



# GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: GEFTF

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## PART I: PROJECT INFORMATION

Project Title:	<b>A systemic approach to sustainable urbanization and resource efficiency in Greater Amman Municipality (GAM)</b>		
Country(ies):	Jordan	GEF Project ID: <sup>1</sup>	9204
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5543
Other Executing Partner(s):	Greater Amman Municipality (GAM)	Submission Date:	August 13, 2015
		Resubmission Date:	
GEF Focal Area(s):	Climate Change Mitigation	Project Duration (Months)	60 months
Integrated Approach Pilot	IAP-Cities <input checked="" type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP	<input type="checkbox"/>
Name of parent program:		Agency Fee (\$)	250,800

## A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES<sup>2</sup>

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
CCM Objective 2: Demonstrate Systemic Impacts of Mitigation Options Program 3: Promote integrated low-emission urban systems technologies and practices operationalized in given urban target area	GEF TF	2,640,000	24,700,000
Total Project Cost		2,640,000	24,700,000

## B. INDICATIVE PROJECT DESCRIPTION SUMMARY

<b>Project Objective: To assist the Greater Amman Municipality (GAM)<sup>3</sup> improve the quality of life for its citizens and comply with the National Energy Efficiency Action Plan (NEEAP) via support for more sustainable resource-efficient urban planning and targeted low-carbon interventions in the municipal buildings and street lighting sub-sectors.</b>						
Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1 - Urban sustainability planning tools and benchmarks	TA	Planning and monitoring frameworks in place to foster accelerated low-	- Development of a Sustainability Plan (SP) and Financing Strategy (FS) for the GAM using the existing Amman Master Plan (AMP) <sup>4</sup>	GEF TF	250,000	1,890,000

<sup>1</sup> Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

<sup>2</sup> When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#).

<sup>3</sup> GAM is the municipality (Amanah) for the Amman Governorate of Jordan. Note: The Greater Amman Municipal Boundary serves as the Metropolitan Planning Area boundary for the Amman Master Plan. This Metropolitan Planning Area consists of 1,661,904 dunums (1,662 square kilometres) and includes the recent 2007 amalgamations. The GAM's current population is estimated at 3 million (including hosted refugees) and is predicted to increase to 5.7 million inhabitants by 2050 (excluding currently-hosted Syrian and Iraqi refugees).

<sup>4</sup> Including integration of a resilience-oriented programming strategy into all GAM sectoral plans and an approach to disaster risk reduction governance in the AMP

		carbon urban development in GAM and benchmark progress against established international standards	<ul style="list-style-type: none"> <li>- Quantification of all energy, water and material flows in the GAM.</li> <li>- Assessment and costing of the most appropriate resource-efficient water management /recycling policies, business models, awareness-raising campaigns and capital investments for the GAM</li> <li>- Amman benchmarked against other cities using ISO 37120 to measure the performance of city services and quality of life</li> </ul>			
2 - Strengthened GAM enabling framework for low-carbon buildings and street lighting	TA	The enabling conditions, methodologies and tools in the GAM for enforcing and enhancing regulatory frameworks (including financial incentives) for EE buildings and street lighting are strengthened	<ul style="list-style-type: none"> <li>- New EE Building Code Department set-up within the State Committee on Architecture and Construction at GAM.</li> <li>- Enforcement capabilities of new Department strengthened as regards compliance with Building Energy Codes</li> <li>- Update of the existing Building Energy Codes and development of a "Retrofit Building Energy Code" to make upgrades more acceptable</li> <li>- Development of a training and accreditation programme for ESCOs and RESCOs for the selected Energy Codes<sup>5</sup></li> <li>- At least 20 ESCOs/RESCO accredited and capacitated via programme</li> <li>- Development and dissemination of an online tool for carrying out comparative socio-economic and environmental (GHG emission reduction)<sup>6</sup>of buildings using a life-cycle methodology</li> <li>- Development of an energy rating standard and label for buildings for issuing Energy Performance Certificates.</li> <li>- Development of a web-based geospatial tool that provides a topographical plan of main</li> </ul>	GEF TF	400,000	4,455,000

<sup>5</sup> Covering building insulation; efficient lighting – indoor and outdoor; rooftop PV; SWH.

<sup>6</sup> Including benefits analysis of energy code versus baseline situation, including outdoor lighting.

			buildings in the city of Amman. <sup>7</sup>			
3 - Performance-based GHG monitoring frameworks for low-carbon building and streetlights	TA	<p>An integrated climate monitoring and finance framework is established for the development of urban NAMAs</p> <p>Appropriate financial de-risking tools are identified and supported to promote adoption of EE measures in buildings attached to MRV systems</p>	<ul style="list-style-type: none"> <li>- Development of an urban MRV system for (i) Energy Codes related to the building sector and (ii) EE street lighting for determination of emission reductions from investments.</li> <li>- Development of two city-wide sectoral NAMAs, including investment plans for (i) existing and new buildings, and (ii) street/outdoor lighting</li> <li>- As part of NAMA development, assistance to the Jordan Renewable Energy and Energy Efficiency Fund to provide customized financial incentives to promote investments in Building Energy Codes by the establishment of instruments such as a dedicated green credit lines and Energy Saving Certificates<sup>8</sup></li> <li>- Identification and quantification of the effectiveness of different policy and financial de-risking instruments for EE buildings using UNDP's de-risking methodology (DREI)</li> <li>- Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities in Jordan and MENA countries.</li> </ul>	GEFTF	490,000	2,375,000
4 - Targeted proof-of-concept mitigation interventions	INV	Selected proof-of-concept EE investments are operationalized	<ul style="list-style-type: none"> <li>- 2-4 new private-sector residential buildings integrating best practice resource efficiency measures are supported</li> </ul>	GEFTF	1,374,500	14,935,000

<sup>7</sup> The interactive tool will be designed to provide the user with information about the building, including its energy rating, and expected energy savings compared with a no-rated building.

<sup>8</sup> A white certificate, also referred to as an Energy Savings Certificate (ESC), Energy Efficiency Credit (EEC), or white tag, is an instrument issued by an authorized body guaranteeing that a specified amount of energy savings has been achieved.

			<ul style="list-style-type: none"> <li>- 2-4 new public-sector buildings (either schools or hospitals) integrating best practice resource efficiency measures are supported</li> <li>- 1-2 existing public-sector building (e.g. Ministry of Planning and International Cooperation or other) are retrofitted.</li> <li>- Updated EE Lighting Code and smart usage system in place for all GAM street lights</li> <li>- Stand-alone PV street lighting installed in GAM using the most energy efficient and site appropriate lighting technology available (e.g. LEDs or replacement of mercury vapour lamps with high pressure sodium lamps)</li> </ul>			
Subtotal						2,514,500 23,655,000
Project Management Cost (PMC)				GEFTF		125,500 1,045,000
Total Project Cost						<b>2,640,000 24,700,000</b>

**C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE**

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
GEF Agency	UNDP	Cash	200,000
GEF Agency	UNDP	In-kind	100,000
National Government	Jordan National Building Council (JNBC)	In-kind & Cash (50/50)	300,000
National Government	Ministry of Energy and Mineral Resources (MEMR)	In-kind	1,300,000
National Government	Ministry of Planning	In-kind	3,000,000
Local Government	GAM (Greater Amman Municipality)	In-kind	2,835,000
Local Government	GAM (Greater Amman Municipality)	Cash	6,615,000
CSO	JGBC (Jordan Green Building Council)	In-kind	250,000
CSO	Arab Regional Center for Renewable Energy and Energy Efficiency (RCREEE)	In-kind	TBD at PPG
Bilateral donors	Bilateral donors (AfD)	Soft Loan	9,000,000
Bilateral donor	USAID	Cash (grant)	1,000,000
Multilateral donor	EBRD	Cash (grant)	100,000
<b>Total Co-financing</b>			<b>24,700,000</b>

**D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS <sup>a)</sup>**

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b) <sup>b)</sup>	Total (c)=a+b

UNDP	GEFTF	Jordan	CCM		2,640,000	250,800	2,890,800
<b>Total GEF Resources</b>					<b>2,640,000</b>	<b>250,800</b>	<b>2,890,800</b>

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

**E. PROJECT PREPARATION GRANT (PPG)<sup>9</sup>**

Is Project Preparation Grant requested? Yes X No  If no, skip item E.

**PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS**

<b>Project Preparation Grant amount requested: \$100,000</b>					<b>PPG Agency Fee: 9,500</b>		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee <sup>10</sup> (b)	Total c = a + b
UNDP	GEFTF	Jordan	CCM	(select as applicable)	100,000	9,500	109,500
<b>Total PPG Amount</b>					<b>100,000</b>	<b>9,500</b>	<b>109,500</b>

**F. PROJECT’S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS<sup>11</sup>**

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO <sub>2e</sub> mitigated (include both direct and indirect)	<b>Reduction of 276,111 metric tons (direct) per year by 2020– indirect ERs to be calculated at PPG stage</b>

**PART II Project Justification**

1. *Project Description*. Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area<sup>12</sup> strategies, with a brief description of expected outcomes and components of the project, 4) [incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and [co-financing](#); 5) [global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

A rapid increase in economic activity, population growth and successive influxes of refugees over the last decade have imposed huge stresses on Jordan’s urban areas and fragile water and energy resources. Sitting at the crossroads of two major areas of instability and prolonged conflicts, Jordan was originally a prime destination for several waves of forced migrants from Palestine – the majority of whom were granted Jordanian citizenship – and, more recently, from Syria, Lebanon and Iraq. With the conflict in Syria entering its fifth year, Jordan is now hosting 1.4 million Syrians, of whom 646,700 are refugees. Approximately 85% of these refugees, 550,000 in total, are living in non-camp settings in urban and rural areas. **The highest concentrations are in northern and central Jordan, including the capital city, Amman, with the largest proportion (28%).** Providing for the needs of Syrian refugees has impacted heavily on the

<sup>9</sup> PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$100k for PF up to \$3 mil; \$150k for PF up to \$6 mil; \$200k for PF up to \$10 mil; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

<sup>10</sup> PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

<sup>11</sup> Provide those indicator values in this table to the extent applicable to your proposed project. 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. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

<sup>12</sup> For biodiversity projects, in addition to explaining the project’s consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving.

Greater Amman Municipality’s public finances, increasing expenditures on subsidies and public services, and further degrading the built environment. For example, beyond targeted programmes (via direct budget assistance) to assist refugees and vulnerable households in host communities, the Jordanian Government estimates that, in 2015, it will incur additional subsidies on food, gas, water and electricity for refugees amounting to US\$ 418 million and accelerated infrastructure depreciation totalling US\$ 244 million (Jordan Response Plan – JRP - for the Syrian Crisis, United Nations and Government of Jordan, 2015).

At a city level, the Greater Amman Municipality (GAM) developed the Amman Master Plan (AMP) in 2010, which provides an overall vision for the growth of the city until 2025 with a clear overarching focus on climate-resilient development, the creation of green jobs, and a strive for resource efficiency in all aspects of municipal planning and investments. The AMP is reflective of a city and a country with limited indigenous energy and water resources and one that is heavily dependent on imports of energy to meet growing demand, expected to double by 2020. Jordan imports 96% of its oil and gas – accounting for almost 20% of the country’s GDP – which makes the country completely reliant on, and vulnerable to, the global energy market. Meanwhile the Kingdom is ranked third among the 18 countries in the world considered to be at risk of water insecurity. Municipal water use (including in the GAM) is currently met primarily using groundwater sources. In most urban sites in Jordan, water is supplied on an intermittent, rationed basis that requires household storage in cisterns and/or roof tanks. The JRP further notes that *“Delivery frequency is insufficient and has worsened as a result of the increased demand and households have to supplement their supply by purchasing water. The influx of Syrian refugees has also increased pressure on already limited sewage and communal waste systems, which only cover 62% of the Jordanian population.”*

Under Jordan’s National Agenda (2006-2015), “environmentally sustainable economic development” is a key policy goal, and is reflected in a wide range of sectoral planning, including sustainable energy and infrastructure. In January 2013, a milestone was achieved in Jordan with the launch and adoption of the first National Policy on Climate Change (NPCC). The long-term goal of the Policy is to achieve a pro-active, climate-resilient Jordan and to enable a low-carbon but growing economy, with healthy, sustainable and resilient communities; sustainable water and agricultural resources; and thriving and productive ecosystems. In parallel, the energy sector response strategy under the Government’s JRP specifically proposes *“to meet the additional power required in urban areas as a result of refugees’ needs through energy efficiency and renewable energy solutions, while building on existing capacities and initiatives.”*

As noted in Table 1 below, the energy sector is by far the largest source of greenhouse gas (GHG) emissions in Jordan. On a per GHG unit basis, the contribution of the energy sector in the reference year (2006) was 87% of the total CO<sub>2</sub> emissions of the country (Jordan’s Third National Communication on Climate Change, 2014). As also noted, the electricity sector is currently expected to constitute 43% of all GHG emissions in the country by 2020 under a BAU scenario.

**Table 1 – GHG emissions, baseline scenario for the energy sub-sectors for selected years (Gg CO<sub>2</sub>e.)**

Emission Sources	2010	2015	2020	2025	2030	2035	2040
Electricity	7477	9140	12562	10114	17517	19019	19264
Transport	7573	9052	11145	13584	16221	18934	21550
Industry	1843	1407	1664	1947	2261	2605	2984
Residential	1471	1737	2030	2344	2684	3049	3332
Commercial	439	407	486	574	670	764	853
Agriculture	395	526	649	766	902	1046	1181
Others*	792	973	870	591	668	555	447
<b>Total energy</b>	<b>19990</b>	<b>23242</b>	<b>29406</b>	<b>29920</b>	<b>40923</b>	<b>45972</b>	<b>49611</b>

\*:Emissions from refinery processes and fuel transportation

Source: Jordan’s Third National Communication (TNC) on Climate Change, 2014

### Energy Efficiency Reforms and Targets

**Jordan’s National Energy Efficiency Action Plan (NEEAP), endorsed in 2013, sets a national energy efficiency (EE) target of a 20% reduction across all sectors by 2020 and proposes concrete measures in cities to guide Jordan towards achieving this target.**<sup>13</sup> The investment needed to reach this target is estimated at approximately US\$ 152 million. On a positive note, Jordan now ranks second after Tunisia in the region in creating a favourable environment for energy efficiency investments<sup>14</sup>, and Jordan’s initial accomplishments in the energy sector during the past two years include implementation of a subsidy removal plan and increase in tariffs<sup>15</sup>; adoption of its first national energy efficiency action plan; and formulation of minimum energy performance standards (MEPS) for household appliances (the last achievement was due in large part to the GEF-funded *Energy Efficiency Standards and Labelling in Jordan* Project - UNDP PIMS # 3735).

A major step towards achieving the renewable energy and energy efficiency targets in Jordan was the issuance of the Renewable Energy and Energy Efficiency Law No (13). The Law provides the legal framework for renewable energy production and energy conservation incentives, and also establishes the Jordan Renewable Energy and Energy Efficiency Fund (JREEEF) under the umbrella of the Ministry of Energy and Mineral Resources (MEMR). MEMR has issued a number of follow-up by-laws to complete the regulatory framework, including several designed to attract investments in renewable energy and energy efficiency. Most notably By-law No (73) on Regulating Procedures and Means of Conserving Energy and Improving Its Efficiency (passed in 2012) regulates the energy efficiency sector and requires large energy consumers to prepare and implement energy conservation plans. The by-law also requires buildings of a specific area size to install solar water heaters (SWHs).

In the context of renewable energy, Jordan has now developed regulations whereby private investors and households may invest in their own PV system up to 5 MWp to directly consume the electricity produced and offset it against their demand within a net-metering scheme. In addition to off-grid installations, approximately 4 MWp of solar PV systems under the net-metering scheme have been realised, with another 5 MWp pending on the application process waiting list. Many of these systems are in the GAM.

The Government of Jordan and the GAM recognize that climate change mitigation and adaptation are an integral part of a much broader strategy for green growth and sustainable development. Authorities have already shown the political will to undertake many of the underlying regulatory reforms needed to catalyse green growth while GAM has committed to a vision of green and sustainable growth via the AMP. However, as observed in the latest AFEX report, **“Jordan still needs to strengthen its implementation capacity to properly capitalise on introduced energy efficiency policies”** and there is still a great deal of support needed for customized solutions at the city-level, particularly around enforcement of existing codes, proper monitoring of policies and targets, financial engineering and support for proof-of-concepts.

#### *Barriers that need to be addressed*

The main barriers (by category) to addressing the challenges mentioned are as follows:

#### **Barrier 1 – Lack of systematic assessment, planning and reporting tools for optimized climate-resilient, resource-efficient development and decision-making at GAM**

At present the National Policy on Climate Change (NPCC) provides an overarching (umbrella/high level) guidance for the Government and its sub-national actors to implement the major climate change priorities related to adaptation and mitigation while the AMP offers a general vision of climate-resilient green growth in the GAM. However there is no GAM-specific sustainability plan or urban metabolism assessment for the city; climate change considerations as it relates to infrastructure and

<sup>13</sup> These targets in a GHG equivalent are also in the EE section of the National Climate Change Policy (NCCP)

<sup>14</sup> RCREEE (2015), *Arab Future Energy Index* – see <http://www.rcreee.org/projects/arab-future-energy-index%E2%84%A2-afex>

<sup>15</sup> On June 19th, 2013, Jordan’s Cabinet approved a plan to increase electricity tariffs for most segments until 2017.

Under this scheme, residential consumers with monthly consumption below 600 kWh are excluded from tariff hikes. Similarly, agricultural users and small industrial users have been spared. The biggest tariff increases fell on the industrial, tourism and banking electricity tariffs for selected industrial and service sectors in June 2012. Since November 2012, subsidies have been removed for all domestic oil products and prices have tracked international market trends via a monthly review.

spatial planning decisions in the GAM still take place in an ad-hoc and sub-optimal manner. Moreover there is no standardized common metric in place to measure the progress that the GAM has achieved and plans to achieve versus other urban areas.

More specifically as regards urban planning and resource efficiency efforts beyond just energy savings, various national water conservation/management/recycling measures, strategies and plans have been developed by the Government to enhance the development, management and use of water resources; however few of them have an explicit focus on urban areas and none are customized to the situation in the GAM.

