**Data Collection and Preprocessing Phase**

|  |  |
| --- | --- |
| Date | 16 June 2025 |
| Project Title | Global Energy Trends: A Comprehensive  Analysis of Key Regions and Generation  Modes using Power BI |
| Maximum Marks | 2 Marks |

**Data Collection Plan & Raw Data Sources Identification**.

**Data Collection Plan**

|  |  |
| --- | --- |
| **Section** | **Description** |
| Project Overview | The project aims to analyze and visualize global energy generation trends across different regions and energy sources using Power BI. It supports sustainable energy planning by revealing patterns in renewable vs. non-renewable use. |
| Data Collection Plan | Data was collected from reputable open data sources such as Kaggle and Our World in Data. These sources offer historical energy consumption and generation figures categorized by country, continent, and energy mode. |
| Raw Data Sources Identified | The raw data consists of six datasets covering continent-level and country-level energy consumption (in TWh), breakdowns by renewable and non-renewable modes, renewables Total Power Generation and top 20 Countries in Power Generation. |

**Raw Data Sources**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source Name** | **Description** | **Location/URL** | **Format** | **Size** | **Access Permissions** |
| Continent Consumption TWH | Annual energy consumption by continent (OECD, Asia, Africa, etc.) | [Global Energy Consumption & Renewable Generation](https://www.kaggle.com/datasets/jamesvandenberg/renewable-power-generation?select=Continent_Consumption_TWH.csv) | CSV | 5 KB | Public |
| Country Consumption TWH | Country-wise energy usage data (e.g., China, India, US, Germany, etc.) | [Global Energy Consumption & Renewable Generation](https://www.kaggle.com/datasets/jamesvandenberg/renewable-power-generation?select=Country_Consumption_TWH.csv) | CSV | 9 KB | Public |
| Non-Renewable Total Power Generation | Total generation by coal, gas, nuclear, etc. with TWH contribution | [Global Energy Consumption & Renewable Generation](https://www.kaggle.com/datasets/jamesvandenberg/renewable-power-generation?select=nonRenewablesTotalPowerGeneration.csv) | CSV | 1 KB | Public |
| Renewable Power Generation | Year-wise contribution of solar, hydro, geothermal, and bio-fuel from 1997 to 2017 | [Global Energy Consumption & Renewable Generation](https://www.kaggle.com/datasets/jamesvandenberg/renewable-power-generation?select=renewablePowerGeneration97-17.csv) | CSV | 1 KB | Public |
| Global renewable power generation (TWh) (2017) | Contains total global renewable energy contribution by mode (Hydro, Wind, Biofuel, Solar PV, Geothermal) | [Global Energy Consumption & Renewable Generation](https://www.kaggle.com/datasets/jamesvandenberg/renewable-power-generation?select=renewablesTotalPowerGeneration.csv) | CSV | 1 KB | Public |
| Top 20 countries generating the most power with renewables (2017) | Ranked data for top energy-producing countries by energy type | [Global Energy Consumption & Renewable Generation](https://www.kaggle.com/datasets/jamesvandenberg/renewable-power-generation?select=top20CountriesPowerGeneration.csv) | CSV | 1 KB | Public |