Plugging into the Future: An Exploration of Electricity Consumption Patterns Using Tableau

---

🔌 Plugging into the Future

An Exploration of Electricity Consumption Patterns Using Tableau
📊 Project Dashboard & Story Design
📊 PROJECT DASHBOARD DESIGN (Tableau)
Your Tableau project can be structured into 4–5 Interactive Dashboards that flow logically from overview → deep insights → forecasting → recommendations.
1️⃣ Dashboard 1: Electricity Consumption Overview
🎯 Purpose:
Provide a high-level summary of electricity usage trends.
📌 Key Components:
KPI Cards:
Total Electricity Consumption
Average Monthly Usage
Peak Consumption Month
Growth Rate (%)
Line Chart → Monthly consumption trend
Bar Chart → Consumption by Region/State
Filters:
Year
Region
Consumer Category (Residential/Commercial/Industrial)
2️⃣ Dashboard 2: Sector-wise Analysis
🎯 Purpose:
Understand how different sectors contribute to electricity consumption.
📌 Key Components:
Stacked Bar Chart → Sector comparison
Pie Chart → Percentage share
Heat Map → Region vs Sector usage
Drill-down feature → Year → Month → Day
3️⃣ Dashboard 3: Peak Demand & Seasonal Patterns
🎯 Purpose:
Identify seasonal spikes and peak demand periods.
📌 Key Components:
Heatmap → Month vs Year
Load Curve Graph → Daily/Hourly demand
Forecasting Trend Line (Tableau built-in forecasting)
Highlight summer/winter peak periods
4️⃣ Dashboard 4: Predictive & Future Insights
🎯 Purpose:
Predict future electricity demand.
📌 Key Components:
Forecast Chart (Next 2–5 Years)
Scenario Analysis:
Population Growth
Urbanization Rate
Renewable Integration
Growth Trend Visualization

📖 PROJECT STORY (Tableau Story Points)
In Tableau, create a Story that connects all dashboards logically.
🧩 Story Flow Structure
🔹 Story Point 1: Introduction
Problem Statement
Rising electricity demand makes it essential to understand usage patterns to ensure sustainable energy planning.
🔹 Story Point 2: Overall Consumption Trend
Show Dashboard 1
👉 Key Insight: Electricity consumption has steadily increased over the years.
🔹 Story Point 3: Sector Contribution
Show Dashboard 2
👉 Key Insight: Industrial sector consumes the highest share.
🔹 Story Point 4: Seasonal & Peak Analysis
Show Dashboard 3
👉 Key Insight: Peak usage occurs during summer due to cooling demand.
🔹 Story Point 5: Future Forecast
Show Dashboard 4
👉 Key Insight: Demand projected to increase by X% in next 5 years.
🔹 Story Point 6: Recommendations
Promote renewable energy
Implement smart grid systems
Encourage energy efficiency programs
Optimize peak load management
🏗️ Final Deliverables
✔ 4 Interactive Dashboards
✔ 1 Story with 5–6 Story Points
✔ Filters & Drill-down functionality
✔ Forecasting Model
✔ Insight Summary