Jordan's "Water for Life" Strategy (2008–2022) mainly highlights drought management and, despite being clear on the water sector vision and adopting an Integrated Water Resources Management approach, the Strategy lacks provisions for addressing climate change impacts on water scarcity and clear recommendations on water saving strategies for urban municipalities. Trends clearly show that in the context of the current refugee crisis, the gap between current water tariff levels and full cost-recovery (including funds for capital expenditures) is too large in the near-term to be bridged by tariff increases alone. Water deficits are expected to continue to grow and the gap between demand and supply will lead to an increase in bulk water supply costs for priority domestic use from average current levels of 0.JD 35/cubic meters to JD 0.95-1.10/cubic meters or more. According to the Sweep Net Jordan Country Report (2011), all municipalities are currently operating without full cost-recovery in the water sector. In the GAM, cost-recovery reached 63% in 2009, while other municipalities are operating on less than 50% cost-recovery (the difference is usually subsidized from municipal budgets). As such there is an urgent need for a quantification of all energy, water and material flows in the GAM (and other municipalities) followed by a analysis/prioritization of the most appropriate resource-efficient water management/recycling policies, business models, awareness-raising campaigns and capital investments for a given urban environment.

### **Barrier 2 – Lack of enabling conditions and tools for enforcing and enhancing regulatory frameworks (including financial incentives) for EE in the GAM**

As mentioned Jordan Law No. 13 (2012) includes Bylaw No 73 (2012) on Regulating Procedures and Means of Conserving Energy and Improving Its Efficiency Issued by virtue of Article (18) of the Law. There are also the following prescriptive codes in place (together referred to as "Building Energy Codes"):

- Thermal Insulation Code (1998)
- Energy conservation building code (2010) - Mandatory for the residential buildings when the ratio of the net floor area is less than four times the roof area
- Solar energy building code (2012) - Mandatory for buildings when the net floor area is more than four times the net roof area.

Jordan also has voluntary Green Building Guidelines. Best practice shows that building codes that set standards for specific technologies or energy performance levels and that can be applied to both new buildings and retrofits of existing buildings are essential for achieving the significant potential for emission reductions in the building sector **provided they are enforced**.<sup>16</sup> Moreover performance based regulations are generally regarded as better than prescriptive ones, as they look at the building as a whole system and allow achieving EE at the lower cost due to greater flexibility given to designers and architects. At the same time, performance-based regulations (versus prescriptive standards) can be more difficult to design as they require a higher level of expertise, which is often lacking in many countries. They also require the policy makers to have more detailed data on the baseline energy consumption in order to develop realistic EE requirements (UNDP, 2010).

The prevailing practice shows that monitoring and enforcement of the current (less optimal) prescriptive EE regulations in Jordan and the **GAM is not carried out systematically**.<sup>17</sup> Moreover a sizeable portion of the potential for GHG emissions in GAM relate mostly to 'locked in' energy inefficiencies in existing buildings that will not comply with the existing codes and guidelines. In addition to enforcing Building Energy Codes in new buildings, there is a need to design similar codes to retrofit existing buildings. Furthermore Building Energy Codes should not be static but should rather be designed to incorporate dynamic evolution in technology and innovative incentive schemes, as well as customized for a given spatial area.

### **Barrier 3 - Information/Awareness and perception barriers about resource efficiency benefits**

A general lack of knowledge and negative perception of the benefits of Building Energy Codes still exist among decision-makers, the banking sector and the general public in the GAM and Jordan as a whole. Discussions with the Jordan National Building Council (JNBC) and the Jordan Green Building Council (JGBC) have shown that one of the reasons that Building Energy Codes and the Green Buildings Guidelines are not implemented is because of the lack of awareness and information concerning their

<sup>16</sup> United Nations Environment Programme (UNEP). 2013. The Emissions Gap Report 2013. UNEP, Nairobi

<sup>17</sup> Wynn Chi-Nguyen Cam. (2012). Technologies for Climate Change Mitigation – Building Sector. Roskilde, Denmark: UNEP Risoe Center.

socio-economic and environmental benefits. This lack of awareness can be found among both policy decision-makers and end-users.

**Barrier 4 – Technical capacity barriers and absence of performance-based GHG monitoring frameworks and quality assurance.** At present there is no one entity in the GAM responsible for development and enforcement of EE measures and a need for capacity strengthening across the board (as regards GAM staff) on EE measures and compliance. There is also an absence of training and accreditation for ESCOs and RESCOs in the GAM for the selected Building Energy Codes. In terms of climate management, there is no urban MRV system in Jordan for determining ERs from investments in: (i) Energy Codes related to the building sector; and (ii) EE street lighting. No nationally approved criteria and indicators exist for quantifying and qualifying the sustainable development dividends of NAMAs in Jordan, nor specific guidelines for city-wide NAMAs.

**Barrier 5 – Lack of fiscal incentives for uptake of EE building measures and proof-of-concept investments in the GAM**

Lack of adequate financing for EE projects is one of the biggest challenges to EE success in general. Reasons for inadequacy of financing are numerous, including owners' lack of capital to cover high upfront costs of EE investments, lack of awareness on the financial benefits of the investments, fear of hidden costs, uncertainty regarding the precise nature of energy savings, high transaction costs, and difficulties in separating operating and capital budgets. Up until now, the lack of adequate financing and investment viability of EE measures in Jordan has been further complicated by heavily subsidized energy prices. EE investments can appear unattractive when business cases assume continued low energy prices, especially in the residential sector. Moreover in the GAM and more generally there is a lack of information and understanding amongst financial institutions about EE technologies which makes it difficult to evaluate loan applications for EE investments. The consequence is often that banks establish lending criteria that are perceived as being 'too' stringent by project developers, i.e. collateralised lending only, short-tenors and high interest rates. This is a generic barrier to most lending in Jordan but is particularly profound in the RE/EE sector for two reasons: first, many green investments are relatively new technologies and hence even more difficult for banks to evaluate; and secondly a potentially disproportionate amount of green loan applications have characteristics that are particularly likely to be affected by these issues (for example they require long-term lending or they are prepared by SMEs).

The Jordan Renewable Energy and Energy Efficiency Fund (JREEF) was established in May 2012 as a department at the Ministry of Energy and Mineral Resources but has not been operationalized. It was designed to mobilize and provide financial and technical support for the meeting of the NEEAP targets but requires further assistance. Previously the JREEF has received financial support in the amount of USD \$1 million from the GEF through the World Bank and Euro 1.56 million from the French Global Environmental Facility (FFEM) through the Agence Francaise de Developpement (AFD) for the development of a framework for supporting energy management in Jordanian industrial and service sectors. The Government remains committed to providing credible and substantial financial resources to the JREEF but also seeks to mobilize donor resources that would be dedicated to the Fund. There is also a clear need to support JREEF as regards development of specific fiscal incentive products for EE measures in an urban context, as well as more general support for demonstration projects in the GAM that will showcase the implementation of Building Energy Codes and Retrofits and demonstrate how these buildings can be used to test the relevance of various instruments that are proposed in this project.

*Project Rationale*

In light of these barriers and despite the initial accomplishments and regulatory reforms that the Government of Jordan (and GAM) have taken to shift to a more sustainable growth path (including with support from GEF and UNDP), further specific support is needed for the GAM to systematically decarbonize its urban architecture, meet the NEEAP energy efficiency targets, conserve water and help authorities cope with the additional financial obligations and income losses resulting from providing energy services to the GAM's refugee influx from the Syria crisis.

The proposed project is fully consistent with the criteria of CCM Objective 2 - Program 3: *Promote integrated low-emission urban systems* which promotes low emission development needs at the city level as well as the GEF Sustainable Cities Integrated approach. The proposed project will assist the Greater Amman Municipality (GAM) achieve a more climate-resilient and low-carbon pathway via customized, targeted interventions and policy reforms in the municipal buildings and street lighting sectors, as well as provide more general support for the application of low-carbon planning and performance tools building off the existing Amman Master Plan and informed by the types of common tools promoted by GEFSEC under the Sustainable Cities IAP.

**Jordan's building sector has been identified as having the second-largest potential for energy efficiency (EE) interventions in the country after the transport sector, accounting for approximately 35% of total final energy consumption, and as such is the main focus of this project.**

The choice to focus on EE in buildings comes from several factors. Firstly, the National Climate Change Policy (2013-2020) notes that: “The overall energy intensity in Jordan is higher than in most Middle East and North African (MENA) countries, mainly as a result of relative low end-use energy efficiency. Cost-effective energy conservation opportunities exist in all major energy consuming sectors, particularly in buildings. There is therefore considerable scope for demand-side management and energy efficiency measures.” In 2012, the energy bill of Jordan corresponded to 82.7% of total exports, 31.5% of total imports, and 21.1% of GDP. More specifically the household sector in Jordan accounted for 43% of the total electricity consumption in the country and this is expected to exponentially increase going forward due to population and economic growth. Households are also the main recipient of energy subsidies in the country (estimated at 150 – 400 million JD per year - 2015) which are a major component of the GAM budget. The average annual increase in household electricity use in Jordan has been 10.5% between 2007 and 2012 (see Table 2 below):

**Table 2 – End-use electricity consumption in Jordan, 2007-2012**

Year	2007		2008		2010		2012		Average annual change (%)
	GWh	%	GWh	%	GWh	%	GWh	%	
Household	4,017	38	4,459	39	5,219	41	6,126	43	10.5
Industrial	2,918	28	3,128	27	3,258	25	3,461	24	3.7
Commercial	1,757	17	1,925	17	2,184	17	2,427	17	7.6
Water pumping	1,592	15	1,713	15	1,867	15	1,955	14	4.6
Street lighting	269	2	284	2	315	2	305	2	2.7
<b>Total</b>	<b>10,553</b>	<b>100</b>	<b>11,509</b>	<b>100</b>	<b>12,843</b>	<b>100</b>	<b>14,274</b>	<b>100</b>	<b>29.1</b>

Source: <http://www.memr.gov.jo/Portals/12/statistics/Electricity%20Consumption.htm>

Moreover as a category of GHG mitigation options, EE has been validated as being the most cost-effective abatement measure (by category) in the country. A multi-criteria analysis<sup>18</sup> has already been undertaken suggesting that EE in buildings interventions should be the highest energy priority in Jordan (with regard to cost-effectiveness and political buy-in/social acceptability). As shown in Table 3, with regard to energy efficiency potential, the different sectors in Jordan have been prioritized against four performance criteria – level of energy consumption, energy-saving potential, political attention and possible influence in the target group – in order to establish their relative priority with regard to energy efficiency<sup>19</sup>. While all the sectors provide high energy-saving potential, only the building sector is accorded “high priority” in three of four categories. The analysis also draws from the observations and recommendations of the National Capacity Self-Assessment (NCSA).<sup>20</sup> More specifically for this project the GAM is the main geographic area of concentration as regards new and existing building stocks. An indication of Amman’s prominent role in new construction demand is provided by data generated by the Contractors Survey of 2011. Of 25,606 private dwellings that were completed in 2011, 17,334 (i.e. more than two-thirds) were in the city of Amman and represented 90% of total fixed capital formation in construction in the country.

**Table 3 – Priority for energy efficiency by sector**

Sector	Level of energy consumption	Energy saving potential	Political attention	Possible influence on the target group	Priority

<sup>18</sup> A barriers analysis was carried out as an outcome of a multi-stakeholder engagement process that was carried out with key stakeholders in the city of Amman (including those listed in Section 2), and supported with analyses and resources that have been reported in the literature.

<sup>19</sup> Energy Charter Secretariat (2010), *Jordan Regular Review of Energy Efficiency*.

<sup>20</sup> Ministry of Environment. (2007). National Capacity Self-Assessment for Global Environmental Management (NCSA) – Jordan. Amman, Jordan: Ministry of Environment.

Transportation	high	high	medium	low	medium
Industrial	medium	high	high	medium	high
<b>Building</b>	<b>high</b>	<b>high</b>	<b>high</b>	<b>medium</b>	<b>high</b>
Water pumping	low	high	medium	high	medium
Street lighting	low	high	medium	high	low

During the PPG phase a more in-depth assessment will be done analyzing the specific components of the building sector in the GAM to identify those that have the greatest EE potential (e.g. residential water heating, heating and cooling/HVAC, water pumping in apartments, insulation, PV for cooling or refrigeration, shading and architectural features, low-SHGC windows, reflective roofs and wall coating, optimized natural/mechanical ventilation, and low-cost window films) so that targeted interventions in the sub-sector are prioritized and optimized. An in-depth analysis also needs to be done during the PPG to establish the link between EE in water heating (appliances used) and water conservation. For example, use of instant water heaters conserve water and at the same time improve the efficiency compared to water heating tanks at the household level. The linkages in the project between energy and water efficiency (resource efficiency) will be further analyzed at PPG stage.

The additional choice of including project interventions associated with energy efficient street lighting stems from the fact that it has already been identified as a quick-win project in the NEEAP; it is amenable to a city-wide approach and can be integrated with building frameworks from an urban architecture perspective; it has a high level of visibility and social acceptance; and it is technically straightforward to implement and already builds on the work started by several other partners (see baseline section) and therefore GEF incrementality is assured.<sup>21</sup>

#### Baseline Projects

A variety of initiatives are underway by various actors to address the challenges mentioned. The major baseline activities of relevance to this project are as follows:

**Table 4. Summary Overview of all Relevant Baseline Activities**

<p><b>Baseline Projects #1 – National government and industry activities</b></p> <p>Various national ministries and CSO entities (JGBC) have EE initiatives which cover the GAM or provide funds for the GAM for provision of energy services. Discussions held at PIF scoping stage have estimated the indicative value of these various amounts. A full description of the activities for each national entity will be done at PPG stage.</p> <p><b>Sub-total: \$4,850,000 (estimated for 2015-2020)</b></p>
<p><b>Baseline Projects #2 – GAM activities</b></p> <p>This is the estimated GAM budget for baseline activities in the EE buildings and streetlight sub-sectors for the project period. This will be further refined and elaborated at PPG phase.</p> <p><b>Sub-total: \$9,450,000 (2015-2020)</b></p>
<p><b>Baseline Projects #3 – UNDP</b></p>

<sup>21</sup> GAM has already done a pilot project (in certain parts of Amman) to install 50 timers on lighting units to control electricity consumption; this has resulted in 20% less consumption and savings of \$100,000 annually. They also funded a study to replace 14,500 mercury lighting units (125 watt) with sodium 70 watt units and another 400 lighting units of 250 watt were replaced with 100 watt (estimated \$35,000 in annual savings). Further work is mentioned in the baseline table.

UNDP co-finance will come from TRAC funds and UNDP's role in implementing part of the Energy Component of the Jordan Response Plan (JRP) to the Syrian Crisis.

**Sub-total: \$300K (2015-2020)**

#### **Baseline Projects #4 – Bilateral and regional donor activities**

Key baseline activities include:

AfD – Discussions with the AfD took place during the PIF design and development. The AfD has shown interest to coordinate its activities with the proposed project in several areas that are consistent with the actions listed in the NEEAP, namely: (i) financial support in residential and street lighting; (ii) financial support to JREEF; and (iii) the potential extension of the AfD Green Lending Program to cover Energy Building Codes. These opportunities for collaboration will be explored further during the PPG phase. AFD is very active supporting the government with EE and past projects have included:

- Energy Efficiency in Street & Residential Lighting (EUR 0.42 Million)
- Support Framework for Energy Management in Jordanian Industrial & Services Sectors – preparation of the Jordan Renewable Energy and Energy Efficiency Fund (JREEEF) (EUR1.56 Million)
- Jordan Energy Efficiency Roadmap (EUR 0.5 Million)
- Technical Cooperation Agreement with Ministry of Environment (EUR 0.3 Million) - This grant complemented AFD's €40M Green Credit Lines extended to Cairo Amman Bank and Capital Bank of Jordan

USAID's Energy Sector Capacity Building (ESCB) project works with Jordanian energy sector partners to cultivate effective policies and decision-making in the energy sector; and to build sustainable institutional and organizational capacity to increase the adoption of renewable energy and energy efficiency technologies and practices. ESCB started in July 2013 and runs until 2017. It applies a broad, adaptable approach to meet the energy sector's evolving needs, including supporting the utilities in Jordan to support end-use energy efficiency measures. One component of the project seeks to train and accredit ESCOs.

EBRD – An MoU was signed in early 2015 between GAM and EBRD to conduct feasibility studies (f/s) on street lighting solutions, while a second phase would be for changing the street light units through a loan or bidding of a BOT contract. The cost of the f/s is estimated at 100K and will be provided as a grant by EBRD. The possible loan size and further EBRD support (including integration with the proposed project activities) will be detailed at PPG phase.

The UNDP Regional Center for Arab States (together with UNDP/GEF staff) have also been working with the Islamic Development Bank, the Regional Center for Renewable Energy and Energy Efficiency (RCREEE) and the Arab Clean Energy Business Council on several regional EE initiatives, including the organization of a Regional Forum on Financing for Sustainable Energy Efficiency and Water Conservation scheduled for October 2015 in Dead Sea, Jordan. UNDP is also a partner RCREEE on the Arab Future Energy Index report and has a partnership with RCREEE to work on EE initiatives in the region. The role of RCREEE in the project and their co-finance contribution will be defined at PPG phase.

**Sub-total: \$10,100,000 (2015-2020)**

#### *Proposed Alternative Scenario*

This project includes four interrelated components linked by a spatial focus on the Greater Amman Municipality (GAM) that taken together are designed to help stakeholders in the GAM comply with the National Energy Efficiency Action Plan (NEEAP) while operationalizing the low-carbon principles contained in the Amman Master Plan (AMP) into a bonafide city-wide climate action plan. A description of the components is as follows:

#### **Component 1: Urban sustainability planning tools and benchmarks**

Cities need specific indicators to measure their performance for improving quality of life and sustainability globally. Existing indicators are often not standardized, consistent, or comparable over time or across cities. As part of a new

series of International Standards being developed for a holistic and integrated approach to sustainable development and resilience under ISO/TC 268, International Organization for Standardization (ISO) 37120 establishes a set of standardized indicators that provide a uniform approach to what is measured, and how that measurement is to be undertaken. As already mentioned this component will support the development of a variety of tools and metrics to foster accelerated resource-efficient urban development in Greater Amman Municipality and benchmark progress against established international standards. The activities have been particularly chosen to address barrier #1 in the table. The activities to be supported (informed by the GEF Sustainable Cities IAP) include:

- **Development of a Sustainability Plan (SP) and Financing Strategy (FS) for the GAM using the existing Amman Master Plan (AMP)**
- **Quantification of all energy, water and material flows in the GAM.**
- **Assessment and costing of the most appropriate resource-efficient water management/recycling policies, business models, awareness-raising campaigns and capital investments for the GAM. This will include a specific focus on how to best address water shortages.**
- **Amman benchmarked against other cities using ISO 37120 to measure the performance of city services and quality of life**

## **Component 2: Strengthened GAM enabling framework for low-carbon buildings and street lighting**

This technical assistance component will address Barrier # 2 – *Lack of enabling conditions and tools for enforcing and enhancing regulatory frameworks (including financial incentives) for EE in the GAM* and Barrier #4 – *Technical capacity barriers and absence of performance-based GHG monitoring frameworks and quality assurance*. It will specifically focus on helping strengthen the enabling conditions, methodologies and tools in the GAM for enforcing and enhancing the relevant regulatory frameworks (including financial incentives) for EE buildings and street lighting (as well as addressing technical capacity constraints). The key outputs supported under this component include:

