

INVESTMENT PROSPECTUS GUIDE

FOR HEAT AND COOLING ACTION PLANS

A step-by-step guide for subnational governments to turn Heat Action Plans into finance-ready projects

SUSTAINABLE ENERGY FOR ALL

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FOREWORD AND ACKNOWLEDGEMENTS

Access to sustainable cooling is central to a just and equitable energy transition. Sustainable cooling helps to protect people and livelihoods from rising heat while limiting the energy demand and emissions associated with growing cooling needs. Mobilizing resources for sustainable cooling requires well-defined interventions, adequate project preparation and financial resources suited to the different characteristics of heat resilience and cooling investments.

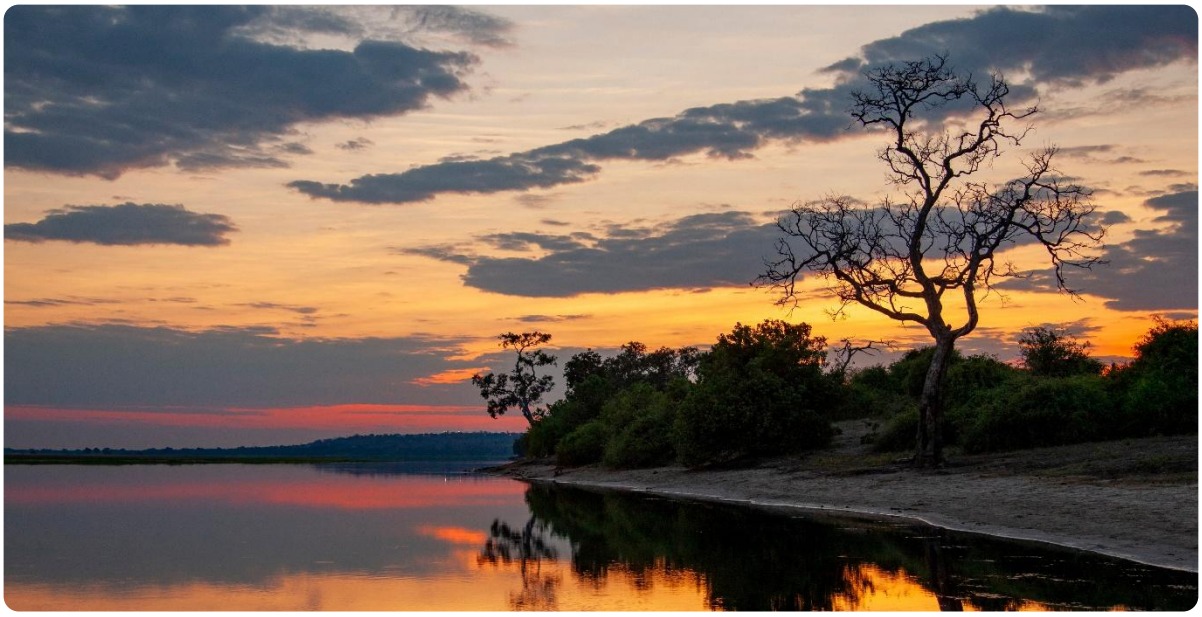
The *Investment Prospectus Guide for Heat and Cooling Action Plans* was developed by Sustainable Energy for All (SEforALL) to help subnational governments translate priorities identified in Heat Action Plans and Heat and Cooling Action Plans into well-defined, finance-ready proposals. The Guide supports project preparation, costing, assessment of benefits and identification of appropriate funding and financing pathways. While informed by experience in Kenya, the methodology is designed to be adaptable to other subnational contexts.

The Guide was developed by SEforALL's Cooling Team, led by Ben Hartley, with contributions from Rosa Garcia, Nigel Jollands and Devika Panse, and support from Crystal Okudo and SEforALL's Gender and Youth Team, including Rosemary Idem and Ava Strasser. Valuable guidance and oversight were provided by Brian Dean, Director of Energy Transition at SEforALL.

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INTRODUCTION

Extreme heat is an escalating climate and development challenge with significant and growing impacts on public health, agricultural productivity, food security and economic activity. Subnational Heat Action Plans or Heat and Cooling Action Plans provide tailored strategies to prepare for, respond to and reduce the impacts of extreme heat on communities and economies.[1] These plans may include a wide range of heat resilience and cooling priority interventions, but often lack the financial detail required to assess investment needs, identify financing opportunities and mobilize resources for implementation.

This guide supports subnational governments in translating priority heat and cooling actions into investment-ready proposals for financial resources by establishing rationale, disaggregating costs, clarifying financial responsibilities and structuring a clear engagement pathway with capital providers. Financing-ready does not necessarily mean commercially bankable; some interventions will appropriately rely on public budgets or grants, while others may require concessional or blended finance.

Specifically, this guide helps counties and cities to:

- → Standardize how costs and funding needs are presented to providers of financial resources, donors and budget decision-makers
- → Reduce the risk of under-budgeting or omitting key cost components
- → Increase transparency and accountability regarding how funds will be used
- → Build credibility with funders, donors and national governments

[1] This Guide uses the term “Heat Action Plans” to refer to Heat Action Plans, Heat and Cooling Action Plans, and equivalent subnational planning instruments.

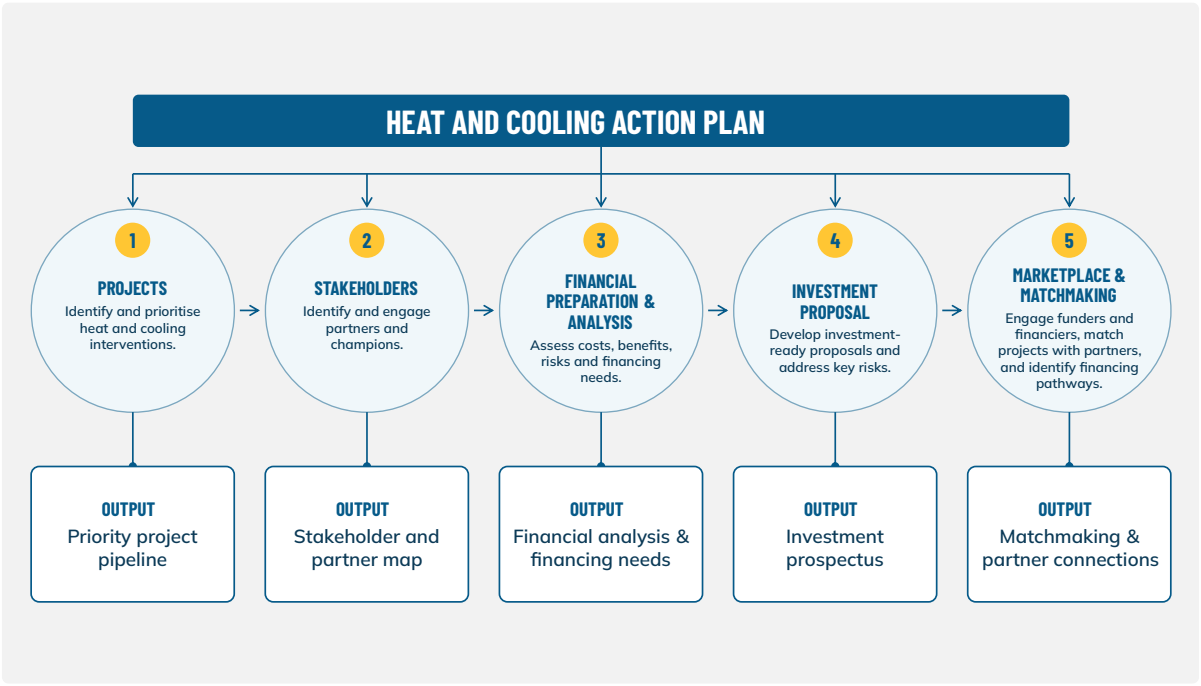
HOW TO USE THIS GUIDE

This Guide sets out five steps to be followed in sequence, with flexibility to adapt the level of analysis to the type, scale, status and complexity of each intervention. Work through the steps for each action requiring funding, and adapt the generic approach provided in this guide to:

- → What is appropriate for the local context (data availability, county budgets and applicable policy frameworks).
- → The specifics of each priority intervention - smaller or public-good interventions may require a simple assessment, while larger, more complex or revenue-generating projects will generally require more detailed technical and financial analysis.
- → The ease and immediacy of implementation of each project. That is, some projects may be able to be implemented immediately at little or no cost, while other longer-term interventions may require further preparation. The ease and immediacy should be made clear in the Heat Action Plan.
- → Data availability - where data are unavailable, apply benchmarks with clearly stated assumptions.

To support application of the methodology, Annex 1 provides a worked example, Annex 2 contains key financial and investment definitions and Annex 3 presents real-world examples to illustrate how investments can be structured and presented.

Figure 1. Heat and cooling investment prospectus methodology



MAPPING THE SUBNATIONAL FINANCE ARCHITECTURE

This guide complements existing finance, budgeting and approval processes and should be used within the institutional and financial frameworks already established at national and subnational levels. Before developing capital proposals for priority interventions[2], subnational governments should first understand how financial resources are governed, allocated and accessed within their jurisdiction. To do so, counties and municipalities should answer five key questions:

1. What **dedicated finance instruments** exist at national and subnational level, and are they accessible to the implementing jurisdiction?
2. What **share of available funding is earmarked for climate adaptation versus mitigation,** and do heat and cooling investments qualify?
3. Through which **governance and approval processes** must investments be routed and what documentation or project preparation standards do they require?
4. What **external sources** of financial resources (multilateral funds, development finance institutions, bilateral donors) are accessible, and under what conditions?
5. What **statutory planning and budgeting processes** must an intervention pass before public funds can be committed to it? For example, sector plans, the multi-year development plan, the annual development plan and programme-based budget, and approval by the legislature?

Answering these questions establishes the financing environment in which the prospectus will sit. Question 5, on how an individual intervention enters the county's own planning and budget chain, is addressed in Step 2.2 (Budget and Planning Integration) and should be read alongside this section.



[2] Throughout this document, the terms “projects” and “priority interventions” are used interchangeably to refer to priority investments.

Box 1. County Climate Change Fund (CCCF) financing architecture

For most Kenyan counties, county-level climate action, including heat and cooling interventions, accesses financial resources through a well-established domestic hierarchy rather than international climate funds, which remain the exception rather than the rule. The financing structure operates as follows:

- **FLLoCA capitalization –** Financing Locally-Led Climate Action (FLLoCA) is currently the largest government-led, multi-donor channel capitalizing County Climate Change Funds (CCCFs), providing the primary source of intergovernmental climate finance flowing to counties.
- **CCCF Acts –** County-specific legislation formally establishes the County Climate Change Fund, defines its governance structure and sets out how FLLoCA and other resources are received, managed and disbursed at the county level.
- **County Development Budget contributions –** Counties typically commit an additional 1.5-2 percent of their own development budget to the CCCF, supplementing FLLoCA capitalization and demonstrating local fiscal ownership of climate action. CCCFs can also pool financing from other sources: transfers from the National Climate Change Fund and development partner contributions. An operational CCCF depends on county-specific legislation, regulations, governance and actual appropriations. Therefore, it is important to understand the status of the CCCF in the county:
  - Has the CCCF received actual appropriations?
  - What share of appropriations flow through ward-level structures?
  - Are heat and cooling actions eligible for CCCF financing?
  - Can the CCCF meet ongoing OPEX or only CAPEX?
- **Ward-level prioritization –** Resources pooled through FLLoCA and county own-source revenue (OSR) contributions are then allocated and prioritized at the ward level, ensuring that climate interventions, including heat-related measures, respond to localized community needs and vulnerabilities.

For many Kenyan counties, FLLoCA and County Climate Change Funds can provide an important domestic source of finance for eligible locally led climate investments. However, the appropriate route depends on the intervention, county legal framework, budget classification and applicable eligibility requirements. Other interventions may be financed directly through sector budgets, national programmes, development partners or other financing structures.

UNDERSTAND THE COUNTY'S ABILITY TO ACCESS FINANCE

The county should first understand the legal, financial and institutional conditions that shape its ability to access external finance. This includes its legal authority to borrow, the availability and reliability of financial information, potential constraints on taking on debt, and its institutional capacity to engage with financiers and manage financing obligations. These conditions generally apply at the county level and can therefore be assessed upfront, rather than repeated for each intervention. Project-specific planning, budgeting, technical and implementation readiness is assessed separately in later steps of the guide.

To assess these conditions, counties should consider the following:

- **Legal borrowing authority:** Verify that the legal framework allows the county to take on debt, and under what conditions (e.g., approval requirements, borrowing limits, eligible instruments).

Box 2. Legal borrowing authority in Kenyan counties

County borrowing is governed by Article 212 of the Constitution, the Public Finance Management Act, 2012 and associated fiscal responsibility and national debt-management requirements. Counties may borrow only with a national government guarantee and county assembly approval. Borrowing must also comply with applicable debt limits, fiscal responsibility principles and National Treasury debt-management processes. While county borrowing is legally permitted, it remains highly constrained in practice. Counties should therefore not structure a prospectus on the assumption that a national guarantee will be available.

Structures that may provide alternatives to direct county borrowing

Depending on their legal and financial structure, these mechanisms may avoid direct county borrowing, but may still create payment commitments, contingent liabilities or other fiscal obligations and should therefore be subject to legal and fiscal review. The following financing mechanisms fall outside the Article 212 and Public Finance Management Act county-debt regime and should not be conflated with it:

- Borrowing by a county-owned entity (e.g., a water or energy utility), which may not constitute direct county-government borrowing, depending on the entity structure and any county guarantees or support.
- Public-private partnerships (PPPs) structured under the Public Private Partnerships Act, 2021, where private capital finances the project.
- Supplier or lease finance arrangements.
- Cooperative or special purpose vehicle (SPV) borrowing, where the entity rather than the county is the borrower and the county does not guarantee or otherwise assume the debt.
- Energy service company (ESCO) or cooling-as-a-service operator finance, where the operator (not the county) carries the debt obligation.

→ **Financial statements:** Ensure the following county financial documents are updated and accurate: audited annual financial statements (statement of financial performance, statement of financial position, statement of cash flows, comparison of budget and actual amounts), plus pending bills, own-source revenue performance, development budget absorption, existing liabilities and guarantees, and Auditor-General findings.

Box 3. Financial and fiscal documents used in Kenyan counties

The primary evidence of a county's financial position is its audited annual financial statements, prepared under the Public Finance Management Act, 2012 and audited by the Office of the Auditor-General, together with the Auditor-General's report and any qualifications or outstanding audit queries. These should be the starting point for any assessment of financial standing. The County Fiscal Strategy Paper (CFSP) and the County Budget Review and Outlook Paper (CBROP) can be used as supporting evidence as they set out the county's fiscal outlook, revenue projections and expenditure ceilings and indicate whether a proposed intervention is consistent with the county's medium-term fiscal position.



- **Confirm debt service capacity:** If the proposed financing requires the county to borrow, assess whether the county has sufficient fiscal capacity to meet the resulting debt-service obligations, taking into account existing liabilities, revenue performance and applicable fiscal and borrowing requirements. Where debt is expected to be repaid from project-generated revenues or measurable and contractually captured cost savings, assess the project's repayment capacity through the financial modelling in Step 3.4, including the Debt Service Coverage Ratio (DSCR), where appropriate. For public-good interventions funded through budgets or grants, assess affordability, lifecycle costs, recurrent-budget implications and economic or social value rather than DSCR.
- **Credit enhancement:** Identify potential sources of credit enhancement or payment support to underpin the investment, noting that county revenues and public assets cannot generally be pledged as collateral in the manner of private corporate security, and any such arrangement is subject to statutory authority, appropriation requirements, public asset management rules and applicable national approvals. Potential options for most counties include:
  - County own-source revenue (OSR) streams (e.g., climate-linked OSR commitments), which may support payment obligations subject to annual appropriation. These revenues should not be assumed to be available as security for financing unless specific statutory authority is enacted to permit such arrangements.
  - Project-generated revenues or cost savings (e.g., avoided energy costs, user fees), which can support revenue-based repayment structures without constituting a pledge of county assets.
  - Physical assets, only where public asset disposal/use rules and county assembly approval permit their use as security.
  - National government or development partner guarantees, which require parliamentary approval of the guarantee and county assembly approval of the underlying loan, and should be treated as an exception rather than a default assumption.

All proposed financing structures should be confirmed through legal review before inclusion in any prospectus or financing document.

- **Assess institutional readiness:** Assess the county government's practical capacity to engage financiers: availability of project preparation support, familiarity with development financial institutions and commercial bank processes, and ability to manage procurement, reporting and compliance obligations associated with the proposed financing.

DETERMINE THE INTERVENTION TYPE

Priority interventions from Heat Action Plans can include very different types of actions, from building codes and early warning systems to cooling centres and commercial cold storage, and it is unlikely that these would all be assessed or financed in the same way. Figure 2 groups interventions into four categories: regulatory or institutional; commercial or revenue-generating or cost-saving; public infrastructure; and public good or social protection. Where an intervention combines characteristics of more than one category, the county should identify a primary and secondary category.

The classification provides the starting point for understanding the possible funding or financing options. It helps determine what type of analysis is appropriate and how the intervention is most likely to be funded or financed. This classification also helps identify the potential types of funders, financiers and other partners to engage through the Cooling Marketplace in Step 5.

Figure 2. Classification of Heat Action Plan interventions

Regulatory / institutional

WHAT IT IS
A policy or institutional arrangement

EXAMPLES
Coordination arrangements; heat governance, capacity building and institutional strengthening

APPRAISAL APPROACH
economic analysis / cost-effectiveness

LIKELY FUNDING / FINANCING
Budget, grants, or technical assistance

Commercial / revenue-generating or cost-saving

WHAT IT IS
An asset or service with a revenue stream or monetizable cost savings

EXAMPLES
Cold storage, ice production, refrigeration, energy-efficiency retrofits

APPRAISAL APPROACH
Financial analysis (e.g. IRR, payback, debt service coverage from savings)

LIKELY FUNDING / FINANCING
Commercial or concessional debt, equity, blended

Public infrastructure

WHAT IT IS
A public facility, generally limited revenue

EXAMPLES
Cooling centers, greening/shade, retrofits

APPRAISAL APPROACH
Economic analysis; financial analysis also relevant where revenues or savings are material

LIKELY FUNDING / FINANCING
Budget, grant, concessional debt; blended where revenues or savings are material

Public good / social protection

WHAT IT IS
Primary rationale is public or social benefit, not financial return.

EXAMPLES
Early warning, cash transfers, health programs

APPRAISAL APPROACH
Economic analysis (e.g. cost per person)

LIKELY FUNDING / FINANCING
Budget or grant



STEP 1

PROJECTS

Identify priority interventions from the Heat Action Plan

The Heat Action Plan should already have identified the priority interventions. For each one, the county should define its funding and financing needs and establish a clear investment rationale. To support this assessment, the following elements should be documented in the Plan or, if not already included, developed as part of the project preparation and funding proposal.

1.1 Problem Statement

Summarize the principal heat-related risks facing the county, including:

- → Affected populations and systems: e.g. outdoor workers, health facilities, food supply chains, women, vulnerable groups
- → Geographic hotspots at ward or sub-county level
- → Existing gaps in access to cooling infrastructure or resilience services
- → Quantified economic, health or food losses where data are available

1.2 Intervention Description and Scope

Identify priority interventions proposed to address the identified risks, including:

- → **Intervention type:** the proposed action or technology (e.g. solar-powered cold storage, passive cooling retrofit, heat early-warning system or cooling centre).
- → **Geographic location:** ward or sub-county level, tracing the proposed site back to the Heat Action Plan ward-level heat vulnerability assessment where possible (vulnerability ranking, exposed population, access to water/electricity/roads, land status, service catchment). Where relevant, consider the accessibility of the site for women and vulnerable populations, including access to shaded routes, lighting and connectivity to public transport.
- → **Target beneficiaries,** disaggregated by gender and age where data are available. Where relevant, identify barriers that may limit women's access to the intervention (e.g. finance, training, employment or business opportunities) and how the design addresses them.
- → **Demand estimate:** expected use of the intervention (e.g. users, households, facilities served or fee-paying customers), based on available data or a stated assumption.
- → **Environmental and social safeguards screening status:** whether the intervention has been screened for environmental and social risks (e.g. land acquisition, habitat impacts, equitable access to benefits), per applicable requirements.
- → **Expected scale of deployment** i.e. number of units, area covered, capacity installed, etc.
- → **Service delivery and asset governance model:** for each intervention, where appropriate, clarify who owns the asset, who operates it, who sets and collects fees, who serves vulnerable users, who pays utilities and replacements and what happens if revenues are insufficient. Where user fees are proposed, design the fee level and payment mechanism (e.g. mobile money, cash, time-of-day access) to be accessible to women and vulnerable groups.
- → **Appropriate funding source(s):** Not all heat and cooling interventions will be suitable for external or repayable finance. The county should identify whether the intervention is likely to require public budget or grant funding, project revenues or user fees, repayable finance, or a combination of these. For non-revenue-generating public-good interventions, such as heat monitoring or early warning systems, public budgets or grants may be the most appropriate source of funding. Revenue-generating or cost-saving interventions may have potential for commercial or concessional finance where revenues or cost savings are sufficient, predictable and available to meet repayment obligations.

1.3 Justification for Priority Selection

Briefly summarize the information from the Plan on why this intervention was prioritized over other options.[3] If this prioritization is not sufficiently addressed in the Heat Action Plan, then consider conducting an appraisal of the alternative options. The aim is to ensure that the resulting priority intervention is well justified based on available evidence and local needs, considering the following criteria:

- → **Urgency:** The intervention addresses a significant heat-related risk and responds to identified gaps in existing systems, services or infrastructure.
- → **Expected impact:** The intervention is expected to deliver measurable benefits, such as reducing heat exposure, improving health outcomes, protecting livelihoods, increasing resilience or reducing strain on public infrastructure.
- → **Equity and inclusion:** The intervention benefits populations most vulnerable to heat, including low-income communities, women, children, older persons, outdoor workers and people with pre-existing health conditions.
- → **Expected lifecycle cost: Consider** the expected lifecycle cost of the intervention relative to feasible alternatives providing a comparable level of service and resilience, based on preliminary or comparative estimates. This will be refined through the detailed costing in Step 3.

1.4 Policy Alignment

Map each intervention to relevant county development goals, national strategies (e.g. Kenya's National Climate Change Action Plan, National Cooling Action Plan), and international frameworks (Sustainable Development Goals (SDGs), nationally determined contributions (NDCs) under the Paris Agreement). Budget and planning alignment, including the vote and programme, accounting officer and expenditure classification, is addressed in Step 2.2 (Budget and Planning Integration).

1.5 Expected Benefits

For each intervention, decide how best to articulate the expected benefits, using appraisal metrics appropriate to the intervention type and funding or financing source. Commercial or revenue-generating projects may use project internal rate of return (IRR), equity IRR, net present value (NPV) and DSCR; public infrastructure may use lifecycle cost, economic NPV and benefit-cost ratio; and early warning and health measures may use cost per person covered, readiness indicators and avoided illness or mortality.

In general, commercial lenders primarily focus on cash flows, repayment capacity and project risks, while DFIs, climate funds and grant providers may also consider economic, climate, social, environmental and development benefits. The investment prospectus should therefore be tailored to the target funding or financing source.

[3] The SEforALL Protect-Reduce-Shift-Improve-Leverage framework provides a strong starting point for prioritizing sustainable cooling solutions. Link.

Generally, interventions can expect financial, economic, social, resilience and climate benefits:

Financial Benefits: attributable to the intervention itself and may contribute to its financial case, for instance:

- → **Revenue from cooling services.** User fees from cold storage, Cooling-as-a-Service tariffs or ice production at fish landing sites. Where women represent a significant share of users (e.g. market traders, fish processors), fee structures should be assessed for affordability relative to typical income levels in that segment, as this affects both revenue projections and the intervention's equity case.

