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

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🗂️ Project Planning
Here is a structured project plan for your Tableau-based electricity consumption analysis project.
1️⃣ Project Overview
Project Title:
Plugging into the Future: An Exploration of Electricity Consumption Patterns Using Tableau
Objective:
To analyze electricity consumption data and build interactive Tableau dashboards that provide insights into usage patterns, peak demand, seasonal trends, and optimization opportunities.
2️⃣ Project Goals
Analyze historical electricity consumption data
Identify trends and seasonal variations
Detect peak demand periods
Compare consumption across regions/sectors
Provide actionable insights for energy efficiency
Develop an interactive Tableau dashboard
3️⃣ Project Scope
✅ In Scope
Data collection (historical electricity consumption dataset)
Data cleaning and preprocessing
Data visualization using Tableau
Dashboard creation
Insight generation
Report documentation
❌ Out of Scope
Real-time IoT energy monitoring
Hardware integration
Predictive AI modeling (optional future phase)
4️⃣ Project Phases & Timeline
Phase
Activity
Duration
Phase 1
Requirement Analysis
1 Week
Phase 2
Data Collection
1 Week
Phase 3
Data Cleaning & Preparation
1 Week
Phase 4
Data Analysis
1 Week
Phase 5
Tableau Dashboard Development
2 Weeks

Phase 6
Testing & Validation
1 Week
Phase 7
Documentation & Final Report
1 Week
Total Duration: 6–8 Weeks
5️⃣ Work Breakdown Structure (WBS)
1. Requirement Gathering
Identify stakeholders
Define KPIs (Peak usage, Average consumption, Seasonal variation)
2. Data Collection
Collect government/open-source datasets
Validate data completeness
3. Data Preparation
Remove duplicates
Handle missing values
Format date-time fields
Create calculated fields
4. Data Analysis
Monthly consumption trends
Year-over-year comparison
Sector-wise comparison
Peak hour analysis
5. Dashboard Development
KPI summary panel
Time-series graphs
Heat maps
Bar and pie charts
Interactive filters
6. Testing
Validate calculations
Check filter accuracy
User acceptance testing
7. Documentation
Project report
Dashboard screenshots
Insight summary
6️⃣ Resource Planning
👥 Team Roles (If Academic/Group Project)
Project Manager
Data Analyst
Tableau Developer
Documentation Lead
(If individual project, you will handle all roles.)
7️⃣ Risk Management
Risk
Mitigation Strategy
Incomplete data
Use multiple data sources
Poor data quality
Thorough cleaning
Dashboard performance issues
Optimize calculations
Timeline delay
Weekly progress review
8️⃣ Deliverables
Cleaned Dataset
Tableau Workbook (.twbx)

Interactive Dashboard
Final Project Report (PDF)
Presentation Slides
9️⃣ Success Criteria
Dashboard loads without performance issues
KPIs clearly displayed
Insights actionable and meaningful
Stakeholders can interact easily
🔟 Tools Required
Tableau Desktop / Tableau Public
Excel / CSV dataset
Python (optional for preprocessing)
MS Word / Google Docs
