Business Question and Visualization Report

Date	30 July 2025
Team ID	xxxxxx
Project Name	**Global Energy Trends**: A Data-Driven Analysis of Consumption Patterns & Renewable Transition (1990-2020)
Maximum Marks	5 Marks

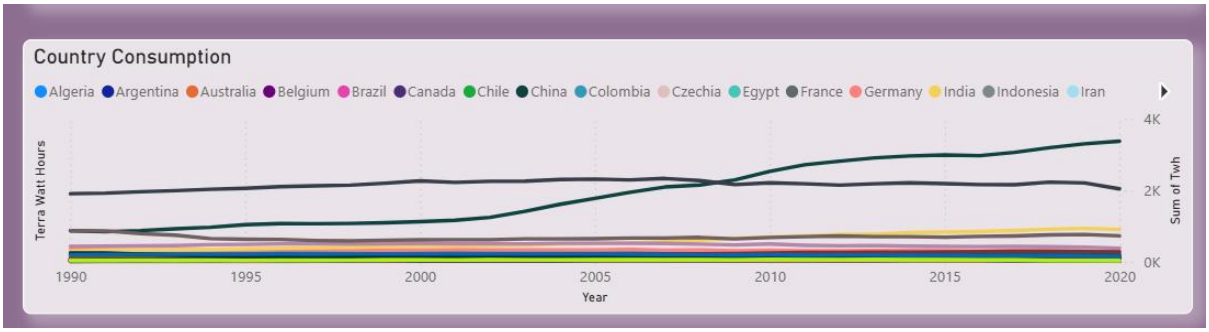
Visualization development refers to the process of creating graphical representations of data to facilitate understanding, analysis, and decision-making. The goal is to transform complex datasets into visual formats that are easy to interpret, enabling users to gain insights and make informed decisions. Visualization development involves selecting appropriate visual elements, designing layouts, and using interactive features to enhance the user experience. This process is commonly associated with data visualization tools and platforms, and it plays a crucial role in business intelligence, analytics and reporting

Business Questions and Visualization

The process involves defining specific business questions to guide the creation of meaningful and actionable visualizations in Power BI. Well-framed questions help in identifying key metrics, selecting relevant data, and building visualization that provide insights.

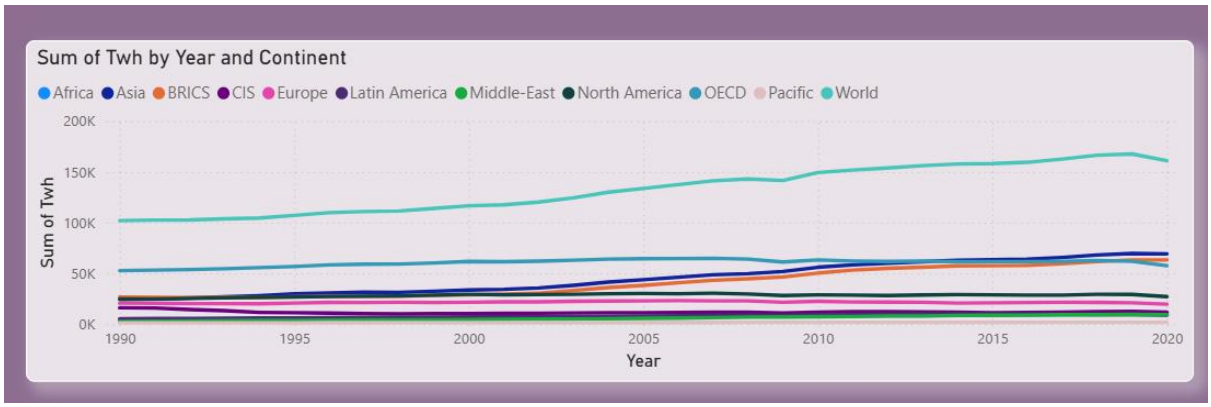
Q1. How has global energy Country consumption (1990–2020)?

Visualization: line chart comparing renewable consumption growth across countries or regions.



Q2. How has global energy Continent consumption (1990–2020)?

