



Part I: Project Information

GEF ID

11040

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT No

NGI No

Project Title

Towards a Sustainable City through Energy Efficiency in Kairouan

Countries

Tunisia

Agency(ies)

UNDP

Other Executing Partner(s)

Ministry of Environment

Executing Partner Type

Government

GEF Focal Area

Climate Change

Sector

Energy Efficiency

Taxonomy

Focal Areas

Rio Markers

Climate Change Mitigation

Principal Objective 2

Climate Change Adaptation

No Contribution 0

Biodiversity

No Contribution 0

Land Degradation

No Contribution 0

Submission Date

2/28/2023

Expected Implementation Start

9/4/2023

Expected Completion Date

9/3/2026

Duration

36In Months

Agency Fee(\$)

80,456.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-1-3	Promote innovation and technology transfer for sustainable energy breakthroughs for accelerating energy efficiency adoption	GET	846,906.00	3,223,000.00
Total Project Cost(\$)			846,906.00	3,223,000.00

B. Project description summary

Project Objective

To promote green buildings and efficient lighting in alignment with the objectives of the enhanced Nationally Determined Contribution, the Sustainable Development Strategy of Kairouan and the National Programme for Sustainable Cities in Tunisia

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co- Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 1: Institutional strengthening for regulating the market for new efficient buildings	Technical Assistance	Institutional strengthening with enabling conditions, methodologies and tools for enforcing regulatory framework for new buildings	<p>Output 1.1: An operational manual for new building licensing and permits process in the Municipality of Kairouan to operationalize RTNB (<i>Réglementation Thermique des Nouveaux Bâtiments</i>) is designed and adopted;</p> <p>Output 1.2: Enforcement capabilities of municipality strengthened for ensuring new building compliance with RTNB;</p> <p>Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials;</p> <p>Output 1.4: An online tool for carrying out comparative socio-economic and</p>	GET	150,000.00	368,975.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
			<p>environmental analysis of buildings using life-cycle methodology is developed and disseminated;</p> <p>Output 1.5: National standards for building materials are developed and adopted.</p>			
Component 1: Institutional strengthening for regulating the market for new efficient buildings	Investment	Institutional strengthening with enabling conditions, methodologies and tools for enforcing regulatory framework for new buildings	Output 1.6: Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label	GET	314,458.00	1,596,625.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 2: Energy efficient public lighting	Technical Assistance	Institutional strengthening for the implementation of an efficient municipal lighting system	Output 2.1: Capacity of municipality staff to implement efficient lighting projects strengthened; Output 2.2: National standards for public lighting technologies developed and adopted.	GET	100,000.00	366,208.00
Component 2: Energy efficient public lighting	Investment	Institutional strengthening for the implementation of an efficient municipal lighting system	Output 2.3: Energy-efficient municipal lighting demonstrated	GET	105,457.00	133,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 3: Knowledge management, monitoring and evaluation, and scale-up strategy	Technical Assistance	Municipal learning organization capable to implement and manage sustainable city strategy	<p>Output 3.1 Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing a report, (ii) Ongoing M&E, (iii) Terminal Evaluation carried out</p> <p>Output 3.2: Data management system for benchmarking Kairouan City sustainability established and operational</p> <p>Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries;</p> <p>Output 3.4: Replication plan for scaling up energy-</p>	GET	100,000.00	447,050.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
			efficient buildings and public lighting in Tunisia developed			
Sub Total (\$)					769,915.00	2,911,858.00
Project Management Cost (PMC)						
	GET		76,991.00			311,142.00
Sub Total(\$)			76,991.00			311,142.00
Total Project Cost(\$)			846,906.00			3,223,000.00

Please provide justification

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Environment	Grant	Investment mobilized	500,000.00
Recipient Country Government	Ministry of Environment	In-kind	Recurrent expenditures	150,000.00
GEF Agency	UNDP SDG Climate Facility regional project	Grant	Investment mobilized	415,000.00
Recipient Country Government	Municipality of Kairouan	Grant	Investment mobilized	825,000.00
Recipient Country Government	Municipality of Kairouan	In-kind	Recurrent expenditures	350,000.00
Private Sector	the Proportion of Gold (accessed from the Energy Transition Fund)	Grant	Investment mobilized	133,000.00
Private Sector	the Proportion of Gold	Equity	Investment mobilized	850,000.00
Total Co-Financing(\$)				3,223,000.00

Describe how any "Investment Mobilized" was identified

The cash co-financing from the Ministry of Environment is the contribution of the Government of Tunisia towards the implementation of the National Programme for Sustainable Cities in Tunisia; the contribution from the Municipality is from its capital budget for new constructions for new building and refurbishment; the grant contribution of the private sector developer is the financial incentive provided under the Energy Transition Fund; the debt/equity financing form the private sector is the investments in an energy efficient building by ?the Proportion of Gold? property developer in Kairouan. All co-financing sources were identified during a series of stakeholder meetings from October to December 2022.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Tunisia	Climate Change	CC STAR Allocation	846,906	80,456	927,362.00
Total Grant Resources(\$)					846,906.00	80,456.00	927,362.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount (\$)

50,000

PPG Agency Fee (\$)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Tunisia	Climate Change	CC STAR Allocation	50,000	4,750	54,750.00
Total Project Costs(\$)					50,000.00	4,750.00	54,750.00

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	8403	20219	0	0
Expected metric tons of CO ₂ e (indirect)	499000	82409	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	8,403	20,219		
Expected metric tons of CO ₂ e (indirect)	499,000	82,409		
Anticipated start year of accounting	2023	2023		
Duration of accounting	20	20		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)	197,813,068	162,836,000		

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	94,248	94,248		
Male	92,752	92,752		
Total	187000	187000	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

Background (Global environmental problems, root causes and barriers to be addressed)

1. In Tunisia, as in most countries of the world, rapid urbanization is often uncontrolled. Urban growth generates many dysfunctions in cities and a deterioration of the quality of life of populations. Tunisian cities today experience several failures due to degraded infrastructure, obsolete public transport, insufficiently controlled housing, and lack of both human and material resources to operate basic social services. Added to this is the lack of decent housing, and the increase in pollution. As a result, living conditions are declining for urban communities, a situation that has grown even more since the 2011 revolution. The national macroeconomic situation (GDP-1.1%; inflation rate-4.2%; unemployment rate-15.6%; poverty rate-15.2%)[1] is reflected at the sub-national level (e.g. governorates, cities, communes etc.).

2. Despite the ecological potential of Tunisia, the transition towards "sustainable cities" is impeded by several environmental challenges, including: climate change, depletion of natural resources, drought, floods, waste management and industrial pollution. These environmental issues, including the increase of greenhouse gases emissions are aggravated by an exponential growth of urban populations coupled with a lack of integrated urban land use planning, among other barriers that are discussed below. To tackle these environmental challenges, including greenhouse gas emissions, the Tunisian Government is working on the National Programme for Sustainable Cities in Tunisia. This program has identified a cohort of 14 cities to implement this program, such as Zaghuan, Kasserine and Kairouan.

3. A multi-criteria analysis has been undertaken to select the location of intervention for the proposed project. The city of Kairouan has been chosen based on the corresponding size of the city and demographic dynamics (Table 1) [2]. The criteria were aligned with those in the GEF7 CCM1-3 programming objective. Besides addressing climate change mitigation as discussed below, the proposed project will also have to deliver significant sustainable development co-benefits across several Sustainable Development Goals (SDGs), such as gender (high levels of illiteracy and unemployment among females) and job creation (high levels of unemployment). This is particularly important since the COVID-19 pandemic has worsened the socioeconomic situation in a city like Kairouan,[3] including an amplification of gender disparities. Consequently, the GEF funded project that will be formulated will also contribute to the post-COVID-19 socioeconomic recovery.

Table 1: Selected characteristics of the city of Kairouan

Geographic location	153 km from Tunis and 57 km from Sousse (Port); crossroads connecting north and south, and east and west; geographical coordinates (35.6712° N, 10.1005° E)
Area (km ²)	47
Population (2014)	187,000
Unemployment rate (%)	18.7 (exceeding the national average) [28.25% among female population versus 14.04% among male population]
Poverty rate (%)	34,5 (largely exceeding the national average)
Illiteracy rate (%)	17.64 (exceeding national average of 13%)
Demography	Population growth of 1.6% exceeding the national average of 1%; net emigration showing lack of attractiveness of the city
Gender disparities	<ul style="list-style-type: none"> - Illiteracy is more prominent among females - Unemployment among female population is higher despite the fact that women are more qualified
Climate[4]	<ul style="list-style-type: none"> - Daily mean temperature range: 11.5°C ? 29.5°C - Average high temperatures: 17.2°C ? 37.7°C - Record high temperatures: 30.0°C ? 48.1°C - Average low temperatures: 6.9°C ? 22.9°C - Record low temperatures: -4.5°C ? 12.0°C

4. Building energy use: There is a strong climate mitigation justification for investments in energy efficient or green buildings. The building sector is the main final energy consumer sector (37% in 2019, including biomass-energy). It is also related to the building materials industries which are among the most GHG-emitting sectors. From a value chain perspective, the building sector would represent ? from upstream to downstream ? around 50% of final energy demand in Tunisia, and at least 55% of GHG emissions attributable to energy in 2019.[5] Out of the 13.8 MtCO₂ emission reductions to 2030 (relative to the business-as-usual scenario) expected from the energy sector, ~2MtCO₂ are expected to be obtained from energy efficiency in buildings. The selection of Kairouan as pilot city also stems from the fact that it already implementing a sustainable energy plan (PAED), implying strong buy-in and ownership of the proposed project by the local government.[6] The emissions profile for 2010 for different economic sectors is shown in Table 2,[7] and based on projections the total emissions were expected to reach 402,762 tCO₂ by 2020. As shown in Figure 1, electricity use produced around 50% of residential

emissions, while buildings in the tertiary sector emitted around 20 ktCO₂. In terms of primary energy consumption, the city consumed 68.5 ktoe, of which the municipality and residential sectors accounted for 0.65 ktoe and 16.76 ktoe, respectively.

Table 2. Emissions profile of Kairouan, 2010.

Economic Sector	Emissions, tCO ₂
Municipal	3,521
Residential	62,896
Tertiary	18,923
Industrial	45,404
Transport	107,577
TOTAL	238,321

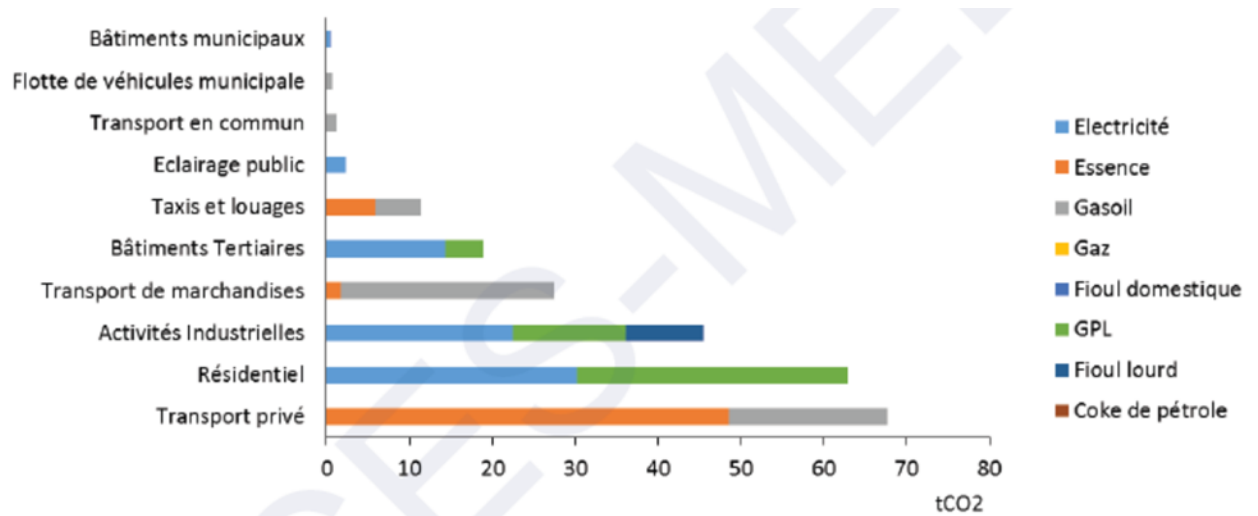


Figure 1. Sources of emissions in Kairouan by fuel type, 2010. (Source: PAED)

5. These data demonstrate the large potential for emissions reductions through energy efficiency in buildings. In fact, the PAED proposes a number of energy efficiency interventions in buildings, including

among others: (1) energy efficiency equipment in municipal buildings; (2) demonstration of a green building through energy efficient equipment and building envelope; (3) capacity development of stakeholders on energy efficiency in buildings. As discussed below, the project proposes to address the PAED interventions. This approach would be aligned with the objectives of the Sustainable Development Strategy of Kairouan,[8] and the National Programme for Sustainable Cities in Tunisia[9] to develop zero-emissions buildings. The proposed project is also aligned with Tunisia's updated NDC as discussed in section 7.

6. Public lighting: Another area that is of much concern for the municipality of Kairouan is the financial burden of public lighting. The municipality would like to decrease the operational costs of street lighting through energy efficiency. In this regard, an energy audit of public lighting was carried out by the national programme Alliance des Communes Pour la Transition Energétique (ACTE) .[10] In 2019, 12.3 GWh of electricity was used for public lighting. The operational cost was 3 MDT representing 90% of the energy bill of the municipality. Using a grid emission factor of 447 tCO₂/GWh,[11]4 the corresponding public lighting emissions were ~55 ktCO₂.

7. Energy context: This has become an even pressing concern given the recent price inflation of imported fossil fuels, and, hence, of electricity prices, due to the global geopolitical energy conjecture. The exposure of the local economy to the price volatility is reflected in the high level of energy import dependency of Tunisia as shown in Figure 2. In 2021, natural gas and petroleum products represented 53.3% and 26.3% of primary energy demand, respectively, while renewable energy sources accounted for only 1.3%.

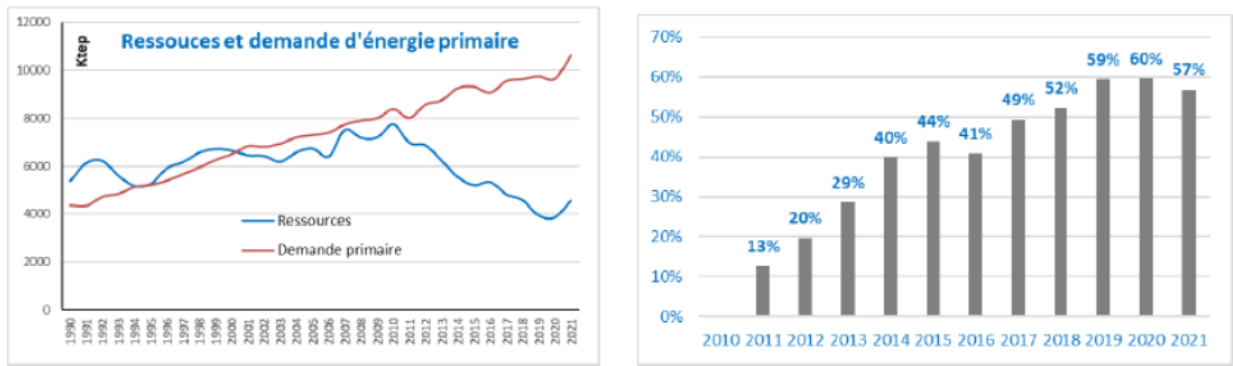


Figure 2. (left) Primary energy demand (red) and local production (blue); (right) dependency (%) on imported fossil fuels (Source: Authors' elaboration)

8. Regulatory frameworks: There is a number of regulations (Table 3) that are already in place to support energy efficiency in buildings and public lighting. The project will provide human and institutional strengthening so that the municipality of Kairouan is more capable to implement the legal provisions.

Table 3. Legal provisions for energy efficiency in buildings and public lighting.

Intervention	Regulation	Brief description
Energy auditing; stakeholder consultations and contractual agreements	Article 4, Law 2004-72	Mandatory energy audit for organisations with an energy use above a set threshold
	Article 5, Law 2004-72	New buildings (projects) or extensions with energy consumption forecasted to be above a threshold are verified by national agency for energy efficiency (ANME)
	Decree no. 2004-2144 and amended by decree no. 2009-2269	<ul style="list-style-type: none"> - Threshold for mandatory energy audits (industry ? 800 toe/yr; transport, tertiary and residential ? 500 toe/yr; frequency of energy audit ? 5 years) - Threshold for extension projects (industry ? 800 toe/yr; tertiary and residential ? 200 toe/yr) - Auditors accredited by ANME - Energy audit carried out on project plan by 2 persons (engineer + architect) - Establishing the terms of reference of energy auditors
	Regulation from Ministry of Energy date 11 June 2007	Establishing the technical requirements for energy audits of development projects in tertiary and residential sectors
Building energy codes	Article 10, Law 2009-7	Projects for the construction of new buildings and projects for the extension of existing buildings are now obliged to meet minimum technical specifications for energy efficiency, which will be set by joint decree of the Minister for Housing and the Minister for Energy.

	Joint regulation of 23 June 2008 and amended regulation of 17 December 2010	<ul style="list-style-type: none"> - Lays down the minimum technical specifications to which projects for the construction of new buildings and projects for the extension of office buildings or similar purposes are subject (either performance-level or prescriptive-level approach) - Building thermal performance levels (public buildings: 1-3; private buildings: 1-5) - The prescriptive approach consists in setting the minimum technical specifications for the thermo-physical properties of the building envelope, depending on the climatic zone and the rate of the bay windows of the heated or cooled spaces, as well as their distribution over the different orientations - The building to be constructed or the parts of the building to be added are subject to a technical study by a consultancy firm or a specialized consulting engineer and verified and then approved by a technical controller authorized by the Ministry of Equipment, Housing and Spatial Planning - Any applicant of a building permit for the construction or extension of a building for office use or similar must attach to the permit application a technical sheet specifying the thermal performance of the building project according to the approach followed
	Joint regulation of 1 June 2009	Lays down the minimum technical specifications for the construction of new and extension of communal residential buildings
Energy efficient public lighting	Article 11, Law 2004-72	Obligation to comply with technical specifications relating to energy saving when installing public lighting networks
	Joint regulation of 9 February 2006	The decree sets out the technical specifications of the equipment used in public lighting networks for energy saving purposes

9. Financial derisking: To promote investment in the field of energy management and facilitate the implementation of programs contributing to energy management, the Tunisian State has created the Energy Transition Fund (Fonds de Transition Energétique, FTE, replacing the National Energy Management Fund created in 2005. The FTE provides financial assistance between 30,000 and 200,000 DT (municipal scale projects) for technical assistance (e.g. feasibility studies, energy audits) related to energy efficient buildings. It also provides financial support up to 400,000 DT for efficient building materials (e.g. demonstration projects, thermal insulation).

10. Barriers: In this contextual setting, a number of barriers need to be addressed in order to enhance the adoption of energy efficiency measures in buildings and public lighting. The main barriers are summarised in the Table 4.

Table 4. Barriers preventing the adoption of energy efficiency in buildings and public lighting.

Barrier 1: Inadequate institutional capacity at the local level to implement legal frameworks

Buildings

The Municipality of Kairouan does not have the institutional capacity to operationalise the legal framework for building energy efficiency in its permit and licensing process for the approval of construction projects (new and extension to existing buildings). This is because of low level of human capacity to apply the requirements of the legal framework described in Table 3; lack of procedures and operating manuals for integrating building energy codes in permits and licensing process; lack of surveillance / enforcement capacity of the municipality; and lack of technical capacity to use modeling tools such as CLIP developed by ANME.

Public lighting

The Municipality of Kairouan lacks the human and institutional capacity to carry out the following: (i) formulating a business plan for efficient public lighting; (ii) developing the terms of reference for shifting to efficient lighting, including technology assessments and identifying criteria for technology selection; and (iii) implement computer-assisted management of the maintenance of the lighting network.

Barrier 2: Absence of pilot to demonstrate the feasibility and cost-effectiveness of energy efficient building

As is typically the case for energy efficiency measures, the 'taste of the pudding is in the eating'. Hence, social acceptance relies heavily on the proof-of-concept. In the prevailing baseline, and with the traditional building materials and building skills having lost their social status, there is no example of how an energy efficient building is compatible with a modern way of life. As discussed above, the proposed UNDP-GEF project could be developed around the proof-of-concept energy efficient building (building envelope using local materials, energy efficient equipment, solar thermal heating etc?)

Barrier 3: Lack of information on city sustainability

There is lack of a robust data management system to track the flows of materials in and out of the city. In the absence of verifiable data, it is difficult to support evidence-based policy-decision making. Data Standards for Sustainable Cities already exist such as the [ISO 37120 Sustainable Development of Communities: Indicators for City Services and Quality of Life](#). The World Council on City Data (WCCD) has developed the first International Organization for Standardization (ISO) 37120 certification system and the Global Cities Registry?,[12] and the GEF-finance project could support Kairouan to become a member of the WCCD.

Barrier 4: Little use of ecological building materials (technology barrier)

Buildings

The National Programme for Sustainable Cities in Tunisia has noted in the case of Kairouan that there was little use of locally available ecological building materials. The low demand implies a shrinking of the local commercial chain to make such building materials available at competitive prices, and at scale. A compounding effect is the lack of national standards for building materials. The absence of such standards hinders the application of the thermal regulation for new buildings (Règlementation Thermique des Nouveaux B?timents, RTNB). There are also two associated causes for the non-adoption of energy efficiency in buildings, namely: (i) the lack of up-to-date buildings energy codes, and (ii) the limited scope of application of the existing legislation - i.e. the RTNB applies to a limited set of building types

Barrier 5: Lack of skills to work with locally-available building materials

Buildings

The craft and workmanship with locally available construction materials is currently lacking, and it will be necessary to revitalize the traditional skills in order to support commercial value chains for producing the building materials locally and to build with the local materials.

Barrier 6: Perception barriers

Buildings

Lack of knowledge and negative perception of the benefits (relative to costs) of regulations and codes for energy efficiency in buildings still exist among stakeholders such as the construction industry players, the energy sector community and the general public. There is a lack of pedagogical and decision making tools widely available to the stakeholders based on lifecycle assessments. To date there has been no formal application of the ECOBat label and no capacity building and sensitization of stakeholders, including local authorities has been carried out.

Barrier 7: Financial barriers

Buildings and public lighting

There is concern among building developers regarding the higher upfront investment in energy efficient buildings. This situation is exacerbated by the split incentive paradox wherein the operating and maintenance costs of buildings are not borne by the developer but passed onto the owner or tenant. The Energy Transition Fund (Fonds de transition energetique, FTE) managed by ANME is necessary but not sufficient for incentivizing investments in low-energy buildings. The prohibitive cost of shifting to energy efficient lighting is shown by example of a high-pressure sodium lamp costing 250 DT, whereas a LED equivalent costing 800 DT. There is a need to make low-cost commercial capital available to developers while using FTE funds as a financial derisking instrument.

Baseline scenario and associated baseline projects

11. Kairouan has been selected by the government of Tunisia as the city to showcase a transition toward sustainable cities, and the proposed small size GEF funded project fits in a broader plan from the government to pilot additional measures linked to all aspects of sustainability ? within and outside the scope of EE in buildings. 1. **Given the low application of the RTNB, and given the central role that the Municipality plays in the issuance of building and occupancy permits, it has been deemed suitable to use a municipal building as baseline project for energy efficiency enhancements using GEF financing. There are several reasons for this, namely: (i) interventions in a municipal building will be advantageous for the parallel capacity strengthening of the enforcement capacities of municipal staff because of easy access to the building compared to the case of a non-municipal building wherein permissions would be required (Output 1.1); (ii) better capacity to plan capacity building of municipal staff on operational procedures for enforcing building energy codes in accordance with the timeline for project implementation and construction of municipal building (since all three are managed by the municipality) (Output 1.2); (iii) the municipal building that is visited by a large segment for the population for municipal services is good for the project visibility; (iv) the public sector taking a lead on energy efficiency can be used as a strong message for private developers; and importantly (v) the selection of a municipal building for GEF investments does not exclude the participation of a private**

sector project (the Proportion of Gold? ? Activity 1.6.3) for the adoption of the ECOBat label. Finally, the municipality may also be more open for using locally-fabricated bricks in the construction of the municipal building, albeit on a limited scale, as part of the government responsibility for protecting local heritage. The scaling up of the results of the project will include a wide range of building types, over and above municipal/governmental buildings (Output 3.4).

12. The Municipality of Kairouan has planned the construction of the seven buildings listed in Table 5 between 2023 and 2025. An analysis of the methods of construction in Kairouan has been carried out during PIF formulation. The structural integrity of a building is assured by steel-reinforced concrete beams and columns. The external building facade is usually double-walled with empty cavity. The wall is done using non-load bearing hollow bricks with the exterior plastered using a cement-lime mixture. The interior dividing walls are single-walled structures. The windows are single glazing mounted on aluminium frames. The flat roof is the most common model. It is composed of hollow brick or concrete and a concrete screed. In the absence of GEF-financed interventions, all new

municipal buildings will be constructed using the prevailing practice just described. Similarly for public lighting, the Municipality of Kairouan will continue to use existing lighting technologies made up high-pressure sodium and mercury lamps that account for 95.5% of all city lighting.

Table 5. New municipal buildings planned for construction: 2023-2025.

Projects		Implementation
1	Building extension with two new floors (G+3, G+4) for the headquarter of the district of Keblia	2023
2	Building of new headquarter for the district of Khazazia with park and nursery	2023
3	Building of new headquarter for the district of Metbasta	2024
4	Refurbishment of the old headquarter for the district of Keblia into a public administrative building	2024
5	Refurbishment of the old Local Agenda 21 building in the medina into a bicycle museum	2025
6	Refurbishment of the headquarter for the district of Nasr	2025
7	Development of new municipal park (2 nd phase + administrative building)	2025

13. There is also the SDG Climate Facility pilot project. It is under implementation and will link up and contribute to the broader goal of a joint initiative with the current GEF proposed sustainable cities-related energy efficiency project. While the GEF project focuses specifically on energy efficiency in urban settings, and the SDG Climate Facility resilience grant for Tunisia focuses on spatial planning

and catalyse financing for sustainable urban solutions, these two initiatives are highly complementary as they together culminate in a cross-cutting, comprehensive sustainable cities approach for Tunisia that is expected to be catalytic in mobilizing additional finance and actors to scale up and replicate sustainable cities approaches in Tunisia in the future. The SDG Climate Facility resilience grant and the GEF-UNDP energy efficiency project will provide significant contributions towards a larger sustainable cities agenda in Tunisia. This will also support sustainability of SDG Climate Facility project results beyond project completion by building on, replicating and scaling up pilot activities through larger programmes in the future.

Alternative scenario (expected outcomes and components of the project)

14. The proposed project builds on UNDP's Urban Offer. UNDP's integrated support in this Offer coalesces around 5 areas: (1) building the capacities of cities, including for global engagement; (2) supporting the transformation of urban societies and economies to benefit all; (3) facilitating exchange of knowledge and resources (including technological) for best-fit solutions; (4) facilitating partnerships to build investment base and local digital ecosystems to support smart growth; and (5) ensuring urban developments as integral to SDG achievement by supporting local authorities to localize the 2030 Agenda, achieve the Paris Climate commitments, and the New Urban Agenda.

15. UNDP adopts an integrated and multidimensional systems approach to achieve urban sustainability, inclusiveness, and resilience ? including the articulation of urban poverty into programming using metrics and tools (as framed in UNDP's sustainable Urbanization strategy):

? Assessments: Support cities to enhance coherence across national and local planning and budgeting instruments and processes (leveraging integrated development planning and inclusive growth, local governance and local development). Enhance monitoring and reporting of urban development progress and of achieving the SDG targets.

? Thematic areas: Building on existing UNDP urban development programmes, facilitate access to lessons learned and best fit solutions on key areas for sustainable development areas, ensuring progress throughout the rural-urban continuum. This includes informal economy, circular economy, resilience-building and risk-informed development and digital transformation.

? Building capacity of municipal authorities to address targeted urban development issues using tools such as poverty data analysis, vulnerability assessments, futures analysis and scenario-building, integrated urban planning. This can relate to local management of migration and displacement, urban and community risk management, and climate change adaptation).

? Financing: Support municipal authorities to cost urban development interventions and manage finance, especially climate finance, from different local, national, and international sources, including public, private, and blended resources and innovative financing.

16. The total cost of energy efficiency interventions pledged in the updated Tunisia NDC is estimated at USD 5,755 million representing 49% of all funding required to implement measures in the energy sector. Several mitigation measures planned at the municipal level have not been implemented

according to plans because of the prevailing barriers (Table 4), and particularly low levels of low-cost financing.[13] Access to climate finance is one way of circumventing shortages of local funding that has plagued measures to reduce GHG emissions in Tunisia, and the proposed project will serve as catalyst for leveraging further climate finance. Since the GEF grant is 846,906 USD and cash co-financing of USD 0.5 million are relatively small compared to investments required to transform Kairouan into a sustainable city, the proof-of-concept of a low-carbon building, while addressing barriers discussed below, could serve as template for developing a larger project intervention under the next GEF cycle or targeting the Green Climate Fund. This would be in line with government's emphasis for a significant share of international climate finance to support conditional emission reductions in the NDC (section 7).

17. Using funding from the GEF and co-financing, the project will support baseline activities that face the barriers listed in Table 4. By reducing these barriers, and using the **Theory of Change** (Figure 3 and Annex 1 in the Project Document), the project will substantially enhance the prospects of both the baseline projects (Components 1 and 2), and follow-on projects catalyzed as a result (Component 3). By the end of the project, it is expected that:

- ? Energy efficient street lighting is implemented in the City of Kairouan;
- ? Proof-of-concept demonstrated for the application of the thermal energy code for new buildings, as well as the national label ECOBat for new buildings;
- ? Institutional mechanisms in the form of streamlined process with operational guidelines for mainstreaming the legal requirements of the RTNB in the new buildings permits and licensing process;
- ? National standards will be developed for construction/building materials and outdoor lighting technologies that will provide better quality assurance to end-users;
- ? Replication plan and bankable Concept Note to attract additional financing will be developed for scaling up of emission reductions in the building sector and street lighting in Tunisia in support of the National Programme for Sustainable Cities;
- ? A local value chain for the production of ecological building materials will be developed that will have strong gender-differentiated socio-economic benefits (e.g. gender-differentiated jobs);
- ? Lessons learned and project experience will be shared nationally and regionally to increase the impacts of the project results;
- ? Tools will have been developed to provide stakeholders about information about the benefits of investing in Building Energy Code; and
- ? The enabling conditions created by the project will have the long-term impact of catalysing national and international investments to implement the RTNB and ECOBat label, and efficient street lighting that will lead to direct and indirect emission reductions as discussed below.

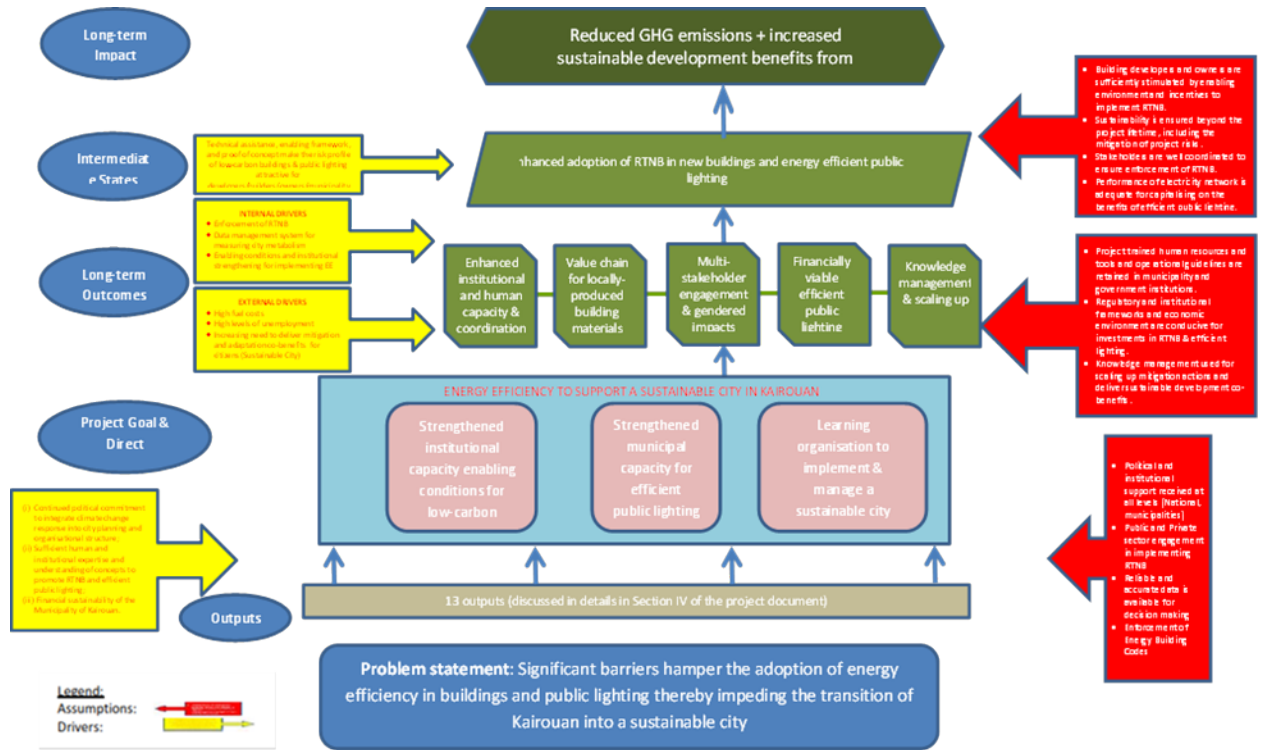


Figure 3. Theory of Change Diagram

18. **Theory of Change:** The long-term impact of the project is to achieve greenhouse gas (GHG) emission reductions with strong sustainable development and adaptation co-benefits through implementation of building energy codes in and new buildings (intermediate goal), as well as the transition towards energy efficient public lighting. The long-term outcomes of the project relate to addressing the seven underlying problems that are given in Section II, namely: (1) low institutional capacity at the municipal level to implement legal frameworks; (2) the absence of pilot to demonstrate the feasibility and cost-effectiveness of energy efficient building; (3) lack of a robust data management system to track city sustainability through the flows of materials in and out of the city; (4) technological barriers arising from the low-level use of ecological building materials, especially those that are produced locally; (5) there is a lack of skills to work with locally-available building materials (related to the increasingly low-level use of local building materials); (6) lack of knowledge and negative perception of the benefits (relative to costs) of regulations and codes for energy efficiency in buildings among stakeholders; and (7) financial barriers arising from the higher upfront cost of energy efficiency measures. These barriers underpin the problem statement: 'significant barriers hamper the adoption of energy efficiency in buildings and public lighting thereby impeding the transition of Kairouan into a sustainable city?.'

19. The intervention logic starting from the problem statement in Figure 3 is that IF the activities and outputs of the project are successfully implemented (given assumptions) then the three project outcomes will be achieved. In turn, the long-term project outcomes will THEN be achieved in the form of (i) enhanced institutional and human capacity for implementing energy efficiency measures at the city level; (ii) better engagement and coordination among stakeholders with positive gendered impacts; (iii) increasing the economies of scale for locally-manufactured building materials with a positive incidence on job creation and local wealth generation and retention; (iv) improved financial viability of municipal finances through reduced public lighting energy bills; and (v) scaled up action across other cities in Tunisia through sound knowledge management. The successful implementation of the long-term goals will then give the intermediate result of large-scale adoption of the RTNB and the ECOBat label for new

buildings, as well as the city-wide adoption of efficient public lighting. With planned scaling up across sustainable cities in Tunisia, the impact will be reductions in the emission of greenhouse gases with sustainable development co-benefits.

20. **Project Objective:** To promote green buildings and efficient lighting in alignment with the objectives of the enhanced Nationally Determined Contribution, the Sustainable Development Strategy of Kairouan and the National Programme for Sustainable Cities in Tunisia.

21. **Changes made in project design:** Baseline analyses were updated during PPG stage and changes were made in the project design (Table 6). Prior to describing the project components, outcomes and outputs, the changes brought to the project design are discussed. Changes have been brought at the output level only, without changing the project components and corresponding outcomes. While relatively few outputs have been removed compared to the aforementioned discrepancy between scope and budget at PIF stage, the updated project design has also introduced either new outputs or increased the scope of others.

Table 6. Changes brought in project design at PPG stage.

Output in PIF (or <i>new output</i>)	Changes made	Reasons for change
Component 1 / Outcome 1		

<p>Output 1.6. Proof-of-concept new municipal building adopting RTNB and ECOBat label demonstrated</p>	<p>Two changes have been made:</p> <p>(i) the title has been changed to ?Output 1.6. Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label?</p> <p>(ii) Baseline project changed from municipal Headquarters for the district of Metbasta to the municipal Headquarters for the district of Keblia</p>	<p>As discussed under Output 1.2, the project will use the enforcement mechanism that will be put in place to also coordinate national and municipal level stakeholders for the review and update of the RTNB for instance to include a self-ratcheting mechanism for its regular update in order to increase its level of ambition as far as best available technology and scope of application are concerned. Given the short time duration of the project, there is no need to update the RTNB before carrying out investments under Output 1.6. This is because the ECObat label provides for building energy labelling that outperforms the minimum requirements of the RTNB through the use of best available technologies. As explained below, the baseline municipal building has been changed and this will constrain the actions that can be implemented. By applying the Class 3 level of building energy efficiency, the GEF investments - accompanied by enforcement modalities that will be put in place by the project ? demonstrate the path towards zero-emission buildings, while noting that investments in roof-top production of renewable energy will remain outside the scope of the project.</p> <p>At PIF stage, the proposition was to use the municipal Headquarters for the district of Metbasta that is proposed to start building in 2023 as the baseline project to enhance using GEF investments. However, discussions with the Municipality of Kairouan, and, in particular, the Mayor, have revealed significant administrative and financial constraints that will delay the construction of the new municipal building in Metbasta. The Municipality of Kairouan, therefore, proposed to instead use the extension (phase 2) of the municipal headquarters for the district of Keblia as baseline project. Phase 1 of new building, which consists of Ground + 2 levels (G+2), will be completed around mid-2023. Phase 2 constructions will consist of extending the new building with 2 additional storeys. As discussed in more details for Output 1.6 below, the GEF investments will be used to improve the thermal properties of (i) the 2 storeys comprising Phase 2 extensions; and (ii) the outer fa?ade (envelope) of the existing G+2 structure.</p>
<p>Component 2 / Outcome 2</p>		

<p>Output 2.3: A smart usage system for municipal lighting demonstrated</p>	<p>(i) Number of lighting points to be changed has been revised from 1,000 units to 574 units</p> <p>(ii) The PIF proposed to set up an intelligent public lighting system for the remote management of public lighting. This element has been removed from the project because of concerns about cost and also because of parallel initiatives</p>	<p>(i) In the PIF, it was proposed that 1,000 units of high pressure sodium lamps with 150 W power rating would be replaced with LEDs (80 W). Discussions with the municipality has shown that it would be more energy efficient (and with higher financial savings for the municipality) to replace SHP lamps of 250 W power rating (as shown in Table 5 above). Replacement of a 250 W SHP with LED results in a power saving of 150 W in comparison to 70 W savings when replacing a 150 W SHP with LED. For increased public visibility (part of strategy for choice of locations ? Annex 2), few 100 W SHPs have been identified for replacement as well. Overall, since the cost of 100 W LEDs that are used to replace 250 W SHPs is higher, the number of lamps has been reduced. However, with fewer SHP lamp replacements in the ProDoc, the power savings are higher at 73.66 kW compared to 70 kW as proposed in the PIF.</p> <p>(ii) Since global environmental benefits in the form of greenhouse gas emission reductions accrue mainly from the replacement of lamps, and given that investments in an intelligent system for managing the public lighting network remotely would be prohibitively (relative to the small project funds), it was decided not to invest in the intelligent remote sensing system. This aspect of public lighting management can be covered by parallel initiatives. However, the 574 LED lamps that will be purchased will be compatible with an intelligent system of remote sensing. Consequently, this output has been reformulated as ?Output 2.3: Energy efficient municipal lighting demonstrated?.</p>
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22. **Component 1: Institutional strengthening for regulating the market for new efficient buildings:** In support of focusing on energy efficiency in buildings, the updated NDC notes that Tunisia intends to focus on the choice of the best energy technologies and practices for the building sector, and would therefore need to forge international partnerships in order to develop and generalize sustainable construction techniques, materials and building materials industries. The construction sector is therefore one of the sectors on which Tunisia intends to focus on in terms of technological innovation. As discussed above, this intention is already captured in the Sustainable Development Strategy of Kairouan that has a strong cultural heritage in building construction using indigenous materials. Given climate changes (Table 1) will place more stress on thermal cooling and heating needs in buildings, the indigenous building materials and techniques could prove to be effective and efficient in the passive design of buildings. In addition to providing thermal comfort, scaling up passive design will bring strong socioeconomic benefits by reigniting a local construction industry based on locally-sourced materials, and by developing traditional building skills. Such an approach will squarely support implementation of SDG11. For this to happen, the GEF-financed project will demonstrate the proof-of-concept of an efficient building by applying the thermal regulation for new buildings (RTNB) and the EcoBAT energy label using a public building listed in Table 5. It is pointed out that the EcoBAT label has been designed to incentivize building developers to adopt energy efficiency practices that go beyond the minimum requirements of the RTNB. While acknowledging that building energy codes need to be updated on a regular basis, Output 1.2 provides for a mechanism for the review and update of the existing legislation can be carried out. As discussed below (Output 1.6), the application of GEF investments will seek to adopt the possibility of using locally sourced materials and traditional skills will be explored. It will also

strengthen the institutional capacity of the Municipality of Kairouan to issue permits and licensing process for energy efficient buildings, and, hence, to regulate the market for new efficient buildings.

23. The expected outcome from outputs proposed in Component 1 is: ?institutional strengthening with enabling conditions, methodologies and tools for enforcing regulatory framework for new buildings?. The outputs proposed to achieve this outcome within the broader ambit of city sustainability are designed to overcome the barriers given in Table 4. The first five outputs will be through Technical Assistance, and Output 1.6 will be of Investment-type. Outputs 1.1, 1.2, 1.3 and 1.6 will be implemented in the City of Kairouan. Outputs 1.4 and 1.5 will be applicable at the national levels and supportive of local level interventions. The outputs are:

? Output 1.1: An operational manual for new building licensing and permits process in the Municipality of Kairouan to operationalise RTNB (R?glementation Thermique des Nouveaux B?timents) is designed and adopted;

? Output 1.2: Enforcement capabilities of municipality strengthened for ensuring new building compliance with RTNB;

? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials;

? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated;

? Output 1.5: National standards for building materials are developed and adopted; and

? Output 1.6: Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label.

24. *Output 1.1: An operational manual for new building licensing and permits process to operationalise RTNB is designed and adopted* ? The Municipality is responsible for issuing building permits and licenses for new constructions. The existing procedures do not allow the municipality to effectively integrate operationalization of the RTNB in the permits and licensing process. This output will review the exiting process and develop an operational manual to ensure the application of the RTNB. The staff of the municipality will be trained to apply the new process. It is pointed out that the process will be applicable to the implementation of the RTNB in its current form as well as to future changes the building energy codes (Output 1.2). The following activities will be carried out:

? Activity 1.1.1: Review of existing licensing and permits process. The existing licensing process will be reviewed and a gaps analysis will be carried out to understand the areas of improvements. The Municipality holds a key position in the issuance of Building and Occupancy Permits, and, hence, should play a central role in the application of the RTNB. The process for the issuance of these permits is illustrated in Figure 4. Whereas the onus is placed on the Developer to hire a Consultancy Firm to assess the thermal characteristics of a proposed building (excluding standalone residential buildings / houses), and to issue a Certificate of Conformity in relation to the RTNB), there is no mechanism in place for the verification of the conformity to the RTNB at the time of construction. At the step in the process related to the issuance of the Permit of Occupancy, the final inspection carried out by the Municipality does not allow for the verification of the thermal components of the building. A verification step under the oversight of the Municipality is missing during the period of construction as illustrated by the broken arrow in Figure 4. Technical assistance will be provided so that the deficiencies of the existing licensing and permits process are well understood, which will be used to propose a process that allows for verification of the application of the RTNB (Output 1.2). The focus here will be mainly on the institutional deficiencies of the municipality of Kairouan.

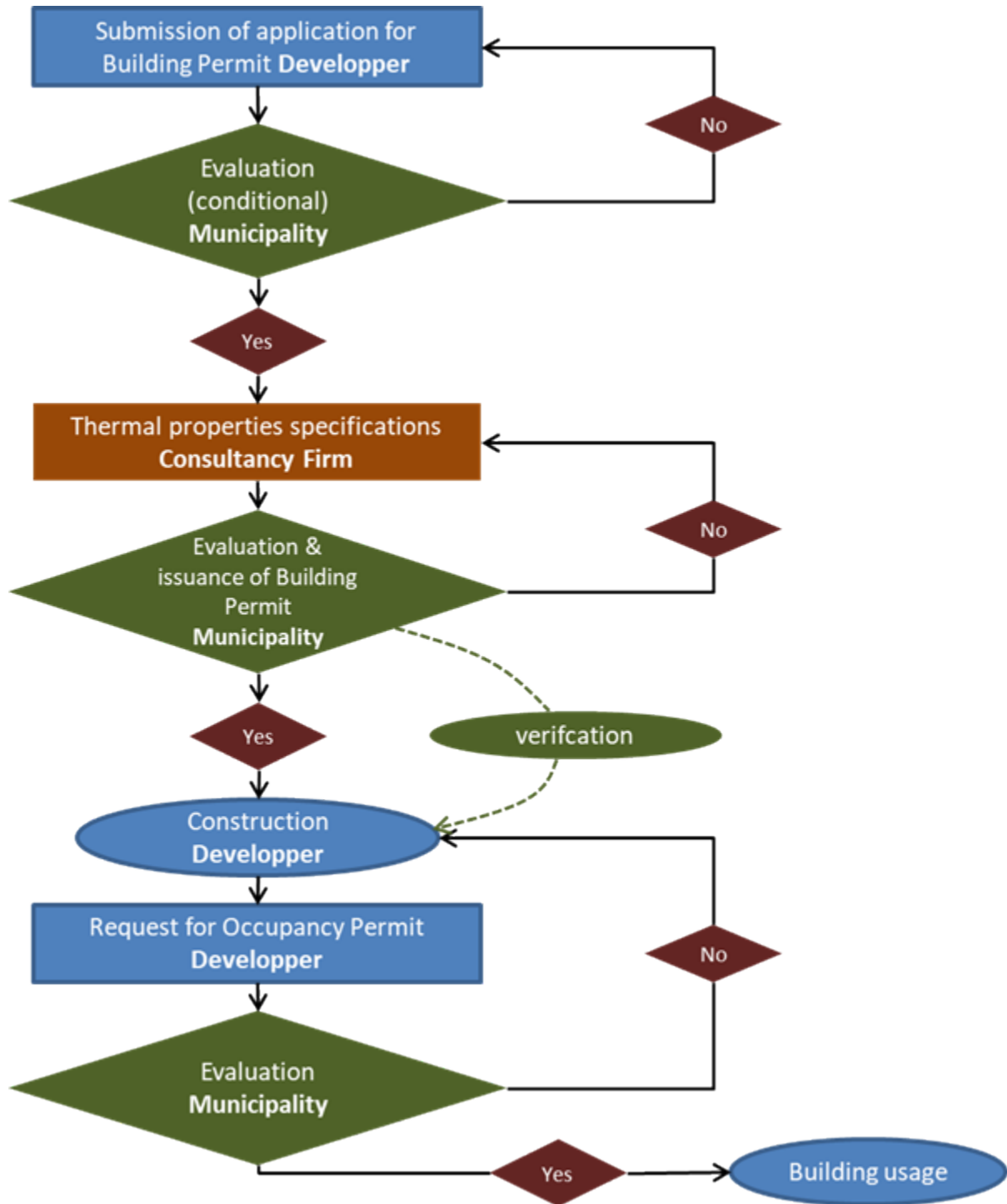


Figure 4. Mechanism presently used for the issuance of Building and Occupancy Permits.

? Activity 1.1.2: Operational manual formulated. An operational manual will be developed so that the permitting process designed under Activity 1.1.1 can be implemented.

? Activity 1.1.3: Training of staff. The staff of the municipality will be trained for the application of the operational manual for ensuring the application of the RTNB, and the enhancement of the municipal building at Keblia will be used as example.

25. Output 1.2: Enforcement capabilities of municipality strengthened for ensuring new building compliance with RTNB ? This output is directly linked with the previous one. As mentioned above, the prevailing practice is that the RTNB is not enforced. For achieving the outcome of Component 1, the staff of the Municipality will be provided with the necessary capacity building to support enforcement of the RTNB through the licensing and permits process. However, as shown in Figure 4, the process involves several stakeholders. This output will propose the most effective and efficient institutional mechanism for the enforcement of the RTNB with clearly defined roles and responsibilities of all actors involved;

? Activity 1.2.1. Cross-institutional enforcement mechanism established: There is recognition of the institutional weakness for ensuring compliance with the RTNB, especially through the enforcement during the construction phase. ANME is planning to develop a process to develop a multi-institutional mechanism with clear roles and responsibilities that will ensure enforcement of the energy building code. The UNDP-GEF project will provide technical assistance to this effect, and the mechanism will be operationalized through Activity 1.2.2.

? Activity 1.2.2. Cross-institutional enforcement mechanism operationalised. The proposed institutional mechanism will be tested and operationalised using the enhancement of the municipal building in Keblia as proof-of-concept (Output 1.6), as well as the private building that will be developed by the Proportion of Gold? property developer (Output 1.6.3).

? Activity 1.2.3. Review and update of the RTNB. The RTNB was last updated in 2010 (Table 3) and it is known that building codes need to evolve with time and with best available technology. The institutional mechanism that will be set up under Activity 1.2.1 will be used to coordinate stakeholders (national and local) in order to update the RTNB; not just regarding making it more stringent in terms of energy efficiency exigencies but also in terms of increasing the scope of types of buildings covered. It is expected that the review and update of the RTNB will reflect the use of BAT and to incorporate a self-ratcheting update mechanisms (e.g. every 5-7 years) to ensure it remains actual and its ambition is increased overtime.

26. Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials ? The City of Kairouan has a strong cultural heritage. It hosts several heritage buildings and sites such as the Oqba Ibn Nafi mosque (also known as the Great mosque); the Bir Barrouta monument; the Sidi Abid mausoleum; the ponds of Aghlabides (made of locally-available stones); and Medina, which is a UNESCO World Heritage Site, among others (Annex 15). Of particular interest for the UNDP-GEF project is the Medina that is mainly constructed using locally-fabricated bricks. However, the local value chain has waned over the years with the introduction of mass-produced modern bricks that are relatively cheaper but without good thermal insulation properties and also not compatible with the ancestral architectural characteristics. The value chain for local production of bricks relies on demand from the National Institute for Heritage for the maintenance and renovation of cultural buildings, such as the Medina. This output will develop a strategy and action plan to support re-invigorating the local production of sustainable and low-carbon building materials in support of the Kairouan Sustainable Development Strategy. The emphasis will have to be on the stimulation of demand for locally-produced bricks, as well as ensuring quality standards and working conditions for what remains a highly labour intensive sector. The potential for new jobs creation will be a strong focus of the strategic plan given the relatively high rates of unemployment (Table 1);

? Activity 1.3.1. Strategy and action plan. Tunisia has two good examples of how value chains for local construction materials can be developed. One is the locally-manufactured brick in Tozeur, and the other is the value chain for gypsum plaster (Annex 15 in the Project Document). As is the case with the clay needed for the fabrication of bricks in Kairouan, Tunisia has important mining resources that constitute the raw materials for the manufacture of the Tozeur brick and plaster. The UNDP-GEF project will draw from lessons learned from those two experiences to propose a strategy and action plan for the enhancement of the local value chain for bricks produced in Kairouan.[14] One approach that has worked well for the development of a local value chain for the production of gypsum plaster in Tunisia is the application of the ValueLinks[15] that is comprised of the four components (and 11 modules) as shown

in Figure 5. Since local stakeholders are already conversant with this methodology, it is proposed that the same be applied in the case of the value chain development for locally-fabricated bricks in Kairouan. During preparation of the Strategy and Action Plan, a targeted and strategic assessment will be undertaken to assess potential associated environmental and social risks and take them into consideration in the final draft.

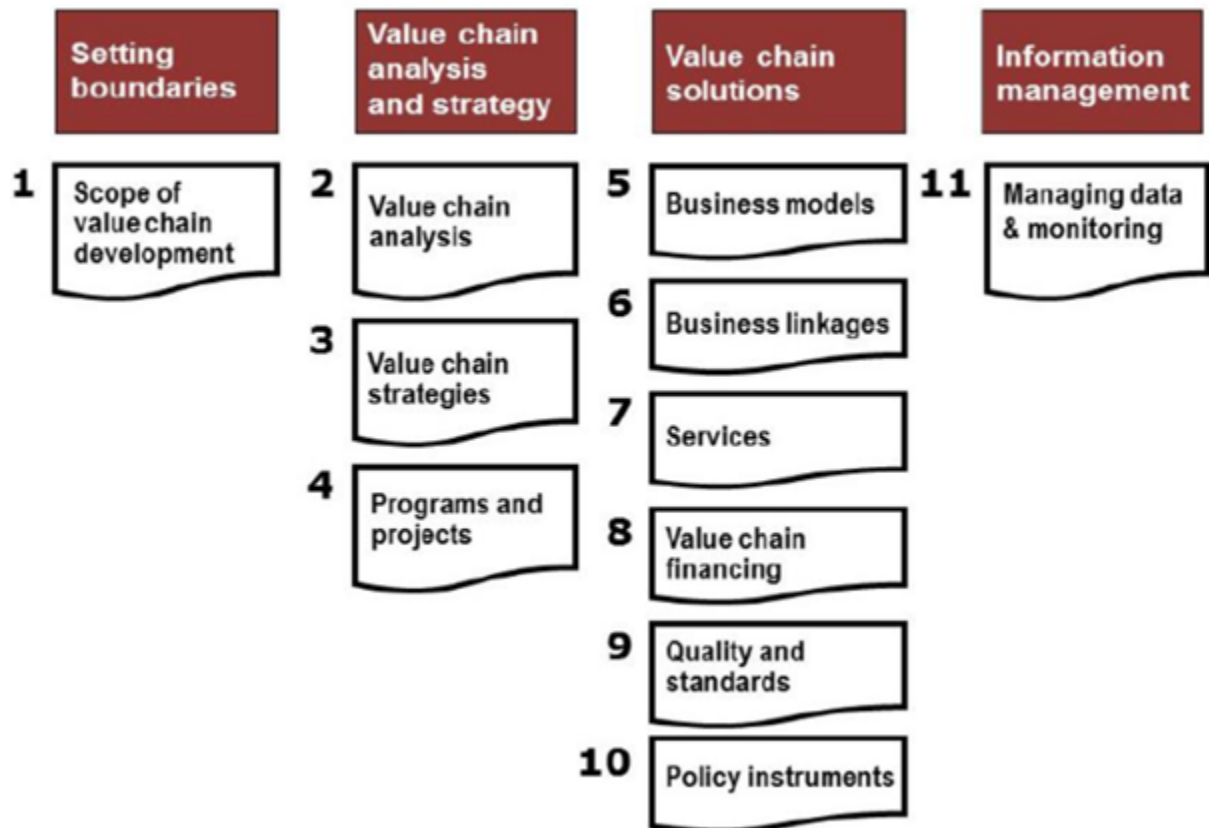


Figure 5. Components and sub-components of ValueLinks for the development of sustainable value chains.

? Activity 1.3.2. Characterisation of the properties of bricks. One important set of parameters that is needed to support the adoption of locally-fabricated bricks are their thermal and physical (mechanical) properties. To date, such properties are not available. The project will collaborate with the Technical Centre for Construction Materials and for Ceramic and Glass, CTMCCV (Centre Technique des Matériaux de Construction et du Céramique et du Verre) to measure the thermal and physical of locally-manufactured bricks.

27. Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated - In order to overcome perception and awareness barriers, an online tool will be developed to justify the socio-economic and sustainable development benefits of green buildings using life-cycle analysis. One of the persistent perception barriers is that the cost of investing in EE in buildings is prohibitive. The tool will be used for appraisal by investors; for green marketing by developers and professionals (to complement CLIP used in the process of obtaining building licenses and permits); and as a decision-making tool by end-users. The following activities will be carried out:

? Activity 1.4.1. Assess the functional needs of end users. The design of the tool will be based on the needs of end-users. Hence, it is important to first assess the needs of a wide array of end-users such as investors, building developers, professionals in the construction industry, public officials, and end-users (mainly householders and private commercial business owners).

? Activity 1.4.2. Design and validate the tool. The online tool will be designed under the oversight of the ANME and Tunisian Green Building Council (TGBC). A user-friendly interface will be designed to maximise the use of the online modeling tool by ?hiding? all the technical details of the calculations. With this interface, the tool can also be used as a pedagogical tool for teaching and training purposes.

? Activity 1.4.3. Dissemination of tool. The tool will be made accessible on the websites of the ANME and TGBC. A methodological note will accompany the tool. The functionality of the tool will be ensured by ANME as the lead national agency mandated to promote energy efficiency in Tunisia. ANME will use its own resources to ensure the continued use and functionality of the tool, such as is the case today for the CLIP Tunisia modeling tool that is managed by ANME once it was developed under a previous UNDP-GEF project (Output 1.6 below).

28. Output 1.5: National standards for building materials are developed and adopted ? Technical assistance will be provided to the National Institute of Standardization and Industrial Property (Institut National de la Normalisation et de la Propri?t? Industrielle, INNOPRI) for developing Tunisian quality standards for building materials. The following activities will be carried out.

? Activity 1.5.1. Standard for bricks used for building envelope. There is currently a deficiency in the national quality standards for the bricks that are used for building envelope. Technical assistance will be provided to INNOPRI for the development of such standards. This will be supported using the results of Activity 1.3.2. Adoption of the standard can take place a multiple levels such as technical committee of INNOPRI, on the one hand, and by Cabinet of Ministers, on the other. Given the short duration of the project and the administrative and bureaucratic delays that are related with receiving Cabinet approval, the project will primarily seek approval of the standard by the technical committee of INNOPRI. Nevertheless, the process of seeking adoption by Cabinet will be supported by the UNDP-GEF project.

1. Output 1.6: Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label ? All of the above outputs will be contextualised and institutionalised around the proof-of-concept for a new municipal building. In anticipation of the start of GEF project implementation in the second half of 2023, the baseline project ?municipal headquarters of the district of Keblia? is proposed to be enhanced to be in accordance with the RTNB. Further, the proof-of-concept will also make an application of the ECOBat label. The ECOBat energy label is a voluntary label designed to promote the adoption of building energy codes beyond the minimum energy performance standards prescribed in the RTNB. In its inception form, the ECOBat label is applicable to the following building types (same as those to which the RTNB is applicable: hotels, health institutions, commercial (office) buildings, and residential apartments with each type of building scored across three indicators, namely: (i) building envelope; (ii) electrical equipment; and (iii) management of resources (e.g. water, waste, health and project management).[1] The application and demonstration of the ECO-Bat label was initiated in 2022 through a pilot project involving two publicly-owned buildings, namely: (a) the M?diterran?enne-Soukra health clinic, and (b) the municipal building in M?denine. The two buildings are expected to be accredited at ECOBat label level 3 in order to demonstrate the application of the scoring and labeling system proposed in ECOBat.

[1] ANME (2022) PROJET DE CAHIER DES CHARGES RELATIF AU LABEL DE PERFORMANCE ENERGETIQUE ECO-BAT ; Hassen Ben Hassine, Presentation entitled ?Label ECO-Bat ? Choix fondamentaux et mise en place, Tunis, 24 February 2021.

? Activity 1.6.1. Targeted assessment/ESMP for the building extension. As per the SESP screening, a number of risks have been identified that relate to the construction of the proof-of-concept and the scaling-up of energy efficiency in new buildings (see Annex 10). The Municipality of Kairouan will carry out a targeted assessment for the extension[16] of the municipal building in Keblia. In order to address the risks, the Environmental and Social Management Framework (ESMF) given in Annex 11

of the Project Document will be used to guide the formulation of the assessment, which will result in a site-specific Environmental and Social Management Plan (ESMP).

? Activity 1.6.2. Enhancing energy efficiency of municipal building. The municipal headquarters for the district of Keblia has a surface area of 207 m². The CLIP Tunisie[17] software proposed by ANME has been used to model the thermal performance of the G+2 building as shown in Figure 6. Using the current building design and materials, the performance will place the building at Level 5 (Classe 5) on the ECOBat label (see Figure 8 below). This is the minimum performance level (i.e. score 0) admitted for a new building that is in conformity with the RTNB.

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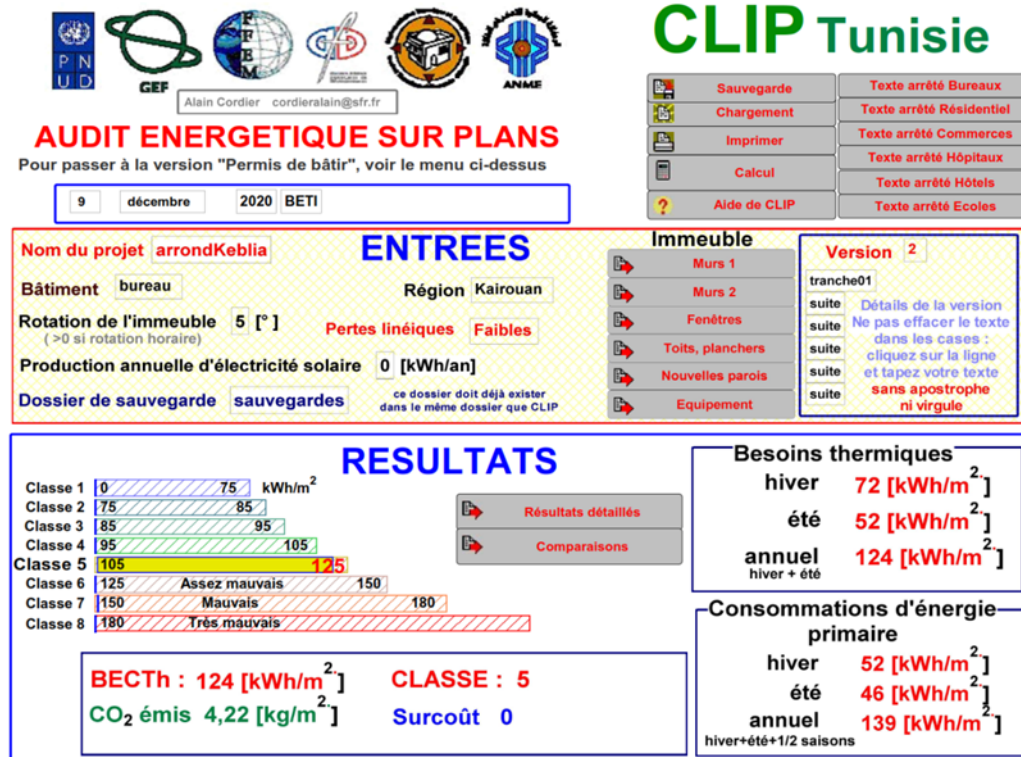


Figure 6. Modelled thermal performance of G+2 municipal building in Keblia.
(Source: CLIP Tunisie modeling; courtesy - Municipality of Kairouan)

Since the G+2 is yet to be commissioned, no physical interventions to improve its energy efficiency can be carried out. However, once it has been commissioned, then there will be the possibility to increase its thermal insulation properties by adding an external cladding of insulating material to the existing building envelope. This intervention can only take place one year after the warranty period following commissioning has expired. However, such constraints do not pose for the G3 and G4 extensions, as these will be subject to a separate building contract.

In the absence of the GEF project, the thermal performance of G3 and G4 will be at Level 5. Using Level 5 as the baseline (design related to Figure 3), the GEF investments will be used to enhance the thermal performance of G3 and G4 to Level 3 (Classe 3) as shown by the results of modeling in Figure 7. Hence, there will be an energy efficiency gain of 33 kWh/m² from GEF investments, and the technical specifications for achieving this gain will be included in the design as summarized in Table 7 and Table 8.

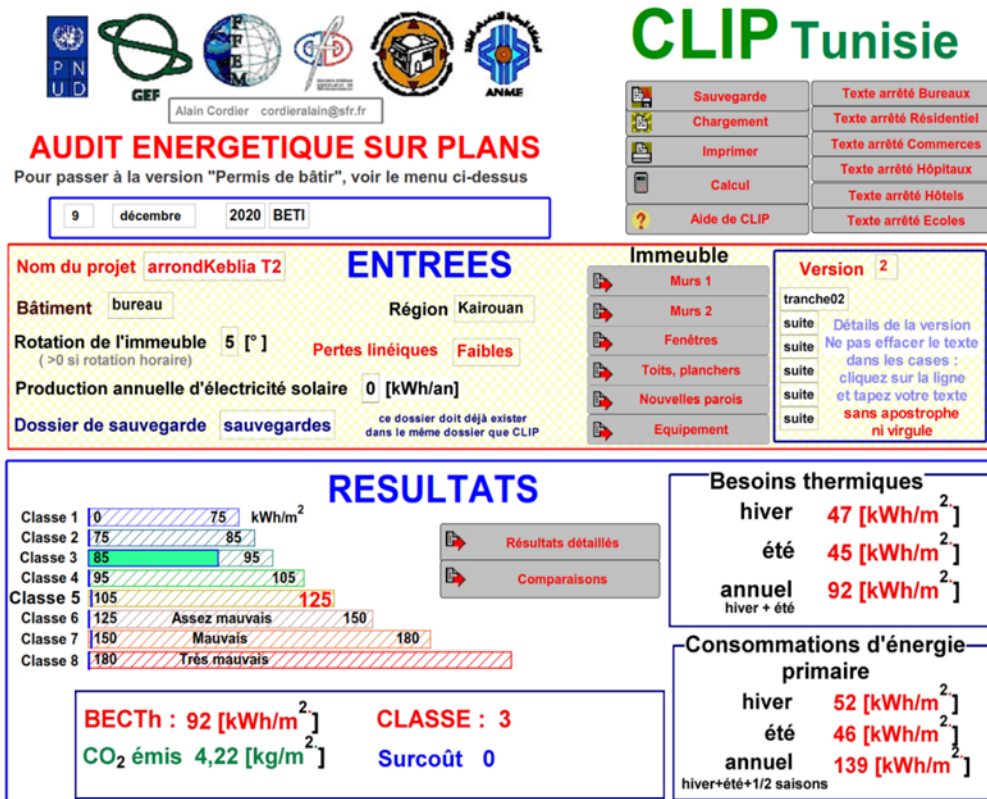


Figure 7. Modelled performance of G3 and G4 for municipal building in Keblia.
 (Source: CLIP Tunisie modeling; courtesy ? Municipality of Kairouan)

Table 7. Specifications of building envelope.

Floor	Surface insulated (m ²)	Façade	Surface area (m ²)	Walls	Glass panes/windows, door	Roof
G3	156	North	258	* double-walled	**tinted glass	Concrete slab 16+5
G4	131	East	268	* double-walled	** tinted glass	***Concrete
		South	258	* double-walled	** tinted glass	
Total	287	West	268	*double-walled	** tinted glass	
		Total	1052			

Source: Municipality of Kairouan

Notes:

*double wall (35cm) with a layer of polyester (4cm)

**bronze-tinted glass (6mm)

*** Water-proofing material (0.5cm) + Cement mortar (3cm) + Cellular concrete (10cm) + Reinforced concrete (5cm) + Slabs (16cm) + Cement mortar rendering (2cm)

Table 8. Thermal specifications of openings.

