functional Requirement | Description  |
|--------|----------------------------|--|
| NFR-1  | <b>Usability</b>           | Dashboard should be easy to understand and interactive for non-technical users. Visualizations must be clear and self-explanatory. |
| NFR-2  | <b>Security</b>            | Dataset used must be public/non-confidential and protected from unauthorized modification.   |
| NFR-3  | <b>Reliability</b>         | Dashboard should display accurate and consistent results based on the dataset.   |
| NFR-4  | <b>Performance</b>         | Dashboard should load and respond to filters quickly without lag.  |
| NFR-5  | <b>Availability</b>        | Dashboard should be accessible anytime through Tableau Public.   |

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|-------|--------------------|---|
| NFR-6 | <b>Scalability</b> | Solution should allow addition of future years and more states without redesigning the dashboard. |
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