- **A new EE Building Code Department will be set-up within the State Committee on Architecture and Construction at GAM.**
- **The enforcement capabilities of the new department will be strengthened as regards compliance with Building Energy Codes through relevant trainings and other measures.**
- **Update of the existing Building Energy Codes and development of a "Retrofit Building Energy Code" for GAM to make upgrades more acceptable. The project proposes to update the existing Building Energy Code to make it more relevant to the current GAM conditions, and to also develop new 'Retrofit Building Energy Code' that would target existing buildings (including possible development of a 'stretch code'<sup>22</sup> which will serve to enhance emission reduction beyond the mandatory energy codes).**
- **Develop and operationalize a training and accreditation programme for ESCOs and RESCOs for the selected Energy Codes. At least 20 ESCOs/RESCO's will be accredited and capacitated via this programme.**
- **The development and dissemination of an online tool for carrying out comparative socio-economic and environmental (GHG emission reduction) of buildings in the GAM using a life-cycle methodology. This tool will be used for carrying out comparative socio-economic and environmental (GHG emission reduction) benefits analysis of Building Energy Codes and Retrofits against the baseline situation using the life-cycle methodology. The tool will also cover the efficiency of outdoor lighting. It will be made available to investors, real estate developers, professionals (e.g. architects) and end-users. The tool will be used for appraisal by investors; for green marketing by developers and professionals; and as a decision-making tool by end-users.**
- **The development of an energy rating standard and label for buildings in the GAM for issuing Energy Performance Certificates. A system of benchmarking buildings in GAM will be developed and implemented by the project. While the Energy Star and International LEED labeling systems have been identified as a likely choice, the most appropriate benchmarking system will be identified during the**

<sup>22</sup> A stretch code is a locally mandated code or alternative compliance path that is more aggressive than base code, resulting in buildings that achieve higher energy savings. When base codes are not keeping up with advances in technology and design practices, stretch codes provide an opportunity to train the building and development communities in advanced practices before the underlying energy code is improved and help accelerate market acceptance and adoption of more stringent energy efficiency codes in the future. Also known as reach codes, stretch codes can work in tandem with utility incentive programs. In many cases, utility energy efficiency programs, utility incentives and jurisdictional stretch code programs can be aligned.

PPG phase based on local conditions. Based on the work that the JGBC has carried out on the feasibility of LEED in Jordan and based on its current involvement in the development of an International LEED certification system, the project proposes that the JGBC may become an accredited third-party institution to issue the Energy Performance Certificate. LEED covers many aspects of buildings such as sustainability of construction sites, energy and atmosphere, indoor air quality, water efficiency and materials and resources use. LEED therefore allows energy efficiency to be benchmarked within the broader perspective of sustainable development, and it provides a means of reconciling climate change adaptation and mitigation by covering both water and energy efficiency in buildings. However, other tools such as the SABA Green Building Rating System that has been tailored for the local climatic conditions in Jordan will also be assessed during the PPG phase for possible adoption.

- **Development of a web-based geospatial tool that provides a topographical plan of main buildings in the city of Amman. The interactive tool will be designed to provide the user with several features of buildings, including: energy rating; expected energy savings compared to a no-rated building; and the price/rental of building space. The tool can be used by GAM authorities to monitor the issuance of licences and collection of taxes. Further, it can also be used as a social marketing tool for effecting behavioural change towards adoption of green buildings – i.e. a non-financial incentive for promoters to invest in low-carbon buildings.**

Another activity to be considered under this component will be development of a private sector-led recognition award(s) to act as an incentive and benefits-awareness tool for Jordan. The Jordan Chamber of Commerce or an association of private companies could host such an award. Such incentives have worked very well in other countries and will be further explored as regards their application in Jordan during the PPG stage.

### **Component 3: Performance-based GHG monitoring frameworks for low-carbon building and streetlights**

This technical assistance component will address Barrier #3 - *Information/Awareness and Perception Barriers about Resource Efficiency Benefits* and Barrier #4 –*Technical capacity barriers and absence of performance-based GHG monitoring frameworks and quality assurance*, as well as support the identification of tools to mitigate Barrier #5 – *Lack of fiscal incentives for uptake of EE building measures and proof-of-concept investments in the GAM*. It will specifically focus on ensuring that an integrated climate monitoring and finance framework is established for the development of urban NAMAs and that the most appropriate financial de-risking tools are identified and supported to promote adoption of EE measures in buildings with accompanying MRV systems.

The key activities supported under this component include:

- **Development of an urban MRV system for: (i) Energy Codes related to the building sector; and (ii) EE street lighting for determination of emission reductions from investments.**
- **Development of two city-wide sectoral NAMAs, including investment plans for (i) existing and new buildings, and (ii) street/outdoor lighting. This will establish the necessary conditions to leverage financing to support city-wide NAMAs in the building and street lighting sector, with GAM as the first pilot site. Prior to being able to attract funding through dedicated climate funding mechanisms to support the implementation of NAMAs, the country must first demonstrate that a thorough and robust methodological approach has been used to develop NAMAs. Minimum standards for NAMA design (e.g. relating to robust MRV systems and greenhouse gas emission reduction estimation methodologies) will be developed and enforced by the DNA or an existing structure at the Ministry of Environment. NAMA action plans will be developed for both sub-sectors, including: measures for barrier removal, institutional and capacity development requirements, GHG inventory and MRV structures and processes, full project description and a detailed cost estimate based (in part) on the tools and methodologies supported under this project. Technology-specific barrier and enabling framework analyses using methodologies and tools (e.g. market mapping techniques and Logical Problem Analysis coupled with incremental cost-benefit analysis) developed under the past GEF-funded Technology Needs Assessment (TNA) project will be carried out.**
- **As part of the development of those NAMAS, assistance to the Jordan Renewable Energy and Energy Efficiency Fund to provide financial incentives to promote investments in Building Energy Codes by the**

establishment of instruments such as a dedicated green credit line for EE measures in buildings and White Certificates. The Jordan Renewable Energy and Energy Efficiency Fund will be redesigned to include an enhanced ability to attract and manage climate finance for city-wide sectoral NAMAs, the first of which will be piloted in the GAM. Specific objectives of the Fund are: the collection of sources of funds and directing them towards climate change activities that promote national priorities, notably NAMAs; coordination of country-wide climate change activities to ensure that climate change priorities are effectively implemented; and strengthened capacities for national ownership and management of climate finance. Discussions with AfD have shown promise for the setting up of a dedicated green credit line for buildings linked to the JREEF. All these options will be explored in greater detail during the PPG phase together with analysis of potential financing instruments (e.g. concessional loans, green credit lines, fiscal mechanisms, donor contributions or even a carbon tax) to capitalize the Fund. Since GEF funds will not be used to capitalize the Fund, the project focus will be on provision of TA for a redesign of the fund structure and development of new financing modalities that will sustain the Fund over the long-term. Evidence of the Government's commitment towards capitalization of the Fund, together with details on possible financing instruments to be supported for EE interventions, will be supplied at request for CEO endorsement.

- **Identification and quantification of the effectiveness of different policy and financial de-risking instruments for EE buildings using UNDP's de-risking methodology<sup>23</sup>.**
- **Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities in Jordan and MENA countries.**

#### **Component 4: Targeted proof-of-concept mitigation interventions**

This INV component will build on the TA-funded activities supported under Components 1-3 and provide targeted cost-sharing GEF support for selected proof-of-concept EE investments in the GAM. It will address Barrier #5 – *Lack of fiscal incentives for uptake of EE building measures and proof-of-concept investments in the GAM*. The key outputs supported under this component include:

- **2-4 new private-sector residential buildings integrating best-practice resource efficiency measures/technology are supported**
- **2-4 new public-sector buildings (either school or hospital) integrating best practice resource efficient/technology measures supported**
- **1-2 existing public-sector building (e.g. Ministry of Planning and International Cooperation or other) are retrofitted.**
- **Updated EE Lighting Code and smart usage system in place for all GAM street lights**
- **Standalone PV street lighting installed in GAM using the most energy efficient and site appropriate lighting technology available (e.g. LEDs or replacement of mercury vapour lamps with high pressure sodium lamps)**

Financial support is necessary to showcase the efficacy and viability of the building codes and jump-start the retrofit market, in certain cases addressing issues of affordability for the upfront cost of new low-carbon features or EE retrofits; in other cases to improve the IRR of EE retrofit projects; and in other cases as a behavioral incentive to stimulate the initial demand from building owners. In order to showcase low-carbon buildings in the GAM and the show “proof of concept” examples of what can be done to reduce resource consumption in the built environment, GEF financing will be used as complementary grant co-financing to leverage GAM and JREEF finance and other funding sources (AfD, EBRD, etc.) for implementation of best-practice EE building measures in 4-8 new buildings and 1-2 new buildings in the GAM. The exact model and method for GEF INV and matching criteria from the beneficiaries will be established at PPG phase but at most GEF support will be 35% of the total investment cost per buildings project and up to \$150,000 per project, so as to catalyze a sufficient number of demonstration projects under implementation. In terms of EE lighting, GEF support will build on the results/outcomes of a new feasibility study on street lighting solutions funded by EBRD for the GAM, and the planned second phase for the replacement of all street light units in the GAM with low-consumption alternatives either through a loan or bidding of a BOT contract. The full details of

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<sup>23</sup> Now under development and expected to be launched in 4Q2015.

how GEF financing will interact with and leverage GAM and EBRD support for the targeted street lighting investments will be detailed at PPG phase.