N°	Type	L (m)	H (m)	Area (m2)	East		South		West		North		TOTAL U
					U	Surf	U	Surf	U	Surf	U	Surf	
3	FA6	0.50	0.70	0.35	0	0.00	2	0.70	2	0.70	0	0.00	4
5	FA2	1.00	2.00	2.00	4	8.00	4	8.00	4	8.00	6	12.00	18
TOTAL						8.00	6	8.70		8.70		12.00	22

Source: Municipality of Kairouan

The building envelope energy efficiency gains that will ensure Level 3 classification for the G3 and G4 will be obtained through the interventions listed in Table 7 and Table 8. An estimation of the cost of the energy efficiency interventions has been carried out and the results are shown in Annex 14 (Part D) in the Project Document. The results are summarised in Table 9. The envelope insulation for G3/G4 will be inside (interior insulation), whereas for G/G1/G2 there will be retrofitting through exterior facade insulation that is more costly. The total cost of interventions for envelope insulation is estimated at USD 293,587. Although the GEF investments will not be used to install rooftop solar PV, a budget of USD 20,869 has been earmarked for (i) preparation of the insulated roof for roof-mounting structure; and (ii) designing the PV systems for achieving electricity autonomy of the municipal building at Kebliia.

Table 9. Estimation of incremental costs of building envelope energy efficiency

	Walls (USD)	Openings (USD)	Roof (USD)
G3 + G4	20,857	15,258	16,698
G + G1 + G2 (retrofit)	217,889	22,887	Not applicable
Total (USD)	238,746	38,145	16,698

Given the relatively high unemployment level in Kairouan, all jobs created from this output will favour local labor and expertise. As far as practicable, the building materials, including inputs to improve energy efficiency will be sourced locally. Hence, there will be no influx of workers from outside Kairouan due to project activities, and local wealth creation will be privileged.

? Activity 1.6.3. Process to get ECOBat label. ? The ECOBat provides for three energy labels, namely Bronze, Gold or Platinum. The labelling system offers a progressively higher score for new buildings that rate higher than the minimum requirements of the RTNB (Level 5 or Classe 5) as illustrated in Figure 8 below. The UNDP-GEF project will support the Municipality of Kairouan to get a Level 2 (Classe 2) labelling for the municipal building at Kebliia. It will also support the building that **the Proportion of Gold? company** will construct to get ECOBat labelling. The liaison with ANME will be supported by the Project Manager and the Project Coordinator. No project funding will be used to finance the private building energy efficiency enhancements.

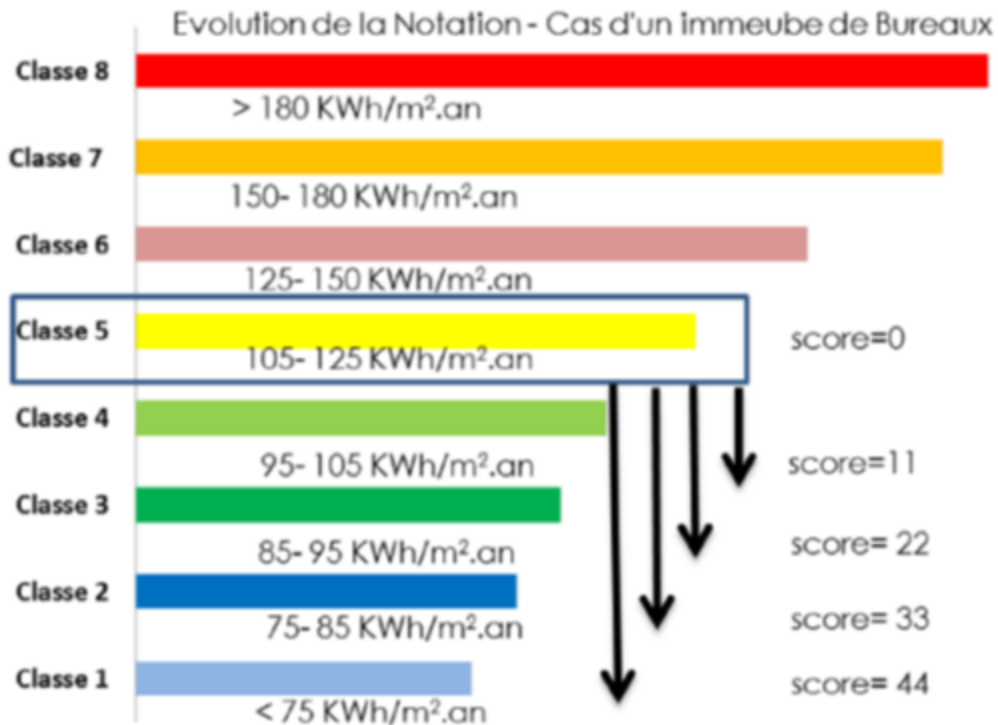


Figure 8. Schematic illustrating the ECOBat level scoring system.

30. **Component 2: Energy efficient public lighting:** This component will deal with the barriers that prevent the adoption and scaling up of efficient technologies for public lighting. This component will deliver reductions in the emission of greenhouse gases (see below and in Annex 14 of the Project Document). A co-benefit will be a reduction in the high energy bill of the Municipality. The expected outcome is: ?institutional strengthening for the implementation of an efficient municipal lighting system?, and it will be achieved through the following outputs:

- ? Output 2.1: Capacity of municipality staff to implement efficient lighting projects strengthened;
- ? Output 2.2: National standards for public lighting technologies developed and adopted; and
- ? Output 2.3: Energy efficient municipal lighting demonstrated.

31. *Output 2.1: Capacity of municipality staff to implement efficient lighting projects strengthened ?* As indicated in Table 4, the Municipality does not have the technical capacity to make the business case, including technical specifications for efficient public lighting. Also, a procedure for the safe storage and disposal in an environmentally-sound way will be developed for lamps used for public lighting at the end of their lifetime.

? *Activity 2.1.1. Training provided to municipality technicians for the adoption of efficient public lighting.* Training will be provided to municipal staff for: formulating a business plan for efficient public lighting; and (ii) developing the terms of reference for shifting to efficient lighting, including technology assessments and identifying criteria for technology selection. A strategic plan will also be developed for replacing all public lighting in collaboration with ACTE project. This activity will also support the municipality to defined the technical specifications for the procurement of LED lamps in Output 2.3.

? *Activity 2.1.2. Mechanism for the safe disposal of lamps.* There is currently no procedure or mechanism for the environmentally-sound disposal of failed lamps used in public lighting (both conventional technologies and LEDs). In collaboration with the Ministry of Environment (Directorate of Sustainable Development), the UNDP-GEF project will propose a procedure for the safe collection, storage and environmentally-sound disposal of lamps at the end of their lifetime. This mechanism will be applicable country-wide across all municipalities. The procedure will be guided by the ESMF (Annex 11 of the Project Document).

32. *Output 2.2: National standards for public lighting technologies developed and adopted* - Technical assistance will be provided to Institut National de la Normalisation et de la Propriété Industrielle (INNOPRI) for developing Tunisian standards for efficient public lighting technologies.

? *Activity 2.2.1. Standards for LED lamps*. There are currently no national standards for LED lamps in Tunisia. With the increasing adoption of LED lighting, it is important to support the market development of efficient lighting through quality standards. To keep with the scope of the UNDP-GEF project, INNOPRI will be supported to domesticate international standards for LEDs used in public lighting. Adoption of the standard can take place at multiple levels such as technical committee of INNOPRI, on the one hand, and by Cabinet of Ministers, on the other. Given the short duration of the project and the administrative and bureaucratic delays that are related with receiving Cabinet approval, the project will primarily seek approval of the standard by the technical committee of INNOPRI. Nevertheless, the process of seeking adoption by Cabinet will be supported by the UNDP-GEF project.

33. *Output 2.3: Energy efficient municipal lighting demonstrated* ? 1. GEF funding will be used to implement energy efficient and site-appropriate lighting technology implemented (e.g. LEDs **with capacity for upgrade to an intelligent system**). The site-specific interventions for implementing efficient lighting using LED lamps are given in Table 12 below and the locations shown in Section 2 and Annex E below.

? *Activity 2.3.1. Environmental and Social Management Plan (ESMP)*. This activity is subject to a targeted assessment that will result in a site-specific Environmental and Social Management Plan (ESMP) that includes a Waste Management Plan and an Occupational Health and Safety Plan.

? *Activity 2.3.2. Procurement of LED lamps*. The technical staff of the municipality will develop the technical specifications for LED lamps with the technical assistance of the ANME (through project ACTE). The municipality will use its public procurement process to purchase the lamps, with oversight and support from the UNDP Country Office.

? *Activity 2.3.3. Replacement of SHP lamps with LEDs*. A total of 574 light points using high pressure sodium (SHP) lamps of between 100 W and 250 W capacities will be replaced with LEDs of 80W or 100 W capacities. It is expected that the GEF investments will reduce power usage in public lighting equal to 73.66 kW. The LED lamps will have technical specifications that make them compatible for integration in a smart public lighting management system that the municipality will eventually put in place through parallel initiatives.

34. **Component 3: Knowledge management, monitoring and evaluation, and scale-up strategy:**

The third component addresses outreach, and capturing and dissemination of results for scaling up the results of the proposed project. It also seeks to ensure adequate monitoring and evaluation (M&E) of the project to support adaptive project management. Emphasis is placed on the use of enablers of institutional learning on all aspects of operationalisation of the building energy code for new buildings (RTNB) and the ECOBat energy label for buildings, and outdoor efficient lighting in the city of Kairouan to support knowledge management and approaches for scaling up sustainable cities in Tunisia. Since the Sustainable Development Strategy of Kairouan goes well beyond issues related to energy efficiency, the GEF project will also put in place a framework for sustainable city data management system to support evidence-based decision making, and for monitoring & evaluation purposes. The outcome is: ?Municipal learning organisation capable to implement and manage sustainable city strategy?. The following four outputs will be implemented in order to achieve this outcome.

? Output 3.1 Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, (iii) Terminal Evaluation carried out;

? Output 3.2: Data management system for benchmarking Kairouan City sustainability established and operational;

? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries; and

? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed.

35. *Output 3.1: Output 3.1 Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Terminal Evaluation carried out*

? This output covers the monitoring and evaluation (M&E) of the project using standard activities required by both the GEF and UNDP. M&E is an essential part of adaptive project management in so far as measurement of indicators proposed in the project design (e.g. Project Results Framework) is carried out for tracking implementation performance. For this output, the following activities will be implemented:

? Activity 3.1.1. Inception workshop. An inception workshop will be planned within 60 days of project CEO endorsement.

? Activity 3.1.2. Monitoring and Evaluation. The results framework and GEF core indicators; project plans (e.g. Stakeholder Engagement Plan, Gender Action Plan and Risk Register), and Social and Environmental Safeguards will be monitored. Also, an independent evaluation will be carried out at the end of the project as per standard UNDP-GEF procedures. The financials of the project will also be verified by an independent accredited auditor on an annual basis.

? Activity 3.1.3. Terminal Evaluation. An independent evaluation will be carried out by the UNDP within 6 months of project closure as per standard requirements described in Section 9 below.

36. Output 3.2: Data management system for benchmarking Kairouan City sustainability established and operational ? The project will support the City of Kairouan to become a member of the World Council on City Data (WCCD), and to adopt ISO 37120 (Sustainable Development of Communities: Indicators for City Services and Quality of Life) to track progress in the implementation of the Sustainable Development Strategy. The data management system will integrate the indicators contained in the monitoring and evaluation framework for the National Programme for Sustainable Cities in Tunisia.

? Activity 3.2.1. Establish a coordinating structure for data collection. The ACTE project has already established a cross-functional institutional arrangement for the management of issues related to energy use and energy efficiency at the municipal level. This structure is depicted in Figure 9 (except for the function related to waste management); it combines high level political support with the Mayor acting as the Chairperson and the participation of two elected councillors (members of the municipal council), and high level technical functions through the participation of directors, deputy directors, officers-in-charge and engineers from different divisions (Annex 15 for more details). Since the scope of the city sustainable development performance is broader than the requirements of the ACTE project (that focuses primarily on energy efficiency), the existing structure can be enlarged to include other functional areas such with waste management given as an illustrative example.

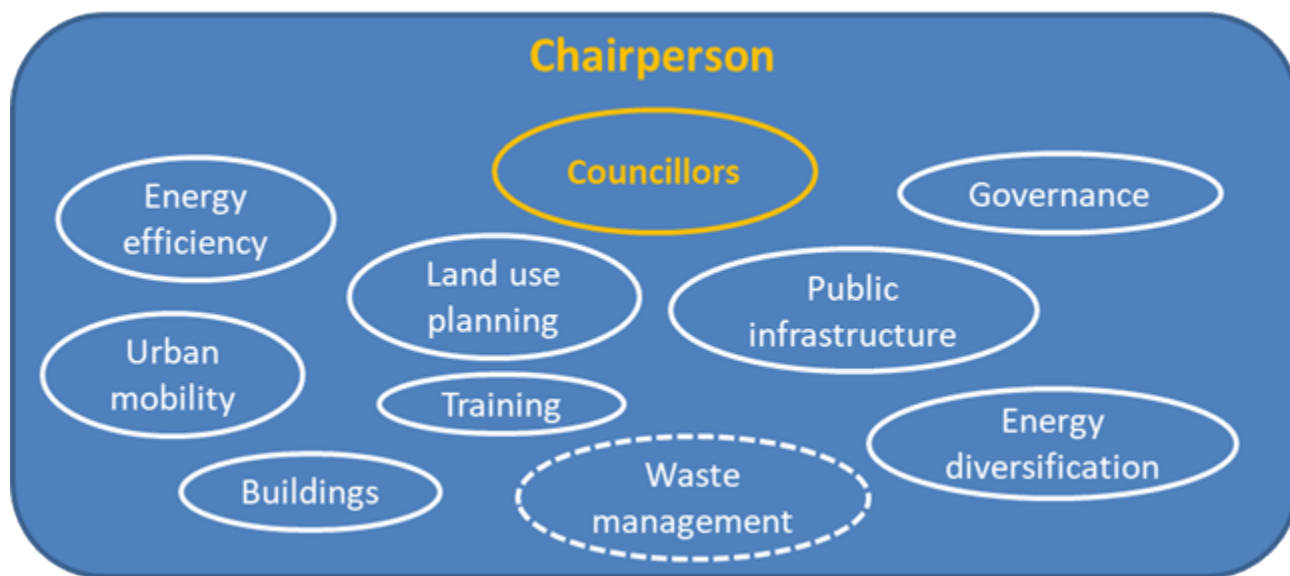


Figure 9. Configuration of cross-functional political and technical arrangement for the adoption of ISO 37120.

(Source: Based on the structure used to implement the ACTE project)

? Activity 3.2.2. Establish data management system. Currently, there is no data Inventory Quality Management System (IQMS) for collating, analysing, reporting and archiving city data in formats that are useful to analyse and plan for city-wide sustainability performance. Such an IQMS (Figure 10) will be put in place so that the City of Kairouan is in a position to carry out sustainability reporting against the ISO 37120 using the coordinating structure established under Activity 3.2.1.

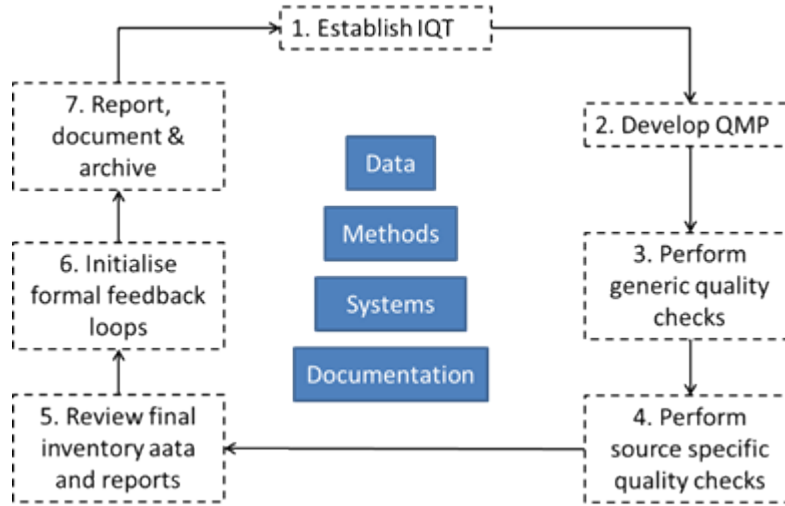


Figure 10. Inventory Quality Management System

The IQMS will include a Quality Control Framework (QCF), which will be applied to the elements listed in Table 9.

Table 9. Elements of Quality Control Framework and their attributes.

Elements of QCF	Attributes of elements of QCF
Data	? Raw data (e.g. activity level, emission factors etc.) ? Secondary data (e.g. sources and quality assurance systems used to generate data) ? Quality control procedures to carry out high quality data collection ? Improvements in data collection procedures
Methods	? Technical aspects of calculations and tools used for calculations (e.g. grid emission factor for national electricity system) ? Selection, application, and updating of inventory methodologies as identified by ISO 37120 and new research to improve data quality
Systems	? Institutional and managerial procedures for developing data inventories
Documentation	? Records of data, methods, systems, processes, assumptions and estimates

The Quality Management System (QMS) will be managed using seven steps as summarised in Table 10.

Table 10. Description of the seven steps to implement the QMS.

Step	Description
1. Establish Inventory Quality Team (IQT)	? Responsible for implementing the QMS and to continually improve inventory quality ? Coordination between relevant units in the Municipality of Kairouan, external entities providing secondary data (e.g. waste collection, emission factor of the electricity system in Kairouan), and independent verifiers ? The IQT will be the coordinating structure that will be established under Activity 3.2.1
2. Develop Quality Management Plan (QMP)	? Outlining the steps taken by GAM to implement its QMS
3. Perform generic checks	? Developing appropriate quality checks for all data and calculations to generate indicators
4. Perform source-specific checks	? Developing guidelines for recalculation of indicators ? Establishing criteria / circumstances for data / indicators restatements ? Means of addressing uncertainty in data
5. Review final inventory data and reports	? Establishing a process of internal technical review of data inventory, followed by a process of internal managerial review for institutional approval of inventory ? Establishing a process for external auditing of inventory data
6. Institutionalise formal feedback loops	? Establishing a process of feeding the results of reviews in 5 to the IQT for the continuous updating of the QMP
7. Report, document & archive	? Developing record keeping procedures, including how data is archived ? Establishing which information is kept for internal use and which information is reported to external parties ? Developing procedures for formal feedback

? Activity 3.2.3. Supporting process of membership to international organisations. The UNDP-GEF project will establish link with the WCCD Secretariat and it will facilitate the process of membership admission of the City of Kairouan to the WCCD. The knowledge and lessons learned from the UNDP-GEF funded project in the City of Amman, Jordan entitled "A systemic approach to sustainable urbanization and resource efficiency in Greater Amman Municipality (GAM)" will be sought as the City of Amman is already a member of the WCCD. The project will also support the City of Kairouan to seek membership with the C40 Cities and/or ICLEI. Regarding C40 Cities, experience sharing with the City of Amman and the City of Marrakech will be sought. For the latter, collaboration will be sought with the Marrakech Sustainable Cities Child Project "Strengthening Marrakech's sustainable development through innovative planning and financing?". The C40 Cities has very stringent requirements for membership. In order to pave the way for the City of Kairouan to become a member of C40 Cities, the capabilities of the City of Kairouan for mainstreaming climate change across municipal operations and services will be assessed against the requirements of C40's Climate Action Planning (CAP) Framework.[1] The result of this baseline assessment will be used to develop a plan that will enable the City of Kairouan to join the C40 Cities. The assessment will be carried out in collaboration with C40 Cities.

[1] https://www.c40knowledgehub.org/s/article/Climate-Action-Planning-Framework?language=en_US ? accessed 8 May 2023.

37. *Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries* ? The results (lessons learnt and experiences) of the project will be captured and packaged into a knowledge product that will be disseminated inside

Tunisia and more broadly in the MENA region. The PMU will also ensure adherence of the Municipality of Kairouan to the PANORAMA partnership (South-South Cooperation at paragraph 54 below) for enhancing knowledge sharing.

? Activity 3.3.1. Knowledge product on lessons learned. A knowledge product will be developed to capture project best practices and pitfalls to avoid for dissemination (website, publications, manuals, participation in national, regional and international conferences and fora etc.), and to demonstrate the process for leveraging investments in EE buildings and public lighting. Since there will be no mid-term evaluation, lessons learned will be compiled on an annual basis. The contents of these lessons learned reports will then be used to develop the final knowledge product.

? Activity 3.3.2. Adhesion to PANORAMA. The Project Manager will take the necessary steps for the Municipality of Kairouan to join the PANORAMA partnership so that it is able to share lessons learned from the UNDP-GEF project to a wider community of practitioners.

38. Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed ? In support of the National Programme for Sustainable Cities in Tunisia, a replication plan will be developed based on lessons learnt to scale up the project results to other cities in Tunisia. In designing this output, due consideration will be given at PPG stage for ensuring that all the concerns and guidance provided in the ESMF to manage project risks that can be amplified through scaling-up are taken into consideration.

? Activity 3.4.1. Replication plan. Based on the lessons learned (Output 3.3), a Replication Plan will be developed for scaling up city-wide energy efficiency interventions in buildings (through the enforcement of the RTNB and adoption of the ECOBat label), and efficient public lighting. The replication plan will cover at least the 14 cities that are included in the National Programme for Sustainable Cities in Tunisia, and it will be accompanied by an investment plan. During preparation of the Replication Plan, a targeted and strategic assessment will be undertaken to assess potential associated environmental and social risks and take them into consideration in the final draft.

? Activity 3.4.2. Bankable concept note for climate finance. The UNDP-GEF project and its results provide an opportunity for Tunisia to leverage international climate finance in order to promote the implementation of the National Programme for Sustainable Cities in Tunisia. Based on the results of the project (Output 3.3 and Activity 3.4.1), a concept note will be formulated using a programmatic approach to access climate finance from the GEF, the Green Climate Fund (GCF) and other funding sources for scaling up emissions reductions across Tunisian cities.

Alignment with GEF focal area

39. The objective of the project is to promote green buildings and efficient lighting. Therefore, it is squarely aligned with the GEF-7 Climate Change Objective 1 - Promote innovation and technology transfer for sustainable energy breakthroughs. In particular, it relates to the entry point 3 on 'accelerating energy efficiency adoption?.'

Incremental/additional cost reasoning; expected contributions from the baseline, the GEFTF, and co-financing

40. GEF funds will be used to support activities ? i.e. incremental investment and removing barriers listed in Table 4 ? that will not take place in the baseline and yet which will substantially enhance the prospects of both the baseline projects and follow-on projects catalyzed as a result. By the end of the project, it is expected that:

? Energy efficient street lighting implemented in the City of Kairouan;

? Proof-of-concept demonstrated for the application of the thermal energy code for new buildings, as well as the national label ECOBat for new buildings;

- ? Institutional mechanisms in the form of streamlined process with operational guidelines for mainstreaming the legal requirements of the RTNB in the new buildings permits and licensing process;
- ? National standards will be developed for construction/building materials and outdoor lighting technologies that will provide better quality assurance to end-users;
- ? Replication plan and bankable Concept Note to attract additional financing will be developed for scaling up of emission reductions in the building sector and street lighting in Tunisia in support of the National Programme for Sustainable Cities;
- ? A local value chain for the production of ecological building materials will be developed that will have strong gender-differentiated socio-economic benefits (e.g. gender-differentiated jobs);
- ? Lessons learned and project experience will be shared nationally and regionally to increase the impacts of the project results;
- ? Tools will have been developed to provide stakeholders about information about the benefits of investing in Building Energy Code; and
- ? The enabling conditions created by the project will have the long-term impact of catalysing national and international investments to implement the RTNB and ECOBat label, and efficient street lighting that will lead to direct and indirect emission reductions as discussed below.

Global environment benefits

41. Global environment benefits: The calculations for GHG reductions emissions are detailed in Annex 14 of the Project Document. The GEF methodology and tool for EE in buildings (file named ?Annex 14 - GEF_EE_GHG_Tool_v1.0_Kairouan.xlsx?) was used. The comments of GEF at PIF stage were addressed and a business-as-usual scenario and a energy efficiency scenario were developed for replacement of convention public lights with LED. The modeling was carried out in a separate file named ?Annex 14 ? PIMS 6686 ? Public lighting? that accompanies Annex 14 of the Project Document. Direct emission reductions accrue from three sources: (1) enforcement of the energy building code (Output 1.1 and 1.2); (2) investments in efficient building (Output 1.6); and (3) investments in efficient public lighting (Output 2.3). Discussions with stakeholders have revealed that apart from the results of 2010 shown in Figure 1 and Table 2 given above, there are no up-to-date baselines for the building sector based on which the global environmental benefits (direct and indirect) of the proposed project could be calculated. The CLIP model was used for estimating energy efficiency gains in buildings as shown in Figures 6, 7 and 8 above. Regarding public lighting a baseline scenario up to 2040 was developed for the business-as-usual case with inputs from the Municipality of Kairoua. A decarbonization scenario was developed reflecting the technical and financial support from external sources, such as the UNDP-GEF project. Modeling to 2045 provided an indication of post-project market opportunity for decarbonization from adoption of LED lighting in Kairouan. The output of the model (file named ?PIMS 6686 ? Public light (Annex 14)?) was used as input in the GEF Tool to estimate indirect top-down emission reductions. The results of the modeling are summarised in Table 11. It is pointed out that a conservative approach

was used for estimating indirect GHG emission reductions, especially for energy efficient buildings. Two assumptions were made: (1) only the perimeter of the City of Kairouan was used ? i.e. scaling up of activities elsewhere in Tunisia were not considered; and (2) only the stock of municipal buildings were taken into account and due to lack of visibility for building development, only the timeline to 2026 was considered. These assumptions explain the replatively low indirect effects, especially noting that around only 5% of total buildings area is subject to energy building code (RTNB).

Table 11. Summary of project-related direct and indirect emission reductions.

All Components	<u>Cumulative</u>		
	<i>Total</i>	<i>2023-2026</i>	<i>2027-2046</i>
Direct Electricity Savings (MWh)	45,232	4,142	41,090
Direct Natural Gas Savings (GJ)	0	0	0
Direct (District) Heat Savings (GJ)	0	0	0
N/A	0	0	0
Direct Total Energy Savings (GJ)	162,836	14,911	147,925
Direct GHG Emission Savings (tCO ₂)	20,219	1,851	18,367
Direct Post-project GHG Emission Savings (tCO ₂)	36,796		36,796
Indirect Bottom-up Emission Savings (tCO ₂)	14,549		14,549
Indirect Top-down Emission Savings (tCO ₂)	31,064		31,064

42. Innovativeness, sustainability and potential for scaling up: Sustainability of the project is based on the project strategy and timing, replication of the project results is also at the heart of the project strategy and design so that the project's replication strategy ensures that the project approach is distilled and actively disseminated to inform similar initiatives in Tunisia and elsewhere in the region. The mitigation options selected will enhance sustainable development through minimizing dependence on imported energy, minimizing energy costs to the economy, creating new employment opportunities and improving the local environment. As noted in the key indicators and results section, the sustainable development and socioeconomic development impacts of the project will be substantial and multi-faceted. The project will specifically help the Municipality of Kairouan mitigate the additional financial obligations and income losses resulting from energy use in municipal buildings and public lighting. It is also important to note the high levels of unemployment in Kairouan. Distribution of wealth is unequal, and its young demographic means that there is a high dependency ratio of non-active individuals to

workers. The project will include a robust set of key indicators to monitor the socioeconomic impacts of project interventions.

43. The innovativeness of the proposed project stems from migrating from a conventional, project-based approach to a city-wide transformational approach that will also include the testing and implementation of novel approaches based on local institution capacity strengthening to scaling-up the diffusion of energy efficiency technologies (buildings and public lighting) in Tunisia. The UNDP-GEF project will ensure that a mechanism will be put in place for the regular update of the RTNB and accompanying regulations ? i.e. ratcheting process - so that building energy codes will be updated to take into account best available technologies. The revision of the building energy codes will also extend the scope of application of regulations so that a larger cohort of building types (beyond the current restriction to commercial buildings and apartment blocks) that will energy a wider uptake of energy efficiency in buildings. Further, as per Output 3.4, a country-wide replication plan, accompanied by an investment plan and bankable Concept Note for mobilizing international climate finance, will be developed to support implementation of the National Programme for Sustainable Cities in Tunisia. The eventual outcome is expected to be larger global environmental benefits accruing from the application of more stringent building energy codes to a wider range of building types, as well as shifting public lighting using LEDs.

[1] <https://www.tn.undp.org/content/tunisia/fr/home/countryinfo/> - accessed 21 September 2021.

[2] UNDP (n.d.) Strat?gie de d?veloppement Durable de la Ville de Kairouan 2030 ; Minist?re des Affaires Locales et de l'Environnement (2019) R?alisation d'une ?tude diagnostique sur les villes tunisiennes et proposition d'une vision strat?gique pour une ville durable.

[3] GDP growth in 2020 hit a low of -8.8%.

[4] Institut National de la M?t?orologie (precipitation days/humidity/sun 1961?1990, extremes 1951?2017) ;

[5] Republic of Tunisia (2021) Updated Nationally Determined Contribution ? Tunisia (draft).

[6] EU (2013) Commune de Kairouan Plan d'action en faveur de l'?nergie durable (PAED).

[7] Updated values will be reconciled during the PIF formulation stage while engaging with stakeholders such as the National Energy Efficiency Agency (ANME) and the Governorate / Municipality of Kairouan.

[8] UNDP (n.d.) Strat?gie de d?veloppement Durable de la Ville de Kairouan 2030.

[9] Minist?re des Affaires Locales et de l'Environnement (2019) R?alisation d'une ?tude diagnostique sur les villes tunisiennes et proposition d'une vision strat?gique pour une ville durable.

[10] Perfect Engineering (n.d.) Rapport d'audit ?nerg?tique approfondi de l'?clairage public de la Commune de KAIROUAN.

[11] https://www.irena.org/IRENADocuments/Statistical_Profiles/Africa/Tunisia_Africa_RE_SP.pdf - accessed 19 May 2022.

[12] <http://www.dataforcities.org/wccd/> - accessed 28 December 2016.

[13] Solidar (2019) Evaluation du plan de développement 2016 ? 2020.

[14] There are two types of natural resources that are used for the fabrication of construction materials. One is the 'white stone' that is mined from two quarries in Kairouan (Rouissat and Jloulla) by two companies employing a total of around 45 persons. The value chain for 'white stone' is healthy as there is good demand for it. The other is clay that is used for making bricks that are manufactured using indigenous techniques, such as manual preparation of the clay mixture, moulding of bricks and firing of bricks in traditional furnaces. The value chain for the brick made of clay is of interest in Output 1.3. The size of activities can be gauged by the number of furnaces that are operational. There are presently four traditional furnaces that are operated manually by around 10 persons. Because of dwindling demand for these traditional bricks, the livelihood condition of the workers is at best precarious. Discussions with a few workers have revealed that they have to supplement their income through other part-time income generating activities. The demand for the traditional clay bricks are mainly from the Institut National du Patrimoine that uses the bricks for the restoration of heritage buildings in the Medina; a UNESCO Cultural Heritage Site. There are visual signs that the restoration of buildings in the Medina is not always carried out using the traditional bricks, especially for residential buildings that are privately owned. The Association de Sauvegarde de la Medina has pointed out two main barriers that reduce demand the locally-fabricated brick. First, there is lack of clarity or a loophole in the existing legislation (Loi no 94-35 1994 ? Code du patrimoine archéologique, historique et des arts traditionnels). For instance, the law does not stipulate the use of traditional building materials for the restoration of the Medina. Instead, it makes provision for a modicum fine of 250 DT for infringements that makes the economic calculus for using the cheaper modern brick more viable. Second, the Municipality of Kairouan does not have architects with the necessary knowledge for the protection of cultural heritage, which is a specialised area.

[15] Andreas Springer-Heinze (2018) ValueLinks 2.0 ? Manual on Sustainable Value Chain Development, GIZ Eschborn.

[16] It is pointed out that the G+2 municipal building in Keblija did not require an Environment Impact Assessment (EIA). The justification from the Municipality is as follows: the building site was occupied by the Headquarters of the municipal police since the 1980s. Since the new building has maintained its public administration uses, an EIA was not required. The Commune mandated that the demolition wastes (of police headquarters) should be sent to controlled landfill sites.

[17] The CLIP model was developed under a previous UNDP-GEF project (GEF-2 PIMS 407/GEF ID 520 - Energy Efficiency In new Buildings | Tunisia).

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

44. Geographical coverage: The project interventions will take place in the city of Kairouan[18] that is located in the Governorate of Kairouan as shown in Figure 11.[19] The baseline new building that will be enhanced using GEF investments will be in the municipal district of Kebliia. Details of the geographic location of the baseline building are given in Annex E. The locations for retrofitting public lighting are listed in Table 12, and the corresponding geographical locations within the city are given in Annex E.

[18] Project interventions will be in the City of Kairouan over which the Municipality has authority, and not over the entire Governorate of Kairouan. This said, the results of the project will be applicable more broadly to the Governorate and other cities in Tunisia.

[19] <https://www.nationsonline.org/oneworld/map/tunisia-administrative-map.htm> - accessed 17 May 2022.



Figure 11. Map of Tunisia indicating the location of Kairouan.

Table 12. List of locations chosen for retrofitting street lights in the city of Kairouan.

Location	Number of lighting points	Existing Power rating (W)	Power rating with GEF investments (W)
Avenue de l'environnement et giratoire Zarbiya?	206	250	100
Place Sadeka	58	150	80
Cit? commerciale et cit? des martyrs	60	100	80
Avenue Ibn Aghlab	70	250	100

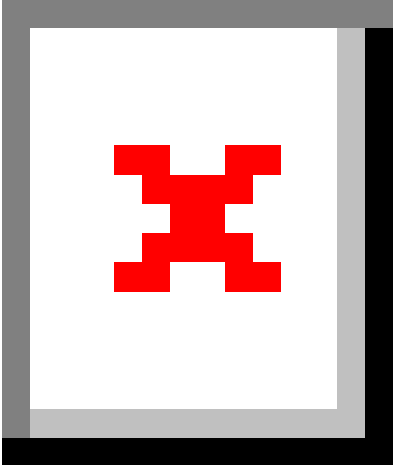
Avenue Touhami Negra	94	250	100
Avenue Sadek Lemkaddem	24	250	100
Avenue Ibn Jazzar	34	250	100
Avenue Moez Ibn Badis	28	250	100
Total	574	128,700	55,040

Geolocation Project GEF ID 11040 ? UNDP PIMS 6686 Tunisia

Towards Sustainable cities in Kairouan

Table. List of geocoding fields to enter in the Portal

Field	Description
FOR EACH PROJECT LOCATION	
Geo Name ID	<i>2473451</i>
Location name	<i>Governorate of Kairouan</i>
Latitude	<i>- 35°40'11.49"N</i>
Longitude	<i>- 10° 6'8.16"E</i>
Location Description (optional)	<i>Intersection of Avenue 3 septembre 1934 and Avenue 02 Mars 1934</i>
Activity Description (optional)	<i>the geographical location is the baseline municipal building that will be enhanced (energy efficient through application of the RTNB and ECOBat label) using GEF investments.</i>
ADDITIONAL INFORMATION COVERING THE PROJECT	

Field	Description
Project map and coordinates (optional)	

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

n/a

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why: No

45. Stakeholder engagement: Table 13 lists key project partners required to achieve the desired results of the project at the output level. The description of their participation in the project is directly related to the assumptions in the ToC. Details of partnerships and stakeholder engagement can be found in Annex 10 in the Project Document (Stakeholder Engagement Plan). This annex also gives a mobilization and communication plan with stakeholders. In addition, a grievance redress mechanism will be set up in accordance with UNDP procedures. Stakeholder engagement was also carried out during project design and conceptualization and is reflected in Annex 10, Annex 12, and Annex 15. All the stakeholders will be involved in Outputs 3.1 and 3.3.

Table 13. Stakeholder involvement in the implementation of the project.

Stakeholder	Contributions	Relevant project outputs
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Stakeholder	Contributions	Relevant project outputs
Municipality of Kairouan	<p>The Municipality of Kairouan will be the main beneficiary of the project and it will co-Chair the Project Steering Committee with the Ministry of Environment (Directorate of Sustainable Development). All project interventions will take place in the City of Kairouan. The Municipality is the local authority for issuing building licenses and permits for the construction of new buildings, and it has the mandate to ensure reliable public lighting. The municipality will use its Headquarters in the district of Keblia as baseline project for energy efficiency enhancements in relation to the implementation of the RTNB and the adoption of the ECOBat label.</p> <p>The project design and choice of locations for GEF investments were made in close collaboration with the Municipality. The Municipality as the main arm of local government is also the owner of the Sustainable Development Strategy of the City of Kairouan with which the GEF-financed project is aligned.</p>	<p>? Output 1.1: An operational manual for new building licensing and permits process to operationalise</p> <p>? Output 1.2: Enforcement capabilities of municipality strengthened for ensuring new building compliance with RTNB</p> <p>? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials</p> <p>? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated</p> <p>? Output 1.6: Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label</p> <p>? Output 2.1: Capacity of municipality staff to implement efficient lighting projects strengthened</p> <p>? Output 2.3: A smart usage system for municipal lighting demonstrated</p> <p>? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out</p> <p>? Output 3.2: Data management system for benchmarking Kairouan City sustainability established and operational</p> <p>? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries</p> <p>? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed.</p>

Stakeholder	Contributions	Relevant project outputs
	The Municipality will host the Project Coordinator.	
Ministry of Environment (Directorate of Sustainable Development)	<p>The Ministry of Environment is the National Climate Change Focal Point, and also serves as the GEF Operational Focal Point. The Directorate of Sustainable Development is the owner of the National Programme for Sustainable Cities in Tunisia, and it interacts with local authorities to support the formulation, implementation and monitoring and evaluation of sustainable development strategies in cities, such as the Sustainable Development Strategy of the City of Kairouan . The Ministry, through the Directorate, will be the Implementing Partner of the project, and it will also be Chair of the Project Steering Committee. The Ministry is also provider of USD 500,000 million cash co-financing. The Directorate of Sustainable Development will host the Project Manager and the Administrative Assistant.</p>	<p>? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials</p> <p>? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated</p> <p>? Output 2.2: National standards for public lighting technologies developed and adopted</p> <p>? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out</p> <p>? Output 3.2: Data management system for benchmarking Kairouan City sustainability established and operational</p> <p>? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries</p> <p>? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed</p>

Stakeholder	Contributions	Relevant project outputs
<p>National Agency for Energy Conservation (Agence Nationale de Maitrise de l'Énergie, ANME)</p>	<p>ANME is the technical body operating under the aegis of the Ministry of Energy, Mines and Energy Transitions to design and implement Tunisian national policy in the field of energy management. This is achieved through the promotion of sound energy usage, the development of renewable energies, and facilitating the energy transition. The ANME was instrumental in developing the RTNB and the ECOBat energy label for buildings. It also makes available tool such as CLIP. ANME is also supporting local authorities to adopt energy efficiency measures through the ACTE project (see Section IV in the Project Document). It also manages the Energy Transition Fund (that will provide grant co-financing to the project). The ANME is also responsible for the accreditation of energy auditors and it plays a key role in the verification process of planned energy use of new buildings or building extension.</p> <p>ANME will be squarely involved in project implementation through support it is already providing to the City of Kairouan through the ACTE project, implementation of RTNB and application of ECOBat label, and</p>	<p>? Output 1.2: Enforcement capabilities of municipality strengthened for ensuring new building compliance with RTNB</p> <p>? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials</p> <p>? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated</p> <p>? Output 1.5: National standards for building materials are developed and adopted</p> <p>? Output 1.6: Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label</p> <p>? Output 2.2: National standards for public lighting technologies developed and adopted</p> <p>? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out</p> <p>? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries</p> <p>? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed</p>

Stakeholder	Contributions	Relevant project outputs
	<p>technical specifications for building thermal insulation and energy efficient lights, among others. The ANME will also be involved in the use of the CLIP model for the analysis of energy savings from proof-of-concept building during the PPG stage.</p>	
<p>Institut National de la Normalisation et de la Propriété Industrielle (INNOPRI)</p>	<p>The Institut National de la Normalisation et de la Propriété Industrielle (INNOPRI) is a non-administrative public institution operating under the supervision of the Ministry of Industry, Energy and Small and Medium-sized enterprises. It is in charge of standardisation, product and quality systems certification, quality promotion and protection of industrial property.</p> <p>INNOPRI is, therefore, the key stakeholder for establishing standards and carrying out conformity tests for building materials and public lighting equipment. It will be involved in the implementation of mainly Output 1.5 and Output 2.2.</p>	<ul style="list-style-type: none"> ? Output 1.5: National standards for building materials are developed and adopted ? Output 2.2: National standards for public lighting technologies developed and adopted ? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out ? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries

Stakeholder	Contributions	Relevant project outputs
Association of Architects	<p>The Association of Architects plays an important role in the entire value chain for building construction starting from architectural design to construction, including the building materials supply chain. Hence, they are directly involved and impacted by the operationalization of the RTNB and the successful application of ECOBat energy label. It also has a significant voice in advocacy and policy debates regarding regulations that influence the conceptualisation and design of buildings, and the construction of these buildings (for example through the choice of building materials including those that are adopted for enhancing the thermal efficiency of building envelopes). Architects are an important link in the process of obtaining licenses and permits for building construction.</p>	<ul style="list-style-type: none"> ? Output 1.1: An operational manual for new building licensing and permits process to operationalise ? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials ? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated ? Output 1.5: National standards for building materials are developed and adopted ? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out ? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries ? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed

Stakeholder	Contributions	Relevant project outputs
<p>Professional Organisation</p> <p>Tunisian Green Building Council (TGBC)</p>	<p>The TGBC is the local chapter of the Green Building Council that supports the development of green buildings, and sustainable communities and cities in Tunisia. It has a strong pedagogical approach of coordinating public and private stakeholders and providing technical support. Based on its mandate and interests, it will be involved in project implementation, especially regarding project activities to overcome perception and awareness barriers.</p> <p>It also has a significant voice in advocacy and policy debates regarding regulations that influence the conceptualisation and design of buildings, and the construction of these buildings, especially through the adoption of building standards and labels, which have building energy use as one component, among others.</p>	<p>? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated</p> <p>? Output 1.5: National standards for building materials are developed and adopted</p> <p>? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out</p> <p>? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries</p> <p>? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed</p>
<p>Development partners (EU, GIZ, USAID, Swiss Cooperation)</p>	<p>Bilateral development partners are supporting different initiatives in the baseline in Section IV of the Project Document. These partners will be involved in the project through coordination with those baseline initiatives.</p>	<p>? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out</p> <p>? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries</p> <p>? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed</p>

Stakeholder	Contributions	Relevant project outputs
Local citizens	<p>The citizens of the city are beneficiaries of services provided by the Municipality. For instance, they will use the enhanced municipal building in the District of Keblian, and they will also benefit from the energy efficient public lighting that the project will demonstrate across the city. As shown by the SESP screening, the local communities and citizens will also be impacted during the construction of the new building and replacement of baseline lighting technologies from various forms of pollution and waste that will be generated within the project boundary. The concerns and expectations of the citizens and local communities have been taken into account at PPG stage. Their needs, interests and perceptions about the technology value chain, as well as the energy efficiency technologies that will be used are crucial for project success. In particular, the needs, interests and perceptions of women were captured and integrated in the project design through the Gender Analysis and Gender Action Plan (Annex 12). Most project outputs that deliver results or involve the local communities are central to the needs, interests and perceptions of local communities,</p>	<p>? Output 1.1: An operational manual for new building licensing and permits process to operationalise</p> <p>? Output 1.2: Enforcement capabilities of municipality strengthened for ensuring new building compliance with RTNB</p> <p>? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials</p> <p>? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated</p> <p>? Output 1.6: Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label</p> <p>? Output 2.3: A smart usage system for municipal lighting demonstrated</p> <p>? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out</p> <p>? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries</p>

Stakeholder	Contributions	Relevant project outputs
	women and vulnerable groups.	
Civil Society Organisations / Local Associations	<p>Associations play a central role in local community development initiatives. In particular, there are associations focused on a number of areas of relevance to the project including environmental, energy, cultural and women. They will want to play an active role in tracking and providing input into the implementation of the first two components of the project. As mentioned above, the Local Associations / Civil Society Organisations will place a key role in communicating with local citizens on relevant aspects of the project. The Associations/CSO that will participate in project implementation are: Association des Bassins des Aghlabides des Sports pour Tous (ABAST); Association des jeunes et sciences ; Association de Protection de la Nature et de l'Environnement ? Kairouan (APNEK) ; Association de Sauvegarde de la M?dina de Kairouan et Conservateur de mus?e de Rakkada.</p>	<p>? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials</p> <p>? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated</p> <p>? Output 1.6: Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label</p> <p>? Output 2.3: A smart usage system for municipal lighting demonstrated</p> <p>? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out</p> <p>? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries</p>

Stakeholder	Contributions	Relevant project outputs
<p>Scientific and technical institutions</p>	<p>The project will work with scientific and technical institutions such as CTMCCV on technical training and outreach activities, among others. Their expertise will be useful in providing input into the first two components. They will also be interested in providing input and gathering information through the third component related to knowledge management and the collection of lessons learned.</p>	<ul style="list-style-type: none"> ? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials ? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated ? Output 1.6: Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label ? Output 2.2: National standards for public lighting technologies developed and adopted ? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out ? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries ? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed

Stakeholder	Contributions	Relevant project outputs
Private sector	<p>Private sector companies were engaged and will participate in the project in two ways: (1) members of the TGBC and the Association of Architects are private sector operators in the construction industry. In this sense, the companies comprising these two organisations will contribute to the project as detailed above. Also, the technical committees that are used by INNORPI to develop national standards also comprise of private sector operators. The persons who are involved in the fabrication of bricks in Kairouan are also private operators who were consulted and will benefit from the project interventions; and (2) a private sector real estate developer, namely "the Proportion of Gold" that is developing a commercial building in the City of Kairouan will participate in the project as co-financer. Through technical assistance, the UNDP-GEF project will support the commercial building to get ECOBat labelling.</p>	<ul style="list-style-type: none"> ? Output 1.1: An operational manual for new building licensing and permits process to operationalise ? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials ? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated ? Output 1.5: National standards for building materials are developed and adopted ? Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label ? Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Final Evaluation carried out ? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries ? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed

Please provide the Stakeholder Engagement Plan or equivalent assessment.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier; Yes

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor; Yes

Other (Please explain) Yes

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

46. **Gender equality and Women's Empowerment:** During the preparatory phase, the project team conducted a gender analysis including gender-disaggregated socioeconomic data collected during a field mission in Kairouan and Tunis. A gender action plan (GAP ? Annex 12 of the Project Document) was developed by integrating measures, indicators, targets and budget in the project activities. The gender analysis and GAP are found in Annex 12 and highlights the gender dimension in relation to the status in the family and in society, capacity and participation in decision making. The main findings of the gender analysis are:

- Women's high rate of unemployment and limited participation in economic life, making them more vulnerable to poverty, especially in rural areas;
- Persistent social norms and cultural beliefs exacerbate violence against women and infringe on their right to free and dignified lives;
- Limited participation of women in politics, leadership and public life;
- Inadequate implementation of laws and measures to protect women from all forms of violence;
- Discriminatory laws and policies that infringe on women's rights, access to justice and economic prosperity; and
- Limited engagement of men and boys as advocates for gender equality, resulting in increasing unpaid care work for women and girls.

47. Cognizant of these findings, and the main conclusions regarding gender issues listed in Table 14, a gender action plan (GAP) has been developed to integrate gender equality and equity in the project design (Table 15). The proposed measures aim to ensure that gender disparities are minimized and to enhance women's empowerment. If these proposed measures are not taken, then there is a risk of the project increasing gender disparities. The implementation and monitoring and evaluation of the GAP will be under the responsibility of the Project Manager. Also, the project will advocate the mainstreaming of gender equality among its staff so that they are conversant with gender-related issues in the project design and attentive to issues gender mainstreaming. Capacity building activities for gender mainstreaming will take into account women's multiple responsibilities and time constraints. The project also will work with UNDP gender experts in order to integrate their knowledge in the development and implementation of GEF-funded projects. Table 14 and Table 15 show that the project includes gender-responsive measures to address gender gaps or promote gender equality and women's empowerment, in order to improve

women's participation and decision making; and for generating socio-economic benefits or services for women. The project's results framework includes gender-responsive indicators.

Table 14. Summary of the main conclusions regarding gender issues, as well as suggested interventions.

Activities/ Tasks	Present status	Suggested project interventions
<p>Reducing Women's Vulnerability to Gender-Based Violence</p>	<p>The municipality has limited capacity to provide public lighting as well as to ensure that is available in areas that are vulnerable to women, particularly those who have to work after dark or who exercise in the evening.</p>	<p>In the short term, the project's focus on energy efficient public lighting will seek to select an area that involves high female traffic such as the location where women exercise or where female factory workers travel. It also has the potential to serve as a model for the expansion of projects or funding for efforts to improve the overall presence of public lighting in a bid to create a more safe and secure space for women and other vulnerable people such as the disabled and the elderly while contributing to the reduction of GBV.</p>

Activities/ Tasks	Present status	Suggested project interventions
<p>Facilitating Equal Participation of Men and Women as well as Vulnerable Populations</p>	<p>In Kairouan, women have a much heavier work load than men, particularly at the household level. They are also often excluded from consultations and decision-making processes.</p>	<p>The project will seek to ensure women's equal participation as well as to ensure the engagement with relevant vulnerable populations such as rural women. Participatory approaches will be considered such as mapping exercises to identify vulnerable populations and to ways to accommodate barriers such as the high rates of illiteracy with some members of the female population in Kairouan. When consultations are organized, efforts will be made to identify times and locations that take into account the heavy household burden of women as well as any transport barriers that could prevent their participation. If appropriate separate consultations with women and men will be considered to accommodate women's reluctance to speak at mixed gender meetings. Attendance sheets and surveys following meetings can provide quantitative and qualitative ways to assess the number and level of satisfaction with the participation of women and other vulnerable groups. Measures will be undertaken to give space for women and other vulnerable populations to actively</p>

Activities/ Tasks	Present status	Suggested project interventions
		participate in the implementation of the project such as capacity building and awareness raising which will include efforts to enable women to play a leadership role where possible such as on project committees.
Leveraging Women's Concern for Environmental Issues	While men also have concerns about environmental issues including climate change, because of women's role at the household level and the direct impacts they face as a result of climate change, they often have greater concerns and engage to a greater extent on environmental issues.	The project will work to leverage women's interest and engagement on environmental issues as a means of raising awareness about the importance and merits of adopting energy efficient technologies and building measures. Efforts will be made to link up with local NGOs working on environmental issues that have previous experience integrating gender considerations to seek their assistance to facilitate the consultation and engagement of women and other vulnerable populations about their needs and perspectives.

Activities/ Tasks	Present status	Suggested project interventions
<p>Facilitating Employment Opportunities for Women</p>	<p>In the project area, women have not always been able to participate when employment opportunities are created.</p>	<p>The project will encourage women to attend capacity building programs as well as to be selected for employment connected to the project at various levels including be setting specific employment targets. Where possible, efforts will be made to facilitate leadership opportunities as well as to facilitate equal pay for equal work. Other barriers to employment such as socio-cultural beliefs about women's role in the workplace will also be considered including identifying possible female role models such as the female engineers and architect who have been recruited to work at the municipality.</p>

Table 16. Gender Action Plan.

Objective	Action	Indicator and Targets	Responsible Institution	Timeline	Allocated Budget (US\$)
<p>Component 1: Institutional strengthening for regulating the market for new efficient buildings</p>					

<p>Output 1.2: Enforcement capabilities of municipality strengthened for ensuring new building compliance with RTNB</p>	<p>Ensuring that women municipality members have the skills, knowledge, and self-confidence to participate in the energy sector's consultations and decision-making processes. The actions are:</p> <ol style="list-style-type: none"> 1) Develop tailored gender and age-inclusive targeting criteria 2) Implementing and designing gender-sensitive training methodologies and content that consider the different learning styles and preferences of women and men, and the different needs and experiences of women and men in both technical and non-technical training 3) Facilitating a safe enabling environment during capacity-building activities ensures that all individuals, regardless of gender and age, can fully participate and benefit from the learning. 	<p><u>Baseline:</u> (a) 0; (b) 0%</p> <p><u>Indicator:</u> (a) Number of sex-differentiated beneficiaries; (b) % of women report more confidence in engaging in the energy sector</p> <p><u>Target:</u> (a) at least 40% of members of the municipality receiving capacity building are women; (b) at least 75% level of satisfaction among women who benefited from capacity enhancement activities</p> <p>-</p>	<p>Municipality of Kairouan and ANME</p>	<p>Year 1, Q3 ? Year 2, Q3</p>	<p>5,000</p>
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<p>Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials</p>	<p>Ensuring that diverse women's, and youth's needs and voices are represented and accounted for in developed local strategic plans. The actions are:</p> <ol style="list-style-type: none"> 1). Ensure the inclusion of women entrepreneurs and businesses into the value chain 2) Ensure active participation of diverse gender and age groups in consultation and planning meetings. 3) Strengthened representation of diverse gender needs in local plans and solutions 	<p><u>Baseline:</u> 0 <u>Indicator:</u> (a) % of people involved in the development of the strategy are women (b) # of gender and women empowerment-related issues in the strategic plans - <u>Target:</u> (a) At least 30% of the people involved in the development of the replication plan are women; (b) at least 5 issues covered (e.g. job creation; safety at work; increased knowledge; participation in the EE value chains; security)</p>	<p>Municipality of Kairouan and Ministry of Environment</p>	<p>Year 1, Q4 to Year 2, Q2</p>	<p>5,000</p>
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<p>Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated.</p>	<p>Sensitisation to expand awareness of women's associations and other relevant stakeholders to participate in the consultations related to the development of the online tool. Ensure that the comparative socio-economic and environmental analysis On-line tool is accessible and a friendly user tool for diversified gender groups. The Action: 1) ensure that the online tool has a flexible outreach process to engage different age and gender groups 2) partnership/collaboration with local women, and youth networks, CSOs, bank tanks to maximize different gender group participation. 3) integrate gender and age-disaggregated indicators in the socio-economic and environmental analysis</p>	<p><u>Baseline:</u> (a) 0; (b) no data <u>Indicator:</u> (a) Number of women consulted; (b) sex, age and physical ability data are available <u>Target:</u> (a) At least 50% of people consulted for the development of the tool are women; (b) subsidiary to (a)</p>	<p>ANME and Municipality of Kairouan</p>	<p>Year 1, Q3 ? Year 2, Q3</p>	<p>2,500</p>
<p>Component 2: Energy efficient public lighting</p>					

<p>Output 2.1: Capacity of municipality staff to implement efficient lighting projects strengthened</p>	<p>Ensuring that women municipality members have the technical skills, knowledge, and self-confidence to implement efficient lighting projects strengthened. The actions are:</p> <ol style="list-style-type: none"> 1) Implementing and designing gender-sensitive training methodologies and content that consider the different learning styles and preferences of women and men, and the different needs and experiences of women and men in both technical and non-technical training 2) Facilitating a safe enabling environment during capacity-building activities ensures that all individuals, regardless of gender and age, can fully participate and benefit from the learning experience?for instance provision of child-care facilities. 	<p><u>Baseline:</u> 0</p> <p><u>Indicator:</u> Number of sex-differentiated beneficiaries.</p> <p><u>Target:</u> at least 40% women receiving capacity building are women.</p>	<p>Municipality of Kairouan</p>	<p>Year 1, Q3 ? Year 2, Q3</p>	<p>2,000</p>
<p>Component 3: Knowledge management, monitoring and evaluation, and scale-up strategy</p>					

<p>Output 3.1: Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, and (iii) Terminal Evaluation carried out</p>	<p>M & E Reports prepared to discuss key findings and recommendations integrates gender and social inclusion considerations Development and integration of gender-sensitive indicators and collection of sex-disaggregated data for monitoring and evaluating project results.</p> <p>Monitor and evaluate gender equality and women's participation and their empowerment through project interventions</p>	<p><u>Baseline:</u> 0 <u>Indicator:</u> M & E reports include the integration of quantitative and qualitative information on sex-disaggregated participation and beneficiaries</p> <p><u>Target:</u> At least 60% of indicators are sex disaggregated 100% of M & E reports integrate quantitative and qualitative information on sex-disaggregated participation and beneficiaries</p> <p>Sex disaggregated and gender responsive results and targets included in Results Framework and other monitoring and evaluation formats at various levels.</p>	<p>Project Manager and Project Coordinator</p>	<p>Year 1- Year 3</p>	<p>10,000</p>
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<p>Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries</p>	<p>Improve understanding of gender issues related to the energy-efficient technology, including access to public lighting, capacity building needs of women and policy issues at the municipal level related to energy efficient technologies, among others. This will inform the output on lessons learned and disseminated.</p>	<p><u>Baseline:</u> 0 <u>Indicator:</u> % of project participants who are women. <u>Target:</u> At least 50% of the people involved in developing and disseminating experiences are women. At least 50% of recipients of information generated including lessons learned, are women</p>	<p>Municipality of Kairouan and Ministry of Environment</p>	<p>Year 2 & Year 3</p>	<p>5,000</p>
<p>Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed</p>	<p>Project results incorporated into the replication plan integrate gender considerations</p>	<p><u>Baseline:</u> 0 <u>Indicator:</u> % of people involved in the development of the replication plan are women <u>Target:</u> At least 40% of the people involved in the development of the replication plan are women.</p>	<p>Municipality of Kairouan, ANME and Ministry of Environment</p>	<p>Year 3, Q3 & Q4</p>	<p>5,000</p>

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

48. Private sector companies were engaged and will participate in the project in numerous ways. Members of the TGBC and the Association of Architects are private sector operators in the construction industry. In this sense, the companies comprising these two organisations will contribute to the project as detailed above in Table 14, and especially in the cross-sectoral coordination mechanism that will oversee the regular updating of building energy codes and associated regulations. The TGBC is the local chapter of the Green Building Council that supports the development of green buildings, and sustainable communities and cities in Tunisia. It has a strong pedagogical approach of coordinating public and private stakeholders and providing technical support. Based on its mandate and interests, it is well placed to work on project activities related to overcoming perception and awareness barriers such as the development and dissemination of an online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology (Output 1.4). In turn, the Association of Architects plays an important role in the entire value chain for building construction starting from architectural design to construction, including the building materials supply chain. Hence, they are directly involved and impacted by the operationalization of the RTNB and the successful application of ECOBat energy label. It also has a significant voice in advocacy and policy debates regarding regulations that influence the conceptualisation and design of buildings, and the construction of these buildings (for example through the choice of building materials including those that are adopted for enhancing the thermal efficiency of building envelopes). Architects are an important link in the process of obtaining licenses and permits for building construction, and they should therefore be well versed with the content of the operational guidelines that is proposed for municipal staff under Output 1.2.

49. Also, the technical committees that are used by INNORPI to develop national standards also comprise of private sector operators. The persons who are involved in the fabrication of bricks in Kairouan are also private operators who were consulted and will benefit from the project interventions. A private sector real estate developer, namely the proportion of gold that is developing a commercial building in the City of Kairouan will participate in the project as co-financer. Through technical assistance, the UNDP-GEF project will support the commercial building to get ECOBat labelling. Any private sector involvement will be through a transparent tendering process. Besides, no GEF finance will be invested in the private development.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

49. Risks: The project risks are detailed in Annex 8, and have been informed by the social and environmental screening contained in Annex 7 of the Project Document and the ESMF given in Annex 11 of the Project Document. The SESP has rated the project as 'Moderate' risk. The main risks are summarised in Table 16 below. It is pointed out that a two-tiered Grievance Redress Mechanism is provided in the Stakeholder Engagement Plan (Annex 10 of the Project Document) to support management of project risks. As per standard UNDP requirements, these risks will be monitored quarterly by the Project Manager. The Project Manager will report on the status of the risks to the UNDP Country Office, which will record progress in the UNDP ATLAS risk register (Annex 8 of the Project Document). Management responses to critical risks will also be reported to the GEF in the annual PIR. Implementation Partner risks identified through HACT and PCAT are also covered.

50. COVID-19 risks and mitigation measures: COVID-19 poses a risk to project implementation both as a national and operational risk. The national level COVID-19 situation is given in paragraph 2 and the project's contribution to post-COVID-19 recovery articulated in paragraph 20. The several waves of infections since March 2020 and incidence of new infections, albeit relatively low, in January 2023 shows that the country is not immune from an ongoing health risk. This translates into an operational risk for the project. The COVID-19 Pandemic may slow down project implementation. In order to mitigate COVID-19 risks, the project design has incorporated a number of mitigation measures as summarized in Table 16.

Table 16. Assessment of key project risks and mitigation measures. See the complete list ? in particular of social and environmental risks - in Annex 7 (SESP in the Project Document) and Annex 8 (Risk Register in the Project Document).

Risk	Rating	Mitigation
<p>National and Operational risk</p> <p>COVID-19 pandemic is a national issue arising from a sanitary and health crisis that has negative socio-economic impacts.</p> <p>This translates into an operational risk for the project. The COVID-19 Pandemic may slow down project implementation. As discussed in section II, the response to COVID-19 in Tunisia has been. However, the pandemic is still evolving and it poses a tangible threat to the continued constrained mobility of persons that can slow down project implementation.</p>	<p>Moderate</p> <p>L = 2</p> <p>I = 3</p>	<p>As discussed in paragraph 2, there has been a significant drop in new COVID-19 cases except for isolated spikes that are well contained. Tunisia has experienced a very strong uptake in COVID-19 vaccination and sanitary measures (especially for foreign visitors) are functioning well to prevent new cases. However, it is pointed out that Kairouan was one of the hardest hit cities at the peak of the pandemic in July 2021 because of its weaker health infrastructure.[20] Hence, there is an onus on the project to put in place measures to minimise potential infections arising from movement of project personnel (staff and consultants) and gatherings (workshops, trainings). The following project design provide mitigation actions that reduce the need for physical travel and meetings:</p> <p>? The biggest threat relates to the movement of international consultants. The project has been designed to make space for the use of local expertise as far as practicable by using the bundled approach for the recruitment of consultants that would favour local firms.</p> <p>? Data and information sharing will be shared via the website of the municipality and using its social media platforms (Annex 10). The use of virtual meetings to carry out stakeholder meetings and consultations will be used whenever practicable and desirable. For instance, the Inception Workshop for the PPG stage was carried out in mixed mode participation (virtual and physical), and this may be replicated during implementation.</p> <p>? Regarding in-person workshops and technical working group meetings, the project will adopt precautionary measures such as social distancing and mandatory sanitary protocols, including wearing of face masks and hand-sanitizing among others.</p>

Risk	Rating	Mitigation
Political Risk	Moderate L= 3 I = 3	<p>Since the Arab Spring, the country's socioeconomic situation has deteriorated. The discontent is especially high amongst the Tunisian youths as they resent the lack of economic opportunities. The situation has been aggravated by the Covid-19 pandemic. The difficult socioeconomic situation translates into a volatile political environment. The positive side is that the socioeconomic situation has been stabilised through intervention by the International Monetary Fund (IMF). While country-wide sovereign risks are beyond the control of the project, the proposed GEF project will have socio-economic benefits at the local level in the form of job creation and catalysing investments in energy efficiency value chains at the local level.</p> <p>In the past few years, there has also been a trend for more centralization of decision-making, implying the decreasing autonomy of regional and local governments. The situation is dynamic and will require close monitoring. Changes in the governance arrangements can be subsumed in the overall sovereign risk that is beyond the control of the project.</p>
Organizational / Institutional Risk	Moderate L = 4 I = 3	<p>The Ministry of Environment (Directorate of Sustainable Development) is the project Implementing Partner. The capacity assessment of the IP has revealed the IP to be 'moderate risk'. In order to mitigate this risk, the Support to NIM implementation modality will be used with project administrative support provided by the UNDP CO. Further, the Ministry of Environment has requested the UNDP CO to host the Project Management Unit.</p> <p>As the project was initiated by the Directorate of Sustainable Development (Ministry of Environment) and the Municipality of Kairouan it is expected that they will be willing to build the capacity for project implementation. The institutional (municipality) appropriation for implementation of the proposed project is high.</p>
Climate Change Risks (SESP ? Risk 5)	Moderate L = 2 I = 2	<p>Measures that have been incorporated into this project include; 1) introduction of climate-responsive building techniques and elements to reduce the effect of heat and reduce demand on energy for cooling (under Output 1.3 that will support the uptake of locally-fabricated bricks, as well as characterize the thermos-physical properties of these bricks that are typically used in the maintenance and renovation of buildings of cultural heritage value, such as the Medina); 2) raising awareness on the long-term benefits of energy efficiency (Output 1.4 will develop an interactive tool to quantify the benefits of investments in energy efficiency in buildings); 3) application of building energy codes and support to choose building insulation to reduce energy demand (Output 1.1 and Output 1.2 with demonstration under Output 1.6).</p> <p>The ESIA that will be undertaken for the retrofitting of the municipality building (Output 1.6) will assess this risk and recommend measures that ensure that the construction works do not result in maladaptive practices.</p>

Risk	Rating	Mitigation
<p>Environmental Risks</p> <p>(SESP ? Risk 4, Risk 8, Risk 9) (Construction and Electrical Wastes from investments and scaling up ? Outputs 1.6, 2.3 and 3.4)</p>	<p>Moderate L = 3 I = 3</p>	<p><u>Risk 4</u> - A targeted assessment will be undertaken for the rehabilitation works of the municipal building (Output 1.6) to address this risk. The assessment will result in an Environmental and Social Management Plan (ESMP) that will include a Waste Management Plan that adopts international best practices.</p> <p>In Tunisia, the collection, transport, treatment and dumping of hazardous and special waste is regulated. The list of companies authorized by the Minister of the Environment for the management of hazardous waste is available on the ANGED website[21] and will be used to contract the company if hazardous waste needs to be disposed.</p> <p><u>Risk 8</u> - A targeted assessment will be undertaken prior to commencement of the replacement activities (Output 2.3) to analyze this risk and develop a Waste Management Plan (as part of the ESMP) that will ensure safe storage or disposal of these lamps. This may include storing them at public storage facilities to be reused elsewhere.</p> <p><u>Risk 9</u> - As outlined in the ESMF, a targeted assessment will be developed for the replication plan for scaling up energy efficient buildings and public lighting (Output 3.4) that will consider environmentally feasible alternatives to the disposal of obsolete lamps and construction waste, including potentially exporting them in line with the Basel Convention.</p>
<p>(SESP ? Risk 7) (Hazardous emissions ? Output 1.3)</p>	<p>Moderate L = 4 I = 3</p>	<p><u>Risk 7</u> - As outlined in the ESMF, a targeted and strategic assessment to consider potential social and environmental impacts will be undertaken for the strategic plan for development of a value chain for the local production of traditional construction materials (Output 1.3) that will address this issue to ensure proposed solutions do not lead to air pollution.</p>
<p>(SESP ? Risk 10) Damage to biodiversity</p>	<p>Moderate L = 2 I = 3</p>	<p><u>Risk 10</u> - As outlined in the ESMF, a targeted and strategic assessment will be conducted to ensure potential downstream social and environmental impacts are considered in the development of the strategic plan for developing a value chain for the local production of traditional construction materials (Output 1.3)..</p>

Risk	Rating	Mitigation
<p>Social Risks</p> <p>(SESP ? Risk 2) ? Limiting women?s opportunities</p>	<p>Moderate L = 3 I = 3</p>	<p><u>Risk 2</u> - The project Gender Action Plan contains actions to contribute towards overcoming gender-related disparities through four considerations, namely: (i) facilitating equitable participation, (ii) ensuring male engagement to prevent backlash against women, (iii) leveraging existing initiatives, and (iv) differing levels of literacy and education.</p> <p>The project will make use of gender-disaggregated indicators (Gender Action Plan and Project Results Framework).</p> <p>The project will optimize the use of gender-responsive training materials to project stakeholders and project interventions</p> <p><u>Risk 3</u> - As mentioned in the Environmental and Social Management Framework (ESMF), targeted assessments will be conducted to consider potential social and environmental impacts associated with the replication plan for scaling up energy efficient buildings and public lighting in Tunisia (Output 3.4) and the Strategy and Action Plan that will be developed under Output 1.3 to enhance the value chain of locally-fabricated bricks.</p>
<p>(SESP ? Risk 3) ? Discrimination against vulnerable communities</p>	<p>Moderate L = 3 I = 3</p>	<p>The SEP has been developed to fully account for the needs and expectations of national and local stakeholders. In addition, the SEP provides for modalities for engagement of all stakeholders including vulnerable groups and ?local populations?.</p> <p><u>Risk 6</u> - As mentioned in the ESMF, a targeted assessment will be undertaken for the rehabilitation works at the municipal building (Output 1.6). This assessment will tackle this risk and propose mitigation measures in the resulting site-specific ESMP.</p> <p>The targeted assessment for the street light replacement activity (Output 2.3) will analyze this risk and propose mitigation measures to reduce it. These measures will be incorporated in the ESMP that will be developed</p>
<p>(SESP ? Risk 6) ? Community health & safety</p>	<p>Moderate L = 2 I = 3</p>	<p><u>Risk 12</u> ? The targeted assessment that will be undertaken for the construction works at the new municipal building (Output 1.6) will assess the risks to workers such that mitigation measures will be incorporated into the resulting site-specific ESMP that will include an Occupational Health and Safety Plan.</p>
<p>(SESP ? Risks 12 & 13) ? Occupational Health & Safety</p>	<p>Moderate L = 2 I = 3</p>	<p>The targeted assessment for the replacement of public light bulbs (Output 2.3) will assess electrocution, falling and other occupational health and safety risks and proposed measures to mitigate them, which shall be incorporated into an Occupational Health and Safety Plan as part of the overall ESMP for this activity.</p> <p>In addition, Labour Management Procedures (LMP) will be developed for the project to ensure that labour standards and rights are upheld for project workers and for workers that are recruited by contractors working on various activities. Details on the LMP are provided in the ESMF.</p> <p><u>Risk 13</u> - As outlined in the ESMF, a targeted and strategic assessment to consider potential downstream social and environmental impacts will be conducted to inform the strategic plan for developing of value chain for the local production of traditional construction materials (Output 1.3) which will</p>

Risk	Rating	Mitigation
		ensure that the issue of occupational health and safety is considered when assessing the options.

[20] <https://www.rfi.fr/en/tunisia-hospitals-struggle-with-covid-tsunami> - accessed 26 January 2023.

[21] ANGED (2022). November 2022: List of authorized hazardous waste companies. Retrieved from http://www.anged.nat.tn/Novembre_2022Liste_societes_autorisees_dechets_dangereux.html (Accessed 4 January 2023)

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

51. Implementing Partner: The Implementing Partner for this project is the Ministry of Environment (through the Directorate of Sustainable Development). The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

52. The Implementing Partner is responsible for executing this project. Specific tasks include:

- ? Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- ? Overseeing the management of project risks as included in this project document and new risks that may emerge during project implementation.
- ? Procurement of goods and services, including human resources.
- ? Financial management, including overseeing financial expenditures against project budgets.
- ? Approving and signing the multiyear workplan.
- ? Approving and signing the combined delivery report at the end of the year; and,
- ? Signing the financial report or the funding authorization and certificate of expenditures.

53. Project stakeholders and target groups: The project stakeholders and target groups are identified in Table 13 above with more details given in Annex 10 of the Project Document ? Stakeholder Engagement Plan. The involvement of the key stakeholders in project management is shown below in project organization structure.

54. UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes overseeing project execution undertaken by the Implementing Partner to ensure that the project is being carried out in accordance with UNDP and GEF policies and procedures and the standards and provisions outlined in the Delegation of Authority (DOA) letter for this project. **The UNDP GEF Executive Coordinator, in consultation with UNDP Bureaus and the Implementing Partner, retains the right to revoke the project DOA, suspend or cancel this GEF project.** UNDP is responsible for the Project

Assurance function in the project governance structure and presents to the Project Board and attends Project Board meetings as a non-voting member.

55. A firewall will be maintained between the delivery of project oversight and quality assurance performed by UNDP and charged to the GEF Fee and any support to project execution performed by UNDP (as requested by and agreed to by both the Implementing Partner and GEF) and may be charged to the GEF project management costs (only if approved by GEF). The segregation of functions and firewall provisions for UNDP in this case is described in the next section.

Project governance structure

56. The project will be implemented using the Support to NIM modality where UNDP is providing country support services to the Implementing Partner via the Tunis Country Office as agreed in the LOA included in Annex 4 of the Project Document, and following approval by the GEF at the time of CEO Endorsement. The governance structure is shown in Figure 12.

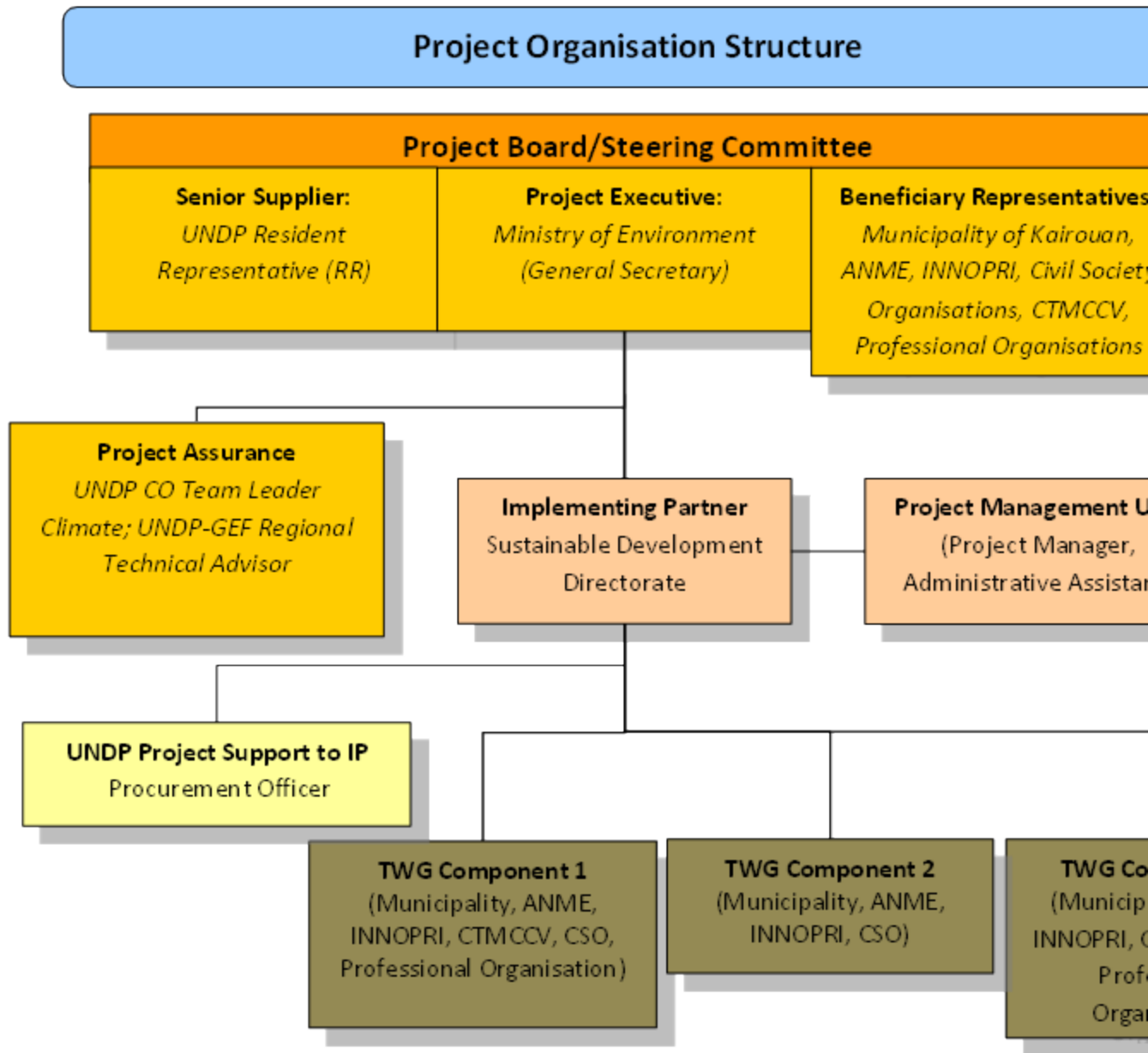


Figure 12. Project Organisational Structure.

57. The UNDP Resident Representative assumes full responsibility and accountability for oversight and quality assurance of this Project and ensures its timely implementation in compliance with the GEF-specific requirements and UNDP's Programme and Operations Policies and Procedures (POPP), its Financial Regulations and Rules and Internal Control Framework. A representative of the UNDP Country Office will assume the assurance role and will present assurance findings to the Project Board, and therefore attends Project Board meetings as a non-voting member.

58. **UNDP project support:** The Implementing Partner and GEF OFP have requested UNDP to provide support services in the amount of **USD 18,086** for the full duration of the project, and the GEF has agreed for UNDP to provide such execution support services and for the cost of these services to be charged to the project budget. The execution support services - whether financed from the project budget or other sources - have been set out in detail and agreed between UNDP Country Office and the Implementing Partner in a Letter of Agreement (LOA).

59. To ensure the strict independence required by the GEF and in accordance with the UNDP Internal Control Framework, these execution services will be delivered independent from the GEF-specific oversight and quality assurance services.

Segregation of duties and firewalls vis-?-vis UNDP representation on the project board:

60. As noted in the [Minimum Fiduciary Standards for GEF Partner Agencies](#), in cases where a GEF Partner Agency (i.e. UNDP) carries out both implementation oversight and execution of a project, the GEF Partner Agency (i.e. UNDP) must separate its project implementation oversight and execution duties, and describe in the relevant project document a: 1) Satisfactory institutional arrangement for the separation of implementation oversight and executing functions in different departments of the GEF Partner Agency; and 2) Clear lines of responsibility, reporting and accountability within the GEF Partner Agency between the project implementation oversight and execution functions.

61. **Support to NIM:** In this case, UNDP's implementation oversight role in the project - as represented in the project board and via the project assurance function - is performed by the Team Leader Climate Change, Environment, Energy and Disaster Risk Reduction and the UNDP-GEF RTA (Arab States Regional Hub). UNDP's execution role in the project (as requested by the implementing partner and approved by the GEF) is performed the Procurement Officer, who will report to the Head of Operations.

Roles and Responsibilities of the Project Organization Structure

62. **Project Board:** All UNDP projects must be governed by a multi-stakeholder board or committee established to review performance based on monitoring and evaluation, and implementation issues to ensure quality delivery of results. The Project Board (also called the Project Steering Committee) is the most senior, dedicated oversight body for a project.

63. The two main (mandatory) roles of the project board are as follows:

1) **High-level oversight of the execution of the project by the Implementing Partner** (as explained in the [?Provide Oversight?](#) section of the POPP). This is the primary function of the project board and includes annual (and as-needed) assessments of any major risks to the project, and decisions/agreements on any management actions or remedial measures to address them effectively. The Project Board reviews evidence of project performance based on monitoring, evaluation and reporting, including progress reports, evaluations, risk logs and the combined delivery report. The Project Board is responsible for taking corrective action as needed to ensure the project achieves the desired results.

2) **Approval of strategic project execution decisions of the Implementing Partner** with a view to assess and manage risks, monitor and ensure the overall achievement of projected results and impacts and ensure long term sustainability of project execution decisions of the Implementing Partner (as explained in the [?Manage Change?](#) section of the POPP).

64. **Requirements to serve on the Project Board:**

? Agree to the Terms of Reference of the Board and the rules on protocols, quorum and minuting.

? Meet annually; at least once.

- ? Disclose any conflict of interest in performing the functions of a Project Board member and take all measures to avoid any real or perceived conflicts of interest. This disclosure must be documented and kept on record by UNDP.
- ? Discharge the functions of the Project Board in accordance with UNDP policies and procedures.
- ? Ensure highest levels of transparency and ensure Project Board meeting minutes are recorded and shared with project stakeholders.

65. Responsibilities of the Project Board:

- ? Consensus decision making:
 - o The project board provides overall overall guidance and direction to the project, ensuring it remains within any specified constraints, and providing overall oversight of the project implementation.
 - o Review project performance based on monitoring, evaluation and reporting, including progress reports, risk logs and the combined delivery report;
 - o The project board is responsible for making management decisions by consensus.
 - o In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.
 - o In case consensus cannot be reached within the Board, the UNDP representative on the board will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.
- ? Oversee project execution:
 - o Agree on project manager's tolerances as required, within the parameters outlined in the project document, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded.
 - o Appraise annual work plans prepared by the Implementing Partner for the Project; review combined delivery reports prior to certification by the implementing partner.
 - o Address any high-level project issues as raised by the project manager and project assurance;
 - o Advise on major and minor amendments to the project within the parameters set by UNDP and the donor and refer such proposed major and minor amendments to the UNDP BPPS Nature, Climate and Energy Executive Coordinator (and the GEF, as required by GEF policies);
 - o Provide high-level direction and recommendations to the project management unit to ensure that the agreed deliverables are produced satisfactorily and according to plans.
 - o Track and monitor co-financed activities and realisation of co-financing amounts of this project.
 - o Approve the Inception Report, GEF annual project implementation reports, mid-term review and terminal evaluation reports.
 - o Ensure commitment of human resources to support project implementation, arbitrating any issues within the project.
- ? Risk Management:
 - o Provide guidance on evolving or materialized project risks and agree on possible mitigation and management actions to address specific risks.
 - o Review and update the project risk register and associated management plans based on the information prepared by the Implementing Partner. This includes risks related that can be directly managed by this project, as well as contextual risks that may affect project delivery or continued UNDP compliance and reputation but are outside of the control of the project. For example, social and environmental risks associated with co-financed activities or activities taking place in the project's area of influence that have implications for the project.
 - o Address project-level grievances.
- ? Coordination:
 - o Ensure coordination between various donor and government-funded projects and programmes.
 - o Ensure coordination with various government agencies and their participation in project activities.

66. **Composition of the Project Board:** The composition of the Project Board must include individuals assigned to the following three roles:

1. **Project Executive:** This is an individual who represents ownership of the project and chairs (or co-chairs) the Project Board. The Executive usually is the senior national counterpart for nationally implemented projects (typically from the same entity as the Implementing Partner), and it must be UNDP for projects that are direct implementation (DIM). In exceptional cases, two individuals from different entities can co-share this role and/or co-chair the Project Board. If the project executive co-chairs the project board with representatives of another category, it typically does so with a development partner representative. The Project Executive is the Secretary General of the Ministry of Environment.
2. **Beneficiary Representative(s):** Individuals or groups representing the interests of those groups of stakeholders who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. Often representatives from civil society, industry associations, or other government entities benefiting from the project can fulfil this role. There can be multiple beneficiary representatives in a Project Board. The Beneficiary representative (s) is/are: Municipality of Kairouan, ANME, INNOPRI, Civil Society Organisations, CTMCCV, Professional Organisations (Table 13, Annex 10 ? Stakeholder Engagement Plan of the Project Document).
3. **Development Partner(s):** Individuals or groups representing the interests of the parties concerned that provide funding, strategic guidance and/or technical expertise to the project. The Development Partner(s) is the UNDP Resident Representative or Deputy Resident Representative who will ensure the policies of UNDP and the GEF are complied with.

67. **Project Assurance:** Project assurance is the responsibility of each project board member; however, UNDP has a distinct assurance role for all UNDP projects in carrying out objective and independent project oversight and monitoring functions. UNDP performs quality assurance and supports the Project Board (and Project Management Unit) by carrying out objective and independent project oversight and monitoring functions, including compliance with the risk management and social and environmental standards of UNDP. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. Project assurance is totally independent of project execution.

68. A designated representative of UNDP playing the project assurance role is expected to attend all board meetings and support board processes as a non-voting representative. It should be noted that while in certain cases UNDP's project assurance role across the project may encompass activities happening at several levels (e.g. global, regional), at least one UNDP representative playing that function must, as part of their duties, specifically attend board meeting and provide board members with the required documentation required to perform their duties. The UNDP representative playing the main project assurance function are: the Team Leader Climate Change, Environment, Energy and Disaster Risk Reduction and the UNDP-GEF RTA (Arab States Regional Hub).

69. **Project Management ? Execution of the Project:** The Project Manager (PM) (also called project coordinator) is the senior most representative of the Project Management Unit (PMU) and is responsible for the overall day-to-day management of the project on behalf of the Implementing Partner, including the mobilization of all project inputs, supervision over project staff, responsible parties, consultants and sub-contractors. The project manager typically presents key deliverables and documents to the board for their review and approval, including progress reports, annual work plans, adjustments to tolerance levels and risk registers.

70. The roles and responsibilities of the PMU members are detailed Annex 9 of the Project Document. A designated representative of the PMU is expected to attend all board meetings and support board processes

as a non-voting representative. The primary PMU representative attending board meetings is the Project Manager.

71. The Project Manager (PM) will be responsible for the overall management of the project, including the mobilization of all project inputs, supervision over project staff, consultants and sub-contractors.

Managerial duties and responsibilities

- ? Manage the overall conduct of the project.
- ? Plan the activities of the project and monitor progress against the approved workplan.
- ? Execute activities by managing personnel, goods and services, training and low-value grants, including drafting terms of reference and work specifications, and overseeing all contractors' work.
- ? Monitor events as determined in the project monitoring plan, and update the plan as required.
- ? Provide support for completion of assessments required by UNDP, spot checks and audits.
- ? Manage requests for the provision of UNDP financial resources through funding advances, direct payments or reimbursement using the FACE form.
- ? Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports.
- ? Monitor progress, watch for plan deviations and make course corrections when needed within project board-agreed tolerances to achieve results.
- ? Ensure that changes are controlled and problems addressed.
- ? Perform regular progress reporting to the project board as agreed with the board, including measures to address challenges and opportunities.
- ? Prepare and submit financial reports to UNDP on a quarterly basis.
- ? Manage and monitor the project risks ? including social and environmental risks - initially identified and submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;
- ? Capture lessons learned during project implementation.
- ? Prepare revisions to the multi-year workplan, as needed, as well as annual and quarterly plans if required.
- ? Prepare the inception report no later than one month after the inception workshop.
- ? Ensure that the indicators included in the project results framework are monitored annually in advance of the GEF PIR submission deadline so that progress can be reported in the GEF PIR.
- ? Prepare the GEF PIR;
- ? Assess major and minor amendments to the project within the parameters set by UNDP-GEF;
- ? Monitor implementation plans including the gender action plan, stakeholder engagement plan, and any environmental and social management plans;
- ? Monitor and track progress against the GEF Core indicators.
- ? Support the Terminal Evaluation process.

Technical duties and responsibilities

- ? Oversee monitoring of progress in development/implementation of the project ESMP/ESMF ensuring that UNDP's SES policy is fully met and the reporting requirements are fulfilled;
- ? Oversee/develop/coordinate implementation of all safeguard related plans;
- ? Ensure social and environmental grievances are managed effectively and transparently;
- ? Review the SESP annually, and update and revise corresponding risk log; mitigation/management plans as necessary;
- ? Ensure full disclosure with concerned stakeholders;
- ? Ensure environmental and social risks are identified, avoided, mitigated and managed throughout project implementation;
- ? Work with the Project coordinator to ensure reporting, monitoring and evaluation fully address the safeguard issues of the project;
- ? Monitor progress in implementation of the project Gender Action Plan ensuring that targets are fully met and the reporting requirements are fulfilled;

- ? Oversee/develop/coordinate implementation of all gender-related work;
- ? Review the Gender Action Plan annually, and update and revise corresponding management plans as necessary;
- ? Work with the Project Coordinator to ensure reporting, monitoring and evaluation fully address the gender issues of the project;

72. The Project Coordinator will support the PM in the overall management of the project, and, will in particular be responsible for activities implemented in Kairouan. The Project Coordinator will directly support the implementation and M&E of the Gender Action Plan, Stakeholder Engagement Plan, and all project risks (including environmental and social safeguards). Under the guidance and supervision of the Project Manager, the Project Coordinator will have the following specific responsibilities:

- ? Coordinate all activities in project sites in Kairouan
- ? Provide direct assistance to the PM in relation to all project M&E activities, including among others the following:
 - ? Monitor project progress and participate in the production of progress reports ensuring that they meet the necessary reporting requirements and standards;
 - ? Ensure project's M&E meets the requirements of the Government, the UNDP Country Office, and UNDP-GEF; develop project-specific M&E tools as necessary;
 - ? Oversee and ensure the implementation of the project's M&E plan, including periodic appraisal of the Project's Theory of Change and Results Framework with reference to actual and potential project progress and results;
 - ? Oversee/develop/coordinate the implementation of the stakeholder engagement plan;
 - ? Oversee and guide the design of surveys/ assessments commissioned for monitoring and evaluating project results;
 - ? Facilitate mid-term and terminal evaluations of the project; including management responses;
 - ? Facilitate annual reviews of the project and produce analytical reports from these annual reviews, including learning and other knowledge management products;
 - ? Support project site M&E and learning missions;
 - ? Visit project sites as and when required to appraise project progress on the ground and validate written progress reports.
- ? Support the PM with managing the Stakeholder Engagement Plan and Social and Environmental Safeguards, including:
 - ? Monitor progress in development/implementation of the project ESMP/ESMF ensuring that UNDP's SES policy is fully met and the reporting requirements are fulfilled;
 - ? Oversee/develop/coordinate implementation of all safeguard related plans;
 - ? Ensure social and environmental grievances are managed effectively and transparently;
 - ? Review the SESP annually, and update and revise corresponding risk log; mitigation/management plans as necessary;
 - ? Ensure full disclosure with concerned stakeholders;
 - ? Ensure environmental and social risks are identified, avoided, mitigated and managed throughout project implementation;

73. The Project Associate / Administrative Assistant will have enhanced responsibilities combining support to the PM in the day-to-day implementation of the project and a number of administrative responsibilities including financial management of the project and its monitoring & evaluation.

Duties and Responsibilities

Under the guidance and supervision of the Project Manager, the Project Assistant will carry out the following tasks:

- ? Assist the Project Manager in day-to-day management and oversight of project activities;

- ? Assist the Project Manager and Project Coordinator in matters related to M&E and knowledge resources management;
- ? Assist in the preparation of progress reports;
- ? Ensure all project documentation (progress reports, consulting and other technical reports, minutes of meetings, etc.) are properly maintained in hard and electronic copies in an efficient and readily accessible filing system, for when required by PB, TAC, UNDP, project consultants and other PMU staff;
- ? Provide PMU-related administrative and logistical assistance.
- ? Keep records of project funds and expenditures, and ensure all project-related financial documentation are well maintained and readily available when required by the Project Manager;
- ? Review project expenditures and ensure that project funds are used in compliance with the Project Document and GoI financial rules and procedures;
- ? Validate and certify FACE forms before submission to UNDP;
- ? Provide necessary financial information as and when required for project management decisions;
- ? Provide necessary financial information during project audit(s);
- ? Review annual budgets and project expenditure reports, and notify the Project Manager if there are any discrepancies or issues;
- ? Consolidate financial progress reports submitted by the responsible parties for implementation of project activities;
- ? Liaise and follow up with the responsible parties for implementation of project activities in matters related to project funds and financial progress reports.

74. There are currently no GEF-financed projects in the proposed areas of interest in the country. Nevertheless, there are several baseline initiatives that are supportive and complementary to the proposed project, and with which the proposed project will coordinate its activities. The most relevant ones are discussed here:

- ? Programme ?Alliance des Communes pour la Transition Energétique ? ACTE? (2017 ? 2022 ; Euro 3 million ; Swiss Government): ACTE was launched in May 2015, aims to strengthen the capacity of Tunisian municipalities to contribute to the national energy transition, through energy efficiency and the use of renewable energies at the level of heritage and municipal territory. The scope of the ACTE programme at the local level covers all Tunisian municipalities and covers six areas:
 - ? Buildings and urban planning to support the municipality in its role as regulator and planner of the territory to promote sustainable territorial and urban planning and resilient to climate change;
 - ? Municipal buildings and facilities to support the municipality in its role as a consumer and provider of "model" public services;
 - ? Energy diversification to support the municipality's ability to promote energy efficiency and the use of renewable energies;
 - ? Mobility and transport to support the municipality's ability to optimise travel on its territory and promote low-impact mobility;
 - ? Internal organisation, monitoring and evaluation to strengthen the municipality's capacity to set up a system of management and internal governance within the municipality, including a system for monitoring and evaluating its local energy policy; and
 - ? Cooperation and communication for the strengthening of the municipality's capacity to mobilize the support of its public, private and civil society partners
- ? Programme ? Accompagnement du march? tunisien de l'clairage dans la transition vers des technologies efficaces ? (2018 ? present ; USD 2.67 million ; GEF) : This project, launched by UNEP as

part of the "En.lighten" initiative, aims to promote the transition of the Tunisian market to energy-efficient lighting technologies. To do this, it will intervene in the following four areas:

- ? The implementation of minimum energy performance standards to ensure the efficiency of replacement bulbs and the energy savings they achieve;
- ? The establishment of policies and support mechanisms to limit the supply of inefficient light bulbs and support the demand for more efficient alternatives;
- ? The implementation of monitoring, verification and enforcement programs to deter the sale of non-compliant products; and
- ? The implementation of measures for sustainable development, such as the determination of maximum limits for the mercury content of devices and the organization of a collection and disposal or recycling of used light bulbs.

In addition, it is noted that this project aimed to transform the island of Djerba into an "all-LED" island, which will promote green tourism in this region. Although the implementation of the project has been delayed, synergies will be sought during implementation. For instance, the minimum performance standards of the present project can be limited to outdoor lighting, while the UNDP-GEF project can focus on lower-power rated indoor lighting.

? Programme "d'Efficacité Énergétique dans le Bâtiment" PEEB? (2016-2022; MEEM-ADEME, FFEM-AFD and GIZ) : The PEEB program is an initiative of the French Development Agency (AFD), the French Ministry of the Environment, Energy and the Sea (MEEM) and the German Technical Cooperation (GIZ) that aims to promote the emergence of energy efficiency projects in buildings in developing and emerging countries. For Tunisia, this initiative will intervene on the following components:

- ? Strengthening the policy framework through (i) the development of legislation relating to the thermal regulation of social housing, buildings belonging to the health sector, etc. (ii) the updating and upgrading of energy data in the sector and (iii) the strengthening of the system for monitoring the application of the thermal regulations in force;
- ? Support and technical assistance in the design and implementation phases of identified EA projects;
- ? Strengthening local capacities (policy makers & project developers) and developing guidance for planning and operating EE measures in hospitals; and
- ? Elaboration de conventions de financement pour les hôpitaux, logements sociaux et le secteur privé?.

? Programme "digitalisation du processus d'octroi du permis de construction" (2017-2021 ; USAID) : As part of its Tunisian Government's long-term decentralization support program "TADAEEM", USAID is supporting Tunisian municipalities to automate the building permit process. This will be possible through the establishment of a platform for the electronic management of files and the training of municipal executives to ensure widespread use of the platform throughout Tunisia.

75. The GEF is also financing a number of city-wide approaches to energy efficiency such as the Sustainable Cities Impact Programme in 23 cities in nine countries around the world.^[22] In closer alignment with the regional scope and also scope of project interventions, the proposed project will collaborate with the UNDP-GEF funded project in the City of Amman, Jordan entitled "A systemic approach to sustainable urbanization and resource efficiency in Greater Amman Municipality (GAM)", and the UNDP-GEF project in Iraq entitled "Promoting carbon reduction through energy efficiency (EE)

techniques in Baghdad City?. Collaboration will also be carried out with the Marrakech Sustainable Cities Child project entitled [?Child Project Title: Strengthening Marrakech?s sustainable development through innovative planning and financing?](#). In order to advance the case of net-zero buildings, the project will also collaborate with the UNEP-GEF project entitled [?Zero-Carbon Buildings for All: from energy efficiency to decarbonization?](#).

[22] <https://www.thegef.org/newsroom/publications/sustainable-cities-program> - accessed 24 May 2022.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

76. The project design is aligned and supportive of the following strategies and the updated NDC under the UNFCCC:

? The National Programme for Sustainable Cities in Tunisia provides a multi-faceted, integrated approach to designing and planning for sustainable cities in Tunisia. It provides a template for local authorities to use to develop their town or municipal sustainable development strategies and action plans;

? The Sustainable Development Strategy of Kairouan provides the roadmap to 2030 for transforming the City of Kairouan in a sustainable city. It covers five strategic pillars: (1) Improve the quality of life and the environment of the city; (2) Reinforce social cohesion and improve the living conditions for inclusiveness of all citizens; (3) Capitalise of the different potentialities of the city and economic diversification; (4) Optimise the management of the territory and enhance urban planning; and (5) Preserve and value the cultural and architectural heritage. The Strategy also provides project ideas for implementing the strategic pillars. For pillar 1, it is proposed to develop zero-emissions buildings and to reequip public spaces. The Strategy also identifies how the 5 pillars contribute to the SDGs;

? The City of Kairouan has a sustainable energy plan (PAED) [paragraphs 4 and 5 above] that proposes energy efficiency interventions in buildings, such as: (1) energy efficiency equipment in municipal buildings; (2) demonstration of a green building through energy efficient equipment and building envelope; (3) capacity building of stakeholders on energy efficiency in buildings. The proposed project directly addresses (2) and (3). The PAED also proposes (i) to install LED public lights, and (ii) to upgrade the public lighting system using voltage regulation controllers. Each one of the two measures would result in 208 ktCO₂ emission reduction per year;

? Tunisia?s updated NDC proposes a reduction in carbon intensity of 45% by 2030 relative to 2010. The unconditional contribution would be 13% of the proposed target. Forty percent (40%) of total investments (USD 14.4 billion) required would be for energy efficiency measures, out of which some 77% would be contingent on international climate finance (i.e. conditional contribution). Recognising that the construction/building sector accounts for a large share of primary energy consumption (and hence emissions of greenhouse gases), the NDC is explicit for support needed regarding technology transfer and innovative

energy efficiency practices in buildings. The proposed GEF project squarely addresses these issues. The buildings sector is expected to contribute 25% of all emission reductions related to energy efficiency by 2030.

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

77. Knowledge management is a cornerstone component in the project design since the impacts of the project will accrue from a scaling up of its results. Output 3.3 seeks to capture and disseminate lessons learned and best practices within Tunisia and other MENA countries. For instance, the development of an online tool under Component 1 (Output 1.4) for carrying out comparative socio-economic and environmental benefits of buildings with or without EE measures will be disseminated broadly to be used as a decision-making and pedagogical tool for promoting low-carbon buildings. Similarly, in Component 3, a replication and investment plan for scaling up the lessons learned on city-wide approaches for promoting energy efficient buildings and public lighting will be formulated. In addition, the UNDP-GEF project seeks to transform the municipality into a learning organisation that is characterised by evidence-based decision making using a data management system that will allow city sustainability to be tracked. For this, the project will assist the municipality of Kairouan to adopt Data Standards for Sustainable Cities, namely ISO 37120. Also, the project will support the city of Kairouan to become a member of the World Council on City Data (WCCD). The adoption of ISO 37120 will be a precursor for the city of Kairouan to develop its inventory of greenhouse gases on a regular basis. The knowledge management plan is given in Table 17.

Table 18. Knowledge management deliverables and budget.

Deliverable	Timeline	Budget (US\$)
Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated	Year 1 - 2	43,600
Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries	Year 1 - 3	59,700
Act. 3.1.3. Terminal evaluation	by 31 December 2026	31,500
Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed	Year 3	82,400
TOTAL		217,200

9. Monitoring and Evaluation

Describe the budgeted M and E plan

78. **Monitoring Plan:** The project results, corresponding indicators end-of-project targets in the project results framework will be monitored by the Project Management Unit annually, and will be reported in the GEF PIR every year, and will be evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. Project risks, as outlined in the risk register, will be monitored quarterly. The detailed Monitoring Plan is given in Annex 6 of the Project Document, and is summarised in Table 18.

Table 19. Monitoring and evaluation plan and budget.

Monitoring and Evaluation Budget for project execution:		
GEF M&E requirements to be undertaken by Project Management Unit (PMU)	Indicative costs (US\$)	Time frame
Inception Workshop and Report	2,500	Inception Workshop within 2 months of the First Disbursement
M&E required to report on progress made in reaching GEF core indicators and project results included in the project results framework	4,500	Annually and at closure.
Preparation of the annual GEF Project Implementation Report (PIR)	None <i>[Covered by the salary of the Project Manager]</i>	Annually typically between June-August
Monitoring of SES, gender action plan, stakeholder engagement plan, project risks	3,845	On-going.
Supervision missions	None	Annually
Learning missions	None	As needed
Independent Mid-term Review (MTR):	n/a	n/a
Independent Terminal Evaluation (TE):	31,500	31 December 2026
TOTAL indicative COST	42,345	

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCE/SCCF)?

79. The UNDP-GEF project is expected to deliver the following socio-economic benefits:

- ? The project is locally based and all investments (GEF, Municipality of Kairouan and private sector developer) will take place locally therefore creating wealth and jobs locally. As mentioned above, the project will ensure that all hired jobs will be carried out locally;
- ? There will also be indirect economic impacts related to the stimulation of demand for energy efficient building materials and efficient lamps for public lighting. Therefore, it can be expected that jobs will be created locally in the value chain for the supply of these building materials and lamps;
- ? The choice of geographical locations for the substitution of lamps has taken into account the needs of women, and mainly for their safety and recreation. The GEF investments will therefore provide direct pro-women benefits;
- ? The energy bill related to public lighting is a heavy burden for the municipality, and the use of efficient lighting paves the way for energy savings that can be invested elsewhere by the municipality to enhance the quality of life of the citizens of Kairouan;
- ? It is known that the extreme weather conditions will increase in the future including extreme high and low temperatures. While the application of energy building codes provide direct GHG emission reductions, well-insulated buildings also provide a direct adaptation response to climate change and climate variability;
- ? The project will develop a strategy for enhancing the value chain for locally-fabricated bricks that will have positive benefits on local job creation and economic activities in the local value chain for construction materials. In addition, this strategy will provide strong benefits to local knowledge and cultural heritage. The latter relates to the production of locally-fabricated bricks of good quality standards for the maintenance of cultural heritage sites like the M?dina;
- ? All of the above socioeconomic benefits are underpinned by global environmental benefits of reducing GHG emissions. The project will also developed site-specific ESMPs for building construction and lamp replacement that will promote good environmental and social practices, thereby improving the quality of life of citizens in Kairouan; and
- ? The development of a Replication Plan and formulation of climate finance concept note will contribute to the scaling up of all the socioeconomic and environmental benefits of the project. It is pointed out that the project directly supports the following Sustainable Development Goals: SDG13 ? Climate Action; SDG7 ? Affordable and Clean Energy; SDG 11 ? Sustainable Cities and Communities; SDG5 ? Gender Equality; SDG17 ? Partnerships to achieve the Goal.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	Medium/Moderate		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Social and Environmental Screening

Project Information

<i>Project Information</i>	
1. Project Title	Towards a Sustainable City through Energy Efficiency in Kairouan
2. Project Number (i.e. Atlas project ID, PIMS+)	6686
3. Location (Global/Region/Country)	Tunisia
4. Project stage (Design or Implementation)	Design
5. Date	16 February 2023

Part A. Integrating Programming Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Programming Principles in Order to Strengthen Social and Environmental Sustainability?

Briefly describe in the space below how the project mainstreams the human rights-based approach

The project is based on, and specifically responds to, a request from the Municipality of Kairouan and the Directorate of Sustainable Development of the Ministry of Environment to develop energy efficiency measures in new buildings and public lighting. The City of Kairouan has started implementation of a city-wide sustainable development strategy, which provides an overall vision for the growth of the city until 2030 with a clear overarching focus on climate-resilient development, the creation of green jobs, and a strive for resource efficiency in all aspects of municipal planning and investments. The interventions proposed in the GEF funded project are also fully supportive of the updated Nationally Determined Contribution that seeks to have large investments in economy-wide energy efficiency. Since 77% of interventions are conditional upon financial support, the GEF funding augurs well.

Against a backdrop of deteriorating socioeconomic conditions in Tunisia, the socioeconomic situation in the City of Kairouan is below the country average. For instance, the unemployment rate is 18.7% and is higher among the female population at 28.25% compared to 14.04% for the male population. The illiteracy rate of 17.64% is also higher than the national average of 13%. Kairouan also have a population growth rate of 1.6% per annum that exceeds the national average of 1%. The project is implemented in a city characterized by an unfavorable socio-economic situation.

The project will seek to revitalize the local value chain for ecological building materials that has potential for new job creation. By catalyzing investments in energy efficiency measures, the local business value chain for energy efficient materials and supplies will be enhanced with further potential for job creation. By investing in energy efficiency in municipal buildings and public lighting, the savings on energy bill by the municipality can be invested in the provision of other social services to improve the socio-economic condition in the City of Kairouan. The overall project will contribute to improve the quality of life of the people.

Briefly describe in the space below how the project is likely to improve gender equality and women's empowerment

As mentioned above, the adverse socio-economic situation in the City of Kairouan has strong gender biases against the female population. First, all institutional capacity building that will be provided by the project will ensure that a minimum 40% of women are beneficiaries. Job creation will take place mostly by re-invigorating the construction of locally available ecological building materials. The project will put in place a strategy, including appropriate training, to ensure that at least 40% of jobs created are for women. The replication plan that will be developed under Component 3 of the project will be gender-differentiated. Also, dissemination of lessons learned and knowledge products will be gendered. A detailed Gender Analysis and Gender Action Plan has been prepared to ensure that gender issues have been mainstreamed throughout project activities..

Briefly describe in the space below how the project mainstreams sustainability and resilience

The project is a GEF-funded climate change mitigation project and therefore environmental sustainability is the core of the project objective: ?To promote green buildings and efficient lighting in alignment with the objectives of the enhanced Nationally Determined Contribution, the Sustainable Development Strategy of Kairouan and the National Programme for Sustainable Cities in Tunisia?.

The building sector is the main final energy consumer sector (37% in 2019, including biomass-energy). It is also involved through the building materials industries which are among the most GHG-emitting sectors. Taken as a whole, the building sector would represent ? from upstream to downstream ? around 50% of final energy demand in Tunisia, and at least 55% of GHG emissions attributable to energy in 2019. Out of the 13.8 MtCO₂ emission reductions to 2030 (relative to the business-as-usual scenario) expected from the energy sector, ~2MtCO₂ would be obtained from energy efficiency in buildings. The selection of Kairouan as pilot city also stems from the fact that it already implementing a sustainable energy plan (PAED), implying strong buy-in and ownership of the proposed project by the local government. Based on projections the total emissions were expected to reach 402,762 tCO₂ by 2020.

The proposed project will assist the Municipality of Kairouan to achieve a low-carbon pathway via targeted energy efficiency interventions in the municipal buildings and street lighting sectors. The building sector has been identified as having the largest potential for energy efficiency (EE) interventions in the country, and as such is the main focus of this project. Further the project will provide more general support for the application of low-carbon planning and performance tools building off the existing Sustainable Development Strategy for the City of Kairouan under the ambit of the National Programme for Sustainable Cities in Tunisia, and informed by lessons learned from the GEF-financed Sustainable Cities IAP and other projects (e.g. Jordan and Iraq).

The project will also enhance sustainable development through minimising dependence on imported energy, minimising energy costs to the municipality and the larger economy, creating new employment opportunities and improving the local environment. The sustainable development and socioeconomic development impacts of the project will be substantial and multi-faceted. Potential indicators to be considered in the final results framework include:

- ? Performance of city (measured ex ante and ex post) based on ISO 37120
- ? Direct and indirect reductions in greenhouse gases
- ? Energy intensity/improved efficiency of buildings
- ? Total number of direct and indirect beneficiaries; Number of beneficiaries relative to total population
- ? Economic co-benefits ? aggregate annual monetary savings (US\$ equivalent) to the municipal budget from EE public street lighting and more efficient energy consumption in public buildings and public lighting.

Briefly describe in the space below how the project strengthens accountability to stakeholders

A multi-stakeholder process was used to design the project. Hence, the submission of the proposed PIF was approved by the key project stakeholders including the Municipality of Kairouan, the Directorate of Sustainable Development (Ministry of Environment) and the National Agency for Energy Conservation (ANME). A detailed stakeholder analysis and Stakeholder Engagement Plan (SEP) has been developed to fully account for the needs and expectations of national and local stakeholders. The SEP provides for the modalities for the project to engage with the stakeholders. Importantly, the project Steering Committee (PSC) will oversee project implementation. The composition of the PSC will be informed by the stakeholder analysis, and it will be the main institutional arrangement for project accountability to stakeholders. Due care will be exercised to ensure participation of all stakeholders in project activities. The SEP also provides a grievance mechanism that any stakeholder that feels aggrieved by the project may use to seek redress.

Part B. Identifying and Managing Social and Environmental Risks

<p>QUESTION 2: What are the Potential Social and Environmental Risks?</p> <p><i>Note: Complete SESP Attachment 1 before responding to Question 2.</i></p>	<p>QUESTION 3: What is the level of significance of the potential social and environmental risks?</p> <p><i>Note: Respond to Questions 4 and 5 below before proceeding to Question 5</i></p>			<p>QUESTION 6: Describe the assessment and management measures for each risk rated Moderate, Substantial or High</p>
<p><i>Risk Description</i> <i>(broken down by event, cause, impact)</i></p>	<p><i>Impact and Likelihood</i> <i>(1-5)</i></p>	<p><i>Significance</i> <i>(Low, Moderate, Substantial, High)</i></p>	<p><i>Comments</i> <i>(optional)</i></p>	<p><i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i></p>

<p>Risk 1: Poor communities are economically affected by new building licensing and permits process</p> <p>Related to:</p> <ul style="list-style-type: none"> ? Human Rights; P.2, P.3, P.5 ? Accountability; P.13, P.14 ? Standard 6: Indigenous Peoples; 6.1 	<p>I = 4</p> <p>L = 1</p>	<p>Low</p>	<p>The Governorate of Kairouan is considered the 3rd poorest governorate in Tunisia whose poverty rate recorded in 2015 is 29.3%, which is significantly higher than the national average rate (15.3%)[1].</p> <p>The introduction of an operational manual for new building licensing and permits (Output 1.1) may affect poor communities, including ?local populations?, who might be economically disadvantaged by these regulations through the need to use expensive building materials, fixtures or equipment. However, it is pointed out that the RTNB is not applicable to all buildings, and it only covers commercial buildings and collective residential buildings (apartment blocks). In</p>	<p>The RTNB applies only to commercial buildings and apartment blocks and therefore the operational manual would be limited to these. Nevertheless, the Stakeholder Engagement Plan (SEP) that has been prepared for the project will be used to give priority to community engagement to ensure that No-one is Left Behind. This will imply a proactive attitude to reach out to vulnerable people and groups and consider their concerns.</p>
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2019, only 11% of residential buildings were covered by the existing regulation (RTNB).

Note: ?Local populations? meet the criteria of SES Standard 6, but are not referred to as ?Indigenous populations? in the Tunisian context. Both the Stakeholder Engagement Plan (Annex 8) and the Gender Action Plan (Annex 10) provide description of how local populations are engaged.

<p>Risk 2: Limiting women's opportunities to benefit from the project</p> <p>Related to:</p> <p>? Gender Equality and Women's Empowerment; P.10</p> <p>? Standard 7: Labour and Working Conditions; 7.5</p>	<p>I = 3</p> <p>L = 3</p>	<p>Moderate</p>	<p>There is low level participation of women across the entire energy efficiency value chain for buildings and public lighting.</p> <p>Therefore, their opportunities to benefit from the project may be limited by restricting or prohibiting them from engaging in the policy and decision making or in the design and management of an operational manual for new building licensing and permits and national standards for building materials.</p> <p>The project will also create new green jobs and will conduct training and awareness campaigns. Women may not be well represented in these activities and may not receive the training and</p>	<p>The project Gender Action Plan contains actions to contribute towards overcoming gender-related disparities through four considerations, namely: (i) facilitating equitable participation, (ii) ensuring male engagement to prevent backlash against women, (iii) leveraging existing initiatives, and (iv) differing levels of literacy and education.</p> <p>The project will make use of gender-disaggregated indicators (Gender Action Plan and Project Results Framework).</p> <p>The project will optimize the use of gender-responsive training materials to project stakeholders and project interventions</p>
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			awareness raising offered.	
<p>Risk 3: Discrimination against and marginalization of vulnerable communities due to implementation of the replication plan for scaling up energy efficient buildings and public lighting</p> <p>Related to:</p> <p>? Human Rights; P.5</p> <p>? Accountability; P.13, P.14</p>	<p>I = 3</p> <p>L = 3</p>	Moderate	<p>Stakeholders, including vulnerable groups and Local Populations, who may be affected by or benefit from new energy-efficient buildings and public lighting may be marginalized and unable to voice their concerns, thereby not benefiting from the project and the replication plan or even being negatively affected by it.</p> <p>While ?local populations? are not located in the City of Kairouan and are therefore not directly impacted by project activities, there is the potential that the ?local populations? who are found mainly in the southern parts of Tunisia will be impacted during replication of the project.</p>	<p>As mentioned in the Environmental and Social Management Framework (ESMF), targeted assessments will be conducted to consider potential social and environmental impacts associated with the replication plan for scaling up energy efficient buildings and public lighting in Tunisia (Output 3.4) and the Strategy and Action Plan that will be developed under Output 1.3 to enhance the value chain of locally-fabricated bricks.</p> <p>The SEP has been developed to fully account for the needs and expectations of national and local stakeholders. In addition, the SEP provides for modalities for engagement of all stakeholders including vulnerable groups and ?local populations?.</p> <p>The SEP includes a grievance mechanism that any stakeholder that feels aggrieved by the project may use to seek redress.</p>

<p>Risk 4: Improper storage, transport and disposal of generated waste and hazardous material from retrofitting of municipal building and public street lighting can have an adverse effect on community health and the environment</p> <p>Related to:</p> <p>? Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management; 1.1, 1.7</p> <p>? Standard 3: Community Health, Safety and Security; 3.1, 3.2, 3.4, 3.5, 3.6, 3.7</p> <p>? Standard 8: Pollution Prevention and Resource Efficiency; 8.1, 8.2, 8.6</p>	<p>I = 3</p> <p>L = 3</p>	<p>Moderate</p>	<p>The municipal building is located in a mixed zone area where there are commercial activities and residences.</p> <p>Community health and safety might be affected due to the improper transport, storage, and/or disposal of hazardous material and waste resulting from the replacement of non-EE items in the municipal building. Chemicals and hazardous materials can include paints for refurbishing of walls and facades, low-pressure mercury-vapor gas-discharge lamps (fluorescents), and use of new insulation materials.</p> <p>There is one controlled landfill within the governorate of Kairouan. This landfill is located 11 km west of the city of Kairouan. The landfill</p>	<p>A targeted assessment will be undertaken for the rehabilitation works of the municipal building (Output 1.6) to address this risk. The assessment will result in an Environmental and Social Management Plan (ESMP) that will include a Waste Management Plan that adopts international best practices.</p> <p>In Tunisia, the collection, transport, treatment and dumping of hazardous and special waste is regulated. The list of companies authorized by the Minister of the Environment for the management of hazardous waste is available on the ANGED website^[3] and will be used to contract the company if hazardous waste needs to be disposed.</p>
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			treats an average of 165 tons of waste per day[2].	
<p>Risk 5: Project outputs are impacted by climate change and natural disasters</p> <p>Related to:</p> <p>? Human Rights: P.7</p> <p>? Standard 2: Climate Change and Disaster Risks; 2.1, 2.2, 2.3</p>	<p>I = 2</p> <p>L = 2</p>	Low	<p>The ambient temperature in Tunisia is expected to increase in the future due to climate change. As discussed, energy building codes related specifically to building envelope insulation will be an effective form of adaptation to this climate impact. The accentuated impacts of future climate change are expected to increase political interest in addressing the drivers of such change through large-scale implementation of building codes that will lead to scaling-up of mitigation actions.</p>	<p>Measures that have been incorporated into this project include; 1) introduction of climate-responsive building techniques and elements to reduce the effect of heat and reduce demand on energy for cooling (under Output 1.3 that will support the uptake of locally-fabricated bricks, as well as characterize the thermos-physical properties of these bricks that are typically used in the maintenance and renovation of buildings of cultural heritage value, such as the Medina); 2) raising awareness on the long-term benefits of energy efficiency (Output 1.4 will develop an interactive tool to quantify the benefits of investments in energy efficiency in buildings); 3) application of building energy codes and support to choose building insulation to reduce energy demand (Output 1.1 and Output 1.2 with demonstration under Output 1.6).</p> <p>A site-specific ESMP (informed by a targeted assessment) will be conducted to inform the retrofitting of the municipality building (Output 1.6) and will assess this risk and recommend measures that ensure that the construction works do not result in maladaptive practices.</p>

<p>Risk 6: Community health and safety risks from noise and air emissions during retrofitting of municipal building and replacement of street lighting</p> <p>Related to: ? Standard 3: Community Health, Safety and Security; 3.1, 3.2,</p>	<p>I = 3 L = 2</p>	<p>Moderate</p>	<p>Increased noise level (noise from the mechanical machinery and equipment, vehicles, removal of the old buildings equipment, etc.) may occur during the construction works at the municipal building</p> <p>Air pollution may be caused by emissions from vehicles, dismantling of the old equipment and constructions, transportation of demolition / construction materials and also during the final interior and exterior works.</p> <p>The types of infrastructure that are found in the vicinity of public lighting in the project boundary are: educational institutions (primary and secondary schools; public and private); health institutions (hospitals and</p>	<p>As mentioned in the ESMF, a targeted assessment will be undertaken for the rehabilitation works at the municipal building (Output 1.6). This assessment will tackle this risk and propose mitigation measures in the resulting site-specific ESMP.</p> <p>The targeted assessment for the street light replacement activity (Output 2.3) will analyze this risk and propose mitigation measures to reduce it. These measures will be incorporated in the ESMP that will be developed.</p>
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			clinics; public and private); residential houses; markets; commercial buildings (offices, small businesses); municipal buildings.	
<p>Risk 7: Emissions from local production of traditional construction materials resulting from implementation of the strategic plan for the value chain</p> <p>Related to:</p> <p>? Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management; 1.1, 1.7</p> <p>? Standard 3: Community Health, Safety and Security; 3.2, 3.4, 3.5, 3.6</p> <p>? Standard 8: Pollution Prevention and Resource Efficiency; 8.1, 8.2, 8.3</p>	<p>I = 3</p> <p>L = 4</p>	Moderate	<p>Used tires and shoes are currently burned in furnaces to fire the bricks. There are residential areas that are estimated to be within 1-2 km of the brick production site, and depending on wind direction, there is possibility that these households are affected by the smokes and fumes from furnaces if alternative methods are not proposed.</p>	<p>As outlined in the ESMF, a targeted and strategic assessment to consider potential social and environmental impacts will be undertaken for the strategic plan for development of a value chain for the local production of traditional construction materials (Output 1.3) that will address this issue to ensure proposed solutions do not lead to air pollution.</p>

<p>Risk 8: Improper disposal of obsolete lamps after replacement with LEDs can release pollutants into the environment</p> <p>Related to:</p> <p>? Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management; 1.1, 1.7</p> <p>? Standard 3: Community Health, Safety and Security; 3.2, 3.4, 3.5, 3.6</p> <p>? Standard 8: Pollution Prevention and Resource Efficiency; 8.1, 8.2, 8.3</p>	<p>I = 3</p> <p>L = 3</p>	<p>Moderate</p>	<p>An estimated 574 units of sodium lamps will be replaced with LEDs (Output 2.3). High pressure sodium lamps contain mercury^[4] and therefore if improperly disposed, would like to mercury contamination in nearby water bodies, air and soil.</p>	<p>A targeted assessment will be undertaken prior to commencement of the replacement activities (Output 2.3) to analyze this risk and develop a Waste Management Plan (as part of the ESMP) that will ensure safe storage or disposal of these lamps. This may include storing them at public storage facilities to be reused elsewhere.</p>
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<p>Risk 9: Improper disposal of hazardous waste (obsolete lamps and construction waste) resulting from implementation of the replication plan for scaling up energy efficient buildings and public lighting leading to an adverse impact on the environment and public health</p> <p>Related to:</p> <p>? Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management; 1.1, 1.7</p> <p>? Standard 3: Community Health, Safety and Security; 3.2, 3.4, 3.5, 3.6</p> <p>? Standard 8: Pollution Prevention and Resource Efficiency; 8.1, 8.2, 8.3</p>	<p>I = 3</p> <p>L = 3</p>	<p>Moderate</p>	<p>If not properly disposed, hazardous waste can have adverse impacts on the environment and public health due to the lack of adequate solid waste infrastructure in Tunisia^[5].</p>	<p>As outlined in the ESMF, a targeted assessment will be developed for the replication plan for scaling up energy efficient buildings and public lighting (Output 3.4) that will consider environmentally feasible alternatives to the disposal of obsolete lamps and construction waste, including potentially exporting them in line with the Basel Convention.</p>
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<p>Risk 10: Damage to biodiversity, natural resources and cultural heritage sites due to local brick production</p> <p>Related to:</p> <p>? Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management; 1.1, 1.7</p> <p>? Standard 3: Community Health, Safety and Security; 3.2, 3.4, 3.5, 3.6</p> <p>? Standard 4: Cultural Heritage; 4.1</p> <p>? Standard 8: Pollution Prevention and Resource Efficiency; 8.1, 8.2, 8.3</p>	<p>I = 3</p> <p>L = 2</p>	<p>Moderate</p>	<p>The location of brick fabrication activities is not close to environmentally sensitive areas, including biodiversity protected areas, wetlands, cultural heritage sites and water sources.</p> <p>However, the types of brick that may be produced after implementing the strategic plan for developing a value chain for the local production of traditional construction materials (Output 1.3) may have an impact on the cultural heritage value of the city of Kairouan if not in line with aesthetics of the existing architecture.</p>	<p>Tunisia has important mining resources that constitute the raw materials for the manufacture of the Tozeur brick and plaster. The UNDP-GEF project will draw from lessons learned from those two experiences to propose a strategy and action plan for the enhancement of the local value chain for bricks produced in Kairouan. The strategic plan for development of the value chain will consider these risks and integrate measures to avoid and minimize such risks.</p> <p>As outlined in the ESMF, a targeted and strategic assessment will be conducted to ensure potential downstream social and environmental impacts are considered in the development of the strategic plan for developing a value chain for the local production of traditional construction materials (Output 1.3).</p>
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<p>Risk 11: Project activities could inadvertently impact ?local population?</p> <p>Related to:</p> <p>? Standard 6: Indigenous Peoples; 6.1</p>	<p>I = 1</p> <p>L = 1</p>	<p>Low</p>	<p>The SESP has identified that there are ?local populations? present in Tunisia. However, Standard 6 is not triggered given that impacts on the human rights, lands, natural resources, territories, and traditional livelihoods of ?local populations? are not anticipated given the nature of project activities (including scaling up energy efficient buildings and public lighting).</p> <p>Public street lighting activities will be undertaken throughout the city of Kairouan (Output 2.3) during project implementation and throughout Tunisia during implementation of the replication plan for scaling up energy efficient buildings and public lighting (Output 3.4) that will be prepared by the project. While these activities may take place</p>
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			<p>in areas claimed or used by ?local population?, as they only include replacement of light bulbs, they are not expected to have any significant impact on these populations. The activity has a small footprint and can be done in a very short period.</p>	
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<p>Risk 12: Working conditions for project activities do not meet national labour laws and international labour standards</p> <p>Related to:</p> <p>? Standard 7: Labour and Working Conditions; 7.1, 7.2, 7.3, 7.5</p>	<p>I = 3</p> <p>L = 2</p>	<p>Moderate</p>	<p>Workers involved in the retrofitting of the building and replacement of public light bulbs may be exposed to working conditions not aligned with labour laws and health and safety standards. Forced labor and child labor are also possible.</p> <p>The national law provides for the right of workers to organize, form, and join unions, and to bargain collectively. The law also prohibits and criminalizes all the worst forms of child labor and provides for a minimum age of employment[6]⁶.</p>	<p>The targeted assessment that will be undertaken for the construction works at the new municipal building (Output 1.6) will assess the risks to workers such that mitigation measures will be incorporated into the resulting site-specific ESMP that will include an Occupational Health and Safety Plan.</p> <p>The targeted assessment for the replacement of public light bulbs (Output 2.3) will assess electrocution, falling and other occupational health and safety risks and proposed measures to mitigate them, which shall be incorporated into an Occupational Health and Safety Plan as part of the overall ESMP for this activity.</p> <p>In addition, Labour Management Procedures (LMP) will be developed for the project to ensure that labour standards and rights are upheld for project workers and for workers that are recruited by contractors working on various activities. Details on the LMP are provided in the ESMF.</p>
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<p>Risk 13: Occupational health and safety risks associated with local brick production</p> <p>Related to: ? Standard 7: Labour and Working Conditions; 7.1, 7.6</p>	<p>I = 3 L = 2</p>	<p>Moderate</p>	<p>The operations are carried out manually using unskilled labour. There is no investment to improve working conditions such as the use of protective equipment (PPE).</p>	<p>As outlined in the ESMF, a targeted and strategic assessment to consider potential downstream social and environmental impacts will be conducted to inform the strategic plan for developing of value chain for the local production of traditional construction materials (Output 1.3) which will ensure that the issue of occupational health and safety is considered when assessing the options.</p>
QUESTION 4: What is the overall project risk categorization?				
<i>Low Risk</i>		?		
<i>Moderate Risk</i>		X		
<i>Substantial Risk</i>		?		
<i>High Risk</i>		?		
QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are triggered? (check all that apply)				
Question only required for Moderate, Substantial and High Risk projects				
<u><i>Is assessment required? (check if ?yes?)</i></u>	X			<i>Status? (completed, planned)</i>

<i>if yes, indicate overall type and status</i>		X	Targeted assessment(s)	Completed (Gender and Stakeholder Assessment), Planned to inform outputs 1.3, 1.6, 2.3, 3.4
			ESIA (Environmental and Social Impact Assessment)	
			SESA (Strategic Environmental and Social Assessment)	
<i>Are management plans required? (check if ?yes)</i>	X			
<i>If yes, indicate overall type</i>		X	Targeted management plans (e.g. Gender Action Plan, Waste Management Plan, others)	Completed (Gender Action Plan, Stakeholder Engagement Plan)
		X	ESMP (Environmental and Social Management Plan which may include range of targeted plans)	Planned
		X	ESMF (Environmental and Social Management Framework)	Completed

<i>Based on identified risks, which Principles/Project-level Standards triggered?</i>		Comments (not required)
<i>Overarching Principle: Leave No One Behind</i>		
<i>Human Rights</i>	X	
<i>Gender Equality and Women's Empowerment</i>	X	
<i>Accountability</i>	X	
<i>1. Biodiversity Conservation and Sustainable Natural Resource Management</i>	X	
<i>2. Climate Change and Disaster Risks</i>		
<i>3. Community Health, Safety and Security</i>	X	
<i>4. Cultural Heritage</i>	X	
<i>5. Displacement and Resettlement</i>		
<i>6. Indigenous Peoples</i>		
<i>7. Labour and Working Conditions</i>	X	
<i>8. Pollution Prevention and Resource Efficiency</i>	X	

Final Sign Off

Final Screening at the design-stage is not complete until the following signatures are included

<i>Signature</i>	<i>Date</i>	<i>Description</i>

QA Assessor		UNDP staff member responsible for the project, typically a UNDP Programme Officer. Final signature confirms they have 'checked' to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have 'cleared' the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks	
<p>INSTRUCTIONS: The risk screening checklist will assist in answering Questions 2-6 of the Screening Template. Answers to the checklist questions help to (1) identify potential risks, (2) determine the overall risk categorization of the project, and (3) determine required level of assessment and management measures. Refer to the SES toolkit for further guidance on addressing screening questions.</p>	
<p>Overarching Principle: Leave No One Behind</p> <p>Human Rights</p>	Answer (Yes/No)
P.1 Have local communities or individuals raised human rights concerns regarding the project (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
P.2 Is there a risk that duty-bearers (e.g. government agencies) do not have the capacity to meet their obligations in the project?	Yes
P.3 Is there a risk that rights-holders (e.g. project-affected persons) do not have the capacity to claim their rights?	Yes
<i>Would the project potentially involve or lead to:</i>	
P.4 adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
P.5 inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups, including persons with disabilities? [7]	Yes
P.6 restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalized individuals or groups, including persons with disabilities?	No
P.7 exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Gender Equality and Women's Empowerment	
P.8 Have women's groups/leaders raised gender equality concerns regarding the project, (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
<i>Would the project potentially involve or lead to:</i>	
P.9 adverse impacts on gender equality and/or the situation of women and girls?	No
P.10 reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	Yes

P.11 limitations on women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? <i>For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being</i>	No
P.12 exacerbation of risks of gender-based violence? <i>For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc.</i>	No
Sustainability and Resilience: Screening questions regarding risks associated with sustainability and resilience are encompassed by the Standard-specific questions below	
Accountability	
<i>Would the project potentially involve or lead to:</i>	
P.13 exclusion of any potentially affected stakeholders, in particular marginalized groups and excluded individuals (including persons with disabilities), from fully participating in decisions that may affect them?	Yes
P.14 grievances or objections from potentially affected stakeholders?	Yes
P.15 risks of retaliation or reprisals against stakeholders who express concerns or grievances, or who seek to participate in or to obtain information on the project?	No
Project-Level Standards	
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
<i>Would the project potentially involve or lead to:</i>	
1.1 adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? <i>For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes</i>	Yes
1.2 activities within or adjacent to critical habitats and/or environmentally sensitive areas, including (but not limited to) legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3 changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4 risks to endangered species (e.g. reduction, encroachment on habitat)?	No
1.5 exacerbation of illegal wildlife trade?	No
1.6 introduction of invasive alien species?	No

1.7	adverse impacts on soils?	Yes
1.8	harvesting of natural forests, plantation development, or reforestation?	No
1.9	significant agricultural production?	No
1.10	animal husbandry or harvesting of fish populations or other aquatic species?	No
1.11	significant extraction, diversion or containment of surface or ground water? <i>For example, construction of dams, reservoirs, river basin developments, groundwater extraction</i>	No
1.12	handling or utilization of genetically modified organisms/living modified organisms?[8] ⁸	No
1.13	utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)[9] ⁹	No
1.14	adverse transboundary or global environmental concerns?	Yes
Standard 2: Climate Change and Disaster Risks		
<i>Would the project potentially involve or lead to:</i>		
2.1	areas subject to hazards such as earthquakes, floods, landslides, severe winds, storm surges, tsunami or volcanic eruptions?	Yes
2.2	outputs and outcomes sensitive or vulnerable to potential impacts of climate change or disasters? <i>For example, through increased precipitation, drought, temperature, salinity, extreme events, earthquakes</i>	Yes
2.3	increases in vulnerability to climate change impacts or disaster risks now or in the future (also known as maladaptive or negative coping practices)? <i>For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding</i>	Yes
2.4	increases of greenhouse gas emissions, black carbon emissions or other drivers of climate change?	No
Standard 3: Community Health, Safety and Security		
<i>Would the project potentially involve or lead to:</i>		
3.1	construction and/or infrastructure development (e.g. roads, buildings, dams)? (Note: the GEF does not finance projects that would involve the construction or rehabilitation of large or complex dams)	Yes
3.2	air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	Yes
3.3	harm or losses due to failure of structural elements of the project (e.g. collapse of buildings or infrastructure)?	No

3.4	risks of water-borne or other vector-borne diseases (e.g. temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	Yes
3.5	transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	Yes
3.6	adverse impacts on ecosystems and ecosystem services relevant to communities? health (e.g. food, surface water purification, natural buffers from flooding)?	Yes
3.7	influx of project workers to project areas?	Yes
3.8	engagement of security personnel to protect facilities and property or to support project activities?	No
Standard 4: Cultural Heritage		
<i>Would the project potentially involve or lead to:</i>		
4.1	activities adjacent to or within a Cultural Heritage site?	Yes
4.2	significant excavations, demolitions, movement of earth, flooding or other environmental changes?	No
4.3	adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.4	alterations to landscapes and natural features with cultural significance?	No
4.5	utilization of tangible and/or intangible forms (e.g. practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
<i>Would the project potentially involve or lead to:</i>		
5.1	temporary or permanent and full or partial physical displacement (including people without legally recognizable claims to land)?	No
5.2	economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions ? even in the absence of physical relocation)?	No
5.3	risk of forced evictions?[10] ¹⁰	No
5.4	impacts on or changes to land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
<i>Would the project potentially involve or lead to:</i>		
6.1	areas where indigenous peoples are present (including project area of influence)?	Yes
6.2	activities located on lands and territories claimed by indigenous peoples?	No

6.3 impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? <i>If the answer to screening question 6.3 is ?yes?, then the potential risk impacts are considered significant and the project would be categorized as either Substantial Risk or High Risk</i>	No
6.4 the absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5 the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6 forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources? <i>Consider, and where appropriate ensure, consistency with the answers under Standard 5 above</i>	No
6.7 adverse impacts on the development priorities of indigenous peoples as defined by them?	No
6.8 risks to the physical and cultural survival of indigenous peoples?	No
6.9 impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices? <i>Consider, and where appropriate ensure, consistency with the answers under Standard 4 above.</i>	No
Standard 7: Labour and Working Conditions	
<i>Would the project potentially involve or lead to: (note: applies to project and contractor workers)</i>	
7.1 working conditions that do not meet national labour laws and international commitments?	Yes
7.2 working conditions that may deny freedom of association and collective bargaining?	Yes
7.3 use of child labour?	Yes
7.4 use of forced labour?	Yes
7.5 discriminatory working conditions and/or lack of equal opportunity?	Yes
7.6 occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	Yes
Standard 8: Pollution Prevention and Resource Efficiency	
<i>Would the project potentially involve or lead to:</i>	
8.1 the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	Yes

8.2	the generation of waste (both hazardous and non-hazardous)?	Yes
8.3	the manufacture, trade, release, and/or use of hazardous materials and/or chemicals?	Yes
8.4	the use of chemicals or materials subject to international bans or phase-outs? <i>For example, DDT, PCBs and other chemicals listed in international conventions such as the Montreal Protocol, Minamata Convention, Basel Convention, Rotterdam Convention, Stockholm Convention</i>	No
8.5	the application of pesticides that may have a negative effect on the environment or human health?	No
8.6	significant consumption of raw materials, energy, and/or water?	No

[1] INS & BM. (2020). Map of Poverty in Tunisia, September 2020. Retrieved from <http://www.ins.tn/publication/carte-de-la-pauvrete-en-tunisie-septembre-2020> (Accessed 4 January 2023)

[2] Environmental Assessment and Management (EAM). (2022). Environmental and Social Impact Assessment (ESIA) 225 kV Overhead Transmission Line (OHTL) 100 MW Kairouan Solar Power Project ? Tunisia. Retrieved from <https://www.afdb.org/sites/default/files/environmental-social-impact-assessment-ohtl-en.pdf> (Accessed 4 January 2023)

[3] ANGED (2022). November 2022: List of authorized hazardous waste companies. Retrieved from http://www.anged.nat.tn/Novembre_2022Liste_societes_autorisees_dechets_dangereux.html (Accessed 4 January 2023)

[4] EPA (2016). Basic Information about Recycling Mercury-Containing Light Bulbs (Lamps). Retrieved from <https://archive.epa.gov/epawaste/hazard/web/html/basic.html> (Accessed 4 January 2023)

[5] Middle East Institute (2022). Solving Tunisia?s growing waste management problem. Retrieved from <https://www.mei.edu/publications/solving-tunisia-s-growing-waste-management-problem> (Accessed 4 January 2023)

[6] US Department of State. (2022). Tunisia 2021 Human Rights Report. Retrieved from https://www.state.gov/wp-content/uploads/2022/03/313615_TUNISIA-2021-HUMAN-RIGHTS-REPORT.pdf (Accessed 4 January 2023)

[7] Prohibited grounds of discrimination include race, ethnicity, sex, age, language, disability, sexual orientation, gender identity, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to ?women and men? or similar is understood to include women and men, boys and girls,

and other groups discriminated against based on their gender identities, such as transgender and transsexual people.

[8] See the [Convention on Biological Diversity](#) and its [Cartagena Protocol on Biosafety](#).

[9] See the [Convention on Biological Diversity](#) and its [Nagoya Protocol](#) on access and benefit sharing from use of genetic resources.

[10] Forced eviction is defined here as the permanent or temporary removal against their will of individuals, families or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection. Forced evictions constitute gross violations of a range of internationally recognized human rights.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Annex 11 - PIMS 6686 - ESMF 16 02 2023	CEO Endorsement ESS	
Annex 7 - PIMS 6686 - SESP 16 02 2023	CEO Endorsement ESS	
PIMS 6686 EE Kairouan_pre- SESP_10062022_clean and cleared	Project PIF ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Annex A: Project Results Framework (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

This project will contribute to the following Sustainable Development Goal (s): <i>SDG13 ? Climate Action; SDG7 ? Affordable and Clean Energy; SDG 11 ? Sustainable Cities and Communities; SDG5 ? Gender Equality; SDG17 ? Partnerships to achieve the Goal</i>						
This project will contribute to the following country outcome (UNDAF): <i>By 2025, all the actors involved ensure equitable, transparent and sustainable management of natural resources, ecosystems and territories, improving their resilience/adaptation as well as that of populations, especially the most vulnerable, in the face of crises and climate risks.</i>						
	Objective and Outcome Indicators (no more than a total of 20 indicators)	Baseline[1]	Mid-term Target [2]	End of Project Target <i>Expected level when terminal evaluation undertaken</i>	Responsible Party	Means of Verification
Project Objective: <i>To promote green buildings and efficient lighting in alignment with the objectives of the enhanced Nationally Determined Contribution, the Sustainable Development Strategy of Kairouan and the National Programme for Sustainable Cities in Tunisia.</i>	<u>Mandatory</u> Indicator 1: # direct project beneficiaries disaggregated by gender (individual people)[3]	0	n/a	187,000 (94,248 female; 92,752 male)	National Institute of Statistics Project consultant carrying out annual lessons learned reports	National statistics report
	<u>Mandatory</u> GEF Core Indicators: - Indicator 2: Greenhouse gas emissions mitigated (cumulative metric tons of carbon dioxide equivalent (tCO2e))	0	n/a	Direct: 20,219 tCO2e Indirect: 31,064 tCO2e	Project Manager with support from project consultant carrying out annual lessons learned reports	Calculations carried out by international consultant carrying out Terminal Evaluation
Project component 1 (no indicators required)	<i>Institutional strengthening for regulating the market for new efficient buildings</i>					

Project Outcome[4] 1 <i>Institutional strengthening with enabling conditions, methodologies and tools for enforcing regulatory framework for new buildings</i>	Indicator 3: (a) Number of updated RTNB and associated regulations; (b) Number of municipal staff with competencies to apply operational guidelines for enforcement of updated RTNB (40% women / 60 % men)	(a) 0 (b) 0	n/a	(a) 2 (b) 20 (12 men + 8 women)	<i>Project Manager with support from project consultant carrying out annual lessons learned reports</i>	Project reports and reports to/minutes of the PSC
	Indicator 4: # strategic plan for revitalizing the value chain for locally-fabricated bricks	0	n/a	1	<i>Project Manager with support from project consultant carrying out annual lessons learned reports</i>	Project reports and reports to/minutes of the PSC
Outputs to achieve Outcome 1	<p>? Output 1.1: An operational manual for new building licensing and permits process in the Municipality of Kairouan to operationalise RTNB (Réglementation Thermique des Nouveaux Bâtiments) is designed and adopted;</p> <p>? Output 1.2: Enforcement capabilities of municipality strengthened for ensuring new building compliance with RTNB;</p> <p>? Output 1.3: A strategic plan is developed for developing a local value chain for sustainable and low-carbon building materials;</p> <p>? Output 1.4: An online tool for carrying out comparative socio-economic and environmental analysis of buildings using life-cycle methodology is developed and disseminated;</p> <p>? Output 1.5: National standards for building materials are developed and adopted; and</p> <p>? Output 1.6: Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label</p>					
Project component 2 (no indicators required)	Energy efficient public lighting					

Outcome 2 <i>Institutional strengthening for the implementation of an efficient municipal lighting system</i>	<i>Indicator 5: Number of persons with enhanced capacity to implement efficient municipal lighting projects (50% women + 50% men)</i>	0	n/a	10 (5 women + 5 men)	<i>Project Manager with support from project consultant carrying out annual lessons learned reports</i>	Project reports and reports to/minutes of the PSC
	<i>Indicator 6: Number of standards adopted for LED used in public lighting</i>	0	n/a	1	<i>Project Manager with support from project consultant carrying out annual lessons learned reports</i>	Project reports and reports to/minutes of the PSC
Outputs to achieve Outcome 2	<p>? Output 2.1: Capacity of municipality staff to implement efficient lighting projects strengthened;</p> <p>? Output 2.2: National standards for public lighting technologies developed and adopted; and</p> <p>? Output 2.3: Energy efficient municipal lighting demonstrated.</p>					
Project component 3 (no indicators required)	Knowledge management, monitoring and evaluation, and scale-up strategy					
Outcome 3 <i>Municipal learning organisation capable to implement and manage sustainable city strategy</i>	<i>Indicator 7: Number of data management system in place for collecting city-wide data for tracking city sustainability performance according to ISO37120 (number of data management systems)</i>	0	n/a	1	<i>Project Manager with support from project consultant carrying out annual lessons learned reports</i>	Project reports and reports to/minutes of the PSC

	<p>Indicator 8: (a) Number of replication plan, including detailed budget, for scaling up the deployment of energy efficient buildings and public lighting based on lessons learned <i>(number of plans); (b) # of bankable Concept Notes developed to leverage international climate finance through the GCF</i></p>	0	n/a	1 (for both (a) and (b))	Project Manager with support from project consultant carrying out annual lessons learned reports	Project reports and reports to/minutes of the PSC
<p>Outputs to achieve Outcome 3</p>	<p>? Output 3.1 Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, (iii) Terminal Evaluation carried out; ? Output 3.2: Data management system for benchmarking Kairouan City sustainability established and operational; ? Output 3.3: Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities of Tunisia and MENA countries; and ? Output 3.4: Replication plan for scaling up energy efficient buildings and public lighting in Tunisia developed.</p>					

[1] Baseline, mid-term and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and needs to be quantified. The baseline can be zero when appropriate given the project has not started. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.

[2] Target is the change in the baseline value that will be achieved by the mid-term review and then again by the terminal evaluation.

[3] Provide total number of all direct project beneficiaries expected to benefit from all project activities until project closure. Separate the total number by female and male. This indicator captures the number of individual people who receive targeted support from a given GEF project and/or who use the specific resources that the project maintains or enhances. Support is defined as direct assistance

from the project. Direct beneficiaries are all individuals receiving targeted support from a given project. Targeted support is the intentional and direct assistance of a project to individuals or groups of individuals who are aware that they are receiving that support and/or who use the specific resources.

[4] Outcomes are medium term results that the project makes a contribution towards, and that are designed to help achieve the longer-term objective. Achievement of outcomes will be influenced both by project outputs and additional factors that may be outside the direct control of the project.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Annex B: Response to Project Reviews (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion, and responses to comments from the Convention Secretariat and STAP at PIF).

Comments & response	Reference
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1. Building codes need to evolve with the technology and best available technology (BAT) need to be incorporated. The Agency is requested to elaborate on whether the code should be first updated to reflect the use of BAT and to incorporate self-ratcheting update mechanisms (e.g. every 5-7 years) to ensure it remains actual and its ambition is increased overtime. Else, we risk that the GEF intervention will become obsolete already just after the completion of the project.

Response

This suggestion is fully integrated in the project design and a new activity has been added under Output 1.2

The project will use the enforcement mechanism that will be put in place under Output 1.2 to also coordinate national and municipal level stakeholders for the review and update of the RTNB for instance to include a self-ratcheting mechanism for its regular update in order to increase its level of ambition as far as best available technology and scope of application are concerned. Given the short time duration of the project, there is no need to update the RTNB before carrying out investments under Output 1.6 as is explained in the response to comment 2 below. The new Activity 1.2.3 is:

? Activity 1.2.3. Review and update of the RTNB. The RTNB was last updated in 2010 (Table 3) and it is known that building codes need to evolve with time and with best available technology. The institutional mechanism that will be set up under Activity 1.2.1 will be used to coordinate stakeholders (national and local) in order to update the RTNB; not just regarding making it more stringent in terms of energy efficiency exigencies but also in terms of the scope of type of building coverage. It is expected that the review and update of the RTNB will reflect the use of BAT and to incorporate a self-ratcheting update mechanisms (e.g. every 5-7 years) to ensure it remains actual and its ambition is increased overtime.

Additional Comments (03/17/23, FB)

Component 1

1. The barriers listed in Table 4 do not mention the lack of (up-to-date) building regulations for the most of the cities building stock, which could be argued to be one of the main barriers preventing the adoption of energy efficiency in buildings and public lighting.

Response

Barrier 4 in Table 4 has been updated by including the following text ?There are also two associated causes for the non-adoption of energy efficiency in buildings, namely: (i) the lack of up-to-date buildings energy codes, and (ii) the limited scope of application of the existing legislation - i.e. the RTNB applies to a limited set of building types.?

Output 1.2

1. An update to the RTNB is proposed as part of output 1.2, through the ?set-up of a multi-institutional mechanism? to coordinate stakeholders for the review and update. As noted at PIF stage, updating the RTNB periodically and through the use of a self-ratcheting mechanism is very important both at city and national level. The fact that the pilot program will use the EcoBat which has stringent requirements (@ Class 3 level), does not impact the need to ensure output 1.2 is reached. Please consider including a stronger indicator for this output in the result framework, that

Please see summary of changes brought at PPG stage in 6 in the CEO ER and addition of new Activity 1.2.3 (paragraph 25)

Barrier 4 in Table 4 has been updated.

goes beyond the "number of municipal staff with competencies to apply operational guidelines for enforcement of RTNB".

Response

Indicator 3 in the Results Framework has been changed by adding a sub-indicator "3(a) Number of updated RTNB and associated regulations". The initial indicator has been retained as indicator 3(b) with the word "updated" added in front of RTNB.

2. As part of the update of the RTNB, not only should the increased level of ambition (stringency) be increased from the 2010 version, but also the scope of application of the RTNB, since it is noted that only 5% of the total buildings area is subject to the RTNB. Please clarify what the project will do to this point.

Response

Yes. The scope of application will also be reviewed under Activity 1.2.3 by making the legislation more stringent "in terms of increasing the scope of types of buildings covered".

3. The pilot implementation as per output 1.6 will happen in a municipal building. While this is ok, municipal buildings may have a good demonstration potential, but have a very small overall emission footprint compared to residential, commercial and industrial ones (figure 1). please confirm if/that the updates to the RTNB will also cover the other types of buildings.

Response

Yes. The scope of the application of the updated RNTB will be applicable to other building types and not limited to municipal buildings. This is showcased in the project design by the inclusion of the private sector commercial building in Activity 1.6.3 to get the ECOBat label accreditation.

Indicator 3 in Results Framework (Annex A) has been updated.

Please see change carried out for Activity 1.2.3, paragraph 25.

No changes carried out. This is a confirmation of the wider coverage of the RTNB with example given for the parallel private sector financing.

2. Output 1.6: the proof of concept building should be used to demonstrate the best available practices and technology for near-zero carbon buildings. While the building codes may set an average level of desirable improvements that also needs to be feasible, the demonstration building financed with GEF resources (to cover incremental cost) needs to be more ambitious and show a path towards a net-zero future, hence it should be a near zero building incorporating passive thermal comfort design features, highest available energy efficiency systems, as well as being ready to generate most of its energy needs through RE on site or off site. These technologies are available and the demonstration building should aim at showcasing these to the extent possible (see for instance GEF Project 10321 - Zero Carbon Buildings for All: from Energy Efficiency to Decarbonization, which is demonstrating net-zero buildings in Turkey and Colombia).

Response

The title of Output 1.6 has been changed to "Output 1.6. Towards a net-zero municipal building through energy efficiency and adoption of the ECOBat label" to reflect the change that has been carried out. Also, the ECOBat label provides for building energy labelling that outperforms the minimum requirements of the RTNB through the use of best available technologies. As explained below, the baseline municipal building has been changed (please see details given in Table 6 in the CEO ER), and this will constrain the actions that can be implemented. However, to reflect more ambitious action for improved energy efficiency in building, the Class 3 level of building energy efficiency will be implemented. The GEF investments - accompanied by enforcement modalities that will be put in place by the project - will serve to demonstrate the path towards zero-emission buildings, while noting that investments in roof-top production of renewable energy will remain outside the scope of the project (see comment related to economic and financial crisis prevailing in Tunisia related to comment 3 below). Also, the project design makes provision for knowledge sharing with the referenced UNEP-GEF project through South-South Cooperation.

Additional Comments (03/17/23, FB)

1. At the moment it is difficult to estimate the level of ambition of the proposed pilot intervention in the public office building. The energy class remains at level 3: please provide more context to contextualize the proposed intervention vs. the status quo.

a: How many other buildings are there in Tunisia with this class? What would be the additional estimated cost to build a building qualifying for the most efficient class (Class 1), vs. the one that is being proposed for the pilot investment?

b: the \$314k that are to be invested in the pilot represent approx 1/3 of the total GEF financing. Please provide estimates of how this financing is used to cover for the incremental cost of the building works. How much would the works cost if the building was built according to Class 5 specification (baseline)? What is the incremental cost of the works to improve efficiency to level 3?

c: As also noted at PIF level, the level of ambition of the concept/pilot building remains low. It is unclear and not explained why other efficiency measures are not planned for in the building in addition to the thermal insulation feature. In table 4, under Barrier 2, it is stated that "project

Table 6 in the CEO ER and paragraph 29, including CLIP Tunisia modeling results shown in Figures 6, 7 and 8.

Also, end of paragraph 75 in CEO ER for collaboration with the UNEP-GEF project entitled "Zero-Carbon Buildings for All: from energy efficiency to decarbonization?"

could be developed around the proof-of-concept energy efficient building (building envelope using local materials, energy efficient equipment, solar thermal heating etc)??. The current proposal only suggests improvements to the building envelope (fa?ade and windows, see tables 7 and 8). As the project is developed around *one single building*, the EE measures piloted should be more ambitious and could indeed include efficient HVAC systems, other passive measures such as natural ventilation, and solar thermal and/or PVs. Roof-top investments are considered outside scope, referring to financial crisis (Annex B, Q.2). If not feasible at this stage, could the building be designed so this the design be added later on?

Responses

a) The following text has been added in paragraph 29: ?Further, the proof-of-concept will also make an application of the ECOBat label. The ECOBat energy label is a voluntary label designed to promote the adoption of building energy codes beyond the minimum energy performance standards prescribed in the RTNB. In its inception form, the ECOBat label is applicable to the following building types (same as those to which the RTNB is applicable: hotels, health institutions, commercial (office) buildings, and residential apartments with each type of building scored across three indicators, namely: (i) building envelope; (ii) electrical equipment; and (iii) management of resources (e.g. water, waste, health and project management).[1] The application and demonstration of the ECO-Bat label was initiated in 2022 through a pilot project involving two publicly-owned buildings, namely: (a) the M?diterran?enne-Soukra health clinic, and (b) the municipal building in M?denine. The two buildings are expected to be accredited at ECOBat label level 3 in order to demonstrate the application of the scoring and labeling system proposed in ECOBat.?

(b) The estimation of the cost of GEF investments has been carried out at the following text added to Output 1.6 (Activity 1.6.2):
 ?The building envelope energy efficiency gains that will ensure Level 3 classification for the G3 and G4 will be obtained through the interventions listed in Table 7 and Table 8. An estimation of the cost of the energy efficiency interventions has been carried out and the results are shown in Annex 14 (Part D). The results are summarised in Table 9. The envelope insulation for G3/G4 will be inside (interior insulation), whereas for G/G1/G2 there will be retrofitting through exterior fa?ade insulation that is more costly. The total cost of interventions for envelope insulation is estimated at USD 293,587.?

Table 9. Estimation of incremental costs of building envelope energy efficiency

	Walls (USD)	Openings (USD)	Roof (USD)
G3 + G4	20,857	15,258	16,698
G + G1 + G2 (retrofit)	217,889	22,887	Not applicable
Total (USD)	238,746	38,145	16,698

(c) Discussions with the municipality has shown their willingness to install rooftop PV in the future (also the building is already designed to use high-efficiency air conditioners and LED lighting). So the following text has also been added to Activity 1.2.6:

?Although the GEF investments will not be used to install rooftop solar PV, a budget of USD 20,869 has been earmarked for (i) preparation of the insulated roof for roof-mounting structure; and (ii) designing the PV systems for achieving electricity autonomy of the municipal building at Kebli?

Please see paragraph 29 in the CEO ER.

The same change has been carried out in paragraph 39 in the ProDoc.

Please see paragraph 29 in the CEO ER (Activity 1.6.2 at the end).

The same change has been carried out in paragraph 39 in the ProDoc.

Please see paragraph 29 in the CEO ER (Activity 1.6.2 at the end).

The same change has been carried out in paragraph 39 in the ProDoc.

3. The level of co-financing is well below the 1:7 average level for GEF7. GEFSEC expects that the Agency will work with the country during PPG phase to identify and deploy additional co-financing. In particular, (i) there is no in-kind co-financing from recipient institutions and project partners? and (ii) is there any co-financing expected from the private sector (and/or commercial financial institutions) for the infrastructure that will be purchased, complementing the GEF and existing public sector co-fin amounts?

Response

The level of co-financing has been increased from its initial level of 1:2.2 to 1:4 (almost doubled) by including both cash and in-kind contributions and also from private sector co-financing in the form of equity/debt financing. The summary of co-financing that now stands at USD 3,223,000 is as follows:

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount (\$)
Recipient Country Government	Ministry of Environment	Grant	Investment mobilized	500,000
Recipient Country Government	Ministry of Environment	In-kind	Recurrent expenditures	150,000
GEF Agency	UNDP SDG Climate Facility regional project	Grant	Investment mobilized	415,000
Recipient Country Government	Municipality of Kairouan	Grant	Investment mobilized	825,000
Recipient Country Government	Municipality of Kairouan	In-kind	Recurrent expenditures	350,000
Recipient Country Government	Agence Nationale de Maitrise de l'Energie (ANME)	Grant	Investment mobilized	133,000
Private Sector	Sghaier Property Developer	Loan / Equity Investment	Investment mobilized	850,000
Total Co-financing				3,223,000

It is pointed out that Tunisia is facing an acute economic and financial crisis and that it is difficult to reach a ratio of 1:7 as required by the GEF. The sovereign credit rating of Tunisia has been downgraded recently and the prospect for the future is negative (<https://www.businessnews.com.tn/moodys-abaisse-la-note-de-la-tunisie-a-caa2-avec-perspectives-negatives,520,126380,3> <https://kapitalis.com/tunisie/2023/01/28/document-la-note-de-moodys-degradant-la-notation-de-la-tunisie-a-caa1-et-avec-perspective-negative/> <https://lapresse.tn/140777/moodys-place-la-note-souveraine-de-la-tunisie-sous-surveillance/>).

Table C in Part I of the CEO ER, and letters of co-financing in Annex 15 of the Project Document.

4. calculation of direct emission reductions - buildings components: we consider that these have been underestimated. It is not reasonable to assume that the application and/or more effective enforcement of new/existing MEPS and building code will only be extended from the pilot to an additional 6 buildings. This should be calculated as a subset of the total new building stock to be built over the immediate lifetime of the current standards/MEPS, applying a GEF causality factor.

Response

The calculation of direct emission reductions for the buildings component has been revised by taking into consideration the suggestion of GEF Sec. For this data was collected from the Municipality to identify the stock of buildings that are subject to the RTNB (existing MEPS) in order to know the total surface areas. Based on data between 2010 and 2019, it was estimated that the stock of buildings (in terms of surface area) increases by 2.37% per annum. With institutional capacity building under Output 1.1 and Output 1.2, it is expected that the municipality will be able to increase enforcement by 40% (of total area of building subject to RTNB) in the year 2024; 65% in 2025; and fully as from 2026. The application of the GEF EE Tool to the entire stock of buildings subject to the RTNB (and not just the additional 6 municipal buildings) has been used to carry out GHG emission reductions. The total direct GHG emission reductions has been calculated at 20,219 tCO₂ compared to 8,403 tCO₂ at PIF stage)

Table 11 and paragraph 41 in the CEO ER and Annex 14 of the Project Document; (Annex 14 - GEF_EE_GHG_Tool_v1.0_Kairouan)

5. The Agency is requested to provide more information and analysis will be needed to justify why Classe 6 has been the baseline level (for GHG calculation) and why Classe 5 is considered appropriate as a minimum performance standard.

Response

The ECOBat label has been designed to incentivize building developers (commercial buildings and collective residential blocks / apartments) to go beyond the RTNB (existing energy building code). As can be seen in Figure 8 in the CEO ER, a score of zero for Class 5 is aligned with the requirement of the RTNB. The score increases gradually as the building efficiency increases over and above that of the RTNB. So Class 5 is by definition equal to the energy requirement of the RTNB. In the calculation, it has been assumed that the enforcement of the building code will bring alignment with the RTNB ? i.e. Class 5 (middle of the band at 110 kWh/m² in order to be conservative in estimating GHG emission reductions). In the prevailing situation, the RTNB is not enforced and discussions with local stakeholders, such as the technical staff of the Municipality of Kairouan Tunisian Green Building Council, and the Association of Architects has revealed that energy use in existing buildings would be in the Class 7 band. Hence, the baseline has been adjusted accordingly. In order to be conservative, the lower end of Class 7 ? i.e. 150 kWh/m² - has been used in the calculations.

Detailed calculations contained in Annex 14 of the project Document, as well as the GEF EE Tool (Annex 14 - GEF_EE_GHG_Tool_v1.0_Kairouan)

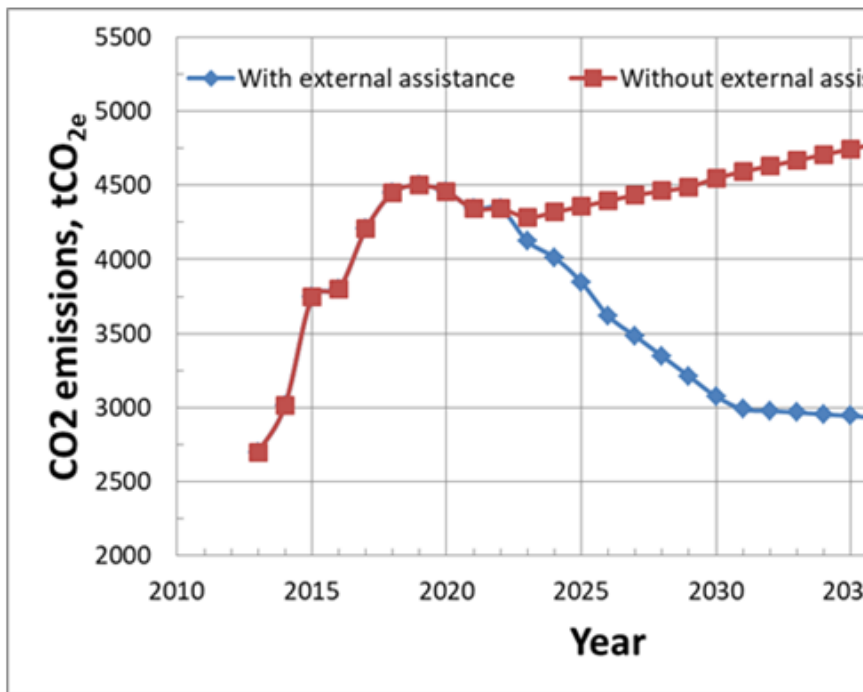
6. calculation of the direct emission reductions from the efficiency in public street lighting: this seems to be overestimated: it is not reasonable to assume that the baseline would be flat overtime, and that no improvement in street lighting would happen without the GEF intervention. There are clear reasons (economic savings) to undertake such upgrades, so although the GEF may accelerate the upgrade, some level of switching to the more efficient technology is reasonable to expect and should be therefore considered as baseline. Please revise the calculation to base them on a dynamic baseline, instead of a flat one.

Response

The comment of GEF Sec has been taken into consideration and a dynamic baseline has been developed for LED replacement in Kairouan. Based on GEF Secretariat comments at PIF stage, a business-as-usual (BAU) scenario has been developed together with the Municipality of Kairouan. The BAU scenario has been developed as from 2013 (earliest year for which a complete set of data was available) and projected to 2045 so that post-project market potential for efficiency gains, and, hence, GHG emission reductions could be estimated. The BAU has been developed based on the numbers and types of lamps used between 2013 and 2022 in the City of Kairouan for public lighting. The lamps used are conventional high pressure sodium (SHP) and halogen lamps (HPL), and it can be seen that in 2022 only 400 of these conventional lamps had been replaced with LEDs. Hence, there is little effort in the existing baseline for substituting the conventional lamps with LEDs, highlighting the critical role of the UNDP-GEF project to catalyse change. An Energy Efficiency (EE) scenario was also constructed in collaboration with the Municipality of Kairouan. In the EE scenario, the replacement rate for LED substitution is 937 units per year. The replacement of lamps prioritises the substitution of high power rated SHP and HPL lamps first. The difference between the two curves provided the market potential to 2045. The total electricity consumption was determined for 10 hrs lighting per day (all lamps) and with 10% auxiliary power added for SHP and HPL lamps. The GHG emissions were calculated by applying a grid emission factor of 0.447 tCO₂/MWh.

The calculations are contained in the Excel file named ?Annex 14 - PIMS 6686 ? Public lighting?. The results were used as input in the GEF EE Tool for estimating indirect emission reductions. The results of the scenario analyses are shown in the graph below.

Sumamry of results in Table 11 and paragraph 41 in the CEO ER. Detailed calculations are given in Annex 14 of the Project Document, and the accompanying Excel tool (Annex 14 - PIMS 6686 ? Public lighting)



7. The agency is expected to provide full documentation relative to the engagement during PPG stage of civil society and other relevant stakeholders, including the private sector, and to include the info in the CEO ER.

Response

In-depth stakeholder engagements and consultations were carried out during PPG stage and a Stakeholder Engagement Plan has been developed that accompanies the CEO ER. The Stakeholder Engagement Plan has been used to inform section 2 of the CEO ER. The stakeholders that were included in the project design, including civil society organisations / local community associations and the private sector (also see response to comment 10 related to private sector involvement in the project), professional organisations, government agencies/ministries, Municipality of Kairouan, Women's Associations and scientific and technical institutions. The involvement of all the different groups of stakeholders in the project is given in Table 13 in the CEO ER.

Table 13 in the CEO ER and Stakeholder Engagement Plan that accompanies the CEO ER (also Annex 10 of the Project Document)

8. The Agency will need to submit a Gender Analysis (gap assessment) and Gender Action plan at the time of the CEO ER.

Response

A gender analysis and gender action plan has been developed and the results are given in paragraph 46 and 47 in the CEO ER. The summary of the main conclusions regarding gender issues is given in Table 14, and the Gender Action Plan is given in Table 15 in the CEO ER.

Please see Section 3 in CEO ER, as well as the Gender Action Plan that accompanies the CEO ER (also Annex 12 of the Project Document)

<p>9. The section on climate risk will need to be expanded and further analysis carried out during PPG stage. This should follow the STAP guidance on climate risk, which is available here: https://www.stapgef.org/sites/default/files/documents/GEF%20AGENCY%20RETREAT%20Mar-Apr%202020.pdf</p> <p>Response</p> <p>This has been addressed at PPG, and the update is given as Risk 5 in the SESP (Annex 7 of the Project Document). The main risk relates mainly to extreme temperature events, and the investments in energy building code will provide adaptation co-benefits, over and above reducing GHG emissions. Investments in efficient public lighting will only replace conventional lamps with LEDs, and not by intervening on the structural support (e.g. lamp posts and casing). The steel lamp posts and concrete civil engineering structures are expected to withstand climate events such as floods and wind gusts.</p>	<p>Please see Table 17 in the CEO ER and SESP (Annex 7 of the Project Document)</p>
<p>10. The private sector engagement section is very weak, it mentions the role of architects, but says nothing about construction companies, ESCOs or financial institutions. The role of these actors will need to be further analyzed during PPG stage with the view of having it fully flashed out at CEO ER submission.</p> <p>Response</p> <p>This weakness has been rectified and private sector engagement during project design and in implementation has been ensured. Private sector companies were engaged and will participate in the project in two ways: (1) members of the TGBC and the Association of Architects are private sector operators in the construction industry. In this sense, the companies comprising these two organisations will contribute to the project as detailed above. Also, the technical committees that are used by INNORPI to develop national standards also comprise of private sector operators. The persons who are involved in the fabrication of bricks in Kairouan are also private operators who were consulted and will benefit from the project interventions; and (2) a private sector real estate developer, namely Sghaier Property Developer that is developing a commercial building in the City of Kairouan will participate in the project as co-financer. Through technical assistance, the UNDP-GEF project will support the commercial building to get ECOBat labelling.</p>	<p>Table 14 in the CEO ER and Stakeholder Engagement Plan that accompanies the CEO ER (also Annex 10 of the Project Document)</p>
<p>Additional Comments (03/17/23, FB)</p> <p>Component 2 ? Energy efficient public lighting</p> <p>1. The update since PIF stage to remove the focus on intelligent public lighting system for the remote management of public lighting makes sense, as smart metering systems require capacity to use and inform operations which many cities also in the global North struggle with. The reference to this should be removed in para 33 - Output 2.3.</p> <p>Response</p> <p>Paragraph 33 has been changed by deleting reference to intelligent lighting system. The type of LED used has been qualified ?with capacity for upgrade to an intelligent system?.</p>	<p>Please see paragraph 33, Output 2.3.</p>

Additional Comments (03/17/23, FB)

1. UNDP cofinancing: the letter should specify (i) the type of cofinancing and (ii) the period over which the co-financing is provided. Also, please clarify what is meant by "UNDP contribution comes from the *already committed* funds by UNDP SGD Climate Facility regional project".

Response

A new letter of UNDP cofinancing has been issued to provide more details concerning the UNDP SDG Climate Facility regional project.

2. Letter representing evidence of co-financing from Agence Nationale de Maitrise de l'Energie (ANME) and Sghaier Property Developer are not attached to the CEO ER nor are found in the document section. Please provide such evidence.

Response

The letter of co-financing from private developer is provided. Since it is the property developer that accesses the financial incentive from the Energy Transition Fund managed by the ANME, the letter of co-financing combines the debt/equity co-financing of the developer and the grant accessed from the ETF. Please also note that the name of the private company is "the Proportion of Gold", and it is managed by Mr Sghaier. In the previous submission, the name of the manager was confounded as the company name. The change has been carried out throughout the CEO ER and the ProDoc.

Please see new letter of cofinancing for UNDP accompanying the resubmission.

Please see letter of co-financing from private sector for a total of USD 983,000 accompanying the resubmission.

The proper company name is now used in the CEO ER: (i) Table of co-financing, Section C, page 3; (ii) paragraph 25, Activity 1.2.2, (iii) Table 14, Private Sector, (iv) paragraph 49, Private sector engagement, and (v) Activity 1.6.3 (page 23).

Additional Comments (03/17/23, FB)

The Agency has provided information on the status of utilization of the PPG resources. However, there is no detailed funding amount of the PPG activities financing status, as required by the CER ER template.

1. Please provide a more granular breakdown, by category of spending.

Response

The expenditure table in Annex C has been updated with more granular data.

Please see Annex C in CEO ER.

**Part II ? Project Justification
Additional Comments (03/17/23, FB)**

1. the baseline scenario presented focuses exclusively on municipal buildings, which represent only a very small -albeit visible- portion of the existing and prospective building stock in the selected city and, more broadly, in Tunisia. This section would benefit from some additional language to indicate why municipal buildings were selected as the focus of the project, and make a link to the components of the project that are designed to leverage the demonstration effect, to ensure that the impact of the project goes beyond this small subset of buildings.

Response

Paragraph 11 has been extended with the following justifications (given here in abridged form):

?Given the low application of the RTNB, and given the central role that the Municipality plays in the issuance of building and occupancy permits, it has been deemed suitable to use a municipal building as baseline project for energy efficiency enhancements using GEF financing. There are several reasons for this, namely: (i) interventions in a municipal building will be advantageous for the parallel capacity strengthening of the enforcement capacities of municipal staff because of easy access to the building compared to the case of a non-municipal building wherein permissions would be required (Output 1.1); ?.. (v) the selection of a municipal building for GEF investments does not exclude the participation of a private sector project (?the Proportion of Gold? ? Activity 1.6.3) for the adoption of the ECOBat label. Finally, the municipality may also be more open for using locally-fabricated bricks in the construction of the municipal building, albeit on a limited scale, as part of the government responsibility for protecting local heritage. The scaling up of the results of the project will include a wide range of building types, over and above municipal/governmental buildings (Output 3.4).?

Please see paragraph 11 in the CEO ER (the same paragraph has been included as a new paragraph 32 in the ProDoc).

Core Indicators

Additional Comments (03/17/23, FB)

The ex ante estimate for GHG emission reductions is improved since PIF. However, please note:

1. the emission reductions to be accrued through the enhanced application of the RTNB were obtained at PIF level considering only 6 municipal buildings, and would result in 8,400 tCO₂e. Since now we are expecting approximately 20k tCO₂e, does that mean that there is only a total of approx 14-15 buildings that will see increased enforcement and application of the RTNB? Please clarify, as the number seem very low. (maybe it is only considering public buildings? But the RTNB should apply beyond public buildings, correct?).

2. There are some inconsistencies between Table 11 and the Core Indicator Table in the portal. It seems that the post-project direct and the bottom up indirect have been omitted in the cumulative portal entry. Please amend (including the PRF):

3. Number of beneficiaries: Is it reasonable to assume that all 187,000 people in Kairouan are direct beneficiaries, given the limited scope of buildings covered by the project? Lamp changes for public lighting are for cost savings and not proposed to expand illuminated areas. please consider refining (and explaining) the methodology used.