Economic, social, resilience and climate benefits: strengthen the justification for public, concessional or climate finance, for instance:

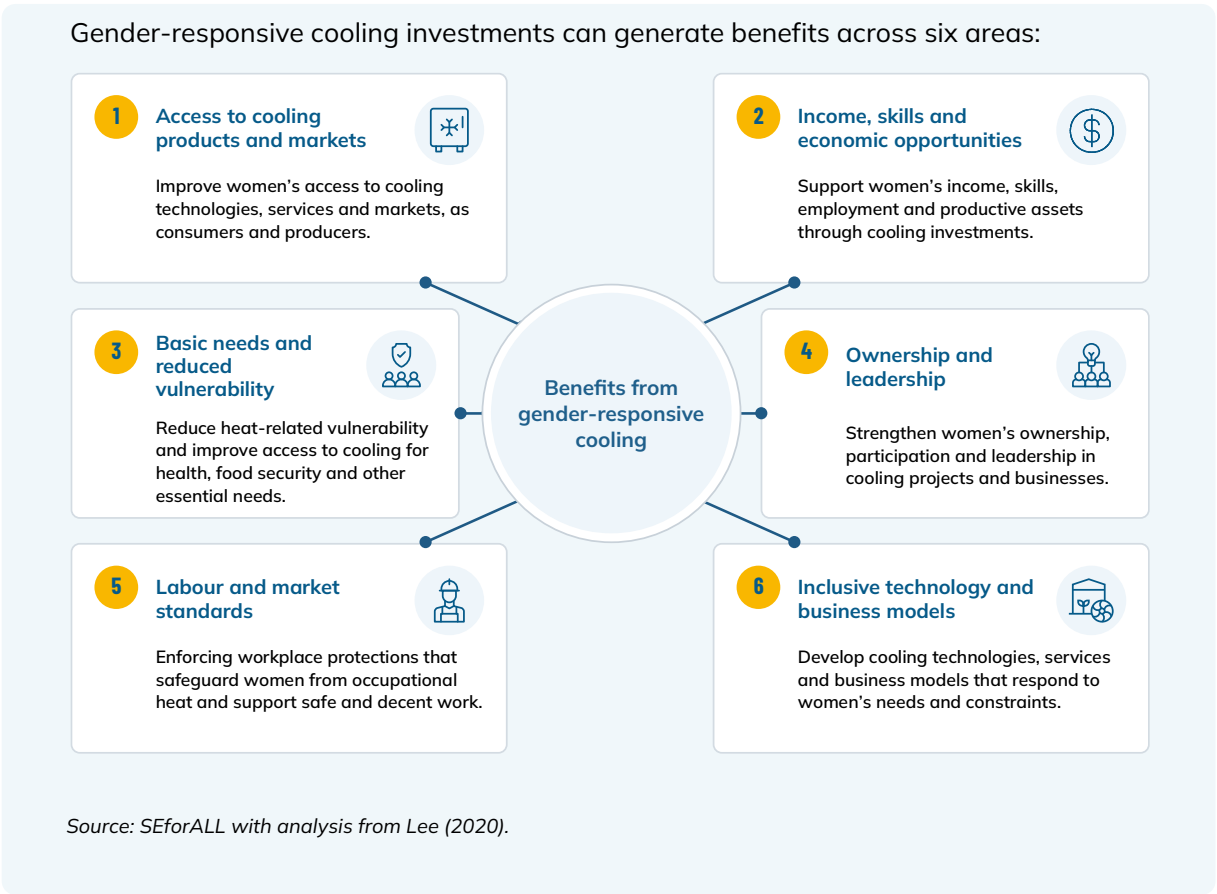
- → **Improved food security and nutrition.** Expressed as the number of households with improved diet diversity or reduced seasonal food price volatility in the project catchment area.
- → **Reduced greenhouse gas emissions.** Tonnes of CO_2-equivalent avoided per year through energy efficiency, passive cooling and low global-warming-potential refrigerants.
- → **Benefits for women and vulnerable groups.** Time savings for women and youth through reduced time spent preserving food, managing spoilage and travelling to access cold storage or other cooling services, freeing time for education, care, productive activities and income generation. (See Box 4)
- → **Avoided post-harvest losses.** Value of agricultural or fishery produce preserved through cold chain investment. Where women are concentrated in the affected value chain (e.g. fish processing, vegetable trading), avoided losses translate directly into protected income for women, and should be noted as such where data allow.

Box 4. Gender and cooling finance

Cooling investments should integrate gender and social inclusion considerations to ensure that interventions respond to the needs of those most exposed to heat and that benefits are accessible in practice. Women are often concentrated in heat-exposed sectors such as agriculture, food processing, informal trade, healthcare and caregiving, while also facing barriers to finance, technology, training, land and productive assets. Incorporating these considerations into project design can improve access, participation and livelihood outcomes, while strengthening alignment with climate and development finance requirements.

Gender analysis should therefore be undertaken early in the development of Heat Action Plans and associated investments. It can identify differences in heat exposure, access to resources and services, decision-making power and barriers to participation, allowing these factors to inform project design, implementation and monitoring.

Figure 3. Benefits of gender-responsive cooling investments



Source: SEforALL with analysis from Lee (2020).

The findings of the gender analysis should be translated into concrete project design and implementation decisions. Depending on the intervention, this may affect siting, service design, affordability, outreach, governance arrangements, employment opportunities or access to finance. Project designers should consider:

- → How do the gendered social norms explored in the gender analysis affect access to services and resources in the cooling sector?
- → Are people of different genders involved in decision-making processes in this sector?
- → What can be done to ensure programme design and implementation considers gender issues and improves equitable access?

For each cooling intervention, and where data are available, governments should consider assessing:

Table 1. Gender considerations and indicators

Category	Assess	Gender Indicators
Beneficiary profile	Who benefits from the investment, disaggregated by sex, age and income group where data are available, and whether the project design or financing model creates barriers to access, such as tariffs, payment requirements, operating hours or eligibility criteria.	Share of women among direct beneficiaries; share of women accessing the service.

Category	Assess	Gender Indicators
Well-being and livelihood impacts	Potential impacts on health, income generation, labour productivity and unpaid care responsibilities.	Change in income among women beneficiaries. Reduction in time spent managing food spoilage or other heat-related tasks.
Participation and governance	Whether women and vulnerable groups are represented in project design, implementation and governance.	Share of women represented in consultation, governance and decision-making structures.
Economic empowerment	Opportunities to strengthen women's economic participation, leadership and ownership across cooling value chains.	Number of women trained, employed or engaged in operation and maintenance activities.

Note: *The examples above are not exhaustive. Additional considerations may be relevant depending on the intervention and local context.*

1.6 Confirm Project Readiness

Priority interventions identified through Heat Action Plans are often stated as broad concepts rather than defined projects. The level of definition affects both the reliability of cost estimates and the type of engagement that can realistically be sought with funders or financiers at this stage.

For each priority intervention, confirm the readiness stage as either concept, defined project or finance-ready:

Table 2. Project readiness classification

Readiness Stage	Description	Next Step
Concept	The priority and intended outcome are identified, but significant project-definition gaps remain.	Undertake project preparation and/or pre-feasibility work (Step 3.1).
Defined project	The elements described in Step 1 are sufficiently defined to develop credible cost and financing estimates.	Proceed to technical and financial preparation (Step 3).
Finance-ready	Elements in Step 1 and Step 3, including pre-feasibility, CAPEX/OPEX estimates and financial or economic analysis as appropriate to the intervention, have been sufficiently developed for engagement with potential funders or financiers.	Prepare the investment proposal and financing strategy (Step 4).

Interventions at concept stage are not excluded from the prospectus; rather, their readiness determines what can realistically be sought at this stage. The county may need to seek project preparation support (e.g. a feasibility grant) and complete outstanding pre-feasibility work (Step 3.1) before seeking implementation funding or financing. The finance readiness stage should be carried forward into the investment prospectus in Step 4, so that it clearly shows how far each intervention has progressed and the type of support being sought.



STEP 2

STAKEHOLDERS

Map Stakeholders and Roles

Stakeholder identification should reflect both the type of intervention and each stakeholder's role in project development, financing and implementation. Relevant county departments will vary depending on the intervention. For example, building-related measures typically require engagement with housing, urban planning, public works and energy departments, while heat early warning systems may require coordination with national meteorological services, county disaster management units, public health departments and emergency response agencies responsible for activating heat emergency protocols.

External stakeholders, including communities, vulnerable groups, utilities, private sector actors and development partners, should be identified in parallel. Stakeholder mapping should also include stakeholders with relevant gender expertise or representation, such as the County Gender Officer and women's groups engaged in or affected by the intervention. Potential funders and financiers should be engaged early, where appropriate, to help ensure that project design, preparation requirements and proposed funding or financing structures align with their requirements.

2.1 RACI Matrix

Some counties may wish to use a RACI matrix when mapping stakeholder roles. A RACI matrix clarifies responsibilities for each activity or decision by identifying who is Responsible (performs the work), Accountable (has ultimate ownership and decision-making authority), Consulted (provides input), and Informed (is kept updated). Typically, each activity should have one Accountable party, while multiple parties may be Responsible, Consulted or Informed.

Table 3. Illustrative RACI matrix

Activity	Responsible	Accountable	Consulted	Informed
Selecting and defining the intervention	Relevant sector department	Chief Officer	Communities, women's groups and vulnerable-group representatives	County Executive Committee
Assessing technical and financial feasibility	Relevant sector department, County Treasury	Chief Officer	Financial institutions, women's groups and vulnerable-group representatives	County Executive Committee
Approving the intervention and proposed financing structure	Relevant sector department / County Treasury	Relevant County Executive Committee Member or accounting officer, as applicable	Chief Officers, legal/procurement teams, women's groups and vulnerable-group representatives	County Executive Committee / County Assembly, as applicable
Approving county borrowing, where applicable	County Treasury	Relevant county authority	National Treasury and relevant legal authorities	County Assembly

Note: *The matrix is illustrative and should be adapted to the county's legal and institutional arrangements.*

2.2 Budget and Planning Integration

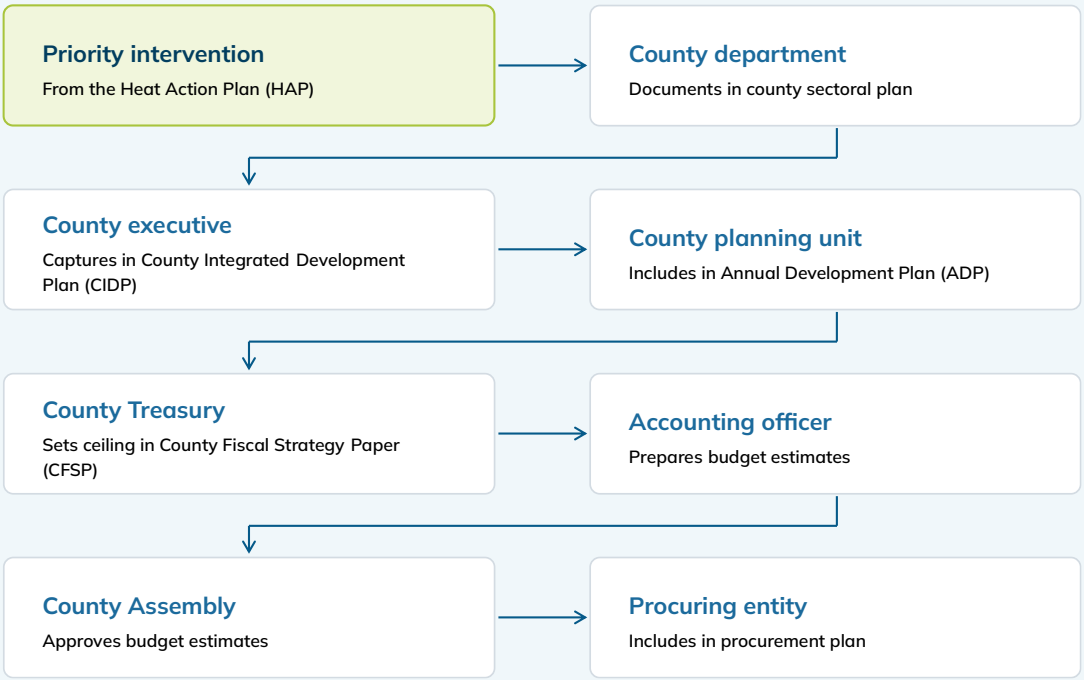
Once stakeholder roles and responsibilities have been established, the county should assess how each priority intervention will be integrated into its formal planning, budgeting and implementation processes. This ensures that the proposed intervention has a credible pathway from the investment prospectus to implementation.

