

## plugging into the future: an exploration of electricity consumption patterns using tableau

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MAXIMUM MARKS	4 MARKS

### 4.2 Proposed Solution

The proposed solution for *Plugging into the Future: An Exploration of Electricity Consumption Patterns Using Tableau* focuses on transforming complex electricity consumption data into actionable insights through an integrated, interactive, and user-friendly analytics platform. The solution begins with the collection and consolidation of diverse datasets from utility companies, smart meters, government energy reports, and open-source databases. These datasets include historical electricity usage, sector-wise consumption (residential, commercial, industrial), regional distribution, energy source types, and demographic or economic indicators, which are essential for understanding patterns and correlations.

Once the data is gathered, it undergoes a robust preprocessing and ETL (Extract, Transform, Load) process. This step ensures data accuracy, handles missing or inconsistent entries, and standardizes formats to make the data compatible with Tableau. Additional enrichment, such as population density, industrial growth, and seasonal weather data, allows the system to deliver deeper insights into the factors driving electricity demand.