### Global Environmental Benefits

The proposed project will focus on enabling GAM (and therefore Jordan) to achieve the NEEAP 20% energy efficiency target for the buildings and street lighting sub-sectors by 2020. At present we do not have detailed data on the energy consumption of the building and streetlight sector specifically from GAM. However based on 2012 data for end-use electricity consumption in Jordan (Table 2) and the fact that the building sector accounts for approximately 35% of total final energy consumption in the country and streetlights 2% of consumption we can estimate the national amount of electricity consumed from the two sub-sectors. Given that GAM is the main geographic area of concentration as regards new and existing building stocks in the country and has the majority of the country’s streetlights, we can conservatively estimate that it represents at least 50% of electricity consumed within these two sub-sectors. On that basis we can estimate the associated GHG emission reductions that could be achieved if all public buildings and street lights in GAM achieved electricity savings of 20% (relative to their baseline consumption in 2012) as @ 276,111 tCO<sub>2</sub>e<sup>24</sup>annually (see calculations below).

**Table 5 – GHG Emission Reduction Estimates**

<b>Baseline reference year (2012)</b>	
<b>National estimated electricity consumption from buildings and streetlights (MWh)</b>	5,281,380
Estimated annual energy consumption in GAM from buildings (MWh))	2,497,950
Estimated annual energy consumption in GAM from streetlights (MWh)	142,740
Estimated GHG emissions in GAM from buildings (tCO <sub>2</sub> e)	1,305,928
Estimated GHG emissions in GAM from streetlighting (tCO <sub>2</sub> e)	74,624
<b>Proposed GAM Scenario in 2020 - NEEAP Targets - 20% reduction versus reference year 2012</b>	
Estimated reduction in annual energy consumption from buildings after GEF interventions (direct) (tCO <sub>2</sub> e)	<b>261,186</b>
Estimated reduction in annual energy consumption from streetlights in GAM after GEF interventions (direct) (tCO <sub>2</sub> e)	<b>14,925</b>
<b>Total</b>	<b>276,111</b>
GEF \$ invested per reduced tCO equivalent (direct)	9.6
Indirect emission reductions based on Replication Factor of 4	1,104,442

Indirect emission reductions are expected to be substantial, arising from the policy incentives, capacity development and institutional strengthening aspects of the project. Applying a bottom-up replication factor of 4 provides estimated indirect emission reductions of 1.14 million tCO<sub>2</sub>e annually after a ten year period following project closure.

Furthermore, the use of building envelope insulation is expected to reduce the need for space cooling that will lead to a reduction in the use of ozone-depleting refrigerants and GHGs such as halo carbons (CFCs and HCFCs) and hydro-fluorocarbons (HFCs). The baseline assessments that will be carried out during the PPG phase will include an estimation of the quantity of refrigerants that can be displaced by adopting Energy Building Codes (consultations with stakeholders working on Montreal Protocol-linked projects will be explored at PPG phase). Detailed direct and indirect emission reduction estimates will be undertaken during the PPG phase<sup>25</sup> and will be informed by the Global Protocol for Community-Scale Greenhouse Gas Emissions and by the Cities Alliance. **Emission reductions from any water-saving actions supported by the project will also be analysed at PPG phase.**

<sup>24</sup> Based on a grid emission factor of 0.5228 tCO<sub>2</sub>/MWh for the Jordanian electricity system.

<sup>25</sup> Discussions with stakeholders during the PIF formulation have revealed that there is a lack of baselines for the building sector based on which the global environmental benefits (direct and indirect) of the proposed project can be calculated. These baselines include, among others: (1) fuels used for space heating during winter; (2) amount of electricity used for air-conditioning during summer; (3) the impact of envelope insulation on reducing energy consumption in buildings; (4) the amount of roof space available for installing solar water heaters (SWHs) or roof-top photovoltaics (PV); and (5) potential energy savings from either SHWs or PV. The lack of baselines is related to the segmentation and fragmentation of the building sector, which of itself can be considered a barrier for addressing mitigation options. This segmentation and fragmentation relates to the fact that buildings are ubiquitous to most sectors, and it is unusual for energy consumed in buildings to be catalogued in its own right at the national level. Hence, a significant task in the PPG phase will be to establish a preliminary baseline for the building sector in the GAM.

## Local benefits

The project will also enhance sustainable development through minimizing dependence on imported energy, minimising energy costs to the GAM and the larger economy, creating new employment opportunities and improving the local environment. The sustainable development and socioeconomic development impacts of the project will be substantial and multi-faceted. During the PPG phase a robust set of key indicators will be developed to monitor the localized socio-economic impacts of project interventions. Potential indicators to be considered in the final results framework include:

- Performance of GAM (measured ex ante and ex post) on ISO 37120 .
- Energy intensity/improved efficiency of buildings
- Water savings
- Total number of direct and indirect beneficiaries; Number of beneficiaries relative to total population - to be determined based on latest population figures for GAM.
- Economic co-benefits – aggregate annual monetary savings (US\$ equivalent) to the GAM budget from EE public street lighting and more efficient energy consumption in public buildings.
- Contribution of project to “offsetting” of incremental energy demand from the Syrian Crisis (from the JRP, 2015)<sup>26</sup> – to be determined.

## *Innovativeness, Sustainability and Potential for Scaling-Up*

### Innovation

The project is innovative in the sense that it includes more general upstream policy support for urban planning and monitoring frameworks that systematically address resource efficiency issues across the continuum of water, energy and waste sectors in the GAM, as well as more customized components designed to address specific barriers in the municipal buildings and street lighting sub-sectors. Because of budget constraints (the project originally applied for additional set-aside funding under the GEF Sustainable Cities IAP), the choice of sub-sectors for targeted support were narrowed down to buildings and street lighting (it was originally hoped to additionally focus on water and waste interventions) but the “systematic” and “resource efficiency” aspects of the project are nevertheless preserved by virtue of the upstream planning activities and the fact that many of the approaches and tools put forth for the chosen sub-sectors can in the future be replicated for other areas (waste, water-saving technologies, transport, etc.).

### Sustainability

Then project’s sustainability is underpinned by the fact that as a category of GHG mitigation options, EE in the built environment has been validated as being the most cost-effective abatement measure (by category) in the country (see more below). As shown in Table 3, EE interventions in the Jordanian building sector benefit from the highest energy-saving potential, the greatest political attention, and achieve the maximum possible influence in the target group. Energy efficient street lighting similarly has a high level of visibility and social acceptance; it is technically straightforward to implement; and already builds on the work started by several other partners. Jordan suffers from a huge energy import bill and is completely reliant on, and vulnerable to, the global energy market. Energy prices in Jordan are among the highest in the region and Jordan’s Cabinet approved a plan to increase electricity tariffs for most

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<sup>26</sup> Note: The energy-related objective of the JRP is “to scale-up and accelerate responses to Jordan’s energy crisis in a sustainable manner that alleviates incremental demand pressures from the Syria crisis.” Within Jordan’s broad strategy for transformational change in both energy supply and demand dynamics, the JRF has two key objectives of relevance to Jordan’s response to the Syria crisis: 1) Improved and effective rapid sustainable energy solutions for offsetting incremental energy demand in the short-term ensured – US\$ 35,905,000; and 2) Contribution of solar energy for electricity generation increased – US\$ 30,000,000. The sector response strategy notes that: “Instead of developing new import-dependent power capacities, the plan proposes to meet extra loads through energy efficiency and renewable energy solutions, while building on existing capacities and initiatives. In the short term, this investment provides a cost-effective solution and significant energy savings, while the long-term benefits of scaling up the use of energy efficient appliances in host communities would outlast the Syria crisis.”

segments until 2017 to better reflect the costs of generation. All of these trends and facts mean that from both a Government and end-user perspective, the chosen project interventions can be expected to receive a high degree of acceptance from all stakeholders and have a positive profile in terms of their social, operational and financial sustainability.

#### Potential for scaling-up

Focusing on the largest city in Jordan – i.e. Amman – provides the measure of scale and visibility to hopefully extend similar measures to other cities (post-project) and begin the process of decarbonizing the built environment of all of Jordan’s urban areas. The interventions chosen for this project have excellent replication potential for the neighboring Greater Zarqa Municipality and Irbid Governorate, the second largest metropolitan population in Jordan after Amman with a population of around 1.1 million (located about 70 km north of Amman on the northern ridge of the Gilead).