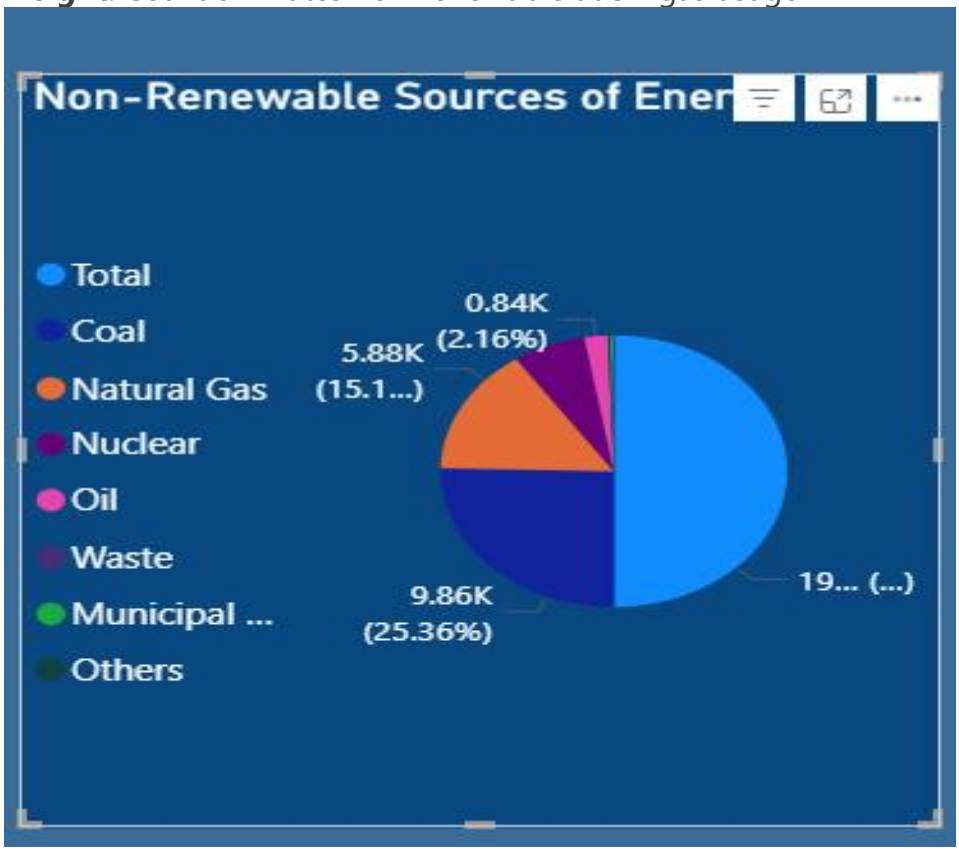
Visualization: line chart comparing renewable consumption growth across countries or regions.



Q3 : What is the composition of global non-renewable energy sources?

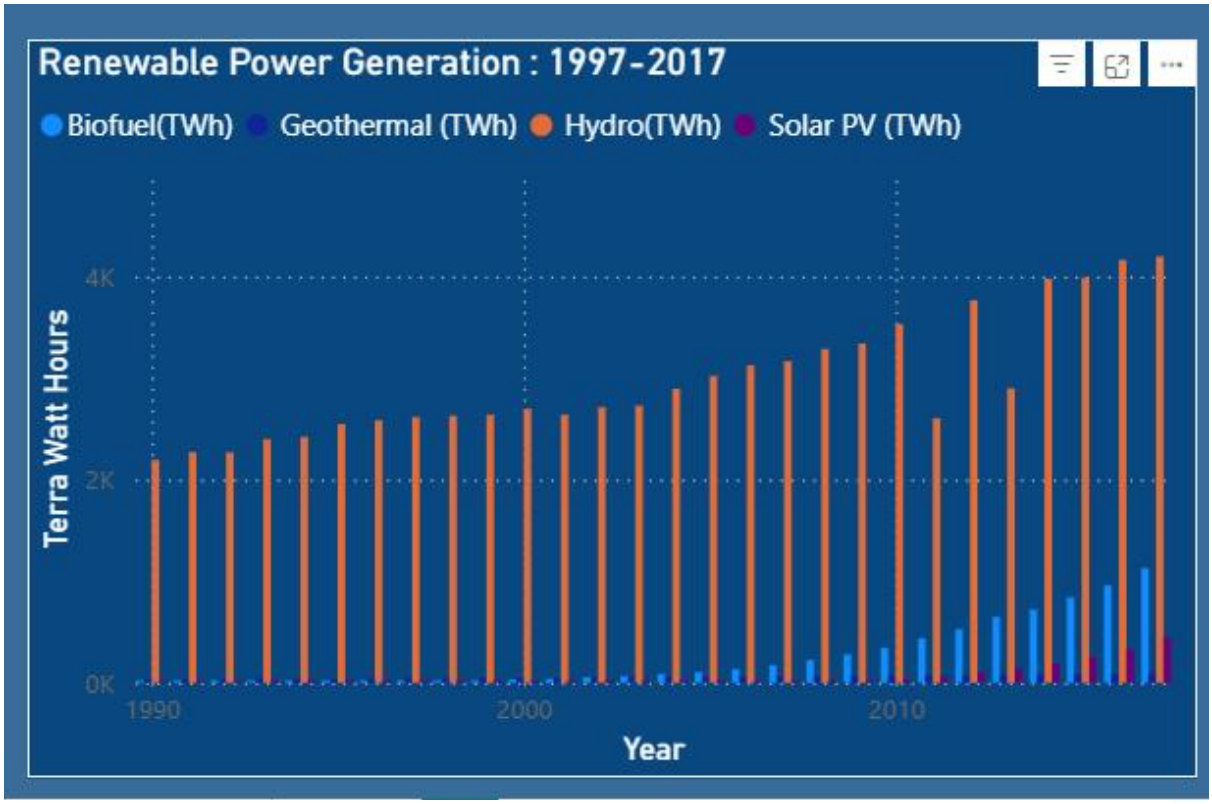
Pie chart showing:Coal (84%), Natural Gas (15.8%) ,Nuclear/Oil/Waste (<1% combined)

Insight: Coal dominates non-renewable at 5× gas usage



Q4 : How has global renewable energy generation grown since 1997?

Visualization: Stacked area chart showing Hydro dominates but solar shows fastest growth (400% increase)



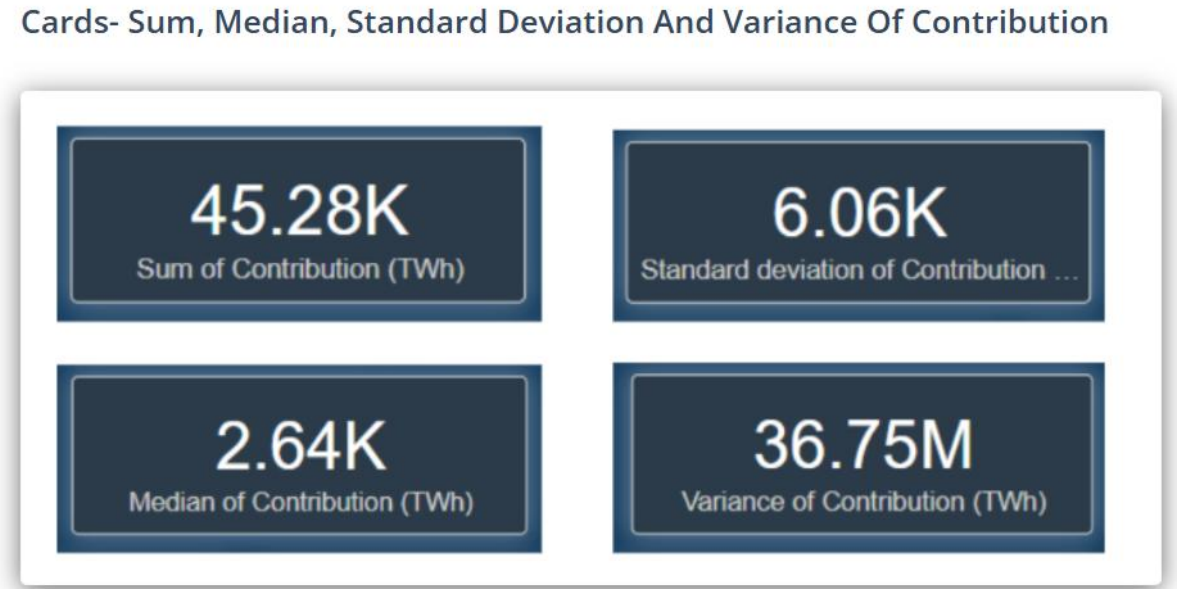
Q5 : ***How consistent or volatile is global renewable energy production across different sources and regions?***

Insight: The high variance (36.75M) and standard deviation (6.06K) relative to the median (2.64K) suggest:

Hydro likely has stable production (low deviation)

