City Climate
Finance Gap Fund

A Capacity Development Toolkit for Early-Stage Project Preparation

A toolkit for practitioners

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Disclaimer

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Acknowledgments

The Gap Fund Step-Up Toolkit is a practical, web-based resource designed to help city officials, project managers, and technical partners strengthen the early stages of sustainable infrastructure project development. It compiles twelve tools and templates developed and tested through the Gap Fund Step-Up (SUP) initiative — a joint effort led by ICLEI – Local Governments for Sustainability in collaboration with the City Climate Finance Gap Fund Technical Secretariat at the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the European Investment Bank (EIB).

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Bandeirantes Stream in campinas/SP (Photo: Daniel Nogueira Maekawa, 2022).

1. Introduction

Purpose of the Toolkit

The **Toolkit** is a practical, web-based resource designed to help city officials, project managers, and technical partners strengthen the early stages of sustainable infrastructure project preparation. It compiles **twelve tools and templates** developed and tested through the Gap Fund Step-Up (SUP) initiative — a joint effort led by ICLEI – Local Governments for Sustainability in collaboration with the City Climate Finance Gap Fund Technical Secretariat at the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the European Investment Bank (EIB). Through SUP, cities in Africa and South America received tailored support to advance their projects beyond pre-feasibility and bring them closer to full feasibility and investment readiness. The Toolkit consolidates the methodologies and templates applied during SUP trainings and peer-learning sessions. Each tool responds to specific capacity gaps identified together with participating cities — from governance and risk assessment to financial planning and behavioural change — enabling local teams to better understand the data, actions, and resources needed to move their projects forward.

Ultimately, the Toolkit provides a set of adaptable, ready-to-use instruments that cities can tailor to their local context. It aims to make early-stage project preparation more transparent, collaborative, and effective, supporting cities on their path toward bankable, sustainable urban infrastructure.

Objectives

- Strengthen understanding of the project preparation cycle for city practitioners — including the typical studies, datasets, and methodologies required at each stage.
- Provide practical instruments for city practitioners to identify and address capacity gaps in technical, financial, institutional, and behavioural dimensions.
- Enable informed dialogue between cities, technical partners, and financiers by promoting a shared understanding of project readiness requirements.
- Facilitate knowledge sharing and peer learning across participating cities and the wider community of practice.

Who the Toolkit is for

The Toolkit is intended for:

- **City officials and technical staff** responsible for planning, finance, environment, or infrastructure.
- **Project managers and coordinators** leading early-stage sustainable infrastructure initiatives.
- **Consultants and experts** supporting cities in project preparation and feasibility studies.
- **Development partners and donors** seeking to replicate or build upon the SUP approach.

The Toolkit is particularly recommended for cities that have received Gap Fund support. It serves as a practical resource to help them consolidate their learnings and plan the next steps toward project feasibility. Other cities may use it as a self-guided reference to strengthen early-stage project preparation and build internal capacity for future project development.

2. Background and methodology

About the Gap Fund SUP

The City Climate Finance Gap Fund is a joint initiative of the World Bank and EIB backed by Germany's Federal Ministry for Economic Affairs and Climate Action and the Federal Ministry for Economic Cooperation and Development and Luxembourg's Ministry of the Environment, Climate and Sustainable Development. It supports cities in developing and emerging countries to transform climate-resilient and low-carbon ideas into strategies and finance-ready projects.

The Gap Fund SUP initiative complements this work by providing continued technical assistance (TA) and peer learning after initial Gap Fund support. Launched in 2023 by EIB and GIZ and implemented by ICLEI, the project supported nine projects in 14 cities in Africa and South America[1] through peer-to-peer knowledge exchange on challenges and lessons learned in project preparation. These activities built up capacities for project preparation, financing, and implementation, while also creating long-lasting networks for collaboration and knowledge-sharing.

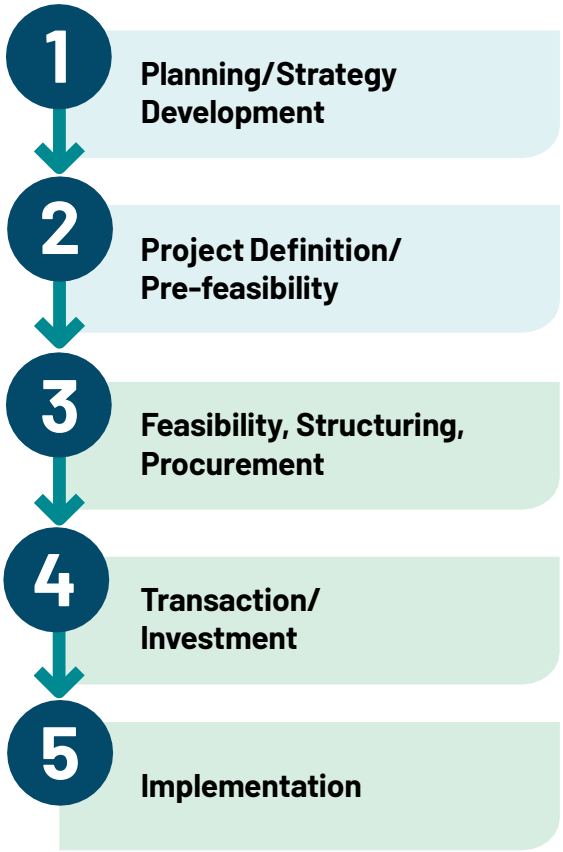
Context of Tools Development

The tools featured in this Toolkit were developed through a range of collaborative activities conducted under the SUP initiative. Designed as practical resources to facilitate learning, exchange, and early project preparation, they were tested and validated directly by city officials during trainings, pilot sessions, and project preparation exercises.

While several tools were originally designed by ICLEI, many were adapted from existing methodologies or developed collaboratively with partner organisations, ensuring innovation and practical relevance.

These tools were designed to support capacity building for city practitioners developing prefeasibility studies. They are therefore best used during the early stages of project preparation. The infographic below illustrates the project preparation cycle and its various stages.

Project Preparation Cycle



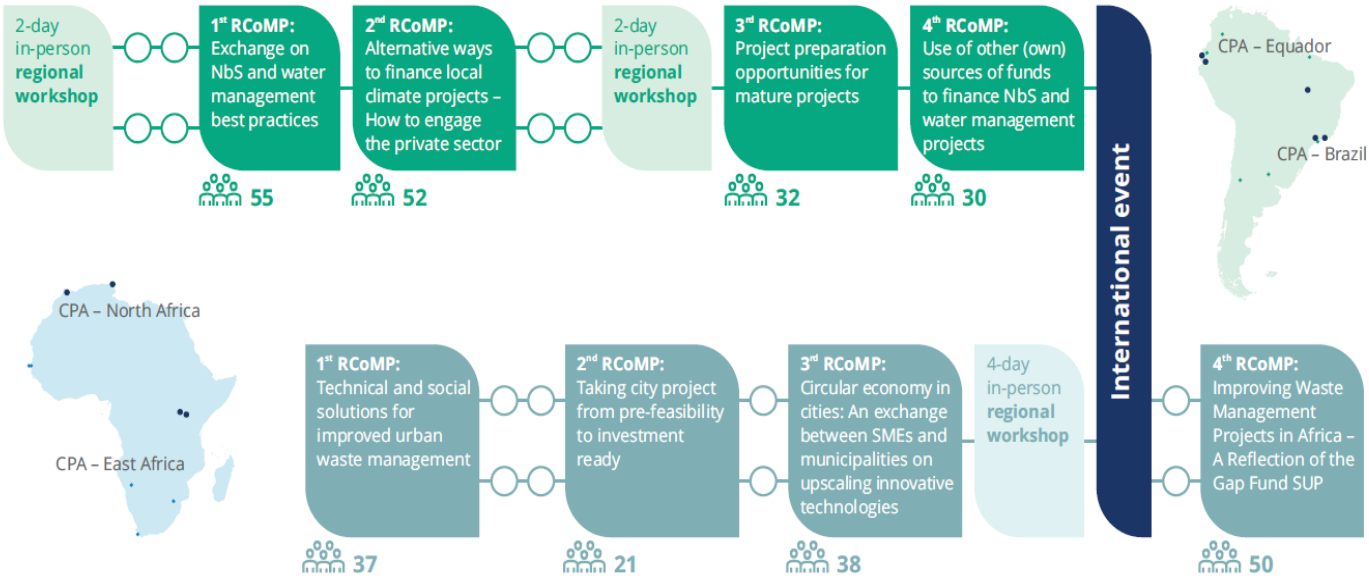
[1] In South America: Campinas, Palmas and Rio de Janeiro (Brazil), and Cuenca and Portoviejo (Ecuador). In Africa: Chefchaouen (Morocco), La Marsa, Carthage and Sidi Bou Said (Tunisia), Kisumu (Kenya), and Makindye, Entebbe, Nansaa, and Kira (Uganda).

The SUP was implemented through **four levels of activities and engagement**, all of which relied on practical tools to facilitate interaction, learning, and project support. These activities provided the context in which many of the tools were applied, tested, and refined:

- **City Pair Activities –** Bilateral exchanges focused on specific themes such as governance coordination, stakeholder engagement, nature-based solutions design, and waste systems, where partner cities shared experiences and received targeted technical guidance.
- **Regional Communities of Practice (RCoMPs)** – Thematic regional groups that convened cities to discuss shared challenges and learn from each other's experiences, often using adapted tools to explore topics like water management, linear parks, and circular economy approaches.
- **Regional In-Person Workshops** – Multi-day training sessions where cities applied selected tools to their projects and shared lessons learned across regions.
- **International Event (Cairo, Egypt, November 2024)** – The culmination of the SUP process, bringing together all participating cities for three days of technical training, peer learning, and strategy discussions on advancing project
- portfolios. Many tools were finalised or validated during this event.

The infographic below illustrates which activities contributed to the application and refinement of each tool.

Gap Fund SUP Activities



3. How to use this Toolkit

The Toolkit is designed as a flexible, modular resource. Cities can use it as a complete suite of instruments or select only the tools most relevant to their project's maturity, sector, and capacity gaps.

The Toolkit encourages an iterative, needs-based approach to project preparation. Teams can start with a rapid self-assessment and then apply specific tools to deepen understanding of governance, risks, financing, or behaviour-related challenges.

Recommended steps

1. **Start with a quick diagnostic**
   Use the Needs Assessment Matrix or Gaps Identification Matrix to determine where additional technical, financial, institutional, or social work is needed.

2. **Select the relevant tools**
   Choose the instruments that address your identified needs. Tools can be used individually or combined — for example, for coordination aspects, practitioners can use the Governance Matrix and Stakeholder Mapping Tool, or use the Financial Model Template together with the Public Private Partnership (PPP) Applicability Checklist.

3. **Apply and document**
   Use the templates provided to document findings, decisions, and assumptions. This documentation can support partner engagement or applications for further project preparation support.

4. **Review and iterate**
   Reassess project progress as deliverables or information become available. Use Project preparation checklist and roadmap to Investment readiness to track readiness over time.

5. **Share and learn**
   Exchange results through regional communities of practice or peer learning groups. Many tools were validated through such exchanges and are most effective when used collaboratively.

Each tool includes clear instructions, examples, and downloadable templates. Cities may adapt them to their context and integrate them into ongoing planning or TA processes.

Structure of the Toolkit

The Toolkit is organised into **three thematic sections**, each containing tools addressing a different dimension or needs of early-stage sustainable infrastructure project development. While the tools can be applied independently, they are grouped according to their primary function within the project preparation cycle.

- **Section 4 – Planning Foundations: Tools for Understanding and Structuring Early-Stage Studies**
  Provides tools to help cities review and strengthen the elements typically covered in pre-feasibility and feasibility studies — such as governance, stakeholder mapping, risk assessment, and financial analysis.

- **Section 5 – Behavioural and Systems Approaches to Project Design**
  Introduces tools developed to integrate behavioural insights and systems thinking into infrastructure planning. These instruments help teams understand social drivers, feedback loops, and systemic interconnections that influence project success.

- **Section 6 – From Feasibility to Investment Readiness**
  Brings together diagnostic and reflection tools that guide cities in assessing study completeness, identifying support facilities, and planning next steps toward bankable, investment-ready projects.

Each section includes concise explanations, step-by-step guidance, and downloadable templates that cities can adapt to their local context.

Tool Matrix

The table below provides a concise overview of all tools included in the Toolkit.

Tool	Purpose
Section 4: Planning Foundations: Tools for Understanding & Structuring Early-Stage Studies	
1. Needs Assessment Matrix & Needs Assessment Questionnaire	Diagnose project status, challenges, and capacity gaps following pre-feasibility support.
2. Governance Matrix & Responsibility Assignment Matrix (RACI-Q)	Clarify institutional roles, decision-making structures, and coordination mechanisms.
3. Stakeholder Identification & Stakeholder Mapping Tool	Identify, categorise, and prioritise stakeholders according to influence and interest.
4. Mapping Stakeholders by Operational Model (Facilitation Tool)	Explore how different delivery models (e.g., municipal, PPP, community-owned) affect actor roles and coordination.
5. Risk Mapping & Mitigation Strategies	Identify and assess technical, institutional, social, environmental, and financial risks; plan mitigation and de-risking actions.
6. Financial Model Template	Build a simple financial model to estimate capital or operational expenditure, revenues, and funding needs.
7. Public Private Partnership (PPP) Applicability Checklist	Assess whether a PPP model suits the project's objectives and readiness.
Section 5: Behavioural and Systems Approaches to Project Design	
8. Behaviour Change Planning Tool	Analyse behavioural barriers and design targeted interventions using the COM-B / Behaviour Change Wheel framework.
9. Systems Mapping & Causal Loop Diagrams (Resource)	Visualise systemic interactions and identify leverage points for more effective interventions.
Section 6: From Feasibility to Investment Readiness	
10. Project Preparation Facility (PPF) Mapping Tool	Identify potential facilities and partners offering technical or financial assistance for project preparation.
11. Roadmap to Investment Readiness	Reflect on institutional, technical, and resource needs to progress from feasibility to bankability.

Section 4

Planning Foundations: Tools for Understanding and Structuring Early-Stage Studies

4. Planning Foundations: Tools for Understanding and Structuring Early-Stage Studies

This first section brings together tools that mirror and simplify key components of pre-feasibility and feasibility studies. They help city teams clarify project scope, governance, stakeholders, risks, and financial logic through practical templates and exercises.

By utilising these instruments, officials can better understand what information would enhance bankability, identify gaps in existing studies, and strengthen coordination across departments and partners before advancing to full feasibility analysis. These tools enable the capture of the current status of project preparation, identifying capacity or data gaps, and define the type of technical, financial, or institutional assistance required to advance toward feasibility.

Tool 1	**Needs Assessment Matrix & Questionnaire**
Tool 2	**Governance Matrix & Responsibility Assignment Matrix (RACI-Q)**
Tool 3	**Stakeholder Identification & Mapping Tool**
Tool 4	**Mapping Stakeholders by Operational Model (Facilitation Tool)**
Tool 5	**Risk Mapping & Mitigation Strategies**
Tool 6	**Financial Model Template**
Tool 7	**PPP Applicability Checklist**

Tool 1 Needs Assessment Matrix & Questionnaire

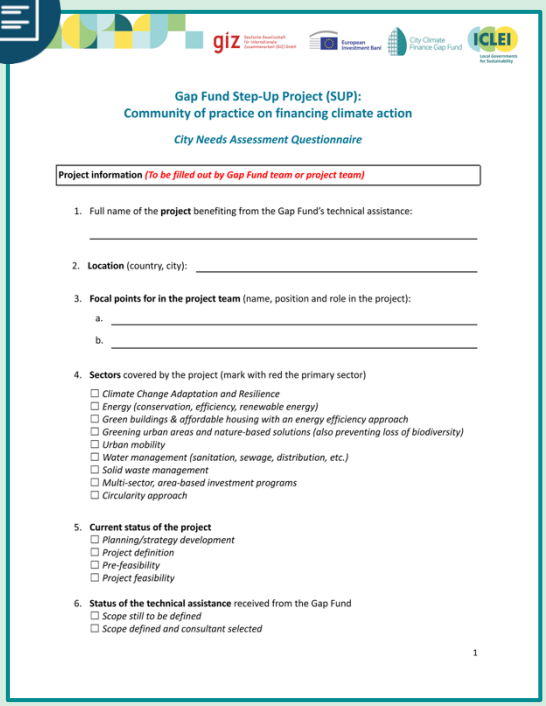
A diagnostic tool to help cities identify project challenges, data and capacity gaps, and next steps following the Gap Fund support or as they transition to a new stage of TA and project development.

Authors & Source	ICLEI – Local Governments for Sustainability, under the Gap Fund Step-Up (SUP) initiative
Objective	This tool helps cities and partners systematically assess the needs, challenges, and next steps of projects following Gap Fund or other early-stage support. The Matrix allows for cross-city comparison and the identification of shared challenges and opportunities, helping outline the scope of follow-up activities such as communities of practice, peer learning, and city "pairing-and-sharing" exchanges.
When to Use	Use this tool after completing (or nearing completion of) TA from the Gap Fund or another partner to identify follow-up actions and key bottlenecks for the next stage of project development.
Main users	The project development team can use the templates as a self-evaluation exercise, while TA partners may apply them to identify project gaps and outline the type of support to be provided.
Step-by-Step Instructions	1. **Complete the City Needs Assessment Questionnaire.** a. The Project Team or the Gap Fund team should provide information directly or via interviews on the project background, sectoral focus, and stage of development. b. Identify the most critical technical and financial challenges. Describe each challenge, assess its priority (high/medium/low), identify which aspects of the project are affected, and what is needed to tackle it (e.g., data, training, coordination). c. Perform a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) to capture institutional readiness and external factors influencing progress. d. Indicate existing plans, strategies, or funding sources relevant to the project. e. Rank priority topics for future capacity-building, peer learning, or partnership development. 2. Consolidate all findings from the **Questionnaire in the Needs Assessment Matrix** to create a comprehensive overview and enable cross- project comparison. 3. *(Optional)* **Organise meetings or design-thinking workshops** to collaboratively identify common challenges and opportunities across cities that could inform future support activities.

Expected Outputs	Completed **City Needs Assessment Questionnaire and Matrix**, including: • A structured summary of project needs and gaps. • A prioritised list of technical and strategic challenges. • A clear indication of support required for further project preparation.
Time Required	2–3 hours for questionnaire completion and 0.5–1 hour for the matrix (can be done in a workshop setting).

Tool 1 Needs Assessment Matrix & Questionnaire

Downloadable Templates



Gap Fund Step-Up Project (SUP):
Community of practice on financing climate action

City Needs Assessment Questionnaire

Project information *(To be filled out by Gap Fund team or project team)*

1. Full name of the **project** benefiting from the Gap Fund's technical assistance:

2. **Location** (country, city):

3. **Focal points for in the project team** (name, position and role in the project):
   a.
   b.

4. **Sectors** covered by the project (mark with red the primary sector)
   - ☐ *Climate Change Adaptation and Resilience*
   - ☐ *Energy (conservation, efficiency, renewable energy)*
   - ☐ *Green buildings & affordable housing with an energy efficiency approach*
   - ☐ *Greening urban areas and nature-based solutions (also preventing loss of biodiversity)*
   - ☐ *Urban mobility*
   - ☐ *Water management (sanitation, sewage, distribution, etc.)*
   - ☐ *Solid waste management*
   - ☐ *Multi-sector, area-based investment programs*
   - ☐ *Circularity approach*

5. **Current status of the project**
   - ☐ *Planning/strategy development*
   - ☐ *Project definition*
   - ☐ *Pre-feasibility*
   - ☐ *Project feasibility*

6. **Status of the technical assistance** received from the Gap Fund
   - ☐ *Scope still to be defined*
   - ☐ *Scope defined and consultant selected*

1

[Needs Assessment Questionnaire (Word/Docs)]

Gap Fund SUP - Needs Assessment Matrix

1	2	4	5	6	7	8	9	10				11	12	13
Local Government	Location	Sector	Project Status	Status of Technical Assistance (TA)	TA Support Received	TA Next Steps	Challenges (brief description)	SWOT				Plan/Strategy	Funding/Further TA	Support required	Support Priority
	City or region where the project is based, detailing neighborhood if already defined.	*Main thematic area of the project, based on Questionnaire categories.*	*Describe the current phase of the project (e.g. concept note, pre-feasibility, secured further TA)*	*Indicate whether Gap Fund TA has been completed, ongoing, or planned, and by which organisation or programme.*	*Support provided and studies through the Gap Fund or other partners*	*Follow-up actions or additional support required to advance the project*	*Identify key obstacles hindering project progress (e.g. lack of data, insufficient funding, limited coordination, unclear mandates).*	Strenghts *Internal assets or advantages (e.g. political support).*	Weaknesses *Internal gaps (e.g. limited staff or data).*	Opportunities *External enablers (e.g. new funding, favourable policy).*	Threats *External risks (e. g. political change, delays).*	*Plans or strategy for concluding project development and reaching implementation*	*Identify potential or confirmed sources of financing or technical assistance.*	*Describe the type of support the city needs next (see Questionnaire).*	*Identify the highest-priority support*
City A															
City B															
City C															

[Needs Assessment Matrix (Excel spreadsheet)]

Tool 2

Governance Matrix & Responsibility Assignment Matrix (RACI-Q)

A structured tool to map how project governance is organised internally and externally, clarifying responsibilities, decision-making, and coordination mechanisms.

Authors & Source

Adapted from ICLEI South America, based on the template used with Cuenca and Portoviejo for the Gap Fund SUP.

Objective

The Governance Matrix helps **visualise how a project is organised institutionally** – who leads, who supports, and how decisions are made. It enables partners and city teams to identify coordination challenges, accountability gaps, and improvement actions needed to strengthen project delivery and transparency.

When to Use

Apply this tool during early or mid-stages of project preparation, when responsibilities, partnerships, and decision mechanisms need to be clarified or reviewed. It is especially useful at the start of TA or partnership engagement.

Main users

Primarily external partners, TA providers, and donors seeking to understand or support project governance. City project teams can also use it internally to clarify institutional roles and coordination processes.

Inputs required

- Organisational charts and mandates of relevant departments.
- Lists of project partners and key contact points.
- Existing governance or steering committee terms of reference (if available).

Step-by-Step Instructions

1. **Prepare in advance:** A coordinator or focal points from the project management team or from an external partner collects basic information about the governance (e.g., lead and supporting department, known partners) through the available documents, and pre-fills the matrix.
2. **Hold a Coordination Meeting:** Convene representatives from relevant municipal departments and key external partners to clarify any remaining governance and coordination mechanisms.
3. **Complete the Matrix collaboratively:** Fill in the columns together, identifying:
   a. Who is responsible and who supports each project component.
   b. How decisions are made and communicated.
   c. What accountability and reporting lines exist.

d. Current coordination challenges and proposed improvement actions.

4. *(Optional)* **Apply a RACI-Q Matrix for Role Clarification:** Once the main actors and relationships are identified, use a **RACI-Q matrix** (*as a separate tab on the same spreadsheet*) to deepen clarity on responsibilities:
   a. **R** – Responsible: Does the work; prepare the recommendations or output.
   b. **A** – Accountable: Approves and owns the decision/output; has final authority.
   c. **C** – Consulted: Provides input, advice, or expertise; may also review.
   d. **I** – Informed: Kept up to date on progress or outcomes; no decision-making role.
   e. **Q** – Quality Assurance: Reviews work for quality, accuracy, and alignment before final approval.
5. **Validate and Finalise (within 3–5 days):** Circulate the draft matrix for review and feedback. Finalise and store it as part of project documentation.
6. **Review Periodically:** Update the matrix as institutional arrangements or project stages evolve.

Expected Outputs

Completed **Governance Matrix (and, optionally, RACI-Q matrix)**, providing:

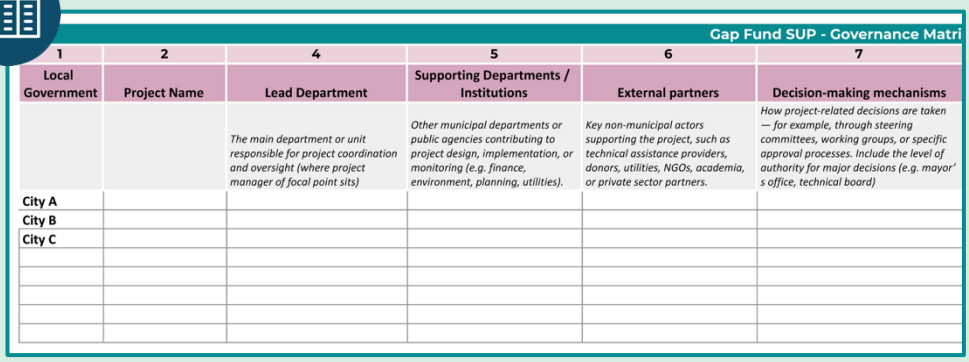
- A concise overview of the governance and coordination framework.
- A shared understanding among partners of roles, responsibilities, and gaps.
- Agreed next steps for improving decision-making and monitoring.

Time Required

1–2 hours for completion, plus a short validation discussion with partners.

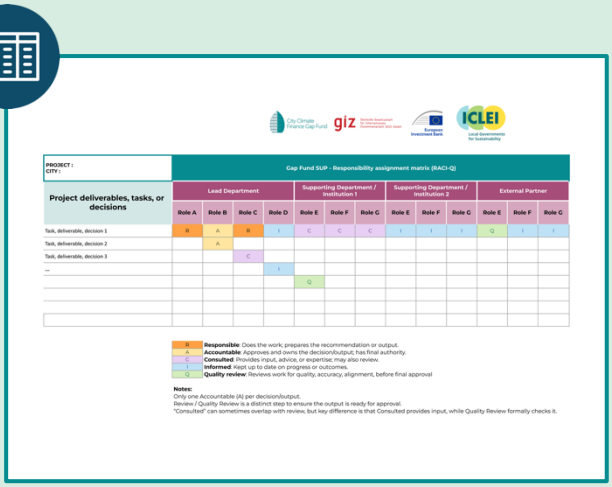
Tool 2 Governance Matrix & Responsibility Assignment Matrix (RACI-Q)

Downloadable Templates



Gap Fund SUP - Governance Matri

1	2	4	5	6	7
Local Government	Project Name	Lead Department	Supporting Departments / Institutions	External partners	Decision-making mechanisms
		The main department or unit responsible for project coordination and oversight (where project manager of focal point sits)	*Other municipal departments or public agencies contributing to project design, implementation, or monitoring (e.g. finance, environment, planning, utilities).*	*Key non-municipal actors supporting the project, such as technical assistance providers, donors, utilities, NGOs, academia, or private sector partners.*	*How project-related decisions are taken — for example, through steering committees, working groups, or specific approval processes. Include the level of authority for major decisions (e.g. mayor's office, technical board)*
City A					
City B					
City C					



PROJECT :
CITY :

Gap Fund SUP - Responsibility assignment matrix (RACI-Q)

Project deliverables, tasks, or decisions	Lead Department				Supporting Department / Institution 1			Supporting Department / Institution 2			External Partner		
	Role A	Role B	Role C	Role D	Role E	Role F	Role G	Role E	Role F	Role G	Role E	Role F	Role G
Task, deliverable, decision 1	R	A	R	I	C	C	C	I	I	I	Q	I	I
Task, deliverable, decision 2		A											
Task, deliverable, decision 3			C										
...				I									
					Q								

R **Responsible**: Does the work; prepares the recommendation or output.
A **Accountable**: Approves and owns the decision/output; has final authority.
C **Consulted**: Provides input, advice, or expertise; may also review.
I **Informed**: Kept up to date on progress or outcomes.
Q **Quality review**: Reviews work for quality, accuracy, alignment, before final approval

Notes:
Only one Accountable (A) per decision/output.
Review / Quality Review is a distinct step to ensure the output is ready for approval.
"Consulted" can sometimes overlap with review, but key difference is that Consulted provides input, while Quality Review formally checks it.

[Governance Matrix & RACI-Q matrix (Excel spreadsheet)]

Tool 3

Stakeholder Identification & Mapping Tool

Helps identify, categorise, and engage key actors involved in or affected by the project.

