

Project Design Phase
Problem – Solution Fit Template

Date	24 June 2025
Team ID	LTVIP2025TMID37462
Project Name	Sustainable Smart-city AI Assistant using IBM Granite LLM
Maximum Marks	2 Marks

Problem – Solution Fit Template:

Urban areas face challenges like pollution, traffic, and inefficient resource usage due to poor planning and lack of real-time data analysis. Citizens often lack accessible platforms for sustainability-related information and participation. Our **Sustainable Smart-City AI Assistant**, powered by IBM Granite LLM, addresses these gaps. It offers real-time eco-tips, KPI forecasting, sustainability reports, and AI-driven assistance. This empowers city planners and citizens to collaboratively build greener, smarter urban environments.

- Problem:** Citizens lack awareness of their environmental footprint.
Solution: The assistant educates users with personalized eco tips and real-time sustainability suggestions powered by IBM Granite LLM.
- Problem:** Urban planners struggle with forecasting sustainability KPIs and trends.
Solution: The AI assistant predicts key metrics like energy usage, carbon emissions, and water consumption to support proactive planning.
- Problem:** Access to actionable sustainability data is often limited or not user-friendly.
Solution: Our assistant provides simplified, conversational access to complex data, making it easily interpretable for citizens and officials.
- Problem:** City sustainability efforts lack citizen engagement.
Solution: The assistant offers interactive features like chatbots and community-driven reports to promote citizen participation in green initiatives.
- Problem:** Decision-making is slow due to delayed or outdated environmental reports.
Solution: With real-time data processing and response generation via IBM Granite, the assistant delivers instant, updated recommendations for smarter governance.

Purpose:

Promote Environmental Awareness: Educate citizens with AI-driven eco-tips and sustainable practices to reduce environmental impact.

Support Urban Planning: Assist city officials with AI-generated insights and KPI forecasts for smarter, data-driven planning.

Enhance Citizen Engagement: Provide an interactive assistant to encourage participation in city sustainability efforts.

Deliver Real-Time AI Assistance: Use IBM Granite LLM to offer instant, intelligent responses to sustainability-related queries.

1. USERS		6. LIMITATIONS		6. LIMITATIONS		LI		
Who is your end-user? Ex. citizens and policy-makers		What obstacles prevent users from accessing the platform or utilizing it's full capabilities? Ex. KPIs, sustainability reports, personallized eco-tips		What obstacles prevent users from accessing the platform or utilizing its full capabilities? Ex. data silos, limitd infrastructure, connectivity issues				
2. SOLUTIONS / FEATURES		MF	5. CAPABILITIES		CP	7. USER ENGAGEMENT	UE	
What issues or patterns does your platform identify and solve? Ex. KPIs, sustainability energy saving measures			What functionalities does your platform provide to the users Ex. chat assistant, AI-powered analytics, eco-friendly			What steps do users take to address the identified solutions and queries? Ex, chat assistant, AI-powered analytics, eco-friendly recommendations		
3. RESPONSES		SO	4. RESPONSES		RE	8. ENGAGEMENT CHANNELS		ECH
How do users respond or react to platform insights? Ex, uncertain > eco-conscious, skeptical > recalibrate			How do users respond or react to platform insights? Ex. uncertain > eco-conscious, skeptical > recalibrate			ECH ONLINE What digital channels do users prefer? Ex. web portals, social media		
4. RESPONSES		RE				ECH OFFLINE What actions are taken in offline settings? Ex. community workshops, sustainability fairs		

References:

1. <https://research.ibm.com/blog/ibm-granite-models-foundation>
2. <https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe>