GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL
PROJECT TYPE: Full-sized Project
TYPE OF TRUST FUND:GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title: Leapfrogging Tunisia's lighting market to high efficiency technologies			
Country(ies):	Tunisia	GEF Project ID:[1]	9498
GEF Agency(ies):	UN Environment	GEF Agency Project ID:	01357
Other Executing Partner(s):	Agence Nationale de la Maitrise de l'Energie (ANME)	Submission Date:	December 22, 2017
GEF Focal Area (s):	Climate Change	Project Duration (Months)	36
Integrated Approach Pilot	IAP-Cities ☐ IAP-Commodities ☐ IAP-Food Security ☐	Corporate Program: SGP ☐	
Name of Parent Program	Leapfrogging markets to high efficiency products (Appliances, including lighting, and electrical equipment).	Agency Fee ($)	215,959

A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES[2]

Focal Area Objectives/Programs	Focal Area Outcomes	Trust Fund	(in $) GEF Project Financing	(in $) Co-financing
CCM-1 Program 1	Policy, planning and regulatory frameworks foster accelerated low GHG development and emissions mitigation	GEFTF	2,399,541	15,738,000
	Total project costs		**2,399,541**	**15,738,000**

B. PROJECT DESCRIPTION SUMMARY

Project Objective: To promote the rapid transformation of the Tunisian market to energy efficient lighting technologies, thereby reducing electrical demand and consumption and related greenhouse gases (GHG) emissions.

Project Components/ Programs	Financing Type[3]	Project Outcomes	Project Outputs	Trust Fund	(in $) GEF Project Financing	(in $) Confirmed Co-financing
1. Regulatory mechanisms, including minimum energy performance standards (MEPS) for lighting products	TA	1. Adoption by government of MEPS and label requirements	1.1. National stake-holders are consulted and informed on the implementation of MEPS and labeling requirements.	GEFTF	402,250	694,000

[1] Project ID number remains the same as the assigned PIF number.
[2] When completing Table A, refer to the excerpts on GEF 6 Results Frameworks for GETF, LDCF and SCCF and CBIT programming directions.
[3] Financing type can be either investment or technical assistance.

			1.2. MEPS are adopted for all lighting products, including light emitting diode (LED) lamps and systems.			
2. Supporting policies for high efficiency lighting technology deployment	TA	2. Government actions for an increased availability and use of efficient lighting are in place	2.1. Public awareness is raised through multi-media communication and distribution campaigns, increasing consumers uptake of efficient lighting 2.2. Financial mechanisms, such as on-bill financing, are introduced to support end users' purchases of efficient lighting products 2.3. Training is delivered to local lamp producers to strengthen technical capacity to produce LED lamps and LED lighting systems with controls 2.4. An "all-LED island" lighting demonstration project is completed on Djerba through public-private partnerships with the municipality and hospitality sector.	GEFTF	661,127	13,652,000
3. Strengthened monitoring, verification and enforcement (MVE) for lighting product	TA	3. Strengthened national capacity to monitor, verify, enforce and report on compliance of the products with MEPS and labeling	3.1. Legal framework for efficient lighting MVE is reviewed and strengthened 3.2. Training is delivered to government authorities and customs administration on	GEFTF	907,650	482,000

			lighting market monitoring 3.3. Testing capacities of the national lamp laboratories is strengthened through technical equipment of laboratories and staff qualification 3.4. Information strategy is implement-ted to help the private sector understand the requirements in complying with MEPS and labeling.			
4.Environmentally sound management of efficient lighting products	TA	4. Capacities are in place to implement a national system to collect, recycle and/or responsibly dispose of lighting products that contain hazardous materials	4.1. Lamp collection and recycling or disposal scheme for used lamps is designed and adopted 4.2. National legislation on environmentally sound lamp waste management is developed 4.3. Training is delivered to government authorities, retailers and collectors	GEFTF	314,250	269,000
				Subtotal	2,285,277	15,097,000
				Project Management Cost (PMC)[4]	114,264	641,000
				Total project costs	**2,399,541**	**15,738,000**

[4] For GEF Project Financing up to $2 million, PMC could be up to10% of the subtotal; above $2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include evidence for co-financing for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount ($)
Recipient Government	Government of Tunisia	Cash	13,000,000
Recipient Government	Government of Tunisia	In-kind	2,000,000
Private Sector	GLOBAL LIGHTING, Kairouan - Tunisia	In-kind	280,000
Private Sector	AFROLIGHT, Tunis - Tunisia	In-kind	128,000
Private Sector	The Global Efficient Lighting Center	In-kind	300,000
GEF Agency	UN Environment	In-kind	30,000
Total Co-financing			**15,738,000**

D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in $)		
					GEF Project Financing (a)	Agency Fee(*) (b)	Total (c)=(a)+(b)
UNEP	GEFTF	Tunisia	Climate Change	CCM-1 Program 1	2,399,541	215,959	2,615,500
Total Grant Resources					**2,399,541**	**215,959**	**2,615,500**

(*) Refer to the Fee Policy for GEF Partner Agencies

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS[5]

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	*hectares*
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	*hectares*
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	*Number of freshwater basins*
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	*Percent of fisheries, by volume*
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO_{2e} mitigated (include both Direct and Consequential)	*Direct: 809,465 tCO_{2eq}[6] (direct and post-project direct)* *Indirect Bottom-up: 2,232,089 tCO_{2eq}*
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	*metric tons*
	Reduction of 1000 tons of Mercury	*metric tons*
	Phase-out of 303.44 tons of ODP (HCFC)	*ODP tons*
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	*Number of Countries:*
	Functional environmental information systems are established to support decision-making in at least 10 countries	*Number of Countries:*

F. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? No

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/CBIT Trust Fund) in Annex D.

[5] Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the *GEF-6 Programming Directions*, will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

[6] As as agreed with the GEF Secretariat, the Direct benefits attributable to each of the child projects under the "Leapfrogging markets to high efficiency products (appliances, including lighting and electrical equipment)" Program shall represent 50% of the projects' estimated Direct GHG emission reductions.

PART II: PROJECT JUSTIFICATION

A.0. Describe any changes in alignment with the project design with the original PIF

The project retains most of the elements and intended outcomes elaborated at the PIF stage. Some outputs have been removed, amended, streamlined and reorganized for greater clarity and ease of orderly implementation, as well as to account for latest developments in the country. Some outcomes have been re-worded to better frame the project's uptake. The main change are described here below:

- The Concept Note output 1.3 "*Existing labeling requirements for lighting products are revised to include more products*" has been removed as according to the national executing agency (ANME) this output is not relevant for Tunisia for the following reasons:
  - All lighting products including LEDs are already covered by existing regulation, particularly decree n°2004-2145 which states inter alia that lamps and lighting systems are classified according to energy performance and can be sold or rent only if they are labelled.
  - ANME with national partner have already developed a draft regulation on labeling requirements for lighting products.
- The Concept Note output 3.3 "*Technical, human and financial capacities of the national lamp testing laboratories are strengthened*" has been reworded in "*Testing capacities of the national lamp laboratories is strengthened through technical equipment of laboratories and staff qualification*".
- The Concept Note output 4.2 "*Legal framework on hazardous waste management is strengthened and enhanced to include lamps*" has been reworded in "*National legislation on environmentally sound lamp waste management is developed*" as the initial wording read like an outcome statement.
- The Concept Note output 4.4 "*Awareness raising and communications campaigns are conducted to promote safe handling of spent lamps*" has been removed. Indeed, the adoption of the lamp collection and recycling or disposal scheme will not be implemented before the end of the project thus awareness and communication campaigns would not be effective.
- The Concept Note outcome 1 "*Increased efficiency of lighting products available on the Tunisian market through ambitious MEPS*" has been changed to "*Adoption by government of MEPS and label requirements*" to better reflect the uptake of project component 1.
- The Concept Note outcome 2 "*Increased availability and use of efficient lighting products in Tunisia*" has been changed to "*Government actions for an increased availability and use of efficient lighting are in place*" to better reflect the uptake of project component 2.

With regards to GEF funds:

Project component	**GEF budget at Concept Note**	**GEF budget at CEO Endorsement**	***Explanation of changes***
Component 1	475,250	402,250	Component 1 was slightly over budgeted in the Concept Note. The difference has been shifted to Component 3.
Component 2	700,000	661,127	Component 2 was slightly over-budgeted in the Concept Note. The difference has been shifted to Component 3. In addition, Component 2 will be highly relying on the co-finance contribution from ANME.
Component 3	650,000	907,650	The MVE component required more funds than foreseen at the time of the Concept Note, particularly because of the amount of budget required for the laboratory equipment.
Component 4	460,077	314,250	Component 4 was slightly over budgeted in the Concept Note. The difference has been shifted to Component 3.
PMC	114,264	114,264	
TOTAL	**2,399,541**	**2,399,541**	

With regards to co-finance:

- The lighting industry is going through rather transformational change. The recent press release from Ledvance about job cuts shows how Osram and to a lesser extent Philips are going through the same challenge.
  - Co-financing from Philips Lighting has not been confirmed at that stage but the partner communicated interest in that project.
  - Co-financing from Osram has not been confirmed at that stage but the partner signed a letter of commitment identifying activities to provide technical support.
- Co-financing from bilateral aid mentioned in the Concept Note has not been confirmed.

A.1. Project Description. Elaborate on:

A.1.1 Global environmental and/or adaptation problems, root causes and barriers that need to be addressed

GHG Emissions from the energy sector

The energy sector is by far the largest source of Green House Gas (GHG) emissions in Tunisia, accounting for 58% of the country's total GHG emissions (≈27 $MtCO_2e$/2012).[7] The sectoral contributions to GHG emissions are shown in the figure 1 below. In 2000, GHG emissions from the energy sector were approximately 20.8 $MtCO_2e$, implying a significant increase of 30.3% (or ≈2.2% Compound Annual Growth Rate, CAGR) between 2000 and 2012.

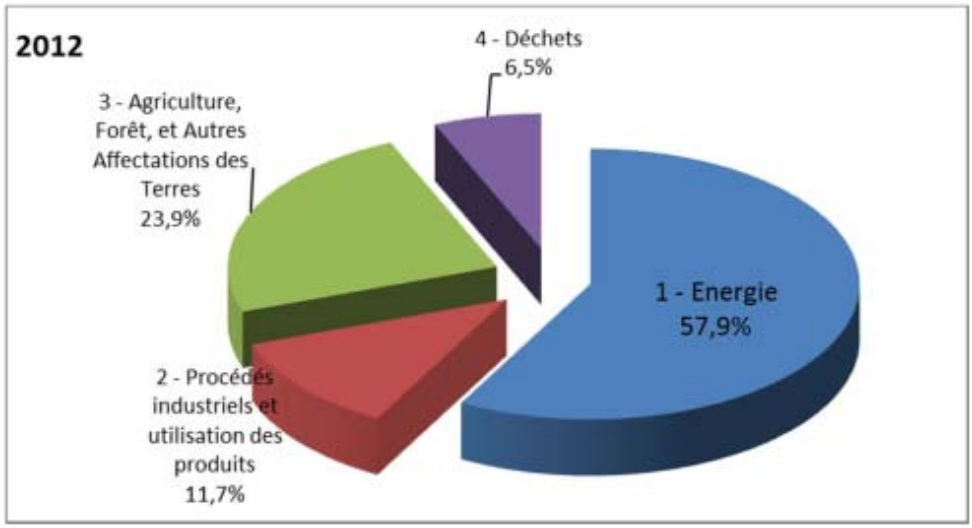

Figure 1: Emission of GHG by sector, 2012[8]

The sub-sector breakdown of GHG emissions from the energy sector for 2012 is shown in Table 1 below. The emissions from the energy industries (i.e. power generation) are the highest and represent 27.2% of all energy sector emissions or 30.1% of combustion-related GHG emissions.

[7] Source : Republic of Tunisia, (2016), *Second Biennial Update Report*
[8] Source : Republic of Tunisia, (2016), *Second Biennial Update Report*

Table 1: breakdown of the energy sector GHG emissions[9]

Energy sub-sector	Emissions ($MtCO_2e$)	(%)
Energy industries	9.9675	36.9
Manufacturing & construction	4.6711	17.1
Transport	6.4526	23.9
Other sectors (Tertiary, Residential, Agriculture & fisheries)	3.8010	14.1
Sub-total combustion	***24.9***	***92.1***
Sub-total fugitive emissions	***2.1***	***7.9***
Total emissions energy sector	**27.023**	**100.0**

According to **INDC report of Tunisia[10]**, GHG emissions from the energy sector are expected to reach 47.5 $MtCO_2e$ in 2030. The following graph (Figure 2) shows the breakdown of the energy baseline by sector:

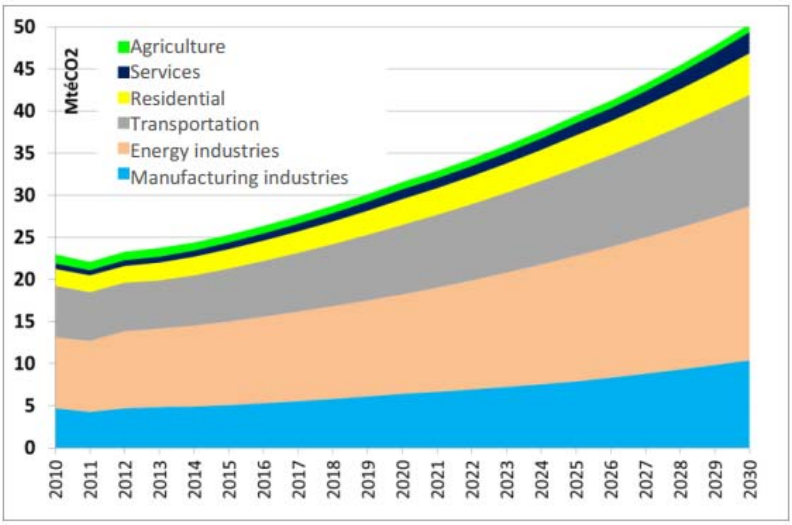

Figure 2: Baseline GHG emissions from the energy sector.[11]

In its Intended Nationally Determined Contribution (INDC), Tunisia pledges to achieve an unconditional carbon intensity target to reduce its carbon intensity by 13% in 2030, compared to 2010 levels. It commits to a further 28% intensity reduction (total of 41%) below 2010 levels by 2030, contingent upon international funding, capacity building, and technology transfer. Tunisia plans to achieve the 13% goal exclusively through energy sector actions and welcomes international support across all sectors:

- Energy efficiency – Twenty actions in the industrial, building, transport, and agricultural sectors to allow primary energy demand to decrease by 30% by 2030, relative to the 2010 baseline.
- Renewable energy – Increase renewable energy in electricity production from 4% in 2015 to 14% in 2020 and 30% in 2030, and triple the solar water heater distribution rate by 2030.
- Industrial Processes – Use nationally appropriate mitigation actions in the cement industry and access international carbon markets.
- Agriculture, Forestry, and Other Land Use (AFOLU) – Intensify removals from forestry and arboriculture

[9] Source : Republic of Tunisia, (2016), *Second Biennial Update Report*
[10] http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx
[11] Source : Republic of Tunisia, (2015), *INDC Report*

through enhanced reforestation and enhancing carbon stock in forests and pastoral environments; reduce agriculture emissions through agricultural practices.

- Waste – Initiatives include installing facilities to convert solid waste into refuse derived fuel.

Household electricity consumption

According to the STEG (the Tunisian Electricity and Gas Company) 2014 survey in the residential sector which were published in 2015, total electricity consumption for home appliances and lighting in the residential sector amounted to 4076 GWh in 2014, i.e. 28% of the total electricity consumption in the country. In the period between 2009 and 2014, the total electricity consumption in the residential sector has grown by 25.3% or 4.6% per year.

The figure 3 below shows the distribution of electricity consumption in the residential sector from 1984 to 2014.

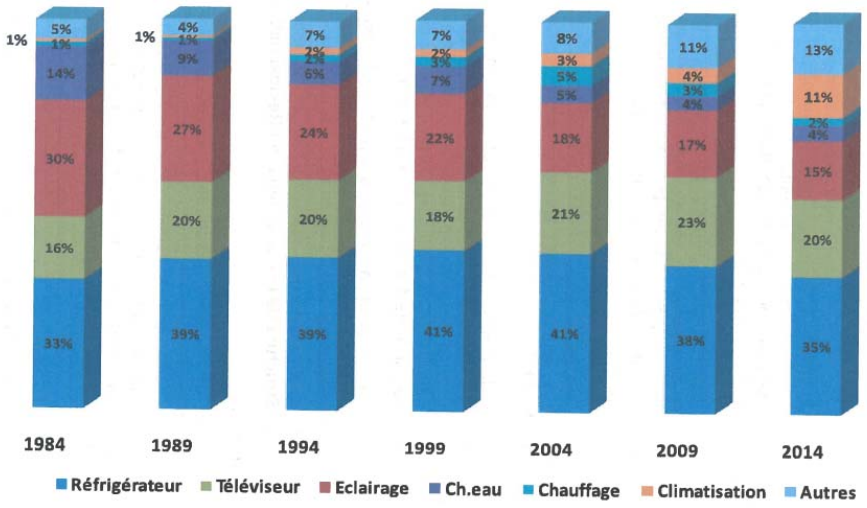

Figure 3: Distribution of electricity consumption in the residential sector from 1984 to 2014. [12]

In 2014, refrigeration was the group of appliances requiring the largest part of the total household electricity consumption, with a share of 35%. TVs & peripherals are key contributor to the electricity consumption representing 20% of the total consumption. Lighting is the third largest electricity end-user with a share of 15%. Other appliances such heaters and air-conditioners represent together about 13 % of the total household electricity consumption.

The total household electricity consumption has increased from 2829.3 GWh in 2004 to 4075.8 in 2014. This increase is due to a 337% rise in the consumption of air-conditioning between 2004 and 2014 and the electricity consumption associated with the use of new electronic appliances (such as PC, electric oven and microwave).The evolution of electricity consumption by use is illustrated in the following table (Table 2).

Table 2: Evolution of electricity consumption of residential sector by use. [13]

GWh/year	2004	2009	2014	2014/2009	2014/2004
Lighting	499.5	573.1	615.2	7.3%	8.4%
TV	610.8	746	831.1	11.4%	13.9%
Refrigeration	1,151.7	1,225.5	1,425.8	16.3%	17.4%
Water heating	128.4	118.3	179.4	51.6%	47.6%
Air-conditioning	95.8	122.3	445.2	264.0%	**337.1%**
Space heating	137.4	117.3	82.8	-29.4%	-25.1%

[12] Source : 2015 report of STEG Five- year survey in the residential sector (2009-2014)
[13] Source : 2015 report of STEG Five- year survey in the residential sector (2009-2014)

GWh/year	2004	2009	2014	2014/2009	2014/2004
Washing	61.5	76.2	112.4	47.5%	58.9%
Iron	16.3	23.7	17.2	-27.4%	-39.9%
PC	10.9	39.7	85.9	116.4%	**423.9%**
Electric oven	32.5	52.2	91.4	75.1%	**120.6%**
Microwave	3.4	9.5	34.1	258.9%	**723.5%**
Others	81.1	150.1	155.5	3.6%	6.7%
Total	**2,829.3**	**3,253.9**	**4,076**	**25.3%**	**29.1%**

Lighting products stock and electricity consumption

The current structure of the installed stocks of lamps in the residential sector in Tunisia and the related electricity consumption are depicted in the STEG 2014 survey data in the residential sector which was published in 2015. These data are the most recent and accurate ones and include statistics on lighting energy consumption and installed stock (refer to table 3 below).

Table 3: Distribution of installed stock of lighting points (million). [14]

Residential sector								
		1984	**1989**	**1994**	**1999**	**2004**	**2009**	**2014**
Installed stock of lighting points		**5, 300,000**	**8,240,000**	**10,007,000**	**11,946,830**	**14,716,570**	**17,118,169**	**21,808,754**
Incandescent lamps stock		4,375,000	6,474,000	7,612,000	8,579,400	9,947,050	9,491,811	7,193,965
Chandelier[15] stock		390,000	741,000	1,021,000	1,289,600	1,676,960	1,559,171[16]	2,711,222
Fluorescent tube stock		535,000	1,021,000	1,374,000	1,832,000	2,710,470	2,828,909	3,164,941
CFL stock					245,830	382,080	3,238,278	4,910,247
Spot lamps stock								2,333,537
Other lighting types stock								1,494,842
Total (lighting points)		**5, 300,000**	**8,240,000**	**10,007,000**	**11,946,830**	**14,716,570**	**17,118,169**	**21,808,754**
Of which Installed stock often used[17]		1,600,000	2,530,000	3,127,000	4,210,000	5,193,490	7,428,254	8,692,688
Lighting electricity consumption	**GWh /year**	**182.6**	**264.3**	**331.9**	**424.5**	**499.5**	**573.1**	**615.2**
Total electricity consumption	**GWh /year**	**610**	**974**	**1,344.1**	**1,906.4**	**2,829.3**	**3,253.9**	**4,075.8**
	%	**29,9%**	**27,1%**	**24,7%**	**22,3%**	**17,7%**	**17,6%**	**15,1%**
Total consumption	**kWh /year**	**767**	**813**	**901**	**1,019**	**1,309**	**1,317**	**1,508**

[14] Source : 2015 report of STEG Five- year survey in the residential sector (2009-2014)

[15] Chandelier is considered as a lighting point. The figures of this row represent the number of chandeliers and not the number of chandelier lamps

[16] number of lamps per chandelier in 2009: 3.9

[17] Used more than 30 min per day

per household								
Lighting consumption per household	**kWh /year**	**230**	**221**	**224**	**227**	**231**	**232**	**228**

While lighting is third largest category of electricity use by households in 2014 (as it was in 2009), the electricity consumption for lighting of the household sector has increased by 7.3% compared to 2009 and by 23.2% compared to 2004. In parallel, while the average annual growth rate of electricity consumption for lighting in residential sector was 4.1% over the period 1984-2014, this rate dropped to 2.1% during the period 2004-2014. This is explained by the evolution of the installed CFL stock from 382,080 lamps in 2004 to 4,910,247 in 2014 and the decrease of incandescent lamps from 9,947,050 in 2004 to 7,193,970 in 2014.
Besides, as illustrated in the table 4 below, the equipment rate of households in incandescent lamps decreased from 85.4% in 2009 to 62.2% in 2014 while the CFL equipment rate reached 36.7% in 2014 compared to 6% in 2004.

Table 4: Evolution of household's equipment rate by type of lighting product. [18]

	1984	**1989**	**1994**	**1999**	**2004**	**2009**	**2014**
Incandescent lamps	99.8%	99.0%	98.5%	97.1%	92.8%	85.4%	62.2%
Chandelier	25%	30%	30%	31%	35%	29.2%	35.7%
Fluorescent tube	33%	31%	31%	33%	41%	39.8%	39.7%
CFL	-	-	-	4%	6%	25.9%	36.7%

As illustrated in the graph below derived from the same survey (figure 4), the installed stock in the residential sector remains dominated by incandescent lamp technology which share amounted to 35% in 2014, followed by compact fluorescent lamp with a 24% share. Fluorescent tube, luster and spotlights represented respectively 16%, 13% and 11%.

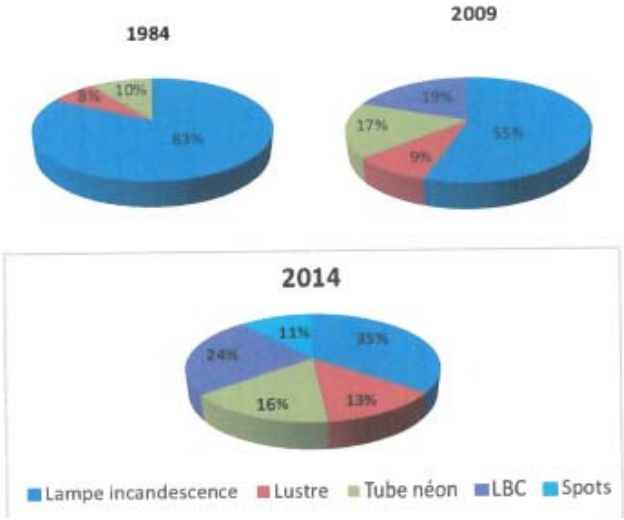

Figure 4: Composition of the lighting stock in the residential sector. [19]

National targets of lighting sector and national vision on lighting transition pathway
The lighting sector targets are specified in:

[18] Source : 2015 report of STEG Five- year survey in the residential sector (2009-2014)
[19] Source : 2015 report of STEG Five- year survey in the residential sector (2009-2014)

- The national strategy for energy efficiency in the lighting sector which was developed in 2013 with the technical support of the UN Environment-GEF en.lighten initiative. The quantitative target was to install 6 million CFLs in residential sector over three years.
- The distribution program of 4 million LED lamps under preparation by ANME, STEG and the Ministry of Energy which aims to replace incandescent lamps for low and moderate income households directly with LED ones. The Tunisian government has expressed its grant agreement for funding the procurement and the distribution, as part of national efforts to phase out incandescent lamps.
- The NDC report of Tunisia submitted in 16/09/2015 which represents the official Tunisia contribution for the implementation of Paris agreement. Tunisia aims through its NDC to reduce carbon intensity of the country's GDP by 41% by 2030 compared to 2010. In terms of cumulative emission reduction, the NDC implementation is expected to reduce GHG emissions by 206.8 $MtCO_{2e}$ over the period 2015-2030. As part of this NDC, the lighting sector will contribute to achieve this objective by :
    - Total phase out of incandescent lamps starting from 2021
    - Installation of 6 million CFL in the residential sector over the period 2015-2020
    - Installation of 6 million LED lamps in the residential sector over the period 2021-2030
    - Installation of 12.9 million LED lamps in the tertiary sector over the period 2021-2030
    - Installation of 5,829 variable power control units in the street lighting sector over the 2015-2020
    - Installation of 1.15 million lamps in the street lighting sector over the 2015-2020

The expected emission reduction of the lighting sector over the period 2015-2030 are 7.8 $MtCO_{2e}$[20], i.e. 3.8% of total NDC emission reductions.

The "sustainable transition to efficient lighting" of the country is reflected in The NDC targets of the lighting sector which were based on the objectives of the national strategy for energy efficiency in the lighting sector (installation of 6 million CFLs in the residential sector[21]) and distribution program of 4 million LED lamps in the residential sector[22] which were reflected in the lighting sector NDC contribution.

Potential electricity saving/GHG emission reduction

Considering the current structure of the installed stocks of lamps in Tunisia and the related electricity consumption as depicted above in the previous section, it is deemed that transition to energy-efficient lighting can deliver large financial, environmental and energy benefits.

Indeed, the United for Efficiency (U4E) initiative, issued in December 2016, developed amongst others a Country Savings Assessment report for Tunisia showing potential financial, environmental, energy, and social benefits with a transition to energy-efficient lighting, refrigerators, room air conditioners, electric motors, and distribution transformers in the country.

The benefits of each type product are presented in the figure below.

[20] 7.8 $MtCO_{2e}$ is the contribution of the lighting component in NDC objective over 2015-2030. This contribution of the lighting component in NDC cover residential, tertiary and street lighting sectors.

[21] https://www.webmanagercenter.com/2015/03/10/161333/energie-les-lampes-economes-en-energies-mais-attention-au-mercure/.

[22] data.industrie.gov.tn/wp-content/uploads/revue-energie-n90-dec-2014.pdf.

CUMULATIVE SAVINGS (2020 - 2030)						
		Lighting	Residential Refrigerators	Room Air Conditioners	Transformers	Industrial Electric Motors
	Electricity (TWh)	6.6	1.9	1.4	2.5	1.5
	Electricity Bills (million US$)	592.3	171.6	126.3	226.8	163.3
	CO2 Emissions (million tonnes)	3.3	1.0	0.7	1.2	0.7

Figure 8: Cumulative benefits from lighting, residential refrigerators, room air conditioners, power and distribution transformers and industrial electric motors with the implementation of globally benchmarked MEPS in Tunisia[23]

According to this assessment report, the lighting sector is the biggest contributor to electricity savings, electricity bills reduction and CO_2 emissions reduction with a respective share of 47%, 46% and 48%[24].

A.1.2 Baseline scenario or any associated baseline projects

According to the results of the last survey carried by STEG (National Utility), in 2014, the total number of lamps, all kinds included, installed in residential sector was about to 21,808,754 of which 8.6 million lamps are often used. The installed stock was about 17,118,169 lighting points in 2009 and only 5,300,000 lighting points in 1984, so an annual average growth of 4.8% per year. The annual average rate of growth in electricity consumption for lighting has been 4.1% per year during the same period moving from 183 GWh in 1984 to 615 GWh in 2014. The baseline scenario projects even a demand for lighting which will increase by 4% per year between 2010 and 2030, in line with the International Energy Agency's estimate of electricity demand growth in the commercial and residential sector in this region. Therefore, the energy consumption of lighting is expected to grow to 4.43 TWh/year in 2030. With no intervention, it is expected the energy efficiency improvement will be minimal resulting in ever increasing strain on electricity infrastructure, economic development and the global environment. Growth in the demand for electric power is requiring the extension and upgrading of electricity transmission and distribution networks. Energy use related to buildings (including lighting) accounts for a significant percentage of the Tunisia's total energy consumption. As the economic recovery began to take hold in the country in the recent years, the demand for major appliances and equipment -including lighting equipment - is expected to continue to grow. Yet, the level of deployment of efficient lighting technologies in Tunisia remains considerably below that of developed countries (such as the European Union and United States), which have had policies and strategies in place for a number of years now. As illustrated in the graph above in the previous section (figure 4), the Tunisian market in the residential sector remains dominated by incandescent lamp technology which share amounted to 35% in 2014, followed by compact fluorescent lamp with 24% of market share. Fluorescent tube, luster and spotlights represented respectively 16%, 13% and 11%.

It is important to note that between 2009 and 2014, while the share incandescent lamp in the market decreased from 55% to 35%, the CFL part increased from 19% to 24%. This is explained by introduction of a tax consumption on incandescent lamps sales (50% in 2011) and the ban on the sale of incandescent lightbulbs with capacity beyond 100W launched in the same year. Both measures have been undertaken as part of public effort to promote energy-efficient lighting. These efforts also include:

- Tax incentives grant for importing CFL lamps (decree n°95-744 of 24/04/1995).

[23] United for Efficiency (U4E) - en.lighten initiative , Country Savings Assessment report for Tunisia

[24] The Country Savings Assessment report assumes minimum energy performance standards (MEPS) are implemented in 2020 at level equivalent to the present day (2015) best global MEPS that are currently implemented and the following types of product for modelling : Low incandescent Lamp,3h/day; 14W CFL; 8W LED . The emission reduction are calculated between 2020 and 2030

- Tax incentives grant for importing LED lamps and lighting systems (decree n°1521 of 21/06/2010 and decree n°1065 of 30/07/2011).
- Cost decrease for CFLs sold by the Tunisian Commerce Office (1.9 million units).
- Free distribution of 2 million CFLs by STEG for low income households in 2012.
- Organization of awareness raising campaigns on CFL use.
- Organization of efficient lighting month twice a year (TV and radio sensitizing campaigns, discounts on CFL prices by suppliers and sales areas, etc.).
- Joining in 2012 the UN Environment-GEF en.lighten initiative as one of en.lighten's seven pilot projects worldwide and development of a National Efficient Lighting Strategy in consultation with the relevant national public and private stakeholders. The strategy sets national objectives and a detailed roadmap to phase-out inefficient incandescent lamps through the implementation of MEPS.
- Development of an action plan for the establishment of a scheme for the collection and recycling of mercury-containing lamps, as part of the National Efficient Lighting Strategy.

With regards to labeling, the obligation to label lighting products has not yet been established although it was initiated since 2009. There is a draft order on the energy labeling of electric lamps and luminaires based on the European regulation 874/2012, but not yet adopted. The ANME (National Agency for Energy Conservation) in collaboration with CETIME (Technical Center of Mechanical and Electrical Industries), the Ministry of Industry, the National Federation of Electricity and Electronics (FEDELEC), the National Institute for Standardization and Industrial Property (INNORPI) and the Ministry of Commerce have drawn up a draft decree for energy labeling of lamps and lighting products in Tunisia. According to a study done by ANME in 2013, this text has not been published for many reasons, mainly political and financial reasons[25].

As far as the supply side is concerned, it should be noted that there are currently four manufacturers of indoor lamps in Tunisia. Their characteristics are presented in the table 5 below.

Table 5: State of local production

	Manufacturer 1	**Manufacturer 2**	**Manufacturer 3**	**Manufacturer 4**
Lighting products	IL (since 1991) ; CFL (2003)	IL (since 1997- production ceased) ; CFL (since 1998); sodium and mercury lamps (since 1999); LED (since 2014)	LED lamps (2012) ; LED street lighting	CFL
Existence of CFL test laboratory	yes	yes	no	Unknown
Existence of LED test laboratory	no	yes	yes	no

Concerning mechanisms and business models experienced in Tunisia for the development of energy efficiency market (including lighting) in buildings and industrial sectors, it is worth mentioning the Energy Service Companies (ESCOs) business model. Mandatory energy audits, supported by profitable financial arrangements have established a market for ESCOs in Tunisia. In 2004 Tunisia passed its first energy efficiency law setting the framework for ESCOs to undertake energy audits and achieve savings for industry. The scheme was supported by a US$ 8.5 million loan from the World Bank's Global Environment Facility (GEF), which leveraged about $3 of private and governmental investments for every $1of funding. The scheme stimulated ESCO contracts and helped build relationships between ESCOs and industry. At the time, nearly four hundred participants from various stakeholders (banks, ESCOs, industry, commercial

[25] ANME, 2013

and public sector) were trained and thus took over new roles and jobs. This helped the program to grow as the technical and financial capacity within Tunisia grew and staff gained experience. The number of ESCOs amounted to 14 in 2010[26]. Between 2005 and 2010, 23 energy performance contracts were signed with 19 million Tunisian dinar (TND) of investment volume[27].

On the other hand, it should be noted that the MVE system of the lighting market is currently undertaken through two mechanisms:

- Import technical control: the modalities of technical control and the authorized establishments to undertake it are fixed by law N° 94-41, decree N° 1684-2010 and Order of the Ministry of Trade of 18 September 2010. According to current legislation, this type of control aims at checking the conformity of products with the regulation in force and in particular the safety and health of consumers as well as fair trading. Imported products sampling is undertaken according to a custom code which specify each product, and each product imported which is found to be non-compliant with the regulation is liable to a backflow. The list of these products is fixed by Order of the Ministry of Trade and are controlled according to the product type by:
    - The concerned technical service through file inspection or sample collection or both.
    - Customs authorities which check at the time of clearance that the product has a certification of compliance with the technical regulation relative to this product, delivered by a duly authorized body. This control mode could be complemented by analysis and testing by the technical service.
- Control of products put on the market: the control procedures is defined by law N°92-117 and Order of Ministry of Trade of 21 July 2003. The controlled products are industrial, agricultural and artisanal ones, including their constitutive elements. The control procedure consists in :
    - Checking the manufacturing process, storage and sale conditions at the distribution level
    - Checking the conformity of labeling and composition with regulation in force and with producer specifications
    - Collecting samples for testing and analysis
    - Freezing and temporary seizure of goods suspected of being non-compliant
    - In the light of test and trials results, either closure of the case in case of results demonstrating compliance of products or initiate procedures to seize and withdraw the product in question from the market

The technical control of industrial products in terms of security and electrical performance is ensured by CETIME (Technical Center for Mechanical and Electrical Industries). CETIME is also the only national laboratory carrying out conformity testing of lamps (import technical control and control of products put on the market). The CETIME lighting laboratories test the security and performance of lamps according to testing standards in force. This service is not available for LED lamps. The used testing standards are those of the International Electrotechnical Commission (CEI/IEC) and Tunisian ones:

- NT 87-01 ; NT 87-02 and NT 87-24: incandescent lamps (standard lamps)
- CEI 60188: mercury vapor lamp
- CEI 60192: sodium vapor lamp
- CEI 62035: discharge lamp
- CEI 61195: double-capped fluorescent lamps
- CEI 60968 and CEI 60969: compact fluorescent lamps (integrated)
- European Directive 98/11/CE

The lighting products tested in CETIME laboratories are the following:

- Incandescent lamps with E14/E27/B22 caps
- Compact fluorescent lamps (integrated) with E14/E27/B22 caps
- Discharge lamps with E40 caps

[26] ESCOs - Energy Service Companies: A market tool to foster energy efficiency in the Southern Mediterranean, MED-ENEC 2014
[27] Renewable energy and energy efficiency in Tunisia – employment, qualification and economic effects, GIZ 2012

- Double-capped fluorescent lamps for a maximum length of 2 meter
- Luminaires
- Ballasts and lighting accessories

CETIME laboratories ensures also CE marking for luminaires, and provides technical assistance and training. In this context, it should be noted that according to current legislation regulating the import technical control the following lighting products are technically controlled when imported[28]:

- Incandescent lamps and tubes
- Other Fluorescent discharge lamps and tubes
- Other Mercury vapor lamps for street lighting
- Other Mercury vapor lamps
- Other Sodium vapor lamps for street lighting
- Other Sodium vapor lamps
- Other Metal-halide lamps for street lighting
- Other Metal-halide lamps
- Other discharge lamps and tubes for street lighting
- Other discharge lamps

Despite these efforts, highly inefficient lighting products continue to have a large share in the market. As illustrated above, energy saving lamps share represented only 24% of the Tunisian market in 2014. It is clear that these programs did not fully address the barriers and gaps of the lighting market that hamper a sustainable transition to efficient lighting.

Indeed, it is deemed that for each year without policy intervention, particularly without of minimum performance standards for new products on the market, Tunisia will be stuck in high energy consuming lighting products. Such technologies primarily rely on fossil fuel based power generation, which is one of the major sources of greenhouse gas (GHG) emissions. It is estimated that, over the next decade, GHG emissions in the country will increase commensurately with economic growth. Clearly, without focused efforts to better utilize energy-efficient lighting technology and reduce energy consumption by household and tertiary consumers, energy demand in the residential and commercial sectors will continue to outstrip supply.

Concerning lamp management and disposal situation, it should be noted that there is currently:

- No specific legislation on used lamps management
- No regulation on the use and levels of hazardous substances in lamp manufacturing
- No collection and recycling programs and schemes for used lamps
- No specific environmental policy approach for managing used lamps including extended producer responsibility schemes

Tunisia is a signatory of the Minamata convention on mercury since October 2013, however the country has not ratified it yet. In addition, a project called ‘Minamata Initial Assessment’ is currently being implemented by UNIDO in Tunisia and includes the following activities:

- Improvement of the national coordination and development of a mercury inventory (a level 2 inventory is planned),
- Review of existing legislation and identification of necessary reforms. The aim is to prepare legal texts following the recommendations of the study underway in the first project,
- Information and awareness.

[28] For compliance with security and performance testing standards in force.

Lighting products which reached its end-of-life are categorized by the European Council as waste electrical and electronic equipment (e-waste). Indeed, according to the Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003, the following lighting equipment are considered as electrical and electronic equipment:

- Luminaires for fluorescent lamps with the exception of luminaires in households
- Straight fluorescent lamps
- Compact fluorescent lamps
- High intensity discharge lamps, including pressure sodium lamps and metal halide lamps
- Low pressure sodium lamps
- Other lighting or equipment for the purpose of spreading or controlling light with the exception of filament bulbs

However in Tunisia there is no regulation that organizes the management of the end-of-life lighting products and lighting products are not considered as e-waste by any legislation in force in Tunisia. The e-waste is legally governed by the Law 1996-41 of 10/06/1996 on waste control, use and disposal. Tunisia was the first country in Africa that adopted this kind of regulation detailing the different steps for managing waste of various types (electronic waste, used cooking oil, etc.). This law complies with the Basel International Treaty — a treaty governing the transboundary movement and disposal of hazardous wastes.

The National Waste Management Agency (ANGed) that monitors, controls and implements the national strategy ensures the responsibility of this public process. The private sector is fully involved in this process, from collection to treatment and transport of e-waste (mainly electronic components of TVs, PCs, etc.).

The deposit of e-waste generated is estimated at 90,000 tons/year (including TVs, air conditioners, refrigerators and washing machines), of which 22,500 tons are collected. 12 companies are authorized by ANGed to perform the trade, with a processing capacity of 3,500 tons/year.

Given the importance of the deposit, ANGed constructed with the support of the Korea International Cooperation Agency an e-waste treatment facility with a capacity of 24.000 tons/year. This unit which is managed by ANGed, came into operation in 2016. The facility is composed of 3 lines:

- A line dedicated for washing machines
- A line dedicated for refrigerators
- A line dedicated for TVs, PCs, air-conditioners and other home appliances

ANGed achieved a technical and financial feasibility study for the establishment of an e-waste sector management after the introduction of an environmental tax for the e-waste under the Finance Act 2013 and the implementing decree that was consequently promulgated. However, there is no legislation today on the management of waste electrical and electronic equipment. A draft decree has been prepared, but it is not clear if it includes lamps and luminaires in the list of covered products.

Barrier analysis

The transformation of the Tunisian market towards efficient lighting technologies and the achievement of the national efficient lighting strategy targets have been slowed because of the presence of significant barriers. Existing barriers have been identified, analyzed, and solutions proposed as outputs of this UN Environment-implemented, GEF-funded project.

The barrier analysis provides the basis for defining the interventions and the activities that should solve the problems posed by the barriers. In the design of this project, a Logical Problem Analysis (LPA) has been developed (refer to Annex M). The central problem statement that has been used to apply LPA is '*slow transformation of the Tunisian market to energy-efficient lighting technologies*'.

LPA has been applied to identify the root causes of the problem statement by analyzing causal relations. The review of national documents and in-depth engagements with key stakeholders during project preparation has revealed the presence of the following barriers to increasing the market penetration of energy-efficient lighting in Tunisia:

Regulatory, technical, and institutional barriers:

- Apart from the regulatory texts on phasing out the 100 ≤ incandescent lamps and the introduction of a consumption tax (from 10% in 2007 to 50% in 2011) on the sale of incandescent lamps, there is no regulatory tool on increasing the average energy efficiency of lighting product including regulatory enforcement mechanisms, reporting, and monitoring systems
- Lack of specific warranties to ensure product quality
- Lack of technical and financial capacities of national test laboratories to check LED products compliance with quality standards (lighting MEPS can't be adopted because CETIME doesn't dispose of specific LED lamps testing equipment)
- Weak national capacity to monitor and verify lighting products security and quality
- No control or regulations regarding sustainable management of lamp residues, in particular mercury recovery
- No regulations regarding extended responsibility of manufacturers
- No collection system in place and companies that would be able to process large volume of lamp waste for recycling and mercury recovery
- Lack of expertise and capacities in handling used lamps which contain hazardous materials that have dangerous environment effect

Economic and financial barriers:

- Relatively higher cost of energy efficient lighting products (LED and CFL) compared to incandescent lamps, making them unaffordable to end-users and particularly low-income consumers. Indeed, the high up-front cost of LED lamps is an investment barrier for most Tunisian households. As illustrated in Table 6 below, up-front cost of a 1200 lm LED is more than 5.6 times higher than for an Incandescent lamp (even with a 40% consumption tax) and 58% higher than CFL lamp. Since most households spend a large share of their income on basic needs, they cannot afford, for meeting their lighting demand, to opt for a technology with high up-front costs, even when considering the energy savings. Therefore, without the additional support of the project through free distribution of LED lamps for low income households, design of appropriate financial mechanisms to support end users' purchases of efficient lighting products, strengthening technical capacity local LED lamps producers, and increase availability of LED lamps in the market, households would not invest in LED but rather for a cheaper conventional lighting product.

Table 6: Prices of IL, CFL and LED lamps.[29]

		IL Standard form	**IL Standard form**	**CFL 15W E27**	**CFL 20W E27**	**LED 8 W E27 filament lamp**	**LED 9W E27 round bulb form**	**LED 15 W E27 round bulb form**
Electric power	Watts (W)	40	60	15	20	8	9	15
luminous flux	Lumens (lm)			850	1200	880	820	1200
Color Temperature:				6400K	6400K	6000K	4000K	
Price	**TND**	**1.37**	**2.3**	**8.85**	**8.15**	**19.9**	**10.5**	**12.9**

- Absence of financial schemes to support the purchase and use of energy-efficient lighting products by end-users. It is worth mentioning that in the past only few economic and market-based instruments[30] were deployed for the promotion of efficient lighting in the residential sector, namely:

[29] Source: Web survey, links were accessed as of 22/11/2017

- Bulk purchasing of 1.9 million of CFLs by the Tunisian Commerce Office at a very low price
- Giveaway program through free distribution of 2 million CFLs by STEG for low income households in 2012 (3 lamps by household)

- Lack of incentives to encourage local lighting manufacturers to increase their domestic sales of energy efficient lighting products

Information barriers:

- Consumers (residential) are not fully aware of the benefits of LEDs over its lifetime and shy away due to the high initial price of LEDs vs CFLs vs incandescent lamps and/or due to perceived different lamp characteristics (start-up time, color temperature, etc.)
- Need to educate consumers on how to read and interpret the information provided in the energy label[31] (already affixed on some imported lamps and the future Tunisian energy label for lighting products), especially when introduced for new technologies (such as LED). Consumers should be acknowledged about low-quality products (e.g. CFLs with much shorter lifetimes than the 8,000 hours often claimed) and how to make a proper choice
- As energy-efficient lighting systems cover a wide range of technologies, it is difficult for consumers, and even distributors and installers, to learn about all attributes, including quality. The comparatively high running costs of incandescent lamps are, for example, often poorly understood. Information is also often no available at the commercial point, making it more complicated for consumers to make a choice. Lack of information hampers the decision making process and often leads consumers to prefer known technologies. For example, although CFLs are relatively affordable, they remain more expensive than incandescent lamps[32]. End users that understand and can calculate the payback period and the overall potential cost savings of CFL and LED use are more willing to invest for longer-term savings benefits
- Unfamiliarity with new efficient lighting technologies and relating future MEPS and labeling requirements
- Consumers often express concerns about environmental and social impacts of efficient lighting products

Market barriers:

- Limited availability of quality-controlled energy-efficient lighting products. Indeed, as there is no adopted national standard on energy performance of lighting products, quality and performance are ensured only for imported lighting products from EU and countries where MEPS and MVE systems are in force
- Lack of local production of affordable energy-efficient lighting products. Indeed, the local produced LED lamps (2 manufacturers) is not at same level of cost competitiveness with imported LED lamps and systems considering the tax incentives granted for importing LED lamps and lighting systems[33] and the fact that other low quality and low cost LED lamps are imported and distributed in the parallel market. Other IL and CFL local manufacturers have to invest in new production lines and equipment for LED manufacturing which implies an over cost for them that will be probably reflected in the price of LED lamps.

A.1.3 Proposed alternative scenario, GEF focal area strategies, with a description of the objective, components, expected outcomes, outputs, and activities of the project

GEF scenario consists of a comprehensive approach to address the aforementioned current market barriers with view to support the expansion of existing efforts of Tunisia to transforming national market to energy efficient products as a key step to combat climate change.

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[30] These instruments were used as "one-shot" measures without sustainable financial, institutional and organization set-up for a long term running.

[31] MEPS and energy consumption label are already mandatory for refrigerators and room air-conditioners

[32] Even despite tax and ban, IL are still on the market and remain competitive as the ban concern the 100 ≤ incandescent lamps. Lower power IL are not prohibited from sale but are subject to 40% consumption tax. Even with such consumption tax level, IL remain competitive as shown in table 5 above

[33] Duty-free access of LED lamps and lighting systems manufactured in EU, 10% customs fees for imported LED lighting systems

The following table describes the barriers and the outputs expected from GEF support.

Table 7: barriers-outputs linkages

Description of gap or barrier	Outputs expected from GEF support (incremental reasoning)
Regulatory technical and institutional barriers	
• Apart from the regulatory texts on phasing out the 100 ≤ incandescent lamps and the introduction of a consumption tax (from 10% in 2007 to 50% in 2011) on the sale of incandescent lamps, there is no regulatory tool on increasing the average energy efficiency of lighting product including regulatory enforcement mechanisms, reporting, and monitoring systems	1.2 MEPS are adopted for all lighting products, including light emitting diode (LED) lamps and systems 3.1 Legal framework for efficient lighting MVE is reviewed and strengthened
• Lack of specific warranties to ensure product quality	1.2 MEPS are adopted for all lighting products, including light emitting diode (LED) lamps and systems 3.1 Legal framework for efficient lighting MVE is reviewed and strengthened 3.3 Testing capacities of the national lamp laboratories are strengthened through technical equipment of laboratories and staff qualification
• Lack of technical and financial capacities of national test laboratories to check LED products compliance with quality standards	3.3 Testing capacities of the national lamp laboratories are strengthened through technical equipment of laboratories and staff qualification
• Weak national capacity to monitor and verify lighting products security and quality	3.2 Training is delivered to government authorities and customs administration on lighting market monitoring
• No control or regulations regarding sustainable management of lamp residues, in particular mercury recovery;	4.2 L National legislation on environmentally sound lamp waste management is developed
• No regulations regarding extended responsibility of manufacturers.	4.2 National legislation on environmentally sound lamp waste management is developed
• No collection system in place and companies able to process large volume of lamp waste for recycling and mercury recovery	4.1 Lamp collection and recycling or disposal scheme for used lamps is designed and adopted
• Lack of expertise and capacities in handling used lamps which contain hazardous materials that have dangerous environmental effects	4.3 Training is delivered to government authorities, retailers and collectors
Economic and financial barriers	
• Relatively higher cost of energy efficient lighting products (LED and CFL) compared to incandescent lamps, making them unaffordable to end-users and particularly low-income consumers	2.1 Public awareness is raised through multi-media communication and distribution campaigns, increasing consumers' uptake of efficient lighting. 2.2 Financial mechanisms, such as on-bill financing, are introduced to support end users' purchases of efficient lighting products
• Absence of financial schemes to support the purchase and use of energy efficient lighting products by end-users	2.2 Financial mechanisms, such as on-bill financing, are introduced to support end users' purchases of efficient lighting products

Description of gap or barrier	Outputs expected from GEF support (incremental reasoning)
• Lack of incentives to encourage local lighting manufacturers to increase their domestic sales of energy-efficient lighting products	2.3 Training is delivered to local lamp producers to strengthen technical capacity to produce LED lamps and LED lighting systems with controls
Information barriers	
• Consumers (residential) are not fully aware of the benefits of LEDs over its lifetime and shy away due to the high initial price of LEDs vs CFLs vs incandescent lamps and/or due to perceived different lamp characteristics (start-up time, color temperature, etc.)	2.1 Public awareness is raised through multi-media communication and distribution campaigns, increasing consumers' uptake of efficient lighting
• Need to educate consumers on how to read and interpret the information provided in the energy label (already affixed on some imported lamps and the future Tunisian energy label for lighting products), especially when introduced for new technologies (such as LED). Consumers should be acknowledged about low-quality products (e.g. CFLs with much shorter lifetimes than the 8,000 hours often claimed) and how to make a proper choice	2.1 Public awareness is raised through multi-media communication and distribution campaigns, increasing consumers' uptake of efficient lighting
• As energy-efficient lighting systems cover a wide range of technologies, it is difficult for consumers, and even distributors and installers, to learn about all attributes, including quality. The comparatively high running costs of incandescent lamps are, for example, often poorly understood. Information is also often no available at the commercial point, making it more complicated for consumers to make a choice. Lack of information hampers the decision making process and often leads consumers to prefer known technologies. For example, although CFLs are relatively affordable, they remain more expensive than incandescent lamps. End users that understand and can calculate the payback period and the overall potential cost savings of CFL and LED use are more willing to invest for longer-term savings benefits	2.4 An "all-LED island" lighting demonstration project is completed on Djerba through public-private partnerships with the municipality and hospitality sector 3.4 Information strategy is implemented to help the private sector understand the requirements in complying with MEPS and labeling
• Unfamiliarity with new efficient lighting technologies and related future MEPS and labeling requirements	1.1 National stakeholders are consulted and informed on the implementation of MEPS and labeling requirements 3.4 Information strategy is implemented to help the private sector understand the requirements in complying with MEPS and labeling
• Consumers often express concerns about environmental and social impacts of efficient lighting products	2.1 Public awareness is raised through multi-media communication and distribution campaigns, increasing consumers' uptake of efficient lighting.
Market barriers	
• Limited availability of quality-controlled energy-efficient lighting products. Indeed, as there is no adopted national standard on energy performance of lighting products, quality and performance are ensured only for imported lighting products from EU and countries where MEPS and MVE systems are in force	1.2 MEPS are adopted for all lighting products, including light emitting diode (LED) lamps and systems 3.3 Testing capacities of the national lamp laboratories are strengthened through technical equipment of laboratories and staff qualification
• Lack of local production of affordable energy-efficient lighting products. Indeed, the local produced LED lamps (2 manufacturers) is not at same level of cost competitiveness with imported LED lamps and systems considering the tax incentives granted for importing LED lamps and lighting	2.3 Training is delivered to local lamp producers to strengthen technical capacity to produce LED lamps and LED lighting systems with controls 3.1 Legal framework for efficient lighting MVE is reviewed and strengthened

Description of gap or barrier	Outputs expected from GEF support (incremental reasoning)
systems and the fact that other low quality and low cost LED lamps are imported and distributed in the parallel market. Other IL and CFL local manufacturers have to invest in new production lines and equipment for LED manufacturing which implies an over cost for them that will be probably reflected in the price of LED lamps.	

The project will contribute to the achievement of the Tunisian NDC objective and particularly the lighting sector targets which consists in:

- Total phase out of incandescent lamps starting from 2021
- Installation of 6 million CFLs in the residential sector over the period 2015-2020
- Installation of 6 million LED lamps in the residential sector over the period 2021-2030
- Installation of 12.9 million LED lamps in the tertiary sector over the period 2021-2030
- Installation of 5,829 variable power control units in the street lighting sector over the 2015-2020
- Installation of 1.15 million lamps in the street lighting sector over the 2015-2020

These NDC targets of the lighting sector which were based on the objectives of the national strategy for energy efficiency in the lighting sector (installation of 6 million CFLs in the residential sector) and distribution program of 4 million LED lamps in the residential sector which were reflected in the lighting sector NDC contribution, reflects the "sustainable transition to efficient lighting" of the country.

In this context, the goal of the project is to support existing efforts of Tunisia to transforming national market to energy efficient products as a key step to combat climate change within the framework of Tunisia NDC. In particular, by addressing the above mentioned barriers and gaps the objective of the project is to promote the rapid transformation of the Tunisian market to energy-efficient lighting technologies, thereby reducing electrical demand and consumption and related greenhouse gases (GHG) emissions and contributing to improve environmental performance, including global environmental benefits such as management of hazardous waste pollution.
The Project will seek to achieve this concrete objective by:

- Combining regulatory tools such as MEPS and information labels, under outcome 1 "Adoption by government of MEPS and label requirements"
- Enhancing the awareness of decision makers, consumers, and market actors on the economic benefits of efficient lighting systems through targeted communication campaigns, information strategy and demonstration projects and supporting the design and establishment of framework that would allow the sustainable development of an energy-efficient lighting market through exploring attractive financial mechanisms, under outcome 2 "Government actions for an increased availability and use of efficient lighting are in place"
- Strengthening the MVE regulatory and institutional framework and building the capacity of energy-efficient lighting supply chain, including training and certification of local manufacturers, government authorities , customs administration, and national lamp testing laboratories, under outcome 3 "Strengthened national capacity to monitor, verify, enforce and report on compliance of the products with MEPS and labeling"
- Implementing an operational framework to establish a collection scheme, recycling facilities and/or sound disposal systems, as appropriate, to ensure the sustainable end of life treatment of spent lamps, under outcome 4 "Capacities are in place to implement a national system to collect, recycle and/or responsibly dispose of lighting products that contain hazardous materials"

The project consists of integrated activities placed under the following four components:

1. Regulatory mechanisms, including MEPS for lighting products
2. Supporting policies for high efficiency lighting technology deployment
3. Strengthened monitoring, verification and enforcement (MVE) for lighting products
4. Environmentally sound management of efficient lighting products

In addition, the project will conduct dedicated monitoring and evaluation (M&E) activities under all four components and the project overall.

Component 1 - Regulatory mechanisms, including minimum energy performance standards (MEPS) for lighting products

This component will increase efficiency of lighting products available on the Tunisian market through ambitious MEPS and labeling requirements. Thus, MEPS are mandatory measures that permanently remove the least efficient products from the market and thereby encourage innovation and rapid adoption of higher efficiency products. Outputs of this outcome facilitated by GEF technical assistance will help to confirm the political will of Tunisian stakeholders to develop MEPS, set MEPS levels for all lighting technologies, and determine the authority to implement the standards.

Details of the component outputs and activities are described below.

Table 8: outputs, activities and partners involved under outcome 1

1. Expected outcome: Adoption by government of MEPS and label requirements		
Output	Activities	Partners involved
1.1 National stakeholders are consulted and informed on the implementation of MEPS and labeling requirements	1.1.1 Setting up of the project steering committee and a working group for MEPs development 1.1.2 Gender assessment, updating of gender action plan for the project and follow up of gender mainstreaming in the project 1.1.3 Organization of information and consultation workshops on the implementation of MEPS and labeling requirements	ANME; Gender Mainstreaming expert (national); Efficient Lighting expert (national);
1.2 MEPS are adopted for all lighting products, including light emitting diode (LED) lamps and systems	1.2.1 Development of a market study on stocks, sales, and trends in the purchase and operation of lighting products, with a breakdown of market sector in terms of energy performance, age, and other key factors (data collection, meetings with key actors, sharing of preliminary results, etc.) 1.2.2 Organization of consultation workshop with relevant stakeholders on the study results and the strategy to adopt in view of changing the market trend 1.2.3 Development of MEPS technical standards for lighting products in Tunisia 1.2.4 Organization of a consultation workshop on the standards developed 1.2.5 Finalization of standards based on exchange with national stakeholders and preparation of a relating regulatory text 1.2.6 Technical support for the official publication of the regulatory text 1.2.7 Update of the phase out plan of incandescent lamps 1.2.8 Technical support for the official publication of the regulatory text relating to the phase out of incandescent lamps	ANME; Efficient Lighting expert (national); Lighting Technology specialist (international); MEPS technical working group; Contracted software company;

1. Expected outcome: Adoption by government of MEPS and label requirements		
Output	Activities	Partners involved
	1.2.9 Technical support for the official publication of the regulatory text relating to lamps labeling 1.2.10 Benchmarking of international experiences of QR application for labeling and the associated IT equipment along with study tours 1.2.11 Design, development, installation and testing of QR application for labeling, and associated hardware equipment	

1.1 National stakeholders are consulted and informed on the implementation of MEPS and labeling requirements

This activity will be undertaken in parallel with output 1.2 to allow an effective interaction and raise input contribution of national stakeholders on MEPS design and implementation. Two information workshops will be organized to design MEPS. Relevant national stakeholders (National Electricity and Gas company, National Institute for Standardization and Industrial Property, Technical Center for Mechanical and Electrical Industries, National Federation of Electricity and Electronics, Ministry of trade, manufacturers, importers, retailers, NGOs, etc.) will be invited and their comments will be considered in the MEPS design.

Additionally, a gender assessment on the current situation in Tunisia will be conducted and an update of the tentative gender action plan will be performed with a regular follow-up to ensure gender mainstreaming in the different activities of this GEF project.

It is expected that the gender assessment will cover inter alia the following aspects:

- Who is doing what in the lighting industry, to find out the stakeholders and their roles
- Who is hired for what jobs, to determine potential gender gaps in higher-paying jobs and jobs with formal institutions
- Who is in the informal sector doing what, to find out who's the hidden players, and in what ways they can be empowered
- Who is making what decisions, to find out the decision makers of this lighting industry, to determine who are excluded from decision making, and thus who needs to be consulted and engaged
- Who is affected by the waste in what ways

Based on the analysis outputs, the gender action plan will be updated to include identified concerns.

1.2 MEPS are adopted for all lighting products, including light emitting diode (LED) lamps and systems

In order to prepare the implementation of subsequent activities of other outcomes (for example financial mechanism), the project will develop a market study on stocks, sales, and trends in the purchase and operation of lighting products, with a breakdown of market sector in terms of energy performance, age, and other key factors. This study will be updated at the end of the project to measure the project's impact.

This market study will serve multiple purposes. They will serve as a basis for evaluating the effectiveness of the project and its respective activities. The initial study will help to shape other activities of the project – most notably, the distribution program and the financing mechanism – by identifying areas of the highest untapped technical potential, market opportunities and barriers for energy efficiency, and non-energy considerations such as social equity and access

for low-income consumers.

Besides, the project will organize and lead the development of new national MEPS for lighting products. This work will begin with formation of a working group chaired by ANME and including National Institute for Standardization and Industrial Property, Technical Center for Mechanical and Electrical Industries, National Federation of Electricity and Electronics, and other relevant stakeholders. This working group, with the assistance of local and international experts, will study possible approaches including those based on international best practice, define targets and baselines, and draft the regulations. Then the MEPS will be formally reviewed, approved, and supported until adoption. The MEPS setting and development will be undertaken in synergy with the implementation of the association agreement between Tunisia and the European Union (EU) which provides a mutual recognition agreement with the EU in the field of conformity assessment, and with the preparation of the ACAA accord (Agreement on Conformity Assessment and Accreditation of industrial products) that will enable the Tunisian quality infrastructure to be recognized by the EU.

It is expected that energy parameters for MEPS will be designed according to technology-neutral approaches setting performance levels for lamps without respect to the technology involved allowing thus any lamp technology to be sold if it meets the specified energy performance and other legal standards.

It is also expected that these MEPS will be gradually implemented and will include the following performance requirements[34] :

- Lamps luminous efficacy (expressed in lm/w or in equation)
- Previewed minimal service life of lamps
- Quality of light : Correlated Color Temperature, color rendering index or quality of color scale, color consistency

Other performance requirements could be included from the outset or later:

- Tolerance to voltage variation
- Quality of energy: power factor, total harmonic distortion
- Maximum permitted limits of Hazardous material
- Security: International Electrotechnical Commission (IEC) standards in the areas of electricity, fire, health

Such performance requirements and parameters, product categories and international benchmarks will be further identified, studied and elaborated as part of the project activities implementation. Furthermore, the project will support the implementation of an operational IT labeling framework through benchmarking first international experiences of QR application for labeling and the associated IT equipment and designing, developing and installing QR application for labeling, and associated IT equipment. This QR application (software) will contribute to inform the consumers and the lamp & luminaire suppliers on energy certification of the product and support the regulatory authorities in verifying the information of the energy label. That aims at activating and stimulating the overseeing role of the consumer on implementation of energy labeling on lighting products. Besides this application the application will enable manufacturers and importers to edit the energy label for their own products.

The main function of the application is to scan the QR code on the energy label of lighting products. That serves to compare data registered in the application with the energy label data and a detailed examination of all the energy label components, with the possibility of issuing a notification from the application to ANME website in case of non-compliance of energy label data with the application data. Furthermore, that makes it possible to issue notification to ANME in case of violation of quality mark license for the lighting products.

Component 2 - Supporting policies for high efficiency lighting technology deployment

[34] National Energy efficient lighting strategy, ANME 2013

The GEF project will assist under this component in facilitating end-users of lighting to fully understand the benefits of higher efficient product and also assist them in overcoming the higher initial purchase price of energy-efficient products. The project will develop communication campaigns, innovative financial mechanisms, distribution campaigns, and innovative demonstration project in Djerba Island that promote the use of energy efficiency.

Table 9: outputs, activities and partners involved under outcome 2

2. Expected outcome: Government actions for an increased availability and use of efficient lighting are in place		
Output	Activities	Partners involved
2.1 Public awareness is raised through multi-media communication and distribution campaigns, increasing consumers' uptake of efficient lighting.	2.1.1 Preparation of a communication plan targeting the general public 2.1.2 Preparation of communication and demonstration material and tools 2.1.3 Training of awareness raising and demonstration teams 2.1.4 Conduction of a communication and in-situ demonstration campaign (print and electronic media, TV, radio, etc.) 2.1.5 Design of a scheme for the distribution of LED lamps and collection of replaced lamps (approach, participants, planning, etc.) 2.1.6 Call for proposals and selection of participating NGOs 2.1.7 Training of participation NGOs on distribution of LED lamps and collection of replaced lamps 2.1.8 Tendering and procurement of LED lamps 2.1.9 Implementation of distribution and collection activities	ANME; Communications expert (national); Contracted communication company; contracted NGOs; Efficient Lighting expert (national)
2.2 Financial mechanisms, such as on-bill financing, are introduced to support end users' purchases of efficient lighting products	2.2.1 Setting up of a working group for the design of financial mechanisms 2.2.2 Designing different financial models for offsetting the initial first cost of high efficiency products according to lighting product type and utilization (street lighting, commercial, residential) including specific financial model for the residential sector. 2.2.3 Organization of consultation workshop with relevant stakeholders on financing scheme design. 2.2.4 Conducting negotiation with relevant stakeholders on the establishment and implementation of the financial mechanism. 2.2.5 Preparation of a funding request for international financial support of the financial mechanisms in the lighting sector	ANME; Financial Mechanisms expert (national); financial mechanisms working group;
2.3 Training is delivered to local lamp producers to strengthen technical capacity to produce LED lamps and LED lighting systems with controls	2.3.1 In-situ assessment of manufacturers production lines and technology needs 2.3.2 Proposal of a upgrade plan to local manufacturers on transitioning from incandescent lamp and CFL manufacturing to	ANME; Manufacturers; Lighting Technology specialist (international); Efficient Lighting expert (national);

2. Expected outcome: Government actions for an increased availability and use of efficient lighting are in place		
Output	Activities	Partners involved
	the production of LED lamps and improving quality product for LED manufacturers; 2.3.3 Conduction of training sessions to local manufacturers on transitioning from incandescent lamp and CFL manufacturing to the production of LED lamps and improving quality product for LED manufacturers 2.3.4 On field support to the potential local manufacturers engaged in upgrade plan during project implementation	
2.4 An "all-LED island" lighting demonstration project is completed on Djerba through public-private partnerships with the municipality and hospitality sector	2.4.1 Setting up of a working group for Djerba pilot project design and implementation 2.4.2 Development of a technical and financial feasibility study for the design of the pilot project 2.4.3 Development of a PPP business model for the implementation of the project 2.4.4 Organization of consultation workshop with relevant stakeholders 2.4.5 Conducting negotiation with relevant stakeholders on securing funding and the implementation of the project 2.4.6 Conduction of re-lamping assessments in the participating hotels and municipalities 2.4.7 Development of technical specification for procurement of LED lamps by municipalities and staff training 2.4.8 Preparation of technical guidance, promotional brochures, communication plan and material 2.4.9 Conduction of a communication campaign 2.4.10 Installation of LED lamps and systems in participating hotels and municipalities and collection of replaced lamps	ANME; Djerba municipalities; Djerba hotels; Djerba demonstration project (design and installation) contracted company; Djerba working group; Communications expert (national); Contracted communication company; contracted NGOs

2.1 Public awareness is raised through multi-media communication and distribution campaigns, increasing consumers' uptake of efficient lighting

Public information campaigns will be designed under the project with the aim to educate and mobilize the public, influencing social or individual behaviors, attitudes, values, and knowledge. The purpose of an energy efficiency public information campaign is to raise awareness among end users, promote energy-efficient lighting policies, and educate the general public. Informed end users will seek out and participate in energy-efficient lighting programs. Accurate information helps end users understand the long-term impact that using efficient lamps will have on their energy bills.

The project will use public outreach in stores and in various media to inform the public about efficient lighting technologies and their benefits for the environment. This outreach will encourage replacement of inefficient lamps.

Outreach will also explain the MEPS system's tools and resources for consumers, including the EE label and financing mechanisms.

In parallel, a campaign of free distribution of 4 million of LED lamps will be conducted as part of the project activities and will specifically target low-income households (consuming less than 150 kWh per month). The 4 million lamps acquisition will be totally financed by the national Energy Transition Fund resources. It is expected that the LED lamps will be acquired through bulk purchase by public authorities by tender with a view to achieve economies of scale and to pass on the savings to the end users who are receiving the products. Primacy in the tender will be given to local manufacturers.

2.2 Financial mechanisms, such as on-bill financing, are introduced to support end users' purchases of efficient lighting products

Besides the free distribution of 4 million LED lamps for low income households, other households' classes will be targeted by the project through the design of appropriate financial mechanism to provide the assistance for the purchase of qualifying efficient lighting products. Such support would be warranted for any of several reasons:

- To reduce or eliminate hardship for customers in relation to the onset of MEPS
- To help stimulate interest in efficient lighting products
- To accelerate the purchase of new efficient lighting products
- To facilitate the gathering of information on consumer motivations and preferences, via questionnaires linked to rebate applications
- To help promoting the new label and the lighting products that comply with them
- To create incentivized linkages between efficient lighting products purchases and safe disposition of e-waste from spent lamps

The project will join with retailers, manufacturers, ministries, trade association, bank sector to design and elaborate together attractive financial schemes incentives for the purchase of qualifying efficient lighting products, especially LEDs.
These mechanisms could include the following:

- Bulk purchasing, which takes advantage of economies of scale that can be obtained when purchasing large quantities of products to reduce the purchase price of energy saving lamps for end users
- On-bill financing, which helps end users fund investments in acquiring LED lamps with low - or no-interest financing repaid through monthly instalment charges added to the their electricity bills
- Private sector loans, through for example the bank-loan funding method or supplier lending method where lamp suppliers serve as lender, receiving payment for the sale of their products over time with interest, instead of one upfront payment.
- Energy service performance contracting, which uses the monetary savings from energy efficiency that have been successfully implemented to cover part or all of the investment costs
- Public subsidizing of initial cost of energy efficient lighting products;
- Rebates, which forms include:
    - Mail-in rebates that entitle the buyer of an efficient lamp to receive a check or discount for a future purchase in return for mailing in a coupon, receipt, and barcode for the purchase
    - Instant, point-of-purchase rebates that are redeemed in the retail store
    - Door-to-door schemes in which local salespeople sell their goods and end users receive their rebates when paying their electricity bill
    - Mid-stream rebates whereby the electric utility or funding agency offers a rebate directly to the manufacturer, distributor or retailer rather than to the end user.

The exact mechanism, incentive amounts, and business model will be determined based on the outputs of the initial market study that will be performed under output 1.2. Information from the initial study will identify areas of greatest need and opportunity, in terms of potential energy savings, cost-effectiveness, market transformation potential, and

support of socioeconomic equity for low-income consumers. In addition to the design of the financial mechanisms, the project will support the establishment of these mechanisms through negotiation with relevant stakeholders to set-up partnerships and mobilize financial institutions, and the preparation of a funding request for international support of the financial mechanisms in the lighting sector.

2.3 Training is delivered to local lamp producers to strengthen technical capacity to produce LED lamps and LED lighting systems with controls

International and local experts will help the IL and CFL manufacturers to assess the conversion of their production lines to LED. International and local experts will also support LED manufacturers to analyze their products quality and assess their availability in a marketable price.

Based on these assessments, the experts will then provide training courses to local manufacturers under two to four workshops on business development and conversion strategies, and support with the technical issues involving in transitioning from incandescent lamp and CFLs manufacturing to the production of LED lamps.

On the other hand, international and local experts will provide on field support to the potential local manufacturers. The technical assistance provided will also:

- Focus on production lines and the testing laboratories
- Support the manufacturers in other aspects such as training of staff, research/study on replacement of ILs and CFLs with LED development, waste treatment issues regarding the disposal of CFLs

2.4 An "all-LED island" lighting demonstration project is completed on Djerba through public-private partnerships with the municipality and hospitality sector

Demonstration (pilot) project will be implemented in Djerba island to promote and raise the public authorities, private sector and population awareness with regard to the benefits of energy-efficient lighting. It is deemed that effectively designed energy-efficient lamp installation in buildings can create positive public opinion, providing an incentive to the private sector to follow the example and have a strong multiplier effect in other cities. They also help creating or increasing the market for lighting energy service companies that offers energy service performance contracts, a private sector approach to maintenance and finance.

The implementation of such pilot project is innovative in the sense that:

- It will be concentrated in one area
- It will target hospitality sector attended by local and foreign tourists and the municipalities
- It will showcase the technical feasibility of LED lighting deployment

Projects will include according to a preliminary design, but are not limited to, replacement of 400,000 inefficient lamps in hotels and 14,000 luminaires for street lightings with respectively 6 and 120 W LED lamps, with the aim to make Djerba an "all-LED island".

Djerba is situated at the southern extremity of the Gulf of Gabes in Tunisia, 9°10' East longitude and 33°49' North latitude. It is separated from the continent by only a very narrow canal to the West and to the East at the level of the two southern points of the island. Djerba belongs to the Sirte Sea. Its proximity to North Africa conferred to it the role of crossroads between the Occident and the Mediterranean Orient. It extends to nearly 29.5 km from the North to the South and 29 km from the East to the West. Its coastline reaches 125 km. The Island covers 514 km^2.

The island is attached to the continent via two accesses: one is maritime, starting from Ajim where a 2 km strait separating the island from the continent is found, and the other is terrestrial, starting from El Kantara via a road that crosses the sea and which dates back to the Roman epoch. A part from that, the island has other accesses: these are the ports that have existed since the Antiquity to moor boats.

Known for its beaches and sunsets, and given its situation in the Mediterranean and the fact that it is three hours, at most, away from Europe, Djerba is a popular tourist destination. Out of the 125 km of coasts, Djerba has 20 km of sandy beaches that situated at north-eastern extremity of the island. While there are 160,000 inhabitants, there are about 1 million tourists per year on the island, making tourism the most important economic factor on the island and creating more than 75,000 jobs. The yearly income from tourism is fundamental for the local economy. The island's territory is punctuated with touristic, cultural and playing stations and service centers for tourists. Hotels capacity has grown from 8,300 beds in 1975 to 39,000 beds available and exploited in 2002 and 41,200 beds in 2012 distributed across 104 hotels.

In terms of electricity consumption, the island consumption was 297 GWh in 2012 compared to 234 GWh in 2004, representing an increase during the period of 27%. This increase is partly due to the rise of used light points by hospitality sector and street lighting. The used lighting technology is primarily incandescent and halogen lamps in households and high pressure mercury lamps for street lighting.

The demonstration project design, business model and technical features will be developped more accurately as part of the project activities including potential partnerships establishment between municipalities, private sector, manufacturers and retailers with a view to ensure a financing closing of the project and its smooth implemenatation.

However as a preliniary design of the project, among the many mechanisms that could be used to implement it is the recourse to ESCOs which are already contributing in the development of the energy efficiency market in Tunisia. ESCOs could in this case offer a range of services out of one hand such as appraisal of the energy efficiency potential for lighting of hotels and municipalities ; identification of technically viable and cost effective energy efficiency measures; design, financing, and implementation management of approved energy efficient (EE) lighting measures. Whether ESCOs in this demonstration project will cover a full service package, or sign only a performance contract, will be negotiated and elaborated as part of this output activities.

The idea of resorting to ESCOs is substantiated by the fact that:

- ESCOs have a unique capability to bundle and implement several small energy efficiency investments on a turn-key basis, which actual stakeholders are unwilling and/or unable to do themselves
- ESCOs may be better able to access commercial financing to implement such projects, due to their willingness to package small investments, isolate project cash flows, and bear the performance risk of the entire project
- ESCOs would bring improved technical expertise and facilitate access to more modern energy-efficient technologies as well as offer potential to achieve additional equipment cost reductions by packaging a number of similar investments and procuring high-efficiency equipment in higher quantities

As a preliminary design of this demonstration project, it is expected that :

- For municipalities: ESCOs will sign energy performance contracts with municipalities for appraisal, installing and operating the LED street lighting
- For hotels: ESCOs will sign energy performance contracts with hotels for appraisal, installing and operating the LED lamps

Municipalities and hotels are eligible under this scheme to a 20% investment subsidy granted by ANME based on the Energy Transition Fund resources.

It is expected that the ESCOs payment for their services will be based either wholly, or partially, on the achievement of energy efficiency improvements (savings) and on meeting of other agreed performance criteria. The GEF funding will support the implementation of this project by financing all the technical activities to be undertaken under this output (technical and financial feasibility study, PPP business model development, consultation workshop, supporting negotiation with relevant stakeholders on securing funding and the implementation of the project, preparation of technical guidance, promotional brochures, communication plan and material).

Component 3 - Strengthened monitoring, verification and enforcement (MVE) for lighting products

This component will support Tunisia in strengthening its system of monitoring, surveillance, control, and testing facilities. This will ensure that lighting products are fully compliant with current and future MEPS and non-compliant products do not enter the market.

This component will deeply strengthen the operational elements that will guarantee compliance with lighting MEPS. These MEPS will be developed during the project and should become mandatory in a couple of years. The success of a transition strategy depends on a well-functioning system of monitoring, control, and testing facilities to ensure enforcement and full compliance with MEPS. Without an effective monitoring, verification and enforcement (MVE) system, poor quality products would still be found on the market and in the end would disappoint users, leading to complaints about the transition to efficient lighting. Activities of an effective MVE system include: the continuous assessment of product efficiency verification processes, the validation of declarations of conformity, and the enforcement of actions against suppliers or retailers of non-compliant products. Any MVE scheme developed will comply with Tunisia's legal system.

Table 10: outputs, activities and partners involved under outcome 3

3. Expected outcome: Strengthened national capacity to monitor, verify, enforce and report on compliance of the products with MEPS and labeling.		
Output	Activities	Partners involved
3.1 Legal framework for efficient lighting MVE is reviewed and strengthened	3.1.1 Analysis of current legislation and definition of gaps and needs for improvement 3.1.2 Developing (or amending if need be current) legislation to include specific control procedure of lighting products (administrative flow, entities responsible for control, control methods, penalty regime, etc.) 3.1.3 Technical support for the official publication of the regulatory text (new or amended)	ANME; Efficient Lighting expert (national) ; MEPS technical working group;
3.2 Training is delivered to government authorities and customs administration on lighting market monitoring	3.2.1 Assess training needs of government authorities and customs administration on lighting market monitoring 3.2.2 Prepare training material 3.2.3 Deliver training workshops on international best practices and monitoring, verification and enforcement practices that guarantee the compliance of MEPS and labels	ANME; Lighting Technology specialist (international); Efficient Lighting expert (national);
3.3 Testing capacities of the national lamp laboratories is strengthened through technical equipment of laboratories and staff qualification	3.3.1 Identify and assess technical, equipment, human and financial needs of CETIME to ensure proper application of labeling and MEPS and preparation of technical assistance, training and procurement plan 3.3.2 Procurement of laboratory equipment & instruments, installation and testing 3.3.3 On-site and abroad (study tour) training and coaching for lab staff on test and measurement methods and utilization of newly installed equipment 3.3.4 Conducting inter-comparison experiments 3.3.5 Technical assistance for lab international	ANME; CETIME; Lighting Technology specialist (international); Efficient Lighting expert (national) ;GELC;

	accreditation	
3.4 Information strategy is implemented to help the private sector understand the requirements in complying with MEPS and labeling	3.4.1 Design and elaboration of an information strategy 3.4.2 Design and development of register and a web site (MEPS requirements, labeling requirements, accredited retailers, accredited products) 3.4.3 Design and development of communication materials targeting the private sector (flyers, CD) 3.4.4 Organization of information workshops and on-site communication actions targeting the private sector	ANME; Communications expert (national); contracted software company; MEPS technical working group; Contracted communication company

3.1 Legal framework for efficient lighting MVE is reviewed and strengthened

One of the main activities of this output is to establish a regulatory framework, including amending of current legislation that will ensure the monitoring, verification, and enforcement of the MEPS and labels for lighting products that Tunisia will develop. The objective is to include specific MVE procedure of lighting products and define the administrative framework, process, and physical infrastructure for monitoring and verification of compliance with both mandatory MEPS and labeling systems. This activity will establish basic rules and procedures, including the elaboration of a penalty regime for non-compliance.

3.2 Training is delivered to government authorities and customs administration on lighting market monitoring

The activities of this output will be focused on:

- Training on monitoring, verification and enforcement practices that guarantee the compliance of MEPS and labels, and the phase-out of inefficient lamps according to the developed technical standards and labeling requirement, which will be provided by local and international experts to state inspectors, customs administration and other public authorities in charge of implementing the adopted compliance checking and enforcement scheme,
- Delivering information on international best practices via several mechanisms: consultation by staff experts; delivery of U4E best practice policy guides and tools, including translation as needed.

The activity will also draw upon the successful experience of the UN Environment-supported, GEF-funded lighting projects in other countries

3.3 Testing capacities of the national lamp laboratories is strengthened through technical equipment of laboratories and staff qualification

To ensure that there is sufficient verification capacity for MEPS in Tunisia, the project will provide support for the purchase, installation, and operation of needed testing equipment. Existing lighting test facilities (CETIME laboratories) will be assessed to identify the gaps that need to be addressed. The equipment purchased as part of the project (refer to budget line 4202 in Annex F-1) will be transferred to and operated by CETIME's laboratories. The project will begin by working with the labs to compile lists of needed equipment and elaboration of a financing plan, including fee structures for testing. A proposal will be made to strengthen laboratory technical and operational capacities.

Support by the project to these laboratories will include definition of testing methodologies and schedules, as well as training and support toward accreditation for testing of LEDs lamps and systems. The project will also provide technical support for the installation and commissioning of equipment, and will deliver training on its operation.

3.4 Information strategy is implemented to help the private sector understand the requirements in complying with MEPS and labeling

The project will design at the beginning an information strategy targeting the private sector on the requirements in complying with MEPS and labeling along with the elaboration of communication materials.

Thereafter, the project will organize information workshops and provide technical assistance to local manufacturers with regard to the onset of MEPS and labeling program – explaining what the new requirements are, what design features are necessary for compliance, and how to change manufacturing processes in order to comply with new MEPS, while also containing costs and providing for quality assurance.

In parallel, to further ensure that every step in the supply chain (including disposal) is prepared for the onset of MEPS system, the project will provide training and support the delivery of information and procedural instructions for importers and retailers – on how to display labels, where to attach them, how to talk to consumers about them, how to install compliant equipment, and so on. The project will also ensure that all stakeholders in the supply chain are well informed and capacitated to comply with the MEPS system in general. The project will also ensure availability of updated information on products and their compliance with standards and labels, via register and web portal.

Component 4 - Environmentally sound management of efficient lighting products

This component aims at developing capacities on environmentally sound management to safeguard the environment throughout the full lifecycle of lightning products.

Support will be given to enhance the national legislation on lamp waste management, and development of capacities for collection and recycling and/or proper disposal of hazardous substances.

Table 11: outputs, activities and partners involved under outcome 4

4. Expected outcome: Capacities are in place to implement a national system to collect, recycle and/or responsibly dispose of lighting products that contain hazardous materials		
Output	Activities	Partners involved
4.1 Lamp collection and recycling or disposal scheme for used lamps is designed and adopted	4.1.1 Setting up a working group on the environmentally sound management of lighting products and hazardous material contained in lighting products 4.1.2 Elaboration of a study on the feasibility assessment and on the design of a collection and recycling or disposal scheme for lighting products and hazardous material contained in lighting products 4.1.3 Organization of a consultation workshop on the study results 4.1.4 Proposal of a collection and recycling or disposal scheme based on study results and workshop inputs for adoption by the Ministry of	ANME; ANGED; ESM expert (national); ESM specialist (international); ESM working group;

	environment and proposal of a regulatory text based on study results for financing the environmentally sound management of lighting products and hazardous material contained in lighting products	
4.2 National legislation on environmentally sound management of lighting products and hazardous material contained in lighting products is developed	4.2.1 Conduction of a detailed study on the review of the current legislation and development of legal framework for the environmentally sound management of lighting products at end of life and standards for maximum levels of mercury 4.2.2 Organization of a consultation workshop on the study results 4.2.3 Proposal of a new regulatory text or amending of existing one based on study results and workshop inputs and technical support for the official publication of the (new or amended) regulatory text	ANME; ANGED; ESM expert (national); ESM specialist (international); ESM working group;
4.3 Training is delivered to government authorities, retailers and collectors	4.3.1 Assess training needs of government authorities, retailers and collectors 4.3.2 Prepare training material and technical guidebooks 4.3.3 Deliver training workshops on international experiences on environmentally sound management of lighting products , regulatory requirements, and the developed scheme on lamp collection and recycling or disposal	ESM expert (national); ESM specialist (international);

4.1 Lamp collection and recycling or disposal scheme for used lamps is designed and adopted

The project will support the implementation of the following activities:

- Analysis of issues, options and proposals for environmentally sound management of lighting products in Tunisia (including incandescent lamp disposal and mercury recovery of fluorescent lamps)
- Design of an operational framework to establish a collection scheme, recycling facilities and/or sound disposal systems, as appropriate, that ensures the sustainable end of life treatment of spent lamps), drawing upon international best practices, case studies and published evaluations

4.2 National legislation on environmentally sound management of lighting products and hazardous material contained in lighting products is developed

The activities of this output will be focused on:

- Developing a legal framework for the environmentally sound management of lighting products at end of life
- Setting standards for maximum levels of mercury in accordance with global best practices

In order to meet the need to regulate the handling of toxic solid waste from fluorescent lamps, the project will support development a legal framework for the environmentally sound management of lighting products that is within the framework of existing environmental legislation, through amending exiting text or if need be developing new one. Additionally, as Tunisia signed the Minamata Convention on Mercury, the project will assist the country in the design and implementation of a regulation to control the maximum levels of mercury in lamps.

4.3 Training is delivered to government authorities, retailers and collectors

Local and international experts will be mobilized to provide training to governmental authorities, retailers and collection services on environmentally sound management of lighting residues (topics include: national framework, extended producer responsibility, municipal and private operation of collection and recycling services).

Furthermore, the project will support the development of a technical guidebook providing additional guidelines to the implementation of a collection and recycling scheme for all stakeholders involved.

A.1.4 Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing

Integrated policy approaches (minimum standards, MVE, communication campaigns and financial mechanisms, and environmentally sound management) have been demonstrated to facilitate markets transition to energy-efficient products while addressing environmental issues. In particular, energy-efficiency standards and labeling are among the most cost-effective types of policies and programs to mitigate global climate change. Indeed, these programs have the potential to effect complete market transformations for different classes of energy-saving products with a cost lower than the cost of providing new energy supply. This GEF project was designed on 4 components addressing regulatory, policy, technical, enforcement and environment issues. The proposed measures, seeking to phase-out the inefficient lighting products from the market and to strengthen the role and credibility of both MEPS (pushing the market) and the informative energy performance labels (pulling the market), are in line with the international experiences and lessons-learnt regarding the most cost-effective measures to improve the energy efficiency of lighting products and to limit the increase of electricity consumption.

The GEF support will primarily consist of grants for technical assistance, which will support the Government of Tunisia to remove barriers and therefore further develop and implement required policies to facilitate phase-out of inefficient lighting and the rapid transformation of the Tunisian market to energy-efficient lighting technologies. The GEF funding will be complemented by the grant resources of UN Environment to primarily support the activities under the 4 components of the project and the grant resources of the Government of Tunisia to support the distribution of 4 million LED lamps.

A.1.5 Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

- Direct GHG emission reduction

  Output 2.1 Distribution program of LED lamps
  Annual Electricity Savings (MWh): 0.035 (Saving for one LED lamp replacing IL)
  Key assumptions:
  - Useful Technology Lifetime (years): LED: 15 years
  - Assuming 7 W for LED lamps, 55 W for incandescent lamp
  - Hours of operation: 2 hours/day and 365 days/year
  - Percent of Activities Implemented in the Baseline: 0%
  - Number of s Implemented During Project Period: 4,000,000 LED lamps

  Results:
  - Direct GHG Avoided 2018-2020 (tCO_2): 131,378
  - Direct GHG Avoided 2021-2030 (tCO_2): 875,854

Output 2.2 All-LED Island" in Djerba
Component 1: High-pressure mercury lamps replaced by LED in Djerba
Annual Electricity Savings (MWh): 0.256 (Savings for one street lamp replaced)
Key assumptions:
- Useful Lifetime of Investment: 15
- Assuming 140W on average for current installed HID and 70W for the LEDs. Hours of operation: 10hours/day and 365 days/year
- Percent of Activities Implemented in the Baseline: 0%
- Number of s Implemented During Project Period: 1,400 LED lamps

Results:
- Direct GHG Avoided 2018-2020 (tCO_2): 336
- Direct GHG Avoided 2021-2030 (tCO_2): 2,243

Component 2: LED replacing IL, Hal and CFL in Djerba
Annual Electricity Savings (MWh): 0.022 (Saving for one LED lamp replacing IL (1/3), HAL (1/3) and CFL (1/3))
Key assumptions:
- Useful Technology Lifetime (years): LED: 15 years ; CFL: 5 years
- Assuming 7 W for LED lamps, 55 W for incandescent lamp, 12 W for CFL and 46 W for halogen
- Hours of operation: 2 hours/day and 365 days/year
- Percent of Activities Implemented in the Baseline: 0%
- Number of s Implemented During Project Period: 400,000 LED lamps

Results:
- Direct GHG Avoided 2018-2020 (tCO_2): 13,069
- Direct GHG Avoided 2021-2030 (tCO_2): 87,126

- Bottom-up Indirect GHG emission reduction

Output 2.1 Distribution program of LED lamps
Key assumptions:
- Number of Replications Post-project as Spillover: 1.5

Results:
- Indirect bottom-up savings 2021-2030: 1,970,671 tCO_2

Output 2.2 All-LED Island" in Djerba
Component 1: High-pressure mercury lamps replaced by LED in Djerba
Key assumptions:
- Number of Replications Post-project as Spillover: 3

Results:
- Indirect bottom-up savings 2021-2030: 10,093 tCO_2

Component 2: LED replacing IL, Hal and CFL in Djerba
Key assumptions:
- Number of Replications Post-project as Spillover: 3

Results:
- Indirect bottom-up savings 2021-2030: 251,324tCO_2

- Direct post-project GHG emission reduction (S&L)

Sub-component 1: CFL replacing IL
Key assumptions:

- Useful Technology Lifetime (years): 5 years;
- Power consumption (W): 55 W for incandescent lamp, 12 W for CFL
- Hours of operation: 2 hours/day and 365 days/year.
- Annual Sales in Year 2018: 4 769 363 (63% of the market "IL+CFL")
- Annual Sales Growth Rate: 4%
- Market Share of CFL in Year 2018: 84% (84% of the market "IL+CFL")
- Baseline Annual Increase in CFL Market Share:5%
- Annual reduction in energy consumption, CFL: 0%
- Annual reduction in energy consumption, Incandescent: 1%
- Year Standard in Force: 2021
- Percent New Sales Compliant with Standard: 80%

Results:

- Direct Post-project GHG Avoided 2021-2030 (tCO_2): 0 [35]

Sub-component 2: LED replacing IL

Key assumptions:

- Useful Technology Lifetime (years): 15 years;
- Power consumption (W): 55 W for incandescent lamp, 7 W for LED
- Hours of operation: 2 hours/day and 365 days/year.
- Annual Sales in Year 2018: 457,347 (The remaining 37% of total IL)
- Annual Sales Growth Rate: 4%
- Market Share of LED in Year 2018: 0% (For simplification, we assume that in 2018 no IL are replaced by LEDs.)
- Baseline Annual Increase in LED Market Share:5%
- Annual reduction in energy consumption, LED: 0%
- Annual reduction in energy consumption, Incandescent: 1%
- Year Standard in Force: 2021
- Percent New Sales Compliant with Standard: 80%

Results:

- Direct Post-project GHG Avoided 2021-2030 (tCO_2): 320,260

Sub-component 3: LED replacing halogen

Key assumptions:

- Useful Technology Lifetime (years): 15 years;
- Power consumption (W): 46 W for halogen, 7W for LED
- Hours of operation: 2 hours/day and 365 days/year.
- Annual Sales in Year 2018: 4,018,084 (All Halogens and all LEDs)
- Annual Sales Growth Rate: 4%
- Market Share of LED in Year 2018: 95% (95% of the market "LED+ HAL")
- Baseline Annual Increase in LED Market Share:5%
- Annual reduction in energy consumption, LED: 0%
- Annual reduction in energy consumption, Halogen: 1%
- Year Standard in Force: 2021
- Percent New Sales Compliant with Standard: 80%

Results:

- Direct Post-project GHG Avoided 2021-2030 (tCO_2): 0 [36]

[35] The result obtained here is due to the conservative assumptions that were taken. These will be refined before the Inception Workshop, once the new market study on lighting product sales yields its results.

Sub-component 4: LED replacing CFL
Key assumptions:

- Useful Technology Lifetime (years): 15 years;
- Power consumption (W): 12 W for CFL, 7W for LED
- Hours of operation: 2 hours/day and 365 days/year.
- Annual Sales in Year 2018: 2,395,283 (The remaining CFLs)
- Annual Sales Growth Rate: 4%
- Market Share of LED in Year 2018: 0% (For simplification, we assume that in 2018 no CFL are replaced by LEDs)
- Baseline Annual Increase in LED Market Share:5%
- Annual reduction in energy consumption, LED: 0%
- Annual reduction in energy consumption, CFL: 1%
- Year Standard in Force: 2021
- Percent New Sales Compliant with Standard: 80%

Results:

- Direct Post-project GHG Avoided 2021-2030 (tCO_2): 156,506

Sub-component 5: Phase-out of inefficient high intensity discharge lamps
Key assumptions:

- Useful Technology Lifetime (years): 4 years;
- Power consumption (W): 140 W for HID, 90 W for efficient HID
- Hours of operation: 10 hours/day and 365 days/year.
- Annual Sales in Year 2018: 363,883 (Annual sales of street lighting lamps)
- Annual Sales Growth Rate: 4%
- Market Share of efficient HID in Year 2018: 73% (73% of the market "HID and efficient HID")
- Baseline Annual Increase in efficient HID Market Share:5%
- Annual reduction in energy consumption, efficient HID: 0%
- Annual reduction in energy consumption, HID: 1%
- Year Standard in Force: 2021
- Percent New Sales Compliant with Standard: 100%

Results:

- Direct Post-project GHG Avoided 2021-2030 (tCO_2): 32,156

The project is expected to have a direct GHG emission reductions of 1,110,006 tCO_2, of which 144,783 during the period 2018-2020 related on one hand to the distribution program of LED lamps and on the other hand to the pilot project "All-LED Island" in Djerba. The program consists of direct procurement and distribution of 4,000,000 LED lamps in the residential sector while the pilot project consists in replacing current street lighting lamps and hospitality sector lamps by LED ones. Additionally, the project has direct post-project GHG emissions savings of 508,923 tCO_2 related to standards and labels policies that will lead to the transition of the market towards more efficient lighting products (cumulatively over the period 2021-2030).

The cumulative total amount for Direct savings is therefore 1,618,929 tCO_2. However, as agreed with the GEF Secretariat, the Direct benefits attributable to each of the child projects under the "Leapfrogging markets to high efficiency products (appliances, including lighting and electrical equipment)" Program shall represent 50% of the

[36] The result obtained here is due to the conservative assumptions that were taken. These will be refined before the Inception Workshop, once the new market study on lighting product sales yields its results.

projects' estimated Direct GHG emission reductions. Under this condition, the project's target is 809,465 tCO_2 of Direct GHG emission reductions by year 2030. This represents a cost effectiveness of 2.96 US$ / tCO_2.

Concerning the indirect impacts, using a bottom-up methodology the GHG emission savings are estimated to 2,232,089 tCO_2 and using a top-down approach the GHG emission savings are estimated at 3,802,869 tCO_2.

The results are summarized in the table below:

Overall Results

All Components	Cumulative			Annual			
	Total	*2018-2020*	*2021-2030*	*2018*	*2020*	*2025*	*2035*
Direct Electricity Savings (MWh)	1 770 291	230 908	1 539 383	0	153 938	153 938	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Direct Total Energy Savings (GJ)	6 373 047	831 267	5 541 780	0	554 178	554 178	0
Direct GHG Emission Savings (tCO2)	1 110 006	144 783	965 223	0	96 522	96 522	0
Direct Post-project GHG Emission Savings (tCO2)	508 923		508 923			50 414	81 836
Indirect Bottom-up Emission Savings (tCO2)	2 232 089		2 232 089				
Indirect Top-down Emission Savings (tCO2)	3 802 869		3 802 869				

These impacts have been calculated using the GEF Energy Efficiency Tool (2013). The main impacts are related to standards and labels and will be visible after the project completion, during the 10 years of period of influence. The standards and labels are assumed to have a level of compliance of 80% and to come into force in 2021, impacting mainly the market of IL, CFL, Halogen, and High intensity discharge lamps. Apart from information on the installed lighting stock in the residential sector which is provided by the utility company (STEG) through its five-year survey, there is no information regarding the lighting market in Tunisia (e.g. annual sales of lighting technology, annual sales growth rate, technology market share, etc.). Therefore, some assumptions based on expert's assessments (including official statistics data reviews) have been necessary to estimate the lighting products shares and growth rate.

The market sales have been estimated based on external trade statistics from Computerized Customs Clearance System for the years 2010, 2011, 2012, 2013, 2014 and 2015 to determine the lamps import data. Particularly, lamps import data has been extracted from these statistics by type of lighting product for these years in terms of kg and their quantity was estimated then based on the weighted average of each lighting product. Their annual imports were projected to 2018 using average annual growth. These data have been combined later with sales of local lighting products which data were determined either based on national statistics or national estimation of local market share. The annual sales and the market share of each lighting product have been then determined by combining imports and local products sales data.

See Annex J-2 for further details on the assumptions considered and the GHG impacts per project component.

A.1.6 Innovativeness, sustainability and potential for scaling up

Innovativeness

Tunisia has an urgent need to reduce lighting electricity consumption and curb peak electrical demand, while delivering modern illumination services. The project will support the implementation of the different National Efficient Lighting Strategy components and will increase and coordinate institutional capacities and raise awareness of energy-efficient lighting products, while increasing market demand and manufacturing opportunities for innovative lighting products that can operate well in local conditions. By implementing regulatory mechanisms, including MEPS, strengthening monitoring, verification and enforcement for lighting product and setting up innovative financial mechanisms, investors should be reassured of lower risks and greater returns, which should in turn lead to greater access to funding for lighting installations while assisting end-users in overcoming the higher initial purchase price of energy-efficient products.

Particularly, the project offers an innovative approach in terms of:

- Work with multiple public and private sector partners under ad-hoc working groups to ensure views and experiences from all parties are properly taken into account in development of different project outputs
- Free distribution of 4 million LED lamps for low income households in replacement of installed incandescent lamps as part of the national efforts to phase out the incandescent lamps from the market and from the installed stock. Such campaign has two distinctive features: the scale in terms of number lamps distributed and the direct transition from incandescent to LED (Incandescent lamps are usually replaced by CFL)
- Design and supporting the establishment for the first time in the country financing mechanisms to support end users' purchases of efficient lighting products, which will prove the economic viability of investments in energy-efficient lighting
- Implementation of a pilot concentrated in one area (in Djerba island), targeting hospitality sector attended by local and foreign tourists and the municipalities to showcase the technical feasibility of LED lighting deployment and to promote and raise the public authorities, private sector and population awareness with regard to the benefits of such lighting technology

Sustainability

The project activities have been designed in a way to ensure sustainability through the outputs of most of the project components. The establishment of effective lighting MEPS and labels under this project will lead to a more sustainable energy future. Energy standards and labels will be introduced as part of the project implementation through a formalized process leading to a government regulation or endorsement. This process will start with a national market and policy analysis to adapt the standards' design to country needs. Once established with a clear government imprimatur and a solid regulatory and institutional infrastructure, this MEPS can effectively transforms the market to a higher level of energy efficiency with a gradual ratcheting-up of energy efficiency standards over time to take into account new technological developments and the country's capacity to pay for that technology. At the end of the project, a market and policy analysis will be undertaken to measure the impacts and effectiveness of the energy efficiency policy framework adoption on the market transformation to higher level of energy efficiency.

Since the project design includes a strong capacity-building component (as part of the barrier removal objective), the main project outputs will not only be new energy efficiency standards and labels for lighting products, but also institutional structural growth with a capacity to effectively undertake monitoring, surveillance, control, and test lighting products over time as well as a strengthening of technical capacity of local manufacturers to produce higher efficient products. The ANME which is the government executing agency of the project is expected to continue to spearhead and sustain the activities after the project life. The national activities of the project will be mainstreamed into the country's energy efficiency program within the framework of the NDC implementation in the next years. Periodic monitoring and evaluation of project activities will be institutionalized under this project and will be continued even after the end of the project. This will bring sustainability of the project with desired benefits in the long run.

Potential for scaling up

The project offers opportunity to scale up to other technologies beyond the lighting products. The project could expand to other technologies such as household electric ovens, washing machines, fans, televisions, etc. The framework and approach that has been followed for the current products could be replicated for the other technologies in terms of labeling and MEPs setting, financing mechanism for end-users, MVE system setting and environmentally sound management of spent lamps, etc.

A.2. Child Project. If this is a child project under a program, describe how the components contribute to the overall program impact.

The current project is hosted under the program "Leapfrogging markets to high efficiency products (appliances, including lighting, and electrical equipment)" lead by UN Environment. The Program builds on the UN Environment-

GEF global project "Establishing the Foundations of a Partnership to Accelerate the Global Market Transformation for Efficient Appliances and Equipment" (UN Environment Project #5831), hereinafter called the "SE4ALL Global Project". The project is called this due to its contribution to the UN Secretary General's Sustainable Energy for All (SE4ALL) initiative's Lighting and Appliance & Equipment Accelerators. The SE4ALL Global Project has formed a global partnership, recently named United for Efficiency (U4E), which compiles international organizations, like-minded organizations, and private sector companies. Further, by the end of the project, it will have the commitment from at least thirty countries to transform their markets to energy efficient lighting, appliances, and equipment.

The program "Leapfrogging markets to high efficiency products (appliances, including lighting, and electrical equipment" proposed GEF program, hereinafter called the "Global Leapfrogging Program" utilizes the resources already developed under SE4ALL Global Project, such as country assessments and best practice policy guides to increase the number of countries committing to advance energy efficient products. Further, it follows the consensus recommendations on the policy framework when developing technical guides and training under the Global Leapfrogging Program. This relationship is reflected in the Figure 9 below and the text describing each component.

Figure 9: Relationship between SE4ALL global project and global leapfrogging program

The Global Leapfrogging Program was originally submitted (GEF Council October 2015) with child projects of Costa Rica, Kazakhstan, and Sudan and a projected eight additional countries are expected to join. The project was re-submitted (GEF Council March, 2016) with child projects in Myanmar, Indonesia, Tunisia, South Africa, and Chile. Other countries interested in submitting a child project under Global Leapfrogging Program, include China and Lesotho. For each child project, a concept note including national background, policy status, baseline scenario, description of individual national components, and potential savings. The Leapfrogging Program is divided into three components:

- Component 1: National child projects on lighting, appliances, and equipment
- Component 2: Global services for partner countries
- Component 3: Outreach on Efficient Appliances and Equipment

The 4 components of this project were carefully designed to contribute to the program-level results framework of the Global Leapfrogging Program as following:

- Component 1 seeks to develop MEPS, set MEPS levels for all lighting technologies in line with the European Union, as defined in the National Efficient Lighting Strategy, and determine the authority to implement the standard. This is line with Outcome 1.1 of the Global Leapfrogging Program / Menu option 2

- Component 2 will support the development of communication campaigns, innovative financial mechanisms, distribution campaigns and innovative demonstration projects that promote the use of energy efficiency. This will contribute to Outcome 1.1 of the Global Leapfrogging Program / Menu option 4
- Component 3 will strengthen strengthening national system of monitoring, surveillance, control, and testing facilities. This will ensure that lighting products are fully compliant with current and future MEPS and non-compliant products do not enter the market. It will hence contribute to Outcome 1.1 of the Global Leapfrogging Program / Menu option 3
- Component 4 will develop national capacities on environmentally sound management to safeguard the environment throughout the full lifecycle of lightning products. This is line with Outcome 1.1 of the Global Leapfrogging Program / Menu option 5.

The Global U4E Program has put in place a monitoring framework to track the progress of the child projects and market transformation. During the inception phase and taking into account the findings of the new market study, ANME will fill in this monitoring framework with mid-term and final project targets for the separate elements of the integrated approach and will validate this during the first Steering Committee Meeting:

Country	U4E Integrated Policy Approach	Baseline	Mid-term of project	Final of project
Tunisia (lighting)	Regulations and standards	• National strategy in place to develop MEPS		
	Supporting Policies	• Distribution of four million efficient lamps (focus on LEDs) is planned over the coming years. • National strategy in place to develop labeling.		
	Finance	• None		
	MVE	• None		
	Environmental sustainability	• None		

A.3. Stakeholders. Identify the key stakeholders and elaborate on how their engagement is incorporated in the preparation and implementation of the project. Mention whether they include civil society organizations and indigenous peoples.

The design and implementation of the project is based on an established ad-hoc group of various Ministries' departments and public institutions in charge of the lighting market as well as a strategic partnership with the private sector and NGOs.
These stakeholders are presented hereinafter:

- **National Agency for Energy Conservation - ANME**
  ANME is a public institution under the Ministry of Energy, Mines and Renewable Energies. It is responsible for the implementation of State policy in the field of energy efficiency and renewable energy. ANME is the responsible for the programs of labeling and MEPS and its role is to ensure the coordination of the intervention of the several program stockholders as well as to propose the appropriate regulatory framework. ANME also ensures the proper implementation of this project and to monitor and evaluate its results.

- **Technical Center for Mechanical and Electrical Industries - CETIME**
  A public body under the administrative supervision of the Ministry of Industry to assist industries in modernizing their process and organization, technological improvement, quality control and development of human resources skills. The role of the CETIME in the national energy labeling program is to carry out the tests of the appliances, in their accredited laboratories, according to the international standards. The CETIME has two laboratories accredited by the National Council of Accreditation TUNAC (Refrigerator and air conditioner). The testing laboratory for lighting equipment is also operational only for some lighting products.

CETIME provides also technical accompaniment for the implementation of the national energy labeling program as it provides training for controllers belonging to the Ministry of Commerce. However, the CETIME does not have the exclusivity to carry out the appliances tests. It has been selected by the State as an accredited laboratory to ensure the smooth running of the program.

- **National Institute for Standardization and Industrial Property - INNORPI**
  A public body under the administrative supervision of the Ministry of Industry responsible for standardization, the quality of products and services and the protection of industrial property. The role of INNORPI is to develop and publish related standards and to ensure harmonization with international standards.

- **National Electricity and Gas Utility -STEG:**
  Public Company under the Ministry of Energy, Mines and Renewable Energies, it is responsible for the generation, transmission and distribution of electricity and natural gas. STEG's role in the project is to provide statistical data on household appliances and to help evaluate the energy impact of the program.

- **Directorate General of Manufacturing Industries - DGIM**
  Structure within the Ministry of Industry responsible for the implementation of State policy in the manufacturing sector. Its role in the project is to guide local manufacturers and ensure their ownership for the project.

- **Directorate-General for Quality, Internal Trade and Services - DGQCIMS**
  Structure within the Ministry of Commerce responsible for the implementation of the State policy on consumption, quality control, consumer protection, internal trade and commercial planning. The role of DGQCIMS in the project is crucial since it is the only structure authorized to control and monitor the market and verify the proper enforcement of the regulation by all stakeholders (manufacturers, importers and distributors).

- **National Federation of Electricity and Electronics - FEDELEC**
  Professional association belonging to the UTICA, which includes most companies operating in the sector. The role of FEDELEC is to represent these companies on the steering committee of project and to ensure the good diffusion of the information during the implementation phase.

- **GLOBAL LIGHTING, Tunisia:**
  GLOBAL LIGHTING Tunisia is a local lighting manufacturer. The company will share technical expertise through its participation to the training of governmental and customs officials on LED technology. GLOBAL LIGHTING will also share their laboratory facilities during project implementation (refer to co-finance letter appended in Annex L).

- **AFROLIGHT, Tunisia:**
  AFROLIGHT Tunisia is another local lighting manufacturer. The company will provide support to the project in the development of the training packages and the website through the provision of technical expertise and the sharing of market intelligence. AFROLIGHT will also share their laboratory facilities during project implementation (refer to co-finance letter appended in Annex L).

- **Other lighting manufacturers, importers, distributors and retailers**
  Lighting manufacturers, importers, trade associations, distributors and retailers are directly affected by energy efficiency and ESM regulations. They have valuable information about production costs and market structures. MEPS necessarily impose some burdens on manufacturers and importers, but these can be acceptable as long as they affect all companies equally and also introduce new business opportunities.

- **International organizations, national banks and financial institutions**

The role of these organizations and institutions will be critical in the design of a cost-effective financial mechanism to provide assistance to consumers for the purchase of qualifying efficient lighting products and in negotiating later implementation approach and conditions.

- **The national agency for waste management (ANGED)**
  As a national agency intervening in setting up waste management strategies and recycling schemes including waste electrical and electronic equipment, ANGED will play a key role jointly with the executing agency (ANME) in implementing and coordinating the activities relating to component 4 with activities undertaken under other projects (developing capacities on environmentally sound management to safeguard the environment throughout the full lifecycle of lightning products, enhancing the national legislation on lamp waste management, development of capacities for collection and recycling or proper disposal of hazardous substances, etc.).

- **Consumer Advocacy Organization - ODC**
  The largest NGO active in the field of consumer protection, the ODC represents the consumer in the steering committee of the project. It also has the role to ensure public information and awareness campaigns

- **NGOs**
  NGOs will play an important role in the project in terms of communication, raising awareness and distribution of LED lamps activities.

- **U4E Centre of Excellence**
  The en.lighten initiative offers a Centre of Excellence comprised of over 50 lighting experts—representing over 30 countries — from private sector companies, governments, civil society, academia, research organizations and international agencies. The Centre of Excellence provides recommendations, technical guidance and efficient lighting expertise to assist countries in the shift to energy efficient lighting. The Centre of Excellence will be solicited during the project implementation for ad hoc needs to provide targeted technical advice to help professionals take effective action to develop MEPS, MVE, and environmentally sound management schemes.

- **The Global Efficient Lighting Centre (GELC)**
  GELC is the UN Environment Collaborating Centre for Efficient Lighting and shares the same objective of promoting the rapid development of energy efficient lighting technologies in developing countries and emerging economies. GELC assists in the development of national and international standards, performs research into new testing technologies and equipment, offers technical services and training, testing of energy efficient products and provides assistance to other countries regarding policy consultation and development. GELC intervention in this project will mainly focus on undertaking inter-comparing testing as well as the delivery of tools, remote assistance and activities to strengthen monitoring, verification and enforcement (MVE) capacities.

A.4. Gender Equality and Women's Empowerment. Elaborate on how gender equality and women's empowerment issues are mainstreamed into the project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men.

Studies and statistics show that women's empowerment and gender equality have crucial role for ensuring efficiency and sustainability of climate change responses[37]. That's why gender issues must be taken into consideration in all stages of development projects.

[37] GGCA,2012

In Tunisia, unmatched by any other Arab nation, women's legal rights were advanced since the country's independence. On 1956, Tunisia has amended the former family code and then, it has ratified: the Convention on the Elimination of All forms of Discrimination against Women (CEDAW) in 1985, the Optional Protocol in 2008 and recently the 2014 constitution guarantees equality before the law for men and women[38].

Compared to woman in the region, Tunisian benefit of much more rights and dependency such as:

- Women can travel without male permission
- Women have equal rights in divorce
- Tunisian mothers can grant citizenship to their daughters/sons for foreign fathers

Currently, Tunisian women have a significant presence in politic life. The percentage of women in the parliament is 31.3%[39]. This women contribution is higher than France (25.8%), Morocco (20.5%), Jordan (15.4) and Egypt (14.9%).

Although all these aspects, gender equality in Tunisia is qualified "Medium" by the Social Institutions and Gender Index (SIGI)[40]. As shown in Figure below, the five sub-indexes have high value especially: ("Discriminatory family code", "Son bias", "Restricted resources" and "Restricted civil and liberties"). It can be concluded from these indexes that more concrete efforts should be taken into consideration in Tunisia to improve gender equality and women's empowerment.

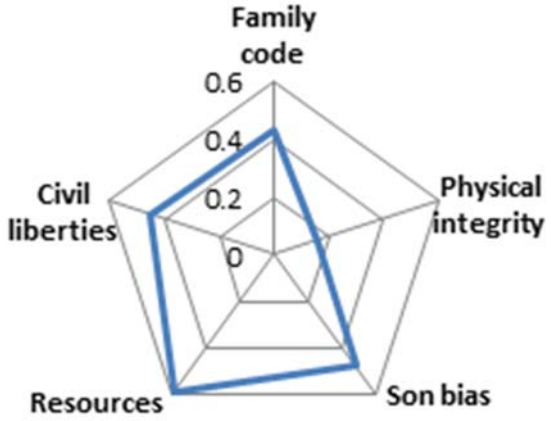


Figure 10: Social Institutions and Gender Index for Tunisia

Gender issues in the project

The development challenge of increasing GHG emissions from lighting products use, as well as related issues of energy costs, consumer choice, and assurances of product quality and efficiency for both enterprises and individual citizens, affects all citizens of Tunisia equally, without regard to gender. The intended outcomes of the project should also therefore create benefits for all citizens with regard to gender.

The present project seeks to **be gender-responsive** in the design of activities and women can have a key role. In fact, most Tunisian women have significant influence within the family. For those who are only housewives, they have the responsibility of keeping the house, caring the children, cooking, shopping. For those who go to work; women have double play: at home as a housewife and out of door as career woman. Thus, women have tangible stimulus in the Tunisian community to boost efficient lighting market.

[38] Freedom House, 2016
[39] ipu.org, 2017
[40] genderindex.org, 2017

Guiding principle of the project will be to ensure that both women and men are provided equal opportunities to access, participate in, and benefit from the project, without compromising the technical quality of the project results. In practical terms:

- ***Gender-sensitive recruitment*** will be practiced at all levels where possible, especially in selection of project staff, experts and consultants. Gender responsive TORs will be used to mainstream gender in the activities of consultants and experts. In cases where the project does not have direct influence, gender-sensitive recruitment will be encouraged. Furthermore, whenever possible existing staff will be trained and their awareness raised regarding gender issues.
- All ***decision-making processes*** will consider gender dimensions and consult, wherever feasible, representatives of CSOs and NGOs promoting gender equality and empowerment of women (providing them with equal voice). At project management level, Project Steering Committee will make efforts to be gender balanced and ensure that gender dimensions are taken into consideration. Also at the level of project activity implementation, efforts will be made to consult with stakeholders focusing on gender equality and women's empowerment issues. Institutions to be consulted on gender issues at national level will include, but not limited to focal points for gender at government ministries, civil society organizations working in the fields of gender and climate change, as well as research institutions and development partners working on gender issues. This is especially relevant in policy review and formulation.
- To the extent possible, efforts will be made to achieve at least 30% ***of women participating in training activities***, both at managerial and technical levels, and as participants and trainers. In fact, among the major problems that hampered the development of the efficient lighting market, there is a **lack of knowledge and awareness**, this problem concern both woman and man in Tunisia. That's why the four components of the project will include specific information, raising public awareness and training activities.
- When ***data-collection*** or ***assessments*** are conducted as part of project implementation, gender dimensions will be considered.

In implementing these activities, **gender equality** will be ensured and equivalent participation opportunities will be provided to man and woman and all communication and outreach material will be gender mainstreamed. A Gender Mainstreaming expert will be recruited through the project budget (US$ 36,000) to undertake Gender assessment, update the gender action plan for the project and ensure mainstreaming gender concerns in the project activities.

As such the GEF Project has potential to contribute to reversing gender inequalities and the project's partners and stakeholders have supported the integration of realistic and achievable gender equality and women's empowerment related targets within the project's components, with clear and measurable key performance indicators being set.

Gender mainstreaming action plan

Activities related to gender are enumerated below in the project's Gender Action Plan.

Table 12: Gender action plan

Gender-related activity	Indicator	Target	Baseline	Activity Budget (indicative)	Timeline	Responsibility
Outcome1: Adoption by government of MEPS and label requirements						
Organization of information and consultation workshops on MEPS elaboration and on MEPS and labeling requirements.	Number of women representing various institutions who receive training and consultation via this activity	at least 30% female participants	No prior or ongoing information and consultation process	$12,000	Years 1, 2 and 3	Project Manager and Gender Mainstreaming expert

Gender-related activity	Indicator	Target	Baseline	Activity Budget (indicative)	Timeline	Responsibility
Outcome 2: Government actions for an increased availability and use of efficient lighting are in place						
Market studies	Number, and participation volume by gender	Completion of nationwide market study at the project inception and at the project end with at least 30% participation by women (interviews; meetings…)	No prior or ongoing market studies	$20,000	Years 1, and 3	Project Manager; Gender Mainstreaming expert; Efficient Lighting expert
Efficient lighting products awareness raising & distribution campaigns	Number, and participation volume by gender in NGOs	At least 30% female participants in the awareness raising & distribution campaigns	No prior or ongoing awareness raising & distribution campaigns	$120,000	Years 1, 2 and 3	Project Manager; Communications expert ; Gender Mainstreaming expert
Conduction of training sessions to local manufacturers on transitioning from incandescent lamp and CFL manufacturing to the production of LED lamps and improving quality product for LED manufacturers	Number, and participation volume by gender	At least 30% female participants	No training	$80,000	Year 3	Project Manager ; Manufacturers; Gender Mainstreaming expert
Outcome 3: Strengthened national capacity to monitor, verify, enforce and report on compliance of the products with MEPS and labeling						
Deliver training workshops on international best practices and monitoring, verification and enforcement practices that guarantee the compliance of MEPS and labels	Number, and participation volume by gender	At least 30% female participants	No training	$60,000	Year 3	Project Manager ; Gender Mainstreaming expert
On-site and abroad (study tour) training and coaching for lab staff on test and	Number, and participation volume by gender	At least 30% female participants	No training	$100,000	Year 3	Project Manager; CETIME; Gender Mainstreaming expert

Gender-related activity	Indicator	Target	Baseline	Activity Budget (indicative)	Timeline	Responsibility
measurement methods and utilization of newly installed equipment						
Organization of information workshops and on-site communication actions targeting the private sector	Number, and participation volume by gender	At least 30% participation by women (workshops, interviews; meetings…)	No information workshops and on-site communication actions	$60,000	Year 3	Project Manager ; Gender Mainstreaming expert
Outcome 4: Capacities are in place to implement a national system to collect, recycle and/or responsibly dispose of lighting products that contain hazardous materials						
Deliver training workshops on international experiences on environmentally sound management of lighting products, regulatory requirements, and the developed scheme on lamp collection and recycling or disposal	Number, and participation volume by gender	at least 30% female participants	No training	$50,000	Year 3	Project Manager ; Gender Mainstreaming expert

A.5 Risk. 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):

Please refer to the risk table on the following page.

Table 12: Potential risks and proposed mitigation measures

RISKS	Category	Risk likelihood	Impacted components/outputs	Risk Management strategy & safeguards	By When / Whom ?
Lack of absorptive capacity by the national counterparts	Institutional	Low	All project components	Capacity building of the national counterpart will be an ongoing process throughout the project implementation period to ensure that the staff is comprehensively trained and sustainability of the project is ensured. The national counterpart will also host the Project Management Unit to ensure ongoing coordination.	Project Manager/ throughout the duration of project.
Low degree of collaboration between different actors and lack of willingness among stakeholders to collaborate/contribute	Institutional	Medium	All project components	Early stage stakeholder consultations and knowledge sharing activities.	National Project Director; Project Manager/ throughout the duration of project.
Risk of policy implementation or enforcement	Institutional	Medium	Project components n°1 and n°3	Strong and systematic involvement of relevant institutions and line ministries in the project steering committee. Information and awareness raising of these institutions on issues of policy implementation or enforcement.	National Project Director; Project Manager/ throughout the duration of project.

Risk of non-operationalization of the designed financial mechanism	Institutional	Medium	Project component n°2	Strong and systematic involvement of relevant financial institutions and line ministries in the specific adhoc working group on fiancial mechanism design. Support by the project for negotiation conduction with financial institutions and relevant national stakeholders for partnerships establishment and funding securing preparation by the project of a funding request for international support for financial mechanisms in the lighting sector.	National Project Director; Project Manager/ throughout the duration of project.

Risk of negative public perception toward LED lighting technology	Socio-economic	Low	All project components	Public information campaigns will be designed under the project with the aim to educate and mobilize the public, influencing social or individual behaviours, attitudes, values, and knowledge regarding efficient lighting and particularly LED technology. Implementation of a demonstration project in Djerba island to promote and raise the public authorities, private sector and population awareness with regard to the benefits of energy efficient lighting. The project will organize information workshops and provide technical assistance to local manufacturers with regard to the onset of MEPS and labeling program – explaining what the new requirements are, what design features are necessary for compliance, and how to change manufacturing processes in order to comply with new MEPS, while also containing costs and providing for quality assurance. In parallel, to further ensure that every step in the supply chain (including disposal) is prepared for the onset of MEPS system, the project will provide training and support the delivery of information and procedural instructions for importers and retailers – on how to display labels, where to attach them, how to talk to consumers about them, how to install compliant equipment, and so on. The project will also ensure that all stakeholders in the supply chain are well	National Project Director; Project Manager/ throughout the duration of project.

The co-financing contributions may be delayed causing a delay or unsuccessful delivery of the project results	Financial	Medium	All project components	Strong and systematic involvement of potential co-financers in the project consultation process. In case co-financing won't materialize (cash co-financing in particular), due for example to budget cuts in public expenditures, the alternative strategy could be to moblize other funding from bilateral channels or from climate funds.	National Project Director; Project Manager/ throughout the duration of project.
Resistance against, or lack of interest in, the project activities from stakeholders, especially with regard to the active promotion of gender equality.	Social	Low	All project components	The Project will pursue thorough and gender responsive communication and will ensure stakeholders' involvement at all levels. This shall mitigate social and gender related risks, promote gender equality, and maximize the potential contribution of the project to improving gender equality. A gender action plan has been prepared and will be updated at the project beginning. An ad hoc gender expert will also ensure gender concerns maintreaming in the different project activities.	Project Manager; Gender Mainstreaming expert / throughout the duration of project.

Lack of interest from women and / or lack of qualified female personnel to participate in the project	Gender	Medium	All project components	The project will actively identify women and qualified female personnel to take part in the activities of the project. A tentative gender action plan has been prepared and will be updated at the project beginning. An ad hoc gender expert will also ensure gender concerns maintreaming in the different project activities.	Project Manager; Gender Mainstreaming expert / throughout the duration of project.
Risk if environmental problem related to spent lamps management	Environmental and Social	Low	Project component 4	In line with UN Environment rules and regulations, an Environmental and Social Management Plan was already conducted. UN Environment and ANME will work with stakeholders during the implementation of the project to ensure that the measures identified in this plan and other that may become necessary will be closely monitored and appropriate mitigation measures will be implemented. Furthermore, the project includes the design and adoption of a lamp collection and recycling or disposal scheme for used lamps as well as building the national capacities for implementing this scheme.	ANGED; National Project Director; Project Manager/ throughout the duration of project.

A.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.

Institutional Arrangements

The project is funded by the Global Environment Facility (GEF) with co-finance from national and international partners (refer to Annex F-2).

The United Nations Environment Programme (UN Environment) acting as the GEF Implementing Agency (IA). UN Environment as the GEF Implementing Agency will be responsible for the project's oversight. The main roles of the IA are as follows:

- Ensure timely disbursement/sub-allotment to executing agency, based on agreed legal document and in accordance with UN Environment and GEF fiduciary standards;
- Follow-up with Executing Agency for progress, equipment, financial and audit reports;
- Provide consistent and regular oversight on project execution and conduct project supervisory missions as per Supervision Plans and in doing so ensures that all UN Environment and GEF criteria, rules and regulations are adhered to by project partners;
- Technically assess and oversee quality of project outputs, products and deliverables – including formal publications;
- Provide non-objection to main TORs and subcontracts issued by the project, including selection of Project Manager or equivalent;
- Attend and facilitate inception workshops, field visits where relevant, and steering committee meetings;
- Asses project risks, and monitor and enforce a risk management plan;
- Regularly monitors project progress and performance and rates progress towards meeting project objectives, project execution progress, quality of project monitoring and evaluation, and risk;
- Monitor reporting by project executing partners and provides prompt feedback on the contents of the report;
- Promptly informs management of any significant risks or project problems and takes action and follows up on decisions made;
- Apply adaptive management principles to the supervision of the project;
- Review of reporting, checking for consistency between execution activities and expenditures, ensuring that it respects GEF rules;
- Clearance of cash requests, and authorization of disbursements once reporting found to be complete;
- Approve budget revision, certify fund availability and transfer funds;
- Ensure that GEF and UN Environment quality standards are applied consistently to all projects, including branding and safeguards;
- Certify project operational completion;
- Link the project partners to any events organised by GEF and UN Environment to disseminate information on project results and lessons;
- Manage relations with GEF.

The National Agency for Energy Conservation (ANME), as the local Executing Agency (EA), will be accountable to the Government and UN Environment for ensuring the following:

- Ensure technical execution according to the execution plan laid out in the project document;
- Ensure technical quality of products, outputs and deliverables;
- Ensure compilation and submission of progress, financial and audit reporting to IA;
- Submit budget revisions to IA for approval;
- Address and rectify any issues or inconsistencies raised by the IA;
- Bring issues raised by or associated with clients to the IA for resolution;
- Facilitate Steering Committees and other oversight bodies of the project;
- Day to day oversight of project execution;
- Submit all technical reports and completion reports to IA (realized outputs, inventories, verification of co-finance, terminal reporting, etc.);

- Achieve the objectives of the Project;
- Monitor and evaluate of the project outputs and outcomes;
- Effectively use both international and national resources allocated to it;
- Ensure timely availability of financing to support project execution;
- Proper coordination of all project stakeholders; in particular national parties;
- Timely submission of all project reports, including work plans and financial reports.

A focal point acting as National Project Director will be designated, with the appropriate authority for ensuring the overall project coordination, coordinating stakeholders 'contribution and meeting the agreed timelines. The focal point will engage support from key interested stakeholders to form a small core group, the project steering committee. The composition and shape of this group will include relevant national ministries and institutions, supporting experts and UN Environment. The Project Steering Committee will meet regularly throughout project implementation and contribute to strategic decisions on national priorities, activities, timelines and budgets.

From a practical point of view, the project will be executed by ANME, under the Ministry of Energy, with technical guidance from UN Environment and with the support of national partners. The project implementation arrangements comprise of the following, whose functions are detailed in Annex H:

- National Project Director (NPD)
- Project Steering Committee (PSC)
- Project Management Unit (PMU)
- Technical Working Groups (TWG)

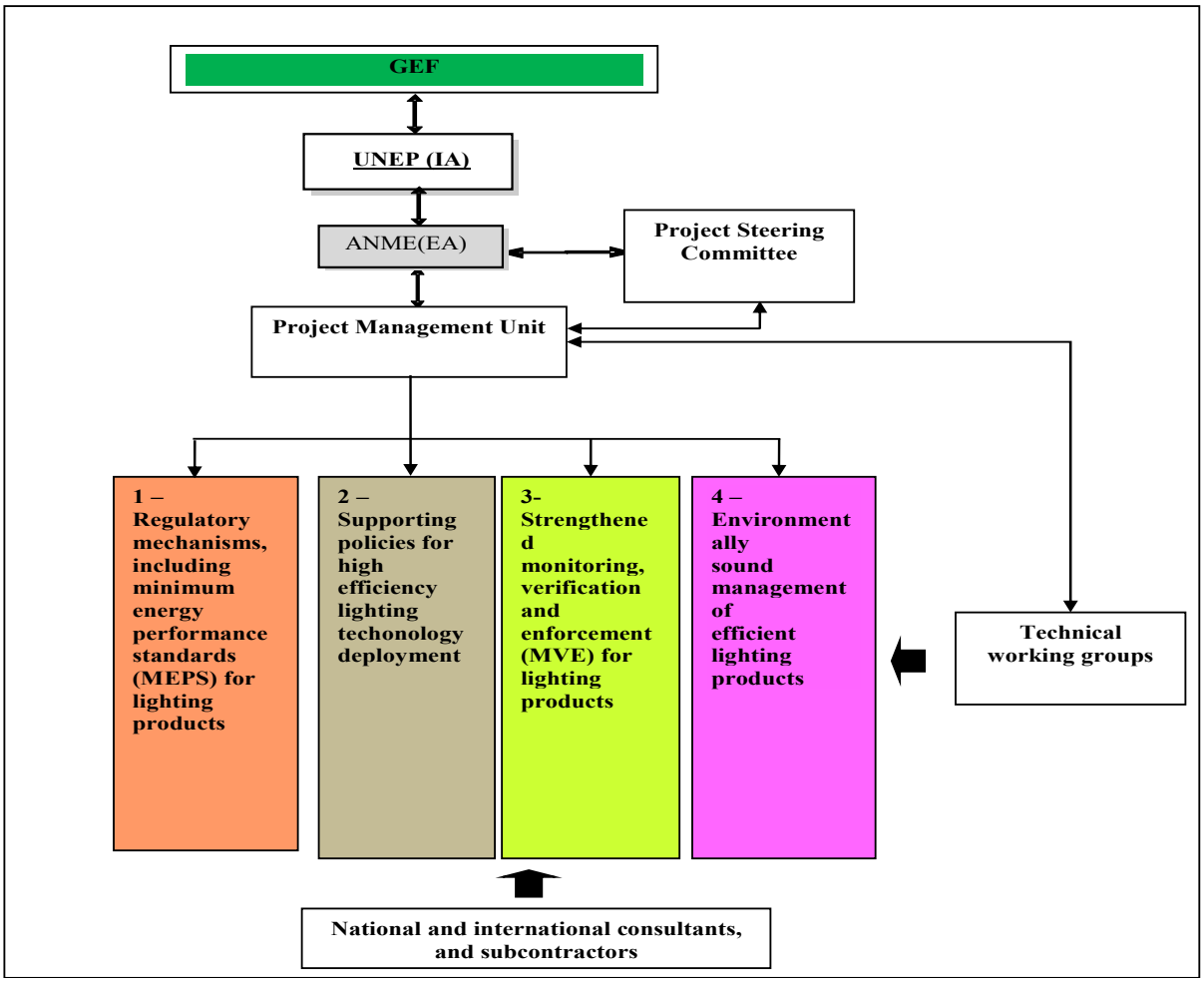


Figure 11: Project implementation and execution set-up

International project partners including international organizations, global manufacturers, and utilities will support the project to achieve its objectives. This support will come in the form of in-kind co-financing such as expertise on setting levels MEPS, designing collection and recycling schemes, and training on market surveillance activities. The Tunisian lighting industry will invest in business transformation towards high efficiency technologies, especially LED lighting. This project will benefit from global best practice and tools developed as part of the Global Leapfrogging Program.

At the beginning of project implementation, a detailed work plan for the first year of implementation will be developed by the PMU in collaboration with UN Environment and ANME based on the overall work plan for the entire duration of the project. The yearly work plan will clearly define roles and responsibilities for the execution of project activities, including monitoring and evaluation; it will set milestones for deliverables and outputs. The overall and yearly work plans will be used as management and monitoring tool by PMU and UN Environment and the overall work plan will be reviewed and updated as appropriate on a biannual basis. The mentioned stakeholders per component are indicative. The respective tasks to be carried out by organizations and experts will be made part of contractual arrangements with UN Environment and in line with UN Environment's rules and regulations.

Coordination with other existing projects or initiatives

As mentioned earlier, Tunisia's child project is part of the Global Leapfrogging Program and Project which both build on the UN Environment-GEF global project "Establishing the Foundations of a Partnership to Accelerate the Global Market Transformation for Efficient Appliances and Equipment," (GEF ID: #5831). This foundation project has formed a global partnership and a virtual Centre of Excellence, named United for Efficiency (U4E), which comprises international organizations, like-minded organizations, and private sector companies.

Within the framework of this partnership area, Tunisia child project will collaborate with the virtual Centre of Excellence. Under the Global Leapfrogging Project, Tunisia child project will exchange with other child GEF projects on energy-efficient lighting, appliances, and equipment in order to ensure increased collaboration and increased harmonization of through best practice recommendations. Experiences and lessons learned from other child projects will be considered by Tunisia child project to support the project development and implementation.

Tunisia child project also seeks to collaborate and learn from other ongoing initiatives beyond the GEF. These projects can provide the project with innovative ideas, useful tools/guidance, and lessons learned. This includes CTCN's Technical Assistance for capacity building to gain expertise in efficient lighting systems (Tunisia).

Furthermore, the Tunisia's child project will collaborate with the GEF funded project "Projet d'amélioration de la gestion du mercure en Tunisie" implemented by UNIDO, and also with "Minamata Initial Assessment" coordinated by UNIDO.

In addition, the implementation of the project activities, particularly MEPS setting and development and MVE system review, will be undertaken in synergy with the implementation of the association agreement between Tunisia and the European Union which provides for a mutual recognition agreement with the EU in the field of conformity assessment, and the preparation of the ACAA accord (Agreement on Conformity Assessment and Accreditation of industrial products) that will enable the Tunisian quality infrastructure to be recognized by the EU.

A.7 ***Benefits.*** Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The country will benefit from a substantial reduction in electricity growth rates, meaning less new power plants that need to be built. This will free up capital for other uses. Consumers and businesses will have lower electricity bills due to reduced electricity consumption. In addition, local manufacturers will be producing more efficient products, allowing them to better compete in global markets. And many of them will be producing more "value-added" products that generally have higher profit margins than "commodity grade" products, increasing profits relative to baseline.

A.8 *Knowledge Management.* Elaborate on the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

As country partner of the Global Leapfrogging Program, the project will contribute in facilitating information exchange and knowledge sharing that will be linked to and derived from the Global program by participating in the following program activities as part of the project implementation:

- Interacting with the virtual Centre of Excellence, through the call in center functionality to address issues ranging from manufacturing to end of life of products, participating in the technical webinars on specific topics of the integrated policy approach; and through the learning portal of the program's website to access training video, online training courses, webinars, and calculators and share the relating knowledge at the national level
- Participating in developing regional status reports describing the policies in place, potential benefits of a market transformation, and opportunities for harmonization
- Participating in Training for trainers' sessions to bringing together representatives from partner countries to increase capacities on implementing MEPS, supporting policies, MVE, and environmentally sound management. The Tunisian representatives will then be qualified to return to their country and replicate the training within their departments and/or ministries
- Participating in regional workshops launching regional status reports and regional/national commitment. The workshops will provide the opportunity for increased coordination across projects with best practice policies and for countries to provide lessons learned on the existing policies and projects

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES:
Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.:

The project has the strong support of the government of Tunisia and is aligned with, and supportive of, the country's main low carbon development policies and strategies . In fact, the project is aligned with Tunisia's vision to address climate change, expressed in its Nationally Determined Contribution submitted to UNFCCC in September 2015. The project is also aligned with energy transition strategy in which Tunisia has engaged in with the following objectives: reduction in primary energy demand by 17% in 2020 and 30% in 2030 compared to the baseline scenario; share of renewable energy (excluding biomass) in final energy consumption by 7% in 2020 and 12% in, 2030; and share of renewable energies in electricity generation of 30% in 2030 (Tunisian Solar Plan).

These objectives are detailed in the Tunisian NDC, which ultimate objective is to reduce Tunisia's carbon intensity (to GDP) by 41% by 2030 compared to 2010. In terms of energy efficiency, the NDC aims "at intensifing the promotion of energy efficiency in all consumer sectors and for all energy usages". The project will contribute to the achievement of the Tunisian NDC by reducing GHG emissions in the building sector through electricity saving due to the use of the efficient lighting products. This will be done by MEPS enforcement, the distribution of 4 million energy-efficient lamps, namely light emitting diode (LED) lamps and the implementation of a demonstration project.

Furthermore, the project will assist the country in implementing its National Efficient Lighting Strategy developed under the leadership of the National Agency for Energy Conservation (ANME) and the technical support of the UN Environment-GEF en.lighten initiative, and in consultation with the relevant national public and private stakeholders. The strategy sets national objectives and a detailed roadmap to phase-out inefficient incandescent lamps through the implementation of MEPS.

The project is also in line with the UNDAF framework which outlines "Sustainable, inclusive and resilient economic model" as one of its three outcomes for the period 2015-2019 in Tunisia.

Once implemented, the project, by promoting efficient energy use, is also expected to contribute in achieving the 2030 agenda for Sustainable Development and the Sustainable Development Goals, particularly Goal 7, which is to “ensure access to affordable, reliable, sustainable and modern energy for all” and Goal 12, “ensure Sustainable Consumption and Production Patterns”.

C. DESCRIBE THE BUDGETED M&E PLAN:

M&E activities and related costs are presented in the costed M&E Plan (Annex G) and are fully integrated in the overall project budget.

The project will comply with UN Environment standard monitoring, reporting and evaluation procedures. Reporting requirements and templates are an integral part of the legal instrument to be signed by the Executing Agency and the Implementing Agencies.

The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Annex A includes SMART indicators for each expected outcome as well as end-of-project targets. These indicators along with the key deliverables and benchmarks included in Annex I will be the main tools for assessing project implementation progress and whether project results are being achieved. The means of verification to track the indicators are summarized in Annex A.

The M&E plan will be reviewed and revised as necessary during the project Inception Workshop (IW) to ensure project stakeholders understand their roles and responsibilities vis-à-vis project monitoring and evaluation. Indicators and their means of verification may also be fine-tuned at the inception workshop. General project monitoring is the responsibility of the Project Management Unit but other project partners could have responsibilities in collecting specific information to track the indicators. It is the responsibility of the Project Manager to inform UN Environment of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

The project Steering Committee will receive periodic reports on progress and will make recommendations to UN Environment concerning the need to revise any aspects of the Results Framework or the M&E Plan. Project oversight to ensure that the project meets UN Environment and GEF policies and procedures is the responsibility of the UN Environment Task Manager. The UN Environment Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

Project supervision will take an adaptive management approach. The UN Environment Task Manager will develop a project Supervision Plan at the inception of the project, which will be communicated to the Project Management Unit and the project partners during the Inception Workshop. The emphasis of the Task Manager’s supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring.

Progress vis-à-vis delivering the agreed project global environmental benefits will be assessed with the Steering Committee at agreed intervals. Project risks and assumptions will be regularly monitored both by the Project Management Unit, the project partners and UN Environment. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The PIR will be completed by the Project Manager and ratings will be provided by UN Environment’s Task Manager. The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. UN Environment’s Task Manager will have the responsibility of verifying the PIR and submitting it to the GEF. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

In-line with UN Environment Evaluation Policy and the GEF’s Monitoring and Evaluation Policy the project will be subject to a Terminal Evaluation (TE) commissioned by the UN Environment Evaluation Office. At mid-point of

project implementation, the Task Manager will initiate a Mid-Term Review (MTR), or a Mid-Term Evaluation (MTE) if the project is rated as being at risk. The latter will be conducted by the UN Environment Evaluation Office (EOU).

Resources are set aside for the Mid-Term Review (MTR) or Mid-Term Evaluation (MTE). The Task Manager will decide when the MTR/MTE shall be initiated. The purpose of the Mid-Term Review (MTR) or Mid-Term Evaluation (MTE) is to provide an independent assessment of project performance at mid-term, to analyze whether the project is on track, what problems and challenges the project is encountering, and which corrective actions are required so that the project can achieve its intended outcomes by project completion in the most efficient and sustainable way. The review will include all parameters recommended by the GEF Evaluation Office for Terminal Evaluations and will verify information gathered through the GEF tracking tools, as relevant. The review will be carried out using a participatory approach whereby parties that may benefit or be affected by the project will be consulted. Such parties were identified during the stakeholder analysis (see previous section A.3 and Annex H). Members of the project Steering Committee could be interviewed as part of the MTR/MTE process and the Project Management Unit (PMU) will develop a management response to the evaluation recommendations along with an implementation plan. It is the responsibility of the UN Environment Task Manager to monitor whether the agreed recommendations are being implemented.

An independent TE will take place at the end of project implementation. The EOU will be responsible for the Terminal Evaluation and will liaise with the Task Manager and Executing Agency(ies) throughout the process. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UN Environment, the GEF, executing partners and other stakeholders. The direct costs of the evaluation will be charged against the project evaluation budget. The TE will be initiated no earlier than 6 months prior to the operational completion of project activities and, if a follow-on phase of the project is envisaged, should be completed prior to completion of the project and the submission of the follow-on proposal. TE must be initiated no later than 6 months after operational completion.

While a TE should review use of project funds against budget, it would be the role of a financial audit to assess probity (i.e. correctness, integrity etc.) of expenditure and transactions.

The draft TE report will be sent by the UN Environment Evaluation Office to project stakeholders for comments. Formal comments on the report will be shared by the EOU in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six-point rating scheme. The final determination of project ratings will be made by the EOU when the report is finalized and further reviewed by the GEF Independent Evaluation Office upon submission. The evaluation report will be publically disclosed and will be followed by a recommendation compliance process. A review of the quality of the evaluation report will be done by EOU and submitted along with the report to the GEF Evaluation Office not later than 6 months after the completion of the evaluation.

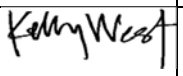
The GEF tracking tool is attached as Annex J-1. It will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report. As mentioned above, the MTE and TE will verify the information of the tracking tool.

The direct costs of reviews and evaluations will be charged against the project evaluation budget. A summary of M&E activities envisaged is provided in Annex G. The GEF contribution for this project's M&E activities (including audits and evaluations) is US$ 82,000.

PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)

GEF Agency(ies) certification

This request has been prepared in accordance with GEF policies[41] and procedures and meets the GEF criteria for CEO endorsement under GEF-6.

Agency Coordinator, Agency Name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Ms. Kelly West Senior Programme Manager & Global Environment Facility Coordinator Corporate Services Division UN Environment		December 22, 2017	Ruth Coutto Task Manager Climate Mitigation Unit UN Environment	+33144371634	ruth.coutto@une.org

[41] GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT

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).

Project Objective	Objective level Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	UN Environment MTS reference*
Objective: To facilitate the rapid transformation of the Tunisian market to energy efficient lighting technologies, thereby reducing electrical demand and consumption and related greenhouse gases (GHG) emissions	Indicator A: Labeling and MEPS system developed for lighting products Indicator B: Amount of GHG emissions mitigated Indicator C: Market share of lamps entered in the Tunisian market	Baseline A: No Labels nor MEPS for lighting products Baseline B: 0 tCO_{2e} Baseline C[42]: *2017:* - Indoor lamps: IL:8.3% ; HAL : 1.3%; LFL : 21.3%; CFL: 43.3%; LED: 25.9%	Target A: Labeling and MEPS regulations adopted for lighting products Target B: Direct (including post-project): 809,465 tCO_{2e}[43] (10 years after project completion) Target C: *End of project:* - Indoor lamps: IL:4.2% ; HAL : 1.3%; LFL : 21.3%; CFL: 43.3%; LED: 30[44]%	- Legislation/regulatory texts issued - National GHG Inventory Reports - Project progress report - Project monitoring and evaluation reports	- Risk: Key stakeholders may not be interested in the related issues - Mitigation action: Ensure that stakeholders are invited to meetings and workshops in advance and provided opportunities to express their concerns	Sub program 1: Climate Change Expected Accomplishment (b) – Output 2.b Indicator: (ii) Increased percentage of countries meeting energy efficiency standards in specific sectors, with support from UN Environment

[42] As explained in annex J-2, these market share ratios are rough estimations based on lighting products' imports obtained from the customs (the latest market study on sales goes back to 2014). A new lighting market study shall be conducted in the next few months in order to adjust and fine tune these figures before the project's Inception Workshop.

[43] This figure represents 50% of the Direct GHG emission reductions calculated in Annex J-2. Indeed, as agreed with the GEF Secretariat, the Direct benefits to be attributable to a child project under the "Leapfrogging markets to high efficiency products (appliances, including lighting and electrical equipment)" Program shall represent 50% of the project's estimated Direct GHG emission reductions.

[44] The project scenario for the market transition is based on standards and labels regulations adopted by the government which are assumed to be enforced after the completion of the project. However, the project aims to boost the LED market during the project period through communication campaigns and demonstration project in Djerba. Therefore, the target for the market share of LED at the end of the project at least 30% for LED.

Project Objective	Objective level Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	UN Environment MTS reference*
		- Street lighting: VM: 8.6%; SHP: 57.8%; HM: 18.1%; Solar lamp: 15.5%	- Street lighting: VM: 3.6%; SHP: 57.8%; HM: 18.1%; Solar lamp: 20% *10 years post-project:* - Indoor lamps: IL:1.7% ; HAL : 0.3%; LFL : 21.2%; CFL: 28.3%; LED: 48.5% - Street lighting VM: 0%; SHP: 57.8%; HM: 18.1%; Solar lamp: 24%			

Project Outcome	Outcome Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	MTS Expected Accomplishments
Outcome 1: Adoption by government of MEPS and label requirements	Indicator 1: # of standardized MEPS for efficient lighting adopted by the government <u>Indicator 2:</u> # of labeling regulations revised and adopted for lighting products	<u>Baseline 1:</u> 0 <u>Baseline 2:</u> 0	<u>Target 1:</u> At least 2 <u>Target 2:</u> 1	- Legislation/regulatory texts issued - Workshop reports and number of participants - Project progress report - Project monitoring and evaluation reports	- Risk of policy implementation or enforcement - Lack of commitment or busy work schedule of the key stakeholders - Key stakeholders may not be interested in the related issues	Expected Accomplishment (EA) 2: Low emission growth
Outcome 2: Government actions for an increased availability and use of efficient lighting are in place	<u>Indicator 3:</u> # of indoor LED lamps distributed by the government <u>Indicator 4:</u> # of financial mechanisms designed and introduced for lighting products <u>Indicator 5:</u> # of lighting systems installed under the Djerba demonstration project	<u>Baseline 3:</u> 0 <u>Baseline 4:</u> 0 <u>Baseline 5:</u> 0	<u>Target 3:</u> At least 4,000,000 <u>Target 4:</u> At least 1 <u>Target 5:</u> At least 1,400 LED street lamps At least 400,000 LED indoor lamps	- Project technical reports (incl. specification for LED lamps) - Work plan and minutes of the working group on the design of financial mechanisms - Work plan and minutes of the working group on Djerba pilot project design and implementation - Project progress report - Project monitoring and evaluation reports	- Campaigns may be delayed due delayed project implementation - Key stakeholders may not be interested in the related issues and have other priorities - Lack of commitment or busy work schedule of the key stakeholders - Pilot project: Municipality and hospital sector may not be cooperating	Expected Accomplishment (EA) 2: Low emission growth

Project Outcome	Outcome Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	MTS Expected Accomplishments
Outcome 3: Strengthened national capacity to monitor, verify, enforce and report on compliance of the products with MEPS and labeling**.**	Indicator 6: # of regulatory text for efficient lighting MVE revised and/or developed Indicator 7: # of training workshops on lighting market monitoring delivered to government authorities and customs administration Indicator 8: CETIME laboratory is internationally accredited and testing LED bulbs in line with adopted protocol and MEPS Indicator 9 # of compliance reports issued on adopted testing protocols	Baseline 6: 0 Baseline 7: 0 Baseline 8: Proposal for accreditation prepared and submitted to relevant international body Baseline 9: 0	Target 6: 1 Target 7: At least 2 (with at least 30% female participants representing various institutions who receive training and consultation via this activity) Target 8: 1 international accreditation obtained Target 9: 2	- Published documents - Legislation/regulatory texts issued - List of participants - Training reports - Laboratory equipment set up - Project progress report - Project monitoring and evaluation reports	- Lack of commitment or busy work schedule of the key stakeholders - Lack of technical and financial capacities to set up laboratory equipment - Delayed project implementation	Expected Accomplishment (EA) 2: Low emission growth

Project Outcome	Outcome Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	MTS Expected Accomplishments
Outcome 4: Capacities are in place to implement a national system to collect, recycle and/or responsibly dispose of lighting products that contain hazardous materials.	Indicator 10: # of ESM schemes developed and adopted Indicator 11: # of regulatory texts on ESM of spent lamps and hazardous waste material contained in lamps developed and adopted Indicator 12: # of retailers and collectors able to implement the adopted ESM schemes of training workshop on ESM delivered to government authorities, retailers and collectors	Baseline 10: 0 Baseline 11: 0 Baseline 12: 0	Target 10: 2 Target 11: 2 Target 12: At least 30 (with at least 30% female participants representing various institutions who receive training and consultation via this activity)	- Feasibility and design report of lamp and hazardous material contained in lamps collection and recycling or disposal scheme - Legislation/regulatory texts issued - Project progress report - Project monitoring and evaluation reports - List of participants - Training reports	- Lack of commitment or busy work schedule of the key stakeholders	Expected Accomplishment (EA b and c) 3: Chemicals and Waste

ANNEX B: RESPONSES TO PROJECT REVIEWS
Include the review sheets from GEF Secretariat and GEF Agencies, and responses to comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF.

Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF were addressed by UN Environment in Annex B of the request for project endorsement/approval for the project "Global Project to leapfrog markets to energy efficient lighting, appliances and equipment", GEF ID: 9337.

Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility
(Version 5)

STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening: May 07, 2016
Screener: Thomas Hammond
Panel member validation by: Ralph E. Sims
Consultant(s):

I. PIF Information (Copied from the PIF)
Full Size Project GEF Trust Fund
GEF Project ID: 9436
Project Duration: 5.5
Countries: Global (Chile, Indonesia, Myanmar, Tunisia, South Africa)
Project Title: Leapfrogging Markets to High Efficiency Products (Appliances, including Lighting, and Electrical Equipment) (PFD Resubmission of #9083)
GEF Agencies: UNEP, DBSA and UNDP
Other Executing Partners:
GEF Focal Area: Climate Change

II. STAP Advisory Response (see table below for explanation)
Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies): **Concur**

III. Further guidance from STAP
1. The project aim is to increase the uptake of more efficient lighting and appliances in a number of countries by market transformation and building on an earlier UNEP SE4All project. Substantial private sector support is evident. This is a well formulated project proposal with few comments needed.

UN Environment Response: Noted.
2. Gaining success and harmonization by targeting nine specific countries and a wide range of others should prove to be a beneficial approach. Training of trainers is a key component. National and non-national child projects are planned. However, it is not clear how the city level child projects (assuming that is what is meant here by "non-national") will be selected? Will there be only one per nation? Discussion on the non-national child projects does not appear in section 9 so it is not exactly clear what is intended for this initiative. Or perhaps the term "non-national" here implies global as in "Global child project".

UN Environment Response: The term “non-national child project” was to refer to 15 partner countries that will receive in-region training, however do not have a GEF national project (child project). The wording has been updated to “15 additional partner projects”.

2. If so, then it is certainly confusing for the reader not to stick to using the same terminology throughout the proposal.

UN Environment Response: Noted. Terms and wording has been defined at the start and now consistent throughout.

3. The MEPS approach has been well tested in many countries and is sound as is labeling but educating the public as is proposed is key. Not only the public but more important are retail sales staff who frequently turn over so continual updating is required. Surveys elsewhere have shown it to be a weak link in the process when the retailers fail to understand the reason for the labels.

UN Environment Response: Noted. This topic has been raised in the Expert Taskforces under the SEforALL Global Project and included in the policy recommendation to countries. It will be in supporting policies alongside labels and consumer campaigns.

4. It is not easy to assess GHG emission reductions in a project like this as there are wide variations and uncertainties. Hence the wide range of 69-150 Mt CO2 is understandable. Taking refrigerators, air conditioners and transformers as examples is OK but of course, a very simplified approach. It is assumed different emission factors where used for electricity grids in each of the participating countries. But are all the appliances in the project assumed to be electrical? What about LPG stoves or water heaters for example? And domestic cook stoves? Are these all included? More robust calculations should be provided for child projects. The revised GHG manual and guidelines could be considered: https://www.thegef.org/gef/ghg-accounting.

UN Environment Response: The GHG estimates have been recalculated and prepared using an updated methodology, which is described in section A.1.5) of the “Global Project to leapfrog markets to energy efficient lighting, appliances and equipment” (GEF ID 9337). The national projects conduct a more detailed analysis that takes into account the specific products included in the national project, emission factor and local circumstances (weather, behavioral differences, etc.). The project focuses on on-grid lighting, appliances and equipment. LPG stoves and water heaters are not part of the focus of the project.

5. Due to the complexity, consideration should be given to the Programme Steering Committee meeting more regularly than the proposed once a year at least in the initial stages.

UN Environment Response: Agreed. The number of meetings of the project steering committee has been increased to 6.

GEF-6 GEF SECRETARIAT REVIEW FOR PROGRAMMATIC FRAMEWORK DOCUMENT* THE GEF/LDCF/SCCF TRUST FUNDS

GEF ID:	**9436**		
Country/Region:	**Global (Chile, Costa Rica, Indonesia, Kazakhstan, Myanmar, Sudan, Tunisia, South Africa)**		
Program Title:	**Leapfrogging Markets to High Efficiency Products (Appliances, including Lighting, and Electrical Equipment) (Resubmission of #9083)**		
GEF Agency:	**UNEP, DBSA and UNDP**	GEF Agency Project ID:	
Type of Trust Fund:	**GEF Trust Fund**	GEF Focal Area (s):	**Climate Change**
GEF-6 Focal Area/ LDCF/SCCF Objective (s):		**CCM-1 Program 1;**	
Anticipated Financing PPG:		Program Grant:	**$30,362,753**
Co-financing:	**$149,941,000**	Total Program Cost:	**$180,303,753**
PIF Approval:		Council Approval/Expected:	
Program Manager:	**David Elrie Rodgers**	Agency Contact Person:	

Review Criteria	Questions	Secretariat Comments	Agency Response
Program Consistency	1. Is the program aligned with the relevant GEF strategic objectives and results framework?[1]	DER, March 21, 2016. Yes. This program is a re-submission of PFD #9083 which has been approved by Council. The program is fully aligned with GEF-6 focal area objectives. The PFD is being re-submitted to add additional child projects.	

[1] For BD projects: has the project explicitly articulated which Aichi Target(s) the project will help achieve and are SMART indicators identified, that will be used to track the project's contribution toward achieving the Aichi Target(s)?

	2. Is the description of the baseline scenario reliable, and based on sound data and assumptions? Are the activities that will be financed using GEF/LDCF/SCCF funding based on incremental/ additional reasoning?	DER, March 21, 2016. Yes. This program is a re-submission of PFD #9083 which has been approved by Council. The program is fully aligned with GEF-6 focal area objectives. The PFD is being re-submitted to add additional child projects. The following new child projects are being submitted: Chile; Indonesia; Myanmar; Tunisia; and South Africa	
Program Design	3. Is the program framework (Table B) sound and sufficiently clear and appropriate to achieve program objectives and the GEBs?	DER, March 21, 2016. This program is a re-submission of PFD #9083 which has been approved by Council. Table B reflects the inclusion of additional child projects. Please address the following comments: 1) Please clarify if any of the project components have changed since the submission of the first PFD, and if so, please explain. 2) Based on the large number of child projects, please provide a one-page summary table those shows each child project, including the global project; the responsible agency; the funding amounts; and a very brief summary of the top priorities for the child project, including which appliances or technologies will be the focus. 3) For Indonesia, please justify why two agencies will be implementing the project. Please describe the division of labor and responsibilities of the UNDP and UNEP in the child project. 4) For South Africa, please justify why two agencies will be implementing the project. Please more fully describe the division of labor and responsibilities of	1. The components have remained the same. 2. Please see Annex I below for our response to this comment. 3. The project was submitted with two GEF agencies due to the complementary strengths of both agencies. UNEP, with its en.lighten initiative, has strong technical capacities and experience in implementing national projects to develop the policy framework for energy efficient lighting. While UNDP has the experience and country presence in Indonesia to work with local industry and development of demonstration projects and financial mechanisms. Therefore it has been

		the UNDP and DBSA in the child project. The GEB estimate on page 19 appears to be consistent with the first PFD submission, which only included 3 child projects. Please clarify if the in the PFD should be updated as the GHG figure matches the figure on page 18 for all eight child projects. 6) Please indicate if PPGs will be requested for the child projects and if those requests will come before or after June 2016	agreed that UNDP will implement Component 1 (Support to local industry) and 2 (High efficiency lighting technology penetration), while UNEP will implement Component 2 (policy framework). UNDP will be the lead agency and receive the PPG. 4. The project was submitted with two GEF agencies due to the complementary strengths of both agencies. UNDP and DBSA will be jointly implementing the project so that South Africa benefits from the complementary strengths of both institutions: • UNDP's proven experience with supporting countries to establish Energy Efficiency policies, including its experience in South Africa for the implementation of the GEF-financed project "Market transformation through energy efficiency standards and labeling of appliances in South Africa". UNDP is therefore best positioned to lead the implementation of the policy components of the project (Components 1, 2, 3 and 5) building on the experiences/lessons-learned from previous energy efficiency projects. • DBSA's proven experience with establishing and managing financial mechanisms (including South Africa's Green Fund) and implementing investment projects.

			DBSA is therefore uniquely positioned to lead the development of a financial mechanism and support to local industry (Component 4). 5. The CO2 emissions were already updated for the child project, previously they were 1,530,245 tons with 3 child projects and now they are 10,158,095 tons with 8 child projects. The text in table incorrectly stated "only 3 child country projects" this has now been updated to "only 8 child country projects". 6. PPG requests will be submitted to all 5 child projects before June 2016.
	4. Are socio-economic aspects, including relevant gender elements, indigenous people, and CSOs considered?	DER, March 21, 2016. Yes.	
	5. Does the program take into account potential major risks, including the consequences of climate change, and describes sufficient risk response measures? (e.g., measures to enhance climate resilience)	DER, March 21, 2016. Yes.	
	6. If there is a non-grant instrument in the program, is the GEF Agency(ies) capable of managing it?	DER, March 21, 2016. NA	

	7. Is the program coordinated with other related initiatives and national/regional plans in the country or in the region?	DER, March 21, 2016. Yes. Please ensure that child projects are developed in coordination with countries INDCs.	
	8. Is the program implementation/ execution arrangement adequate?	DER, March 21, 2016. As there are many agencies involved in this program, please explicate the responsibilities for submission of PPGs, CEO endorsements, tracking tools, PIRs, and other GEF required reports.	Please see Annex II below for our response to this comment.
	9. Does the program include a budgeted M&E Plan that monitors and measures results with indicators and targets?	DER, March 21, 2016. Yes.	
	10. Does the program have description of knowledge management plan?	DER, March 21, 2016. Yes.	

Resource Availability	11. Is the proposed Grant (including the Agency fee) within the resources available from (mark all that apply):		
	[redacted]he STAR allocation?	DER, March 21, 2016. Yes. This program is a re-submission of PFD #9083 which has been approved by Council. The program is fully aligned with GEF-6 focal area objectives. The PFD is being re-submitted to add additional child projects. The following new child projects are being submitted: Chile; Indonesia; Myanmar; Tunisia; and South Africa. STAR Allocation and CCM allocation for the five new child projects is sufficient to cover the amount requested.	
	[redacted]he focal area allocation?	DER, March 21, 2016. Yes. This program is a re-submission of PFD #9083 which	

		has been approved by Council. The program is fully aligned with GEF-6 focal area objectives. The PFD is being re-submitted to add additional child projects. The following new child projects are being submitted: Chile; Indonesia; Myanmar; Tunisia; and South Africa.	
		STAR Allocation and CCM allocation for the five new child projects is sufficient to cover the amount requested: Chile has $6.4 million CCM STAR allocation remaining; the requested child project is within that amount. Indonesia has $14 million CCM STAR allocation remaining; the requested child project is within that amount. Myanmar has $14.9 million CCM STAR allocation remaining; the requested child project is within that amount. Tunisia has $2.6 million CCM STAR allocation remaining; the requested child project is within that amount and will consume all remaining CCM resources. South Africa has $12.7 million CCM STAR allocation remaining; the requested child project is within that amount, leaving a balance of approximately $1 million.	
	[redacted]he LDCF under the principle of equitable access?	NA	

	[redacted]e SCCF (Adaptation or Technology Transfer)?	NA	
	[redacted]ocal area set-aside?	NA	
Secretariat Recommendation			
PFD Clearance	**Is the PFD recommended for clearance to include in the work program?**	DER, March 21, 2016. not at this time. Please address the comments in boxes 3 and 8.	
Review Date (s)	Review*	March 21, 2016	
	Additional Review (as necessary)		
	Additional Review (as necessary)		

*** This is the first time the Program Manager provides full comments for the program. Subsequent follow-up reviews should be recorded. For specific comments for each section, please insert a date after comments.**

Annex I - Response to Comment on box 3:

Child Projects under the Leapfrogging markets to high efficiency products (appliances, including lighting, and electrical equipment)

Country (GEF agency)	Product(s) of focus	Project Cost (US$)	Top priorities
Global (UNEP)	Lighting, appliances and equipment	3,100,000	• Development of tools and resources to support country officials in implementing projects on energy efficient appliances and equipment. • Providing training to 10 child project countries and 15 non-child project countries. • Holding of outreach events in order to increase the number of countries and companies committing to advance energy efficient
Costa Rica (UNEP)	Lighting, air conditioners and refrigerators	2,000,000	• Demonstration projects with energy efficient appliances in public institutions. • Training and information program for market actors on the country's obligations to procure efficient appliances. • Establishment of a revolving loan fund for the financing of large-scale replacement programs in the public sector.
Sudan (UNDP)	Lighting and air conditioners	1,770,000	• Development of a national strategy to advance energy efficiency as part of the National Energy Efficiency Action plan (NEEAP) • Development of the policy framework with minimum energy performance standards (MEPS); monitoring, verification, and enforcement (MVE) system; supporting policies; and environmentally sound management.

Kazakhstan (UNDP)	Domestic appliances (except lighting)	3,500,000	• Development of the policy framework with minimum energy performance standards (MEPS); monitoring, verification, and enforcement (MVE) system; supporting policies; and environmentally sound management. Boosting demand for energy efficient appliances and equipment
Myanmar (UNEP)	Lighting and appliances	2,223,578	• Development of the policy framework with minimum energy performance standards (MEPS); monitoring, verification, and enforcement (MVE) system; supporting policies; and environmentally sound management.
Indonesia (UNEP, UNDP)	Lighting	3,895,873	• Support to local lighting industry to improve the efficiency of lamps and ballasts • Development of the policy framework with minimum energy performance standards (MEPS); monitoring, verification, and enforcement (MVE) system; supporting policies; and environmentally sound management. • High efficiency lighting technology penetration with the development of financial mechanisms and distribution campaigns.
South Africa (UNDP, DBSA)	LED lighting and distribution transformers	10,000,000	• Development of a national strategy to advance energy efficiency • Development of the policy framework with minimum energy performance standards (MEPS); monitoring, verification, and enforcement (MVE) system; supporting policies; and environmentally sound management.
Tunisia (UNEP)	Lighting	2,500,000	• Development of the policy framework with minimum energy performance standards (MEPS); monitoring, verification, and enforcement (MVE) system; supporting policies; and environmentally sound management.
Chile (UNEP)	Refrigerators	1,473,762	• Development of the policy framework with updated minimum energy performance standards (MEPS); monitoring, verification, and enforcement (MVE) system; supporting policies; and environmentally sound management.

Annex II – Response to comment on box 8:

As there are many agencies involved in this program, please explicate the responsibilities for submission of PPGs, CEO endorsements, tracking tools, PIRs, and other GEF required reports.

PPGs	Each child project agency will submit their own PPG requests independently of the lead agency. This precedent was set by UNDP at the request of the GEF Secretariat.
CEO endorsements	Each child project agency will submit their own CEO endorsement documents to the GEF. However, the Lead agency will discuss the programme monitoring framework, programme tracking tool and the institutional arrangements to ensure: (a) consistency in reporting against the programme tracking tool and programme monitoring framework; and (b) coordination or technical input to the child projects from the different agencies.
PIRs,	Each child project agency will prepare and submit directly to the GEF, its own Project Implementation Review every year.
tracking tools,	• Programme tracking tool: the lead agency will develop and submit the baseline for the programme monitoring framework and programme tracking tool at the program commitment deadline.

	• Project tracking tools: each child project agencies will be responsible for developing and submitting progress reports on, their own tracking tools, as per the GEF guidelines.
Other GEF required reports.	• Reports from each child project will also contribute to the programme level results and impacts. Each child project agency will report to the lead programme agency: programme tracking tool and programme monitoring framework, at the following points: (a) at CEO endorsement, (b) at midterm and (c) at project completion. • The Program Lead Agency will consolidate and send to the GEF Secretariat a report (a) at program baseline when all child projects are CEO endorsed/approved (i.e. program commitment deadline), (b) at midterm on progress toward program outcomes, and (c) at program completion on progress towards the programme indicators.

Comments and Responses at GEF Council – October 2015

U.S.

1. What is the rationale for pursuing this project as a Programmatic Approach, rather than as a single global project?

Response: Markets for the appliances that will be targeted are increasingly global, with production/manufacturing concentrated in a few countries and then traded to the rest of the world. As such, there is a need for policy harmonization and consistency across countries and this is much easier achieved in a programmatic approach than in a country by country series of not connected national level projects. The programmatic approach proposes the U4E integrated policy approach to meet individual countries' policy needs and priorities. U4E integrated policy approaches (minimum standards, MVE, supporting policies, and environmentally sound management) have been demonstrated to permanently transition markets to energy efficient products while addressing environmental concerns. The programmatic approach allows for the use of a coherent and consistent integrated approach, providing greater likelihood of a true market transformation success and increased harmonization between countries. Further, child projects under the programmatic approach allow for the best practices to be implemented in the country, such as developing/agreeing to MEPS, increasing market surveillance capacities, and/or implementing demonstration projects for energy efficient products.

Countries are at varying levels in developing policies that advance energy efficiency of lighting, appliances and equipment. Some countries do have MEPS in place and will be complete a project to enhance those standards and ensure their compliance. Additionally, countries have different priorities in terms of products, with some having larger savings potential for lighting while other countries might prioritize air conditioners due to the savings in their country. The programmatic approach accommodates this as it develops common resources with global funding, such as step-by-step guides on advancing markets to energy efficient products and supporting country officials with training. The child projects allow countries to utilize their STAR allocation under the framework of the programmatic approach yet still crafting the child project to meet the individual countries' needs. The child projects are customized to meet the needs of policy development and product prioritization of each country.

2. In addition to the three countries with child projects included in the proposal, we see that an additional fifteen countries may be receiving funding for capacity building through the SEforALL program. Which countries will be funded? How will countries be selected?

Response: The criteria to receive this support will be based on the country being a partner to initiative, commitment to advance energy efficiency is shown through national communications; funding for project implementation is available (for example GEF projects not falling under the programmatic approach, and other sources of funding, including domestic funding, Germany's International Climate Initiative, European Commission); regional diversity of countries supported. These prioritization of countries are currently be reviewed under GEF5 Project 5831: "Foundations of a Partnership to Accelerate the Global Market Transformation for Efficient Appliances and Equipment".

3. We note that there may be a plan to expand this program to include significantly more countries (as many as 100).

Response: There is within the global child project an anticipated light touch support for up to 75 countries. However, the number of child projects that may be added to the programmatic approach is much smaller. Currently, additional child projects are being considered in roughly 5-8 countries. These child projects would be proposed within a revised PFD which would be presented to Council for consideration.

a. What is the commitment deadline for additional child projects?

Response: April 2019 (for submission of full CEO endorsement documents).

b. Will the Council have the opportunity to review a revised project framework document with more details for child projects and country participation prior to GEF CEO Endorsement of new child projects?

Response: All child projects, including the three currently in the PFD and any future child projects added with Council approval of a revised PFD, would be submitted for CEO endorsement no later than the commitment deadline of April 2019.

4. *Will countries be able to revise their support of the Program after review of the final* PFD document?

Response: Countries will work with agencies during the project design period to reflect any changes in project scope in the CEO endorsement request. Revisions to the PFD would be for the purpose of adding child projects; therefore Countries will have ample opportunity to ensure the project designs align country priorities with the PFD objectives.

Germany

Germany welcomes the program proposal in support of a global approach to introducing high-efficiency appliances and electrical products. The ambitious proposal builds on an existing GEF program (SEforALL) and will make a significant contribution to GHG reductions, as well as market transformation, if risks are well-managed and implementation is well-coordinated across a broad spectrum of stakeholders. Germany requests that the following requirements are taken into account during the design of the final project proposal:

General response: All comments will be taken into account during the project development and will be incorporated into the final project proposal.

With regard to Menu Option 4: Supporting policies for the market transformation to energy efficient products. For this menu option, it is written that "campaigns may include working with retailers to train staff to help and advise consumers." A perhaps more efficient alternative would be to make sure that appliance manufacturers have the capacity to provide trainings to their distributors/retailers rather than the program attempting to train personnel at points of sale.

Response: Thanks for this good suggestion. This is a better approach offering longer-term sustainability and the project can use best practices from the manufacturing partners to the project (OSRAM, Philips, BSH, Mabe, etc). This suggestion will be integrated into project design.

With regard to demonstration projects: such projects should make energy and monetary savings public knowledge, with for example a digital meter (or low-tech alternative) in the lobby of the targeted ministry building, which compares costs and energy usage between efficient and inefficient systems. The program also intends to enable local manufacturers to produce energy-efficient appliances. It would be helpful to include information as to what extent patent-holders elsewhere may impede this objective, and to what extent lesser-efficient technologies are to be utilized because of high costs for super-efficient technologies?

Response: We have not yet encountered patent issues blocking the way for energy efficient products, contrarily it is often more expensive material or design that makes the product more expensive. For example, using more efficient material (such as copper) and/or using more insulation in refrigerators. Patent issues and clear measures to transparently and effectively present energy and financial savings will be fully integrated during project development. In regards to the lower efficient technologies being used instead of higher cost super-efficient technologies: the project will support countries to make the transition based on their national circumstances. For example, MEPS could be put in place to remove the lower performing products (for example inefficient incandescent lamps) from the market to shift to higher efficient (for example CFLs), and also promoting awareness/demand for highly efficient products (for example LEDs) through demonstration or distribution campaigns of highly efficient products.

Regarding gender: during the consultations with end-users, it should be determined if priorities for efficient appliances differ across the gender spectrum in order to pinpoint the priorities at the family-level vs. at a business or institutional level.

Response: Thanks for this good suggestion. This will be integrated into project design.

The benefits section needs clarifications for greater coherence as it is not clear from the outset that the higher emission reduction numbers include the SEforALL Project's emission reductions.

Response: The savings presented are only for this project. Further clarification will be given during the project design.

A further point of confusion is related to the pie chart on page 14, which does not depict "total potential CO_2 Savings" as it is labelled, but rather shows the share of CO_2 savings that will come from the Leapfrogging (34%) vs. the SEE4ALL (66%) Programs. The chart should be labelled accordingly. When one gets to the chart on page 15, then the percent allocations are switched, with 33% of the CO_2 reductions attributed to SEforALL and 67% attributed to the Leapfrogging Program, which creates more confusion when compared with the previous pie chart. The section could generally benefit from more coherent language, as it is difficult to follow.

Response: Comment well noted. The pie chart should have Leapfrogging 33% and SEforALL as 67%. This will be fixed and further clarity on this will be integrated in the final proposal.

A general consideration: experience with switching consumers from, for example, cheap disposable batteries to long-life, rechargeable batteries has shown that in order to have a successful transition, the consumer needs to see the benefit of making the switch, both in terms of money saved and a superior product. Getting consumers hooked on the energy-efficient appliances will require not only innovative financing to overcome higher upfront costs but also clarity that the product is the better choice in the long-run. Communication, training and outreach are, therefore, as crucial as having the product itself available.

Response: Agreed. This is an excellent point in relation to consumer's confidence. It should be noted that consumer confidence also relates to the actual real life performance of a product compared to what is written on the packaging. Monitoring, verification, and enforcement (MVE), which is included in the project of standards and energy performance claims, is also needed to ensure that consumer confidence in energy efficient. For example, without MEPS and MVE, it is likely that poor performing LEDs will enter the market, which will result in consumers not believing in the energy and lifetime claims on the packaging. With a strong MVE regime, it will ensure that products meet defined criteria (energy efficiency, lifetime, and a defined performance such as amount light provided) and consumers will have strong confidence in the claims on the package. Communication, training and outreach will also be strengthened in the project design.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS[45]

Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: **US$ 50,000**			
Project Preparation Activities Implemented	***GEF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent To date***	***Amount Committed***
Staff and Other Personnel	16,500	0	17,338.90
Supplies Commodities and Materials	0	0	0
Equipment, Vehicles and Furniture	0	0	0
Contractual Services	30,000	30,000.00	0
Travel	3,000	2,521.10	0
General Operating and other direct Costs	500	140.00	0
Total	**50,000**	**32,661.10**	**17,338.90**

Note: The unspent PPG funds (US$ 17,338.90) is being used to hire a consultant responsible for conducting a market assessment of Tunisia's lighting situation as at the end of 2017, in order to have up-to-date baseline data on lighting products sales available at the time of the project's Inception Workshop.

[45] If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)
Provide a calendar of expected reflows to the GEF/LDCF/SCCF Trust Funds or to your Agency (and/or revolving fund that will be set up)

Not applicable.

This GEF project is applying for GEF funding in the form of Grant. This GEF project will not use Non-Grant Instruments (NGIs) such as credit guarantee, performance risk guarantee, structured financing, equity/investment fund, revolving equity fund, contingent loan, concessional loan, or revolving loan fund as described in Policy: FI/PL/02.