Responses

1. No the calculations at PPG have been improved not by using the number of municipal buildings but rather using an extrapolation of the historical data of all buildings that are subject to the RTNB. This is shown in Table 14.A.5 in Annex 14 in the ProDoc and reproduced here. Using these figures, the calculation (contained in the Excel Tool accompanying the ProDoc) proceeds as follows:

?Accordingly to the existing energy building code, the minimum requirement in terms of energy consumption is equivalent to Class 5 of the ECOBat label ? i.e. middle of the Class 5 band or 110 kWh/m². It is know that the RTNB is not enforced in the baseline, and discussions with the technical staff of the municipality, Tunisian Green Building Council, and the Association of Architects has revealed that energy use in existing buildings would be in the Class 7 band. Adopting a conservative approach in order not to overestimate GHG emission reductions, the lower end of the band is used in calculations ? i.e. baseline electricity consumption is 150 kWh/m². With institutional capacity building under Output 1.1 and Output 1.2, it is expected that the municipality will be able to increase enforcement by 40% (of total area of building subject to RTNB) in the year 2024; 65% in 2025; and fully as from 2026.?

Table 14.A.5. Area of buildings that are subject to RTNB, 2010-2019.

	Habitati on collectif, m2	Hab Col critere EPEBN, m2	Burea u, m2	Burea EPEB N, m2	Hat_Bur, m2	Hab+B ur EPEBN , m2
2010	97,440	12,960	33600	39,600	131,040	52,560
2015	101920	12,960	5880	7,920	107,800	20,880
2019	104160	12,960	8400	9,900	112,560	22,860

1. Please see the detailed GHG emission reduction calculations given in Part A ? Annex 14 in the ProDoc, and the accompanying Excel tool (Annex 14 - PIMS 6686 ? Public lighting)

<p>2. The inconsistency has been changed and the correct number used.</p> <p>3. The municipal building in Keblia and the eight (8) axes that will benefit from GEF investments will serve and benefit all citizens who fall under the municipal jurisdiction. Since, at least, the 8 road axes are so central to the city access and mobility, it is assumed that the justification is reasonable. The methodology is based on data on traffic count and an estimate of road users who travel on foot and by bicycle. It has been estimated that 107,657 persons use the road axes on a daily basis. It has been argued that it is realistic to assume that the road users would comprise two cohorts, namely regular users and ad hoc users. Since the ad hoc users are varied over a one year period, the number of distinct persons using the axes will be higher than 107,657. Given the fact that the project beneficiaries will also include inhabitants who use the public services offered in the municipal building in Keblia, it is safe to consider the total population of the City of Kairouan as project beneficiaries ? i.e. 187,000 persons from the latest statistics of the population that live within the municipality?s geographical jurisdiction.</p> <p>Based on the suggestion of GEF Sec, a more granular analysis of number of beneficiaries has been carried out using the number of persons who use the different road axes. The public lighting component of the project has been used here since it reaches more beneficiaries. The details of the methodology are given in a new Part C in Annex 14 of the ProDoc.</p>	<p>2. Annex F in the CEO ER.</p> <p>3. New Part C in Annex 14 in the ProDoc.</p>
<p>Additional Comments (03/17/23, FB)</p> <p>1. Potential to scale up should be better elaborated. Particularly we suggest to be more explicit in explaining how the prospective revision of the building energy code will apply beyond the small group of municipal buildings, it is not clear in the document that this is the intention and how this will be operationalized/ensured.</p> <p>Response</p> <p>The situation has been clarified to be in line with the response to a similar comment made regarding Output 1.2 above. The following text has been added to justify scaling up of project results.</p> <p><i>?The UNDP-GEF project will ensure that a mechanism will be put in place for the regular update of the RTNB and accompanying regulations ? i.e. ratcheting process - so that building energy codes will be updated to take into account best available technologies. The revision of the building energy codes will also extend the scope of application of regulations so that a larger cohort of building types (beyond the current restriction to commercial buildings and apartment blocks) that will energy a wider uptake of energy efficiency in buildings. ?.. The eventual outcome is expected to be larger global environmental benefits accruing from the application of more stringent building energy codes to a wider range of building types, as well as shifting public lighting using LEDs.?</i></p>	<p>Please see changes brought to paragraph 43. The same change has been carried out in the ProDoc.</p>

Additional Comments (04/08/23, PPO)

A stakeholder engagement report and plan is included in the document section and as an annex to the ProDoc, which includes details of the people/organizations consulted during project design. The project SEP also outlines important roles and responsibilities of the various stakeholder groups. It further states that associations/ Civil Society Organizations will play a key role in communicating with local citizens on relevant aspects of the project. It does however do not provide any details of these associations and CSOs.

1. If possible, the Agency should provide the names of the associations/CSO that are expected to play a specific role in the implementation.

Response

The information is already contained in the SEP (Annex 10 in the ProDoc). The names of the associations/CSO are given in Table 13 that already indicates the outputs in which the associations/CSOs will be involved. Hence, the field for Associations/CSO in Table 13 has been updated with :

?The Associations/CSO that will participate in project implementation are: Association des Bassins des Aghlabides des Sports pour Tous (ABAST); Association des jeunes et sciences ; Association de Protection de la Nature et de l'Environnement ? Kairouan (APNEK) ; Association de Sauvegarde de la M?dina de Kairouan et Conservateur de mus?e de Rakkada.?

Please see row for Associations/CSO in Table 14 (and also details given in Annex 10)

Additional Comments (03/17/23, FB)

Private Sector Engagement

1. the section remains very short, and needs more details on how members of the private sector associations (particularly TGBC and the Association of Architects) were consulted at design stage what their contribution to the project will be. We suggest to include the details that were included in the stakeholder engagement plan into this section also, so this information is available to the reader of the CEO ER.

Response

The information regarding private sector engagement contained in the SEP have been included in Section 4 of the CEO ER by formulating a new paragraph 48. The information is taken from the SEP (Annex 10 in the ProDoc). The change carried out is shown in condensed form as:

?Members of the TGBC and the Association of Architects are private sector operators in the construction industry. ?? The TGBC is the local chapter of the Green Building Council that supports the development of green buildings, and sustainable communities and cities in Tunisia. It has a strong pedagogical approach of coordinating public and private stakeholders and providing technical support. ?? In turn, the Association of Architects plays an important role in the entire value chain for building construction starting from architectural design to construction, including the building materials supply chain. Hence, they are directly involved and impacted by the operationalization of the RTNB and the successful application of ECOBat energy label. ?? Architects are an important link in the process of obtaining licenses and permits for building construction, and they should therefore be well versed with the content of the operational guidelines that is proposed for municipal staff under Output 1.2.?

Please see updated paragraph 48 in CEO ER.

Coordination**Additional Comments (03/17/23, FB)**

1. The project indicated that the proposed implementation modality is UNDP-supported NIM, and that this has been agreed with the GEF, and that the relative costs will be charged to the project budget. We have no record of this arrangement being discussed nor agreed upon by the GEF. No formal request was received by the GEF SEC, duly accompanied by the correspondent formal and signed OFP requests. While we note the OFP letter is annexed to the ProDoc, the reasons for such arrangement being proposed are not made explicit. Tunisia is not a country with low capacity, and the need for UNDP to provide implementation support really sounds debatable. Please clarify the current status re: implementation arrangements.

Should the country wish to request and authorize the Agency to directly execute part of the GEF resources, GEFSEC needs to receive a formal request via email (please address it to Mr. Filippo Berardi, the PM), with attached OFP request, reasons for the request, breakdown of the budget for the activities to be directly executed.

Response

The justifications for support to NIM modality are provided in a separate submission that accompanies the CEO ER. The justifications arise from a number of weaknesses that have been identified in the HACT micro-assessment and PCAT of the Ministry of Environment. Moderate risks have been identified for: Programme Management / Financial Reporting and Monitoring / Procurement; while significant risks have been identified for: Organisational structure and staffing, and importantly concerning the present project, a substantial risk on the Programme-Project Management component and high risk on GEF & GCF Procurement Assessment. The support to NIM management approach has been chosen after thorough analysis because no third party organization could be identified as Implementation Partner. The complex situation prevailing in Tunisia since 2011 shows that the Support to NIM management approach is best suited for projects implemented by the Ministry of Environment. The recently approved and endorsed GEF-financed CBIT Tunisia project uses a Support to NIM approach.

Please see accompanying documents named: (i) Tunisia_Justification of Support to NIM; (ii) 6686 Tunisia GEF Checklist for CEO Endorsement 23Feb2023 clean; and (iii) Letter of support request (also Annex 4 in the ProDoc);

No changes made in the CEO ER and ProDoc.

Knowledge Management

Additional Comments (03/17/23, FB)

The KM strategy correctly focuses on the importance of using lessons for scale up. A replication and investment plan are also foreseen as integral parts of the KM strategy.

1. Under output 3.2.3, it is stated that "The project will also support the City of Kairouan to seek membership with the C40 Cities and/or ICLEI". Such membership could definitely help Kairouan to raise their ambition, but membership criteria are rather strict. How exactly will the project help the city achieve this?

Response

Activity 3.2.3 has been updated to include the following text:
"The C40 Cities has very stringent requirements for membership. In order to pave the way for the City of Kairouan to become a member of C40 Cities, the capabilities of the City of Kairouan for mainstreaming climate change across municipal operations and services will be assessed against the requirements of C40's Climate Action Plan (CAP) Framework. The result of this baseline assessment will be used to develop a plan that will enable the City of Kairouan to join the C40 Cities. The assessment will be carried out in collaboration with C40 Cities."

Please see update to Activity 3.2.3 in paragraph 36 (Output 3.2).

The ProDoc has also been amended.

Annexes

Additional Comments (04/08/23, PPO)

1. Responses to Project's Reviewers and Results Framework Tables are off the margins ? they need to be amended, otherwise it would not be readable when circulating / posting.

Response

The margins to tables in Annex A and Annex B of the CEO ER have been reduced.

Please see reformatted tables in Annex A and Annex B of the CEO ER.

Additional Comments (04/08/23, PPO)

2. Budget lines are bundled with several expenditures/activities in one line. As it is, it is not possible to assess the reasonability of the cost of these expenditures / activities vis-à-vis the three main sources of funding (project's components ? M&E ? PMC). Please ask the Agency to itemize each expenditure (i.e. Project Manager, consultants, contractual services for outputs, etc.) ? once resubmitted, we will be in a position to review the budget and provide comments if appropriate.

Response

A more granular level budget breakdown is now provided in Annex 3 of the ProDoc.

Please see updated Annex 3: GEF Budget Template in the ProDoc.

Project Results Framework

Additional Comments (03/17/23, FB)

1. Please add additional columns to the PRF to include information on who is responsible to carry out the monitoring and what is the mean/modality of verification.

2. indicator 3 could be strengthened or a new one introduced to assess the operationalization of the expanded scope of applicability of the RTNB, beyond just the creation of capacity to do that. What are the activities (to be) carried out to "*ensure building compliance with RTNB*", as per the formulation of Output 1.2? Can some of these activities be quantified and transformed in an indicator at end of the project (i.e. "increased % of buildings in the city that have been checked against the standard")?

Responses

1. The PRF in Annex A has been extended by adding two columns: Responsible Party and Means of Verification. The content of the two columns are taken from the Monitoring Plan that is contained in Annex 6 in the ProDoc. Hence, consistency is assured between the ProDoc and the CEO ER.

2. The comment is the same as made for Output 1.2 above. Indicator 3 in the Results Framework has been changed by adding a sub-indicator ?3(a) Number of updated RTNB and associated regulations?. The initial indicator has been retained as indicator 3(b) with the word ?updated? added in front of RTNB.

Please see PRF in Annex A of the CEO ER for both responses.

[1] ANME (2022) PROJET DE CAHIER DES CHARGES RELATIF AU LABEL DE PERFORMANCE ENERGETIQUE ECO-BAT ; Hassen Ben Hassine, Presentation entitled ?Label ECO-Bat ? Choix fondamentaux et mise en place, Tunis, 24 February 2021.

PPO Comments:

-

1. Geographic location data: In Annex D on Project Map and Coordinates, please consider inserting the geographic location of the site directly under the dedicated data entry field in the portal.

2. Operations:

a. As UNDP is providing some execution support services, please add UNDP under the Other Executing Partner of the Project Information section.

b. Budget table: Project Manager and Project Associate/Administrative Assistance are charged to both project components and PMC, please consider to charge to PMC and proportionately between GEF financing and co-financing.

3. Gender: On references to gender-disaggregated data, please ask the Agency to clarify if it will indeed collect or monitor data on different genders (that means, more than women-men and include LGBTQI+). If the intent is to collect data disaggregated as women-men ? please ask them to use sex-disaggregated instead of gender-disaggregated.

4. Knowledge Management & Stakeholders Engagement: The project document includes a set of knowledge management and communications activities, especially as part of Component 3, including knowledge and communications products to share key messages, experiences, training, workshops, a data management system, online connection to PANORAMA partnership and dissemination of lessons learned. A timeline and budget for KM&L activities have been provided in the KM section mentioned; and the project's results framework lists targeted KM&L deliverables. But no such information is provided for the implementation of a communication plan.

The project document does include a reference to a communication plan as part of the project's Stakeholder Engagement Strategy; but the Prodoc does not include Annex 10-Stakeholder Engagement Plan; so it is not clear what this communication plan entails. Thus, the agency is requested to provide the communication plan for the project (or Annex 10 ? Stakeholder Engagement Plan) as well the timeline and budget for the implementation of the communication plan.

Response:

1. The geographic location of the site has been inserted in the portal.

2.(a) The UNDP is not executing any activities. Rather it is only providing procurement and payment services under the assisted NIM modality. Project execution remains fully with the Ministry of Environment. Hence, the proposed change has not been carried out.

(b) Budget table: Two clarifications are provided to clarify the approach used for budget allocation regarding the salaries of the project management staff. First, it is pointed out that 34% of all salaries are covered by government cash co-financing, triggered mainly by the insufficiency of funds available under PMC. Second, it is the salary of the Project Manager that is imputed to project components using GEF funding to the tune of 35% of the total PM salary (i.e. USD 25,200). Of this, USD 14,400, USD 7,200 and USD 3,600 are allocated under components 1, 2 and 3, respectively. This is justified because the PM will also carry out technical duties as made explicit in the ToR given in Annex 9. The allocation of the PM's salary to the three components reflects the difference in time inputs for technical work associated with the three components. These supplementary explanations have been included in the budget notes (highlighted in green) related to project staff salary in Section IX (Total Budget and Work Plan) in the ProDoc ? i.e. budget notes 2,9 and 20 for salary covered under project components using GEF funding and budget notes 6, 14 and 29 for salary covered using MOE cash co-financing.

3. Gender: The distinction between gender- and sex-disaggregated indicators is duly noted. As far as data collection is concerned, 'gender' has been replaced with 'sex' in order to be aligned with the Project Results Framework, as well as the Gender Action Plan (Table 17 in the ProDoc and Table 16 in the CEO ER). The Project Results Framework and the Gender Action Plan use indicators and targets defined in terms of men/women (or male/female). Accordingly, Table 3 in Annex 12 in the ProDoc has been changed accordingly with changes in all documents highlighted in green.

4. KM & Stakeholder Engagement: The comment of PPO is duly noted. Annex 10 ' Stakeholder Engagement Plan has now been re-submitted to the GEF portal, as part of the CEO endorsement request document. It is pointed out that the Stakeholder Engagement Plan includes a timeline for its implementation (Table 6 in the SEP), as well as a section on 'Resources and Responsibilities', including a SEP budget in Table 7.

Response:

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1. Thank you for sharing the Geolocation user guide. The geolocation is reuploaded on the Portal following the guidance shared.

|

2. a. We understand GEF's request. As explained earlier, although UNDP is providing execution services, these are not direct execution of project activities on the ground. Rather, UNDP is only providing execution support services to the executing entity, the Ministry of Environment, by providing

procurement, HR and payment services under the assisted NIM modality. Project execution remains fully with MoE through the Project Management Unit.

That said, given the request from GEF, UNDP is indicated as 'other executing entity' on Prodoc and CEO Endorsement Request. UNDP is also indicated as EE in the Budget Tables where appropriate as *UNDP (to provide support service to MoE)*.

b.1. The TOR for the Project Assistant is revised to include the provision of technical support for the implementation and monitoring of the project. This technical support is estimated at roughly 15% of the PA's working time, therefore, only this portion of the salary is charged against the components. 85% of the salary is charged against the PMU budget.

b.2. Budget table is revised to indicate the correct amount.

-

**ANNEX C: Status of Utilization of Project Preparation Grant (PPG).
(Provide detailed funding amount of the PPG activities financing status
in the table below:**

Annex C: Status of Utilization of Project Preparation Grant (PPG) (Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: USD 50,000			
<i>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent to date</i>	<i>Amount Committed</i>
Component A: Preparatory Technical Studies & Reviews &	42,000.00	15,878.50	
Component B: Formulation of ProDoc			
<u>1. International Consultants</u>	32,031.00	12,853.05	
- International Project Development Specialist (PPG Team Leader)	28,490.00	11,525.10	
- Gender Specialist	3,541.00	1,327.95	
- Social and Environmental Safeguard Specialist	-	-	
<u>2. Local Consultants</u>	5,000.00	2,056.45	
- National Project Development Specialist	5,000.00	2,056.45	
<u>3. Travel</u>	2,469.00	969.00	
<u>4. Audio Visual & Print Production Costs</u>	2,500.00	-	
Component C: Validation Workshop (trainings and workshops)	8,000.00	-	
Total	50,000.00	15,878.50	

If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake exclusively preparation activities up to one year of CEO Endorsement/approval date. No later than one year from CEO endorsement/approval date. Agencies should report closing of PPG to Trustee in its Quarterly Report.

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



Figure 11. Map of Tunisia indicating the location of Kairouan.

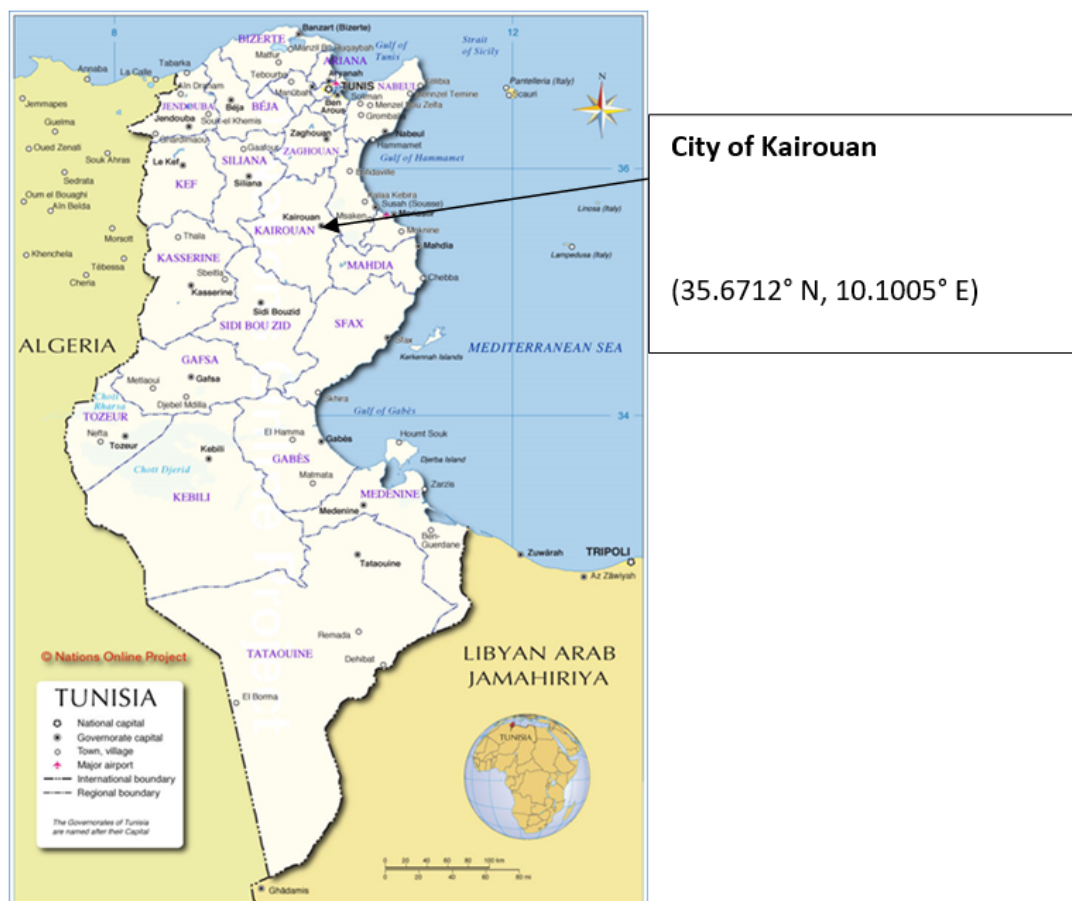


Figure 11. Map of Tunisia indicating the location of Kairouan.

Table 13. List of locations chosen for retrofitting street lights in the city of Kairouan.

Location	Number of lighting points	Existing Power rating (W)	Power rating with GEF investments (W)
Avenue de l'environnement et giratoire ?Zarbiya?	206	250	100
Place Sadeka	58	150	80
Cit? commerciale et cit? des martyrs	60	100	80
Avenue Ibn Aghlab	70	250	100
Avenue Touhami Negra	94	250	100
Avenue Sadek Lemkaddem	24	250	100
Avenue Ibn Jazzar	34	250	100

Avenue Moez Ibn Badis	28	250	100
Total	574	128,700	55,040

Annex E: Project Map(s) and Coordinates

Geolocation Project GEF ID 11040 ? UNDP PIMS 6686 Tunisia

Towards Sustainable cities in Kairouan

Table. List of geocoding fields to enter in the Portal

Field	Description
FOR EACH PROJECT LOCATION	
Geo Name ID	<i>2473451</i>
Location name	<i>Governorate of Kairouan</i>
Latitude	<i>- 35°40'11.49"N</i>
Longitude	<i>- 10° 6'8.16"E</i>
Location Description (optional)	<i>Intersection of Avenue 3 septembre 1934 and Avenue 02 Mars 1934</i>
Activity Description (optional)	<i>the geographical location is the baseline municipal building that will be enhanced (energy efficient through application of the RTNB and ECOBat label) using GEF investments.</i>

The aerial picture shows the geographical location of the baseline municipal building that will be enhanced (energy efficient through application of the RTNB and ECOBat label) using GEF investments.

Address: Intersection of Avenue 3 septembre 1934 and Avenue 02 Mars 1934 ;

Coordinates: Latitude - 35°40'11.49"N; Longitude - 10° 6'8.16"E.





GEO LOCATION INFORMATION

The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate. Web mapping applications such as [OpenStreetMap](#) or [GeoNames](#) use this format. Consider using a conversion tool as needed, such as: <https://coordinates-converter.com> Please see the Geocoding User Guide by clicking [here](#).

Equipment	<p>At the beginning of the project three computers (USD 2,000 each) and one printer (USD 2,000) will be purchased for project management. One computer will be used by each of the Project Manager, Administrative Assistant and Project Coordinator. The total budget is USD 5,000 and complements the USD 3,000 allocated at note 17 above.</p>	Budget note 33					-	5,000	5,000	UNDP (to provide support service to MoE)
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Equipment	<p>GEF investments of USD 105,457 will be used to replace 574 conventional street lights with energy efficient LEDS with remote sensing function. The average unit cost of each LED lamp (and casing) is USD 184. The replacement of lamps will yield global environmental benefits as calculated in Annex 14 and given in Section IV of the Project Document.</p>	Budget note 10		105,457		105,457			105,457	UNDP (to provide support service to MoE)
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Contractual Services ? Company	<p>A Company (hereafter Company A) will be recruited to provide technical assistance services for Outputs 1.1, 1.2, 1.3 and 1.6. The services will require 88 days of work @USD 1,000 per day (all-inclusive cost) ? i.e. USD 88,000 total. The allocation is as follows: Output 1.1: 20 days (USD 20,000) for the review and update of existing licensing and permits process, and formulation of operational manual for the municipality; Output 1.2: 16 days (USD 16,000) operationalization of the cross-institutional mechanism for the enforcement of the RTNB and review of the RTNB; Output 1.3: 37 days (USD 37,000) for formulating the strategic plan for developing a value chain for locally-fabricated bricks; Output 1.6: 15 days (USD 15,000) for carrying out a targeted environmental and social risk assessment for municipal</p>	budget note 1	402,458	402,458	402,458	UNDP (to provide support service to MoE)
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building at Keblia and for developing a ESMP.

As per the scheduling of activities in the work plan, the yearly allocation is estimated as follows:

- USD 88,000 - Yr1 ? USD 39,000 (Output 1.1 ? 20 days; Output 1.2 ? 9 days; Output 1.6 ? 10 days);
- Yr2 ? USD 45,000 (Output 1.2 ? 3 days; Output 1.3 ? 37 days; Output 1.6 ? 5 days); Yr3 ? 4,000 (Output 1.2 ? 4 days).

The technical assistance financed using GEF funding will be complemented with the co-financing from MOE as described in note 6.

For Outputs 1.1, 1.2, 1.3 and 1.6, the Company A will provide the following expertise as detailed in Annex 9.

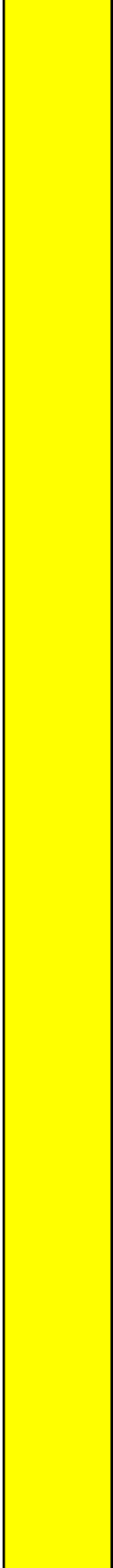
- Strategic Value Chain Expert (3 7 days) ? Output 1.3
- Environmental & Social Risk Expert (15 days) ? Output 1.6
- Institutional et

Regulatory
Expert (36 days)
? Outputs 1.1 and
1.2

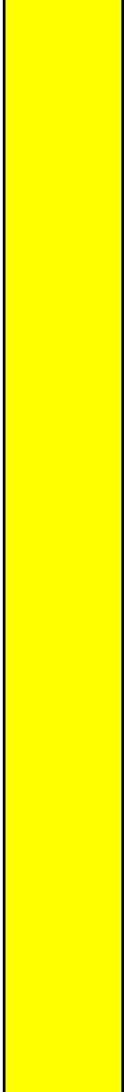
Please see note 6
for
complementary
expertise
provided by
Company A.

The
Environmental &
Social Risk
Expert will also
carry out targeted
assessments
according to
SESP and ESMF
for Output 2.3
(note 15) and
strategic
assessments for
Output 3.4 (note
31)

GEF investments
will be used to
enhanced the
energy efficiency
of the Municipal
Building at
Kebliia that will
yield global
environmental
benefits (Annex
14 and Section
IV of the Project
Document), as
well as the
operationalizatio
n of the
procedure for
enforcing the
application of the
building energy
code (RTNB).
Through the GEF
investments
totaling USD
314,458, the
newly developed
ECOBat label in
Tunisia will be
sought for the



energy
efficiency-
enhanced
municipal
building.



<p>A Services Company (Company A) will be recruited to carry out training for the municipality staff for the designing, implementation and monitoring and evaluation of intelligent public lighting under Output 2.1 (Public Lighting Efficiency Expert). The will also develop all necessary training materials based on a needs gaps analysis in close collaboration with the municipality. This is budgeted at USD 47,000 is for 47 days of services delivered at USD 1,000 per day (all-inclusive cost). The same company will be requested to provide technical support on the development of national standards (Quality Standards Expert) for public lamps under Output 2.2 for a total cost of USD 22,000 (20 days). The total cost of USD 69,000 will be spread equally between Yr1 and Yr2 for USD 34,500 each.</p>	<p style="color: red;">budget note 8</p>		<p style="text-align: center;">69,000</p>		<p style="text-align: center;">69,000</p>		<p style="text-align: center;">69,000</p>	<p style="text-align: center;">UNDP (to provide support service to MoE)</p>
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Contractual Services ? Individual	<p>Partial salary of the Project Manager (20% of USD 72,000 = USD 14,400) and of the Project Associate/Administrative Assistance (15% of USD 43,200 = USD 6,480) are covered under Outcome 1 for technical work. The total of USD 20,880 is spread equally over 3 years (i.e. USD 6,960 per year).</p>	budget note 2	20,880			20,880			20,880	UNDP (to provide support service to MoE)
	<p>Part salary of the Project Manager (10% of USD 72,000 = USD 7,200) is budgeted for technical work.</p>	budget note 9		7,200		7,200			7,200	UNDP (to provide support service to MoE)
	<p>GEF funding will cover 5% of the salary of the Project Manager (USD 72,000) ? i.e. USD 5,255 spread equally over three years; USD 1,750 per year</p>	budget note 20			5,255	5,255			5,255	UNDP (to provide support service to MoE)

	<p>The total of USD 46,080 is for the partial salary of the Project Manager (25% of USD 72,000 = USD 18,000) and the Project Associate / Administrative Assistant (65% of USD 43,200 = USD 28,080). The total is allocated equally over 3 years ? i.e. USD 15,360 per year.</p>										46,080	46,080	UNDP (to provide support service to MoE)	
Sub-contract to executing partner	<p>The project is implemented using Support to NIM and the UNDP will charge for a total of USD 18,086 for support services as per details given in Annex 4.</p>											18,086	18,086	UNDP (to provide support service to MoE)
International Consultants	<p>An international consultant who is an expert in formulating concept notes for climate finance (International Climate Finance Expert) will be recruited in Yr3 for a total of USD 13,500 (15 days @USD 900 per day (all costs inclusive)).</p>										13,500	13,500	UNDP (to provide support service to MoE)	

	An international consultant (International Evaluation Expert) will be recruited in Yr3 to carry out Terminal Evaluation of the project for a total of USD 31,500 (35 days @USD 900 per day (all costs inclusive)).	budget note 24					-	31,500		31,500	UNDP (to provide support service to MoE)
Local Consultants	A total of USD 8,345 is for Local Consultant to prepare a report on progress made in reaching GEF core indicators and project results included in the project results framework and to monitor SES, gender action plan, stakeholder engagement plan, project risks	budget note 25					-	8,345		8,345	UNDP (to provide support service to MoE)

<p>Trainings, Workshops, Meetings</p>	<p>A total budget of USD 31,100 is allocated for coordinating project stakeholders for the following: Output 1.1 ? USD 11,000 for training of municipal staff on the use of operational manual; Output 1.2 ? USD 3,600 for training of municipal staff for carrying out enforcement of construction sites; Output 1.3 ? USD 7,500 for stakeholder consultations for developing strategic plan; Output 1.6 ? USD 9,000 for consultations for targeted social and environmental risks assessments as per SESP and ESME. The yearly allocation is: Yr1 ? USD 18,700; Yr2 ? USD 6,700; Yr 3 ? 5,700.</p>	<p>budget note 4</p>	<p>31,100</p>			<p>31,100</p>		<p>31,100</p>	<p>UNDP (to provide support service to MoE)</p>
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<p>A total budget of USD 17,000 is for training workshops for Output 2.1 will be spread equally over Yr1 and Yr2 at USD 4,500 for each year. For Output 2.2, four workshops (@USD 2,000 each) are planned for developing standards for efficient public lamps. The cost of USD 8,000 will be split equally over Yr1 and Yr2 ? i.e. USD 4,000 per year. This gives total budget of Yr1=Yr2=USD 4,500.</p>	<p style="color: red;">budget note 12</p>		<p>17,000</p>		<p>17,000</p>		<p>17,000</p>	<p>UNDP (to provide support service to MoE)</p>
<p>A country level workshop will be used to validate the replication plan over 2 days at a cost of USD 6,900. The total cost for these two workshops is USD 9,400.</p>	<p style="color: red;">budget note 23</p>		<p>6,900</p>	<p>6,900</p>			<p>6,900</p>	<p>UNDP (to provide support service to MoE)</p>
<p>An inception workshop will take place in Yr1 (USD 2,500)</p>	<p style="color: red;">budget note 26</p>			<p>-</p>	<p>2,500</p>		<p>2,500</p>	<p>UNDP (to provide support service to MoE)</p>

Travel	<p>Since the project is implemented in Kairouan and while the PMU will be located in Tunis, a total internal travel budget of USD 16,000 has been allocated for the entire duration of the project. The travels will also serve the M&E purpose. The allocation is: Yr1 = USD 4,000; Yr2=Yr3= USD 6,000.</p>	budget note 21			16,000	16,000		16,000	UNDP (to provide support service to MoE)
Other Operating Costs	<p>A total budget of USD 10,020 is allocated for printing expenses for the operational manual (Output 1.1) and the manual for the online tool (Output 1.4). The quality standards for bricks (Output 1.5) will also be published. Since the bulk of these activities take place in Yr1 but straddle Yr2, the allocation is USD 6,012 (Yr1) and USD 4,008 (Yr2).</p>	budget note 3	10,020			10,020		10,020	UNDP (to provide support service to MoE)

Other Operating Costs	Training materials will be developed and printed for Output 2.1 and Output 2.2 for a total cost of USD 6,800. Each output will receive half the budget and spread equally between Yr1 and Yr2 (USD 3,400 for each year).	budget note 11		6,800	6,800				6,800	UNDP (to provide support service to MoE)
Other Operating Costs	A lumpsum printing cost of USD 16,000 is allocated for Outcome related mainly to lessons learned and knowledge products (Output 3.3); terminal evaluation report (Output 3.1); and replication plan and concept notes to leverage international climate finance (Output 3.4). The allocation is: Yr1 = USD 4,000; Yr2=Yr3= USD 6,000.	budget note 22		16,000	16,000				16,000	UNDP (to provide support service to MoE)
Other Operating Costs	The project will undergo an independent financial audit every year for a total of USD 7,825.	budget note 34			-		7,825		7,825	UNDP (to provide support service to MoE)

Grand Total			464,45 8	205,45 7	57,655	727, 570	42, 345	76, 991	846,9 06	
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ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agency is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).