Table 4. Budget and planning integration checklist

Element	Question to confirm	Status/action required
Vote and programme	Which budget vote and programme does this intervention fall under?	
Accounting officer	Who is accountable for authorizing this expenditure?	
Classification	Is this expenditure development (capital), recurrent (operating), or mixed? If mixed, how is each component funded?	
Implementing department	Who delivers and who operates the project?	
Multi-year commitment	Does the project span more than one budget cycle? If so, what multi-year commitment and annual appropriation requirements apply?	
Procurement route	What procurement method and lead time apply?	
Asset ownership	Who holds, registers, insures and maintains the asset?	
Post-grant OPEX	Who funds operations once grant/donor funding ends?	

Box 5. Planning and budgeting chain in Kenyan counties

Section 104 of Kenya's County Governments Act, 2012 provides that no public funds may be appropriated outside a planning framework developed by the county executive and approved by the county assembly. A priority intervention must pass through the sequence shown below before funds can be appropriated and spent, beginning with the county department's sectoral plan and the County Integrated Development Plan (CIDP) that it feeds into. The Annual Development Plan must be tabled before the county assembly by 1 September. An intervention generally needs to be reflected in the applicable planning, budgeting and procurement framework before public expenditure can be committed. The diagram shows a typical pathway:





STEP 3

FINANCIAL PREPARATION AND SCENARIO ANALYSIS

Build the full cost profile of each project to determine financing and/or funding requirements.

3.1 Pre-feasibility Screening

Step 1.2 defines the key elements of the project based on the information available at that stage. Where important elements of an intervention remain to be clarified, the county should undertake proportionate pre-feasibility work before developing detailed CAPEX, OPEX and financing requirements in Steps 3.2–3.4.

Pre-feasibility work may include site verification, technical options analysis, land status confirmation, environmental and social screening, demand assessment, gender analysis and further development of the operating model. The level of work required will depend on the project's scale and complexity and on what has already been verified. Pre-feasibility work can be time-consuming, so sufficient time and resources should be allowed for it in project planning.

Pre-feasibility should also identify the main project risks, including technical, implementation, demand, operating, regulatory, environmental and social risks, and the additional studies or mitigation measures required before funding or financing is sought.

3.2 Estimate CAPEX

Capital expenditures (CAPEX) cover all upfront costs required to acquire, construct or install physical assets or infrastructure, from equipment procurement through to installation and regulatory compliance. Project-preparation and development costs should be identified separately unless applicable accounting rules require their capitalization. A comprehensive and itemized estimate is essential for a credible financing proposal and must be supported by verifiable sources and clearly documented assumptions.

CAPEX categories can include:

- → **Equipment and materials:** high-efficiency cooling units, solar-powered refrigeration, passive cooling materials, etc.
- → **Installation and civil works:** retrofitting public buildings for cooling centres, installation of shading structures, ventilation improvements, solar PV integration for cooling systems, etc.
- → **Labour:** technicians for installation of cooling systems, construction workers for retrofits, etc.
- → **Land or right of way:** land for community cooling centres or cold chain hubs, space allocation for solar cooling systems, etc.
- → **Permitting and regulatory compliance:** building permits, environmental approvals, compliance with energy efficiency and refrigerant standards, etc.
- → **Gender- and accessibility-related design costs,** where applicable (e.g. lighting, security or siting features required to ensure safe access for women and vulnerable groups)

Document assumptions and parameters alongside the cost breakdown:

- → **Source of estimate:** market quotes, supplier estimates, procurement benchmarks or cost databases, etc.
- → **Unit cost basis: Kenyan shillings (KES)/unit**, KES/m² retrofitted, KES/kWp of solar cooling capacity.
- → **Sourcing approach:** local vs imported equipment, competitive procurement.
- → **Phasing:** where costs are phased across multiple years.
- → **Exchange rates and reference date,** where costs are sourced in a foreign currency.
- → **Major equipment replacements** expected during the project life, such as batteries, refrigeration equipment or major components, should be identified separately as replacement CAPEX and reflected in lifecycle cash-flow analysis.

3.3 Estimate OPEX

Annual operating expenditure (OPEX) covers all recurring costs required to operate and maintain a cooling asset over its useful life. These costs should be estimated annually and projected over the full asset lifetime, with clearly documented assumptions for inflation, energy prices and other cost increases over time.

Cost categories to include:

- **Routine operation and maintenance:** servicing cooling centres, cleaning and maintaining AC or fans, etc.
- **Service contracts:** maintenance agreements for cooling equipment in public buildings, etc.
- **Staffing:** operators, technicians, outreach staff; include headcount and working-hour assumptions.
- **Utilities:** electricity for cooling centres, water for passive cooling measures, etc.
- **Maintenance cycles:** routine servicing, repair of shading, compressor or unit replacement intervals, etc. Major equipment replacements should be treated separately as replacement CAPEX and reflected in the lifecycle analysis.
- **Insurance premiums:** insurance should be treated as an operating expense, not a contingency. Two types of insurance are particularly relevant for cooling investments:
  - **Asset insurance** covers physical damage to cooling infrastructure, such as cold rooms, refrigeration equipment, solar systems and cooling centres. Lenders often require this coverage as a condition for financing.
  - **Business interruption insurance** covers lost revenues or savings when an asset is unable to operate due to a covered event. This is particularly important for revenue-generating assets, such as cold storage facilities, where income is needed to repay financing.

Escalation assumptions to document:

- **Inflation rate:** Consumer Price Index trajectory (e.g. Kenya National Bureau of Statistics or IMF forecasts).
- **Energy price escalation:** reference national utility tariff projections (Energy and Petroleum Regulatory Authority (EPRA) approved tariff schedules).
- **Exchange rate projections:** where OPEX includes imported components.

It is important to note that OPEX estimation is necessary but insufficient. Long-term sustainability also depends on clear institutional and operating arrangements: who owns the asset; who operates it; who pays OPEX and from which budget line or revenue; what happens at equipment replacement age; whether the county is legally and politically able to charge the proposed fee; and whether there is an affordability/subsidy policy for vulnerable users.

Box 6. Parametric heat insurance: managing residual heat risk

Cooling infrastructure, early warning systems and heat adaptation measures can significantly reduce exposure to extreme heat, but they cannot eliminate all risks. Counties and cities may therefore consider complementary risk-transfer instruments, such as parametric heat insurance, to manage residual heat risk and provide financial support during severe heat events. Premiums for such insurance are generally considered a type of OPEX.

Unlike traditional insurance, parametric insurance provides a pre-agreed payout when a predefined trigger is reached, such as a temperature threshold, without requiring damage assessments or claims verification. Before a heat trigger is modelled, the county should confirm the threshold basis, expected activation frequency and basis risk. The threshold must be tied to a locally validated heat metric and reliable data sources. Payouts can be directed to households, workers, farmers, businesses or public institutions to help manage heat-related losses, livelihood disruptions and emergency response costs.

For example, in 2024, HERA (formerly Climate Resilience for All) combined parametric insurance with philanthropy-funded cash support for 50,000 informal women workers in India. All participants received cash once temperatures reached 38° Celsius, while insurance covered only more severe heat, paying out to 92 percent of them at 41° Celsius, which kept premiums low (HERA 2025).

For counties and municipalities, parametric heat insurance may be particularly relevant where extreme heat creates significant livelihood losses, health impacts or emergency response costs. While such products remain relatively new in many markets, they can be explored as part of broader heat resilience strategies and residual risk management frameworks.



3.4 Financial Modelling and Scenario Analysis

Where appropriate, and depending on the project type (see Figure 2), develop a multi-year model to assess the affordability, funding/financing requirements and overall viability of each priority cooling investment. The model can range from a simple spreadsheet to a more detailed financial model, depending on the intervention type, size and complexity of the project. Each project should be modelled separately to clearly identify costs, revenues, savings and financing needs. Where multiple projects are being considered, a consolidated summary should also be prepared to show the overall funding/investment requirements. **Existing county financial planning and modelling templates should be used where appropriate.**

For commercial / revenue-generating or cost-saving projects, key modelling parameters include:

- → **Revenue or savings streams:** Project revenues or savings over the asset's lifetime using clearly stated growth assumptions.
- → **Financing scenarios:** Compare commercial debt, concessional loans, grants and blended finance structures by varying interest rates, tenor, grace periods and repayment profiles.
- → **Key performance indicators:** Use NPV, IRR, payback period and Debt Service Coverage Ratio (DSCR) to assess financial viability and affordability.
- → **Sensitivity analysis:** Test key assumptions, such as energy prices, utilization rates, inflation and exchange rates, to identify major financial risks and assess project resilience under different scenarios.

For these projects, all financial modelling assumptions should be clearly stated and sourced, including the discount rate, inflation, exchange rates, energy price escalation and expected growth in revenues or savings. Assumptions should be applied consistently across scenarios. Nominal cash flows should use a nominal discount rate, while real cash flows should use a real discount rate.

For other projects, alternative indicators should be used:

- → **For public infrastructure projects,** indicators could include lifecycle cost, cost per beneficiary, budget affordability, avoided losses and, where appropriate, economic NPV or benefit-cost ratio. If the project generates revenues or savings, these can be assessed separately through financial NPV. Wider benefits, such as avoided health impacts, productivity gains, reduced food losses and climate benefits, can be included in the economic analysis, but should not be treated as cash available to repay debt.
- → **For public-good projects,** indicators could include cost per person covered, cost per illness or death avoided, asset lifecycle savings or preventative maintenance, etc.



STEP 4

INVESTMENT PROSPECTUS

Consolidate all analysis of finance/funding needs into a single, structured proposal that is tailored for the audience with detailed investment breakdowns and an overall financing summary.

Once all of the analysis of financial resource requirements has been completed, the information should be consolidated into a single, coherent financing proposal. This ensures that the county has one clear reference point that can be adapted for different purposes and audiences, depending on how it chooses to proceed. For example, the material could be developed into a standalone investment prospectus, or it could be incorporated as a finance chapter within the Heat Action Plan.

The collated analysis should be tailored to the needs of different audiences. As a summary:

- → County and donor documents prioritize development rationale and alignment with existing plans (County Integrated Development Plan (CIDP), national strategies), while commercial and DFI documents prioritize financial returns and risk-adjusted feasibility.
- → PPP/ESCO concepts uniquely require statutory procurement justification under the PPP Act, distinguishing them from purely public-sector or donor-funded submissions.
- → Multi-county portfolios exist specifically to solve scale problems for investors who will not engage with individual small county projects, bundling several project profiles into a single instrument.

Table 5. Formats and emphasis for a range of common funder audiences

Audience	Format	Emphasis
County budget submission	County concept note aligned to County Integrated Development Plan (CIDP) and Annual Development Plan template	Linkage to county development objectives, stakeholder analysis, resource availability, and Own Source Revenue/Financing Locally-Led Climate Action Programme co-financing commitments
Donor concept note	Short concept note (2-5 pages), logframe-driven, following donor-specific guidelines	Problem rationale, target beneficiaries, expected outcomes, alignment with donor priorities, minimal jargon
DFI project brief	Structured project information memorandum (Public Investment Management/Project Concept Note style, approximately 10 pages)	Technical and financial feasibility, risk analysis, environmental/social safeguards, implementation arrangements, IRR and financial structuring
Commercial investment memorandum	Full investment prospectus with executive summary, market analysis, financial projections	Revenue model, creditworthiness, security/collateral structure, IRR, exit strategy, legal and regulatory compliance
PPP and ESCO concept	PPP Act-compliant project proposal template (Public Private Partnerships Act, 2021)	Contracting authority mandate, procurement methodology justification, risk allocation between public and private parties, payment mechanism (e.g., savings-based for ESCO)
Aggregated multi-county portfolio	Consolidated portfolio brief or programmatic investment note	Cross-county risk diversification, an aggregated and standardized project pipeline, sufficient scale to meet DFI or investor minimum ticket sizes, replicability, and clear portfolio-level financing requirements, governance and risk profile.

Regardless of the format, a finance proposal should generally include:

4.1 A Table for Each Investment

For each top-priority project, provide a detailed cost breakdown with information from previous steps. Figure 4 shows an example based on an investment action from the Amman Green City Action Plan.

Table 6. Financing summary for each action

Action Name	
Description	[Step 1.2]
Estimated CAPEX (KES)	[Step 3.2]
Estimated OPEX (KES/year)	[Step 3.3]
Preparation Costs (KES)	
Implementation Period	[e.g., Year 0–2]
Co-benefits	[Step 1.5]
Finance sought	[Step 3.4]

Figure 4. Example of an investment action from the Amman Green City Action Plan



ebrdgreencities.com · Amman Green City Action Plan

Amman Green City Actoin Plan for Amman

CA1: Develop green and/or shaded parking infrastructure

Priority Action

Strategic objective(s)	**SO18:** Mitigate the urban heat island effect in Amman through blue and green infrastructure	
Challenges	**Priority environmental challenge** (**PEC4**) Delivery of high quality, accessible and biodiverse green infrastructure (**PEC5**) Management of increasing urban flash flooding risks	**Related pressure** (**Lu1**) Competing land use priorities and pressures (**Lu2**) Desertification (**Es1**) Fossil-fuel dominated energy supply
Connections to existing strategies/action plans	**National Green Growth Action Plan Actions:** NA **Amman Resilience Strategy:** NA **Climate Action Plan**: NA	
Description *What will be done?*	GAM will implement strategies to cool existing parking lots. Much of municipal property constitutes parking lots, which contribute to urban heat island effects. Additionally, parking lots account for significant unused space when they are flat and open (as opposed to underground or in a parking garage structure). Measures will be determined by GAM upon project scoping; however, 'green' parking will include the installation of shading devices, with structures such as retractable canopies or the integration of permeable asphalt. Additionally, solar panels will be installed as a means of shading. This work will support climate adaptation and mitigation plans, depending on the type of green infrastructure installed. For any planting, GAM will ensure that species are drought-tolerant and focus on xeriscaping.	
Rationale *Why is it being proposed?*	Parking spaces are often considered to be a waste of valuable urban space, and implementing green parking will help to lessen the negative impact of those spaces, while positively contributing to climate adaptation efforts in the city.	
Steps for implementation	1. Conduct feasibility study to identify suitable locations for implementation. 2. Identify preferred methods of green infrastructure. 3. Set out financing and appropriate team structure. 4. Establish key milestones. 5. Install the green infrastructure. 6. Monitor its performance and further scale up effective solutions to additional parking infrastructure.	
Type of action	Capital project	
Plan for delivery	**Action owner**	Road Directorate
	Stakeholders	GAM; suppliers; developers
	Financing options	Municipal budget;
	Revenue/savings opportunities	Reducing the effects of urban heat island directly around municipal buildings can reduce the costs of air-conditioning. Green infrastructure in parking lots can also reduce flooding damages and associated costs.
	Timeline	2021 - 2022
Impact measures	**State indicators:** • Concentration of mercury, cadmium, mineral oil and zinc in soil • Open green space per m²/capita • Abundance of bird and other species **Pressure indicators:** • Average peak temperature of selected sites	
Estimated cost	**CapEx:** € 5,300,000 – € 8,000,000	**OpEx:** N/A **Design/development costs:** N/A

Estimated co-benefits

Social co-benefits

Action will improve health	*Improve safety and/or security*	*Enhance the public realm*	*Access to basic services*	*Social equity*
1	*1*	*2*	*0*	*0*

Economic co-benefits

Revenue generating activities	*Promotes economic inclusion*	*Avoided damages*

Source: EBRD (2021).

4.2 Portfolio Summary

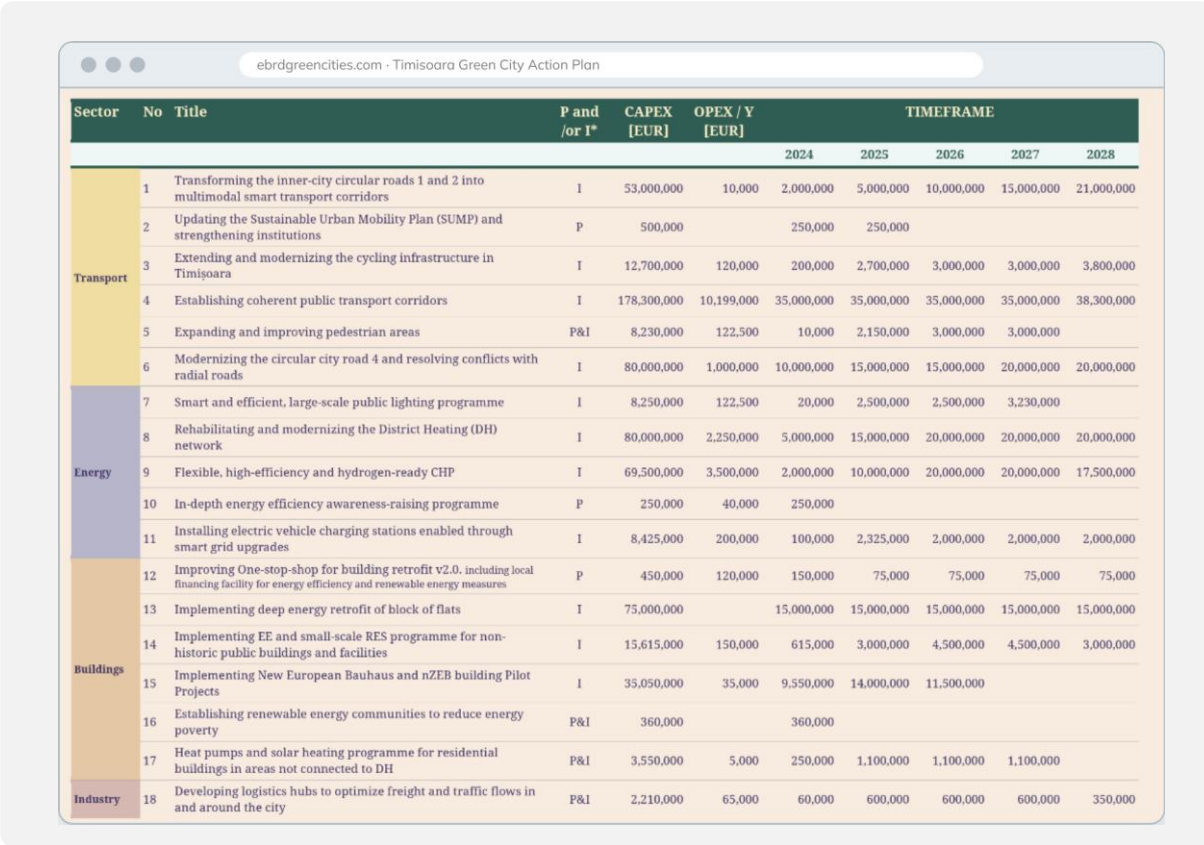
Where multiple interventions are being submitted together, where appropriate, consider consolidating all CAPEX and OPEX requirements into either a single summary table or separate summary tables covering proposed cooling solutions for commercial finance and public goods/non-revenue-generating projects. This provides prospective financiers and funders with an overall view of the investment needs, expected costs and proposed financing strategy across the full portfolio of interventions.

Note that there is a risk of collating all commercial finance and public-good projects into a single table. Funders may then be tempted to assess public-good projects against more commercial, revenue-generating projects.

Table 7. Portfolio investment summary

Cost Category	Year 0 (KES)	Year 1 (KES)	Year 2 (KES)	Total (KES)	Potential source of funding/ finance
CAPEX	[Amount]			[Total]	
OPEX		[Amount]	[Amount]	[Total]	
Preparation Costs	[Amount]	[Amount]	[Amount]	[Total]	

Figure 5. Example of a portfolio investment summary from Timișoara, Romania


ebrdgreencities.com · Timisoara Green City Action Plan

Sector	No	Title	P and /or I*	CAPEX [EUR]	OPEX / Y [EUR]	TIMEFRAME				
						2024	2025	2026	2027	2028
Transport	1	Transforming the inner-city circular roads 1 and 2 into multimodal smart transport corridors	I	53,000,000	10,000	2,000,000	5,000,000	10,000,000	15,000,000	21,000,000
	2	Updating the Sustainable Urban Mobility Plan (SUMP) and strengthening institutions	P	500,000		250,000	250,000			
	3	Extending and modernizing the cycling infrastructure in Timișoara	I	12,700,000	120,000	200,000	2,700,000	3,000,000	3,000,000	3,800,000
	4	Establishing coherent public transport corridors	I	178,300,000	10,199,000	35,000,000	35,000,000	35,000,000	35,000,000	38,300,000
	5	Expanding and improving pedestrian areas	P&I	8,230,000	122,500	10,000	2,150,000	3,000,000	3,000,000	
	6	Modernizing the circular city road 4 and resolving conflicts with radial roads	I	80,000,000	1,000,000	10,000,000	15,000,000	15,000,000	20,000,000	20,000,000
Energy	7	Smart and efficient, large-scale public lighting programme	I	8,250,000	122,500	20,000	2,500,000	2,500,000	3,230,000	
	8	Rehabilitating and modernizing the District Heating (DH) network	I	80,000,000	2,250,000	5,000,000	15,000,000	20,000,000	20,000,000	20,000,000
	9	Flexible, high-efficiency and hydrogen-ready CHP	I	69,500,000	3,500,000	2,000,000	10,000,000	20,000,000	20,000,000	17,500,000
	10	In-depth energy efficiency awareness-raising programme	P	250,000	40,000	250,000				
	11	Installing electric vehicle charging stations enabled through smart grid upgrades	I	8,425,000	200,000	100,000	2,325,000	2,000,000	2,000,000	2,000,000
Buildings	12	Improving One-stop-shop for building retrofit v2.0. including local financing facility for energy efficiency and renewable energy measures	P	450,000	120,000	150,000	75,000	75,000	75,000	75,000
	13	Implementing deep energy retrofit of block of flats	I	75,000,000		15,000,000	15,000,000	15,000,000	15,000,000	15,000,000
	14	Implementing EE and small-scale RES programme for non-historic public buildings and facilities	I	15,615,000	150,000	615,000	3,000,000	4,500,000	4,500,000	3,000,000
	15	Implementing New European Bauhaus and nZEB building Pilot Projects	I	35,050,000	35,000	9,550,000	14,000,000	11,500,000		
	16	Establishing renewable energy communities to reduce energy poverty	P&I	360,000		360,000				
	17	Heat pumps and solar heating programme for residential buildings in areas not connected to DH	P&I	3,550,000	5,000	250,000	1,100,000	1,100,000	1,100,000	
Industry	18	Developing logistics hubs to optimize freight and traffic flows in and around the city	P&I	2,210,000	65,000	60,000	600,000	600,000	600,000	350,000

Source: EBRD, 2024b.

4.3 Internal Review, Sign-Off and Finalization

The investment prospectus should be subject to formal internal review and sign-off prior to formal submission to a funder or financier, or before seeking a financing commitment. This step establishes institutional accountability for the proposal and confirms that the county has the legal authority and financial capacity to proceed.



STEP 5

MARKETPLACE

Preparing an investment-ready prospectus is an important milestone, but projects often require continued engagement to address preparation gaps and connect with appropriate sources of funding, finance and technical support. Governments should therefore establish or use a structured marketplace or matchmaking process that links priority heat resilience and sustainable cooling projects with relevant partners to create a repeatable and locally sustained pathway from project identification to financing and implementation.

5.1 Identify, Assess and Match

Identify. Build a pipeline of priority heat resilience and sustainable cooling projects aligned with the Heat Action Plan. Define each project's scope, implementation and financing needs, and readiness. Where appropriate, aggregate smaller projects to improve scale and reduce transaction costs. The result is a structured project pipeline.

Assess. Evaluate each project's technical, institutional, financial, regulatory and implementation readiness, and identify the support needed to address remaining gaps. Determine the appropriate financing approach, from public budgets, grants and technical assistance to concessional or commercial finance. The result is a readiness assessment and financing pathway.

Match. Connect projects with funders, financiers, investors and technical partners whose mandates and instruments fit project needs. Use roundtables, bilateral meetings and sector-focused dialogues to identify concrete opportunities. The result is a project-specific financing and implementation pathway with relevant partners and next steps identified.