ANNEX E: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF/LDCF/SCCF RESOURCES

Position Titles	*$/ Person Week*	*Estimated Person Weeks*	*Tasks To Be Performed*
For Project Management			
Local			
Project Manager	≈485	156	The PM will be responsible for the day-to-day project operations, financial accounts, periodic reporting to UN Environment and the PSC and for allocation of the GEF grant according to the quarterly and annual work plans and budgets in coordination with UN Environment and ANME. The PM will also act as secretary of the PSC. The PM will prepare, at the end of the project, the project Final Report
Pilot Project Coordinator	≈192	156	Day-to-day project operations, financial accounts, periodic reporting to PM on Djerba pilot project
Justification for travel, if any: Participation in international specialized technical meetings that could include: lighting fairs; laboratory training in Beijing (at GELC laboratory facilities); training course and field trip, covering the following topics: international regulations, case studies, best practices, etc.			
For Technical Assistance			
Local			
Efficient Lighting expert (national)	≈1,319	155	Planning and preparation stocktaking and assessment of the national situation on lighting market development: field work, data collection, analysis, consultation, adoption Benchmarking of international labeling experiences and the associated IT equipment Design of technical features of labeling computer application Design and development of MEPS Update of the phase out plan of incandescent lamps Technical support for the official publication of the regulatory texts Supporting the manufacturers training and on-field technical assistance Designing the implementation scheme of LED distribution program Training partner NGOs on distribution of LED lamps and collection of replaced lamps Supporting the National Agency for Energy Conservation in specification elaboration, tendering and procurement of LED lamps Supervision, supporting and facilitating the conduction of distribution campaigns Supporting in-situ assessment of manufacturers production lines and technology needs Supporting development of manufacturers upgrade plan

Position Titles	*$/ Person Week*	*Estimated Person Weeks*	*Tasks To Be Performed*
			On field support to the potential local manufacturers engaged in upgrade plan during project implementation Assessing and proposing the strengthening of MVE Supporting the MVE international trainers Supporting the analysis of national lab testing capacities and needs Supporting the training of lab technicians Technical assistance for lab international accreditation
Financial Mechanisms expert (national)	≈882	68	Design of appropriate and cost-effective financing mechanism to provide the financial assistance to consumers for the purchase of qualifying efficient lighting products. Financial sizing calculation and design of the business model Supporting the conduction of negotiation with relevant stakeholders on the establishment and implementation of the financial mechanism Preparation of a funding request for international financial support of the financial mechanisms in the lighting sector
ESM expert (national)	≈833	72	Feasibility assessment and the design of a collection and recycling or disposal scheme for lighting products and hazardous material contained in lighting products Supporting the design of the ESM operational framework Proposal of a collection and recycling or disposal scheme Development of legal framework for the environmentally sound management of lighting products at end of life and standards for maximum levels of mercury Supporting the ESM international trainers
Communications expert (national)	≈714	84	Designing communication, information and awareness raising for efficient lighting and for Djerba pilot project Design and elaboration of an information strategy for the private sector Training partner NGOs and demonstration teams on awareness raising and demonstration actions relating to efficient lighting products throughout the country and in Djerba Training partner NGOs and demonstration teams on environmentally sound disposal of spent lamps and hazardous material contained in lamps throughout the country and in Djerba Supervision, supporting and facilitating the organization of information workshops and the conduction of communication and demonstration campaigns
Gender Mainstreaming expert (national)	≈1,000	36	Gender assessment, updating of gender action plan for the project and mainstreaming gender concerns in the project

Position Titles	*$/ Person Week*	*Estimated Person Weeks*	*Tasks To Be Performed*
International			
Lighting Technology specialist (international)	≈3,247	77	Benchmarking of international labeling experiences and the associated IT equipment Supporting the design of national MEPS Assessment of national manufacturers production capacities and technologies needs and proposal for upgrade plan Trainings of national manufacturers on business development and conversion strategies On field support to the potential local manufacturers Designing a national quality control mechanism to ensure compliance with the lighting MEPS Training of government authorities and customs administration on lighting market monitoring Assessment of the status of the existing national testing capacities, and proposal for strengthening labs and testing capacities Training of lab technicians Technical assistance for lab international accreditation
ESM specialist (international)	≈2,500	36	Developing the regulatory framework and policy for sustainable management of lighting products and hazardous material contained in lighting products Developing an environmentally sound management scheme with a robust legal framework Analyzing issues and options and proposals for ESM Training on environmentally sound management of lighting residues
Justification for travel, if any: national consultants may travel for workshops, consultations or trainings. All international specialists will travel to Tunisia for fact-finding missions and presentation of results. **<u>Important notice:</u> Traveling costs for consultants are embedded within each of the consultants' budget lines. This should be carefully considered during the recruitment process.**			

ANNEX F-1 - DETAILED GEF BUDGET

ANNEX F-1 - RECONCILIATION BETWEEN GEF ACTIVITY BASED BUDGET AND UNEP BUDGET LINE (GEF FUNDS ONLY US$)

Project title: Leapfrogging Tunisia's lighting market to high efficiency technologies
Project number: 9498
Project executing partner: Agence Nationale de la Maitrise de l'Energie (ANME)
Project implementation period:
From: 2018
To: 2020

UNEP Budget Line			Planned budget per project Component						Planned budget by calendar year			
			Component 1 MEPS	Component 2 Demo. & Diffus.	Component 3 MVE	Component 4 ESM	PMC	Total	Year 1	Year 2	Year 3	Total
10	PERSONNEL COMPONENT											
	1100	Project personnel										
	1101	Project Manager					75,600	75,600	25,200	25,200	25,200	75,600
	1102	Pilot Project Coordinator					29,880	29,880	9,960	9,960	9,960	29,880
	1103	National Project Director						-				-
	1199	**Sub-total**	-	-	-	-	**105,480**	**105,480**	**35,160**	**35,160**	**35,160**	**105,480**
	1200	Consultants										
	1201	Efficient Lighting expert (national)	85,000	70,000	50,000			205,000	70,000	70,000	50,000	190,000
	1202	Financial Mechanisms expert (national)		60,000				60,000	20,000	20,000	20,000	60,000
	1203	ESM expert (national)				60,000		60,000	20,000	20,000	20,000	60,000
	1204	Communications expert (national)		25,000	25,000	10,000		60,000	25,000	25,000	25,000	75,000
	1205	Gender Mainstreaming expert (national)	9,000	9,000	9,000	9,000		36,000	12,000	12,000	12,000	36,000
	1281	Lighting Technology specialist (international)	110,000	140,000				250,000	83,340	83,330	83,330	250,000
	1282	ESM specialist (international)				90,000		90,000	30,000	30,000	30,000	90,000
	1299	**Sub-total**	**204,000**	**304,000**	**84,000**	**169,000**	-	**761,000**	**260,340**	**260,330**	**240,330**	**761,000**
	1300	Administrative Support										
	1301	Recruitment of project personnel						-				-
	1302	Recruitment of consultants						-				-
	1303	Procurement of services						-				-
	1304	Procurement of equipment						-				-
	1305	Financial support services						-				-
	1399	**Sub-total**	-	-	-	-	-	-	-	-	-	-
	1600	Travel on official business										
	1601	Project personnel travel	2,250	2,250	2,250	2,250		9,000	3,000	3,000	3,000	9,000
	1699	**Sub-total**	**2,250**	**2,250**	**2,250**	**2,250**	-	**9,000**	**3,000**	**3,000**	**3,000**	**9,000**
1999	**Component total**		**206,250**	**306,250**	**86,250**	**171,250**	**105,480**	**875,480**	**298,500**	**298,490**	**278,490**	**875,480**
20	SUB-CONTRACT COMPONENT											
	2100	Sub-contracts (MOUs/LOAs for cooperating agencies)										
	2101							-				-
	2199	**Sub-total**	-	-	-	-	-	-	-	-	-	-
	2200	Sub-contracts (MOUs/LOAs for supporting organizations)										-
	2201	Efficient lighting products awareness raising & distribution campaigns (local NGOs)		120,000				120,000		40,000	80,000	120,000
	2281	Inter-comparison experiments for lighting products by GELC			100,000			100,000			100,000	100,000
	2299	**Sub-total**	-	**120,000**	**100,000**	-	-	**220,000**	-	**40,000**	**180,000**	**220,000**
	2300	Sub-contracts (for commercial purposes)										
	2301	Development of communication material by specialized company on energy efficient lighting		67,477		30,000		97,477	97,477			97,477
	2302	Djerba demonstration project (design and installation)		70,000	10,000	10,000		90,000		40,000	50,000	90,000
	2303	Development of "QR application for labelling" and " register and information web site"	60,000					60,000		30,000	30,000	60,000
	2399	**Sub-total**	**60,000**	**137,477**	**10,000**	**40,000**	-	**247,477**	**97,477**	**70,000**	**80,000**	**247,477**
2999	**Component total**		**60,000**	**257,477**	**110,000**	**40,000**	-	**467,477**	**97,477**	**110,000**	**260,000**	**467,477**
30	TRAINING COMPONENT											
	3200	Group training										
	3201	Training of manufacturers on the use of labelling software	20,000					20,000		10,000	10,000	20,000
	3202	Training of local NGOs on efficient lighting products awareness raising & distribution campaigns		20,000				20,000		10,000	10,000	20,000
	3203	Training of local NGOS on ESM awareness raising & collection campaigns				20,000		20,000		10,000	10,000	20,000
	3204	Training on use of efficient lighting for hotels and street lighting for muncipalities for Djerba pilot project		20,000				20,000		10,000	10,000	20,000
	3205	Training of local lamp producers to strengthen technical capacity to produce LED lamps and LED lighting systems with controls		20,000				20,000		10,000	10,000	20,000
	3206	MVE tranining for government authorities and customs administration officials			20,000			20,000		10,000	10,000	20,000
	3207	Training of lab staff			20,000			20,000		10,000	10,000	20,000
	3208	Training to governmental authorities, retailers and collection services on ESM of lighting residues				20,000		20,000			20,000	20,000
	3209	Study tour and training in case study country on successful experiences of electronic labelling and labelling software use	30,000					30,000	30,000			30,000
	3210	Study tour and training in case study country on successful experiences of LED lighting testing in laboratory			20,000			20,000		20,000		20,000
	3211	Study tour and training in case study country on successful experiences of ESM scheme implementation				30,000		30,000		30,000		30,000
	3299	**Sub-total**	**50,000**	**60,000**	**60,000**	**70,000**	-	**240,000**	**30,000**	**120,000**	**90,000**	**240,000**
	3300	Meetings/Conferences										
	3301	Inception workshop					3,000	3,000	3,000			3,000
	3302	Meetings of Steering Committee					2,000	2,000	670	670	660	2,000
	3303	Workshops for technical groups on MEPS, financial mechanism, MVE and ESM design	6,000	3,000	3,000	3,000		15,000	5,000	5,000	5,000	15,000
	3304	Worskshops with National stakeholders for consultation and validation of MEPS, distribution campaign, financial mechanism, MVE and ESM design	6,000	6,000	6,000	6,000		24,000	8,000	8,000	8,000	24,000
	3305	Worskshops with National and local stakeholders for Djerba pilot project design and implementation		6,000				6,000		3,000	3,000	6,000
	3399	**Sub-total**	**12,000**	**15,000**	**9,000**	**9,000**	**5,000**	**50,000**	**16,670**	**16,670**	**16,660**	**50,000**
3999	**Component total**		**62,000**	**75,000**	**69,000**	**79,000**	**5,000**	**290,000**	**46,670**	**136,670**	**106,660**	**290,000**
40	EQUIPMENT AND PREMISES COMPONENT											
	4100	Expendable equipment										
	4101	Office supplies					784	784	784			784
	4199	**Sub-total**	-	-	-	-	**784**	**784**	**784**	-	-	**784**
	4200	Non-expendable equipment										
	4201	Associated hardware equipment of QR application for labelling	50,000					50,000	50,000			50,000
	4202	Laboratory equipment			620,000			620,000	620,000			620,000
	4203	Office equipment					3,000	3,000	3,000			3,000
	4299	**Sub-total**	**50,000**	-	**620,000**	-	**3,000**	**673,000**	**673,000**	-	-	**673,000**
4999	**Component total**		**50,000**	-	**620,000**	-	**3,784**	**673,784**	**673,784**	-	-	**673,784**
50	MISCELLANEOUS COMPONENT											
	5200	Reporting costs										
	5201	Publication of technical guides	1,500	1,500	1,500	1,500		6,000	2,000	2,000	2,000	6,000
	5202	Printing	2,000	400	400	2,000		4,800	1,600	1,600	1,600	4,800
	5299	**Sub-total**	**3,500**	**1,900**	**1,900**	**3,500**	-	**10,800**	**3,600**	**3,600**	**3,600**	**10,800**
	5300	Sundry										
	5301	Audit	3,000	3,000	3,000	3,000		12,000	4,000	4,000	4,000	12,000
	5399	**Sub-total**	**3,000**	**3,000**	**3,000**	**3,000**	-	**12,000**	**4,000**	**4,000**	**4,000**	**12,000**
	5500	Evaluation										
	5501	Mid-term evaluation	6,250	6,250	6,250	6,250		25,000		25,000		25,000
	5502	Terminal evaluation	11,250	11,250	11,250	11,250		45,000			45,000	45,000
	5599	**Sub-total**	**17,500**	**17,500**	**17,500**	**17,500**	-	**70,000**	-	**25,000**	**45,000**	**70,000**
5999	**Component total**		**24,000**	**22,400**	**22,400**	**24,000**	-	**92,800**	**7,600**	**32,600**	**52,600**	**92,800**
99	**GRAND TOTAL**		**402,250**	**661,127**	**907,650**	**314,250**	**114,264**	**2,399,541**	**1,124,031**	**577,760**	**697,750**	**2,399,541**

ANNEX F-2 - DETAILED CO-FINANCE BUDGET

ANNEX F-2 - RECONCILIATION BETWEEN GEF BUDGET AND CO-FINANCE BUDGET (TOTAL GEF & CO-FINANCE US$)

Project title: Leapfrogging Tunisia's lighting market to high efficiency technologies
Project number: 9498
Project executing partner: Agence Nationale de la Maitrise de l'Energie (ANME)
Project implementation period:
From: 2018
To: 2020

UNEP Budget Line			GEF Cash	Planned contribution per co-finance partner												
				Government of Tunisia		Global Efficient Lighting Centre		UN Environment		GLOBAL LIGHTING, Kairouan - Tunisia		AFROLIGHT, Tunis - Tunisia		Total	
				Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind
			A	B	C	D	E	F	G	H	I	J	K	A+B+D+F+H+J	C+E+G+I+K
10	PERSONNEL COMPONENT														
	1100	Project personnel													
	1101	Project Manager	75,600		144,000									75,600	144,000
		Pilot Project Coordinator	29,880		72,000									29,880	72,000
	1102	National Project Director	-		144,000									-	144,000
	1199	**Sub-total**	**105,480**	-	**360,000**	-	-	-	-	-	-	-	-	**105,480**	**360,000**
	1200	Consultants													
	1201	Efficient Lighting expert (national)	205,000	10,400,000	96,000						160,000			10,605,000	256,000
	1202	Financial Mechanisms expert (national)	60,000		72,000				5,000					60,000	77,000
	1203	ESM expert (national)	60,000		72,000				5,000					60,000	77,000
	1204	Communications expert (national)	60,000		144,000				5,000				40,000	60,000	189,000
	1205	Gender Mainstreaming expert (national)	36,000		72,000				5,000					36,000	77,000
	1281	Lighting Technology specialist (international)	250,000		108,000		100,000		5,000					250,000	213,000
	1282	ESM specialist (international)	90,000		144,000				5,000					90,000	149,000
	1299	**Sub-total**	**761,000**	**10,400,000**	**708,000**	-	**100,000**	-	**30,000**	-	**160,000**	-	**40,000**	**11,161,000**	**1,038,000**
	1300	Administrative Support													
	1301	Recruitment of project personnel	-		10,000									-	10,000
	1302	Recruitment of consultants	-		60,000									-	60,000
	1303	Procurement of services	-		60,000									-	60,000
	1304	Procurement of equipment	-		60,000									-	60,000
	1305	Financial support services	-		60,000									-	60,000
	1399	**Sub-total**	-	-	**250,000**	-	-	-	-	-	-	-	-	-	**250,000**
	1600	Travel on official business													
	1601	Project personnel travel	9,000		16,000									9,000	16,000
	1699	**Sub-total**	**9,000**	-	**16,000**	-	-	-	-	-	-	-	-	**9,000**	**16,000**
1999	**Component total**		**875,480**	**10,400,000**	**1,334,000**	-	**100,000**	-	**30,000**	-	**160,000**	-	**40,000**	**11,275,480**	**1,664,000**
20	SUB-CONTRACT COMPONENT														
	2100	Sub-contracts (MOUs/LOAs for cooperating agencies)													
	2101		-											-	-
	2199	**Sub-total**	-	-	-	-	-	-	-	-	-	-	-	-	-
	2200	Sub-contracts (MOUs/LOAs for supporting organizations)													
	2201	Efficient lighting products awareness raising & distribution campaigns (local NGOs)	120,000		180,000									120,000	180,000
	2281	Inter-comparison experiments for lighting products by GELC	100,000		36,000									100,000	36,000
	2299	**Sub-total**	**220,000**	-	**216,000**	-	-	-	-	-	-	-	-	**220,000**	**216,000**
	2300	Sub-contracts (for commercial purposes)													
	2301	Development of communication material by specialized company on energy efficient lighting	97,477		72,000									97,477	72,000
	2302	Djerba demonstration project (design and installation)	90,000	2,600,000	72,000									2,690,000	72,000
	2303	Development of "QR application for labelling" and " register and information web site"	60,000		90,000								8,000	60,000	98,000
	2399	**Sub-total**	**247,477**	**2,600,000**	**234,000**	-	-	-	-	-	-	-	**8,000**	**2,847,477**	**242,000**
2999	**Component total**		**467,477**	**2,600,000**	**450,000**	-	-	-	-	-	-	-	**8,000**	**3,067,477**	**458,000**
30	TRAINING COMPONENT														
	3200	Group training													
	3201	Training of manufacturers on the use of labelling software	20,000											20,000	-
	3202	Training of local NGOs on efficient lighting products awareness raising & distribution campaigns	20,000		15,000									20,000	15,000
	3203	Training of local NGOS on ESM awareness raising & collection campaigns	20,000		15,000									20,000	15,000
	3204	Training on use of efficient lighting for hotels and street lighting for muncipalities for Djerba pilot project	20,000		22,000									20,000	22,000
	3205	Training of local lamp producers to strengthen technical capacity to produce LED lamps and LED lighting systems with controls	20,000		15,000									20,000	15,000
	3206	MVE tranining for government authorities and customs administration officials	20,000		20,000		50,000				120,000		80,000	20,000	270,000
	3207	Training of lab staff	20,000		16,000		150,000							20,000	166,000
	3208	Training to governmental authorities, retailers and collection services on ESM of lighting residues	20,000		18,000									20,000	18,000
	3209	Study tour and training in case study country on successful experiences of electronic labelling and labelling software use	30,000		10,000									30,000	10,000
	3210	Study tour and training in case study country on successful experiences of LED lighting testing in laboratory	20,000		10,000									20,000	10,000
	3211	Study tour and training in case study country on successful experiences of ESM scheme implementation	30,000		10,000									30,000	10,000
	3299	**Sub-total**	**240,000**	-	**151,000**	-	**200,000**	-	-	-	**120,000**	-	**80,000**	**240,000**	**551,000**
	3300	Meetings/Conferences													
	3301	Inception workshop	3,000		5,000									3,000	5,000
	3302	Meetings of Steering Committee	2,000		10,000									2,000	10,000
	3303	Workshops for technical groups on MEPS, financial mechanism, MVE and ESM design	15,000		20,000									15,000	20,000
	3304	Worskshops with National stakeholders for consultation and validation of MEPS, distribution campaign, financial mechanism, MVE and ESM design	24,000		20,000									24,000	20,000
	3305	Worskshops with National and local stakeholders for Djerba pilot project design and implementation	6,000		10,000									6,000	10,000
	3399	**Sub-total**	**50,000**	-	**65,000**	-	-	-	-	-	-	-	-	**50,000**	**65,000**
3999	**Component total**		**290,000**	-	**216,000**	-	**200,000**	-	-	-	**120,000**	-	**80,000**	**290,000**	**616,000**
40	EQUIPMENT AND PREMISES COMPONENT														
	4100	Expendable equipment													
	4101	Office supplies	784											784	-
	4199	**Sub-total**	**784**	-	-	-	-	-	-	-	-	-	-	**784**	-
	4200	Non-expendable equipment													
	4201	Associated hardware equipment of QR application for labelling	50,000											50,000	-
	4202	Laboratory equipment	620,000											620,000	-
	4203	Office equipment	3,000											3,000	-
	4299	**Sub-total**	**673,000**	-	-	-	-	-	-	-	-	-	-	**673,000**	-
4999	**Component total**		**673,784**	-	-	-	-	-	-	-	-	-	-	**673,784**	-
50	MISCELLANEOUS COMPONENT														
	5200	Reporting costs												-	-
	5201	Publication of technical guides	6,000											6,000	-
	5202	Printing	4,800											4,800	-
	5299	**Sub-total**	**10,800**	-	-	-	-	-	-	-	-	-	-	**10,800**	-
	5300	Sundry													
	5301	Audit	12,000											12,000	-
	5399	**Sub-total**	**12,000**	-	-	-	-	-	-	-	-	-	-	**12,000**	-
	5500	Evaluation													
	5501	Mid-term evaluation	25,000											25,000	-
	5502	Terminal evaluation	45,000											45,000	-
	5599	**Sub-total**	**70,000**	-	-	-	-	-	-	-	-	-	-	**70,000**	-
5999	**Component total**		**92,800**	-	-	-	-	-	-	-	-	-	-	**92,800**	-
99	**GRAND TOTAL**		**2,399,541**	**13,000,000**	**2,000,000**	-	**300,000**	-	**30,000**	-	**280,000**	-	**128,000**	**15,399,541**	**2,738,000**

ANNEX G: M&E BUDGET AND WORK PLAN

M&E Activity	Description	Responsible Parties	Timeframe	Indicative budget (USD)
Inception Workshop (IW) and Report	Report prepared immediately following the IW; it includes: - Detailed Work Plan and budget for the first year, as well as an overview of Annual Workplans for subsequent years, divided per output and inputs (budget lines) - A more detailed narrative of roles of UN Environment, PMU and PSC: institutional responsibilities, coordinating actions and feedback mechanisms - Detailed Project Supervision and a M&E Plan	Execution: Project Manager Support: ANME UN Environment	Immediately following, within 2 months of project start-up	GEF: Part of Project Manager tasks Co-fin: 5,000
Half-yearly progress report	Part of UN Environment procedures for project monitoring. - Analyzes project performance over the reporting period UN Environment - Describes constraints experienced in the progress towards results and the reasons - Describes Work Plan for the next period in an Annex and the detailed budget divided per output and inputs (budget lines)	Execution: Project Manager Support: PMU	2 half-yearly progress reports for any given year (submitted on July 31 and January 31 latest)	GEF: Part of Project Manager tasks Co-fin: 0
Quarterly expenditure reports	Detailed expenditure reports (in Excel), with explanations on the contribution to outputs delivery and justification of any change compared to planned budget.	Execution: Project Manager Support: ANME PMU	- 4 quarterly expenditure reports for any given year (submitted on January 31, April 30, July 31 and October 31 latest) - Final financial Report 3 months after project completion	GEF: Part of Project Manager tasks Co-fin: 12,000
Technical and thematic Reports; Communication of lessons learnt	Technical and thematic periodic reports could also be prepared to focus on specific issues or areas of activity covered by the project.	Execution: Project Manager Consultants Support: ANME	As necessary for the thematic reports	GEF: Part of project components Co-fin: 5,000

M&E Activity	Description	Responsible Parties	Timeframe	Indicative budget (USD)
Project Implementation Review (PIR)	Analyzes project performance over the reporting period. Describes constraints experienced in the progress towards results and the reasons. Draws lessons and makes clear recommendations for future orientation in addressing the key problems in the lack of progress. The PIR can be discussed at PSC meetings.	Execution: Project Manager Task Manager Support: PMU ANME	Yearly, by 31 July latest	GEF: Part of Project Manager tasks Co-fin: 5,000
Co-financing Report	Report on co-financing (cash and/or in-kind) fulfilled contributions from all project partners that provided co-finance letters.	Execution: Project Manager Support: Co-financing partners	Yearly, by 31 July latest	GEF: Part of Project Manager tasks Co-fin: 12,000
Medium-Term Evaluation / Medium-Term Review (MTE/MTR)	The purpose of the Mid-Term Evaluation (MTE) or Mid-Term Review (MTR) is to provide an independent assessment of project performance at mid-term, to analyze whether the project is on track, what problems and challenges the project is encountering, and which corrective actions are required so that the project can achieve its intended outcomes by project completion in the most efficient and sustainable way. In addition, it will verify information gathered through the GEF tracking tools. Since for short duration projects, PIR can serve as the project MTR, the need of a MTE or MTR for this project will be assessed by the Task Manager according to the progress of the project.	Execution: UN Environment Evaluation Office Support: Project Manager Task Manager PMU, ANME Other project partners	At mid-point of project implementation if deemed needed by the Task Manager	GEF: 25,000 Co-fin: 10,000
Final Report	The project team will draft and submit a Project Final Report, with other docs (such as last PIR), at least two weeks before the PSC meeting for their review and comments; this meeting decides whether any action is needed to achieve the sustainability of project results; and draws lessons to be captured into other projects; Comprehensive report summarizing all activities, achievements, lessons learned, objectives met or not achieved structures and systems implemented, etc. Lays out recommendations for any further steps that may need to be taken to ensure the sustainability and replication of	Execution: Project Manager Support: PMU	Final report no later than three (3) months after the technical completion date	GEF: Part of Project Manager tasks Co-fin: 10,000

M&E Activity	Description	Responsible Parties	Timeframe	Indicative budget (USD)
	project activities.			
Terminal Evaluation	Further review the topics covered in the mid-term evaluation. Looks at the impacts and sustainability of the results, including the contribution to capacity development and the achievement of global environmental goals.	Execution: UN Environment Evaluation Office Support: Project Manager Task Manager PMU, ANME Other project partners	Can be initiated within six (6) months prior to the project's technical completion date	GEF: 45,000 Co-fin: 16,000
Audits	Financial audits performed by an independent auditing firm.	Execution: Independent auditor Support: PMU ANME	Annually, as at end of December, to be submitted before end of June of the following year	GEF: 12,000 Co-fin: 5,000
Publication of Lessons Learnt and other project publications	Lessons learned and other project documents are published for the benefit of on-going and future projects.	Execution: Project Manager Support: PMU Consultants ANME	Annually, part of half-yearly progress reports and Final Report	GEF: Part of Project Manager tasks Co-fin: 5,000
TOTAL M&E COST			**GEF: US$ 82,000** **Co-fin: US$ 85,000**	

ANNEX H: PROJECT IMPLEMENTATION ARRANGEMENTS

The Project is financed with funding from the Global Environment Facility (GEF) with the United Nations Environment Programme (UN Environment) acting as the GEF Implementing Agency UN Environment as the GEF Implementing Agency will be responsible for the project's oversight. The main roles of the IA are as follows:

- Ensure timely disbursement/sub-allotment to executing agency, based on agreed legal document and in accordance with UN Environment and GEF fiduciary standards;
- Follow-up with Executing Agency for progress, equipment, financial and audit reports;
- Provide consistent and regular oversight on project execution and conduct project supervisory missions as per Supervision Plans and in doing so ensures that all UN Environment and GEF criteria, rules and regulations are adhered to by project partners;
- Technically assess and oversee quality of project outputs, products and deliverables – including formal publications;
- Provide non-objection to main TORs and subcontracts issued by the project, including selection of Project Manager or equivalent;
- Attend and facilitate inception workshops, field visits where relevant, and steering committee meetings;
- Asses project risks, and monitor and enforce a risk management plan;
- Regularly monitor project progress and performance and rate progress towards meeting project objectives, project execution progress, quality of project monitoring and evaluation, and risk;
- Monitor reporting by project executing partners and provides prompt feedback on the contents of the report;
- Promptly inform management of any significant risks or project problems and take action and follow up on decisions made;
- Apply adaptive management principles to the supervision of the project;
- Review of reporting, checking for consistency between execution activities and expenditures, ensuring that it respects GEF rules;
- Provide clearance of cash requests, and authorization of disbursements once reporting found to be complete;
- Approve budget revision, certify fund availability and transfer funds;
- Ensure that GEF and UN Environment quality standards are applied consistently to all projects, including branding and safeguards;
- Certify project operational completion;
- Link the project partners to any events organised by GEF and UN Environment to disseminate information on project results and lessons;
- Manage relations with GEF.

The National Agency for Energy Conservation (ANME), as the local GEF Executing Agency, will be accountable to the Government and UN Environment/GEF for ensuring:

- Ensure technical execution according to the execution plan laid out in the project document;
- Ensure technical quality of products, outputs and deliverables;
- Ensure compilation and submission of progress, financial and audit reporting to IA;
- Submission of budget revisions to IA for approval;
- Address and rectifying any issues or inconsistencies raised by the IA;
- Bring issues raised by or associated with clients to the IA for resolution;
- Facilitate Steering Committees and other oversight bodies of the project;
- Day to day oversight of project execution;
- Submit all technical reports and completion reports to IA (realized outputs, inventories, verification of co-finance, terminal reporting, etc.)
- Achieve the objectives of the Project;
- Monitor and evaluate of the project outputs and outcomes;
- Effectively use both international and national resources allocated to it;
- Ensure timely availability of financing to support project execution;
- Proper coordination of all project stakeholders; in particular national parties;
- Timely submission of all project reports, including work plans and financial reports.

The project implementation arrangement is comprised of the following:

National Project Director (NPD)
The National Project Director will ensure the overall project coordination, coordinate stakeholders' contribution, meet the agreed timelines and will engage support from key interested stakeholders to form a small core group, the project steering committee.

Project Management Unit (PMU)
The Project Management Unit (PMU) will be formally headed by the National Project Director. The PMU further consists of (i) the Project Manager (PM, paid for with GEF funds) along with (ii) a Project assistant responsible of Djerba pilot project design and implementation (funded by the GEF), and (iii) professional and support staff fully from ANME that will provide advice and guidance in selected project areas (in-kind contribution).

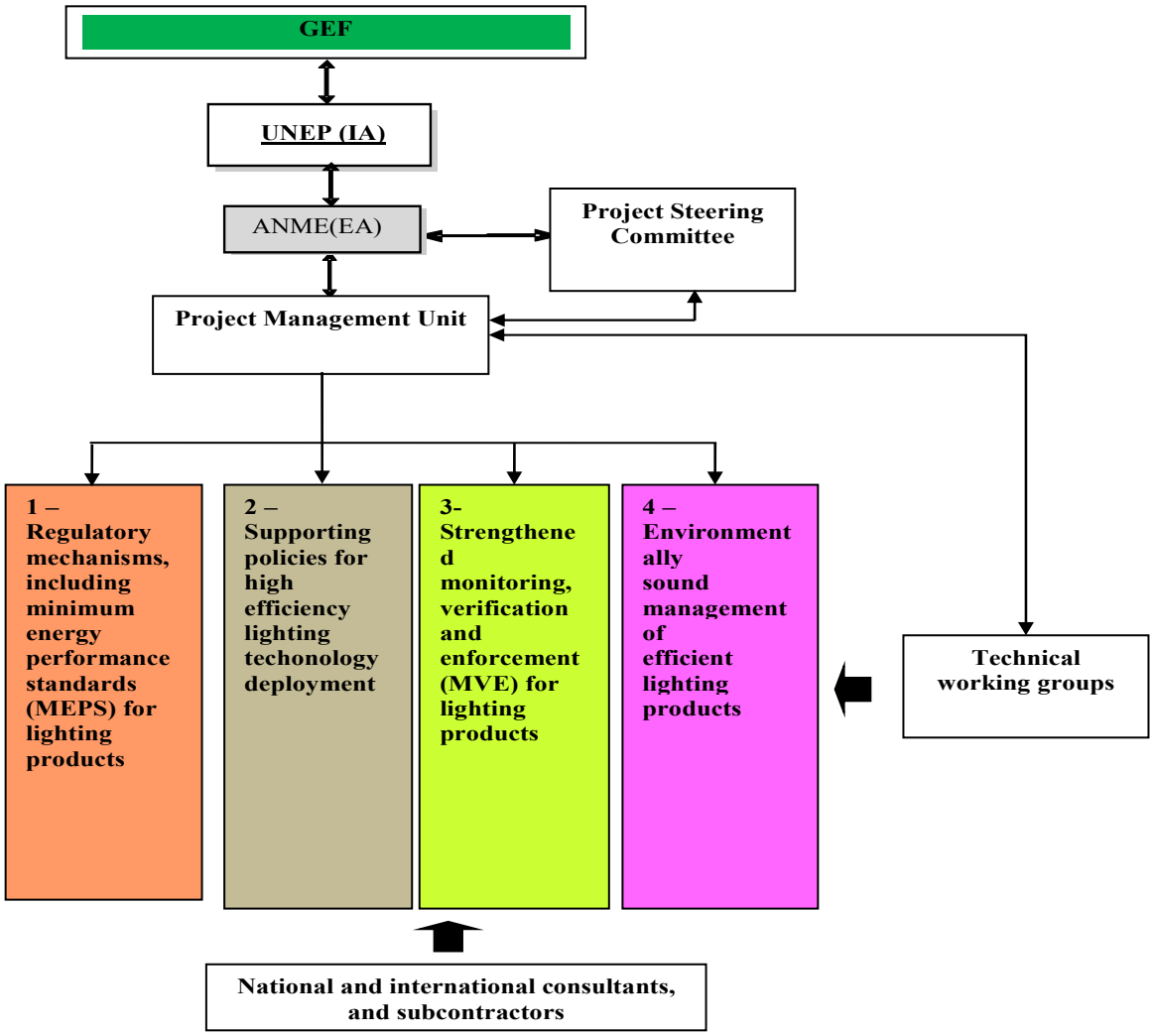
The PMU will be physically placed at the ANME headquarters or as a small unit at other premises. The PM will be responsible for the day-to-day project operations, financial accounts, periodic reporting to UN Environment and the PSC and for allocation of the GEF grant according to the quarterly and annual work plans and budgets in coordination with UN Environment and the ANME. The PM is also responsible for regular monitoring of project results and risks, including social and environmental risks. The PM will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The PM will inform the Project Steering Committee and the UN Environment of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted. The Project Manager will ensure that the standard UN Environment and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. gender strategy, etc.) occur on a regular basis.

Project Steering Committee (PSC)
The Project Steering Committee (PSC), described in A.6), is the highest decision-making authority of this project. The main role of the PSC is (i) to guide and oversee the technical progress and performance of the Project, and (ii) to enhance and optimize the contributions of various partner organizations through coordination of all activities and inputs. The PSC meetings will be formally called by the National Project Director (as Chairperson of the PSC) at least once a year to discuss the project performance and provide future guidance. Extraordinary meetings will be held if deemed necessary by one of the PSC members. The responsibilities of the PSC include the following: providing the necessary political support to the project implementation; commenting on project work plans, progress reports and M&E reports; mobilizing cost-sharing and follow-up financing; assuring coordination between this project and other ongoing government activities and programs; assuring all stakeholders are appropriately involved in the project planning, execution and management; and facilitating linkages with high-level decision making. The PSC is likely to include high level representatives from the Ministry of Energy; Ministry of Environment; Ministry of Economy and Development Planning; Ministry of Finance; Ministry of Commerce and National Customs; Hotels federation; Djerba municipalities; ANME, CETIME, INNORPI, STEG, DGIM, DGQCIMS, FEDELEC, ODC, professional association, gender NGOs, UN Environment, etc. Other stakeholders (e.g. main lighting industry representatives, universities…) can be invited to attend meetings on an as-needed basis.

Technical Working Groups (TWG)
The implementation of the projects components will be facilitated by ad-hoc technical working groups that will be formed at the project inception consisting of the government entities participating in the PSC, power distribution utilities, private sector entities (lighting industry representatives, importers/distributors and retailers) as well as consumer organizations, universities/institutes and NGOs. The TWG will meet regularly during project implementation to work inter alia on the following topics:

- Working group for MEPs development
- Working group for the design of financial mechanisms
- Working group for Djerba pilot project design and implementation
- Working group for Environmentally sound management of lighting products

The figure below shows a diagram of the planned project implementation and execution set-up.



Project implementation and execution set

ANNEX I. PROJECT WORKPLAN AND DELIVERABLES

OUTPUTS		ACTIVITIES / DELIVERABLES		Year 1												Year 2												Year 3												Responsible entity/expert
				m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12	m13	m14	m15	m16	m17	m18	m19	m20	m21	m22	m23	m24	m25	m26	m27	m28	m29	m30	m31	m32	m33	m34	m35	m36	
COMPONENT 1. Regulatory mechanisms, including minimum energy performance standards (MEPS) for lighting products																																								
1.1	National stakeholders are consulted and informed on the implementation of MEPS and labelling requirements.	1.1.1	Setting up of the project steering committee and a working group for MEPs development																																						PM; National Project Director
		1.1.2	Gender assessment, updating of gender action plan for the project and follow up of gender mainstreaming in the project																																						Gender Mainstreaming expert (national)
		1.1.3	Organization of information and consultation workshops on the implementation of MEPS and labelling requirements.																																						Efficient Lighting expert (national)
			Deliverable(s): consultation and information workshops; Gender analysis and gender action plan report; Communication campaign materials; Communication campaign on the implementation of MEPS and labelling requirements																																						
1.2	MEPS are adopted for all lighting products, including light emitting diode (LED) lamps and systems.	1.2.1	Development of a market study on stocks, sales, and trends in the purchase and operation of lighting products, with a breakdown of market sectors in terms of energy performance, age, and other key factors (data collection, meetings with key actors, sharing of preliminary results, etc.)																																						Efficient Lighting expert (national);MEPS technical working group;
		1.2.2	Organization of consultation workshop with relevant stakeholders on the study results and the strategy to adopt in view of changing the market trend																																						Efficient Lighting expert (national);MEPS technical working group;
		1.2.3	Development of MEPS technical standards for lighting products in Tunisia																																						Efficient Lighting expert (national);Lighting Technology specialist (international); MEPS technical working group;
		1.2.4	Organization of a consultation workshop on the standards developed																																						Efficient Lighting expert (national);Lighting Technology specialist (international); MEPS technical working group;
		1.2.5	Finalization of standards based on exchange with national stakeholders and preparation of a relating regulatory text																																						Efficient Lighting expert (national);Lighting Technology specialist (international); MEPS technical working group;
		1.2.6	Technical support for the official publication of the regulatory text																																						Efficient Lighting expert (national); MEPS technical working group;
		1.2.7	Update of the phase out plan of incandescent lamps																																						Efficient Lighting expert (national); MEPS technical working group;
		1.2.8	Technical support for the official publication of the regulatory text relating to the phase out of incandescent lamps																																						Efficient Lighting expert (national); MEPS technical working group;
		1.2.9	Technical support for the official publication of the regulatory text relating to lamps labeling																																						Efficient Lighting expert (national); MEPS technical working group;
		1.2.10	Benchmarking of international experiences of QR application for labeling and the associated IT equipment along with study tours																																						Efficient Lighting expert (national); Lighting Technology specialist (international); MEPS technical working group;
		1.2.11	Design, development, installation and testing of QR application for labeling, and associated hardware equipment																																						software company; MEPS technical working group;
			Deliverable(s): market and lighting technologies assessment with a breakdown of market sectors; Proposal of MEPS standards, consultative workshops with national stakeholder ; Proposal of MEPS regulatory text, proposal of a regulatory text for incandescent lamps phase out; regulatory text of labeling requirements for lighting products; report on QR application for labeling and the associated IT equipments ; report on participation in study tour; development of a QR application for labeling; procurement of hardware associated with QR application for labeling																																						
COMPONENT 2. Supporting policies for high efficiency lighting techonology deployment																																								
2.1	Public awareness is raised through multi-media communication and distribution campaigns, increasing consumers uptake of efficient lighting	2.1.1	Preparation of a communication plan targeting the general public																																						Communications expert (national)
		2.1.2	Preparation of communication and demonstration material and tools																																						Contracted communication company
		2.1.3	Training of awareness raising and demonstration teams																																						Communications expert (national)
		2.1.4	Conduction of a communication and in-situ demonstration campaign (print and electronic media, TV, radio, etc.)																																						Communications expert (national); NGOs
		2.1.5	Design of a scheme for the distribution of LED lamps and collection of replaced lamps (approach,participants, planning, etc.)																																						Efficient Lighting expert (national)
		2.1.6	Call for proposals and selection of participating NGOs																																						ANME
		2.1.7	Training of participation NGOs on distribution of LED lamps and collection of replaced lamps																																						Efficient Lighting expert (national)
		2.1.8	Tendering and procurement of LED lamps																																						ANME
		2.1.9	Implementation of distribution and collection activities																																						Efficient Lighting expert (national); NGOs
			Deliverable(s): communication plan for public awareness; communication material; demonstration activities material; training of awareness and demonstration teams; implementation of public awareness actions; proposal of LED distribution and lamp collection program; selection of participationg ONGs following a call for proposals; training of participationg ONGs on LED distribution and lamp collection program; Procurement and distribution of LEDs																																						

OUTPUTS		ACTIVITIES / DELIVERABLES		Year 1												Year 2												Year 3												Responsible entity/expert
				m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12	m13	m14	m15	m16	m17	m18	m19	m20	m21	m22	m23	m24	m25	m26	m27	m28	m29	m30	m31	m32	m33	m34	m35	m36	
COMPONENT 2. Supporting policies for high efficiency lighting techonology deployment																																						
2.2	Financial mechanisms, such as on-bill financing, are introduced to support end users' purchases of efficient lighting products	2.2.1	Setting up of a working group for the design of financial mechanisms																																				PM; National Project Director
		2.2.2	Designing different financial models for offsetting the initial first cost of high efficiency products according to lighting product type and utilization (street lighting, commercial, residential) including specific financial model for the residential sector.																																				Financial Mechanisms expert (national); financial mechanisms working group;
		2.2.3	Organization of consultation workshop with relevant stakeholders on financing scheme design.																																				Financial Mechanisms expert (national); financial mechanisms working group;
		2.2.4	Conducting negotiation with relevant stakeholders on the establishment and implementation of the financial mechanism.																																				Financial Mechanisms expert (national); ANME; financial mechanisms working group;
		2.2.5	Preparation of a funding request for international financial support of the financial mechanisms in the lighting sector																																				Financial Mechanisms expert (national)
			Deliverable(s): financial models for offsetting ther initial first cost of high efficiency products report ; communication material; Proposal of a financial mechanism following consultative workshops with national stakeholders; national consultation process for the establishment of the financial mechanism; negotiation process with national and international funders for securing funding; funding request for international financial support																																				
2.3	Training is delivered to local lamp producers to strengthen technical capacity to produce LED lamps and LED lighting systems with controls	2.3.1	In-situ assessment of manufacturers production lines and technology needs																																				Lighting Technology specialist (international); Efficient Lighting expert (national);
		2.3.2	Proposal of a upgrade plan to local manufacturers on transitioning from incandescent lamp and CFL manufacturing to the production of LED lamps and improving quality product for LED manufacturers;																																				Lighting Technology specialist (international); Efficient Lighting expert (national);
		2.3.3	Conduction of training sessions to local manufacturers on transitioning from incandescent lamp and CFL manufacturing to the production of LED lamps and improving quality product for LED manufacturers																																				Lighting Technology specialist (international); Efficient Lighting expert (national);
		2.3.4	On field support to the potential local manufacturers engaged in upgrade plan during project implementation																																				Lighting Technology specialist (international); Efficient Lighting expert (national);
			Deliverable(s): technology assessment reports ; proposal of technology upgrade plans; mission reports; training to local manufacturers on transitioning from incandescent lamp and CFL manufacturing to the production of LED lamps and improving quality product for LED manufacturers; report on technical assistance of local manufacturers for implementation of upgrade plans																																				
2.4	An "all-LED island" lighting demonstration project is completed on Djerba through public-private partnerships with the municipality and hospitality sector.	2.4.1	Setting up of a working group for Djerba pilot project design and implementation																																				PM; Pilot Project Coordinator; National Project Director
		2.4.2	Development of a technical and financial feasibility study for the design of the pilot project																																				Djerba demonstration project (design and installation) contracted company; Djerba working group;
		2.4.3	Development of a PPP business model for the implementation of the project																																				Djerba demonstration project (design and installation) contracted company; Djerba working group;
		2.4.4	Organization of consultation workshop with relevant stakeholders																																				Djerba demonstration project (design and installation) contracted company; Djerba working group;
		2.4.5	Conducting negotiation with relevant stakeholders on securing funding and the implementation of the project																																				Djerba demonstration project (design and installation) contracted company; Djerba working group;
		2.4.6	Conduction of re-lamping assessments in the participating hotels and municipalities																																				Djerba demonstration project (design and installation) contracted company; Djerba working group;
		2.4.7	Development of technical specification for procurement of LED lamps by municipalities and staff training																																				Djerba demonstration project (design and installation) contracted company; Djerba working group;
		2.4.8	Preparation of technical guidance, promotional brochures, communication plan and material																																				Djerba demonstration project (design and installation) contracted company; Communications expert (national); Contracted communication company
		2.4.9	Conduction of a communication campaign																																				Communications expert (national); NGOs
		2.4.10	Installation of LED lamps and systems in participating hotels and municipalities and collection of replaced lamps																																				Djerba demonstration project (design and installation) contracted company; Djerba working group;
			Deliverable(s): Technical and financial feasibility study for the design of the pilot project; proposal of a PPP business model for the implentation of the project; negotiation process for securing co-financing; relamping assessment reports, technical specification for procurement of LED lamps, training of municipalities staff on LED technology use and control; techincal guidance; promotional brochures; communication material; communication campaign; progress reports on project implementation																																				

OUTPUTS		ACTIVITIES / DELIVERABLES		Year 1												Year 2												Year 3												Responsible entity/expert
				m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12	m13	m14	m15	m16	m17	m18	m19	m20	m21	m22	m23	m24	m25	m26	m27	m28	m29	m30	m31	m32	m33	m34	m35	m36	
COMPONENT 3. Strengthened monitoring, verification and enforcement (MVE) for lighting product																																							
3.1	Legal framework for efficient lighting MVE is reviewed and strengthened	3.1.1	Analysis of current legislation and definition of gaps and needs for improvement													■	■	■	■	■	■																				Efficient Lighting expert (national) ;MEPS technical working group;
		3.1.2	Developing (or amending if need be current) legislation to include specific control procedure of lighting products (administrative flow, entities responsible for control, control methods, penalty regime, etc.)																			■	■	■	■	■	■													Efficient Lighting expert (national) ;MEPS technical working group;
		3.1.3	Technical support for the official publication of the regulatory text (new or amended)																									■	■	■	■	■	■							Efficient Lighting expert (national) ;MEPS technical working group;
			Deliverable(s): Assessment report of the current national MVE status; proposal of a specific MVE framework and process of lighting products taking into account international and regional best practice; Proposal of a regulatory framework for MVE																																					
3.2	Training is delivered to government authorities and customs administration on lighting market monitoring	3.2.1	Assess training needs of government authorities and customs administration on lighting market monitoring																									■	■	■										Lighting Technology specialist (international); Efficient Lighting expert (national) ;
		3.2.2	Prepare training material																												■	■								Lighting Technology specialist (international); Efficient Lighting expert (national)
		3.2.3	Deliver training workshops on international best practices and monitoring, verification and enforcement practices that guarantee the compliance of MEPS and labels																														■						Lighting Technology specialist (international); Efficient Lighting expert (national)
			Deliverable(s): Assessment of taining needs report ; training material; Training to government authorities, and customs administrations on monitoring, verification and enforcement practices that guarantee the compliance of MEPS and labels;																																					
3.3	Testing capacities of the national lamp laboratories is strengthened through technical equipment of laboratories and staff qualification	3.3.1	Identify and assess technical, equipment, human and financial needs of CETIME to ensure proper application of labeling and MEPS and preparation of technical assistance, training and procurement plan													■	■	■																							Lighting Technology specialist (international); Efficient Lighting expert (national) ;GELC;
		3.3.2	Procurement of laboratory equipment & instruments, installation and testing																■	■	■	■	■	■	■	■	■													ANME; CETIME; Lighting Technology specialist (international); Efficient Lighting expert (national) ;GELC
		3.3.3	On-site and abroad (study tour) training and coaching for lab staff on test and measurement methods and utilization of newly installed equipment																									■	■											Lighting Technology specialist (international); Efficient Lighting expert (national) ;GELC;
		3.3.4	Conducting inter-comparison experiments																									■	■											GELC;
		3.3.5	Technical assistance for lab international accreditation																											■	■	■	■	■	■	■	■	■		Lighting Technology specialist (international); Efficient Lighting expert (national) ;GELC;
			Deliverable(s): Report on the diagnosis of testing labs material and technical needs in Tunisia and the recommendations for enhancing their national testing capacities ; procurements and installation of equipment in the laboratory; training of lab staff on operation of new equipments and instruments; training of lab staff on testing methodologies; inter-comparison experiments; techical assistance report on support toward international accreditation for testing of LEDs lamps and systems																																					
3.4	Information strategy is implemented to help the private sector understand the requirements in complying with MEPS and labeling.	3.4.1	Design and elaboration of an information strategy																			■	■	■	■	■	■													Communications expert (national)
		3.4.2	Design and development of register and a web site (MEPS requirements, labelling requirements, accredited retailers, accredited product, etc.)																									■	■	■										software company; MEPS technical working group;
		3.4.3	Design and development of communication materials targeting the private sector (flyers, CD, etc.)																									■	■	■										Contracted communication company
		3.4.4	Organization of information workshops and on-site communication actions targeting the private sector																												■	■	■	■	■	■	■	■	■	Communications expert (national); MEPS technical working group;
			Deliverable(s): Information strategy report; technical guides on MEPS, labeling rand MVE requirements; Web site with information on regulatroy requirement, technical guides, list of accredited suppliers, list of accredited products, etc.; communication material for private sector; information workshop; in situ information camapaigns																																					
COMPONENT 4. Environmentally sound management of efficient lighting products																																							
4.1	Lamp collection and recycling or disposal scheme for used lamps is designed and adopted	4.1.1	Setting up a working group on the environmentally sound management of lighting products and hazardous material contained in lighting products	■																																				PM; National Project Director
		4.1.2	Elaboration of a study on the feasibility assessment and on the design of a collection and recycling or disposal scheme for lighting products and hazardous material contained in lighting products			■	■	■	■	■	■	■	■	■	■																									ESM expert (national); ESM specialist (international); ESM working group;
		4.1.3	Organization of a consultation workshop on the study results															■																							ESM expert (national); ESM specialist (international);
		4.1.4	Proposal of a collection and recycling or disposal scheme based on study results and workshop inputs for adoption by the Ministry of environment and proposal of a regulatory text based on study results for financing the environmentally sound management of lighting products and hazardous material contained in lighting products															■	■	■	■																			ESM expert (national); ESM specialist (international); ESM working group;
			Deliverable(s): feasibility and design report of lamp and hazardous material contained in lamps collection and recycling or disposal scheme ; consultation workshops; Proposal of legal framework for financing the environmentally sound management of lamp and hazardous material contained in lamps																																					

OUTPUTS		ACTIVITIES / DELIVERABLES		Year 1												Year 2												Year 3												Responsible entity/expert
				m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12	m13	m14	m15	m16	m17	m18	m19	m20	m21	m22	m23	m24	m25	m26	m27	m28	m29	m30	m31	m32	m33	m34	m35	m36	
COMPONENT 4. Environmentally sound management of efficient lighting products																																							
4.2	National legislation on environmentally sound management of lighting products and hazardous material contained in lighting products is developed	4.2.1	Conduction of a detailed study on the review of the current legislation and development of legal framework for the environmentally sound management of lighting products at end of life and standards for maximum levels of mercury																																					ESM expert (national); ESM specialist (international);
		4.2.2	Organization of a consultation workshop on the study results																																					ESM expert (national); ESM specialist (international);
		4.2.3	Proposal of a new regulatory text or amending of existing one based on study results and workshop inputs and technical support for the official publication of the (new or amended) regulatory text																																					ESM expert (national); ESM specialist (international); ESM working group;
			Deliverable(s): -Assessment of the current national regulatory framework relating to spent lamps and hazardous material contained in lamps management; Proposal of legal framework for environmentally sound management of spent lamps and hazardous material contained in lamps; proposal of regulatory text																																					
4.3	Training is delivered to government authorities, retailers and collectors	4.3.1	Assess training needs of government authorities, retailers and collectors																																					ESM expert (national); ESM specialist (international);
		4.3.2	Prepare training material and technical guidebooks																																					ESM expert (national); ESM specialist (international);
		4.3.3	Deliver training workshops on international experiences on environmentally sound management of lighting products, regulatory requirements, and the developed scheme on lamp collection and recycling or disposal																																					ESM expert (national); ESM specialist (international);
			Deliverable(s): Assessment of training needs report ; training material; technical guides; Training to government authorities, retailers, private sector and collectors on the new regulatory requirements and on the proposed collection and recycling or disposal scheme for environmentally sound management of spent lamps and hazardous material contained in lamps																																					

ANNEX J-1. TRACKING TOOL FOR GEF-6 CCM PROJECTS

The GEF Tracking Tool can be found in a separate excel file.

ANNEX J-2: ESTIMATES OF DIRECT AND INDIRECT GREENHOUSE GAS EMISSION REDUCTION

Insert here the project's estimates of direct and indirect GHG emission reduction (calculation sheet summary).

The impacts of the project have been calculated using the GEF Energy Efficiency Tool (2013). The main impacts are related to standards and labels and will be visible after the project completion, during the 10 years of period of influence. The standards and labels are assumed to have a level of compliance of 80% and to come into force in 2021, impacting mainly the market of IL, CFL, Halogen, and High intensity discharge lamps. Apart from information on the installed lighting stock in the residential sector which is provided by the utility company (STEG) through its five-year survey, there is no information regarding the lighting market in Tunisia (e.g. annual sales of lighting technology, annual sales growth rate, technology market share, etc.). Therefore, some assumptions based on expert's assessments (including official statistics data reviews) have been necessary to estimate the lighting products shares and growth rate.

The market sales have been estimated based on external trade statistics from Computerized Customs Clearance System for the years 2010, 2011, 2012, 2013, 2014 and 2015 to determine the lamps import data. Particularly, lamps import data has been extracted from these statistics by type of lighting product for these years in terms of kg and their quantity was estimated then based on the weighted average of each lighting product. Their annual imports were projected to 2018 using average annual growth. These data have been combined later with sales of local lighting products which data were determined either based on national statistics or national estimation of local market share. The annual sales and the market share of each lighting product have been then determined by combining imports and local products sales data.

Overall Results

All Components

	Cumulative			Annual			
	Total	*2018-2020*	*2021-2030*	*2018*	*2020*	*2025*	*2035*
Direct Electricity Savings (MWh)	1 770 291	230 908	1 539 383	0	153 938	153 938	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Direct Total Energy Savings (GJ)	6 373 047	831 267	5 541 780	0	554 178	554 178	0
Direct GHG Emission Savings (tCO2)	1 110 006	144 783	965 223	0	96 522	96 522	0
Direct Post-project GHG Emission Savings (tCO2)	508 923		508 923			50 414	81 836
Indirect Bottom-up Emission Savings (tCO2)	2 232 089		2 232 089				
Indirect Top-down Emission Savings (tCO2)	3 802 869		3 802 869				

Standards & Labeling Components

	Cumulative			Annual			
	Total	*2018-2020*	*2021-2030*	*2018*	*2020*	*2025*	*2035*
Direct Electricity Savings (MWh)	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Direct Total Energy Savings (GJ)	0	0	0	0	0	0	0
Direct GHG Emission Savings (tCO2)	0	0	0	0	0	0	0
Direct Post-project GHG Emission Savings (tCO2)	508 923		508 923			50 414	81 836
Indirect Bottom-up Emission Savings (tCO2)							

In addition, direct impacts are related to procurement and installation of LEDs within the frame of a national distribution program and to the implementation of an all-LED pilot project in Djerba targeting the municipalities and the hospitality sector.

Demonstration & Diffusion Components	Cumulative			Annual			
	Total	*2018-2020*	*2021-2030*	*2018*	*2020*	*2025*	*2035*
Direct Electricity Savings (MWh)	1 770 291	230 908	1 539 383	0	153 938	153 938	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Direct Total Energy Savings (GJ)	6 373 047	831 267	5 541 780	0	554 178	554 178	0
Direct GHG Emission Savings (tCO2)	**1 110 006**	144 783	965 223	0	96 522	96 522	0
Direct Post-project GHG Emission Savings (tCO2)							
Indirect Bottom-up Emission Savings (tCO2)	**2 232 089**		2 232 089				

The following tables show the different steps of the STAP tool calculations. The Excel document is submitted as a complement of this annex.

Step 1: Enter Basic Project Information

Project Information

Project Information

Project Title	Leapfrogging Tunisia's lighting market to high efficiency technologies
GEF ID Number	9498
Country	Tunisia
Region	MNA
GEF Agency	UNEP
Date of Submission of GHG Accounting	
Contact Name	
First Year of Project	2018
Year of Project Close	2020
GEF Grant Amount ($)	$2 399 451
Co-financing Amount ($)	$16 980 000

General Parameters	*Default*	*User-Specified*	*Notes*
Length of Analysis Period (Years After Project Close)	20	10	
First Post-project Year		2021	
Last Post-project Year		2030	
Maximum Technology / Measure Lifetime (Years)	20	20	

Fuels and Emission Factors	*Default*	*User-Specified*	*Notes*
Grid Electricity T&D Loss Rate (%)	10%	16%	Source: Rapport annuel 2015, STEG
Grid Electricity Emissions (tCO2/MWh)	N/A	0,5410	At the output of power plants (without taking into account T&D losses), 2015
Fuel: Click here to select from list	0,0000	0,0000	
Fuel: Click here to select from list	0,0000	0,0000	
Fuel: Click here to select from list	0,0000	0,0000	

Step 2: List Activity Components and Select Quantification Module

Activity Component	Sector/Subsector	Logframe Output	Module/Intervention Type
igh-pressure mercury lamps replaced by LED in Djerba	Street lighting	2.4. An "all-LED island" lighting demonstration project is completed on Djerba through public-private partnerships with the municipality and hospitality sector.	Demonstration & Diffusion
LED replacing IL in Djerba	Lighting/hospitality sector		Demonstration & Diffusion
LED replacing IL (national distribution program)	Lighting/residential sector	2.1. Public awareness is raised through multi-media communication and distribution campaigns, increasing consumers uptake of efficient lighting	Demonstration & Diffusion
CFL replacing IL	Lighting/all subsectors	1.2. MEPS are adopted for all lighting products, including light emitting diode (LED) lamps and systems.	Standards and Labeling
LED replacing IL	Lighting/all subsectors		Standards and Labeling
LED replacing Halogen	Lighting/all subsectors		Standards and Labeling
LED replacing CFL	Lighting/all subsectors		Standards and Labeling
Phase out of inefficient High Intensity Discharge Lamps	Lighting/all subsectors		Standards and Labeling

Results: Standards and Labeling Activity Components

	Cumulative			Annual			
	Total	*2018-2020*	*2021-2030*	*2018*	*2020*	*2025*	*2035*
Direct Electricity Savings (MWh)	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Direct Total Energy Savings (GJ)	0	0	0	0	0	0	0
Direct GHG Emission Savings (tCO2)	0	0	0	0	0	0	0
Direct Post-project GHG Emission Savings (tCO2)	508 923		508 923			50 414	81 836
Indirect Bottom-up Emission Savings (tCO2)							

Component 1: CFL replacing IL -- General Inputs

Technology Specifications	*Default*	*User-Specified*	*Notes*
Target Technology	CFL	CFL	
Fuel Used	Electricity	Electricity	
Displaced Technology	Incandescent	Incandescent	
Useful Technology Lifetime (years)	5	5	
Power Consumption: CFL (W)	15	12	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Power Consumption: Incandescent (W)	60	55	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis

Annual Energy Consumption *User may enter either daily or annual energy information*	*Default*	*User-Specified*	*Notes*
Daily Usage (hr/day)	3,5	2,0	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Days Used Each Year (days/yr)	350	365	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Annual Energy Consumption: CFL (kWh/yr)	18	9	
Annual Energy Consumption: Incandescent (kWh/yr)	74	40	
Percentage Energy Savings		78%	

Market Assumptions	*Default*	*User-Specified*	*Notes*
Annual Sales in Year 2018		4 769 363	63% of the market "IL+CFL". Refer to attached Excel file "2018 lighting ma
Annual Sales Growth Rate		4%	IEA World Energy Outlook 2015 page 307, compound average annual gro

Baseline Assumptions	*Default*	*User-Specified*	*Notes*
Market Share of CFL in Year 2018		84%	84% of the market "IL+CFL".
Baseline Annual Increase in CFL Market Share	5%	5%	
Annual reduction in energy consumption: CFL	0%	0%	
Annual reduction in energy consumption: Incandescent	1%	1%	

Standard/Labeling Program Effectiveness	*Default*	*User-Specified*	*Notes*
Year Standard in Force		2021	
Percent New Sales Compliant with Standard		80%	20% illegal parallel market, expert judgment

Component 2: LED replacing IL -- General Inputs

Technology Specifications	Default	User-Specified	Notes
Target Technology	LED Lighting	LED Lighting	
Fuel Used	Electricity	Electricity	
Displaced Technology	Improved CFL	IL	
Useful Technology Lifetime (years)	5	15	
Power Consumption: LED Lighting (W)	14	7	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Power Consumption: IL (W)	15	55	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis

Annual Energy Consumption *User may enter either daily or annual energy information*	Default	User-Specified	Notes
Daily Usage (hr/day)	8,0	2,0	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Days Used Each Year (days/yr)	200	365	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Annual Energy Consumption: LED Lighting (kWh/yr)	22	5	
Annual Energy Consumption: IL (kWh/yr)	24	40	
Percentage Energy Savings		87%	

Market Assumptions	Default	User-Specified	Notes
Annual Sales in Year 2018		457 347	The remaining 37% of total IL. Refer to attached Excel file "2018 lighting m
Annual Sales Growth Rate		4%	IEA World Energy Outlook 2015 page 307, compound average annual gro

Baseline Assumptions	Default	User-Specified	Notes
Market Share of LED Lighting in Year 2018		0%	For simplification, we assume that in 2018 no IL are replaced by LEDs.
Baseline Annual Increase in LED Lighting Market Share	5%	5%	
Annual reduction in energy consumption: LED Lighting	0%	0%	
Annual reduction in energy consumption: Improved CFL	1%	1%	

Standard/Labeling Program Effectiveness	Default	User-Specified	Notes
Year Standard in Force		2021	
Percent New Sales Compliant with Standard		80%	20% illegal parallel market, expert judgment

Component 3: LED replacing Halogen -- General Inputs

Technology Specifications	Default	User-Specified	Notes
Target Technology	LED Lighting	LED Lighting	
Fuel Used	Electricity	Electricity	
Displaced Technology	Improved CFL	Hal	
Useful Technology Lifetime (years)	5	15	
Power Consumption: LED Lighting (W)	14	7	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Power Consumption: Hal (W)	15	46	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis

Annual Energy Consumption *User may enter either daily or annual energy information*	Default	User-Specified	Notes
Daily Usage (hr/day)	8,0	2,0	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Days Used Each Year (days/yr)	200	365	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Annual Energy Consumption: LED Lighting (kWh/yr)	22	5	
Annual Energy Consumption: Hal (kWh/yr)	24	34	
Percentage Energy Savings		84%	

Market Assumptions	Default	User-Specified	Notes
Annual Sales in Year 2018		4 018 084	All Halogens and all LEDs. Refer to attached Excel file "2018 lighting mark
Annual Sales Growth Rate		4%	IEA World Energy Outlook 2015 page 307, compound average annual gro

Baseline Assumptions	Default	User-Specified	Notes
Market Share of LED Lighting in Year 2018		95%	95% of the market "LED+ HAL"
Baseline Annual Increase in LED Lighting Market Share	5%	5%	
Annual reduction in energy consumption: LED Lighting	0%	0%	
Annual reduction in energy consumption: Improved CFL	1%	1%	

Standard/Labeling Program Effectiveness	Default	User-Specified	Notes
Year Standard in Force		2021	
Percent New Sales Compliant with Standard		80%	20% illegal parallel market, expert judgment

Component 4: LED replacing CFL -- General Inputs

Technology Specifications	Default	User-Specified	Notes
Target Technology	LED Lighting	LED Lighting	
Fuel Used	Electricity	Electricity	
Displaced Technology	Improved CFL	Improved CFL	
Useful Technology Lifetime (years)	5	15	
Power Consumption: LED Lighting (W)	14	7	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Power Consumption: Improved CFL (W)	15	12	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis

Annual Energy Consumption *User may enter either daily or annual energy information*	Default	User-Specified	Notes
Daily Usage (hr/day)	8,0	2,0	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Days Used Each Year (days/yr)	200	365	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Annual Energy Consumption: LED Lighting (kWh/yr)	22	5	
Annual Energy Consumption: Improved CFL (kWh/yr)	24	9	
Percentage Energy Savings		40%	

Market Assumptions	Default	User-Specified	Notes
Annual Sales in Year 2018		2 395 283	The remaining CFLs. Refer to attached Excel file "2018 lighting market es
Annual Sales Growth Rate		4%	IEA World Energy Outlook 2015 page 307, compound average annual gro

Baseline Assumptions	Default	User-Specified	Notes
Market Share of LED Lighting in Year 2018		0%	For simplification, we assume that in 2018 no CFL are replaced by
Baseline Annual Increase in LED Lighting Market Share	5%	5%	
Annual reduction in energy consumption: LED Lighting	0%	0%	
Annual reduction in energy consumption: Improved CFL	1%	1%	

Standard/Labeling Program Effectiveness	Default	User-Specified	Notes
Year Standard in Force		2021	
Percent New Sales Compliant with Standard		80%	20% illegal parallel market, expert judgment

Component 5: Phase out of inefficient High Intensity Discharge Lamps -- General Inputs

Technology Specifications	Default	User-Specified	Notes
Target Technology	T-8 Fluor. Lamp	Efficient HID	
Fuel Used	Electricity	Electricity	
Displaced Technology	T-12 Fluor. Lamp	HID	
Useful Technology Lifetime (years)	5	4	
Power Consumption: Efficient HID (W)	28	90	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Power Consumption: HID (W)	40	140	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis

Annual Energy Consumption *User may enter either daily or annual energy information*	Default	User-Specified	Notes
Daily Usage (hr/day)	5,0	10,0	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Days Used Each Year (days/yr)	350	365	Country Stock Model (CLA 3.0) Summary Sheet, 2014 Estimates for Tunis
Annual Energy Consumption: Efficient HID (kWh/yr)	49	329	
Annual Energy Consumption: HID (kWh/yr)	70	511	
Percentage Energy Savings		36%	

Market Assumptions	Default	User-Specified	Notes
Annual Sales in Year 2018		336 883	Annual sales of street lighting lamps. Refer to attached Excel file "2018 li
Annual Sales Growth Rate		4%	IEA World Energy Outlook 2015 page 307, compound average annual gro

Baseline Assumptions	Default	User-Specified	Notes
Market Share of Efficient HID in Year 2018		73%	73% of the market "HID and efficient HID"
Baseline Annual Increase in Efficient HID Market Share	5%	5%	
Annual reduction in energy consumption: Efficient HID	0%	0%	
Annual reduction in energy consumption: T-12 Fluor. Lamp	1%	1%	

Standard/Labeling Program Effectiveness	Default	User-Specified	Notes
Year Standard in Force		2021	
Percent New Sales Compliant with Standard		100%	

Results: Demonstration/Diffusion Activity Components

	Cumulative			Annual			
	Total	*2018-2020*	*2021-2030*	*2018*	*2020*	*2025*	*2035*
Direct Electricity Savings (MWh)	1 770 291	230 908	1 539 383	0	153 938	153 938	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Direct Total Energy Savings (GJ)	6 373 047	831 267	5 541 780	0	554 178	554 178	0
Direct GHG Emission Savings (tCO2)	**1 110 006**	144 783	965 223	0	96 522	96 522	0
Direct Post-project GHG Emission Savings (tCO2)							
Indirect Bottom-up Emission Savings (tCO2)	**2 232 089**		2 232 089				

Component 1: High-pressure mercury lamps replaced by LED in Djerba -- General Inputs

Component Specifications	*Default*	*User-Specified*	*Per Unit*	*Notes*
Annual Electricity Savings (MWh)		0,256		Savings for one street lamp replaced. Assuming 140W on average for current
---				HID and 70W for the LEDs. Hours of operation: 10hours/day and 365days
---				

Useful Lifetime of Investment	15	15		

Baseline Assumptions	*Default*	*User-Specified*	*Notes*
Percent of Activities Implemented in the Baseline	10%	0%	Procurement and installation of LED lamps will be co-financed as part of the GEF project.

Indirect Bottom-up Estimate	*Default*	*User-Specified*	*Notes*
Number of s Implemented During Project Period		1 400	1400 LED street lamps will be directly procured and installed in participant Djerba municipalities
Number of Replications Post-project as Spillover		3	
Total		4 200	

Component 2: LED replacing IL, Hal and CFL in Djerba

Component Specifications	Default	User-Specified	Per Unit	Notes
Annual Electricity Savings (MWh)		0,022		Saving for one LED lamp replacing IL(1/3), HAL (1/3) and CFL (1/3)

Useful Lifetime of Investment	15	15		

Baseline Assumptions	Default	User-Specified	Notes
Percent of Activities Implemented in the Baseline	10%	0%	LED lamps will be directly procured and installed in participant Djerba hotels as part of the GEF project

Indirect Bottom-up Estimate	Default	User-Specified	Notes
Number of s Implemented During Project Period		400 000	
Number of Replications Post-project as Spillover		3	
Total		1 200 000	

Component 3: LED replacing IL (national distribution program) -- General Inputs

Component Specifications	Default	User-Specified	Per Unit	Notes
Annual Electricity Savings (MWh)		0,035		Saving for one LED lamp replacing IL

Useful Lifetime of Investment	15	15		

Baseline Assumptions	Default	User-Specified	Notes
Percent of Activities Implemented in the Baseline	10%	0%	Procurement of LED lamps will be co-financed by the Tunisian governme

Indirect Bottom-up Estimate	Default	User-Specified	Notes
Number of s Implemented During Project Period		4 000 000	
Number of Replications Post-project as Spillover		1,5	
Total		6 000 000	

Step 4: Calculate Indirect Top-Down Impacts

	User-Specified
Total Market Potential (tCO2)	6 338 115
Causality factor	60%
Indirect Top-Down Emission Reductions (tCO2)	3 802 869

Notes
Direct GHG emission savings of NDC lighting component over 2021-2030

ANNEX K. OFP ENDORSEMENT LETTER

REPUBLIC OF TUNISIA
—o—
MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT
—o—

Tunis, 11/11/2015

To: **Mr. Brennan Vandyke**
United Nations Environment Programme
United Nations Avenue,
Gigiri PO Box 30552, 00100
Nairobi, Kenya

Subject: Endorsement for **Leapfrogging markets to high efficiency products (appliances, including lighting, and electrical equipment) - PFD**

In my capacity as GEF Operational Focal Point for Tunisia, I confirm that the above program proposal (a) is in accordance with my government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above Program proposal which will be led by the United Nations Environmental Programme (UNEP). If approved, the proposal will be prepared and implemented by the "Agence Nationale de la Maitrise de l'Energie (ANME)".

The total financing[1] being requested for the child project under this Program supported by Tunisia, is US$2,670,000 inclusive of GEF financing for the child project, PPG that will finance the preparation of individual child projects under the Program, and Agency fees for project cycle management services associated with the projects under the Program. The fund requested for Tunisia is detailed in the table below including the GEF Agency that will implement the project.

Source of Funds	GEF Agency	Focal Area	Amount (in US$)			
			Project Preparation	**Project**	**Fee**	**Total**
GEFTF	UNEP	CCM	50,000	2,399,541	220,459	2,670,000
Total GEF Resources			50,000	2,399,541	220,459	2,670,000

I consent to the utilization of Tunisia's allocations in GEF-6 as defined in the System for Transparent Allocation of Resources (STAR).

Sincerely,

Sabria BNOUNI
GEF Operation Focal Point

[1] "Total financing" refers to funding from the GEFTF, LDCF, and/or SCCF.

ANNEX L. CO-FINANCING COMMITMENT LETTERS

- National Agency for Energy Conservation
- Global Lighting, Kairouan – Tunisia
- AFROLIGHT, Tunis – Tunisia
- Global Efficient Lighting Centre
- UN Environment

Support commitment letters

- Ledvance
- OSRAM

- National Agency for Energy Conservation

AGENCE NATIONALE POUR LA MAITRISE DE L'ÉNERGIE
ANME
Un engagement durable et renouvelable

03258

20 NOV. 2017

To: Mrs. Kelly West
GEF Executive Coordinator
UN Environment
Nairobi, Kenya

Date: 16 November 2017

Subject: **National Agency for Energy Conservation co-financing towards the project "Leapfrogging Tunisia's lighting market to high efficiency technologies" (GEF ID 9498)**

Dear Mrs. West,

I have the pleasure of writing to you to inform you of National Agency for Energy Conservation's support to the "Leapfrogging Tunisia's lighting market to high efficiency technologies" project (GEF ID 9498). Energy efficiency is a priority for us as it aligns with our business objectives, and we see this project as an attractive opportunity to advance the use of energy efficient lighting products.

National Agency for Energy Conservation will make in cash contribution about US$ 13 million and US$ 2 million as in kind contribution over the 4 years of the project's implementation, starting mid-2018.

Under this partnership, National Agency for Energy Conservation intends to support the following project components:

- Develop MEPS to ensure that high performance and good quality products are available ;
- working to establish policies and mechanisms in order to ensure the successful implementation of MEPS ;
- Design and implement monitoring, verification and enforcement measures to ensure that -products in the market comply with the established MEPS ;
- Engage in environmental sustainability actions, including the reduction of mercury levels in lamps to the maximum allowable level.

The contributions of National Agency for Energy Conservation will take different forms, such as:

- The ANME's in-kind contribution will focus on support through the delivery of all activities related to this strategy to ensure an effective transition to efficient lighting in Tunisia;
- Providing ANME's staff time to carry out all activities related to this strategy ;
- Purchase and free distribution of 4 million LED lamps for households.
- Design and application of many communication campaigns on energy efficient lighting and on collection and recycling including supporting local NGOs for raising awareness and distribution campaigns relating to efficient lighting products and campaigns relating to environmentally sound management of lighting products and for collection of spent lamps.
- Give subsidies and credits at subsidized rates for the LED project in Djerba;
- Ensure the proper implementation of this project and to monitor and evaluate its results.
- Proper achievement of the objectives of the project;
- Effective use of both international and national resources allocated to it;
- Timely availability of financing to support project implementation;
- Proper coordination among all project stakeholders; in particular national parties; and timely submission of all project reports, including work plans and financial reports.

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Siège social :1, avenue du Japon - Cité administrative Montplaisir - B.P. : 213 - 1073 Tunis
Tél. : (216) 71 906 900 • Fax : (216) 71 904 624 • E-mail : boc@anme.nat.tn • Site web : www.anme.nat.tn

National Agency for Energy Conservation strongly supports this important project of the GEF and UN Environment and is pleased to be part of it. We look forward to continue working with UN Environment to accelerate the global transition to efficient lighting, and making it a success.

Yours sincerely,

Mr. Hamdi HAROUCH
General Director
National Agency for Energy Conservation

- Global Lighting, Kairouan – Tunisia (local private sector)

GLOBAL LIGHTING®
QUALITY YOU LAW TRUST
جودة تستحق التقدير

To: Mrs. Kelly West
GEF Executive Coordinator
UN Environment
Nairobi, Kenya

Date: 16/11/ 2017

Subject: **GLOBAL LIGHTING co-financing towards the project "Leapfrogging Tunisia's lighting market to high efficiency technologies" (GEF ID 9498)**

Dear Mrs. West,

We have the pleasure to inform you that **GLOBAL LIGHTING, Kairouan - Tunisia** supports the "Leapfrogging Tunisia's lighting market to high efficiency technologies" project (GEF ID 9498). Energy efficiency is a priority for us as it aligns with our business objectives, and we see this project as an attractive opportunity to advance the use of energy efficient lighting products.

GLOBAL LIGHTING, Kairouan - Tunisia will provide over the 4 years of the project's implementation, starting mid-2018 an in-kind contribution of project counterparts as follows :

1) Training (LED technology lamps) Customs Officers and Industry Ministry Officers of 800 persons during the 4 years of our commitment. This is worth USD 120'000.- (USD 150.- per person * 800)
2) Providing the use of our laboratory (dark room + spectroradiometer room + temperature and humidity test room + life test room + EMC + Digital Torque Meter) to test 1600 lamps during the 4 years of our commitment, every Friday. This is worth USD 160'000.- (USD 100.- per lamp * 1600)

Therefore our contribution will totally be worth USD 280'000.- (USD 120'000 + USD 160'000.-)

GLOBAL LIGHTING, Kairouan - Tunisia strongly supports this important project of the GEF and UN Environment and is pleased to be part of it. We look forward to continue working with UN Environment to accelerate the global transition to efficient lighting, and making it a success.

Yours sincerely,

GLOBAL LIGHTING, Kairouan – Tunisia

Mohamed TRABELSI
CEO

Global Lighting sarl, P.O. Box 174, 3140 Kairouan-Okba Tunisie
Tél. 00216 77 30 26 26 Fax 00216 77 30 28 88
E-mail: global.lighting@gnet.tn www.global-lighting@gnet.tn

- AFROLIGHT, Tunis – Tunisia (local private sector)

AFRO LIGHT
NEW GENERATION

To: Mrs. Kelly West
GEF Executive Coordinator
UN Environment
Nairobi, Kenya

Date: 22 November2017

Subject: AFROLIGHT co-financing towards the project "Leapfrogging Tunisia's lighting market to high efficiency technologies" (GEF ID 9498)

Dear Mrs. West,

We have the pleasure to inform you that **AFROLIGHT Tunis - Tunisia** supports the "Leapfrogging Tunisia's lighting market to high efficiency technologies" project (GEF ID 9498). Energy efficiency is a priority for us as it aligns with our business objectives, and we see this project as an attractive opportunity to advance the use of energy efficient lighting products.

AFROLIGHT will make an in-kind contribution worth approximately of USD$ 128.000 over the 4 years of the project's implementation, starting mid-2018.

Under this partnership, **AFROLIGHT**intends to support the following projectan in-kind contribution of project counterparts as follows:

- A website will be made available to customers to facilitate communication and publish products related to energy efficiency. This is worth USD $8.000.
- Training (LED technology lamps) for Customs Officers and Municipal Technicians, is a training of 400 persons during the 4 years of our commitment. This is worth USD $80.000- (USD $200- per person * 400)
- Establish seminars to educate customers about the energy efficiency and the tools needed to achieve this efficiency. This is worth USD $40.000- (USD $5.000 - per seminar * 8)

The contributions of **AFROLIGHT**will take different forms, such as:

- Providing staff time for the development and review of training packages, tools and drafts projects.

Société Africain Original Light
Z.I.Saint Gobain, Lot. Zaanouni, Megrine 2033, Ben Arous - TUNISIE
MF: 1335162J/A/M/000
Tél.: +216 71 426 280 - Fax: +216 71 296 028 - E-mail : afrolightcontact@gmail.com

- Providing the use of our laboratory (dark room + spectroradiometer room +Led Driver Tester+ Digital Power Meter+ EMC + Digital Torque Meter) to test lamps during the 4 years of our commitment.
- Providing Technical expertise and market insights for seminars.
- Providing high technical skills for developing the website.

AFROLIGHT, Tunis - Tunisia strongly supports this important project of the GEF and UN Environment and is pleased to be part of it. We look forward to continue working with UN Environment to accelerate the global transition to efficient lighting, and making it a success.

Yours sincerely,

AFROLIGHT Tunis, TUNISIA

AFROLIGHT MANAGER

KAMEL BEN HASSEN

الإفريقية للإضاءة الأصلية
AFRICAN ORIGINAL LIGHT
Zi.Saint Gobin Megrine
Tél:71.426.280 - Fax 71.296 028

- Global Efficient Lighting Centre

Global Efficient Lighting Centre

Beijing, 7 August 2017

Subject: GELC, co-financing towards the project "Leapfrogging Tunisia's lighting market to high efficiency technologies"

Dear Ms. Kelly West,

The Global Efficient Lighting Centre (GELC) is pleased to participate, as a co-financier, in the Global Environment Facility and UN Environment's project for "Leapfrogging Tunisia's lighting market to high efficiency technologies". GELC is the UN Environment Collaborating centre for Efficient Lighting and shares the same objective of promoting the rapid development of energy efficient lighting technologies in developing countries and emerging economies. GELC assists in the development of national and international standards, performs research into new testing technologies and equipment, offers technical services and training, testing of energy efficient products and provides assistance to other countries regarding policy consultation and development.

I hereby confirm a co-finance contribution to this project of up to USD 300,000 over 3 years. This contribution is subject to project progress, economic developments and overall project delivery.

The GELC's in-kind contribution will mainly focus on support through the delivery of tools, remote assistance and activities to strengthen monitoring, verification and enforcement (MVE) capacities to ensure an effective transition to efficient lighting in Tunisia.

Yours sincerely,

Shuming Hua
General Director
Global Efficient Lighting Centre

Ms. Kelly West
GEF Executive Coordinator
UN Environment
Nairobi - Kenya

No. A3, Chaopocun, Dabeiyao, Chaoyang District, Beijing 100022, China
Tel: +86-10-67708989, Fax: +86-10-67761445

- UN Environment

Economy Division

Date: 11 October 2017

Subject: UN Environment/U4E Co-financing for GEF project "Leapfrogging Tunisia's lighting market to high efficiency technologies"

Dear Kelly,

I have the pleasure of writing to you to confirm the support of UN Environment to the UN Environment-GEF project "Leapfrogging Tunisia's lighting market to high efficiency technologies". The UN Environment's United for Efficiency initiative will support the project with tools, guidebooks and training through the global GEF project (full name: Global project to leapfrog markets to energy efficient lighting, appliances and equipment).

The UN Environment affirms its desire to support the implementation of this project through an in-kind contribution with an estimated value of $ 30,000. The contribution will comprise staff time from the UN Environment Energy and Climate Branch, including:

- US$ 10,000 of staff time from the Head of the Energy & Climate Branch (D-1) in order to coordinate perspective partners and provide strategic advice to the project
- US$ 20,000 of staff time from the Head of the Energy Unit (P-4) in order to coordinate perspective partners and provide strategic advice to the project.

The UN Environment welcomes this important project in Tunisia and is pleased to be part of it.

Yours sincerely,

Mark Radka
Chief, Energy and Climate Branch

Ms. Kelly West
GEF Executive Coordinator
UN Environment
Nairobi - Kenya

United Nations Avenue, Gigiri
P O Box 30552-00100 Nairobi, Kenya
Tel +33 (0)1 44 37 14 50 | unep.dtic@unep.org
www.unep.org

- Ledvance

LEDVANCE

To: Mrs. Kelly West
GEF Executive Coordinator
UN Environment
Nairobi, Kenya

Date:29November 2017

Subject: **LEDVANCE SASU co-participating towards the project "Leapfrogging Tunisia's lighting market to high efficiency technologies" (GEF ID 9498)**

Dear Mrs. West,

I have the pleasure of writing to you to inform you of LEDVANCE SASU's support to the "Leapfrogging Tunisia's lighting market to high efficiency technologies" project (GEF ID 9498).

Energy efficiency is a priority for us as it aligns with our business objectives, and we see this project as an attractive opportunity to advance the use of energy efficient lighting products.

LEDVANCE SASU's will make an in-kind contribution by provide technical support.

Under this partnership, LEDVANCE SASU's intends to support the following project by:

- Conduct training workshops
- Present new products and technologies
- Supply samples

LEDVANCE SASU's strongly supports this important project of the GEF and UN Environment and is pleased to be part of it. We look forward to continue working with UN Environment to accelerate the global transition to efficient lighting, and making it a success.

Ismain MAHDAD
Regional Sales Manager North-Africa

LEDVANCE SASU
5, rue d'Altorf – CS 49105
67129 Molsheim Cedex - FRANCE
Port: +33 (0)6 81 06 63 48
Mail: i.mahdad@ledvance.com

LEDVANCE
LEDVANCE SASU
5 rue d'Altorf
CS 49105
67129 MOLSHEIM CEDEX

I. MAHDAD

- OSRAM

OSRAM

Mrs. Kelly West
GEF Executive Coordinator
UN Environment
Nairobi, Kenya

Ihre Zeichen/Nachricht vom	Unsere Nachricht vom	Unsere Zeichen	OSRAM GmbH
GEF ID 9498		**CB GA**	**06.12.2017**

Osram Co-financing for GEF project "Leapfrogging Tunisia's lighting market to high efficiency technologies"

Dear Mrs. West,

We have the pleasure of writing to you to confirm the support of OSRAM to the UN Environment-GEF project "Leapfrogging Tunisia's lighting market to high efficiency technologies" (GEF ID 9498).

Energy efficiency is a priority for us as it aligns with our business objective, and we see this project as an attractive opportunity to advance the use of energy efficient lighting products. Under this partnership OSRAM intends to support the project in Tunisia with the following:

- Participate in training workshops for policymakers and practitioners
- Provide technical assistance of an "all-LED island" demonstration project on Djerba.
- Provide technical assistance in the development of financial mechanisms for the purchase of energy-efficient lighting

OSRAM welcomes this important project in Tunisia and is pleased to be part of it. We look forward to continue working with UN Environment to accelerate the global market transformation to efficient lighting.

Yours sincerely,

OSRAM GmbH

i.V.
Frank Hohn
Vice President
Governmental Affairs

i.V.
Stéphane Himber
Director Governmental Affairs

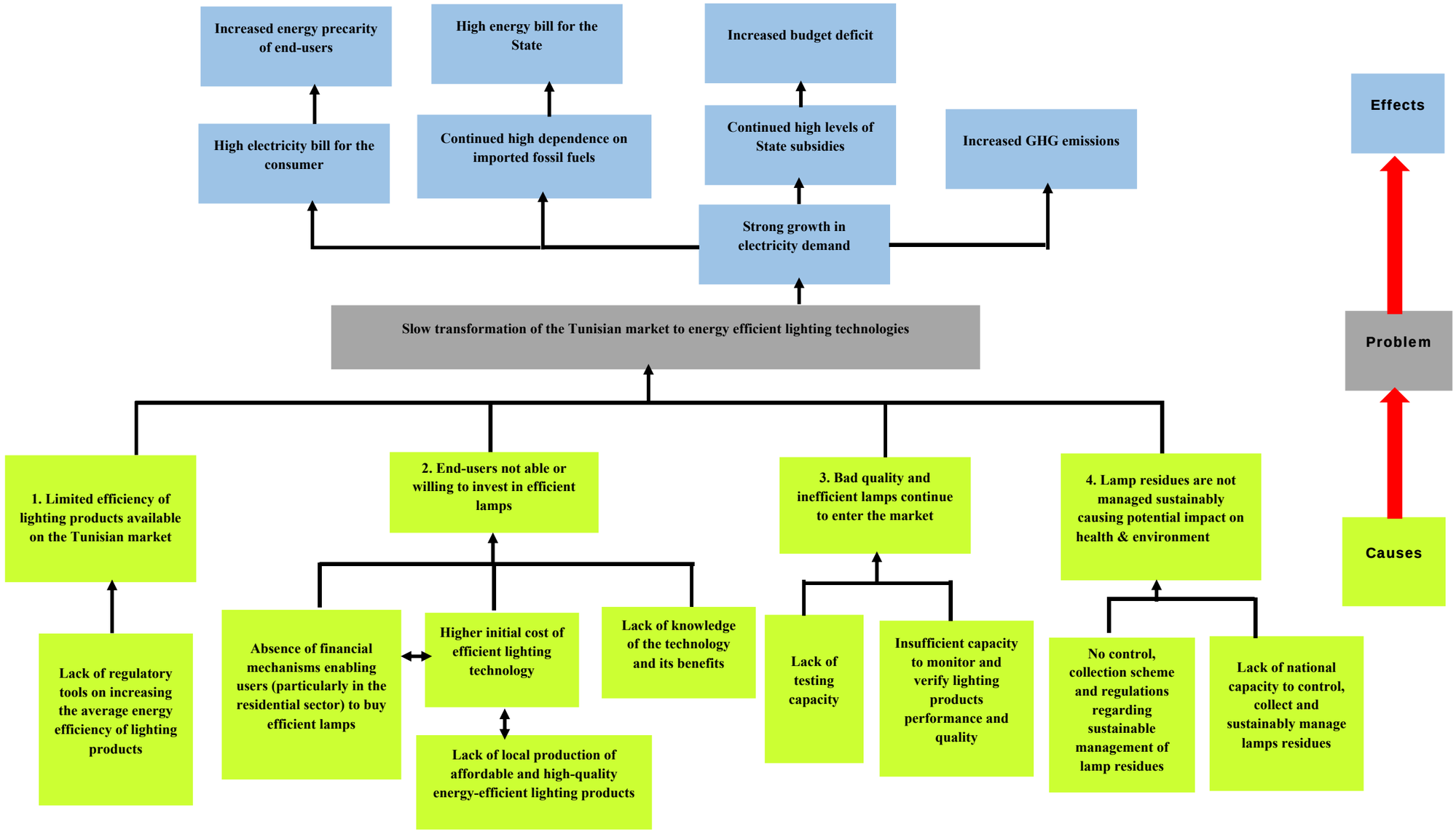
Bearbeiter	Tel.	Fax	E-Mail	
S.Himber	**2489**			
	Vermittlung	Fax zentral:	s.himber @osram.com	1/1

Briefadresse:	Hausadresse:			
OSRAM GmbH 80920 München Deutschland	OSRAM GmbH Marcel-Breuer-Straße 6 80807 München Deutschland	OSRAM GmbH München Vorsitzender des Aufsichtsrates: Peter Bauer	Geschäftsführung: Dr. Olaf Berlien (Vorsitzender) Ingo Bank Dr. Stefan Kampmann	Registergericht: München HRB 201526 WEEE-Reg.-Nr. DE 71568000

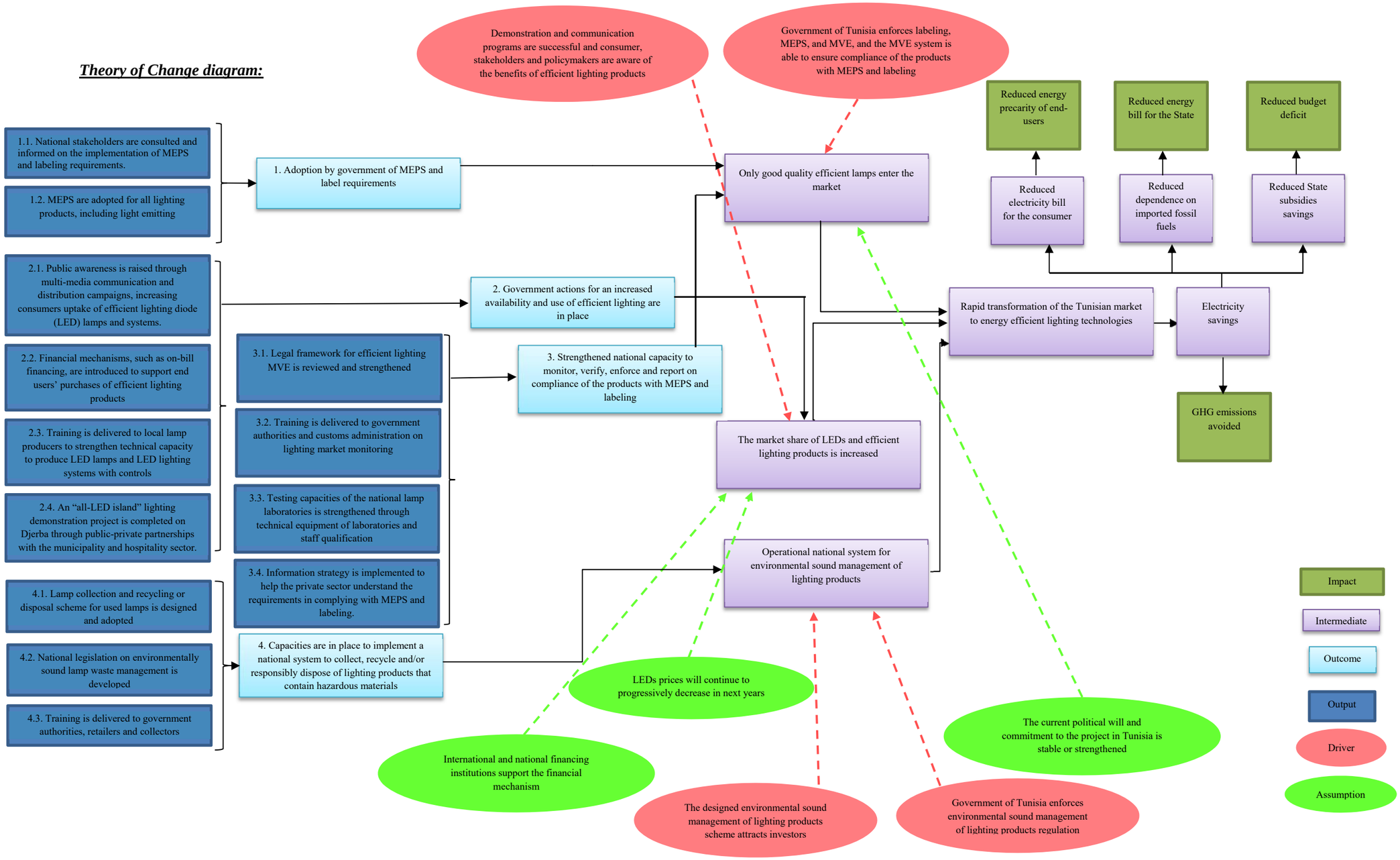
1201 09/2016

ANNEX M: PROBLEM TREE AND THEORY OF CHANGE

Problem Tree diagram:



Theory of Change diagram:



ANNEX N: ENVIRONMENTAL, SOCIAL AND ECONOMIC REVIEW NOTE (ESERN)

UNEP Environmental, Social and Economic Review Note (ESERN)

I. Project Overview

Identification	*GEF ID 9498*
Project Title	*Leapfrogging Tunisia's lighting market to high efficiency technologies*
Managing Division	*UN Environment, Economy Division*
Type/Location	*National*
Region	*Africa*
List Countries	*Tunisia*
Project Description	*The project's objective is to promote the rapid transformation of the Tunisian market to energy efficient lighting technologies, thereby reducing electrical demand and consumption and related greenhouse gases (GHG) emissions. This will be achieved through the 4 following components:* *1. Regulatory mechanisms, including minimum energy performance standards (MEPS) for lighting products* *2. Supporting policies for high efficiency lighting technology deployment* *3. Strengthened monitoring, verification and enforcement (MVE) for lighting product* *4. Environmentally sound management of efficient lighting products*
Estimated duration of project:	*36 months*
Estimated cost of the project :	*US$ 2,399,541*

II. Environmental Social and Economic Screening Determination

A. Summary of the Safeguard Risks Triggered

Safeguard Standard Triggered by the Project	Impact of Risk[46] (1-5)	Probability of Risk (1-5)	Significance of Risk (L, M, H)
SS 1: Biodiversity, natural habitat and Sustainable Management of Living Resources	1	1	L
SS 2: Resource Efficiency, Pollution Prevention and Management of Chemicals and Wastes	3	2	M
SS 3: Safety of Dams	1	1	L
SS 4: Involuntary resettlement	1	1	L
SS 5: Indigenous peoples	1	1	L
SS 6: Labor and working conditions	1	1	L
SS 7: Cultural Heritage	1	1	L
SS 8: Gender equity	2	2	L
SS 9: Economic Sustainability	3	3	M
Additional Safeguard questions for projects seeking GCF-funding (Section IV)			

B. ESE Screening Decision[47] (Refer to the UNEP ESES Framework (Chapter 2) and the UNEP's ESES Guidelines.)

Low risk ☐ Moderate risk ■ High risk ☐ Additional information required ☐

C. Development of ESE Review Note and Screening Decision:

Prepared by: Name: _Paul Kellett _____ Date: 15/12/2017

Safeguard Advisor: Name: _Yunae Yi_____ Date: 18/12/2017

Task Manager: Name: _Ruth Coutto_____ Date: 19/12/2017

[46] Refer to UNEP Environment, Social and Economic Sustainability (ESES): Implementation Guidance Note to assign values to the Impact of Risk and the Probability of Risk to determine the overall significance of Risk (Low, Moderate or High).

[47] **Low risk**: Negative impacts negligible: no further study or impact management required.
Moderate risk: Potential negative impacts, but less significant; few if any impacts irreversible; impact amenable to management using standard mitigation measures; limited environmental or social analysis may be required to develop a ESEMP. Straightforward application of good practice may be sufficient without additional study.
High risk: Potential for significant negative impacts, possibly irreversible, ESEA including a full impact assessment may be required, followed by an effective safeguard management plan.

D. Recommended further action from the Safeguard Advisor:

This project is likely to be in the moderate safeguard risk category. The project document already identified some key risks. Compliance with what is described in the project document will avoid/minimize such risks.

Please consult various stakeholders and get feedback on what may be the challenges at the individual (including cultural, financial and information gaps, fitting/replacing the existing layouts), private sector (including the production capacity, distribution network and profitability), and policy levels technical (including production, recycling, regulations, policy inconsistencies across laws, strategies, fiscal and economic approaches).

SS 2: GHG emissions in the country will increase with the projected economic growth. Energy sources and policy advice in the broad national energy and climate change policy framework can provide "do good" opportunity beyond the lighting project.

A functioning and efficient waste management system is often expensive and requires adequate capacity building. Resource efficiency through manufacturing, distribution and consumption, management of waste from the old light bulbs, including mercury, as well as the LED bulbs and lamps require careful management, monitoring and reporting. Training and support should be provided to those who are in charge of disposing the harmful materials or those who change the lamps.

SS 9: The project plans to introduce consumption tax on incandescent lamps sales and ban the sale of incandescent light bulbs. The project stated that the local manufacturers need technological and other capacity to meet the demand. To meet the demand, LED supply may come from abroad if local manufacturers may not meet the quality standards. Financial mechanisms for end users need practical and effective system through pilot testing, feedback and cautious roll out. Rolling out of fiscal and technology support should be based on understanding of the needs, responsibilities and constraints of diverse international private sector and government ministries and consumers, especially the poor, local SMEs and certain population groups (based on region, types of industries involved, urban vs. rural groups and so on).

E: Responses from the Task Manager

- On stakeholder consultations: as part of the design of the MEPS, it is a standard approach to conduct consultations by the government with manufacturers, distributers, retailers, customs and laboratories, and the implications of different policy options. This will be done as part of Component 1 of the project.
- On waste: An important part of these policy discussions will be the implications related to collection and disposal of used lamps. Component 4 is precisely designed to address this issue in a comprehensive way, through legislation and capacity building with government officials and other relevant stakeholders.
- On financing mechanisms: the financial mechanisms have been designed and calibrated by the government to respond to different stakeholder groups. Low income households will receive bulbs free, the hotel sector will have a subsidy, and middle-income groups with be targeted through the financial scheme. The conceptualization of these ideas have started prior to the project as part of a broader policy implementation by the government and will continue after the end of the project. The project will support the roll out and implementation of this phase and the lessons will be used by the government in the future. Component 2 is precisely about this.

III. ESES Principle and Safeguard checklist

(Section III and IV should be retained in UNEP)

Precautionary Approach
The project will take precautionary measures even if some cause and effect relationships are not fully established scientifically and there is risk of causing harm to the people or to the environment.
Human Rights Principle
The project will make an effort to include any potentially affected stakeholders, in particular vulnerable and marginalized groups; from the decision making process that may affect them.
The project will respond to any significant concerns or disputes raised during the stakeholder engagement process.
The project will make an effort to avoid inequitable or discriminatory negative impacts on the quality of and access to resources or basic services, on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups.[48]

Screening checklist	Y/N/ Maybe	Comment
Safeguard Standard 1: Biodiversity, natural habitat and Sustainable Management of Living Resources		
Will the proposed project support directly or indirectly any activities that significantly convert or degrade biodiversity and habitat including modified habitat, natural habitat and critical natural habitat?	N	
Will the proposed project likely convert or degrade habitats that are legally protected?	N	
Will the proposed project likely convert or degrade habitats that are officially proposed for protection? (e.g.; National Park, Nature Conservancy, Indigenous Community Conserved Area, (ICCA); etc.)	N	
Will the proposed project likely convert or degrade habitats that are identified by authoritative sources for their high conservation and biodiversity value?	N	
Will the proposed project likely convert or degrade habitats that are recognized- including by authoritative sources and /or the national and local government entity, as protected and conserved by traditional local communities?	N	

[48] Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, 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 people and transsexuals.

Screening checklist	Y/N/ Maybe	Comment
Will the proposed project approach possibly not be legally permitted or inconsistent with any officially recognized management plans for the area?	N	
Will the proposed project activities result in soils deterioration and land degradation?	N	
Will the proposed project interventions cause any changes to the quality or quantity of water in rivers, ponds, lakes or other wetlands?	N	
Will the proposed project possibly introduce or utilize any invasive alien species of flora and fauna, whether accidental or intentional?	N	
Safeguard Standard 2: Resource Efficiency, Pollution Prevention and Management of Chemicals and Wastes		
Will the proposed project likely result in the significant release of pollutants to air, water or soil?	N	
Will the proposed project likely consume or cause significant consumption of water, energy or other resources through its own footprint or through the boundary of influence of the activity?	N	The project seeks to reduce energy consumption through the promotion of energy efficient lighting products.
Will the proposed project likely cause significant generation of Green House Gas (GHG) emissions during and/or after the project?	N	On the contrary, the project will actually reduce GHG emissions, both during and after the project. Please refer to section A.1.5., Annex J-1 and J-2 of the CEO Endorsement for more details.
Will the proposed project likely generate wastes, including hazardous waste that cannot be reused, recycled or disposed in an environmentally sound and safe manner?	N	The project will accelerate market transformation to energy efficient lighting technologies, phasing out incandescent lamps, and replacing the current lighting technologies by more efficient ones (example: CLF by LED, Halogen by LED, etc.) – therefore generating waste. Through Component 4, the project will minimize environmental impact of the above by including the environmentally sound management (ESM) aspect of the integrated policy approach. In this instance, the project will develop a plan to collect and store waste. More specifically, CFLs contain small levels of mercury which requires

Screening checklist	Y/N/ Maybe	Comment
		special handling. The project will therefore include a plan for the collection and safe handling of mercury waste under Component 4.
Will the proposed project use, cause the use of, or manage the use of, storage and disposal of hazardous chemicals, including pesticides?	N	
Will the proposed project involve the manufacturing, trade, release and/or use of hazardous materials subject to international action bans or phase-outs, such as DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Convention on Persistent Organic Pollutants or the Montreal Protocol?	N	
Will the proposed project require the procurement of chemical pesticides that is not a component of integrated pest management (IPM)[49] or integrated vector management (IVM)[50] approaches?	N	
Will the proposed project require inclusion of chemical pesticides that are included in IPM or IVM but high in human toxicity?	N	
Will the proposed project have difficulty in abiding to FAO's International Code of Conduct[51] in terms of handling, storage, application and disposal of pesticides?	N	
Will the proposed project potentially expose the public to hazardous materials and substances and pose potentially serious risk to human health and the environment?	N	The mercury contained in CFLs is a dangerous pollutant for both the environment and human health. The project will therefore include a plan for the collection and safe handling of mercury under Component 4.
Safeguard Standard 3: Safety of Dams		
Will the proposed project involve constructing a new dam(s)?	N	
Will the proposed project involve rehabilitating an existing dam(s)?	N	
Will the proposed project activities involve dam safety operations?	N	

[49] "Integrated Pest Management (IPM) means the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment. IPM emphasizes the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/ipm/en/

[50] "IVM is a rational decision-making process for the optimal use of resources for vector control. The approach seeks to improve the efficacy, cost-effectiveness, ecological soundness and sustainability of disease-vector control. The ultimate goal is to prevent the transmission of vector-borne diseases such as malaria, dengue, Japanese encephalitis, leishmaniasis, schistosomiasis and Chagas disease." (http://www.who.int/neglected_diseases/vector_ecology/ivm_concept/en/)

[51] Find more information from http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/CODE_2014Sep_ENG.pdf

Screening checklist	Y/N/ Maybe	Comment
Safeguard Standard 4: Involuntary resettlement		
Will the proposed project likely involve full or partial physical displacement or relocation of people?	N	
Will the proposed project involve involuntary restrictions on land use that deny a community the use of resources to which they have traditional or recognizable use rights?	N	
Will the proposed project likely cause restrictions on access to land or use of resources that are sources of livelihood?	N	
Will the proposed project likely cause or involve temporary/permanent loss of land?	N	
Will the proposed project likely cause or involve economic displacements affecting their crops, businesses, income generation sources and assets?	N	
Will the proposed project likely cause or involve forced eviction?	N	
Will the proposed project likely affect land tenure arrangements, including communal and/or customary/traditional land tenure patterns negatively?	N	
Safeguard Standard 5: Indigenous peoples[52]		
Will indigenous peoples be present in the proposed project area or area of influence?	N	
Will the proposed project be located on lands and territories claimed by indigenous peoples?	N	
Will the proposed project likely affect livelihoods of indigenous peoples negatively through affecting the rights, lands and territories claimed by them?	N	
Will the proposed project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	N	
Will the project negatively affect the development priorities of indigenous peoples defined by them?	N	
Will the project potentially affect the traditional livelihoods, physical and cultural survival of indigenous peoples?	N	
Will the project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	N	
Safeguard Standard 6: Labor and working conditions		
Will the proposed project involve the use of forced labor and child labor?	N	
Will the proposed project cause the increase of local or regional un-employment?	N	
Safeguard Standard 7: Cultural Heritage		
Will the proposed project potentially have negative impact on objects with historical, cultural, artistic, traditional or religious values and archeological sites that are internationally recognized or legally protected?	N	

[52] Refer to the Toolkit for the application of the UNEP Indigenous Peoples Policy Guidance for further information.

Screening checklist	Y/N/ Maybe	Comment
Will the proposed project rely on or profit from tangible cultural heritage (e.g., tourism)?	N	
Will the proposed project involve land clearing or excavation with the possibility of encountering previously undetected tangible cultural heritage?	N	
Will the proposed project involve in land clearing or excavation?	N	
Safeguard Standard 8: Gender equity		
Will the proposed project likely have inequitable negative impacts on gender equality and/or the situation of women and girls?	N	The project will promote gender equality and women's empowerment into its approach and outcomes in multiple ways. Please refer to section A.4 of the CEO endorsement document. The project's Results Framework also includes several indicator for Gender considerations.
Will the proposed project potentially discriminate against women or other groups based on gender, especially regarding participation in the design and implementation or access to opportunities and benefits?	N	Refer to above comment.
Will the proposed project have impacts that could negatively affect women's and men'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?	N	
Safeguard Standard 9: Economic Sustainability		
Will the proposed project likely bring immediate or short-term net gain to the local communities or countries at the risk of generating long-term economic burden (e.g., agriculture for food vs. biofuel; mangrove vs. commercial shrimp farm in terms of fishing, forest products and protection, etc.)?	N	Efficient lighting technologies have a higher initial cost but save money over the life of the products. Supporting policies, such as financial mechanisms will be implemented to reduce the impact of the higher upfront costs.
Will the proposed project likely bring unequal economic benefits to a limited subset of the target group?	N	The project will undertake a distribution campaign of 4 million of LEDs for free (Output 2.1), which will specifically target low-income households (consuming less than 150 kWh per month).

IV. Additional Safeguard Questions for Projects seeking GCF-funding

Community Health, Safety, and Security			
Will there be potential risks and negative impacts to the health and safety of the Affected Communities during the project life-cycle?		N/A	
Will the proposed project involve design, construction, operation and decommissioning of the structural elements such as new buildings or structures?		N/A	
Will the proposed project involve constructing new buildings or structures that will be accessed by public?		N/A	
Will the proposed project possibly cause direct or indirect health-related risks and impacts to the Affected Communities due to the diminution or degradation of natural resources, and ecosystem services?		N/A	
Will the proposed project activities potentially cause community exposure to health issues such as water-born, water-based, water-related, vector-borne diseases, and communicable diseases?		N/A	
In case of an emergency event, will the project team, including partners, have the capacity to respond together with relevant local and national authorities?		N/A	
Will the proposed project need to retain workers to provide security to safeguard its personnel and property?		N/A	
Labor and Supply Chain			
Will UNEP or the implementing/executing partner(s) involve suppliers of goods and services who may have high risk of significant safety issues related to their own workers?		N/A	

ANNEX O: ACRONYMS AND ABBREVIATIONS
Incorporate here the list of acronyms or abbreviations related to the project.

ACAA: Agreement on Conformity Assessment and Accreditation

AFOLU: Agriculture, Forestry, and Other Land Use

ANGed: National Waste Management Agency

ANME: National Agency for Energy Management

BUR: Biennial Update Report

CAGR: Compound Annual Growth Rate

CCM: Climate Change Mitigation

CEDAW: Convention on the Elimination of All forms of Discrimination against Women

CEO: Chief Executive Officer

CETIME: Technical Center for Mechanical and Electrical Industries

CFL: Compact Fluorescent Lamp

CO2eq: Carbon Dioxide Equivalent

CSO: Civil Society Organization

CTCN: Climate Technology Centre and Network

DGIM: Directorate General of Manufacturing Industries

DGQCIMS: Directorate-General for Quality, Internal Trade and Services

EA: Executing Agency

EE: Energy Efficient

EOU: Environment Evaluation Office

ESCO: Energy Service Company

ESM: Environmentally Sound Management

EU: European Union

FEDELEC: National Federation of Electricity and Electronics

GDP: gross domestic product

GEF: Global Environment Facility

GEFTF: Global Environment Facility Trust Fund

GELC: Global Efficient Lighting Centre

GHG: Greenhouse Gas

HID: High-Intensity Discharge lamp

HPS: High-Pressure Sodium lamp

IA: Implementing Agency

IAP: Integrated Approach Pilot

IEC: International Electrotechnical Commission

INDC: Intended Nationally Determined Contribution

INNORPI: National Institute for Standardization and Industrial Property

IW: Inception Workshop

LDCF: Least Developed Countries Fund

LED lamp: Light Emitting Diode lamp

LPA: Logical Problem Analysis

M&E: Monitoring and Evaluation

MEPS: Minimum Energy Performance Standards

MTE: Mid-Term Evaluation

MTR: Mid-Term Review

MVE: Monitoring, Verification and Enforcement

NGO: Non-governmental Organization

NPD: National Project Director

ODC: Consumer Advocacy Organization

PIR: Project Implementation Review

PM: Project Manager

PMU: Project Management Unit

POP Persistent Organic Pollutant

PPG: Project Preparation Grant

PPP: Public-Private Partnership

PSC: Project Steering Committee

SCCF: Special Climate Change Fund

SCM: Steering Committee Meeting

SDG: sustainable development goals

SE4ALL: Sustainable Energy for All

SGP: Small Grants Program

STEG: National Electricity and Gas Utility

TE: Terminal Evaluation

TM: Task Manager

TND: Tunisian Dinar

TWG: Technical Working Groups

U4E: United for Efficiency

UNDAF: United Nations Development Assistance Framework

UN Environment: United Nations Environment Programme

UNFCCC: United Nations Framework Convention on Climate Change

ANNEX P: TABLE OF CONTENT

ANNEXES