

## Green Sharm El Sheikh

### Part I: Project Information

**GEF ID**  
**10117**

**Project Type**  
FSP

**Type of Trust Fund**  
GET

**Project Title**  
Green Sharm El Sheikh

**Countries**  
Egypt

**Agency(ies)**  
UNDP

**Other Executing Partner(s):**  
Ministry of Environment

**Executing Partner Type**  
Government

**GEF Focal Area**

Multi Focal Area

**Taxonomy**

Focal Areas, Chemicals and Waste, Plastics, Persistent Organic Pollutants, Unintentional Persistent Organic Pollutants, Emissions, Disposal, Climate Change, Climate Change Mitigation, Renewable Energy, Sustainable Urban Systems and Transport, Energy Efficiency, Biodiversity, Protected Areas and Landscapes, Terrestrial Protected Areas, Coastal and Marine Protected Areas, Mainstreaming, Tourism, Fisheries, Biomes, Rivers, Desert, Climate Finance (Rio Markers), Productive Seascapes, Mangroves, Climate Change Mitigation 2, Coral Reefs, Sea Grasses, Financial and Accounting, Conservation Finance, Natural Capital Assessment and Accounting, Sound Management of chemicals and waste, Open Burning, Best Available Technology / Best Environmental Practices, Influencing models, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Demonstrate innovative approaches, Stakeholders, Type of Engagement, Participation, Consultation, Partnership, Civil Society, Community Based Organization, Local Communities, Private Sector, SMEs, Capital providers, Large corporations, Non-Grant Pilot, Gender Equality, Gender results areas, Capacity Development, Access and control over natural resources, Access to benefits and services, Participation and leadership, Gender Mainstreaming, Gender-sensitive indicators, Beneficiaries, Sex-disaggregated indicators, Capacity, Knowledge and Research, Knowledge Generation, Workshop, Seminar, Training, Targeted Research, Knowledge Exchange, Conference, Field Visit

**Duration**

60

In Months

**Agency Fee(\$)**

590,206

**Submission Date**

10/5/2018

## A. Indicative Focal/Non-Focal Area Elements

<b>Programming Directions</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
CCM-1_P3	GET	1,662,583	42,600,000
CCM-1_P4	GET	1,000,000	12,500,000
BD-1 _P3	GET	242,263	473,333
BD-2_P7	GET	1,532,793	6,026,667
CW-1_P2	GET	1,775,055	4,500,000
<b>Total Project Cost (\$)</b>		<b>6,212,694</b>	<b>66,100,000</b>

## B. Indicative Project description summary

### Project Objective

To turn Sharm El Sheikh into a model integrated and ecologically sustainable tourism city of national and international importance through the adoption of further low-carbon technologies, good waste management practices and a further-enhanced protection of its natural capital basis

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Enabling framework for a green sustainable tourism city Sharm El Sheikh	Technical Assistance	<p>1.1 Investment in environmental sustainability by public and private sector increased</p> <p>1.2 Increased investment in environmental sustainability is in line with new planning documents</p>	<p><b>1.1 Quantification of energy and material flows</b> in area targeted through urban metabolism assessments and tools.</p> <p><b>1.2 Natural Capital Accounting/Assessment with focus on Ecosystem Accounting</b> conducted for Sharm El Sheikh and/or the Governorate of South Sinai.</p> <p><b>1.3 Enhanced planning:</b></p> <ul style="list-style-type: none"> <li>- a comprehensive and internationally benchmarked[1]Sharm El Sheikh Sustainability Plan (SESSP) developed and adopted together with a newly developed Financing Strategy, to serve as a common guide for planning and investment; this would inter alia integrate Outputs 1.1. and 1.2.</li> <li>- Low-carbon investment and environmentally-friendly chemicals and waste management metrics, as</li> </ul>	GET	900,000	1,000,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
			<p>well as natural capital values and biodiversity conservation considerations incorporated into all relevant city/governorate-level strategies, planning documents and regulations.</p> <p>- Integrated Coastal Management and Marine Spatial Plan for the South Sinai Governorate developed and adopted by governorate and municipality.</p> <p><b>1.4 Strategy developed and endorsed for branding and marketing green tourism in Sharm El Sheikh.</b></p> <p><b>1.5 Agreements in place for relevant authorities(municipality, governorate, etc.) to monitor, track, and report on a harmonized set of performance indicators (metrics) as regards progress towards the SESSP at regular intervals.</b></p> <p><b>1.6. Enhanced policy, regulatory</b></p>			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
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**and institutional capacity:**

- Review and subsequent revision of the regulatory framework for national and local governments pertaining to:
- Development of Green Sharm-El-Sheikh strategies and plans
- Establishment of a steering committee comprising of government, private sector, academia and citizens' groups
- Enhanced capacity of national and local government officials and stakeholders to build the capacity necessary for the implementation of the Green Sharm-El-Sheikh Plan and monitor and evaluate Public Private Partnerships
- Assessment completed of existing and potential financial mechanisms to support the implementation of the Sharm El Sheikh Sustainability Plan



[1] The likely international

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
			<p>benchmarking metric would be ISO 37120 to measure the performance of city services and quality of life</p> <p>[2] The sustainability plan is a clear, rolling plan that provides in one place, an agreed and vetted assessment of the challenges and opportunities facing the selected pilot city/urban area. They are likened to a common ‘song sheet’ that all partners and senior levels of government sing to. They would include key investments and estimations of where the city is on hierarchy of urban management.</p>			
2. Reducing GHG and UPOP emissions in targeted urban zones through innovations and public and private partnership	Technical Assistance	<p>2.1 GHG reduction: 1,100,000 tCeq</p> <p>2.2 UPOP emissions reduced by 2.7 g-TEQ/yr with 10.8 g-TEQ during project lifetime (2.7g/yr * 4yrs=from yr2)</p> <p>2.3 1,000 tonnes of plastic waste from land based sources and boats prevented</p>	<p><b>2.1 Municipal MRV system in place to measure and track all GHG emission reductions (TA)</b></p> <p><b>2.2 Framework in place to pilot city-level low-carbon initiatives using performance-based financing and incentives (TA)</b></p> <p><b>2.3 Training of engineering staff in governorate, municipality and hotels on design and implementation of relevant low-</b></p>	GET	3,726,322	56,736,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
		from ending up in the sea	<p data-bbox="829 313 1125 345"><b>carbon measures (TA)</b></p> <p data-bbox="829 386 1226 557"><b>2.4 GHG emissions reduced through resource efficiency[1]interventions in tourism facilities and the built environment (TA &amp; INV)</b></p> <ul data-bbox="829 597 1297 1404" style="list-style-type: none"> <li data-bbox="829 597 1297 1157">- Context-specific resource efficient opportunities identified. Possible measures (not exhaustive) include:insulation of buildings; replacing windows, doors, heating and lighting systems; improvement of Ventilating, Air Conditioning and Refrigerating System; improvement of boiler system efficiency; water-saving measures; street lighting 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); and district cooling.</li> <li data-bbox="829 1198 1297 1304">- Priority actions defined and detailed feasibility studies undertaken for potential sites;</li> <li data-bbox="829 1344 1297 1404">- Selected priority investments financed and operational by end of</li> </ul>			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
			<p>project.</p> <p><b>2.5 GHG emissions reduced through distributed renewable energy generation measures (TA &amp; INV)</b></p> <ul style="list-style-type: none"> <li>- Context-specific renewable energy generation opportunities identified (solar water heating systems, roof top PV units, solar-powered desalinization, etc.)</li> <li>- Priority actions defined and detailed feasibility studies undertaken for potential sites.</li> <li>- Selected priority investments financed and operational by end of project.</li> </ul>			
			<p><b>2.6 GHG and UPOPs emissions reduced through green purchasing and improved waste management and recycling</b></p> <ul style="list-style-type: none"> <li>- Design, public/private consultations and implementation of a gradual governorate-based plastic phase-out plan (e.g. inventory, categorization of plastic products, and understanding</li> </ul>			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
			<p>recycling opportunities for each category broader in the national context)</p> <ul style="list-style-type: none"> <li>- Green purchasing, waste reduction and recycling opportunities identified in Sharm El Sheikh.</li> <li>- Priority actions defined and detailed feasibility studies undertaken.</li> <li>- Integrated chemicals and solid waste management system made fully operational in 1 of the 5 wards (with source sorting at the point of generation, improved recycling and composting, and safe disposal of residual waste).</li> <li>- Improved management of the landfill resulting in no landfill fires or smolthering.</li> <li>- Establishment and efficient operation (through capacity building) of the Green Sharm Initiative supported composting facility, sorting and recycling facilities and production of animal flodder achieved.</li> </ul>			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
			<p>- Ban(s) on select plastic product(s) put in place.</p> <p>- Regulations and incentives/ counter-incentives impacting safe waste disposal by boats reviewed and improved.</p> <p>[1] Egypt's Ministry of Environment has been working in recent years with the support of international partners to pave the way for mainstreaming green economy and sustainable consumption and production-related policies as tools to achieve sustainable development. The Sustainable Consumption and Production Action Plan (2016) and the Green Economy Work plan and Strategy (2010) were developed in line with Egypt's 2030 Sustainable Development Strategy adopted by the Cabinet. The SESSP will be built off and harmonized with existing national principles on resource efficiency, sustainable consumption and the green economy.</p>			
3. Extend biodiversity protection	Technical Assistance	3.1 Management of marine and coastal PAs adjacent to	<b>3.1 PA planning and management reinforced, incl. regarding biodiversity-harmful economic</b>	GET	1,290,530	5,196,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
measures from Sharm El Sheikh to key adjacent sites and ecosystems		<p>Sharm El Sheikh further strengthened, incl. through innovative mechanisms: Ras Mohamed NP (850 km<sup>2</sup>), Nabq Managed Resource PA (600 km<sup>2</sup>), Abu Galum Managed Resource PA (500 km<sup>2</sup>). (Total: 1950 km<sup>2</sup>). METT +20%.</p> <p>3.2 Fisheries and their coral reef impacts eliminated from RMNP and reduced to sustainable levels in Resource Management PAs.</p> <p>3.3 Impacts from boating, anchoring, diving and snorkelling on coral reef ecosystems in NP and Resource Management PAs</p>	<p><b>activities:</b></p> <ul style="list-style-type: none"> <li>- Existing PA plans, services and monitoring programs enhanced to meet international best-practice benchmarks; this will introduce a review of daily routines and performance reviews of PA management staff involving indicators for commitment and impact;</li> <li>- After review during the PPG of harmful activities (to include especially unsustainable levels of legal and illegal fishing, tourism boats, anchoring and diving, with type and scale of impact clearly identified), a review of regulations of economic activities with solutions for closing gaps identified and adopted by the respective authorities (to consider carrying capacity, fleet and boat sizes, licenses, practices and zoning, alternatives, incentives, mandatory boat tags, enforcement, monitoring, etc.);</li> <li>- Solutions reflected in Marine Spatial Plan to be developed (Component 1) and implemented by</li> </ul>			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
		<p>minimised.</p> <p>3.4 Mortality of migratory soaring birds passing through Sharm El Sheikh/ South Sinai bottleneck reduced.</p> <p>3.5 PA financing increased by +20%</p>	<p>the respective authorities(governorate, municipality, tourism and fishing authorities, coast guard and South Sinai PA authority.</p> <p><b>3.2 PA financing increased through further-enhanced PA revenue generation and reinvestment</b> by the public and private sector in Sharm El Sheikh into the tourism natural capital base.</p> <p><b>3.3 Sharm El Sheikh wastewater treatment facility decontaminated and adapted</b> to prevent high migratory bird mortalities, and converted into a bird-friendly resting spot/ wetland. (covered by co-finance except for TA)</p> <p><b>3.4 Pre-existing and new/planned power lines equipped with bird anti-collision devices.</b></p>			
				<b>Sub Total (\$)</b>	<b>5,916,852</b>	<b>62,932,000</b>
				<b>Project Management Cost (PMC)</b>	<b>GET</b>	<b>295,842</b>
				<b>Total Project Cost (\$)</b>	<b>6,212,694</b>	<b>66,100,000</b>

For multi-trust fund projects, provide the total amount of PMC in Table B and indicate the list of PMC among the different trust funds here:

### C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Government	Municipality of Sharm El Sheikh: 35 MW new solar power plant (in PPP with Schneider Electric)	Grant	Investment mobilized	35,000,000
Government	Municipality of Sharm El Sheikh: LED/PV street lighting	Grant	Investment mobilized	6,400,000
Government	Municipality of Sharm El Sheikh: pedestrian corridors and road pavement	Grant	Investment mobilized	1,200,000
Government	Municipality of Sharm El Sheikh: civil and mechanical works for solid waste recycling facility, as well as heavy machinery and compressors	Grant	Investment mobilized	3,500,000
Government	Municipality of Sharm El Sheikh: waste collection	Grant	Recurrent expenditures	5,000,000
Government	Municipality of Sharm El Sheikh: upgrade of sewerage and wastewater treatment system	Grant	Investment mobilized	5,000,000
Government	EEAA: Upgrade of solid waste recycling facility and landfill	Grant	Investment mobilized	500,000
Government	EEAA: South Sinai PAs	Grant	Recurrent expenditures	3,000,000
Government	EEAA: South Sinai PAs	Grant	Investment mobilized	3,000,000
Private Sector	Tourism/hotels	Grant	Investment	3,000,000

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
			mobilized	
Donor Agency	Italian Agency for Development Cooperation / General Directorate for Development Cooperation	Grant	Investment mobilized	500,000
<b>Total Project Cost(\$)</b>			<b>66,100,000</b>	

**Describe how any "Investment Mobilized" was identified**

Any budget that cannot be expected to be repeated annually into the future, such as the construction of a solar power plant, was considered Investment Mobilised. Recurrent expenditures are those at past or budget-increment levels, any allocation beyond was considered Investment Mobilised.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
UNDP	GET	Egypt	Climate Change		2,662,583	252,945
UNDP	GET	Egypt	Biodiversity		1,775,056	168,630
UNDP	GET	Egypt	Chemicals and Waste	POPs	1,775,055	168,631
<b>Total Project Cost(\$)</b>					<b>6,212,694</b>	<b>590,206</b>

## E. Project Preparation Grant (PPG)

PPG Amount (\$)

180,000

PPG Agency Fee (\$)

17,100

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
UNDP	GET	Egypt	Climate Change		77,143	7,329
UNDP	GET	Egypt	Biodiversity		51,428	4,886
UNDP	GET	Egypt	Chemicals and Waste	POPs	51,429	4,885
<b>Total Project Costs(\$)</b>					<b>180,000</b>	<b>17,100</b>

## Core Indicators at Project Identification Form (PIF)

### Indicator 1 Terrestrial protected areas created or under improved management for conservation and sustainable use <sup>ⓘ</sup>

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
1,170,000.00	0.00	0.00	0.00

### Indicator 1.1 Terrestrial Protected Areas Newly created <sup>ⓘ</sup>

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
0.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

### Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness <sup>ⓘ</sup>

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
1,170,000.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF) <sup>ⓘ</sup>	Ha (Expected at CEO Endorsement) <sup>ⓘ</sup>	Total Ha (Achieved at MTR) <sup>ⓘ</sup>	METT score (Baseline at CEO Endorsement) <sup>ⓘ</sup>	METT score (Achieved at MTR) <sup>ⓘ</sup>	METT score (Achieved at TE) <sup>ⓘ</sup>
Abu Galum Managed Resource PA (estimated 70% of 500,000 ha)	40978	Protected Landscape/Seascape	350,000.00					
Nabq Managed Resource PA (estimated 80% of 600,000 ha)	40977	Protected Landscape/Seascape	480,000.00					
Ras Mohamed NP (estimated 40% of 850,000 ha)	9782	Wilderness Area	340,000.00					

## Core Indicators at Project Identification Form (PIF)

Indicator 2 Marine protected areas created or under improved management for conservation and sustainable use <sup>6</sup>

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
780,000.00	0.00	0.00	0.00

### Indicator 2.1 Marine Protected Areas Newly created <sup>6</sup>

Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
0.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
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### Indicator 2.2 Marine Protected Areas Under improved management effectiveness <sup>6</sup>

Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
780,000.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF) <sup>6</sup>	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR) <sup>6</sup>	Total Ha (Achieved at TE) <sup>6</sup>	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
Abu Galum Managed Resource PA (estimated 30% of 500,000 ha)	40978	Protected Landscape/Seascope	150,000.00						
Nabq Managed Resource PA (estimated 20% of 600,000 ha)	40977	Protected Landscape/Seascope	120,000.00						
Ras Mohamed NP (estimated 60% of 850,000 ha)	9782	Wilderness Area	510,000.00						

## Core Indicators at Project Identification Form (PIF)

### Indicator 6 Greenhouse Gas Emissions Mitigated ⓘ

Total Target Benefit	(Expected at PIF)	(Expected at CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)	11000000.00	0.00	0.00	0.00
Expected metric tons of CO <sub>2</sub> e (indirect)	0.00	0.00	0.00	0.00

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

Total Target Benefit	(Expected at PIF)	(Expected at CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)				
Expected metric tons of CO <sub>2</sub> e (indirect)				
Anticipated year				

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

Total Target Benefit	(Expected at PIF)	(Expected at CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)	1,100,000.00			
Expected metric tons of CO <sub>2</sub> e (indirect)				
Anticipated year				

### Indicator 6.3 Energy Saved ⓘ

Total Target Benefit	Energy (MJ) (Expected at PIF)	Energy (MJ) (Expected at CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)	3.80			

### Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology ⓘ

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
Solar Photovoltaic	1.50			

## Core Indicators at Project Identification Form (PIF)

**Indicator 10 Reduction, avoidance of emissions of POP to air from point and non-point sources (grams of toxic equivalent gTEQ) ⓘ**

Grams of toxic equivalent gTEQ (Expected at PIF)	Grams of toxic equivalent gTEQ (Expected at CEO Endorsement)	Grams of toxic equivalent gTEQ (Achieved at MTR)	Grams of toxic equivalent gTEQ (Achieved at TE)
10.80			

**Indicator 10.1 Number of countries with legislation and policy implemented to control emissions of POPs to air ⓘ**

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
1			

**Indicator 10.2 Number of emission control technologies/practices implemented ⓘ**

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
1			

## Core Indicators at Project Identification Form (PIF)

### Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment ⓘ

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	3,750			
Male	3,750			
Total	7500	0	0	0

## Part II. Project Justification

### 1a. Project Description

#### Briefly Describe

- a. The global environmental and/or adaptation problems, root causes and barriers that need to be addressed;
- b. The baseline scenario or any associated baseline Programs;
- c. The proposed alternative scenario with a brief description of expected outcomes and components of the Program;
- d. alignment with GEF Focal Area and/or Impact Program Strategies
- e. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCE, SCCF, CBIT and co-financing;
- f. global environmental benefits (GEFTF) and/or adaptation benefits (LDCE/SCCF); and
- g. Innovation, sustainability and potential for scaling up.

#### 1a. Project Description.

##### i) Introduction

1. *Overview and Economy.* Egypt lies at the northeastern corner of Africa, bordering the Mediterranean and Red Seas. Its total area is 1,001,450 km<sup>2</sup>, including 995,450 km<sup>2</sup> of land area, and 6,000 km<sup>2</sup> of water area. Egypt shares borders with the Gaza Strip (13 km) and Israel (208 km) to the north-east, Libya (1,115 km) to the west and Sudan (1,276 km) to the south. Its coastline is 2,450 km and its highest point Mount Catherine on the Sinai at 2,629 m. The country can be divided into four physiographic regions: the Western Desert, Nile Valley, Eastern Desert and Sinai. While 4% of the country are agricultural lands, 96% are hyper-arid, arid and semi-arid deserts.

2. In 2017, Egypt had a GDP of USD 237 billion, GDP/capita (PPP) of USD 12,700, GDP growth of 4.2%, with public budget revenues of USD 38 billion and public budget expenditures of USD 59 billion[1], and an average budget deficit of 9.7% of GDP (2002-2017)[2]. However, a high 28% (2016 est.) of the population lives below the poverty line. Unemployment rate lies at 12%.

3. Egypt's economic activity is relatively diverse, and driven by agriculture (cotton, rice, corn, wheat, beans, fruits, vegetables; cattle, water buffalo, sheep, goats), industry (textiles, food processing, chemicals, pharmaceuticals, hydrocarbons, construction, cement, metals, light manufactures) and services, such as tourism.

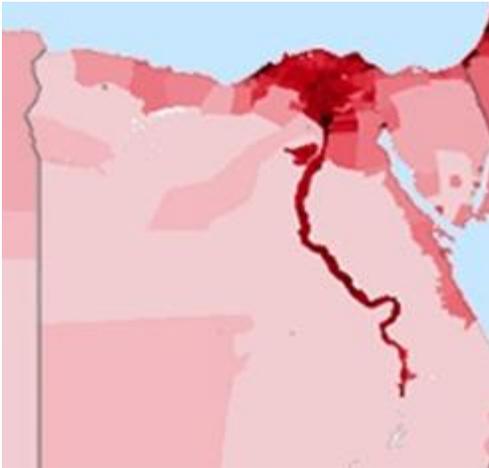
4. *Urbanisation.* Egypt's rapidly growing population was 97 million in 2017, the largest in the Arab world. Most economic activity takes place in the fertile Nile valley and delta, where about 95% of the population is concentrated in about 5% of the country's land area, while other areas of the country remain sparsely populated or uninhabited. Urbanisation is growing rapidly. With an annual national population growth rate of 2-3% over the past decades, Egypt has approximately 1 million new citizens to house every 8 months. Population growth combined with rural-urban migration has resulted in rates of population increase of almost 4% annually in Egypt's urban centers. In 2017 the urban population in Egypt was reported at c. 42 million, of which the Greater Cairo area hosts about 20 million. Alexandria is the second-largest urban concentration with c. 5 million, followed by Port Said with c. 700,000, Suez with c. 600,000 and Luxor with c. 500,000. The combination of population size and growth, limited arable/inhabitable land, and dependence on the Nile all continue to overtax society (jobs, housing, sanitation, education, and health care) and limited natural resources.

Fig.1: Largest cities[1]



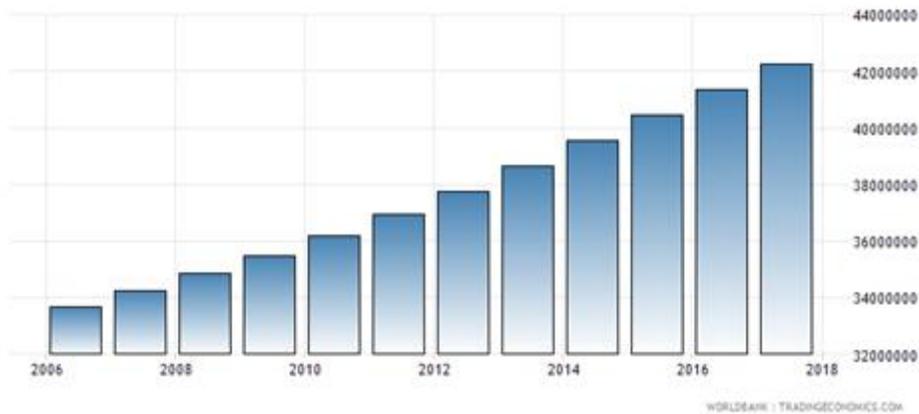
[1] The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries

Fig. 2: Population density[1]



[1] <http://population.city/egypt/port-said/>

Fig. 3: Urban population trend in Egypt



[1] <https://www.cia.gov/library/publications/the-world-factbook/geos/eg.html>

[2] <https://tradingeconomics.com/egypt/government-budget>

5. During the 1970, there was a major interest in new planned urban communities in Egypt, aiming to decrease the high population density of existing urban areas. At that time the Government helped create a number of new cities by expanding out to the desert. For this purpose the New Urban Communities Authority was established by virtue of Law 59/1979 to serve as the responsible body for creating, administering, selecting sites, and preparing master and detailed plans of new cities. A development and construction map was prepared for Egypt including assignment of 24 new cities reflecting the establishment of new urban communities aimed at absorbing 12 million people by 2017. These cities – although much smaller in size than Cairo and Alexandria – are in varying development phases as regards making future investments and choosing the pathway for their future urban concept, expansion and sustainability.

6. *The Tourism Sector.* Egypt's tourism industry has been one of the most important and fastest growing components of Egypt's economy, and was for long among the most diverse and vibrant in the world. In 2010 it contributed about 11.3 % of the Egyptian GDP, employing some 3.5 million Egyptians (about 12 % of Egypt's workforce), when international tourist arrivals in Egypt reached 12.8 million generating some USD 12.5 billion annually; travel receipts constituted around 21.4 % of foreign currency earnings in 2010, ranked second only after petroleum exports. Government-driven investments and the resulting continuing construction and development boom are mirrored in the growth of hotel establishments and holiday home complexes. The total number of hotels and tourist villages in Egypt reached 1,490 in 2008 up from 1,207 hotels in 2004, a 23.4% increase. Lodging capacity has increased considerably in the past years. The vast majority of this growth has taken place along Egypt's coasts.

7. The country experienced a significant drop in tourism and related investments starting 2011 that was aggravated by the loss of a Russian plane over the Sinai in 2015. In 2017, the tourism sector contributed only 5.6% (or about USD 10 billion) of the Egyptian GDP. Yet with the political stabilisation and improvement of the security situation over the last couple of years, tourism and related investments have started to pick up again and can be expected to gradually return to previous levels. Indeed, the Government of Egypt has ambitious plans to further increase the tourism offer, most notably along the Red Sea. And while plans to receive up to 25 million international visitors by 2020 cannot now be met by the original timeline, the goals remain.

8. Tourism in Egypt is predominantly focused on recreational sun & beach tourism (86% of international arrivals and also the largest share of domestic tourism), and to a secondary degree on the country's outstanding cultural heritage. However, some key destinations also heavily rely on the terrestrial landscapes and marine ecosystems, most notably healthy coral reefs, for their business. This applies particularly to the already-large city of Hurghada (pop. 250,000) with its satellite El Gouna as well as to Marsa Alam (pop. 10,000) on the mainland Red Sea coast, and to Sharm El Sheikh (pop. 75,000) and neighbouring Dahab (pop. 15,000) on the southern tip of the Sinai Peninsula.

## ii) The global environmental and/or adaptation problems

9. Cities occupy only 3% of the Earth's land surface, yet through their economic activity and urban systems and infrastructure use 75% of the resources, and account for approximately 2/3 of all energy used and greenhouse gas emissions. Cities are also the largest consumers of natural resources and the biggest sources of pollution and greenhouse gas emissions in the MENA region. At the same time they are also centers of innovation and can advance clean energy systems, sustainable transportation and waste management solutions to reduce greenhouse gas emissions.

10. Unfortunately at present a large proportion of planning, investment, operation and maintenance of cities in Egypt (as in the rest of the MENA region) is unsustainable and sub-optimal in terms of their environmental footprint (GHG emissions, pollution, resource consumption, etc.). Moreover, due to the longevity of most urban systems, any decisions taken today will lock in emissions and vulnerability profiles for many decades to come and they will determine the competitiveness, quality of life and environmental sustainability of cities and surrounding habitat. To ensure sustainable growth of a city, an urban development planning process should be conducted that integrates environmental and climate considerations (e.g., energy generation and use, transport systems, pollution, solid waste management, water supply and treatment systems, ecosystem management, future climate change impacts, etc.) as a step towards ensuring low carbon, ecologically-sensitive and climate resilient – but also economically sustainable – development.

11. The above is particularly relevant for urban developments in the context of tourism. Tourism development potential is a major criterion behind the selection of new and expanded urban development areas in Egypt, because the sector is prioritised by the Government to provide employment and economic growth for its growing population and act as attractant for resettlement. This is causing pressures on scarce resources and environmental challenges that need to be prevented and addressed. Otherwise, if and where these challenges remain unmanaged, the very foundation on which the tourism economy is supposed to feed (beautiful landscapes; healthy air, water and ecosystems especially coral reefs; clean urban areas and beaches; pleasant transport; etc.), risks being undermined.

12. The following details the resulting significant environmental challenges in Egypt:

### Energy consumption

13. Like other emerging economies, there is a growing demand for electricity in Egypt. The combination of population and economic growth, increasing demand for existing customers, and high subsidies for fuel have strained the Egyptian energy sector. Electricity consumption has almost doubled during the last decade increasing from about 49.3 TWh in 1996/97 to 98.5 TWh in

2006/2007 then reached 152.5 TWh in 2014[1] representing an average annual growth rate of 6-7%. Meanwhile, the peak demand has jumped from 27,000 MW in 2012 to 29,200 MW in 2016 and is expected to reach 54,000 MW in 2022.

14. Nominal electricity generation capacity was estimated at 30 GW in 2011, while the actual available capacity at that time was reported to be 23 GW, thus the national grid was short of approximately 4 GW to cover the peak electricity demand. Accordingly Egypt experienced a significant power shortage during this period and blackouts that were initially confined to rural areas then reached everywhere in Egypt and affected the economic and industrial activities between 2012 and 2014. The appearance of load-shedding in the capital and major cities was a clear indication of increasingly severe problems. Installed nominal capacity increased to 39 GW in 2015[2].

15. The residential sector contributes to about 47% of the total electricity consumption in 2016, while the service sector contributes to about 4 % like also government buildings. Street lighting is estimated to contribute to 3.4% of total electricity consumption while hotels and resorts were classified under Others which consume about 6.8% of total generated electricity in 2016.