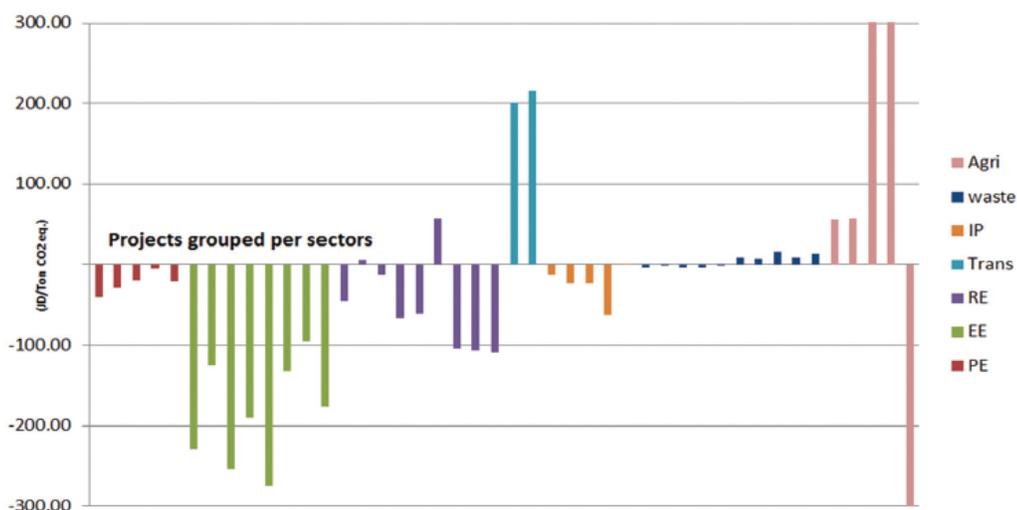
#### Impact of market transformation to low carbon economy for the country

As already explained, both in terms of GHG reductions and local benefits, the project has the potential to catalyze transformational change and make a major contribution towards achievement of the National Energy Efficiency Action Plan (NEEAP) and to the offsetting of incremental energy demand from the Syrian Crisis. The project is not your conventional energy efficiency project in the sense that it is embedded in the broader umbrella of a push towards a sustainable architecture by GAM authorities and the fact that many of the interventions are specifically customized to the needs of the GAM and alleviating the exceptional circumstances faced by the city. As already noted, additional Government subsidies on food, gas, water and electricity for Syrian refugees and accelerated infrastructure depreciation from the crisis are costing the Government more than US\$ 650 million a year, with a sizeable portion of that going to support services in the GAM. The project is very relevant to the current national context since expediting and expanding key energy efficiency and water conservation measures could potentially meet all of the new energy demand from the Syrian crisis and would be a strategic approach that does not build in new import-dependence as with oil/gas, thereby putting the city and country on a firm low-carbon pathway.

#### Cost-effectiveness

Based on a unit abatement cost and an abatement marginal cost curve developed as part of the Third National Communication, the most feasible mitigation options (considered in aggregate as a category) in Jordan are considered to be in the energy sector. Energy efficiency and renewable energy interventions in Jordan have unit cost range savings from -13 to -274 JD/tCO<sub>2</sub> (US\$18-386/tCO<sub>2</sub>). The results of mitigation analysis clearly show that, from a cost-effectiveness perspective, EE interventions (those in green in the figure below, including options for EE building retrofits and EE street lighting) are, as a category, the lowest-cost options available for reducing GHG emissions.

**Figure 1 - Marginal abatement cost curve for all mitigation measures grouped according to sectors - Jordan**



Source: Jordan's Third National Communication (TNC) on Climate Change, 2014

2. *Stakeholders*. Will project design include the participation of relevant stakeholders from [civil society](#) and [indigenous people](#)? (yes X/no ) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation.

The project concept is based on, and specifically responds to, a request from the Ministry of Energy and Mineral Resources (MEMR) and GAM to UNDP to develop an integrated project focused on EE interventions in the GAM. The project will be executed by the GAM in close coordination with national government partners. The role of the various stakeholders in project design is outlined below and will be further detailed at PPG phase:

Stakeholders	Roles and responsibilities (project preparation)
Jordan National Building Council (JNBC)	According to the National Energy Efficiency Roadmap 2007, the JNBC is mandated to strengthen energy efficiency building codes and to establish clear responsibility to monitor adherence to the building codes by all planning and certifying agencies. JNBC will be tasked as one of the key stakeholders coordinate stakeholder consultations during the development of the PPG.
Ministry of Energy and Mineral Resources (MEMR)	The EE Department of MEMR was consulted during the PIF development especially concerning the implementation of the National Energy Efficiency Action Plan (NEEAP). The MEMR will be involved during all the stages of project design, conceptualization, development, implementation and monitoring & evaluation. Since MEMR administers the Jordan Renewable Energy and Energy Efficiency Fund (JREEEF), it is expected to play a significant role in the design and implementation of activities in Component #43 and #4.
Ministry of Planning and International Cooperation (MoPIC)	MoPIC hosts the GEF OFP and it was consulted during the development stage of this project concept; further consultations will happen during the PPG stage. The MoPIC will be the key institution responsible for carrying out coordination between the proposed project and the initiatives of other development partners (USAID, AfD, EBRD, etc).
Jordan Standards and Metrology Organization (JSMO)	JSMO is a key stakeholder for establishing standards and carrying out conformity tests for materials and equipment that are promoted in Building Energy Codes. Discussions on these issues took place during the PIF development and will be further developed during the PPG phase of the proposed project.
Private sector and local banks	The private sector will be a key stakeholder in all aspects of project implementation but particularly for activities under Components #2 and #4. Further consultations

	will be held at PPG phase on the role of the private sector with a detailed explanation of the role of the ESCOs and RESCOs provided at CEO Endorsement.
National Energy Research Centre (NERC)	The National Energy Research Centre (NERC) was established in 1998 to undertake scientific research and development activities and promote new and renewable energy technologies, energy conservation and oil shale. NERC offers services as an ESCO and RESCO, and based on its experience it will support the development of a training and accreditation programme for ESCOs and RESCOs as part of the project. Further consultations will be held at PPG phase.
Ministry of Finance	The Ministry of Finance will be involved in the design and administration of financial instruments to support implementation of renewable energy technologies and the means of capitalizing the restructured JREEEF (Component #3).
Ministry of Environment	The DNA is hosted within the Ministry of Environment. The former was involved during PIF development and will continue his involvement during the PPG phase. In the PPG phase, the members of the DNA Committee will be consulted with regards to activities under Component #2. The project will engage the Jordanian DNA to act as the national coordinating institution and provide quality assurance for the targeted NAMAs.
GIZ	GIZ was consulted during PIF scoping. Although GIZ does not have any specific projects in the proposed fields of activities at present, it has voiced an interest to potentially work on NAMAs in Jordan. The project design will be based on the lessons learned by GIZ in developing NAMAs in other MENA countries, and in particular in Tunisia where GIZ is developing a NAMA for the building sector.
EU-Delegation	The EU-Delegation was consulted during the PIF development. The EU-Delegation mentioned that the EU has already an agreement in place with UNDP for EU grant management. The possibility of the proposed project to receive direct EU grants will be further explored during the PPG phase.
Agence Francaise de Developpement (AfD)	Discussions with the AfD took place during the PIF design stage. The AfD has shown interest to coordinate its activities with the proposed project in several areas that are consistent with the actions listed in the NEEAP, namely: (i) financial support in residential and street lighting; (ii) financial support to JREEEF; and (iii) the potential extension of the AfD Green Lending Program to cover Energy Building Codes. These opportunities for collaboration will be explored further and elaborated in full during the PPG phase.
EBRD	Pending consultative discussions, EBRD could be a key partner and stakeholder on the EE streetlight activities under Component #4.
USAID	USAID is supporting the utilities in Jordan to support end-use DSM energy efficiency measures. One component of their project seeks to train and accredit ESCOs and as such there is potential for collaboration which will be further explored during the PPG phase.

3. *Gender Considerations.* Are [gender considerations](#) taken into account? (yes  /no  ). If yes, briefly describe how gender considerations will be mainstreamed into project preparation, taken into account the differences, needs, roles and priorities of men and women.

Gender equality featured strongly as a cross-cutting issue in the development of the JRP 2015 and also the AMP. As a first step towards ensuring that a gender perspective was mainstreamed into JRP 2015, efforts were made to ensure that all data used and collected in the needs assessment, sector responses and performance indicators were disaggregated by sex. The development of applicable gender-disaggregated indicators for socio-economic benefits of the project and a strategy for gender inclusion with regard to capacity building and awareness-raising will be undertaken during the PPG phase.

The impact of the Syrian refugee crisis on both Jordanian and Syrian youth is immense. Youth can be a great driving force for innovation, positive change and creative solution-finding. Thus, mainstreaming youth considerations into all

response planning is important in terms of understanding that they have specific needs as well as great potential to contribute to solutions. Moreover, they could be the best channel for social cohesion at local level. The development of the full project document will factor into account how youth can be best engaged as part of project implementation.

*4 Risks.* Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

A full social and environmental screening will be done as per UNDP’s Social and Environmental Safeguards policy during the PPG phase. A preliminary assessment of possible risks and mitigation measures is proposed below and will be updated and refined during PPG phase.