Authors & Source	Adapted from the template developed by ICLEI South America, based on standard stakeholder analysis mapping frameworks and resources.
Objective	This tool supports cities in identifying **all relevant stakeholders**, understanding their power, interest, and influence, and defining appropriate engagement strategies. It helps teams distinguish between internal and external actors, assess their importance to the project, and design engagement actions (e.g., meetings, reports, consultations) based on their mapped position.
When to Use	Apply during the early stages of project planning or during stakeholder engagement reviews. It is especially useful before consultations, governance assessments, or when developing communication and participation strategies.
Main users	City project teams, coordination units, technical partners supporting stakeholder engagement, and consultants preparing feasibility studies.
Inputs required	• List of all institutions, groups, or individuals with interest in or influence over the project. • Information about their role, level of influence, level of interest, and type of relationship (internal or external). • Any previous stakeholder engagement documentation or consultation records.
Step-by-Step Instructions	1. **Compile a List of Stakeholders:** Brainstorm all relevant actors across government, private sector, civil society, academia, and affected communities. Include both internal stakeholders (departments, municipal utilities) and external stakeholders (non-governmental organisations, investors, communities, etc.). 2. **Complete the Stakeholder Mapping Spreadsheet and Identify Strategies of Engagement:** Fill in details for each stakeholder: role, level of power, interest, importance (high/medium/low), and their relation to the project (internal/external).

a. The spreadsheet will automatically categorise stakeholders into engagement strategies:
   i. **Manage Closely**: High power, high interest – frequent, active engagement.
   ii. **Keep Satisfied**: High power, low interest – involve strategically, update regularly.
   iii. **Keep Informed**: Low power, high interest – ensure access to information and participation.
   iv. **Monitor**: Low power, low interest – occasional updates, observe for future changes.

3. **Transpose Results into the Stakeholder Grid / Map:**
   Using the results from the spreadsheet, plot each stakeholder on a matrix based on their Interest and Influence. This visual map helps prioritise which actors to engage most actively.
4. **Define Actions of Engagement & Focal Points:**
   For each stakeholder, collaboratively **define the engagement actions** based on the strategy identified for them in the Power–Interest Grid, as well their **periodicity** and **focal points**.
   a. High Power, High Interest (Manage Closely): Consider organising regular coordination meetings, involving them in joint decision-making and steering committees, and sharing detailed progress reports.
   b. High Power, Low Interest (Keep Satisfied): Consider Providing periodic updates (e.g., quarterly briefings), sharing concise executive summaries, and engaging them at major milestones or key consultations.
   c. Low Power, High Interest (Keep Informed): Consider sending newsletters or invitations to events, including them in participatory workshops, and gathering feedback through surveys or open forums.
   d. Low Power, Low Interest (Monitor): Consider monitoring changes in their influence or interest, provide occasional updates via public communication, and reassess their relevance periodically.
5. **Validate and Finalise:**
   Review the map with the core project team and, where relevant, municipal leadership.
   a. Update periodically as the project evolves and new actors emerge.

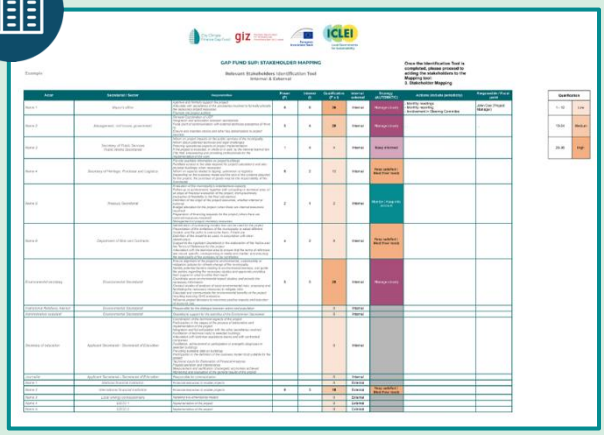
Expected Outputs

- A completed stakeholder database, including key information and strategies of engagement.
- A visual stakeholder grid/map clearly showing influence–interest.
- A stakeholder engagement plan or action table, with key engagement and communication actions and focal points.

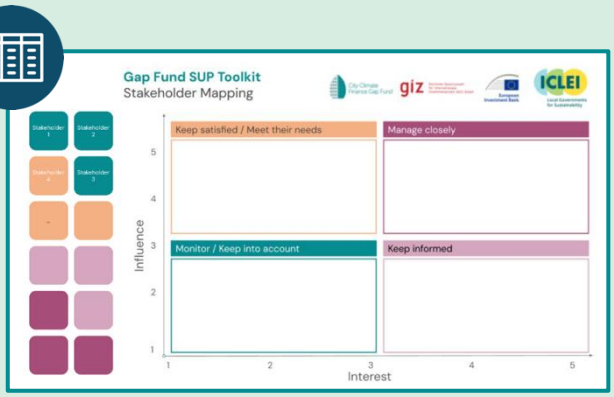
Time Required	Half-day workshop (3–4 hours) with preparation time for stakeholder list (1–2 hours).

Tool 3 Stakeholder Identification & Mapping Tool

Downloadable Templates



[Governance Matrix & RACI-Q matrix (Excel spreadsheet)]



[Stakeholder Mapping Tool (Interactive PowerPoint/Slides)]

Tool 4

Mapping Stakeholders by Operational Model (Facilitation Tool)

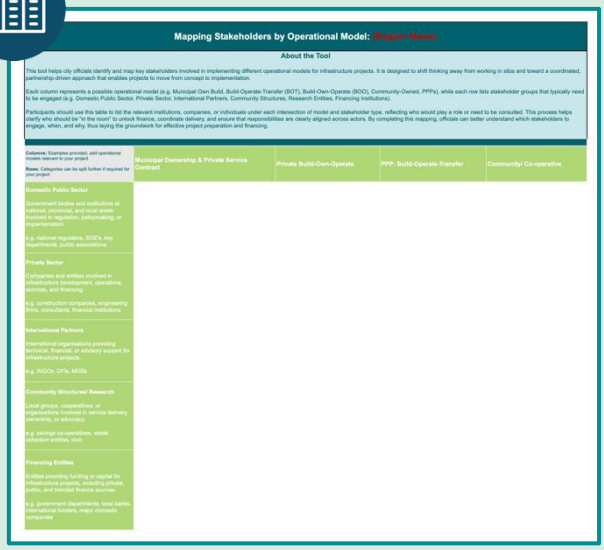
Facilitation tool to help city teams identify which actors are needed for different delivery models and foster coordination across departments and partners.

Authors & Source	Developed and applied by ICLEI Africa under the Gap Fund SUP project.
Objective	This participatory mapping tool helps project teams **visualise and discuss which stakeholders would play key roles** under various infrastructure delivery or operational models (e.g., Municipal Own Build, Build-Operate-Transfer (BOT), Build-Own-Operate (BOO), Community-Owned, PPPs). It supports joint reflection on how different models affect institutional arrangements, responsibility sharing, and financing options – encouraging collaboration across silos and aligning expectations early in project structuring. The tool was tested on Miro boards, enabling participants to collaborate in real time. Cities can replicate this interactive approach using Miro or similar virtual whiteboards or complete the accompanying Excel template offline.
When to Use	During early project scoping or when comparing possible delivery models to identify coordination needs, institutional readiness, and partnership opportunities.
Main users	Municipal project teams, PPP units, and TA partners facilitating early-stage project design discussions.
Inputs required	List of key stakeholders and institutions (public, private, community, and financial), and an overview of potential operational models relevant to the sector.
Step-by-Step Instructions	1. In a facilitated group session, **review the stakeholder categories in the rows** (e.g., Domestic Public Sector, Private Sector, International Partners, Community Organisations, Research Entities, Financing Institutions). 2. Review the **operational models** in the columns (*e.g., Municipal Build, BOT, BOO, PPP, Community-Owned*). 3. For each intersection, **list the institutions or actors** that would typically be involved under that model. 4. Discuss how **responsibilities, influence, and accountability** differ across models.

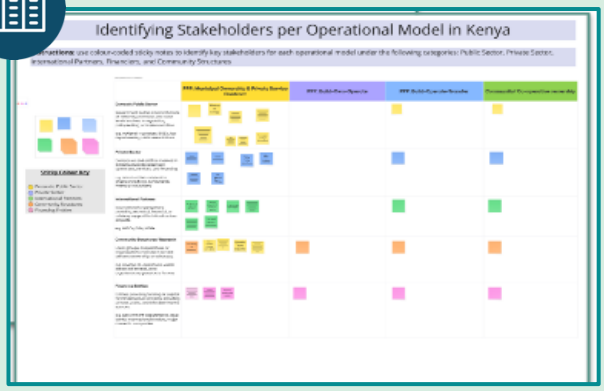
	5. Identify which models appear **most feasible** based on existing partnerships, capacities, and enabling conditions. **Tip:** Combine this with the Governance Matrix and Stakeholder Mapping Tool to build a comprehensive overview of institutional arrangements. The discussion process is often more valuable than the final table.
Expected Outputs	The complete checklist, providing a summary of completed and missing elements across technical, financial, environmental, and institutional dimensions – serving as a gap analysis for advancing project preparation.
Time Required	Approximately 0.5-1 hour in a small workshop setting.

Tool 4 Mapping Stakeholders by Operational Model (Facilitation Tool)

Downloadable Templates



[Mapping Stakeholders by Operational Model Template (Excel spreadsheet)]



[Example from SUP activity (Miro Board)]

Tool 5 Risk Mapping & Mitigation Strategies

Interactive exercise to identify, assess, and mitigate project risks, with a focus on financial de-risking for investment readiness.

Authors & Source	Developed by ICLEI – Local Governments for Sustainability for the Gap Fund SUP International Event.
Objective	This tool helps city teams and partners systematically **identify, analyse, and prioritise the risks** that may affect project success – from technical and institutional risks to social, environmental, and financial ones. It provides a structured and participatory framework for early-stage project preparation, helping teams think through how to manage risks before they escalate. While it covers all categories of risks, the tool places special emphasis on financial risks, which often determine whether a project can attract investment. To address these, the tool includes a reference sheet on financial de-risking instruments, such as guarantees, blended finance mechanisms, and insurance, offering options to improve the project's risk-return profile for investors. The exercise can be done individually or through a team workshop that includes scenario testing and peer review ("critical friend") activities.
When to Use	Apply this tool during project planning, pre-feasibility, or feasibility stages, when projects are being refined and prepared for engagement with potential financiers. It is particularly useful before submitting project proposals or initiating funding dialogues, as it helps teams identify which risks require targeted de-risking mechanisms.
Main users	City project teams, TA providers, consultants, and development partners supporting project preparation or investment facilitation.
Inputs required	• Project documentation (concept note, pre-feasibility studies, preliminary budget). • Institutional and regulatory context. • Participation from key staff across departments (technical, financial, environmental, and social).
Tools components	1. **Activity 1 – Risk Mapping & Assessment:** for identifying, categorising, and describing all project risks (technical, financial, institutional,

social, environmental).

2. **Activity 2 - Identifying de-risking instruments:** for indicating potential financial de-risking instruments to be utilised for the project.
3. **Activity 3 – Risk Mitigation Strategy Table:** to define and plan for preventive and corrective risk mitigation actions.
4. **Financial De-Risking Reference Sheet** – listing mechanisms such as guarantees, blended finance, insurance, or credit enhancements to address financial risks.
5. **Scenario Testing Exercise:** to simulate different conditions (e.g., budget shortfalls, stakeholder delays) and evaluate how the selected mitigation measures perform.
6. **Critical Friend Review:** an optional peer review activity to validate completeness and realism through city-to-city feedback.

Step-by-Step Instructions

1. **Activity 1: Risk mapping & assessment**
   a. Brainstorm different types of possible risks (technical, financial, institutional, social, environmental) that may impact the bankability of the project under each category.
   b. Enter these risks into the **Risk Mapping & Assessment** table.
   c. Assess the likelihood and impact in the short and long term of each risk, rating them as *Low, Medium, or High.*
   d. The tool will automatically generate a **Vulnerability Score** (*Acceptable, Moderate, or Critical*), helping to prioritise the most pressing risks.
   e. Also consider climate-related risks (e.g., extreme weather events) and how they could influence financial stability or project performance.
2. **Activity 2: Identifying de-risking instruments**
   a. Match each identified risk with one or more suitable de-risking instruments.
   b. Use the **"De-risking Instruments Reference Sheet"** for guidance on financial mechanisms introduced during training. Examples include:
      i. **Guarantees** or **credit enhancements** to reduce investor risk exposure.
      ii. **Blended finance** combining concessional and commercial capital.
      iii. **Insurance mechanisms** to manage climate, construction, or operational risks.
   c. Briefly explain how each instrument could reduce the project's overall risk profile and enhance its attractiveness to financiers or partners.
3. **Activity 3: Financial risk mitigation strategy development**
   a. Based on the Vulnerability Scores, select priority risks to address.
   b. Develop a **Risk Mitigation Strategy** for these risks, specifying:

i. Mitigation actions (both preventive and corrective);
ii. Responsible parties and key milestones;
iii. Expected outcomes or indicators of success.

c. Describe both **preventive and corrective actions**.
d. Consider both operational measures (e.g., improved procurement) and structural measures (e.g., policy changes, partnerships).

4. (*Optional - Workshop*) **Scenario Testing & Critical Friend Exercise:**
   a. Use the **Scenario Testing** tab to test your mitigation strategies under different conditions (e.g., cost escalation, policy change, extreme climate events).
   b. Discuss results with colleagues from other departments or cities to identify gaps and strengthen responses.
   c. Exchange your completed risk matrix with another project team or partner city for peer review.
   d. As "critical friends," reviewers should:
      i. Ask clarifying questions.
      ii. Identify potential strengths and weaknesses.
      iii. Suggest improvements or alternative approaches.
   e. Revise your strategy based on feedback received and record lessons learned.
5. **Validate and Finalise:**
   a. Finalise your risk map and mitigation strategy with the project team and leadership.
   b. Update the matrix periodically as the project advances toward feasibility or investment readiness.

Tip: Encourage a multi-disciplinary team to participate. Financial, technical, and social experts will see different types of risks – together, they will provide a fuller picture.

Expected Outputs

- A completed risk registers with vulnerability scores.
- A mitigation strategy table with assigned responsibilities.
- A shortlist of financial de-risking measures suitable for the project.
- Enhanced confidence in project robustness before investor engagement.

Time Required

- Individual exercise: 1-2 hours.
- Workshop format (including peer review): 2 hours.

Tool 5 Risk Mapping & Mitigation Strategies

Downloadable Templates

Risk Mapping & Mitigation Strategies (Excel spreadsheet)

Tool 6 Financial Model Template

A hands-on tool for cities to estimate project costs, revenues, and funding needs, and assess financial viability over time.

Authors & Source

Developed by ICLEI – Local Governments for Sustainability, for the Gap Fund SUP International Event, including resources from UN-Habitat (under development) and Cities Climate Finance Leadership Alliance (CCFLA).

Objective

This tool helps cities **build a basic financial model** for their infrastructure project, providing a structured way to estimate capital and operational costs (CAPEX and OPEX), identify potential revenue streams, and assess financial performance over time.

It is intended as a practical exercise for project teams in local governments that do not have a finance background, helping them understand the logic and principles of financial modelling and how different cost, revenue, and financing assumptions affect a project's long-term viability.

By visualising the **project's funding needs and returns**, the tool helps users:

- Understand the project's short-, medium-, and long-term financial outlook.
- Identify financing gaps and potential investment requirements.
- Evaluate whether the project's return exceeds its Weighted Average Cost of Capital (WACC).
- Explore suitable funding and financing instruments, leveraging other resources such as the Local Finance Framework (LFF), CCFLA's Taxonomy of Instruments, and ICLEI's Climate Finance Decision-Making Tree.

When to Use

Use this tool once a basic project concept and cost estimates are available, typically after pre-feasibility studies, during early-stage project preparation, and before engaging potential investors or financial institutions.

It is especially useful as a learning exercise for project teams in local governments with limited financial expertise, helping them grasp how project costs, revenues, and investment returns interact. It can also be used in capacity-building workshops or as a preparatory step before engaging professional financial modellers or investors.

Main users	City project managers, financial officers, TA partners, and consultants supporting project preparation.
Inputs required	Only **basic project information and approximate estimates** are needed to complete this exercise. The goal is to understand financial logic, not to produce a full feasibility model. You may use: • Rough estimates of **CAPEX** and **OPEX** costs – even if based on assumptions. • Expected or potential **revenue sources** (e.g., service fees, rents, savings). • The **expected project lifespan** and **implementation timeline**. • Reference values for the **WACC** or discount rate, if available. • Notes from previous studies or workshops that inform cost and revenue logic. **Tip:** Use realistic ranges or assumptions rather than precise numbers – the focus is on learning the relationships between financial variables and identifying data gaps for future modelling.
Step-by-Step Instructions	**1. Estimating CAPEX (Implementation Phase)** a. In the *Assumptions* section, insert the **construction duration** (months). b. Estimate **capital expenditures (CAPEX)** during the implementation phase, drawing from pre-feasibility studies. c. Exclude operational costs during construction. d. If data are unavailable, note the logic or formula that could be used for future estimation. **2. Estimating OPEX (Operation Phase)** a. Estimate OPEX for short-, medium-, and long-term periods. b. Use existing studies or expert inputs to inform realistic OPEX projections. c. Don't consider any Capex costs after the construction phase, nor payment of interest or debt. d. If data are unavailable, note the logic or formula that could be used for future estimation. **3. Estimating revenues** a. Estimate revenues for each timeframe (short-, medium-, and long-term). b. Consider realistic operational income only (e.g., tariffs, service fees, rents, savings). c. Note key drivers influencing revenue evolution over time. **4. Checking Return on Investment (ROI), WACC, and Funding Needs** a. Review the model's calculated **ROI** and compare it against the **WACC**

to evaluate financial performance.

b. Examine the **Funding Needs** line to understand capital requirements for both construction and operation.
c. Using the LFF and other tools, discuss with your colleagues or partners which financial instruments may fit different project phases.
d. Revise your strategy based on feedback received and record lessons learned.

5. **Discussion and Validation**
   a. In group discussions or internal meetings, reflect on:
      i. Which costs or revenues had not been previously considered?
      ii. How do operational costs and revenues evolve over time?
      iii. Is the project financially viable or attractive to investors?
      iv. What types of financing models or instruments (e.g., grants, loans, PPPs) might be suitable at each stage?
   b. Summarise findings and highlight information gaps for follow-up.
6. *(Optional)* **Activity 6: Finding the Best Mix of Financial Instruments**
   a. Using the LFF, CCFLA's Taxonomy, and Decision Tree, suggest an optimal combination of funding and financing sources for each project phase.
   b. Check the Funding Gap in the model to estimate the amount requiring external financing.

Expected Outputs

After completing this exercise, users will have a **simplified financial model** that:

- Illustrates how CAPEX, OPEX, and revenues evolve over time.
- Provides an indicative ROI and identifies potential funding gaps.
- Highlights which financial data or assumptions are missing and need to be refined before feasibility studies.
- Strengthens the project team's understanding of financial concepts and facilitates informed discussions with finance departments or external partners.

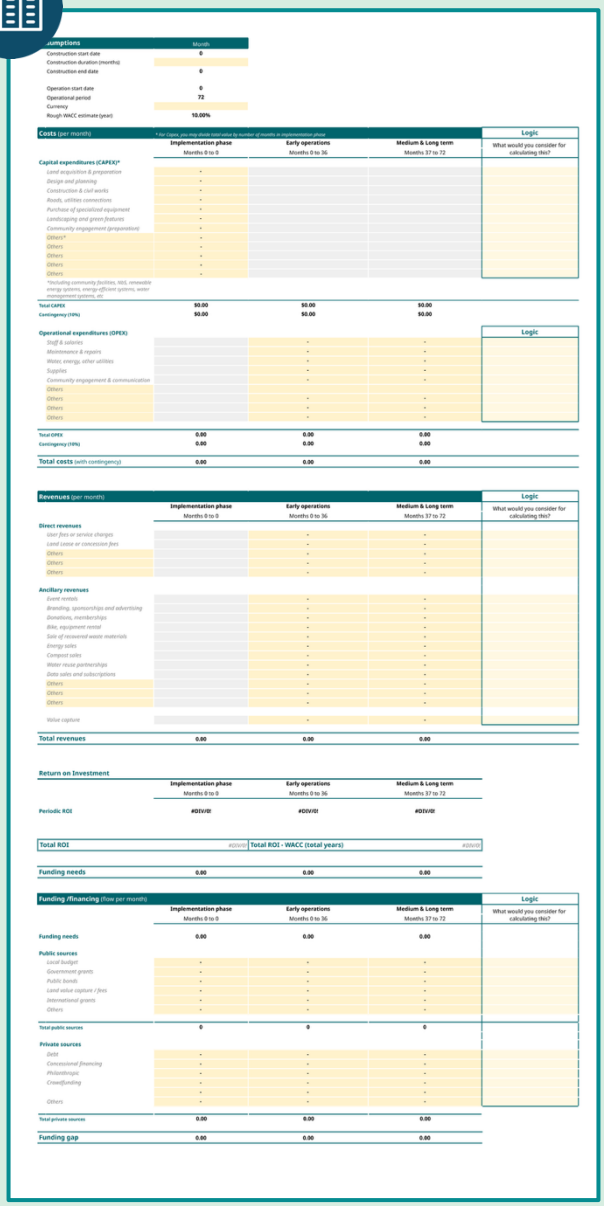
This is not an actual financial model, but rather a learning and planning tool to prepare project teams for more advanced modelling and investor engagement.

Time Required

- Individual exercise: 1 hour.
- Group workshop format (with discussion): ~2–3 hours.

Tool 6 Financial Model Template

Downloadable Template



Assumptions

	Month
Construction start date	0
Construction duration (months)	
Construction end date	0
Operation start date	0
Operational period	72
Currency	
Rough WACC estimate (year)	10.00%

Costs (per month) — * For Capex, you may divide total value by number of months in implementation phase

	Implementation phase Months 0 to 0	Early operations Months 0 to 36	Medium & Long term Months 37 to 72	Logic What would you consider for calculating this?
Capital expenditures (CAPEX)*				
Land acquisition & preparation	-			
Design and planning	-			
Construction & civil works	-			
Roads, utilities connections	-			
Purchase of specialized equipment	-			
Landscaping and green features	-			
Community engagement (preparation)	-			
*Others**	-			
Others	-			
Others	-			
Others	-			
Others	-			
Including community facilities, NBS, renewable energy systems, energy-efficient systems, water management systems, etc				
Total CAPEX	$0.00	$0.00	$0.00	
Contingency (10%)	$0.00	$0.00	$0.00	
Operational expenditures (OPEX)				Logic
Staff & salaries		-	-	
Maintenance & repairs		-	-	
Water, energy, other utilities		-	-	
Supplies		-	-	
Community engagement & communication		-	-	
Others				
Others		-	-	
Others		-	-	
Others		-	-	
Total OPEX	0.00	0.00	0.00	
Contingency (10%)	0.00	0.00	0.00	
Total costs (with contingency)	0.00	0.00	0.00	

Revenues (per month)

	Implementation phase Months 0 to 0	Early operations Months 0 to 36	Medium & Long term Months 37 to 72	Logic What would you consider for calculating this?
Direct revenues				
User fees or service charges		-	-	
Land lease or concession fees		-	-	
Others		-	-	
Others		-	-	
Others		-	-	
Ancillary revenues				
Event rentals		-	-	
Branding, sponsorships and advertising		-	-	
Donations, memberships		-	-	
Bike, equipment rental		-	-	
Sale of recovered waste materials		-	-	
Energy sales		-	-	
Compost sales		-	-	
Water reuse partnerships		-	-	
Data sales and subscriptions		-	-	
Others		-	-	
Others		-	-	
Others		-	-	
Value capture		-	-	
Total revenues	0.00	0.00	0.00	

Return on Investment

	Implementation phase Months 0 to 0	Early operations Months 0 to 36	Medium & Long term Months 37 to 72
Periodic ROI	#DIV/0!	#DIV/0!	#DIV/0!

Total ROI	#DIV/0!	Total ROI - WACC (total years)	#DIV/0!

Funding needs	0.00	0.00	0.00

Funding /financing (flow per month)

	Implementation phase Months 0 to 0	Early operations Months 0 to 36	Medium & Long term Months 37 to 72	Logic What would you consider for calculating this?
Funding needs	0.00	0.00	0.00	
Public sources				
Local budget	-	-	-	
Government grants	-	-	-	
Public bonds	-	-	-	
Land value capture / fees	-	-	-	
International grants	-	-	-	
Others	-	-	-	
Total public sources	0	0	0	
Private sources				
Debt	-	-	-	
Concessional financing	-	-	-	
Philanthropic	-	-	-	
Crowdfunding	-	-	-	
Others	-	-	-	
Total private sources	0.00	0.00	0.00	
Funding gap	0.00	0.00	0.00	

[Financial Model Template (Excel spreadsheet)]

Tool 7

Public Private Partnership (PPP) Applicability Checklist

A simple diagnostic tool to assess whether a PPP model is suitable for your infrastructure project.

Authors & Source

Developed by the Institute of City Planning and Management (IPGC) and adapted by the authors for the Gap Fund SUP International Event.

Objective

This checklist serves as a diagnostic tool to help cities **evaluate the suitability of structuring their project as a Public–Private Partnership (PPP)**. It provides a rapid diagnostic of the project's technical, financial, institutional, and legal readiness for private sector participation, helping teams identify where a PPP could add value and where additional preparation is needed. The checklist is not a pass/fail test – rather, it helps cities understand their level of PPP readiness.

Think of this tool as a "PPP readiness radar." It helps you visualise strengths and gaps – if the foundations aren't solid, private participation may create more risk than value.

When to Use

Use this tool after the project concept or pre-feasibility stage, when objectives, scope, and potential financing needs are known, and operational and financing models are being discussed. It can also serve as a preliminary filter before commissioning a full PPP feasibility study.

Main users

City project managers and finance departments, TA providers, policymakers exploring PPP opportunities.

Inputs required

- Basic project description and objectives
- Preliminary financial and operational information
- Understanding of the local PPP legal and institutional framework

Step-by-Step Instructions

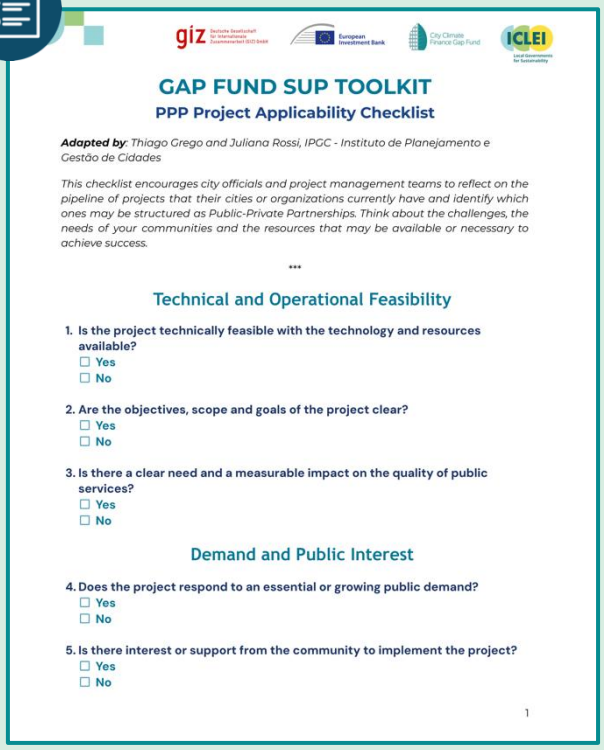
1. **Complete the PPP Applicability Checklist:** Rate each question as *Yes / No* across six key dimensions:
   a. Technical and Operational Feasibility – clarity of objectives, scope, and available technology.
   b. Demand and Public Interest – community support and essential

	service needs. c. Financial Capacity and Return on Investment – revenue potential and fiscal viability. d. Risk Allocation and Sustainability – capacity of public/private actors to manage and mitigate risks. e. Complexity and Duration – justification for long-term partnership. f. Training and Supervision Capacity – ability to oversee and monitor performance. g. Legal and Regulatory Support – existing legislation and clear permitting framework. 2. **Discuss the Results:** Identify which dimensions score weakest and whether these gaps can be addressed (e.g., through policy updates, capacity building, or TA). 3. **Document Findings:** Summarise the results and decide whether to move forward with a PPP approach or pursue alternative financing models.
Expected Outputs	• A completed PPP Applicability Checklist indicating whether the project is a suitable candidate for PPP structuring. • A short narrative summary outlining readiness gaps and next steps.
Time Required	Approximately 30 minutes for completion, or 1 hour with group discussion.

Tool 7

Public Private Partnership (PPP) Applicability Checklist

Downloadable Template



GAP FUND SUP TOOLKIT

PPP Project Applicability Checklist

***Adapted by**: Thiago Grego and Juliana Rossi, IPGC - Instituto de Planejamento e Gestão de Cidades*

This checklist encourages city officials and project management teams to reflect on the pipeline of projects that their cities or organizations currently have and identify which ones may be structured as Public-Private Partnerships. Think about the challenges, the needs of your communities and the resources that may be available or necessary to achieve success.

***

Technical and Operational Feasibility

1. Is the project technically feasible with the technology and resources available?
   - ☐ Yes
   - ☐ No
2. Are the objectives, scope and goals of the project clear?
   - ☐ Yes
   - ☐ No
3. Is there a clear need and a measurable impact on the quality of public services?
   - ☐ Yes
   - ☐ No

Demand and Public Interest

4. Does the project respond to an essential or growing public demand?
   - ☐ Yes
   - ☐ No
5. Is there interest or support from the community to implement the project?
   - ☐ Yes
   - ☐ No

1

Applicability Checklist (Word/Docs)

Section 5

Behavioural and Systems Approaches to Project Design

5. Behavioural and Systems Approaches to Project Design

Sustainable infrastructure relies not only on technical design but also on human and institutional behaviour. The second section introduces behaviour- and systems-oriented tools that help teams diagnose social drivers, map interdependencies, and design interventions for long-term change. Drawing on behavioural science (COM-B / Behaviour Change Wheel) and systems thinking (Causal Loop Diagrams), these tools support participatory planning, encourage cross-sector collaboration, and foster understanding of the complex dynamics that shape urban sustainability outcomes.

Both tools were initially developed and tested by ICLEI Africa during the *Gap Fund Step-Up* activities with the nine participating cities across the continent. While initially tailored for the solid waste management projects which these cities were implementing, they have been adapted to resonate with teams and officials working across other sectors and regions.

Tool 8 **Behaviour Change Planning Tool**

Tool 9 **Systems Mapping & Causal Loop Diagrams (Resource)**

Tool 8 Behaviour Change Planning Tool

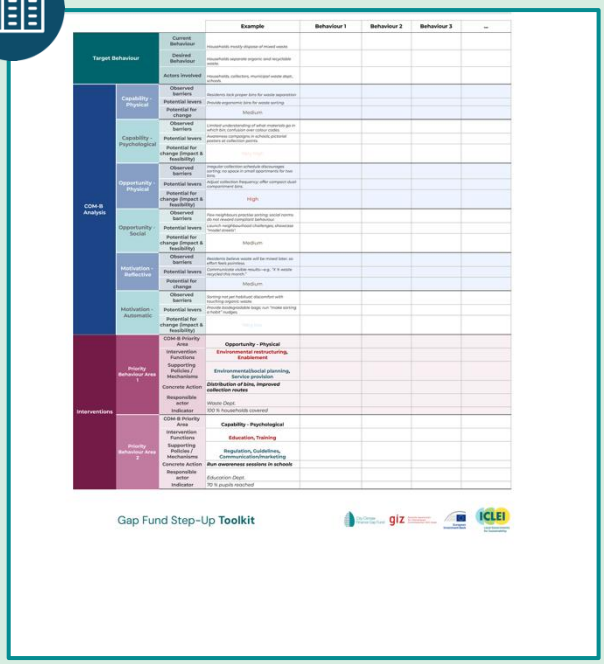
Helps project teams identify behavioural barriers and design targeted interventions using the Behaviour Change Wheel and COM-B model to encourage desired actions and improve project uptake.

Authors & Source	Developed by ICLEI - Local Governments for Sustainability, based on Behaviour Change Wheel and *COM-B model developed by Michie, van Stralen & West (2011).*
Objective	To **systematically assess the behavioural dimensions influencing a target practice** – such as waste sorting, public transport use, or energy efficiency – and identify effective and feasible interventions. The tool bridges behavioural analysis and practical planning by linking each behavioural factor with corresponding intervention functions, policy options, and actions. Through the **COM-B model** (Capability, Opportunity, Motivation → Behaviour) and the Behaviour Change Wheel, users can identify the most suitable intervention types (e.g., training, incentives, environmental restructuring) and related policy measures to drive behavioural change. It is particularly useful for projects that depend on behavioural adoption across multiple actors or institutions.
When to Use	Use during the planning or early implementation stage of a project to design behaviour-focused actions or communication strategies, or to complement technical interventions (e.g., after defining infrastructure needs).
Main users	Project teams, community engagement officers, communication leads, technical partners, and policy or governance staff involved in designing and implementing interventions that rely on people's actions or coordination.
Key Concepts	• **COM-B Model:** Behaviour results from the interaction between *Capability, Opportunity, and Motivation.* • **Behaviour Change Wheel:** A framework linking intervention types (e.g., training, persuasion, incentives) to policy categories (e.g., regulation, communication, service provision). • **Intervention Functions:** Education, persuasion, incentivisation, coercion, training, restriction, environmental restructuring, modelling, enablement. • **Policy Categories:** Guidelines, fiscal measures, communication, regulation, legislation, environmental/social planning, and service provision.

Inputs required	• Definition of at least one target behaviour (e.g., "sorting household waste") • Background understanding of current practices, social norms, and institutional context • Team discussion or workshop with key stakeholders (recommended)
Step-by-Step Instructions	1. Identify **Target Behaviours:** a. In the spreadsheet, use one column for each behaviour to analyse. b. Describe for each: current behaviour, desired behaviour, and actors involved (e.g., residents, businesses, departments). 2. Conduct **COM-B Analysis:** a. For each behaviour, assess the six sub-dimensions: i. Physical Capability, Psychological Capability ii. Physical Opportunity, Social Opportunity iii. Reflective Motivation, Automatic Motivation b. Note observed barriers, potential levers, and the potential for change (1 = very low → 5 = very high). 3. Identify **Priority Areas for changing the desired behaviour:** a. Focus on factors with the highest potential for change. b. These will form the priority COM-B areas for action planning. 4. **Map Interventions and Policies:** a. For each priority area, identify relevant intervention functions (e.g., education, enablement, incentivisation, persuasion) and supporting policies (e.g., regulation, communication, environmental restructuring). b. Use the reference tables ('Key concepts', 'Interventions & Policies') provided in the tool for guidance. 5. Define **Concrete Actions:** a. List specific actions (e.g., public awareness campaign, provision of bins, incentive scheme). b. Assign responsible actors and performance indicators. 6. **Review and Validate:** a. Review results with stakeholders or behavioural experts. b. Prioritise short-term feasible actions while noting longer-term systemic needs.
Expected Outputs	A structured table linking each target behaviour with key behavioural determinants, intervention strategies, and responsible actors – forming the basis of a Behaviour Change Action Plan.
Time Required	Approximately 1 hour for completion, or 1-2 hours for workshop.
References	Michie, S., van Stralen, M.M. & West, R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. Implementation Sci 6, 42 (2011). https://doi.org/10.1186/1748-5908-6-42

Tool 8 Behaviour Change Planning Tool

Downloadable Template



[Behaviour Change Planning Tool (Excel spreadsheet)]

Tool 9

Systems Mapping & Causal Loop Diagrams (Resource)

Helps project teams visualise and analyse the systemic interactions underlying urban challenges, identify leverage points for intervention, and anticipate unintended consequences through the use of systems mapping and causal loop diagrams.

Objective

This resource supports cities in **adopting a systems-thinking approach to project design**. It enables teams to understand how different elements – social, environmental, economic, and institutional – interact dynamically within complex systems such as waste management, water use, or urban mobility.

By mapping these interconnections, project teams can:

- Identify **reinforcing and balancing feedback loops** that explain why problems persist or escalate.
- Detect **leverage points** where small, well-placed actions can lead to meaningful systemic change.
- Avoid **unintended consequences** by assessing how different interventions may influence other parts of the system.
- Strengthen coordination across departments and stakeholders through a shared visual understanding of system dynamics.

This resource is particularly useful during the **diagnostic or early planning phase**, when cities are defining problems and identifying entry points for intervention.

When to Use

During early scoping or diagnostic stages – before defining project interventions – or when a project faces persistent barriers that seem interconnected.

Main users

Project managers, planners, systems analysts, technical consultants, and facilitators supporting participatory workshops.

Key Concepts

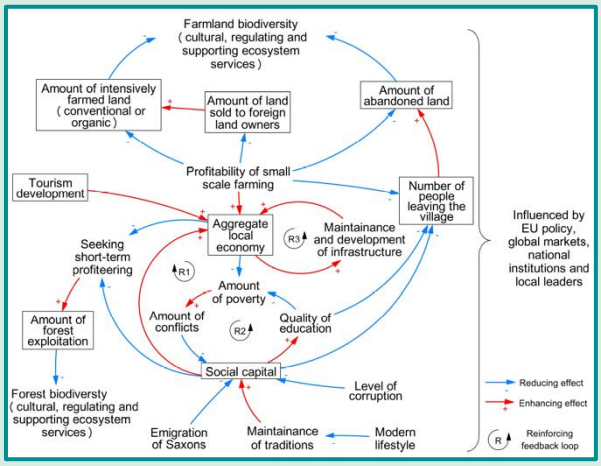
- **Systems Thinking:** Understanding interconnections within a system rather than focusing on isolated parts.
- **Causal Loop Diagram:** A visual map showing how variables influence one another through reinforcing (positive) or balancing (negative) feedback loops.
- **Leverage Points:** Key places within a system where a small change can produce major shifts in outcomes.

Step-by-Step Instructions

1. **Frame the system:**
   a. Identify a central issue to explore: What problem are you explaining (e.g., "Why does mixed waste persist in District X?").
   b. Define the system boundary, determining which factors are *inside* or *outside* the system's influence.
2. **List Key Variables:**
   a. Brainstorm 10–15 variables that drive or are affected by the system (e.g., waste generation, public awareness, budget allocation, collection frequency).
   b. Privilege dynamic variables (that can rise or fall), and phrase them as rates/levels (e.g., "collection frequency", "separation compliance").
3. **Map relationships and draft causal links:**
   a. Draw arrows showing how one variable influences another (A → B), when there is direct causal effect.
   b. Decide polarity: "+" (A and B move in the same direction) or "–" (they move in opposite directions).
   c. Ensure link quality and map quality:
      i. Remove weak/speculative links;
      ii. Combine duplicates;
      iii. Keep the map legible.
4. Identify **Feedback Loops:**
   a. Trace circular paths back to the starting variable.
   b. Mark **R (reinforcing)** if the loop has an even number of negative links (incl. zero).
   c. Mark **B (balancing)** if it has an odd number of negative links.
   d. **Quick test:** assume the start variable increases; if it eventually pushes itself up, it's R; if it pushes itself down, it's B.
5. **Annotate delays:**
   a. If effects are not immediate, mark the arrow with a delay (e.g., public awareness → behaviour change). Delays often flip short- vs. long-term dynamics.
6. **Refine and right-size:**
   a. Reiterate: Adjust the diagram as you revisit it and new insights emerge. Add or remove variables, merge overlapping variables, split over-broad ones, re-scope boundaries if the map bloats.
   b. Keep to one page if possible; highlight the dominant loop(s) with thicker lines.
7. **Spot leverage points & risks:**
   a. Note where small changes could shift multiple loops and generate impact and highlight them for action.
   b. Flag unintended consequences and risks from such actions.
8. **Validate with stakeholders:**
   a. Walk through the map: *Does each arrow make sense? Are any crucial*

	actors or drivers missing? b. Capture disagreements as alternative links or annotate with assumptions for later testing.
Expected Outputs	A visual **system map** (causal loop diagram) showing drivers, feedback loops, and leverage points, accompanied by 2–3 key takeaways for project strategy or design.
Time Required	Approximately 1 hour for completion, or 1-2 hours for workshop.

Tool 9 Systems Mapping & Causal Loop Diagrams (Resource)



Source: Sustainability Methods Wiki, [System Thinking & Causal Loop Diagrams]

Downloadable Template (developed by VITO Nexus)

You may use the template below, developed by VITO Nexus, to build your Causal Loop Diagram.

[Causal Loop Diagram Template (Miro Board):]

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Section 6

From Feasibility to Investment Readiness

6. From Feasibility to Investment Readiness

The final section focuses on bridging the gap between feasibility and financing. Tools 10 and 11 guide project teams in assessing completeness of technical studies, identifying potential PPFs, and reflecting on institutional and financial readiness for investment.

Through simple diagnostics and targeted reflection, cities can map outstanding gaps, connect with appropriate support mechanisms, and outline a clear roadmap towards bankable, implementable sustainable-infrastructure project.

Tool 10 **Project Preparation Facility (PPF) Mapping Tool**

Tool 11 **Roadmap to Investment Readiness**

Tool 10

Project Preparation Facility (PPF) Mapping Tool

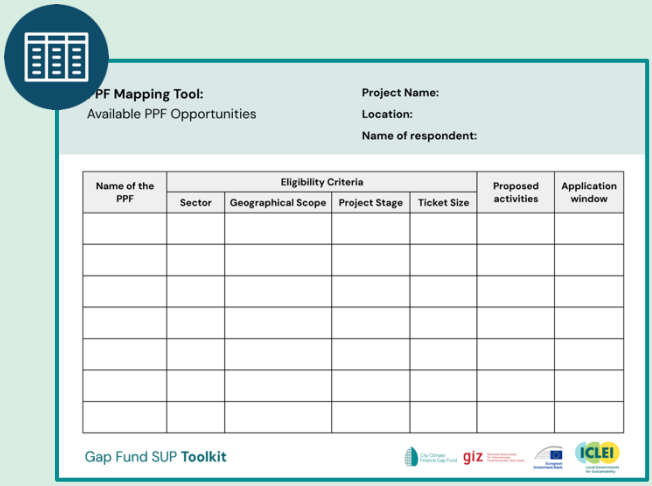
Helps project teams identify suitable facilities and partners offering TA for feasibility studies and project structuring.

Authors & Source	Developed by ICLEI - Local Governments for Sustainability for the Gap Fund SUP International Event.
Objective	This simple mapping tool helps cities **identify and compare PPFs** that can provide TA or funding to advance projects from pre-feasibility to feasibility or design stages. By listing key parameters – such as geographic scope, sector focus, project stage, ticket size, and eligibility criteria – it helps match projects with suitable facilities and partners.
When to Use	After the completion of Gap Fund or other early-stage support, and when seeking follow-up technical or financial assistance for project preparation.
Main users	City project teams, TA providers, and financing partners supporting project preparation.
Step-by-Step Instructions	1. **Review the list of available PPFs:** start with known international and regional facilities (e.g., multilateral development banks, bilateral donors, climate finance mechanisms) that support project preparation in your sector or region. 2. **Record key information** for each facility in the mapping table, including geographical scope, sector focus, eligible project stage, ticket size, funding or TA offered, and contact details. 3. **Assess alignment** between your project's needs and each facility's eligibility or focus. 4. **Shortlist 2–3 facilities** that could support your project and note specific next steps (e.g., application timeline, required documents, outreach to focal points). 5. **Keep this tool updated:** whenever you come across a new potential technical partner or funding programme, add it to your list.
Expected Outputs	A completed table showing possible PPFs and partners to approach for follow-up technical or financial assistance.
Time Required	Approximately 30–45 minutes.

Tool 10

Project Preparation Facility (PPF) Mapping Tool

Downloadable Template



PF Mapping Tool:
Available PPF Opportunities

Project Name:
Location:
Name of respondent:

Name of the PPF	Eligibility Criteria				Proposed activities	Application window
	Sector	Geographical Scope	Project Stage	Ticket Size		

Gap Fund SUP **Toolkit**

[PPF Mapping Tool (Word/Docs)]

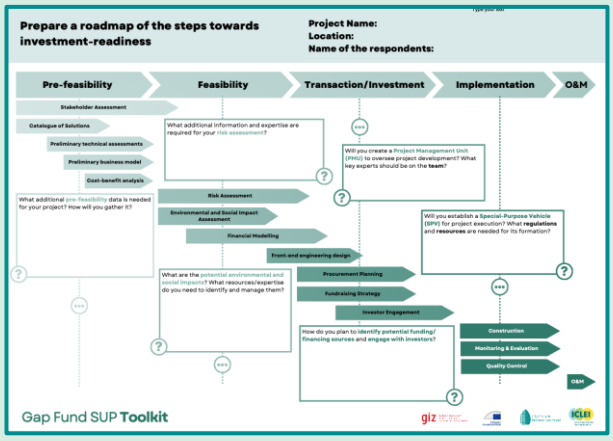
Tool 11 Roadmap to Investment Readiness

Helps project teams visualise key steps, decisions, and institutional responsibilities along the project preparation cycle to move from pre-feasibility to investment readiness.

Authors & Source	Developed by ICLEI - Local Governments for Sustainability for the Gap Fund SUP International Event.
Objective	This tool provides a simple roadmap to help project teams **identify key activities, institutional decisions, and capacity needs** across the project development stages – from pre-feasibility to implementation. It aims to encourage reflection on priority actions and bottlenecks for post-pre-feasibility project development. Rather than providing a comprehensive checklist, it consists of **six focused questions** designed to guide reflection on institutional arrangements, technical preparation, and resource mobilisation needs required to move the project closer to feasibility and investment readiness.
When to Use	After completing pre-feasibility studies or when transitioning into feasibility and transaction preparation.
Main users	City project teams, TA providers, and development partners supporting project preparation.
Step-by-Step Instructions	1. **Review the six guiding questions** in the roadmap template. Each question invites reflection on a specific dimension of project readiness – institutional, technical, and financial/resource-related. 2. **Discuss collectively** within the project team or in a workshop setting to ensure different perspectives (planning, finance, technical) are considered. 3. **Record concise answers** in the template, noting immediate actions, responsible parties, and potential partners or sources of support. 4. **Summarise key priorities** emerging from the discussion – these can inform your follow-up engagement with technical partners or financiers.
Expected Outputs	A short, structured reflection identifying the most critical actions and decisions needed to progress the project toward feasibility.
Time Required	Approximately 30–45 minutes (team exercise).

Tool 11 Roadmap to Investment Readiness

Downloadable Template



[Roadmap to Investment Readiness (PDF)]

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Federal Ministry for Economic Cooperation and Development

On behalf of:
Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety
of the Federal Republic of Germany

IKI INTERNATIONAL CLIMATE INITIATIVE

THE GOVERNMENT OF THE GRAND DUCHY OF LUXEMBOURG
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CITIES CLIMATE FINANCE LEADERSHIP ALLIANCE

City Climate Finance Gap Fund

www.citygapfund.org/

Since its launch in 2020, the City Climate Finance Gap Fund provides technical assistance to cities in low- and middle-income countries to support the early preparation of climate-smart infrastructure projects, including energy, transport, waste, water, wastewater and nature-based solutions (NbS).