16. Although electricity generation in Egypt was for long dominated by hydropower, the share of power generation relying on oil and gas steadily increased to reach 91% in 2013, while the contribution of hydro power dropped to only 7.5% and wind and other resources contributed 1.5%.

### Lighting

17. No strategy or official figures exist, yet it is estimated that >50% of lamps used in Egypt are now LED, at least in Cairo and propagating quickly other governorates.

18. Sales of CFL and longitudinal fluorescent lamps / incandescent lamps continue and are not banned so far, yet are dramatically dropping. Lamps offered in shops reflect that the majority of all new installations are LED. LED supplier sales reflect that the market has received more than 100 million LED lamps in addition to LED panels that are used for shops and administrative buildings as well as street lighting and flood light fixtures.

### GHG emissions

19. Egypt's share of the total world GHG emissions in 1990 was 0.4%, and reached 0.58% in 2000. Assessment of GHG emissions for Egypt revealed that the total emissions were about 193 MtCO<sub>2</sub>eq in 2000 compared to about 117 MtCO<sub>2</sub>eq in 1990 (as per 2010 Second National Communication), representing an average increase of 5.1%, annually. Total greenhouse gas emissions for

2005 amounted to about 247.97 MtCO<sub>2</sub>eq (2016 Third NC). This is the total of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), PFCs, HFCs, SF<sub>6</sub> from the energy (combustion and fugitive emissions), industry (industrial processes), agriculture and waste sectors. The energy sector, including transportation, is the primary contributor to GHG emissions that contributes to 60-70% of total emissions, of which CO<sub>2</sub> represents over 90% of the emissions. \*\*In this respect emissions from the electricity sector alone amounts to approx. 40% of the total emissions while transport sector is estimated to contribute by 20-25% of the total emissions. The energy sector is followed by, industrial processes, agriculture sector and then the waste sector. Egypt's GHG emissions are among the top 20 GEF programme countries globally. Thus, any successful carbon mitigation activities in Egypt will also have a significant impact on GHG emissions in the global context.

20. The NDC of Egypt has very limited information and is broad and generic in scope. It identified 5 main pillars to foster Mitigation: (i) More efficient use of energy, especially by end users; (ii) Increased use of renewable energy as an alternative to non-renewable energy sources; (iii) Use of advanced locally-appropriate and more-efficient fossil fuel technologies; (iv) Energy efficiency is the cornerstone to be targeted by policy makers to decouple demand on energy and economic growth; and (v) Reform of energy subsidies. The report also identified 3 main non-energy sectors where GHG reduction can occur, among them proper waste management and smart agriculture. The NDC estimates that USD 73 million is the cost of implementing the above measures.

### Mercury

21. Egypt has not yet become a party to the Minamata Convention on Mercury[3] and not yet undertaken a Minamata Initial Assessment (MIA). Even though the use, consumption and release of mercury in Egypt might be significant, Egypt is therefore not eligible to receive GEF support to improve mercury management and phase-out. Egypt's first facility for the treatment of mercury in spent fluorescent lamps was established in 2011, at Naserya, benefitting from a cooperation between the Governments of South Korea and Egypt.

### Waste Management

22. Economic development, urbanisation, rapid population growth, and a strive for improved living standards in Egypt have led to rapid annual increases in the quantity and complexity of generated waste leading to environmental pollution of land, water and air. In most Egyptian governorates, the percentage of collected municipal solid waste varies between 50-75% of the generated waste amounts, and virtually 85% of these waste quantities end up in open dumps (uncontrolled dumpsites) which lack liners, leachate and gas collection as well as the mandatory equipment for covering the incoming waste stream and fire fighting, all leading to adverse

environmental and health impacts, triggering serious economic and welfare issues (2013, Annual Report for Solid Waste Management in Egypt).

23. According to EEAA statistics, about 89 million tonnes of solid waste were generated in 2012; including 21 million tonnes municipal solid waste, 4 million tonnes construction and demolition waste, 30 million tonnes agricultural waste, 6 million tonnes industrial waste, 0.3 million tonnes hazardous medical waste, 25 million tonnes waterway cleansing waste and 3 million tonnes of sludge. The 2013 Annual Report for Solid Waste Management in Egypt indicated that the average generated waste per capita was 253.16 kg per year. The average composition of municipal solid waste being: organic (56%); paper and cardboard (10%); plastics (13%); glass (4%); metals (2%); and others (15%).

24. On the African continent, Egypt finds itself in the same category as countries like Nigeria and South-Africa, with yearly municipal solid waste generation rates expected to exceed more than 200 million tonnes by 2025 (UNEP, Africa Waste Management Outlook 2018[4]). Changing consumer behaviour in these countries has resulted in increased consumption of plastics. The report estimates that 1 million tonnes of plastic waste was mismanaged in Egypt in 2010, and expects this quantity to increase to 2.5 million tonnes by 2025 (UNEP, 2018). Combined with weak MSW collection systems, this increases the risk of marine plastic litter, impacting Egypt's marine biodiversity and beaches upon which its tourism sectors relies.

25. In general, the collected waste in any of Egypt's Governorates is either transported to a composting plant if available (but often operating at low efficiency/capacity); or to a transfer station, if existing; or directly disposed in an uncontrolled dumpsite, controlled dumpsite or landfill according to the specific conditions existing in each Governorate. In most Governorates of Egypt, the solid waste stream is characterized with its high content of organic matter. The combination of high organic matter content, low labour costs, and the needs for organic manures renders composting desirable.

26. Up till now, the focus in Egypt has been on recycling even though waste prevention might be a more effective alternative. With the tourism industry expected to continue to grow as well as continued rapid population growth, the current state of waste management, the governorates' low composting efficiency and recycling rates and ever increasing consumption of plastics, the situation is unsustainable and already heavily impacting the environment, in particular the marine environment.

#### UPOPs releases from inadequate waste management

27. Unintentionally produced Persistent Organic Pollutants (UPOPs) like dioxins and furans are chemicals controlled under the Stockholm Convention on Persistent Organic Pollutants (POPs) which are produced unintentionally due to incomplete combustion, as well during the manufacture of pesticides and other chlorinated substances. UPOPs are emitted mostly from the burning of hospital

waste, municipal waste, and hazardous waste, and also from automobile emissions, peat, coal, and wood. Dioxins and furans have been associated with a number of adverse effects in humans, including immune and enzyme disorders and chloracne, and they are classified as possible human carcinogens. Dioxins and furans persist in the environment for long periods of time.

28. Egypt's latest 2005 National Implementation Plan (NIP)<sup>[5]</sup> identifies the open burning of waste, medical waste incinerators and industrial processes as the three largest emitters of UPOPs. Priorities related to UPOPs listed in Egypt's NIP are: prevention of uncontrolled waste combustion, sound environmental management of waste, implementation of BAT/BEP measures for the reduction of dioxin and furan emissions, adjustment of national legislation to adequately address POPs/UPOPs issues as well as the provision of education and awareness building.

#### Value of and threats to biodiversity

29. Egypt's biodiversity is of global significance due to the fact that it is situated at the juncture of four bio-geographical realms, namely the Irano-Turanian, Mediterranean, Saharo-Sindian and Afrotropical regions; and due to the diversity of landscapes and topographic features, which range from the rugged mountains of South Sinai and the Eastern Desert, over featureless gravel plains including the Qattara Depression (134 m below sea level), to the freshwater habitats along the Nile River. The Red Sea and Mediterranean coastlines are a storehouse of highly distinct marine ecosystems, with high biodiversity. The eastern and western Red Sea coastlines are globally important flyways for migratory birds in the boreal spring and autumn. The Egypt Biodiversity Country Study estimated that Egypt hosts approximately 18,000 terrestrial and marine species, including more than 2,000 species of flowering plants. In general terrestrial species richness and endemism are modest, but three areas stand out – the mountains of the southern Sinai, the north-western Mediterranean coastal belt towards Libya, and the south-eastern Gebel Elba on the border to Sudan. Species diversity and endemism are pronounced in the marine realm particularly in the Red Sea (e.g. up to 29 fish species are exclusively found in Egyptian waters). Egypt hosts a sizeable number of species listed by IUCN as needing conservation attention. At least 345 species of threatened animals are to be found in the country, including the globally Vulnerable Barbary Sheep *Ammotragus lervia*, Nubian Ibex *Capra nubiana*, Four-toed Jerboa *Allactaga tetradactyla*, Lappet-faced Vulture *Torgos tracheliotos*, Marbled Polecat *Vormela peregusna*; the Endangered Slender-horned Gazelle *Gazella leptoceros*, Egyptian Vulture *Neophron percnopterus*, Green Turtle *Chelonia mydas*; and the Critically Endangered Hawksbill Turtle *Eretmochelys imbricate*, African Wild Ass *Equus africanus*, and Egyptian Tortoise *Testudo kleinmanni*. Threatened plants include the Endangered Gebel Elba Dragon Tree *Dracaena ombet* and the Critically Endangered Argun Palm *Medemia argun* found on desert mountains and in desert oases, respectively.

30. Expansion of urban areas as well as poorly managed urban resource consumption and practices, including in the context of (and triggered by) tourism growth, can have major harmful impacts on natural landscapes, ecosystems and biodiversity, in and near urban areas and the wider landscape, but also within nearby protected areas. Pressures vary across the landscape in time and space:

some areas only experience seasonal impacts; and while some areas are currently not heavily impacted, there is no guarantee that they remain so in future. The resulting threats to biodiversity may be divided into direct and indirect categories.

31. The *direct threats to biodiversity* include:

- The **construction of buildings and other urban infrastructure** such as roads, airports and ports or coastal defenses leading to the loss, degradation and fragmentation of natural ecosystems. This includes the on-site destruction of natural habitats and extensive scarring of adjacent landscapes, the dredging/ smothering and mining of coral reefs, off-site extraction of building materials, and the widespread uncontrolled disposal of building debris. The resulting loss of connectivity between different habitat blocks poses a significant risk to biodiversity in Egypt and undermines the utility of PAs as biodiversity reservoirs.
- **Unsustainable economic or recreational activities** in sensitive environments including within nearby protected areas causing disturbance and habitat degradation. Pressures on **marine biodiversity** (especially coral reefs and highly sensitive animal species such as the Dugong, the different species of sea turtles, larger reef and open-water fish species including whale sharks, etc.) include most notably fishing, impacts from snorkelling, diving, boating and anchoring, etc. In highly frequented areas already the sheer numbers of visitor leads to habitat disturbance and degradation, such as at the snorkel and dive sites in Ras Mohamed National Park on the southern tip of the Sinai. Pressures from economic or recreational activities on **terrestrial biodiversity** stem from farming and grazing, hunting, off-road vehicle use, plant collection and trampling, uncontrolled trekking and climbing
- **Solid waste accumulation.** Urban and tourism activities generate a significant amount and diversity of solid waste, which is often dumped in ecologically sensitive areas. This has changed animal behaviour – waste dumps attract scavenging species such as vultures and gulls – and results in the accumulation of plastics and toxic compounds in the ecosystem and food chain.
- **Unsustainable abstraction of surface and groundwater water resources.** Excessive use of surface water especially in wadis is a serious problem as it threatens the fragile and disappearing natural habitats and often rich biodiversity these contain.
- **Water pollution from sewage and industrial effluents,** and also from pesticides in those (limited) areas where agriculture is possible. In addition, wastewater plants with open ponds in arid zones attract wildlife including migratory birds and are proven mortality hotspots (e.g. storks near Sharm El Sheikh.
- **Collision with energy infrastructures.** Bats and birds are proven victims of electric transmission lines and wind farms due to collision and electrocution. Migratory soaring species are particularly vulnerable when they pass in numbers through largely unfamiliar terrain.

32. The *indirect threats to biodiversity* include: (6) The development of new roads providing easier access to ecologically important areas; unless planned to incorporate biodiversity values and adequately monitored, this could have the inadvertent effect of increasing pressures exerted by residents and tourists. (7) Increased exploitation pressures on natural resources due to demand from new urban populations: an increase in fishing, agriculture and animal grazing can occur to satisfy rising demand for food produce from tourism, causing additional pressure on biodiversity and potentially leading to habitat degradation and encroachment on protected areas. Over-fishing and destructive fishing practices have already led to a significant degradation in many of Egypt's coral reef ecosystems, which are critical to fisheries, tourism, and coastal protection.

### iii) Project target areas and relevant past/recent interventions

33. Egypt's significant plans for the development of both expanded urban areas and genuinely new urban centres, including many linked to further coastal tourism development, demands for a new approach to achieve some form of environmental sustainability, and to not undermine the economic base on which these cities are built. The here-proposed project will focus on one key city and region – **Sharm El Sheikh in the South Sinai Governorate** – that brings together most of the above threats, but also a baseline and commitment on which significant innovation and results can realistically be achieved, with the aim to establish a model for other smaller and larger cities to follow, in Egypt and beyond.

[1] IEA, Key World Energy Statistics, 2016

[2] <https://www.cia.gov/library/publications/the-world-factbook/geos/eg.html>

[3] <http://www.mercuryconvention.org/Countries/Parties/tabid/3428/language/en-US/Default.aspx>

[4] [https://wedocs.unep.org/bitstream/handle/20.500.11822/25515/Africa\\_WMO\\_Summary.pdf?sequence=1&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/25515/Africa_WMO_Summary.pdf?sequence=1&isAllowed=y)

[5] <http://chm.pops.int/Implementation/NIPs/NIPTransmission/tabid/253/Default.aspx>

Fig. 4: Sharm El Sheikh area with Ras Mohamed National Park



34. Situated near the southern tip of the Sinai Peninsula, on the coastal strip along the Gulf of Aqaba / Red Sea (please see the maps above and in Annex A), Sharm El Sheikh is fundamentally a tourism city, of international fame, and counts with a resident population of c. 75,000. The city and its economic, tourism-based activities depend directly on the assets offered by the surrounding landscapes, beaches and coral reef ecosystems. The project's focus area will therefore include the terrestrial area of the city itself, as well as the bordering marine/coastal areas that are subject to economic activities originating from the city. This includes the three marine/coastal protected areas, namely:

- Ras Mohamed National Park, located at the meeting point of the Gulf of Suez and Gulf of Aqaba but extending north-east to include the coastal front of Sharm El Sheikh and the islands of Sanafir and Tiran. Designated in 1983, 850 km<sup>2</sup> and proposed to become a World Heritage Site in 2002. There are plans to designate it under the Green List of Protected Areas[1].
- Nabq Managed Resource Protected Area, stretching from north of Sharm El Sheikh to Dahab. Designated in 1992, 600 km<sup>2</sup>.
- Abu Galum Managed Resource Protected Area, stretching from north of Dahab to Taba at the border with Israel. Designated in 1992, 500 km<sup>2</sup>.

35. Another important purely terrestrial PA is located in the vicinity of Sharm El Sheikh, the declared World Heritage Site of St Katherine, but this was deemed a lesser priority as the pressure on its biodiversity are less pronounced, because the interventions required are rather different from those in the marine PAs, and because past projects have left a positive legacy in the communities in the area.

36. The idea to transform Sharm El Sheikh into an environmentally sustainable tourism destination is not new, given that the Government of Egypt in 2010 announced the **Green Sharm Initiative** and contracted a study (delivered by Booz & Co.) to define its objectives and content. The resulting proposal followed a holistic approach to be based on four key components, namely: reduced carbon emissions, sustainable water supply, effective waste management and healthy biodiversity in particular coral reefs. The baseline studies identified the use of fossil fuels for energy generation and hotel energy consumption as a good opportunity for energy efficiency where energy use per guest night is significantly higher than comparable benchmarks. The strategy noted also that there was a lack of an effective solid waste management system that could negatively affect the tourism nature of the city. Water scarcity was identified as another issue, with desalination consuming significant amounts of energy, yet offering a large potential for energy efficiency and improved water use efficiency. And finally, the baseline studies noted that tourism activities that lacked enforcement of environmentally sustainable practices had severely degraded the coral reefs and marine ecosystems. In response, the recommended measures focused on sustainable transport approaches, energy efficiency improvement in hotels and other buildings, green building design, effective waste and water management, and coral reef conservation as an underpinning pillar.

37. However, with the drop in tourism numbers and economic hardship, the trend of urban and tourism development in Sharm El Sheikh (like elsewhere in Egypt) went largely in the opposite direction. The type of tourists going to Sharm El Sheikh has changed since 2011, like also the number and type of hotel and activity operators that have arrived, and unsustainable patterns have become even more pronounced, leading to substantial global environmental externalities: growing threats to globally significant coral reef biodiversity (for instance, there are now 380 tourism boats, and while the number was recently capped, operators simply doubled boat sizes and capacity creating new boating risks to coral reefs); poorly regulated hotel and infrastructure development; increasing energy consumption (fossil-fuel based, from electricity and transport); increasing stress on city-level waste management infrastructure and practices (with informal garbage collectors dumping much of the waste in the mountains out of the controlled dump site; also there are counter-productive incentives which make boat operators dump garbage at sea rather than face the cost of disposal at land). The city therefore risks to follow the path of other coastal cities in Egypt (like Hurghada on the opposite Egyptian mainland shore of the Red Sea, which would already need a massive investment and socio-economic turn-around) – unless a concerted effort is made to revive, update and upgrade the Green Sharm Initiative, and begin its implementation in earnest, accompanied with suitable and strong regulations and enforcement.

38. Indeed, Sharm El Sheikh still has the potential to become a beacon for the country and world-class model, if interventions are benchmarked, consolidated and accelerated involving both the public and private sectors. It would assure a return to higher class tourism segments, with the prospect of becoming and remaining a premium-price destination. However, this should better happen before the return to the high tourism numbers from before 2011.

39. Another relevant consideration in this context is that the Government of Egypt plans to

- significantly expand tourism infrastructure around the small tourism city of Dahab, 70 km to the north of Sharm El Sheikh and currently with a population of 15,000; and
- build from scratch a totally new “Sharm 2” somewhere between Sharm El Sheikh and the city of El Tour (80 km to the NW, capital of the Governorate of South Sinai), along the Gulf of Suez coastal stretch to the west of Ras Mohamed National Park.

40. A sustainable Sharm El Sheikh would be a model to follow for these plans/developments, and the project by engaging with relevant stakeholders can also inform related decisions as an additional project outcome. Having said that, the Government of Egypt wishes to focus the here-proposed GEF-financed project on Sharm El Sheikh, but hopes that additional financing can be found to extend the approach to these other cities, and potentially also to Hurghada, during the project’s lifetime.

41. The following table summarises some key facts and environmental challenges specifically for Sharm El Sheikh:

<b>Key facts about Sharm El Sheikh Metropolitan Area</b>	
City area:	42 km <sup>2</sup> , including Nabq Bay, Ras Nasrani, Naama Bay, Umm Sid, Sharm El Maya + Hay el Nour, Hadaba, Rowaysat, Montazah and Shark's Bay
Resident population:	75,000
Tourism overnights/year	Approximately 198,000 in 2017, 127,000 in 2016.
# of hotels and capacity	188 Hotels with 45,495 rooms
Electricity generation capacity	Two natural gas power stations of total generation capacity of 288 MW. 5 MW solar energy station built and operational; there are plans to add 35 MW to reach 40 MW solar generation capacity at a cost of USD 35 million.
Energy consumption	Among the various uses of electricity, cooling contributes substantially to the electricity demand through out the year. Air conditioning is widespread in residences and commercial buildings such as hotels. Low energy prices which are strongly subsidized by the government provide no incentive to consumers to apply energy

	<p>efficient measures or to use renewable energy. According to the Governorate Information Centre, there are c. 188 resorts and hotels in Sharm El Sheikh, of which 29% are five stars hotels, 30% are four stars and the remaining are of lower classes. This means that more than 59% of the hotels in Sharm El Sheikh provide high standard services and facilities which consequently results in higher energy demand.<sup>[2]</sup> This results in high GHG emissions, knowing that 94% of the energy generation in Egypt is based on fossil fuels.<sup>[3]</sup></p> <p>In Sharm El Sheikh, the hotel sector uses electricity for several needs. Electricity is used to power most of the services such as lighting, TV, elevators, most of the cooking devices, electrical appliances, laundry equipment, cooling (HVAC) system, seawater desalination plant, wastewater treatment plant and swimming pool maintenances. The water used is as energy intensive as the cooling and appliances systems. The high consumption of water in hotels do not just lead to more GHG emissions, but also increases the vulnerability of the city where water resources are scarce.</p>
Lighting	<p>The hotel sector in Egypt shifted directly from standard bulbs to LED, which are now installed in many if not the majority of hotels. The municipality of Sharm El Sheikh has initiated work on a PV/LED lighting system in streets and public places.</p>
Waste volume, management and recycling	<p>Noting that there are important fluctuations depending on hotel occupation rates, the Governorate of South Sinai in 2010, at the height of tourism, generated approximately 334 tonnes of municipal solid waste per day. The average daily generation of MSW per capita falls within the highest category in Egypt at &gt;2.2 kg/day/person, shared only with Cairo and Port Said and most likely to a large extent contributed by the hotel and tourism sector. On average 70% of the population is served with waste collection services, of which 80% is collected by formal waste collection services and 20% by informal waste collectors. The Governorate counts 1 recycling and organic fertilizer/composting factory, located in Sharm El Sheikh and established with EU support but requiring additional support to become fully operational, and 3 dump sites (2013, Annual Report for Solid Waste Management in Egypt).</p> <p>In Sharm El Sheikh itself, waste generation is estimated at 100 tonnes/day. In 2011, waste management was undertaken by Sharm Environmental Services. In 2018, the municipal government issued 5 contracts to private waste collecting companies that cover the city's residential and hotel areas in 5 blocks. Currently the waste collection rate is said to be at 89%. The average composition of MSW in Egypt is organic (56%), paper and cardboard (10%), plastics (13%), glass (4%), metals (2%) and other (15%). However, considering the tourism and hospitality sector is very important in Sharm El Sheikh, the plastic share is probably much higher in reality. Hotels and waste collection companies would benefit from support to improve sorting at source and recycling which is currently only at 18% – which could be considerably increased. The</p>

	<p>composting/fertilizer facility was operating at 60% capacity in 2011, but is thought to operate currently at a much lower capacity.</p> <p>The city is planning to rehabilitate its controlled dumpsite into a landfill and to establish a recycling facility. Informal garbage collectors are very active in Sharm El Sheikh, but dump most of the waste illegally outside of the boundaries of the dump site. where it is often burned in the open. The waste portion burned vs placed in landfills is estimated at 25%.</p>
POP/UPOP Emissions	<p>Estimated to 2.7 g-TEQ/yr. Precise data on UPOPs releases from open burning for the Governorate of South Sinai and the city of Sharm El Sheikh in particular are not easily available, but will be obtained during the project's PPG or implementation phases. However, according to the 2005 Egypt NIP, the open burning of waste deposits, including the burning of landfill sites is responsible for the release of ~ 1832 g-TEQ/yr to air and 621 g-TEQ/yr in residue. The 2005 NIP estimated that about 40% of waste is randomly burnt in residential areas all over the governorates of Egypt. Combined releases from these sources were approximately 14 g-TEQ/yr (air) and 28 g-TEQ/yr (residue) in Greater Cairo alone and 1731 g-TEQ/yr (air) and 312 g-TEQ/yr (residues) in the other governorates combined. These releases are very significant. As such, the impact that the unsound management of waste in Egypt has, from a UPOPs release perspective, but also from a land, water and marine contamination point of view, are significant.</p>
Total water consumption	5,475,000 m3 / year
Wastewater treatment	One wastewater treatment capacity 3,650,000 m3/year. Treated water is used for irrigation of landscape and an urban wood plot.
Desalination volume, technology and energy intensity	<p>Two municipal desalination plants with a capacity of 15,000 m3/day. In addition, each large resort is required to have its own desalination station and wastewater treatment facility, which is achieved by 95%. Most desalination is based on reverse osmosis.</p> <p>The desalination plants run on electricity that is sourced from the grid, i.e. they depend largely on the gas-fueled power stations, and the share of renewables depends on the generation by the installed solar capacity – which is for now 5MW solar vs 288 MW gas. There is no reliable data on actual consumption.</p>
Adjacent marine PAs and biodiversity values	Ras Mohamed NP, Nabq Resource Management PA, Abou Galoum Resource Management PA; globally important coral reef ecosystems, desert fauna and flora, ecological corridors and bird migration bottleneck/stopover.

**iv) The baseline scenario and any associated baseline projects (with co-financing) expected for the anticipated project implementation period (2020-2024)**

42. The project's scope and ambition and the choice of Sharm El Sheikh as intervention site build on a series of past, planned and ongoing projects in Egypt.

Sustainable Urban Planning and Tourism Development

43. Two projects/initiatives stand out in this context. First, the GOE/UNDP/GEF project on *Mainstreaming the conservation and sustainable use of biodiversity into tourism development and operations in threatened ecosystems in Egypt* (GEF ID 5073, GEF Project Grant USD 2,574,338), which was endorsed by the GEF in April 2015 and is now eventually expected to start after a long delay. This project focuses on i) mainstreaming biodiversity into national-level decision-making processes, to reduce biodiversity impacts by tourism infrastructure developments, provide a better framework for biodiversity-friendly tourism practices and enhance biodiversity-friendly tourism promotion; and ii) work with private sectors and protected areas in three regions to implement better tourism practices and PA management: Siwa PA in the western desert, the southern mainland stretch of the Red Sea near Marsa Alam (towards Sudan), and the north-western Mediterranean coast (towards Libya). This project will play a critical supporting role to the here-proposed project at national level, and to clearly articulate best practices in terms of tourism activities, yet it cannot achieve the same level of integration at city and site levels. Both national and foreign donor projects including by the EU, USAID, Italian Cooperation, UNDP/GEF and World Bank/GEF had worked on the tourism/protected area interface in the past, yet failed to more systematically align tourism development with biodiversity needs, failed to address the underlying drivers, and made no significant difference. The here-proposed project aims to achieve a much more profound multi-focal transformation and more ambitious model linking tourism with coral reef conservation. This project is technical baseline but in spite of the overlapping implementation period cannot count as either financial baseline or co-financing.

44. Secondly, the already-mentioned *Green Sharm Initiative* which underpins the entire project in terms of manifest interest and commitment by the Government of Egypt, and jointly triggers much of the future baseline and cofinancing investment.

45. Developed in 2010 by Booz & Co. and the Municipality, Green Sharm Initiative is a promising foundation. The main components and their elements are:

- Emissions Reductions:

i. RE/EE at the municipality and resorts level

- ii. Sustainable transport introducing public bus system and regulating taxis
- Solid Waste Management:
  - i. Establishment of sanitary landfill and recycling facilities
  - ii. Establishment of a sustainable collection system
- Improved Water Use Efficiency
  - i. Reduce water consumption/ guest in hotels
  - ii. Reduce losses in the network
  - iii. Improve wastewater treatment facilities
- Conservation of Biodiversity:
  - i. Preparation and implementation of a sustainable marine resources management strategy
  - ii. Regulations for sustainable tourism activities including fishing
  - iii. Enforcement of regulations, monitoring, evaluation and PAs management effectiveness

46. While preparations have started for some of these elements and there are new relevant plans (which are discussed in the respective technical sections below), overall implementation of the Green Sharm Initiative since its announcement in 2010 has been slow, and it could benefit from a review and update to reflect the latest developments in policy and technology at global and national levels.

## Energy / Water Nexus

47. At the national level, there are number of relevant baseline conditions to consider as the context in which the proposed project will operate. Egypt's national power sector strategy ([www.moee.gov.eg](http://www.moee.gov.eg)) includes the following targets:

- To optimize the use of available energy resources and minimize environmental pollution;
- To provide electricity at minimum price and best quality;
- To restructure the electricity sector to optimize investments and improve electrical services;
- To utilize modern and sophisticated technical systems in the electricity sector's operation and activities; and
- To develop the expertise and skills of engineers and technicians working in the sector

48. Meanwhile, in response to the electricity shortage, Egypt launched an ambitious energy sector reform programme including the following actions:

- A large contract was issued to Siemens to construct 14.8 GW of CCGTs by 2018 to close the gap in generation capacity on the short term.
- Change the energy mix to reduce dependency on oil and gas resources for electricity generation
- Issued a presidential decree to impose gradual increase electricity tariff to remove subsidies to the sector over a period of five years
- Promote renewable energy technologies to reach 20% of the total electricity generation in 2022 through a Feed in Tariff Programme depending on private sector investment
- The Government issued a National Energy Efficiency Action Plan (NEEAP) in 2012

49. According to the Egyptian Hotel Association<sup>(4)</sup> (EHA), in 2012 there were approximately 965 hotels in Egypt, with almost 180,000 rooms (equivalent to 342,302 available beds). Of these, the Sinai and Red Sea areas contain the 60% of the hotels in Egypt and 75% of the room capacity (134,761 rooms). Of these 90% of the rooms were concentrated in 389 three, four and five 5 star hotels. Significant development has taken place since that time but this concentration of hotels still represents the largest potential for energy efficiency interventions in the hotel sector.

50. A European Bank Study in 2013; "Sustainable Energy Support for Built Environment Projects Review of Sustainable Energy Opportunities in the Hotel Sector of Egypt (Red Sea and Sinai Region)[5]" found that the design of the majority of the hotels led to significant energy consumption burdens as the majority

- Were designed to maximise the view of the sea and/or the swimming pools
- Have high exposure of facades to solar radiation, with nearly no attention to type of glazing, shading and insulation
- Are multi-storey buildings with maximum four stories
- Are constructed of a reinforced concrete for the skeleton with single walls and glazing
- Have several swimming pools (heated during winter season)
- Have large gardens and several sport facilities (tennis courts, gyms, etc.)

