

Dashboard Design

Date	23 July 2025
Skillwallet ID	SWUID20250176043
Project Name	Global Energy Trends: A Comprehensive Analysis of Key Regions and Generation Modes using Power BI
Maximum Marks	5 Marks

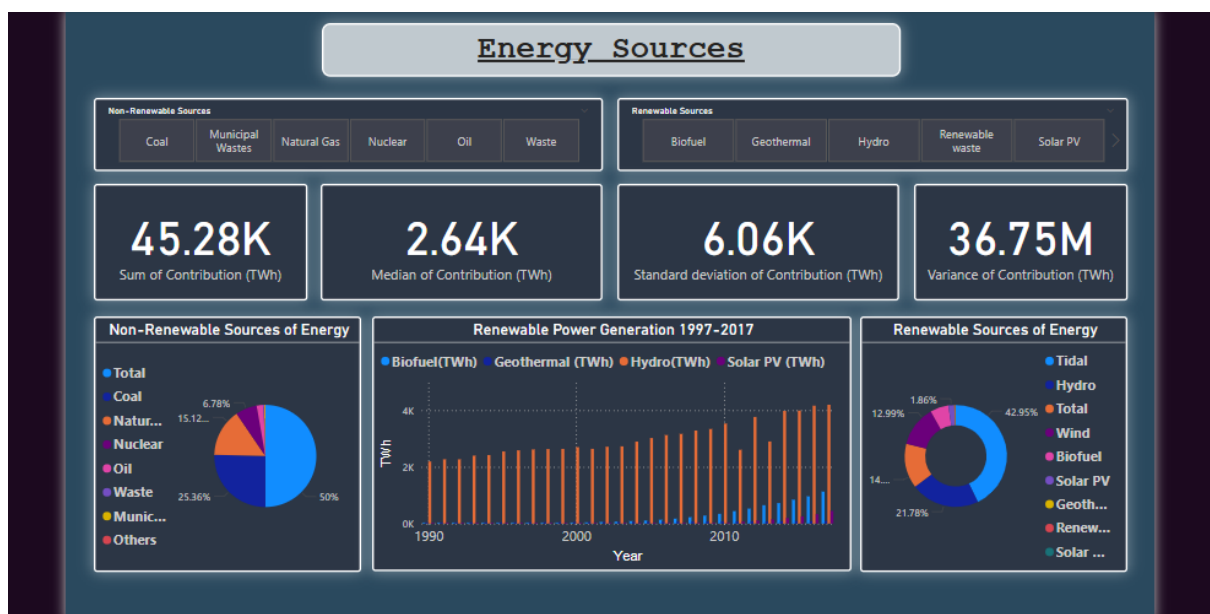
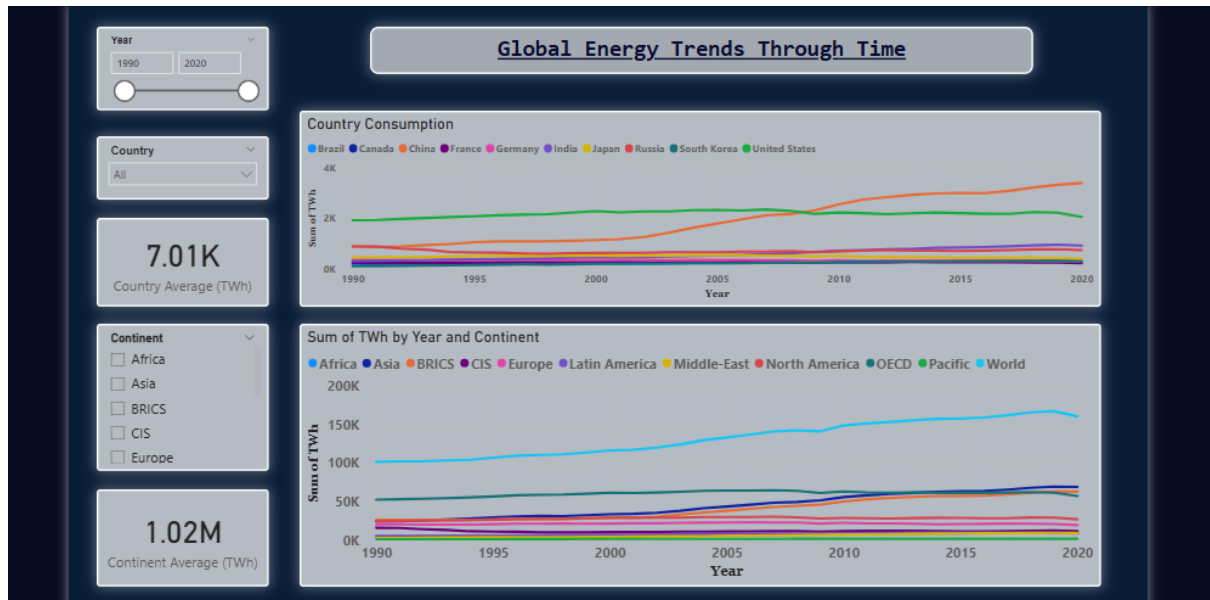
Activity 1: Interactive and Visually Appealing Dashboards

