

Data Collection and Preprocessing Phase

Date	26 June 2025
Team ID	N.A
Project Title	Global Energy Trends: a comprehensive analysis of key regions and generation modes using Power BI
Maximum Marks	2 Marks

Data Collection Plan Template

Section	Description
Project Overview	This project aims to examine electricity consumption and generation patterns across countries and continents from 1990 to 2020. It explores regional demand trends alongside the evolution of renewable and non-renewable energy sources. Using Power BI, the project visualizes mode-wise contributions and identifies top-performing countries and regions. It highlights imbalances between consumption and generation to support energy planning discussions. The ultimate goal is to generate actionable insights for sustainable and region-specific energy strategies.
Data Collection Plan	The dataset used in this project was sourced from Kaggle , a well-known platform for high-quality, user-contributed datasets.
Raw Data Sources Identified	<p>We used six main datasets in this project to study how energy is consumed and generated around the world. Two of them came from Enerdata, a trusted website that publishes global energy statistics every year. These datasets gave us details about how much electricity different countries and continents have been using from 1990 to 2020. The numbers were originally in a unit called mTOE, but we converted them into TWh (terawatt-hours) to match the rest of our data.</p> <p>The other four datasets came from a Kaggle project shared by James Arthur, which focuses on power generation trends. These</p>

	<p>datasets include both renewable and non-renewable energy sources. We got information about how much energy was produced by Solar, Wind, Hydro, Biofuel, and other sources each year. There's also a special file that shows how the top 20 countries perform in renewable energy production.</p> <p>To make all this data easier to work with, we cleaned and organized everything into simple CSV files. These were then imported into Power BI to create visuals, spot trends, and understand how energy use and production vary across time, regions, and energy types.</p>
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Raw Data Sources Template

Source Name	Description	Location/URL	Format	Size	Access Permissions
Continent_Consumption_TWH Country_Consumption_TWH nonRenewablesTotalPowerGeneration renewablePowerGeneration renewablesTotalPowerGeneration top20CountriesPowerGeneration	72 columns Decimal 67 String 3 Integer 2	Global Energy Consumption & Renewable Generation	CSV	15.22 kB	Public

Renewable- -share - energy	22239x4=829 56 Data Cells.	03_Renewable Power Trends: 1965-2022	CSV	154 KB	Public
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