51. This design attributes lead to a very significant energy load and in particular mechanical refrigeration air conditioning. The study found that cooling demand is the largest energy consumption in the resorts, but only 28% of the hotels have centralized cooling systems for common areas and/or guest rooms; and most of them (81%) use split units for the guest rooms where they can freely control the temperature. Public areas are generally cooled using central air condition with large chillers. Guest rooms can use either central (mainly 5\*) and/or split systems (4\* and 3\*). All HVAC systems are electrically powered with the exception of a very small number of absorption chillers.

52. The energy demand for cooling is exacerbated as there is a relatively low penetration of variable speed drivers on fans, pumps and other motors. Various studies have shown that significant energy savings could be achieved by:

- Switching from individual splits to centralized cooling systems

- Replacement of air cooled chillers to absorption chillers
- Waste heat recovery systems
- Improving the envelope energy performance (windows and walls)
- Building energy management system
- Adding pressure exchangers to the desalination plants
- More efficiency motors and pumps with variable speed drivers

53. In addition to these options there is growing interest in application of district cooling systems for the provision of centrally generated cooling to distributed loads within a defined area both using conventional technology and not in kind (NIK) solutions including deep seawater cooling, natural gas fired absorptions chillers, Solar powered hybrid systems and thermal energy storage technology (TES).

54. The current cooling loads and energy intensity of Sharm El Sheikh and its continuing development, make it a possible candidate for the application of district cooling systems, which is successfully applied could bring about dramatic reductions in energy consumption in refrigeration and air-conditioning in the city.

55. The 2013 study by the European Bank found that there was potential for large investments in single projects but that a significantly different approach would be required to generate the huge potential CO<sub>2</sub> savings. This would require concerted action at the sector or city level. The report cited possible example as cogeneration of Desalinated Sea Water (DSW) and electricity using Concentrated Solar Power (CSP) in isolated areas, such as Marsa Alam or large CHP plants with district cooling in Sharm El Sheikh or Hurghada.

56. However these one-off projects cannot be initiated by single resorts; they require the coordination and integration of several groups of hotels with a common target, which is reducing the energy costs, guarantee of supply and sustainability.

57. Currently there is no coordinated effort to follow through on these suggestions. There are however a number of other ongoing activities that have a bearing on this baseline:

- Low Emission Capacity Building (LECB) is a global UNDP project funded by the EU and the Governments of Germany and Australia and includes activities in Egypt. The project aims to develop the capacity of experts and institutions in Egypt to respond to opportunities that have been identified for engaging Public Sector and Industry support and participation in addressing the issue of climate change. The project is supporting the preparation of a Low Emission Development Strategy (LEDS) for Tourism Sector in Egypt that will be completed by the end of 2018 and will provide useful information during the PPG for the project proposal development.

- *Green Star Hotel Programme.* The Green Star Hotel (GSH) is a national green certification and capacity-building program managed by the Egyptian Hotel Association (EHA) under the patronage of the Egyptian Ministry of Tourism. The GSH program offers an opportunity for hotels operating in Egypt to be internationally recognized for raising their environmental performance and social standards while reducing their operational costs. A team of certified local and international experts guide interested hotels through a sequence of training and information support sessions leading to field audits to ensure compliance with the program standards prior to granting the GSH certification. Around USD 2,000 is request for the certification process (auditing) depending on the hotel size, while the overall investment per hotel to meet the requirement are around USD 400,000. 15 hotels in Sharm el Sheikh joined the program, representing a baseline of USD 3 million private investment.

- There is a 40 MW solar power station for on-grid electricity generation that is planned and will be funded through a Public Private Partnership between the municipality and private sector, in particular Schneider Electric . The first phase of 5 MW has just been completed. Work on the second phase of the additional 35 MW, is planned to start soon. In terms of other renewable energy options, there is scope for expanding the use of solar water heaters (only used so far in very limited numbers, with most hotels providing hot water through boilers), and roof-top PV. Currently however there are no plans to address these in the project area.

58. As regards energy efficiency, Egypt has made important strides in energy efficiency in the last five years but more rapid adoption is still required in the tourism sector. Egypt has made significant progress in the EE scoring in the 2017 Arab Future Energy Index Report on Energy Efficiency since 2015<sup>[6]</sup> and has risen three places in the latest regional EE rankings. This progress is due in part to the implementation of several key EE policies and a variety of EE interventions supported by the GEF-funded “Improving the energy efficiency of lighting and other building appliances” project, as well as reduced subsidies for both electricity and fuel introduced in recent years, as part of the government’s 5 year plan to remove energy subsidies by 2020. However much of the support for EE measures has focused either on the twin metropolis of Cairo and Alexandria or on ‘new cities’ such as El Gouna or Sheikh Zayed.

59. As an example of recent energy efficiency interventions in the hotel sector, a recent GEF-UNDP project (GEF ID 3832) has completed remarkable achievements on energy efficient lighting. The project objective was to improve the energy efficiency of end-

use equipment, namely building appliances and lighting systems manufactured, marketed and used in Egypt. The project has worked with several commercial buildings in Cairo. Below are some case studies regarding hotels in Cairo:

- JW Marriott Hotel:
- Overall investment cost: USD 150,000.
- Installation of 150 kW rooftop Solar PV
- Electricity generation: 255,000 Kw.hr/year (This can cover the consumption of the entire lighting systems)
- Payback period (estimated): 6 years.#
- Conrad Hotel Case (a high rise building includes 617 rooms):
- Overall investment cost: USD 100,000
- Savings: 3.8 million Kw.hr/year represents 30% of the total electricity consumption.
- Payback period at the time of implementation was 8 months

60. Sharm El Sheikh experiences water shortages and is covering much of its needs through fossil-fueled desalination plants. The water produced by these plants is very energy intensive and hence contains a high carbon content. While average performance in the hotel sector in Sharm El Sheikh seem roughly in line with international standards, there remains significant scope for more efficient water use and water savings, in particular in the lower tier hotels and resorts. There are plans for expanding the desalination capacity with new plants. The project will explore the potential for a solar powered plant instead of 2 fossil-fueled ones combined with an aggressive water conservation and efficiency approach.

61. Finally, an important reference point and learning opportunity for Sharm El Sheikh in this respect is El Gouna, a new city on the Red Sea Coast near Hurghada. El Gouna City has received the Global Green City award sponsored by the United Nations Environment Program. This award is handed to cities displaying substantial measures and efforts in progress within the field of

environmental sustainability, especially cities that adhere to a strict environment conservation plan and employ different mechanisms for sustainability and a greener community. El Gouna was the first city to receive this award in Africa and the Arab Region. This prestigious award has been handled before by the Global Forum on Human Settlements to cities around the world such as Santa Monica in the United States, Vancouver in Canada, Nantes in France, Yokohama in Japan and Rockdale in Australia. It encourages cities, companies and individuals taking serious steps for a greener sustainable environment. El Gouna implemented their “Green Star” program with the Ministry of Tourism. Almost all of the cleantech measures in El Gouna were done by the private sector.

62. Finally, in terms of waste water management, the Sharm Initiative also plans to improve water use efficiency, through the below listed interventions:

- Reuse of treated wastewater for tree plantation and landscaping.
- Promote the use of high efficiency water systems in swimming pools and toilets in resorts.
- Licensing of private sector entities to establish commercial desalination facilities.
- Establish potable water strategic high reservoirs.

#### Waste Management & UPOPs reduction

63. Currently waste management in Sharm El Sheikh is the responsibility of the local government which issued in 2018 five contracts to private waste collecting companies to cover the city’s residential and hotel areas, which have been divided into 5 waste collection wards and assume the responsibility of managing 100 tonnes of municipal waste per day, of which approximately 89% is collected but only 18% recycled. Costs for waste collection, transportation, transfer and disposal are borne by the governorate and covered through hotel and residential taxes, and are estimated for Sharm El Sheikh at USD 1m per year.

64. The average daily generation of MSW per capita is >2.2 kg/day, which is expected to a large extent to be contributed by the hotel and tourism sector. On average 70% of the population is served with waste collection services, of which 80% is collected by formal waste collection services and 20% by informal waste collectors. Waste collection rate is said to be at 89%, however recycling is currently only at 18%. The composting/fertilizer facility was operating at 60% capacity in 2011 but is thought to operate currently at a much lower capacity. The project aims to increase the recovery of recyclables (currently estimated at 18%, but this in reality could be much lower) in incremental steps, with an attempt to ultimately reach a recycling rate of 40% in the project’s pilot ward (meaning that from the current baseline it is expected that 40% of recyclables – including compostable materials) will be recovered separately

from the regular municipal waste stream. Key in this endeavor will be the efficient operation (to be supported through capacity building provided by the project) of the Green Sharm Initiative supported composting facility which currently is operating far below capacity. Precise data on UPOPs releases from open burning (at ward level and landfill level) for the Governorate of South Sinai and the city of Sharm El Sheikh in particular are not easily available but will be obtained during the project's PPG or implementation phases. The project aims to increase waste collection in the pilot ward from 70% to 90%, which is expected to reduce burning of household waste by 20%. Furthermore, the introduction of BEP and BAT with project support to reduce open burning of waste and waste smothering at the landfill, are expected to reduce UPOPs releases by almost 70%.

65. The government owns a (controlled) dumpsite that is expected to be upgraded into a sanitary landfill (with EEAA support) as part of the Green Sharm Initiative. The costs for upgrading are estimated at USD 500,000. The improved monitoring, inspection, control of GHG emissions, and interventions to prevent fires or the spread of fires will significantly help reduce the release of UPOPs.

66. In 2011 a composting facility was constructed with EU support. However the facility has been operating under full capacity and needs further upgrading to ensure an increase in composting rates. The upgrading of the composting facility is foreseen as part of the Green Sharm Initiative and will help in significantly reducing UPOPs and GHG releases from the landfill as organic matter can be redirected to the composting facility resulting in GHG release reductions, and reduced occurrence of spontaneous ignition of the landfill, hence avoiding UPOPs releases. There are also plans to establish two intermediate sorting and recycling facilities as well as a station for the production of animal fodder from organic waste given shortage of fodder in the desert city; and to conduct a feasibility study to assess the potential for the establishment of a recycling facility for construction and demolition waste. The municipality and governorate plans to invest USD 3.5m here, including especially for civil and mechanical works as well as heavy machinery and compactors.

67. As indicated in earlier sections, UPOPs releases resulting from the inadequate management of waste are significant. However, the number of projects that have dealt with addressing such releases are small considering the scope of the challenges in the country and its population size.

68. POPs-related projects implemented in Egypt include the GOE/World Bank/GEF project *Sustainable Persistent Organic Pollutants Management Project* (GEF ID 3905, GEF project grant USD 8.1m) which focused on the improved management and environmentally-friendly disposal of targeted stockpiles of obsolete pesticides and PCBs, and the preparation of Egypt's National Implementation Plan for the Stockholm Convention on POPs, implemented with UNIDO support.

69. The most relevant POPs project to provide lessons-learned and experiences to the proposed Green Sharm-El-Sheikh project is the currently on-going GOE-UNDP-GEF project *Protect Human Health and the Environment from Unintentional Releases of POPs*

*Originating from Incineration and Open Burning of Health Care- and Electronic-waste* (GEF ID 4392, GEF Project Grant USD 4.1m). The project intends to reduce the release of UPOPs from the inadequate management of health-care and electronic waste. The project is currently at the mid-term evaluation stage and is such generating additional lessons-learned. These lessons-learned will be taken up in the MTE report, and during the PPG phase of the proposed project, can be integrated where feasible. Lessons-learned and outcomes from the above-mentioned Health Care Waste Management and E-waste Management project, would potentially include the following (list not exhaustive) which will help to further inform the development of the Green Sharm-El-Sheikh project during its CEO endorsement phase:

- Feasible methods to calculate UPOPs baselines and UPOPs reductions over the duration of the project.
- Understanding of waste flows and involvement and roles of various actors in the waste management supply and demand chain in Egypt.
- Successful strategies, regulations and policies to support improved collection, treatment and disposal of various waste streams in Egypt.
- Assessed and implemented financial mechanisms to support the long-term (financial) sustainability of collection, transfer, treatment and disposal schemes.
- Developed and implemented incentives for public and private sector entities to improve waste segregation, collection, treatment and disposal.
- Feasible and workable BEP and BAT interventions that are suitable to the local conditions in Egypt.

70. None of the above two GEF projects can be considered investment baseline for the here-proposed project, and there are no other plans for POPs interventions beyond the improved waste management measures outlined on the previous paragraphs.

71. The total baseline investment provided (from the Governorate, Municipality and EEAA) towards these waste management and UPOP-related activities under the Green Sharm Initiative over the 5-year duration of the project is estimated to USD 9m, which are also considered co-financing.

#### Protected Area Management and Finance

### *Relevant recent achievements*

72. Protected areas (PAs) have been the most effective tool for biodiversity conservation in Egypt to date. The coverage of the network has grown over the last three decades to include 30 PAs covering 148,023 km<sup>2</sup> (c. 15% of the nation's total land area). This included five marine and coastal PAs (see map below): Saloum in the NW, Wadi Gemal and Gebel Elba in the SE, and the three on the Sinai targeted by the here-proposed project, Ras Mohamed, Nabq and Abu Galum.



[1] [https://www.iucn.org/sites/dev/files/iucn\\_green\\_list\\_standard\\_version\\_1.1\\_nov\\_2017\\_3.pdf](https://www.iucn.org/sites/dev/files/iucn_green_list_standard_version_1.1_nov_2017_3.pdf)

[2] Energy use in Sharm el-Sheikh Resort in Egypt, M. Georgei & H. Bombeck (2012)

[3] RCREEE (Regional Center for Renewable Energy and Energy Efficiency) for Middle East and North Africa.

[4] Data from 13/11/2012

[5] AF-Mercados EMI for European Bank, September 2013

[6] [http://www.rcreee.org/sites/default/files/afex\\_ee\\_2017.pdf](http://www.rcreee.org/sites/default/files/afex_ee_2017.pdf)

*Fig. 5: Marine PAs in Egypt. From N to S: Salou, Abu Galum, Nabq, Ras Mohamed, Wadi Gemal, Gebel Elba.*

73. A management effectiveness evaluation of Egypt's protected area system in 2006 concluded that Egypt has declared a relatively good proportion of its land as PAs and that the ecological and social benefits offered by Egypt's PA system are high. For long though most if not all PAs in Egypt were chronically under-resourced, and the PA system remained vulnerable as a result of

insufficient on-the-ground presence, poor law enforcement, over-exploitation of natural resources, and high demands on PA managers. Between 2004 and 2008 Egypt spent an average of USD 2.4 million per year in the management of its protected area system from its national resources, in addition to an average of USD 3.1 million contributed annually by international donors (which together would amount to an average of USD 180,000 per PA). Since 2011 international aid for PAs dropped. In 2011-2012, the national annual investment for PAs stood at USD 2.8 million.

