



ENERGY CONSUMPTION ANALYSIS WITH POWER BI



Introduction

The Energy Consumption Dashboard created in Power BI serves as a comprehensive tool for visualizing and analyzing energy usage data.

This dynamic dashboard provides key insights into Total Cost and Total Units across different parameters, offering users a user-friendly interface to understand and manage energy consumption efficiently.

TOOLS USED:

EXCEL:

For my understanding of problem statement of the project I use to view the raw data in EXCEL.

POWER BI:

For users understanding and visualize the structured data.



Excel



Power BI

Key Performance Indicators (KPIs):

Total Cost

Displays the overall cost incurred for energy consumption.

Total Units

Represents the total units of energy consumed.

Dropdown Slicers:

The dashboard features dropdown slicers that enhance user interactivity and allow for a customized view of the data

Consumption Type

Users can choose between different energy consumption types such as Water, Electricity, and Gas.

Building- Enables users to focus on energy usage specific to a particular building.

City - Provides the flexibility to analyze energy consumption in different cities.

Date Slicer- Allows users to select a specific date range for more targeted analysis.

Visualizations:

Map Visual

Geospatial representation of energy consumption, offering insights into regional variations.

Bar Chart (Total Cost by Date and Consumption Type)

Illustrates the distribution of total cost over time, with the ability to filter by consumption type.

Donut Chart (Units Consumed by Consumption Type)

Visualizes the proportion of units consumed for each energy type in a circular format, aiding in quick comparisons.

Bar Chart (Units Consumed by Building)

Highlights the distribution of energy consumption across different buildings.



Navigation Buttons:

The inclusion of navigation buttons enhances the user experience by allowing seamless transitions between different energy consumption types. Users can effortlessly switch between Water, Electricity, and Gas data to gain a holistic understanding of their energy usage patterns.



Benefits:

User-Friendly Interface:

Intuitive design and interactive features make it easy for users to explore and interpret energy consumption data.

Data Customization

Dropdown slicers empower users to tailor the dashboard to their specific needs, focusing on relevant parameters.

Comprehensive Insights

The combination of diverse visualizations provides a comprehensive overview, allowing users to identify trends, patterns, and anomalies in energy consumption.



EDA INSIGHTS:

Data Cleaning:

Perform any necessary data cleaning steps within Power BI, such as handling missing values or removing duplicates.

Charts:

Create various charts such as bar charts, line charts, scatter plots, and histograms to visualize data distributions and relationships.

Filters

Apply filters to focus on specific subsets of data and observe how the visualizations change accordingly.

Slicers:

Utilize slicers to enable interactive filtering across multiple visuals simultaneously.



CONCLUSION:

The Energy Consumption Dashboard in Power BI offers a powerful solution for monitoring, analyzing, and optimizing energy usage. By integrating key KPIs, dropdown slicers, and diverse visualizations, this dashboard provides a holistic view of energy consumption data, facilitating informed decision-making and resource management.