Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	31 January 2025
Team ID	PNT2025TMID00584
Project Name	Global Energy Trends: A Comprehensive Analysis of Key Regions and Generation Models using Power BI
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	- Registration through Form - Registration via Gmail - Registration via LinkedIn
FR-2	User Confirmation	- Confirmation via Email - Confirmation via OTP
FR-3	Data Integration	- Fetch global energy data from APIs - Store data in the database - Ensure real-time updates
FR-4	Interactive Dashboard	- Display energy consumption trends - Show CO2 emission statistics - Provide insights into government policies
FR-5	Predictive Analysis	- Forecast future energy demand - Predict grid stability using AI models
FR-6	Reporting & Data Export	- Generate downloadable reports - Export data in CSV, Excel formats

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The dashboard should have an intuitive UI with easy navigation and customizable views.
NFR-2	**Security**	User authentication via OAuth 2.0; data encryption using AES-256; secure API calls.
NFR-3	**Reliability**	The system must handle large datasets efficiently and ensure 99.9
NFR-4	**Performance**	API response time should be <1 second; dashboards should load within 3 seconds.
NFR-5	**Availability**	The system should be available 24/7 with automatic failover mechanisms.
NFR-6	**Scalability**	The architecture should support increasing data sources and concurrent users.