74. Since 2011, two trends occurred. In the first years, PA management effectiveness suffered greatly due to a drop in local governance, enforcement and financing. Over the last couple of years however, the Government of Egypt has reinforced governance, and also started to more systemically invest in its PA system. The following table shows the evolution of spending on biodiversity more broadly in Egypt, to reflect this trend:

75. Two closely-aligned interventions have been instrumental in this development: the work under the GoE/UNDP/GEF-4 project *Strengthening Protected Area Financing and Management Systems* (GEF ID 3209, GEF Project Grant USD 3,616,000, endorsed for Implementation in May 2010 and due to close in June 2019) and the work under the *Italian-Egyptian Environment Programme* which over the last 20 years invested EUR 16 million primarily in the operationalization and management of protected areas across the country, involving local communities and tourism initiatives. These two projects have triggered significant additional investments and improvements at national and site levels over the last 2-4 years:

- A new unit for financial sustainability and economics was established at NCS/EEAA, which involves the CBD Resource Mobilisation Focal Point, who is also directly involved in the PA Finance project; their reporting and analyses (on finance flows gaps and needs, indirect biodiversity spending, etc.) are very encouraging; a Resource Mobilisation Strategy was developed that is now under implementation.
- A framework was developed/enhanced and adopted for concessions for private businesses (tourism, mines, etc.) operating inside PAs, and implementation has begun; and a framework for PA entrance fees was developed and adopted and is currently being piloted in Wadi Gemal PA with the vision to expand it to other PAs if successful. Together these have started generating significant new revenue. In addition, a new financial management system was set up to facilitate government spending and revenue re-injection, by which revenues are transferred from MOE to a special PAs account; in 2017, this led to an additional investment via this account of USD 4.5m of government finance for the PA system, as well as to an unequalled PA budget delivery rate of >95%.

- NCS (or its PA sub-unit) is expected to eventually morph into an autonomous national PA agency with some budgetary autonomy able to capture and reinvest the revenue it generates; an “Institutional Reform Proposal” is presently under discussion at Parliament and may eventually be endorsed, given also the renewed interest in the PA system.
- Significant investments have been completed and more are underway to upgrade PA and related tourism infrastructure and services, including in Ras Mohamed NP in the project target area; the GOE channelled USD 5m through UNDP Egypt to this aim, complementing resources provided by the Italian-Egyptian Programme.

76. Another relevant project of relevance is the two-tranche UNDP/GEF regional project *Mainstreaming conservation of Migratory Soaring Birds (MSB) into key productive sectors along the Rift Valley/Red Sea flyway* (Tranche I: GEF ID 1028, GEF Project Grant USD 6,243,243, closed; Tranche II: GEF ID 9491, USD 3,500,000, endorsed for implementation in July 2017, ongoing until March 2023). Implemented through BirdLife International, it is headquartered in Jordan and works in several countries along the flyway on those sectors that pose the greatest risk to the safe migration of these birds. These are most importantly hunting, agriculture, waste management and especially energy (from energy infrastructures). Some of the most exciting outcomes of this project have been in Egypt, most notably in the engagement of public authorities, private sector and finance institutions regarding the placement of wind farms and their operations (world-leading *shut down on demand* practices are being rolled out on reducing collision risks when migratory flocks approach turbines). The project here focuses especially on the key migration bottlenecks – which in Egypt is the crossing from Sinai to the Egyptian/African mainland. The project is also working in Sharm El Sheikh, on the open wastewater treatment plant, at which hundreds of White Storks die every year, presumably due to bacterial or chemical contamination; for now this is limited to installing bird hides to convert it to a birding spot, and reducing pathogen contamination through the proven addition of EM (Effective Microorganisms).

#### *Future investment baseline*

77. On biodiversity and protected area management, the baseline and project cofinance relevant to the here-proposed project will consist of

- USD 6,000,000 by EEAA/NCS in the PAs in South Sinai over the duration of the project, to ensure continued basic PA management and visitor management, and respond to priority issues of the Green Sharm Initiative elements on biodiversity (regulations for sustainable marine resources management, buoys and maintenance, boat wastewater management, tracking system and routing for tourism and fishing boats, enforcement patrols, etc.); 50% of these are counted as recurrent, and 50% as investments mobilised to reinforce the here-proposed new GEF project.

- new contributions from the Italian Development Cooperation Agency, who will over the duration of the project invest USD 1,500,000 in CBNRM in Wadi Rayan, Wadi Gemal and Siwa – and USD 500,000 for the PAs in South Sinai that are here counted as baseline and cofinance.

78. The total baseline investment and tentative co-finance provided towards these PA-related activities over the 5-year duration of the project is estimated to USD 6,500,000.

**v) Barriers that need to be addressed to overcome the baseline/BAU challenge**

<b>Barriers to sustainable management of the water-energy nexus</b>
<p><i>Lack of robust planning, enabling conditions and adequate policies that trigger sustainable and integrated management of energy and water:</i> Although there are policies specifically on EE, its still need to be tailored to the tourism/hotel sector in an urbanised setting where there are other parameters such as water management and requirement for a certain level of service to be provided (e.g. client comfort). In addition, enforcement is also key in adopting EE measures. The prevailing experience shows that enforcement of policies is not carried out systematically.</p>
<p><i>Lack of adequate technical capacity:</i> There are some weaknesses in the technical capability in handling properly measures for EE in equipments and efficient water consumption. There is also no entity that is responsible for measuring, reporting and verification of the EE performances of hotels in Sahjrm El Sheikh.</p>
<p><i>Lack of proper financial incentives:</i> The main constraint to investing towards EE measures have been the heavily subsidized energy prices. EE investments can appear unattractive when hotels assume continued low energy prices. Although water is scarce in Egypt, water prices have also been heavily subsidized. This also gives no incentive in investing further towards efficient water usage. However, there is a strong signal recently from the Government of Egypt as water prices have been increased by 50% in July 2018. This is part of a wider plan from the Government to reduce its subsidies towards utilities (electricity, water and gas). It is a good start, but still insufficient.</p>
<p><i>Lack of sufficient awareness and information:</i> Most of the hotel managers do not have sufficient awereness regarding sustainable use of energy and water resources and related solutions. There is this consistent dilemma between the cost of the investment needed versus the payback period, but also fears of compromising guest comforts. A thorough information campaign is lacking in order to convince key stakeholders, but also to</p>

showcase and demonstrate the work done by UNDP and GEF in this regards. A previous UNDP-GEF funded project implemented its activities in Cairo where some of the hotels such as JW Marriott and Conrad demonstrated EE measures. These experiences need to be shared nation-wide, including in tourism areas like Sharm El Sheikh.

*Lack of adequate quality control:* Equipment suppliers import products of various quality levels. Since no systematic quality control mechanism yet exists, all kind of products and systems may be brought into the market with an objective of making short-term profits without considering market sustainability. As such, consumers face a high risk of acquiring systems that do not meet the expected performance. Energy standards for different type of products have been adopted, but the controls on domestic production and imports are not yet adequately organized.

#### **Barriers – Waste**

Until now, the focus in Egypt has been on recycling rather than on waste prevention. Often recycling takes places at disposal sites (legal and illegal dumpsites, waste bins and containers) by informal recyclers at a point in time when recyclables have already been mixed and are contaminated by other types of waste, making it hard to extract valuable recyclables and resulting in lower prices. Very limited focus is placed on practicing waste segregation at source or even better, introducing waste reduction measures.

The challenges reported for South Sinai in the area of municipal waste management are:

- *Lack of public awareness*
- *Low capacity for processing and recycling*
- *Lack or inadequate facilities or equipment*
- *Inefficient collection systems*
- *Lack of financial resources*
- *Lack of comprehensive and systematic integrated approaches for waste management*

- *Lack of skills and human capacities*

- *Inadequacy of organizational and administrative systems.*

Public services responsible for waste management are often inefficient and financially constrained, private sector activities are suffering from contractual and financial constraints, the informal sector has limited their engagement to what they believe profitable (recycling), waste management operations such as composting are failing in the majority of cases, and the official capability of attracting serious investments in municipal Solid Waste Management is almost non-existent.

The most constraining among the barriers listed is limited financing for the proper planning and implementation of waste prevention and solid waste management interventions, and a lack of the right incentives for those generating waste, whether those are hotels, the private sector or residents. In order to make waste management solutions work, SWM financing that includes full cost accounting, engaging waste generators and the general public in accepting the waste fees and institutionalising cost-recovery mechanisms are critical. Furthermore, putting in place the right incentives and disincentives for waste consumers, producers, and service providers to make environmental improvements or reduce adverse environmental penalties is key as economic instruments could create incentives and disincentives at different stages of the waste management, most importantly at the stages of generation, treatment and disposal.

#### **Barriers – Biodiversity**

*Lack of implementation capacity to launch full implementation of Green Sharm Initiative.* This applies to all the above topics as well, but is especially important for biodiversity because the topic doesn't attract the same attention as the waste-energy-water nexus; the biodiversity issue is normally "outsourced" to the NCS Regional PA Authority even though it needs to be anchored more strongly in decision making (economic, infrastructure, investment) more broadly.

*Municipal planning for biodiversity/natural capital and regulations for biodiversity-harmful economic activities are patchy and have loopholes.* Ecosystem assets continue to be largely taken for granted in day-to-day decision making. Use of the marine space by different economic activities is not clearly regulated, especially in the Managed Resource PAs and in front of Sharm El Sheikh and other cities.

*Limited monitoring for sustainability.* This is because of the lack of a monitoring framework but also because of

limited awareness and capacity in government agencies and private operators (with only a few exceptions).

*Limited enforcement of regulations.* This is valid at upstream level (municipal, governorate) and at site level (RMNP but especially in the Managed Resource PAs). This is linked to capacity issues but also to staff planning gaps and dedication.

*PA planning and management is acceptable but needs to be much better still in light of the huge pressures on RMNP especially.* It could be enriched with internationally benchmarked innovative solutions. The Managed Resource PAs seem to impose limited constraints on harmful economic activities so their management plans especially should be reviewed.

*Lack of capacity on PA finance in South Sinai.* PA revenue generation is still suboptimal and could benefit from a boost through a dedicated team and international technical assistance to make best use of the huge opportunities in South Sinai, to generate further resources for the national PA system. There is a risk that ongoing nationally-led efforts on PA finance are not applied in RMNP.

*Limited awareness and guidance about options and opportunities to reduce migratory bird mortalities.* While the bird poisoning at the wastewater plant is being addressed through a targeted micro-intervention involving microorganisms by the ongoing GEF project on migratory soaring birds, the other risks to and opportunities for migratory birds cannot be addressed by that project because in Egypt it focuses largely on the placement and practices of wind farms on other areas of the country.

**vi) The proposed alternative scenario with a brief description of expected outcomes and components of the project;**

79. To address the above-mentioned challenges and barriers in conjunction with the baseline scenario interventions, the project will work on the integrated components outlined in the following.

80. The overall project Objective will be to turn Sharm El Sheikh into a model integrated and ecologically sustainable tourism city of national and international importance through the adoption of further low-carbon technologies, good waste management practices and a further-enhanced protection of its natural capital basis. This will be achieved through a concerted effort – triggered by the here-proposed project – to revive, update and upgrade the Green Sharm Initiative, and begin its implementation in earnest, accompanied with suitable and strong regulations and enforcement.

81. It should be emphasised that the governance system in Egypt is mature enough to take ownership of the strategies and frameworks to be developed by the project and guarantee their post-project sustainability and investments, and an upscaling of interventions through additional investments can be expected where successful, even during the project's lifetime.

#### Component 1: Enabling framework for a green sustainable tourism city Sharm El Sheikh

82. This Component will deliver the following two Outcomes:

- 1.1 Investment in environmental sustainability by public and private sector increased
- 1.2 Increased investment in environmental sustainability is in line with new planning documents

83. To achieve this, the project will under this Component begin with a number of foundational studies to enable a revision, update and international benchmarking of the now-dated Green Sharm Initiative's proposal of 2010. This will involve an assessment quantifying energy and material flows in the area targeted (through urban metabolism assessments and tools).

84. It will also involve a natural capital accounting/assessment (with a focus on ecosystem accounting) conducted for Sharm El Sheikh and/or the Governorate of South Sinai; budget and time-frame will not allow for a national-scale natural capital accounting exercise in line with either the SEEA General Framework or the Experimental Ecosystem Accounting frameworks, and to institutionalise NC Accounting in Egypt. The project could however attempt to conduct a NC accounting or assessment exercise focused on either Sharm El Sheikh or the South Sinai Governorate, to illustrate the value of the natural capital basis for its tourism economy, i.e. with a clear policy focus to leverage some political decisions linked to future tourism investments, biodiversity protection, PA finance, tourism practices, and enforcement of related regulations.

85. These baseline studies will then feed into the next outputs related to enhanced planning, which will deliver a comprehensive and internationally benchmarked Sharm El Sheikh Sustainability Plan (SESSP) with a newly developed Financing Strategy, to be adopted as a common guide for planning and investment. In addition, the project will work towards the integration of low-carbon investment and environmentally-friendly chemicals and waste management metrics, as well as natural capital values and biodiversity conservation considerations, into all relevant city/governorate-level strategies, planning documents and regulations. And the project will develop Integrated Coastal Management and Marine Spatial Plans for the South Sinai Governorate and secure their adoption by governorate and municipality in the context of the push for enhanced sustainability given the importance of maintaining landscape values and healthy ecosystems of these marine and coastal areas for the tourism business model of the region. The project will therefore also develop a new strategy for branding and marketing green tourism in Sharm El Sheikh and secure its endorsement by

relevant public and private stakeholders. Lastly, the project will emplace agreements whereby relevant authorities (municipality, governorate, etc.) engage to monitor, track, and report on a harmonized set of performance indicators (metrics) regarding progress towards the SESSP at regular intervals.

#### 1.6. Enhanced policy, regulatory and institutional capacity:

- Review and subsequent revision of the regulatory framework for national and local governments pertaining to.
- Development of Green Sharm-El-Sheikh strategies and plans
- Establishment of a steering committee comprising of government, private sector, academia and citizens' groups
- Enhanced capacity of national and local government officials and stakeholders to build the capacity necessary for the implementation of the Green Sharm-El-Sheikh Plan and monitor and evaluate Public Private Partnerships
- Assessment completed of existing and potential financial mechanisms to support the implementation of the Sharm El Sheikh Sustainability Plan

86. In terms of the current design, the project will intend to support a longer term vision, capacity building and coordination of stakeholders and investment partners in respect to sound chemicals and material management along the supply chain. A range of actors involved will include waste generators, where opportunities exist for optimize consumption patterns against re-usability of consumed material and packaging, material/product suppliers to organize green procurement (with standards and certification), and with recyclability aspects and what material can be returned into re-use, and what fraction of waste is ready for disposal in lower quantities which can be the ultimate aim of reaching circular ways of managing this sector.

