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

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🔌 Plugging into the Future: Electricity Consumption Patterns

📊 Empathy Map (for a Tableau Data Exploration Project)
An empathy map helps you understand the target users of your electricity consumption dashboard — their needs, concerns, motivations, and behaviors. Below is a structured empathy map tailored for a Tableau-based electricity consumption analysis project.
🎯 Target Users (Example Personas)
Energy consumers (households)
Utility companies
Policy makers
Sustainability advocates
Business owners
🧠 1. What Do They THINK?
“Why is my electricity bill so high?”
“How can I reduce energy costs?”
“Is renewable energy actually saving money?”
“Are peak hours affecting my expenses?”
“How does my usage compare to others?”
💡 Insight for Tableau:
Include comparison dashboards (region-wise, time-wise, household-wise), peak-hour trends, and cost analysis visuals.
👀 2. What Do They SEE?
Rising electricity bills
News about climate change
Government energy regulations
Smart meters & energy-saving ads
Seasonal consumption spikes (summer AC use, winter heating)
📊 Tableau Feature Ideas:
Seasonal heatmaps
Year-over-year trend lines
Region-based consumption maps
Cost vs. consumption correlation charts
👂 3. What Do They HEAR?
“Electricity rates are increasing.”
“Switch to solar panels.”
“Reduce peak-time usage.”
“Energy conservation is crucial.”
📈 Dashboard Application:
Rate change timeline
Peak vs off-peak analysis
Renewable vs non-renewable comparison
🗣️ 4. What Do They SAY & DO?
“I try to switch off unused appliances.”
“Let’s install energy-efficient lighting.”
Compare utility plans
Monitor usage via apps
📊 Useful Tableau Visuals:
Appliance-level consumption breakdown

Plan comparison charts
Interactive filters for appliance categories
😟 5. PAINS (Challenges)
High electricity bills
Lack of awareness of usage patterns
Confusing billing structures
Difficulty predicting future consumption
Environmental concerns
🔎 How Tableau Helps:
Forecasting models (trend projections)
Cost breakdown visuals
Clear KPI indicators (Total kWh, Avg Cost, Peak Usage)
🎯 6. GAINS (Goals & Benefits)
Lower monthly bills
Energy efficiency
Sustainable living
Predictable expenses
Smart energy decisions
📊 Dashboard Enhancements:
Consumption forecasting
Energy-saving tips section
Benchmark comparison (average household vs user)
🗺️ Visual Structure of Empathy Map
🧩 How to Present This in Your Project
When explaining in your report or presentation:
“Using an empathy map, we identified user concerns such as rising costs, seasonal spikes, and lack of transparency. These insights guided the design of our Tableau dashboards, focusing on trend analysis, peak-hour monitoring, and cost forecasting.”