

## Dashboard Design

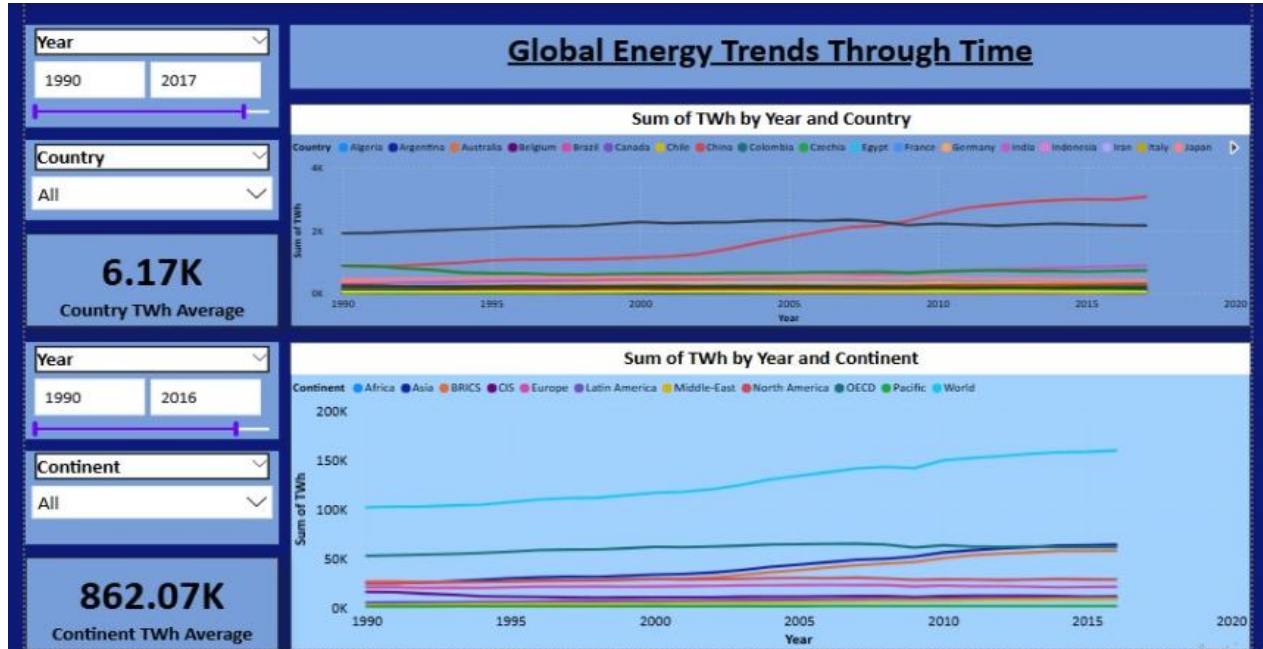
Date	4 October 2025
Team ID	SWUID20250207636
Project Name	<b>Global Energy Trends: A Comprehensive Analysis of Key Regions and Generation Modes using Power BI</b>
Maximum Marks	5 Marks

Creating an effective dashboard involves thoughtful design to ensure that the presented information is clear, relevant, and easily understandable for the intended audience. Here are some key principles and best practices for dashboard design

### Activity 1: Interactive and visually appealing dashboards

Creating interactive and visually appealing dashboards involves a combination of thoughtful design, effective use of visual elements, and the incorporation of interactive features.

### Dashboard 1: Global Energy Trends Through Time

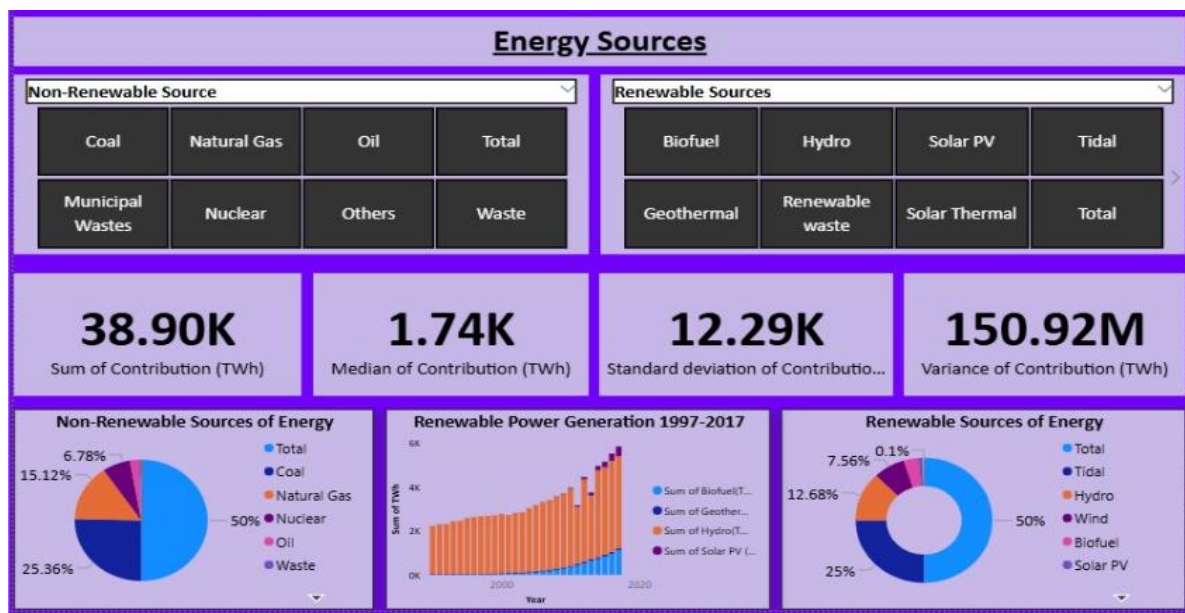


### Major Outcomes:

Here are five potential outcomes from the dashboard image provided:

1. **Country Average Consumption:** The average total energy consumption (TWh) across the subset of countries displayed is **6.17K TWh**.
2. **Continental Average Consumption:** The average total energy consumption (TWh) across the continental/economic groupings (e.g., Africa, Asia, Europe, OECD) is **862.07K TWh**.
3. **Peak Country Aggregation:** The highest total annual TWh consumed by the featured countries, as shown on the chart, is approximately **11,000 TWh** in 2017.
4. **OECD Consumption:** The OECD economic bloc consistently shows a **large share of consumption**, with its TWh value remaining close to or slightly below the 'World' total throughout the period.
5. **Africa's Low Share:** Africa's total TWh consumption is represented by the lowest line on the continental chart, peaking at an estimated value of **less than 100K TWh by 2016**, indicating a **relatively small share of global consumption** compared to OECD or Asia.

## Dashboard 2: Energy Sources

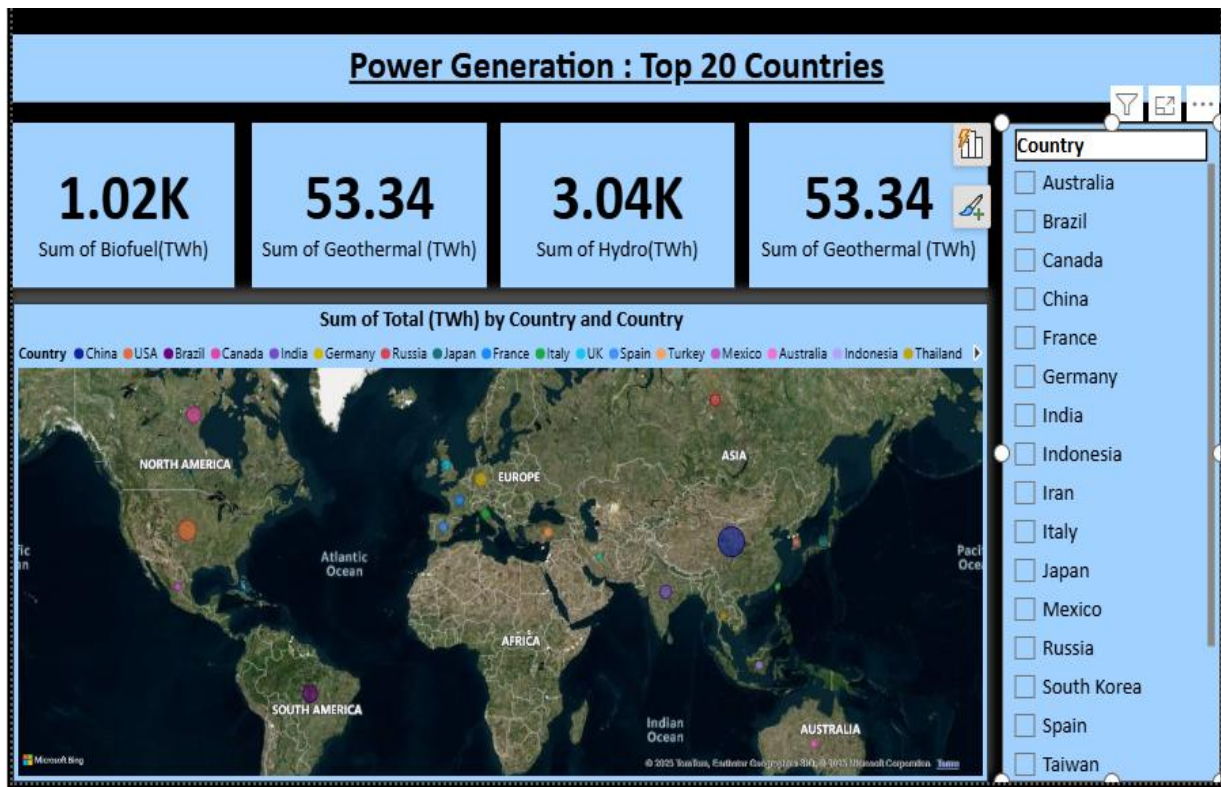


## Major Outcomes:

Here are five potential outcomes from the dashboard image provided:

1. **Total Contribution:** The overall total sum of TWh contributed by all listed energy sources is **38.90K TWh**.
2. **Median Contribution:** The median contribution across all energy sources is **1.74K TWh**, which is significantly lower than the mean, suggesting the data is highly skewed by a few high-production sources.
3. **Data Volatility:** The data exhibits high dispersion among renewable sources of energy, with a **Standard Deviation of Contribution of 12.29K TWh** and a **Variance of Contribution of 150.92M TWh**.
4. **Dominant Non-Renewable:** Coal accounts for the largest share of non-renewable sources at **25%**.
5. **Dominant Renewable:** Tidal power is the single largest renewable source, contributing **25.36%** of the renewable energy mix.

### Dashboard 3:Power Generation:Top 20 Countries



### **Major Outcomes:**

Here are five potential outcomes from the dashboard image provided:

- Generation Ranking:** Among the four highlighted sources, the order of generation (highest to lowest) is **Hydro (3.04K TWh)**, **Biofuel (1.02K TWh)**, **Solar PV (396.56 TWh)**, and **Geothermal (53.34 TWh)**.
- Hydro vs. Geothermal Ratio:** Hydro power generation (3,040 TWh) is approximately **57 times** greater than Geothermal power generation (53.34 TWh) in this selected country group.
- Top Producers:** The map visualization identifies countries like the **USA and China** as having the highest total power generation (Sum of Total TWh)
- Geographic Concentration:** The visual distribution on the map shows that the highest volumes of power generation are concentrated in the **Northern Hemisphere**, specifically across North America, Europe, and East Asia, confirming a global geographic pattern.
- Data Filtering:** The analysis is explicitly limited to the power generation data from a specific group of **20 countries**, including Australia, Brazil, Canada, and China.