Component 2: Reducing GHG and UPOP emissions in targeted urban zones thorough innovations and public and private partnership

87. This Component will deliver the following three Outcomes:

- 2.1 GHG reduction: 1,100,000 tCeq
- 2.2 UPOP emissions reduced by 2.7 g-TEQ/yr with 10.8 g-TEQ during project lifetime (2.7g/yr \* 4yrs=from yr2)
- 2.3 1,000 tonnes of plastic waste from land based sources and boats prevented from ending up in the sea

88. To achieve this, the project will under this Component deliver a set of outputs/activities involving both Technical Assistance and Investment.

89. On TA, Outputs 2.1, 2.2. and 2.3 will contribute to emplacing a framework that will pilot a low-carbon initiative at city level using innovative mechanisms such as performance-based financing and incentives. It will also help putting in place a sound monitoring, reporting and verification system (MRV) that will track all GHG emission reductions. Output 2.3 will focus on training and capacity building of all key stakeholders at governorate, municipality and hotel levels. The establishment of a MRV for GHG in the Tourism sector is imperative for the following reasons: (i) it helps to have transparency, accuracy, accountability and comparability of information regarding impact of climate change on tourism sector to recognize good practices, promote a capacity building process and allow an international benchmarking; (ii) it helps the acknowledgment and the visibility of sectorial mitigation actions; (iii) It helps to quantify the real impact of sectorial and sub-sectorial policies in terms of GHG emission from each different identified gaps; (iv) it helps to account national progress in the framework of international obligations (such as National communications / NDCs); (v) it helps to identify gaps and needed international support; and finally (vi) it helps to facilitate access to financial support from international donors.

90. Both the 1st Biennial Update Report (GEF ID: 6936) and the 4th National Communication to the UNFCCC (GEF ID: 10010) of Egypt are under implementation. Specifically, the first BUR aims to enable Egypt to improve the current GHG MRV system and be able to measure progress at all level. The newly started 4th National Communication will strengthen the country's capacity by putting in place a good National GHG Inventory system. A good example to be inspired is the BUR of Montenegro (GEF ID: 5635) where the project supported the publication of "MRV System for GHG emissions from Tourism Sector in Montenegro" (2015). The current GEF proposed project will work on the same lines, and coordinate with these 2 projects to insure complementarity and mutual benefits.

91. On Investment, the project will achieve GHG emission reductions through a set of measures that combined together, will ensure greater GEBs. First, the project will ensure efficient utilization of natural resources in tourism facilities and built environment (Output 2.4). Context-specific resource efficient opportunities will be identified. Possible measures (not exhaustive) include: insulation of buildings; replacing windows, doors, heating and lighting systems; improvement of ventilating, air conditioning and refrigerating systems; improvement of boiler system efficiency; water-saving measures; street lighting using the most energy efficient and site appropriate lighting technology available (e.g. LEDs or high pressure sodium lamps); and district cooling. Priority actions will be defined and detailed feasibility studies be undertaken in the potential resorts to be targeted by the project. Through this component, the project will provide clear recommendations on standards and codings for both existing and new buildings/hotels to be built. The project will also develop and disseminate an online tool for carrying out comparative environmental (GHG emission reduction) benefits analysis of hotels against the baseline situation.

92. District cooling systems are complex and capital intensive and require detailed planning and analysis to establish the technical and economic feasibility and the optimum selection of technology to make the maximum energy savings. It is therefore essential to identify potential stakeholders in a possible scheme as well as the options for funding such a scheme taking into account any potential private, public and for international funding mechanisms. The project will therefore include a detailed feasibility study to establish the potential for district cooling scheme in Sharm El Sheikh including technology analysis and selection, evaluation of funding mechanisms and economic feasibility and the appropriate institutional regulatory framework. A pre-feasibility study will be conducted during the PPG stage of the project to establish:

- the overall interest in such a scheme from users, funders and regulators
- estimates of the up to date baseline cooling load and cooling energy consumption profile
- plans for new developments in the city and potential scheme locations
- estimates of the potential new energy loads required with and without the application of district cooling technologies.

93. If at the PPG stage the pre-feasibility study indicates there is potential for a scheme a full feasibility study will be undertaken as part of the project to:

- Compile technical information on suitable conventional and NIK technologies.
- Develop potential funding mechanisms and seek in principle agreements to support the project

- Basic conceptual designs for district cooling plants and calculate the capacity of equipment for this new design.
- Technology selection
- Compile detailed models of capital and operating costs
- Develop commercial operating model
- Preparation of business case for technically feasible schemes to be presented to institutional and private stakeholders and investors
- Develop recommendations for regulatory framework and governance of the scheme.

94. In addition to energy efficiency, the project will also support deployment of on-site renewable energy-based generation (Output 2.5). In that regard, context-specific renewable energy generation opportunities will be identified (solar water heating systems, roof top PV units, solar-powered desalinization, etc.). Priority actions will also be defined and detailed feasibility studies undertaken for potential sites. Selected priority investments will be financed and operational by end of project. Through this component, the project also will elaborate priority investments to be financed and operationalized.

95. The project targets productive sectors of the economy, in particular the hotel industry. Within this group, there will be a further focus on higher-end hotels that are amongst the highest energy users. This is also the financially strongest section of the industry that has access to capital for maintenance and structural upgrades (e.g. of A/C systems, lighting etc.). During early scoping work on this PIF, and work done in the recent past, there are barriers in place that prevent these companies to invest in low carbon improvements. Therefore, as part of the project, it was considered that some incentives are needed to induce action and to demonstrate results (like short payback periods). In order to further incentivize and ensure that the subsidies pay for the desired investments, it was decided to opt for a performance-based payment modality, with payments upon pre-determined results. This allocates the responsibilities and risks involved appropriately and has the highest chance of success. If it turns out that some of the companies that are weaker financially and may not have the working capital required to ensure upfront self-financing, the project will explore other modalities of deploying the anticipated subsidies. The project will pilot this for its duration, with the aim to phase out the subsidies by the end of the project period. Given the inherent financial characteristics of the investments, with short to medium payback periods, there is not expected to be a continued need for the mechanism after the end of the project.

96. As mentioned above, the targeted hotels are 5-star hotels that all showed interest in the program. 15 of them already joined the national Green Star Hotel Programme (GSH). The GSH is a national green certification and capacity-building program managed by the Egyptian Hotel Association (EHA) under the patronage of the Egyptian Ministry of Tourism. As explained in the PIF, this requires at least USD 400,000 equity investment from each hotel.

97. In addition, the project will support the private sector in securing upfront investments through (i) conducting due diligence private sector risk assessment; (ii) building the capacity of local financial institutions in order to create domestic markets for low-carbon investment; (iii) seeking cooperation and collaboration with multilateral and bilateral financial institutions and international climate funds; and (iv) providing technical assistance and capacity building at different stages of the project lifecycle; raising awareness, advocacy and opportunities such as the Global Green City award, eco-tourism and other environmentally friendly initiatives.

98. Finally, the project will also have an exit strategy, that will help all the system to continue working smoothly after the project term. The project will for example gradually decrease the subsidies towards the end of the project.

99. Output 2.6 will focus on a reduction of GHG and UPOPs emissions through green purchasing and improved waste management and recycling. The ultimate aim of this project output is to reduce the emissions of GHG and UPOPs from the unsound disposal and unintentional open burning of municipal waste. To achieve this, the project will start with public/private consultations of a gradual governorate-based plastic phase-out plan (e.g. inventory, categorization of plastic products, and understanding recycling opportunities for each category broader in the national context) to be then designed and implemented; this will provide time for business and suppliers to gradually integrate the costs and logistics; this will allow for a gradual incremental introduction of bans (now, in 2-3 yrs, in 5-7 yrs, etc.). The project will then work with at least one of the five wards in Sharm El Sheikh to i) introduce green purchasing at hotel and resort level (use of non-plastic environmentally friendlier hotelrelated products e.g. reusable items, replacement of plastic water bottles, greener/non-plastic packaging, sourcing of local and/or organic foods, environmentally friendly toiletries, etc.); 2) introduce waste segregation at source (organic, recyclables and residual waste) to significantly increase recycling rates at hotel, commercial and residential premises; and 3) put in place an integrated and efficient solid waste collection system at

ward level in partnership with selected private sector operators and informal waste recyclers to ensure compost, recyclables and residual waste are safely disposed.

100. As highlighted under output 1.3, the developed Sharm El Sheikh Sustainability Plan (SESSP)[1] will serve as a common guide for planning and investment including the introduction of green purchasing, introduction of waste segregation at source and introduction of an integrated and efficient collection system while environmentally-friendly chemicals and waste management metrics (e.g. green purchasing targets; waste segregation at source targets; waste collection targets and improved landfill management – both of which will result in a reduction of GHG and UPOPs releases), will be incorporated into all relevant city/governorate-level strategies, planning documents and regulations. In terms of implementation the project aims to work initially with selected number of hotel and resorts in 1 of the 5 wards and support them in (with source sorting at the point of generation, improved recycling and composting, and safe disposal of residual waste) in undertaking feasibility studies that will identify opportunities and easy to implement measures for green purchasing as well as waste segregation at source with a focus on cost saving measures; potential income from the sales of recyclables and a more pleasing tourism environment in the ward. UPOPs and GHG emission reductions will be mostly achieved by reducing the burning of waste piles in Sharm-El-Sheik (by increasing waste collection rates, and improving recycling rates) and on the landfill (e.g. through improved management of the landfill resulting in no landfill fires or smoldering) and the establishment and efficient operation (through capacity building) of the Green Sharm Initiative supported composting facility, sorting and recycling facilities and production of animal fodder. The improved management of the landfill and the improved operation of the composting facility will be achieved through the introduction of best available technologies and best environmental practices. Although initially focus will be on 1 ward, to showcase cost saving measures; potential income from the sales of recyclables and a more pleasing tourism environment in the ward, the policy and regulatory measures supported under Component 1, as well as the implementation of the Sharm El Sheikh Sustainability Plan (SESSP) will support the replication of best practices (applying BEP and BAT) to all other wards in Sharm-El-Sheikh (part of which is expected to happen during the project's implementation while part of the replication is expected to happen after the project term). Further, this model approach, when refined during the implementation phase, can be extended to coastal towns in the same area such Hurgada, El Gouna etc where governorates express generate interest in following the suite. Reduction of GHG and UPOPs emissions will be sustainable after project implementation, as they are directly related to the introduction of best practices which will be ensured during the project's duration and the implementation of policies, regulatory measures and financial mechanism. After the project comes to an end, introduced BAT/BEP, policies/regulations and financial mechanisms will continue to stay in place and ensure sustainability of project interventions and further replication of best practices. In terms of national replication (initially first to other tourism destinations), it is expected that lessons-learned from the Green Sharm-El-Sheikh (in particular regulations and policies, financial mechanisms, and cost saving measures) will encourage other cities to take the same route and implement the same or similar best practices. Lessons-learned, experiences and best practices will be captured in such a way that other cities will have easy access to these.

101. At municipality level the project will provide support to the implementation of the Green Sharm Initiative, particularly focusing on GHG and UPOPs reduction efforts by increasing the capacity of the existing composting facility and to support the establishment of 2 intermediate sorting and recycling facilities. The project will also support the Green Sharm Initiative in the establishment of a station for the production of animal fodder from organic waste.

102. Furthermore, the project will work with the Governorate as part of the Green Sharm Initiative to upgrade the (controlled) dumpsite into a sanitary landfill (with EEAA financial support), with the GEF financed project predominantly focusing on interventions to minimize the amount of organic waste ending up in the landfill; improved monitoring and inspection regimes; interventions to control and manage greenhouse emissions; appropriate landfill planning; use of appropriate personal protection equipment and supporting procedures; emergency actions to prevent spontaneous fires and the spread of fire; and the formalization of waste pickers working on the landfill site. The improved monitoring, inspection, control of GHG emissions; and interventions to prevent fires or the spread of fires will significantly help reduce the release of UPOPs.

103. Finally, to reduce the risk of waste/litter (in particular plastics) ending up in the marine environment, the project will work at municipality level to put in place a ban (or bans) on selected single use plastic waste items (such a plastic bags), in particular focusing on those items that have a high likelihood of ending up in waterways or the sea. The project will also support the municipality in putting in place incentives/counter-incentives to ensure the sound disposal of waste originating from boats.

104. The project will go about the above proposed interventions in the following ways:

- Green purchasing, waste reduction and recycling opportunities identified in Sharm El Sheikh.
- Priority actions defined and detailed feasibility studies undertaken.
- Integrated chemicals and solid waste management system made fully operational in 1 of the 5 wards (with source sorting at the point of generation, improved recycling and composting, and safe disposal of residual waste).
- Improved management of the landfill resulting in no landfill fires or smolthering.
- Establishment and efficient operation (through capacity building) of the Green harm Initiative supported composting facility, sorting and recycling facilities and production of animal flodder achieved.
- Ban(s) on select plastic product(s) put in place.

- Regulations and incentives/ counter-incentives impacting safe waste disposal by boats reviewed and improved

### Component 3: Extend biodiversity protection measures from Sharm El Sheikh to key adjacent sites and ecosystems

105. This Component will deliver the following five Outcomes:

- 3.1 Management of marine and coastal PAs adjacent to Sharm El Sheikh further strengthened, incl. through innovative mechanisms: Ras Mohamed NP (850 km<sup>2</sup>), Nabq Managed Resource PA (600 km<sup>2</sup>), Abu Galum Managed Resource PA (500 km<sup>2</sup>) (Total: 1950 km<sup>2</sup>).
- 3.2 Fisheries and their coral reef impacts eliminated from RMNP and reduced to sustainable levels in Resource Management PAs.
- 3.3 Impacts from boating, anchoring, diving and snorkelling on coral reef ecosystems in NP and Resource Management PAs minimised.
- 3.4. Mortality of migratory soaring birds passing through Sharm El Sheikh/ South Sinai bottleneck reduced.
- 3.5 PA financing increased by +20%

106. To achieve this, the project will under this Component work on several closely-related fronts. Firstly, the project will work in the three marine and coastal PAs frequented from Sharm El Sheikh, to further reinforce their planning and management, especially regarding biodiversity-harmful economic activities. This will entail i) a review of existing PA plans, services and monitoring programs to integrate and meet internationally benchmarked best-practices; this will introduce a review of daily routines (e.g. staff deployment should not be limited to daytime only), and performance reviews of PA management staff involving indicators for commitment and impact; ii) a review of the regulations for biodiversity-harmful economic activities (based on an assessment of these during PPG that should look especially look at unsustainable levels of legal and illegal fishing, tourism boats, anchoring and diving, and clearly identify type and scale of impact), with solutions for closing gaps identified and adopted by the respective authorities (to consider carrying capacity, fleet and boat sizes, licenses, practices and zoning, alternatives, incentives, mandatory boat tags, enforcement, monitoring, etc.); iii) an inclusion of these solutions in the South Sinai Integrated Coastal Management and Marine Spatial Plan (to be developed under Component 1) and their implementation by the respective authorities (governorate, municipality, tourism and fishing authorities, coast guard and South Sinai PA authority). The government's declared goal is to be recognised at the regional and

international levels for world-class management standards in the three targeted South Sinai Pas (including World Heritage and Green List nominations/approvals).

