

Data Collection and Preprocessing Phase

Date	30 th July 2025
Team ID	XXXXXX
Project Title	Global Energy Trends: A Comprehensive Analysis of Key Regions and Generation Modes using Power BI
Maximum Marks	10 Marks

Data Exploration and Preprocessing Template

Identifies data sources, assesses quality issues like missing values and duplicates, and implements resolution plans to ensure accurate and reliable analysis.

Section	Description
Data Overview	The dataset captures global energy trends, including renewable usage, fossil fuel consumption, and CO ₂ emissions across countries and years.
Data Cleaning	The primary issue was missing values (null) in key fields like energy access, renewable percentage, and emission data. These were handled by: <ul style="list-style-type: none">– Filling missing values using regional averages– Removing rows with critical nulls where imputation wasn't possible
Data Transformation	Power Query was used to filter relevant years and regions, sort data chronologically, and create basic calculated columns (e.g., total energy).
Data Type Conversion	Ensured that all numeric fields (energy consumption, emissions) were properly formatted as numbers and dates as YYYY.
Column Splitting and Merging	Not applicable in this dataset since columns were already well-structured.

Data Modeling	Relationships were defined between country and year tables; basic DAX measures were created for aggregated energy and emission insights.
Save Processed Data	The cleaned dataset was saved within the .pbix file and exported as CSV for future reference.