

## Solution Requirements (Functional & Non-functional)

Date: 26 June 2025

Team ID: LTVIP2025TMID20299

Project Name: Sustainable Smart City Assistant Using IBM Granite LLM

Maximum Marks: 2 Marks

### Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Interaction	Policy Summarization, Feedback Form, Chat Assistant
FR-2	AI-based Assistance	Forecasting, Anomaly Detection, Eco Tips Generation
FR-3	Data Input Handling	PDF Upload, Text Input, CSV Upload, Query Input
FR-4	Session Management	Streamlit session_state for preserving chat and inputs across modules

### Non-functional Requirements:

NFR No.	Description
NFR-1	Usability – Intuitive, icon-based Streamlit interface with unified layout
NFR-2	Security – IBM Watsonx API keys secured via .env and python-dotenv
NFR-3	Reliability – Stable API communication with Watsonx, tested across modules

NFR-4	Performance – LLM responses returned within 2–3 seconds using optimized prompts
NFR-5	Availability – Works in local environment and is deployable on Streamlit Cloud
NFR-6	Scalability – Modular architecture allows addition of more ML/LLM modules