Project Initialization and Planning Phase

Date	17 Dec 2025
Team ID	xxxxxx
Project Title	Global Energy Trends: A Comprehensive Analysis
Maximum Marks	3 Marks

Project Proposal (Proposed Solution)

Global Energy Trends: A Comprehensive Analysis

Project Overview	
Objective	To analyze global energy consumption patterns, fuel-mix evolution, and the rise of renewable energy using consolidated data and visual insights, enabling clear understanding and improved decision-making for policymakers, industries, and learners.
Scope	Covers global energy trends over the past 10–15 years.
Problem Statement	
Description	Energy plays a vital role in various aspects of modern life, and its importance is expected to increase further as electric vehicles and heat pumps become more prevalent for transportation and heating. Although power generation currently accounts for a significant portion of global CO2 emissions, it is also leading the way in transitioning to net-zero emissions by rapidly adopting renewable energy sources like solar and wind power.
Impact	Solving this problem will: • Improve strategic energy planning • Support policy development for sustainability • Enable industries to anticipate future energy shifts • Help students and researchers gain clear understanding • Promote faster adoption of renewable energy solutions
Proposed Solution	

Approach	The project will: Collect and consolidate energy datasets from reliable global sources. Clean, organize, and preprocess the data for analysis. Apply analytical methods to identify trends and correlations. Create clear visualizations showing changes in energy consumption, fuel mix, and renewable growth.
Key Features	Centralized dataset combining global energy sources

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	e.g., 2 x NVIDIA V100 GPUs
Memory	RAM specifications	e.g., 16 GB
Storage	Disk space for data, models, and logs	e.g., 512 GB SSD
Software		
Frameworks	No	No
Libraries	Additional libraries	e.g., scikit-learn, pandas, numpy
Development Environment	IDE, version control	e.g., Jupyter Notebook, Git
Data		
Data	Source, size, format	e.g., Kaggle dataset, 4.86 kB CSV