Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	16 April 3035
Team ID	PNT2025TMID07432
Project Name	Global-Energy-Trends-A-Comprehensive-Analysis-of-Key-Regions-and-Generation-Modes-using-Power-BI
Maximum Marks	4 Marks

Application Components

S.No	Component	Description	Technology
1	User Interface	Web UI or Mobile-friendly interface for interacting with Power BI dashboards and filters	HTML, CSS, JavaScript, ReactJS
2	Application Logic-1	Data ingestion logic to extract energy data from various sources (CSV, Excel, APIs)	Python, Power BI Power Query
3	Application Logic-2	Forecasting logic to predict future energy consumption/generation trends by region & type	Scikit-learn, Prophet, Python
4	Application Logic-3	Natural language query support for end users to interact with data using keywords	Microsoft Q&A Visual in Power BI
5	Database	Stores structured and cleaned data for analytics and reporting	SQL Server, Azure SQL Database
6	Cloud Database	Centralized storage of historical and real-time energy datasets	Azure Data Lake / AWS S3
7	File Storage	Stores uploaded raw files (CSV, Excel), backups, and generated insights or exports	OneDrive, SharePoint, or Blob Storage

8	**External API-1**	**Provides real-time energy pricing or environmental factors (temperature, solar intensity, etc.)**	**OpenEnergy API / National Grid API**
9	**External API-2**	**Authenticates user login or integrates with social login (Gmail, LinkedIn)**	**Google OAuth API, LinkedIn API**