Risk	Rating	Mitigation
Further deterioration in the security climate or increase in terrorism with accompanying economic impacts	Medium	<p>Despite the difficulties experienced in some sectors, the Jordanian economy has generally weathered the difficult regional security climate and has continued to expand, albeit not at the robust pace seen in the previous decade. The Latest EIU country report (July 2015) states that: <i>“Helped by rising construction activity and a rebound in agriculture after a difficult, real GDP grew by 3.1% in 2014. The overall pace of growth, although picking up gradually, will remain constrained in the near term by the impact of regional instability—Syria and Iraq traditionally being Jordan’s main export markets and tourism also a key sector—and the effect of lower oil prices on regional liquidity. Meanwhile, high unemployment will act as a continuing drag on private consumption, although work on large infrastructure projects and tourism expansion projects should help to boost employment, and lower oil prices will increase consumer purchasing power. Economic growth in 2015/16 will be higher than in 2013 14, at an annual average of 3.9%.”</i> Additionally it is important to note that the US has also said that it will increase annual aid to Jordan from US\$660m to US\$1bn a year in 2015/17 and has extended loan guarantees.</p> <p>With no sign that the regional political situation is likely to improve in 2015 or beyond, Jordan will continue to face considerable economic pressure. There is little the project can do to mitigate or prepare for deterioration of the security situation or the risk of increased spillover effects of the Syrian conflict into Jordan and the GAM. However given that the project rationale and design are specifically designed to achieve cost savings for both the GAM and end users and generate strong economic co-benefits, its relevance will remain.</p> <p>An updated assessment of the security situation and any possible mitigation measures for the project to incorporate will be done at PPG phase.</p>
Impact of low oil prices	Low	<p>According to most studies the recent fall in oil prices has had a positive impact on the Jordanian economy in the short run, lowering production costs and price pressures on citizens and refugees, reducing fiscal pressures related to oil imports for energy, negating the need for past oil subsidy payments from the government to households, and ultimately reducing the twin deficits. In the medium term, however, and depending on the length of the oil price slump, the net effect could turn negative, primarily from lower grants from the GCC on which Jordan is dependent to fund its fiscal deficits, and lower remittances from its diaspora in oil-producing countries. This could impact the budgets of the GAM and many companies in terms of their ability or appetite to invest in EE measures.</p> <p>However generally low oil prices have a largely positive fiscal effect as it pertains to cash transfers from the GAM aimed at compensating households for the removal of fuel subsidies for which about \$300 million had been budgeted (nationally) for each of 2014 and 2015 in the 2014 budget. As originally designed, when oil prices fall below \$100, the cash transfer automatically stops. As a result, the December 2014 disbursement did not take place. The influx of Syrian refugees has affected the cost of living in terms of higher rental costs, but generally inflation has been moderate, helped mainly by lower global oil prices. In the first quarter of 2015 the consumer price index actually contracted by 0.9%, compared with a rise of 3.3% in the same quarter of 2014, with the cost of transport and fuels and lighting declining by 16.3% and 11.6% respectively.</p> <p>Given that according to AFEX 2015 Jordan has the third highest energy prices in the region, even with lower oil prices there is a strong incentive for consumers and GAM authorities to invest in the EE measures included in this project, which as noted are among the most cost-effective in the country.</p>
Climate Change Impact	Medium	<p>The ambient temperature in Jordan is expected to increase in the future due to climate change. As discussed, energy building codes related specifically to building envelope insulation will be an effective form of adaptation to this climate impact. The Third National Communication to the UNFCCC includes a special chapter on municipal needs for urban adaptation to climate change in Jordan, and the project has been specifically informed by the recommendations contained therein. Adaptation measures which will be incorporated into this project include; 1) introduction of climate-</p>

		responsive building techniques and elements to reduce the effect of heat and reduce demand on energy for cooling; 2) Promotion of the use of energy-saving devices, and raising awareness on the long-term benefits of energy efficient devices; 3) amendments to sector policies and regulations, such as building codes, to reflect climate change risks and to direct people towards insulating buildings to reduce energy demand; and 4) zoning and development changes to reflect increased vulnerability of specific locations and/or resources (to be considered as part of the project during the design phase and incorporated as part of activities supported under Component #1).
Social acceptability risks	Low	The social acceptability of the proposed project is expected to be high in Jordan, especially in a context of increasing prices of electricity and water and temperature increases. The proposed project is also expected to create skilled green jobs that are a social and political priority in Jordan. The capacity building and communication activities proposed in the project will enhance the awareness of stakeholders about the socio-economic and environmental benefits of resource efficiency measures and mitigate this risk, as will the proof-of-concept investments supported under Component #4
High financing costs or lack of financing could undermine the viability of the proposed investment measures and approaches	Low	As noted, the government has committed to capitalizing the JREEF and several other donors such as AFD and EBRD have expressed a string willingness (as evidenced by EBRD's recent loans to the GAM in the areas of waste and light rail – see next section) to provide concessional financing for low-carbon investments. A detailed investment analysis of the different measures to be promoted under the project will be undertaken at PPG phase to make sure that the risk/return profile is in line with local financing costs and sources. The application of UNDP's DREI tool will assist policymakers in the GAM to systematically identify the barriers and associated risks which can hold back private sector investment in EE and propose specific de-risking measures to reduce the cost of capital. A preliminary application of the DREI approach will be done at PPG phase.

5. *Coordination.* Outline the coordination with other relevant GEF-financed and other initiatives.

There are currently no GEF-financed projects under implementation in Jordan in the specific proposed areas of interest. As noted the project will build off the successful track record of EE work started by the GEF-funded *Energy Efficiency Standards and Labeling in Jordan* Project. As discussed in Section II, there are several initiatives that have been earmarked in the National Energy Efficiency Action Plan (NEEAP), and with which the proposed project will coordinate its activities. Relevant related initiatives include:

- The European Bank for Reconstruction and Development (EBRD) is providing a US\$13 million loan to Greater Amman Municipality to help manage solid waste, generate electricity and reduce CO2 emissions, all of which will have a substantial environmental impact. The project will help to implement a comprehensive landfill-gas (LFG) recovery system, designed and constructed with gas-collection technology. Given the nature of the investment and the potential energy savings, the EBRD is co-financing the loan with US\$5 million from the Bank's Green Energy Special Fund (GESF). The landfill gas plant will serve as a model by establishing a new solid waste company, owned by the city of Amman, and by introducing a public service contract between the city and the newly created company. In early June 2015 the EBRD also invited consultants to tender their services for a pre-feasibility study for the construction of a light rail transit (LRT) connection between Amman and the country's main airport, Queen Alia International Airport (QAIA).
- UNDP/GEF is developing a new Chemicals and Waste PIF entitled "Reduction and elimination of POPs and other chemical releases through implementation of environmentally sound management of E-Waste, healthcare waste and priority U-POPs release sources associated with general waste management activities" (total GEF grant: \$5,090,000). The objective of that project is "Protection of human health and the environment through reduction and elimination of POPs, and other chemicals through implementation of environmentally sound management (ESM) for e-waste, healthcare waste and priority U-POPs release sources associated with general waste management activities." Some of the project activities will be focused on areas of the GAM; the specific linkages and synergies between the two projects will be analyzed and elaborated during the PPG phase.
- UNDP Jordan has developed a new project concept "Development of a National Strategy for Spatial Planning (NSSP) in Jordan" (unfunded as yet). This project aims at supporting an integrated spatial planning strategy for sustainable development, which entails having proper hierarchy between national, regional and local plans.

Besides, enforcement of laws and regulations, coordination with various entities (ASEZA, development zones, JVA, GAM, and RSCN, capacity building, and knowledge management for GIS land use maps are critical for sound spatial planning. Linkages with this project will be analyzed at PPG phase.

- UNDP – together with UN-Habitat and other UN agencies – has been supporting the League of Arab States (LAS) in the development of the Arab Strategy for Housing and Sustainable Urban Development – 2030. This focuses on support for an Urban SDG to specifically address urban development issues - SDG11: Making cities and human settlements inclusive, safe, resilient and sustainable. It puts cities at the heart of the development agenda and places green, well-planned, resilient, inclusive, productive, safe, and healthy cities for all as a powerful driver for sustainability in the region. During the PPG phase more linkages between the regional LAS work and this project will be elaborated.
- KfW – The Government of Jordan, through MoPIC, has contracted a soft loan with KfW for the installation of roof-top PV systems on selected public buildings, as well as in EE measures. The exact role of that financing in the context of the project will be elaborated at PPG phase.
- The Eco-Cities Initiative: launched in 2010, this initiative allowed the creation of the Jordan Green Building Council (JGBC) and led to a workshop on Green Financing, the enhancement of a national programme on Clean Production, and the proposed tax exemption of hybrid cars.

6. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes X /no  ). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

The project concept is based on, and specifically responds to, a request from the Ministry of Energy and Mineral Resources (MEMR) and GAM to UNDP to develop an integrated project focused on EE interventions in the GAM. It responds to a range of national strategies (as already mentioned) and previous foundational work supporting green growth in Amman, specifically the AMP and work done by the Global Green Growth Institute and the provisional Green Growth Plan for Jordan. The project will build upon existing national vision documents and reports and is consistent with priorities identified in Jordan’s Third National Communication to the UNFCCC; the NRP and JRP – 2015; Jordan’s Water Strategy (Water for Life 2008-2022); the National Agenda; the Executive Development Plan; and the National Climate Change Policy of the Hashemite Kingdom of Jordan, 2013-2020. The Local Governance and Municipal Services sector plan of the JRP targets major improvements in service delivery performance in the most affected municipalities (including the GAM), including urgently required investment and capacity building in municipal services and infrastructure.

7. *Knowledge Management.* Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

This project will closely collaborate with knowledge management activities and Global Knowledge Sharing platforms developed by the World Bank Group (WBG) as Lead Implementing Agency of the Sustainable Cities IAP program. The project also includes a specific output – “Lessons learnt, experiences and best practices related to the project are compiled and disseminated in other cities in Jordan and MENA countries.”

### **PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

#### **A. RECORD OF ENDORSEMENT<sup>27</sup> OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):**

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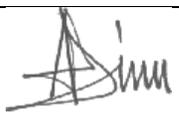
<sup>27</sup> For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

(Please attach the [Operational Focal Point endorsement letter](#)(s) with this template. For SGP, use this [SGP OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
H.E Dr. Saleh Kharabsheh	Secretary General of the Ministry of Planning and International Cooperation	MINISTRY OF PLANNING AND INTERNATIONAL COOPERATION	JUNE 29, 2015

#### B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies<sup>28</sup> and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Adriana Dinu, UNDP-GEF Executive Coordinator		August 13, 2015	Lucas Black Regional Technical Advisor – Energy, Infrastructure, Transport and Technology (EITT) Arab States	+90 538 598 5172	<a href="mailto:lucas.black@undp.org">lucas.black@undp.org</a>

#### C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to the PIF.

<sup>28</sup> GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF