

Plugging into the Future

An Exploration of Electricity Consumption Patterns Using Tableau

1. Global Growth & Sustainability

Global electricity consumption has increased significantly over the past decades, but the growth patterns differ across regions. This project aims to analyze historical consumption trends and evaluate whether current growth aligns with sustainable energy transition goals.

2. Demand Drivers Analysis

Electricity demand is influenced by economic growth, urbanization, industrialization, and population expansion. This study seeks to identify the key drivers behind rising electricity consumption and measure their relative impact.

3. Sectoral Consumption Imbalance

Different sectors (residential, industrial, and commercial) contribute unevenly to electricity demand. This project analyzes sector-wise consumption trends to determine which sector is driving demand growth and how usage patterns are evolving over time.

4. Regional Inequality in Electricity Use

Significant disparities exist in electricity consumption between developed and developing nations. This analysis aims to explore global inequalities in electricity access and usage, highlighting energy distribution challenges.

5. Renewable Energy vs Demand Growth

As renewable energy adoption increases globally, it remains unclear whether it is keeping pace with rising electricity demand. This project evaluates whether renewable growth is sufficient to support future consumption trends.

6. Forecasting Future Electricity Demand

Accurate forecasting of electricity demand is essential for infrastructure planning and energy security. This project uses historical consumption data to predict future electricity demand and identify potential supply risks.

7. Economic Development & Energy Dependency

Electricity consumption is often used as an indicator of economic development. This study investigates the relationship between GDP per capita and electricity consumption to understand how energy dependency evolves with economic growth.