Figure 6. Marketplace process

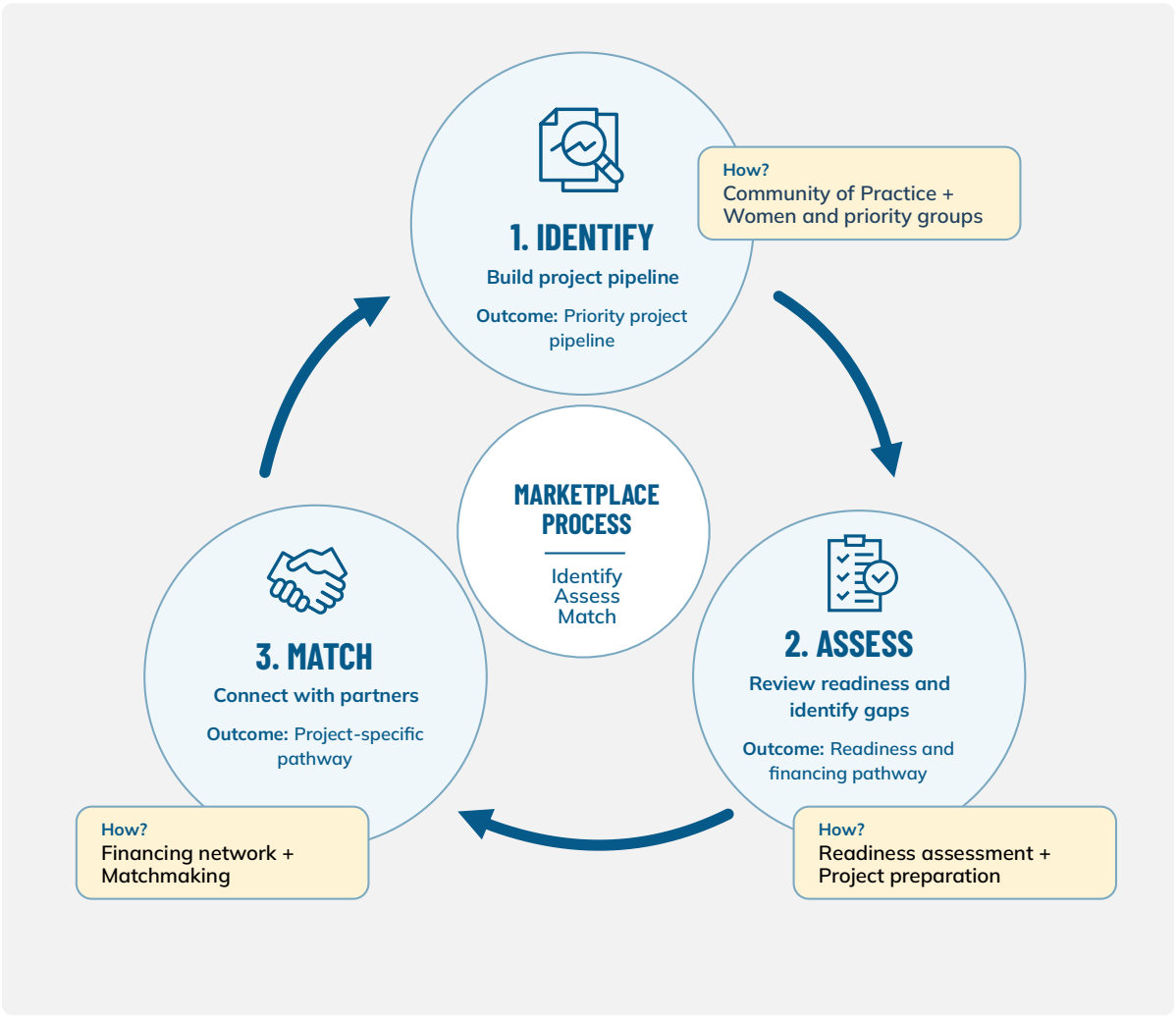


Table 8. Illustrative financing partners for Cooling Marketplace matchmaking

Financier type	Typical role	Risk appetite	Preferred instruments	Examples
Climate funds	Support transformational climate projects and project preparation	Higher tolerance for early-stage and public-benefit risk	Grants, concessional loans, blended finance	Green Climate Fund, Adaptation Fund
Development finance institutions (DFIs)	Finance large-scale infrastructure and public-benefit investments	Moderate; require demonstrated revenue or guarantee	Concessional and commercial loans, guarantees	KfW, EIB, AfDB, IFC
Commercial banks	Finance mature and revenue-generating projects	Low; require credible repayment source and acceptable credit support or security and collateral	Senior debt; guarantees or risk-sharing may be used where required	Local and regional commercial banks with climate windows

Financier type	Typical role	Risk appetite	Preferred instruments	Examples
Bilateral donors	Support project preparation, pilots and capacity building	High tolerance, particularly for public-benefit and preparation-stage support	Grants, technical assistance	EU, FCDO, national development agencies
Philanthropic organizations	Catalyse innovation and early-stage initiatives	High tolerance; mission-driven	Grants, catalytic or first-loss capital	Rockefeller Foundation, ClimateWorks Foundation
Impact investors	Invest in projects with measurable social and environmental outcomes	Moderate; seek measurable social or environmental return alongside financial return	Equity, concessional debt	Specialized impact funds, blended finance vehicles
Private sector partners	Project development, implementation, operation and co-investment	Varies by partner; often seek operational or commercial partnership rather than financing alone	Co-investment, equipment financing, service contracts	Equipment suppliers, ESCOs, cooling service operators





CONCLUSIONS

Counties are facing unprecedented cooling challenges. While this guide focuses on financial resources, it is important to recognize that money itself is necessary, but not sufficient. There are many “no-regrets” operational actions that can be undertaken already through existing budgets: alerts, training, surveillance, work-schedule adjustments, water provision and health-facility readiness. These can all proceed now while larger investments are prepared.

For those actions requiring money, counties need more than a list of cooling actions to mobilize financing and move projects toward implementation. They require a structured process that defines which stakeholders are involved, at what stage, and in what role across technical, financial, procurement, legal and decision-making functions. Funding and financing considerations should therefore be integrated into the development and implementation of Heat Action Plans from the outset. This includes identifying investment priorities, estimating CAPEX and OPEX, assessing financing options, engaging relevant stakeholders and preparing proposals that are financially credible and aligned with institutional, legal and policy requirements. For revenue-generating, cost-saving or debt-financed projects, proportionate financial modelling is essential to assess viability and repayment capacity. Public-good interventions should instead apply the economic, affordability and lifecycle-cost analysis appropriate to the intervention and proposed funding source.

Cooling investments also generate broader economic, social and environmental benefits that strengthen the investment case beyond direct financial returns. Health improvements, food security gains, productivity benefits, resilience outcomes, reduced emissions, and reduced pressure on energy systems are particularly relevant for concessional lenders, DFIs, climate funds and philanthropic organizations. Early engagement with financiers and implementation partners, including through Marketplace sessions where appropriate, can help validate assumptions, align projects with investor expectations, identify suitable financing structures and improve the likelihood of securing financing and advancing projects toward implementation. The objective is not to make every cooling and heat intervention commercially bankable, but to identify the most credible funding or financing pathway for each intervention.

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ANNEX 1

EXAMPLE OF AN INVESTMENT PROSPECTUS

Disclaimer:

This annex is a fully illustrative worked example, intended to demonstrate the methodology rather than represent an actual project. All names, roles, figures, and financing terms are invented for this purpose. Following this template is a helpful starting point, but it does not guarantee funding. Every real intervention will need to be tailored to its own circumstances, and counties are encouraged to engage potential investors, donors, and financiers as early as possible in the preparation process.

SOLAR-POWERED COLD CHAIN NETWORK

Agriculture & Fisheries
A County in Western Kenya

ACTION NAME AND LOCALISATION

KES 133 M
Total CAPEX

2027–2029
Implementation period

KES 321 M
Total OPEX (15-yr) at year 1 prices

10 800+
beneficiaries, 60% women; 65,000 indirect consumers

Problem Statement

STEP 1.1

Over the past two decades in the county, land surface temperatures have risen by 4° Celsius, with heatwave peaks now reaching 37° Celsius. Livelihoods – fishing, smallholder farming, and market trading – are acutely sensitive to temperature.

The county produces approximately KES 1.8 billion worth of food per year, including fish from Lake Victoria and agricultural produce. An estimated 40 percent of this produce is lost before it reaches the market due to the absence of cold chain infrastructure; fish spoil within hours of landing without refrigeration, and vegetables lose value rapidly in transit.

Investment description and scope

STEP 1.2

Intervention type: The proposed investment will establish a network of first-mile cold storage facilities serving selected agricultural markets, fish landing sites and producer cooperatives across the county.

- **Number of facilities:** 35
- **Indicative storage capacity:** 5 tonnes per facility
- **Total simultaneous storage capacity:** approximately 175 tonnes
- **Target products:** horticultural produce such as tomatoes, leafy vegetables, green beans and fresh herbs; and fisheries products at dedicated fish landing-site facilities
- **Indicative storage cycle:** 5–7 days for mixed horticultural produce
- **Indicative turnover:** approximately 4–6 storage cycles per month
- **Technology:** energy-efficient refrigeration powered by solar PV
- **Refrigerants:** low-GWP or natural refrigerants
- **Primary users:** agricultural markets, fish landing sites and producer cooperatives

Geographic location: The facilities will be located across 10 sites, identified as priority areas in the Heat Action Plan based on cooling demand, agricultural and fisheries activity, heat vulnerability, electricity access, land availability and accessibility for intended users.

Target beneficiaries:

- 10,800 direct beneficiaries: 6,500 women vegetable traders, fish processors and cooperative members (60 percent of total), 4,300 smallholder farmers within 10 kilometres of cold storage sites.
- 65,000 consumers benefit indirectly through more stable food supply and reduced price volatility.
- Women are particularly represented among market traders and fish processors, and facility location, operating hours and service arrangements will be designed to support their access and use.

Demand estimate: Based on an indicative 5-tonne storage capacity per facility, an average storage cycle of approximately six days, and average utilization of 90 percent (the model's steady-state rate from Year 2), the network of 35 facilities is expected to handle approximately 9,600 tonnes of produce annually. This is equivalent to approximately 274 tonnes per facility per year, or 23 tonnes per facility per month on average.

Environmental and social safeguards: Initial screening has identified no major environmental or social risks requiring relocation or significant land acquisition. Further assessment will address refrigerant and battery management, equipment disposal, occupational health and safety, and equitable access to the facilities for women and vulnerable groups.

Expected scale of deployment: Approximately 35 facilities will be deployed over the implementation period, providing a combined indicative storage capacity of 175 tonnes at any one time. Deployment will be phased across priority locations according to demonstrated demand, site readiness, land availability and implementation capacity. The final allocation of facilities across sites will be confirmed during project preparation.

Service delivery and asset governance model: The facilities will be county-owned and operated through local producer cooperatives or Beach Management Units under service agreements. Operators will collect user fees and be responsible for day-to-day operations and routine maintenance, while responsibilities for major repairs and equipment replacement will be defined in the operating agreements. Governance arrangements will include women in facility management and decision-making, with a target of at least 40 percent representation on facility management committees.

Justification for Priority Selection

STEP 1.3

- → **Urgency:** An estimated 40 percent of perishable produce and fish is lost or degraded before sale in the priority areas, while only 15 percent of producers and traders have access to reliable cold storage. The Heat Action Plan therefore identifies inadequate cold-chain infrastructure as a priority constraint requiring investment.
- → **Expected impact:** Improved cold-chain access is expected to reduce food losses, protect livelihoods and improve food availability, directly contributing to county priorities for agricultural and fisheries development, food security, local economic development and climate resilience.
- → **Equity and inclusion:** Women are particularly affected by inadequate cooling because of their significant participation in vegetable trading and fish processing. Improving affordable access to cold storage therefore addresses an infrastructure gap that disproportionately affects women's livelihoods.
- → **Rationale for the selected solution:** Solar-powered cold storage was selected over conventional grid-dependent cooling because priority areas include locations with limited or unreliable electricity supply. Solar power can improve service reliability and reduce dependence on grid electricity, while energy-efficient refrigeration and low-global warming potential refrigerants support the county's climate objectives.

Policy Alignment

STEP 1.4

The project contributes directly to multiple Sustainable Development Goals (SDGs), including:



The project is also aligned with key county, national and international frameworks:

- → **County Integrated Development Plan 2023–2027:** food security, agriculture and fisheries development, livelihoods and climate resilience.
- → **Kenya National Cooling Action Plan:** sustainable cold chains, energy-efficient cooling and lower-GWP refrigerants.
- → **Kenya NDC and National Climate Change Action Plan:** climate-resilient agriculture and low-carbon development.
- → **Lake Region Economic Bloc:** blue economy, fisheries and agricultural value-chain development.
- → **Global Cooling Pledge:** sustainable cooling, energy efficiency and reduced cooling-related emissions.

Institutional alignment: The project falls within the county's mandates for agriculture, fisheries, climate action and local economic development and is incorporated into the relevant county development planning framework.

Expected Benefits

STEP 1.5

Benefit	Description
Direct Benefits	
Cold-storage user fees:	KES 38.2 million/year in user-fee revenue at full utilization
Co-Benefits	
Access to sustainable cooling	Reliable, solar-powered cold storage expanded to 10 priority sites, including off-grid and weak-grid areas.
Food security	Approximately 7,500 tonnes/year of perishable produce and fisheries products benefit from improved cold storage, helping reduce post-harvest losses and improve food availability.
Livelihoods	Improved access to cold storage is expected to reduce spoilage and quality losses for farmers, fishers, fish processors, market traders and producer cooperatives, helping protect incomes, improve the value of products sold and strengthen local agricultural and fisheries value chains. More reliable cold-chain services can also support greater market participation, more stable food supply and local economic activity.
Gender and economic empowerment	Women will be specifically targeted through affordable access to cold-storage services, and opportunities for training and participation in operation and maintenance. Approximately 6,500 women, representing 60 percent of direct beneficiaries, are expected to gain improved access to cooling services. Women will represent at least 40 percent of facility management committees, helping strengthen their participation in decision-making and economic opportunities across the cold-chain value chain.
Climate and energy	350 tCO_2e/year in avoided cooling-related emissions; solar-powered facilities expand reliable cooling in off-grid and weak-grid areas.
Resilience	Improved continuity of cold-chain services during extreme heat and power disruptions, helping maintain the availability of perishable products
Institutional	120 operators and county staff trained; facility management arrangements established for all sites, with at least 40 percent women's representation on management committees.

Pre-feasibility Screening

STEP 3.1

Technical options analysis confirmed solar-powered cold storage as the appropriate choice over grid-connected or hybrid alternatives, given unreliable grid electricity across 10 priority sites. Land status at all sites has been confirmed as county-owned, with no outstanding tenure issues. Site verification confirmed as county-owned, with no outstanding tenure issues, accessibility and physical suitability, and the demand estimate per year has been verified against market and fish-landing-site records. Consultations with prospective cooperative and Beach Management Unit operators confirmed the proposed service delivery and governance model, including women's representation on facility management committees. Environmental and social screening identified no risks requiring relocation or significant land acquisition. The county's co-financing contribution has been appropriated within the approved development budget.

Cost and Finance Summary

STEPS 3.2 – 3.3

Estimated CAPEX — KES 133,000,000		
Description	35 cold storage rooms at agricultural markets, fish landing sites and producer cooperatives	KES 3,800,000/unit
Cost per unit:	Insulated cold storage room: KES 1.3 million Solar panel system (5–8 kilowatts) with battery storage: KES 1.1 million Refrigeration equipment (natural refrigerant): KES 700,000 Civil works and site preparation: KES 450,000 Installation, commissioning and testing: KES 250,000	
Estimated OPEX — KES 13,300,000/year		
Description	Annual operating and maintenance costs for 35 solar-powered cold storage facilities at agricultural markets, fish landing sites and producer cooperatives	KES 380,000/unit
Cost per unit/year:	Maintenance and spare parts: KES 140,000 Site operator: KES 100,000 Utilities and water: KES 100,000 Insurance: KES 40,000	
Preparation costs — KES 13,300,000		
Breakdown	Technical feasibility studies and site assessments: KES 5 million Environmental and social assessment, permitting and safeguards preparation: KES 2 million Demand assessment, operating model and fee-structure design: KES 2 million Legal, procurement and contractual structuring: KES 2 million Operator training programme design and stakeholder/community engagement: KES 1.3 million Project management and preparation contingency: KES 1 million	

Financial Modelling and Scenario Analysis

STEP 3.4

Cash Flow[4] (Million KES)	Y0	Y1	Y2	Y3–Y5	Y6–Y10	Y11–Y15
Investment costs						
CAPEX	(133.0)					
Project preparation costs	(13.3)					
Total initial investment	**(146.3)**					
Operating cash flow *(annual average)*						
Cold-storage user-fee revenue		19.1	36.6	41.6	53.6	73.5
Operating expenditure (OPEX)		(13.3)	(14.2)	(16.1)	(20.8)	(28.4)
Cash Flow Available for Debt Service		**5.8**	**22.5**	**25.5**	**32.9**	**45.1**
Financing Structure						
Climate/development grant	70					
County budget contribution	20					
Concessional debt (Finance Sought)	56.3					
Debt service (3- year grace period)	(1.7)	(1.7)	(1.7)	(6.6)	(6.6)	(2.6)
Cash Flow After Debt Service	**(1.7)**	**4.1**	**20.8**	**18.9**	**26.3**	**42.5**
Debt Service Coverage Ratio	***n/a***	***3.44x***	***13.3x***	***3.87x***	***4.99x***	***6.20x***

Note: *Key results (project level, before financing, nominal cash flows Y0–Y15): net present value (NPV) at a 10 percent discount rate of KES 71.3 million; internal rate of return (IRR) of 16.1 percent; simple payback of approximately 6.4 years. Y0 is 2027 (financial close, procurement and installation; no operations or OPEX); operations start in Y1 (2028). The Y11–Y15 DSCR of 6.20x reflects the final two repayment years (Y11–Y12); the loan is fully repaid by Y12.*

[4] A spreadsheet with the detailed calculations is provided with the worked example. Link.

Key Assumptions

Assumption	Value	Assumption	Value
Capital expenditure	KES 133 M	Project preparation costs	KES 13.3M
Analysis period	15 years	Discount rate	10%
Year 1 utilization of facility capacity (average)	50%	Year 2+ utilization of facility capacity (average)	90%
Revenue at full utilization	KES 38.2M/year	Escalation of storage fee	6.5 percent per year
Year 1 operating expenditure	KES 13.3 M	Escalation of operating expenditure	6.5 percent per year
Concessional loan	KES 56.3 M	Loan interest rate	3 percent per year, interest paid during the grace period
Loan tenor	13 years	Principal grace period	3 years

Implementation Period

	2027				2028				2029			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Financial close & loan disbursement	X											
Procurement & installation	X	X	X									
Commissioning & operations					X	X	X	X	X	X	X	X

Internal Review and Sign-Off

STEP 4.3

This proposal responds to a priority action identified in the county's Heat Action Plan to expand access to cooling for agricultural and fisheries communities affected by post-harvest losses and heat exposure. It was prepared by the Director of Energy, Department of Energy and Climate Change (technical lead), working with the Chief Heat Officer, who holds overall responsibility for translating Heat Action Plan priorities into investable interventions. The Department of Agriculture, Livestock and Fisheries, as sector lead and accounting officer, was consulted throughout intervention design, and County Treasury reviewed the proposal for financial soundness and debt service capacity. The Chief Officer, Agriculture, Livestock and Fisheries is accountable for final sign-off, while the County Assembly, kept informed throughout preparation, holds ultimate approval authority for borrowing under Article 212 of the Constitution of Kenya and the Public Finance Management Act, 2012.

Portfolio of investments (Million KES)

COUNTY A

County A Investment	Year 0 KES	Year 1 KES	Year 2 KES	Total KES	Financing approach
(1) Solar cold chain network (this proposal)	133	—	—	133	38% concessional loan + 48% grant + 14% county contribution
(2) Community cooling centres (30 centres)	30	60	—	90	70% grant + 30% county development budget
(3) Heat early warning system	28	15	—	43	100% grant
(4) Urban greening and shading	—	8	9	17	100% grant
Total capital expenditure	**191**	**83**	**9**	**283**	
Preparation costs (all investments)	28	—	—	28	Grant
Annual operating expenditure	—	**20**	**25**	**45**	County budget and user fees
Grand total	**219**	**103**	**34**	**356**	

ANNEX 2

CORE FINANCIAL DEFINITIONS

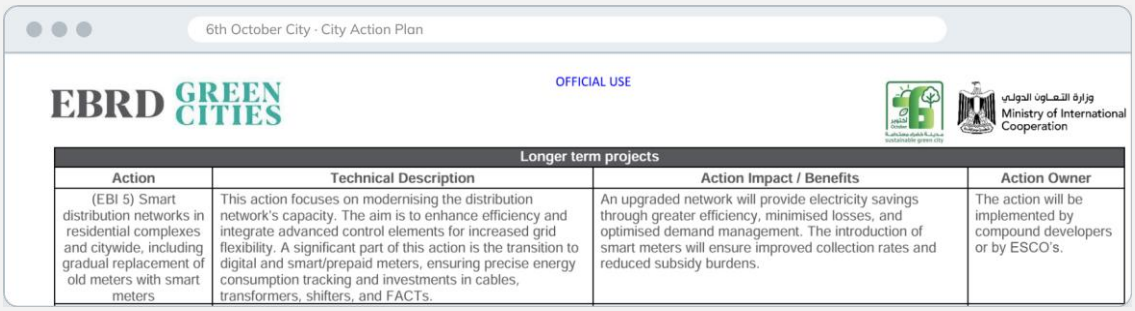
Affordability	The extent to which a County can meet the costs and repayment obligations of an investment without compromising its budget or financial stability.
Balance Sheet (Statement of financial position)	A financial statement showing the County's assets, liabilities, and financial position at a given point in time, used to assess its capacity to support or secure cooling investments.
Blended Finance	The strategic use of concessional or public resources to improve the risk-return profile of an investment and mobilise additional private or commercial finance that would not otherwise participate on the same terms.
CAPEX (Capital Expenditure)	Upfront investment required to acquire, construct, or install cooling solutions or related infrastructure (e.g. cooling rooms, air conditioners, passive cooling measures).
Cash Flow	The net amount of money available each year after accounting for all inflows (such as savings or revenues) and all outflows (such as operating costs, investment costs, and loan repayments).
Collateral / Security	Assets, revenues, or guarantees used to secure financing for a cooling investment and reduce lender risk.
Debt Service Coverage Ratio (DSCR)	The ratio of cash available for debt service to scheduled principal and interest payments over a given period. A DSCR above 1.0 indicates that available project cash flow exceeds scheduled debt service. The minimum acceptable level depends on the project, lender and risk profile.
Discount Rate	The rate used to convert future costs and benefits into present values. In financial analysis, it should reflect the relevant financing or required-return assumptions; in economic analysis, an appropriate economic or social discount rate may be used.
Financing Structure	The combination of funding sources used to finance a project (e.g. public funds, grants, concessional loans, commercial debt).
Grace Period	An initial period during which repayment of the loan principal, and sometimes interest, is deferred, typically aligned with the implementation phase.
Implementation Period	The timeframe required to execute the project, including procurement, installation, and commissioning.
IRR (Internal Rate of Return)	The discount rate at which the NPV of a project's cash flows equals zero. Project IRR measures returns generated by the project before financing, while equity IRR measures returns to equity investors after debt financing.
NPV (Net Present Value)	Shows whether the value of the project's future net cash flows is greater than its total costs, expressed in today's value using a discount rate.

OPEX (Operating Expenditure)	Ongoing costs required to operate and maintain the asset over time (e.g. staff, maintenance, utilities).
Payback Period	The time required for the investment to recover its upfront cost through savings or revenues.
Preparation Costs	Upfront project development costs needed before a cooling solution can be implemented (e.g. feasibility studies, community engagement, and legal or regulatory costs).
Profit and Loss Statement (Statement of financial performance)	A financial statement showing the County's revenues and expenditures over a period, used to assess its ability to absorb and manage cooling-related spending.
Tenor	The length of time over which financing for a cooling investment is repaid.

ANNEX 3

EXAMPLES OF INVESTMENT PRESENTATION FROM CITY ACTION PLANS

Example 1. Description of actions, description and impact/benefits. 6th October City, Egypt[5].