Solar/Biofuel may show erratic growth patterns

Geothermal probably has minimal but consistent output

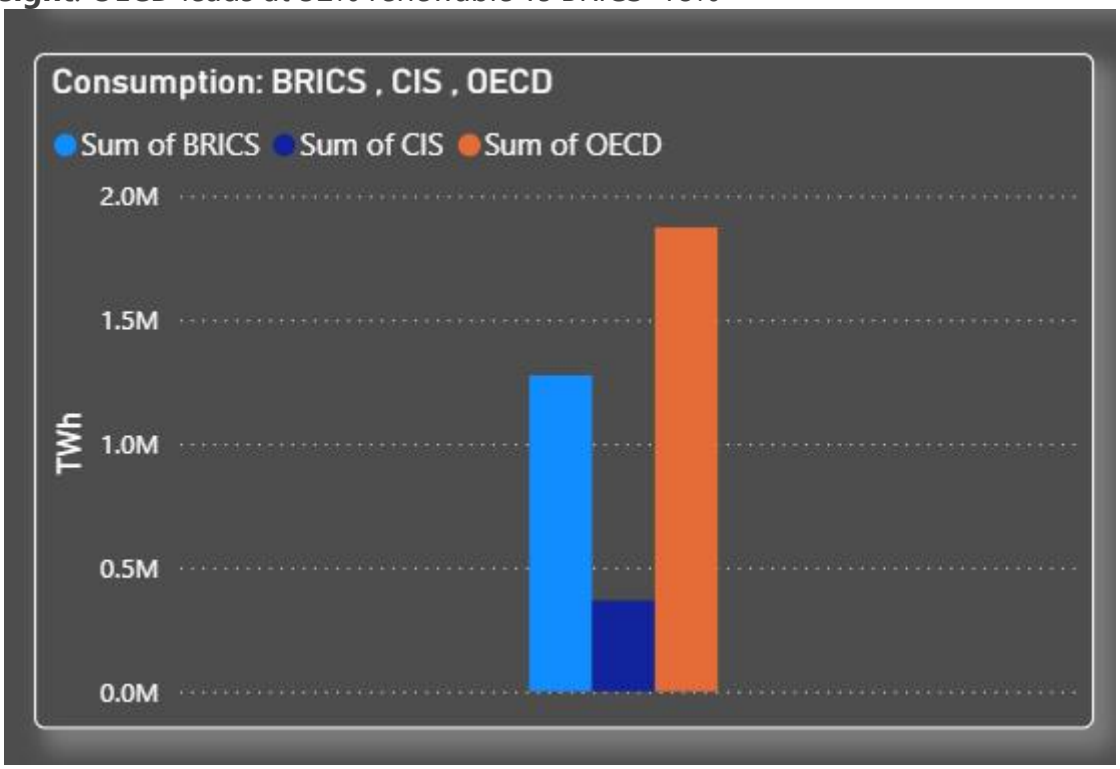


Q6 : How does per capita energy consumption compare across blocs ?

Visualization: stacked bar chart

-Each bloc's energy mix (fossil/renewable/nuclear)

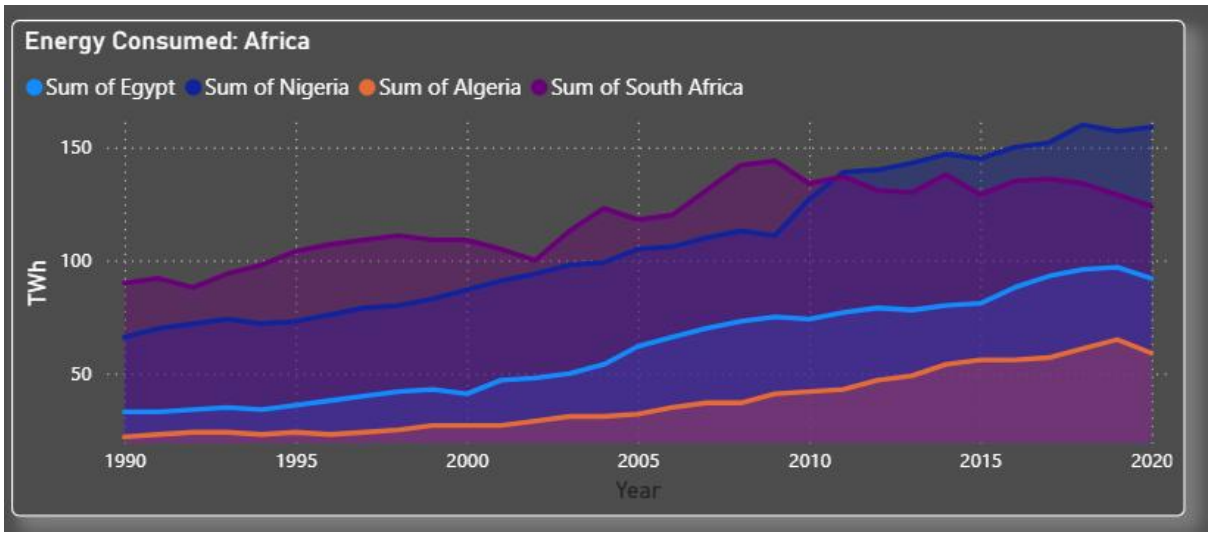
Insight: OECD leads at 32% renewable vs BRICS' 18%



Q7 : How has consumption grown since 1990?

Visualization: Area chart

Insight: Egypt's consumption grew 4× faster than Nigeria



Q8 : What does final reports says ?