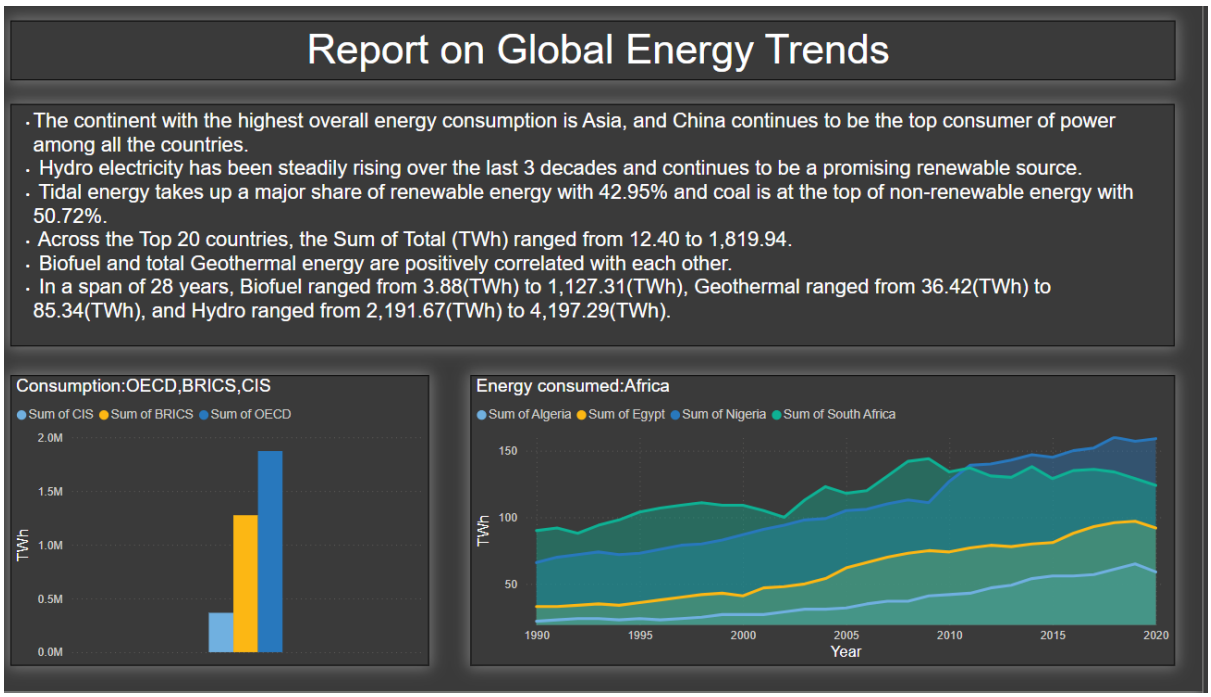
Report

Date	01 July 2025
Team ID	NA
Project Name	Global Energy Trends: a comprehensive analysis of key regions and generation modes using Power BI
Maximum Marks	5 Marks

A report is a comprehensive document that provides a detailed and structured account of data analysis, findings, and insights. It is typically used for in-depth analysis, documentation, and communication of results. Reports are suitable for a diverse audience, including decision-makers, analysts, and stakeholders who need a comprehensive understanding of the data.

Designing a report in Power BI involves connecting to data sources, creating visualizations like charts and graphs, customizing their appearance and interactivity, organizing them logically on the canvas, formatting elements for consistency and clarity, and optionally creating dashboards for a summarized view. Throughout the process, it's essential to consider the audience's needs and ensure the report effectively communicates insights from the data. Finally, iterate based on feedback to continually improve the report's design and usefulness.



Observations drawn from report:

1. Continental Energy Consumption

- Asia records the **highest total electricity consumption**, led by China, which consistently ranks as the top consumer globally.
- This trend underscores Asia's accelerating industrial development and energy demand compared to other continents.

2. Renewable vs. Non-Renewable Share

- **Tidal energy accounts for 42.95%** of the total renewable energy mix, suggesting a major reliance on this resource—potentially an outlier due to cumulative data reporting.
- **Coal remains the dominant non-renewable source** with a 50.72% share, emphasizing ongoing reliance despite global decarbonization goals.

3. Long-Term Source-Wise Trends

- **Hydropower generation has doubled** from 2,191.67 TWh in 1990 to 4,197.29 TWh in 2017, showing it remains a stable and expanding renewable base.
- Biofuel grew significantly from 3.88 TWh to 1,127.31 TWh over 28 years, and geothermal increased from 36.42 TWh to 85.34 TWh, reflecting steady interest in diverse renewable sources.

4. Regional Energy Group Comparisons

- Among regional blocs, the **OECD contributes the highest cumulative energy consumption (~2.0M TWh)**, followed by BRICS (~1.5M TWh), and CIS (~0.5M TWh), indicating varying energy intensities and economic maturity.

5. Country-Level Consumption Range

- Across the top 20 countries, total renewable power generation spans from **12.40 TWh to 1,819.94 TWh**, showcasing stark contrasts in capacity and infrastructure.

6. Correlation Analysis

- A **positive correlation exists between biofuel and geothermal energy usage**, suggesting aligned growth strategies or technological overlap in countries investing in diversified renewable energy.