6th October City · City Action Plan

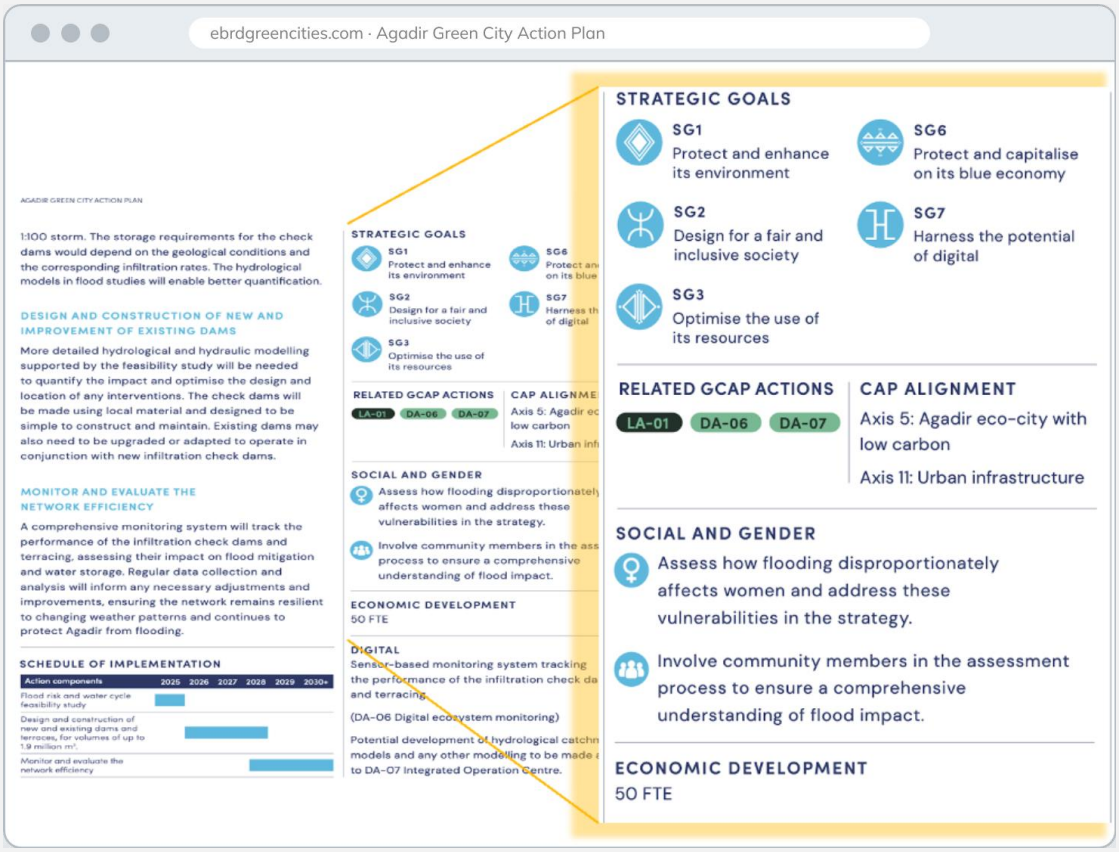
EBRD GREEN CITIES

OFFICIAL USE

وزارة التعاون الدولي
Ministry of International Cooperation

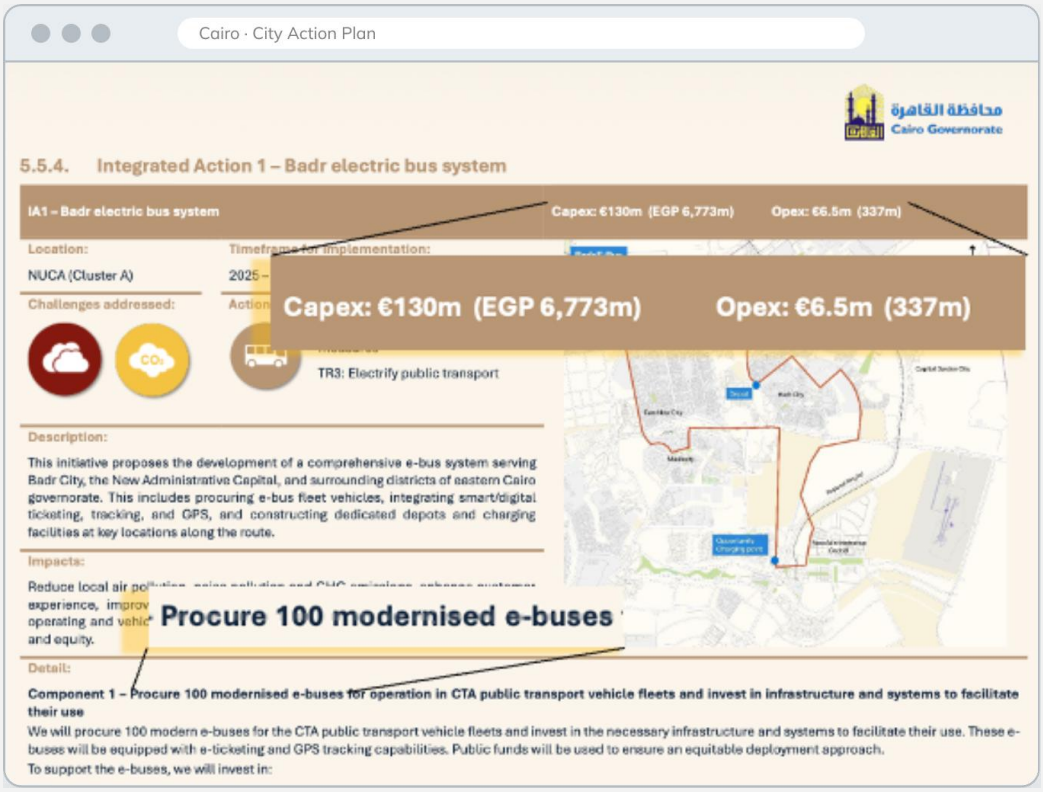
Longer term projects			
Action	Technical Description	Action Impact / Benefits	Action Owner
(EBI 5) Smart distribution networks in residential complexes and citywide, including gradual replacement of old meters with smart meters	This action focuses on modernising the distribution network's capacity. The aim is to enhance efficiency and integrate advanced control elements for increased grid flexibility. A significant part of this action is the transition to digital and smart/prepaid meters, ensuring precise energy consumption tracking and investments in cables, transformers, shifters, and FACTs.	An upgraded network will provide electricity savings through greater efficiency, minimised losses, and optimised demand management. The introduction of smart meters will ensure improved collection rates and reduced subsidy burdens.	The action will be implemented by compound developers or by ESCO's.

Example 2. Alignment of actions with SDGs in a flood prevention and catchment level rainwater harvesting. Agadir, Morocco[6].

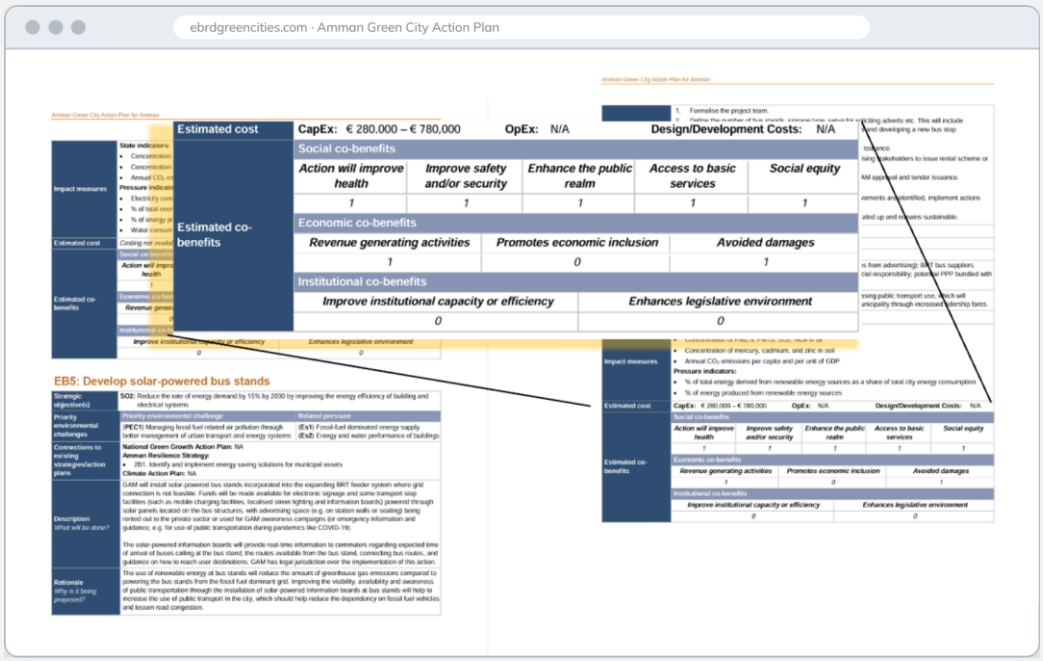


[5] https://ebrdgreencities.com/assets/Uploads/PDF/6th_Oct_GCAP_Final_ENGLISH_JAN24.pdf - page 68.
[6] https://ebrdgreencities.com/assets/downloads/Agadir-GCAP_English_1.0.pdf

Example 3. CAPEX and OPEX Estimates. Cairo[7].



Example 4. Broader Economic, Social and Environmental Benefits from solar-powered bus stand. City action plan of Jordan, Amman[8].



[7] https://ebrdgreencities.com/resource-hub/publications/cairo-green-city-action-plan/
[8] https://ebrdgreencities.com/assets/Uploads/PDF/AmmanGreenCityActionPlan2021.pdf

Example 5. Financial proposal. Agadir's (Morocco) Green City Action Plan

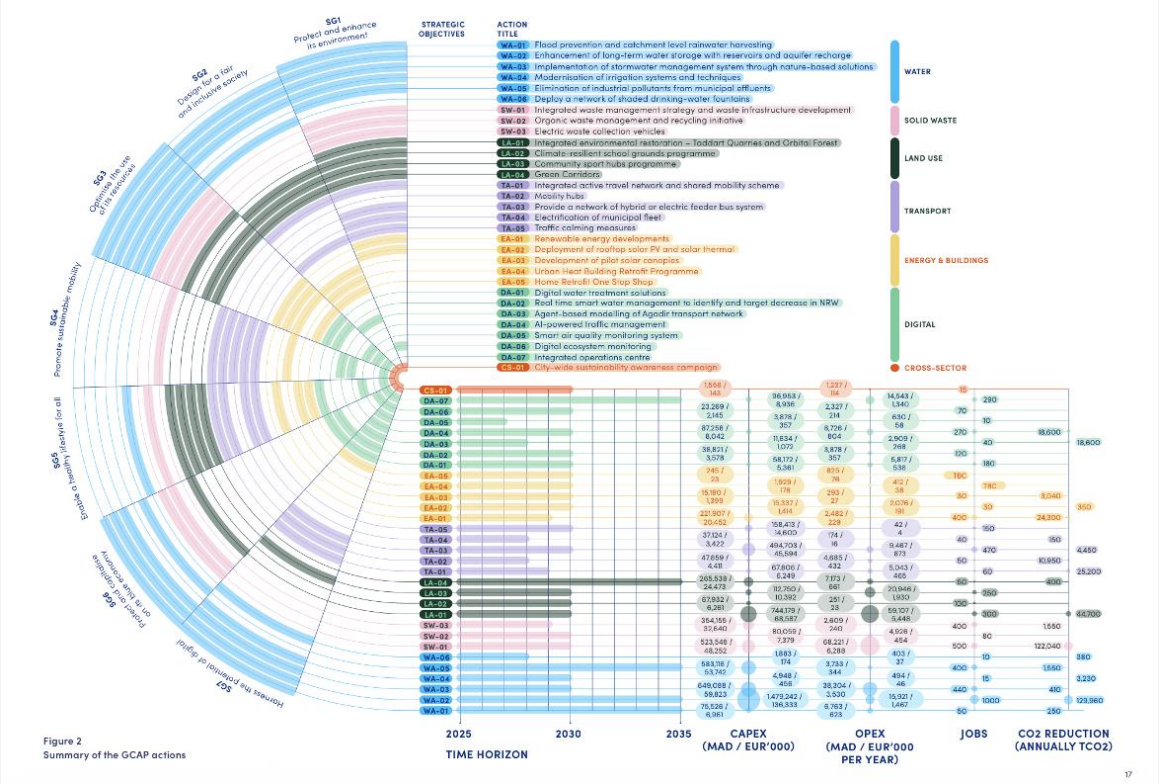


Figure 2
Summary of the GCAP actions

https://ebrdgreencities.com/assets/downloads/Agadir-GCAP_English_1.0.pdf



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Sustainable Energy for All has a global mandate to accelerate progress on the energy transition in emerging and developing countries. Hosted by UNOPS, we work at the intersection of energy, climate and development, partnering with governments and organizations worldwide to end energy poverty, double energy efficiency, significantly expand renewable energy and combat climate change.

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