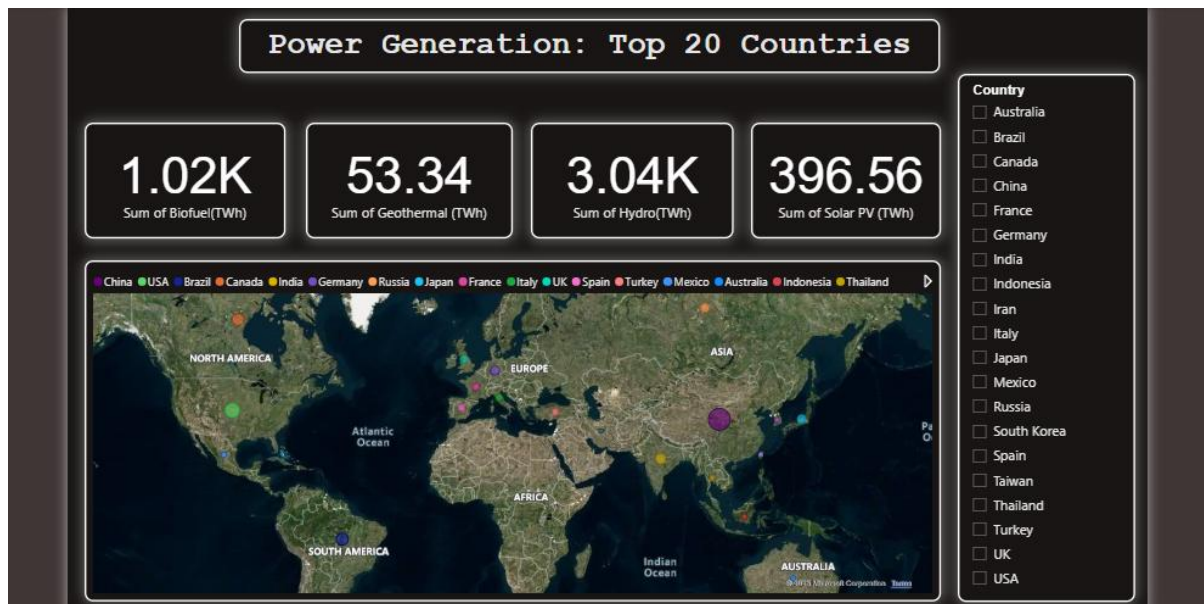
This project applies advanced dashboard design principles to visualize and explore complex global energy data. The focus is on building engaging, user-driven dashboards that are informative, aesthetically consistent, and ideal for both academic and analytical audiences.

Key design choices include:

- Clear and Intuitive Layout:**
Two structured report pages with region-wise and mode-wise insights. Clean layout, appropriate spacing, and intuitive visual flow ensure clarity in navigation.
- Appropriate Visualizations:**
Line charts, area charts, donut charts, filled maps, KPI cards, and dynamic labels were selected to match the nature of time-series, geographic, and categorical data.
- Color and Theming:**
Consistent theming using green, blue, gray, and red palettes to represent renewable, non-renewable, and total consumption, enhancing visual storytelling.
- Interactive Filters and Slicers:**
Continent, year, and mode slicers enable interactive exploration. Filters allow users to focus on specific energy types or geographic segments.
- Drill-Down Ready Design:**
Designed with hierarchy in mind – visuals are logically structured to support drill-through or tooltip expansion in future iterations.
- Responsive and Balanced:**
Visual spacing, card alignment, and label padding maintain uniformity across all visuals. A polished layout ensures readability on various screen sizes.
- Smart Infographics and Visuals:**
Use of power icons, total generation bubbles, and country/continent maps adds infographic flavor to the analytics. Visuals reinforce key takeaways.

- **Consistent Iconography:**
Power-themed icons and legends reinforce the identity of renewable vs non-renewable energy and make sections more visually guided.





Major Dashboard Outcomes

- Top Energy Consumers Identified:**
Asia leads all continents in energy consumption, while China is ranked as the highest power consumer globally.
- Trend Visualization Across 3 Decades:**
Line and area charts clearly show the rise of hydroelectricity and shifts in energy dependency over 28 years.
- Renewable vs Non-Renewable Split:**
Donut charts and KPIs show tidal energy as the largest share of renewables (42.95%) and coal dominating non-renewables (50.72%).
- Country-Level Analysis:**
A filled map and total generation range reveal consumption levels varying from 12.40 TWh to 1,819.94 TWh across the top 20 countries.
- Correlation Discovery:**
Scatter visuals reveal a positive correlation between biofuel and geothermal energy usage over time.
- Geospatial Consumption Mapping:**
Power BI's map visuals display energy patterns across continents and countries, offering intuitive geographic insights.
- Growth in Hydro, Biofuel, and Geothermal:**
Hydro rose from 2,191.67 TWh to 4,197.29 TWh; Biofuel from 3.88 TWh to 1,127.31 TWh; Geothermal from 36.42 TWh to 85.34 TWh.

8. **Polished Executive-Ready UI:**

Use of smart fonts, card shadows, energy-themed visuals, and slicers creates a professional, presentation-ready interface.