107. Secondly, the project will work to further increase PA financing through further-enhanced PA revenue generation and reinvestment by the public and private sector in Sharm El Sheikh into the tourism’s natural capital base (landscape and healthy coral ecosystems). Some foundations for this are already laid through the soon-closing project *Strengthening Protected Area Financing and Management Systems*, and more innovation will be triggered at national level through the soon-to-start project *Mainstreaming the conservation and sustainable use of biodiversity into tourism development and operations in threatened ecosystems in Egypt*, however RMNP is the arguably most promising PA in terms of revenue generation. So the here-proposed project should in principle not develop any new systemic PA finance tools but implement at local level what these other complementary projects are promoting in areas these do not cover.

108. The project will moreover as a secondary line of action provide targeted support to an issue that the project *Mainstreaming conservation of Migratory Soaring Birds (MSB) into key productive sectors along the Rift Valley/Red Sea flyway* has identified – the situation of migratory soaring birds in Sharm El Sheikh. Hundreds are poisoned each year at the wastewater treatment plant, which acts as a major attractant in the middle of this arid region. While the MSB project is working on reducing mortalities through the addition of EM (Effective Microorganisms), there are opportunities to engage the municipality and governorate to consider in the reconstruction and future management of the facility the creation of a small healthy bird-friendly wastewater wetland stopover that could boost survival rates of migratory birds passing, and at the same time serve as an ecotourism attractant. The upgrade/conversion– if an agreement can be found – will be done using co-financing from the Municipality of Sharm El Sheikh (please see row # 6 in co-financing Table C), while the project would provide targeted yet financially-limited technical assistance.

109. The following table explains how the different ongoing and planned GOE/UNDP/GEF projects complement each other and largely avoid redundancy/duplication:

<b>GEF ID 1028 / 9491</b>	<b>GEF ID 3209</b>	<b>GEF ID 5073</b>	<b>The here-proposed project</b>
<b>Migratory Soaring Birds</b>	<b>PA Financial Sustainability</b>	<b>BD &amp; Tourism</b>	
In Egypt, the MSB project focuses on the placement	This project will close in	This project will be	This project will focus on the South Sinai/Sharm El

<p>and operations of wind farms, especially around the Suez region where most migratory birds cross over between Asia and Africa, which leads to mortalities. The project has innovated through a Shut Down on Demand policy where turbines or farms can be halted when flocks fly through. There is no work to remedy power line collisions in Egypt, only in Sudan.</p>	<p>mid 2019.</p> <p>It worked primarily on <b>Visitor Entrance Fees and PA Concessions</b>, both at national level and in a range of PAs across Egypt. The project with government cofinance also built significant tourism infrastructures in PAs. It still endeavours to establish a PA Autonomous Agency.</p>	<p>launched in early 2019.</p> <p>The project will work at national level to mainstream biodiversity into the national-level planning of tourism infrastructure placement, and on frameworks for better tourism operations and practices.</p>	<p>Sheikh region with its 3 marine PAs, Ras Mohamed, Abu Galum and Nabq..</p>
<p>The project has to a very small degree provided technical assistance to the Sharm El Sheikh Wastewater Treatment plant as it is a hotspot for disease-linked mortalities during migration, providing Effective Microorganisms.</p>	<p>In South Sinai, this project delivered the infrastructure for tourism services to Ras Mohamed National Park.</p>	<p>On the ground it will work in three target regions: Siwa in the Western Desert, the NW Mediterranean belt and the southern Red Sea belt south of Hurghada towards the border with Sudan. It will not work in the Southern Sinai on the ground.</p>	<p>Thematically it will focus on the further roll out of the nationally-established financing mechanisms in South Sinai. PA entrance fees can be increased and the PA finance work can be extended to the other marine PAs near Sharm El Sheikh. Further innovative tourism-linked financing mechanism such as taxes on waste or plastic imported or used by tourism businesses could be piloted at the local level in the context of the project and the Green Sharm Initiative.</p>
<p>This project does not look at PA Financing Mechanisms at all</p>		<p>On PA/BD financing, the project will focus at the national level on other tourism-related financing</p>	

		mechanisms, such as entry taxes and biodiversity offsets (as final step of the mitigation hierarchy).	
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**vii) Alignment with GEF focal area and/or Impact Program strategies**

110. On **Climate Change**, the here-proposed project is fully aligned with two of the four entry points outlined in the GEF VII CCM Focal Area 1 *Promote innovation and technology transfer for sustainable energy breakthroughs*, namely *Accelerating energy efficiency adoption* (CCM1-3) and *Cleantech innovation* (CCM 1-4). As regards CCM 1-3, this project would provide much needed support to accelerate the adoption of EE measures in Sharm El Sheikh. The project is similarly harmonized with the key features of the CCM 1-4 *Cleantech innovation* entry point, given that its main objective is promoting innovation in energy, water, and buildings working in close partnership with private sector stakeholders of the tourist sector in Sharm El Sheikh.

111. In terms of green buildings, the project will address issues of energy efficiency (Climate Change); green purchasing practices - including influencing a change in procurement of construction materials and goods and services for cities and in particular the hotel and hospitality sector; and finally waste management solutions that not only deal with the waste from buildings and the hotel and hospitality sector but also plan to recycle the building components at the end of life.

112. On **Chemicals and Waste**, the proposed project is aligned with GEF-7 Program 1: Industrial Chemicals, which seeks to eliminate or significantly reduce chemicals covered under the Stockholm Convention on Persistent Pollutants; the Strategic Approach to International Chemicals Management; and the Montreal Protocol on Substances that Deplete the Ozone Layer<sup>[1]</sup>, by supporting interventions that address chemicals and waste at the end of life; chemicals that are emitted from (waste management) processes and the management of waste. In terms of integrated waste management the project will seek to reduce UPOPs, reduce plastics pollution of oceans, and reduce GHGs through better waste management practices, source waste reduction and product substitution (particularly plastics related consumption), potentially including a plastic bag/styrofoam phase-out component, phase out of POPs containing building products, and the promotion of larger scale sustainable general recycling and processing and improved land disposal practices.

113. On **Biodiversity**, the project is furthermore and primarily aligned with Objective 2. *Reduce direct drivers of biodiversity loss, Focal Area Strategy Improving Financial Sustainability, Effective Management, and Ecosystem Coverage of the Global Protected Area Estate (Marine Protected Areas)*. In doing so it addresses priorities and outcomes identified by CBD COP-13 E) *Reduce pressures on coral reefs and other vulnerable coastal and marine ecosystems* and its Expected Outcome 7: *Anthropogenic pressures on vulnerable coastal and marine ecosystems, including coral reefs, mangroves and seagrass beds, and associated ecosystems, including pollution, overfishing and destructive fishing, and unregulated coastal development, are reduced, thus contributing to ecosystem integrity and resilience*. In addition, the project is to a secondary degree aligned with Objective 1. *Mainstream biodiversity across sectors as well as landscapes and seascapes, Focal Area Strategy Natural Capital Assessment and Accounting (NCAA)*. In doing so it addresses priorities and outcomes identified by CBD COP-13 A) *Improve policies and decision-making, informed by biodiversity and ecosystem values* and its Expected Outcome 1: *Financial, fiscal, and development policies, as well as planning and decision-making take into account biodiversity and ecosystem values, in the context of the different tools and approaches used by Parties to achieve the Aichi Biodiversity Targets*.

114. *CBD Aichi Biodiversity Targets*. The here-proposed project, due to its multi-focal and integrated nature, will contribute to the achievement of numerous Aichi Targets.

- **Target 2[2]** is supported by the work under Component 1 on natural capital accounting, urban planning and marine spatial planning, supporting the integration of biodiversity in local decision-making.
- **Targets 4[3], 8[4] and 10[5]** are supported by the reduction of solid and liquid waste ending in the marine environment as well as more remotely by the reduction of UPOP/POP emissions from waste burning, under Component 2.
- **Target 10** is moreover supported, like also **Target 5[6]**, by a better regulation and control of economic activities inside PAs especially fishing, boating and diving, under Component 3, and by the emplacement of a Marine Spatial Plan under Component 1. Reducing legal and illegal fishing pressure in both Ras Mohamed NP and the Managed Resource PAs Babq and Abu Galum supports **Target 6[7]**.
- **Target 11 and 12** are supported by the work under Component 3 contributing to the improvement of PA management in 3 PAs, protecting globally significant marine biodiversity.
- **Target 14[8]** is supported by the entire project, which is geared towards reducing environmental impacts and resource consumption and will help safeguard the recreational services provided by the natural ecosystems (most notably the coral reefs with

their colourful biodiversity) – which are key for the business model of the tourism city Sharm El Sheikh and hence for the livelihoods of its people.

- Finally, **Target 20[9]** will finally be supported through the mobilisation of further financial resources to the management of the PA system in the long-term, also under Component 3.

**viii) Incremental/additional cost reasoning with expected contributions from the baseline, the GEF-TF and co-financing and  
ix) global environmental benefits**

115. The here-proposed project will generate multiple global environmental benefits building on a substantial baseline but also a strong incentivising increment. A matrix for incremental cost reasoning and GEB is included in Annex E.

**ix) Innovation, sustainability and potential for scaling up.**

116. At least in the context of Egypt, and maybe beyond, the project is innovative especially because of its integrated nature linking urban planning and various environmental improvements (energy efficiency, renewable energy, water management, waste management, plastics, UPOPs reduction) to a better protection of adjacent important marine/coral reef ecosystems, as well as because of its ambition and potential to become a role model and catalyse similar sustainability improvements elsewhere in the country. Given the scale of these issues, choosing a medium-size city like Sharm El Sheikh appears will offer greater opportunities for having a tangible and visible impact during the project's lifetime, especially given the city's fame as an international tourism destination. It provides an opportunity to work on multiple local, regional and global environmental dimensions at the same time, without challenges becoming too large to tackle properly and in a hands-on manner. The project includes more general upstream policy support for urban planning and measurement/monitoring frameworks that systematically address resource efficiency and natural capital issues across the continuum of energy, water, waste and ecosystems. The GEF-intervention project will be important to trigger the eventual implementation of this innovative vision already laid out in a preliminary manner in the 2010 Green Sharm Initiative – which has struggled to take off. It would appear to be the first city in the world working with GEF funding on all these inter-connected streams and GEF Focal Areas.

117. Regarding sustainability, the project's interventions will safeguard the tourism environment upon which the Sharm El Sheikh's attractiveness relies. The Government of Egypt is therefore committed to intervene with strength and future investments when the integrated sustainability model is proven. The notoriety of Sharm El Sheikh will also allow opportunities for significant awareness-raising, communication and in consequence opportunities for scaling up. Smaller and new cities in Egypt can learn basic principles of environmental sustainability, while large cities can learn from the enhanced waste management and GHG reduction

approaches. Successful uptake and upscaling of successful interventions, including through government support, has already been demonstrated in several recent GEF CCM and BD projects in Egypt.

118. The project will work closely with the private sector to reduce risks and support the required upfront investment costs. UNDP's DREI approach on de-risking of RE and EE will be applied, based on a detailed understanding of investment risks, how these result in financing barriers and how these can be reduced or removed. The project will support the private sector in securing upfront investments through (i) conducting due diligence private sector risk assessment; (ii) building the capacity of local financial institutions in order to create domestic markets for low-carbon investment; (iii) seeking cooperation and collaboration with multilateral and bilateral financial institutions and international climate funds; and (iv) providing technical assistance and capacity building at different stages of the project lifecycle; raising awareness, advocacy and opportunities such as the Global Green City award, eco-tourism and other environmentally friendly initiatives. The project will also have an exit strategy, that will help all the system to continue working smoothly after the project term. The project will for example gradually decrease the subsidies towards the end of the project.



[1] As the Government of Egypt has not signed or ratified the Minamata Convention on Mercury this project does not include any interventions related to mercury

[2] By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems

[3] By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

[4] By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

[5] By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

[6] By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

[7] By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

[8] By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

[9] By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties

## 1b. Project Map and Coordinates

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

Please refer to Figs. 1, 4 and 5 and Annexes A and B for maps showing where the project interventions will take place.

## 2. Stakeholders

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

Indigenous Peoples and Local Communities

Civil Society Organizations

Private Sector Entities

If none of the above, please explain why:

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

120. A detailed Stakeholder Engagement Plan will be developed during the PPG in line with UNDP policies.

Name	Role
Ministry of Foreign Affairs	MOFA is a key counterpart for UNDP, because the GEF Political Focal Point is based in the Environment and Sustainable Development Department, and because the International

(MOFA)	Cooperation Department is the signatory to all UNDP projects and member of Project Boards.
Governorate of South Sinai and Municipality of Sharm El Sheikh	The Governorate of South Sinai and Municipality of Sharm El Sheikh are responsible for local administration, infrastructure, social and economic development. Although the responsibilities and powers are centralized in sectoral ministries, they have budgets and administration, social and economic development. Both will lead on greening the infrastructure of the city such as efficient street lighting, solar power station, upgrade of the landfill, etc. They will be also responsible for coordinating with and encouraging the hotel sector to join in this initiative
The Ministry of Environment (MOE)/Egyptian Environmental Affairs Agency (EEAA)	The MOE/EEAA is the project Implementing Partner and will lead on the high-level coordination with the other ministries, especially the Ministry of Electricity and Renewable Energy and Ministry of Tourism. EEAA is the executive arm of the Ministry of Environment. The main functions of EEAA include formulating environmental policies and regulations; preparing the necessary plans for environmental protection and environmental development projects, following up on their implementation; and undertaking pilot projects. EEAA hosts the GEF Operational Focal Point as well as the focal points for UNFCCC and CBD. EEAA will chair the Project Board to ensure coordination of project activities with all the stakeholders. EEAA is also an important co-financiern and oversees NCS.
Nature Conservation Sector (NCS)	NCS is the national entity under EEAA that is responsible for the conservation of biodiversity. It is in charge of the management of protected areas but also for improving biodiversity management in production landscapes through sectoral engagement. NCS has offices in Sharm El Sheikh for the South Sinai Governorate. In the project, the NCS will identify and advance key biodiversity conservation issues and priorities in the targeted region in Southern Sinai with its PAs. NCS will be instrumental in and urban/marine spatial planning, in enhancing the management of PAs, in advancing new PA financing mechanisms, in patrolling and monitoring the reef system and in engaging local-level stakeholders.
Waste Management Regulatory Agency	Waste Management Regulatory Agency was established in 2015 under the Ministry of Environment. The main objective of the agency is setting the rules and responsibilities for all entities working on Solid Waste as well as developing adequate legislation and strategic plans to improve all aspects of waste management in Egypt. The agency will be responsible for supporting, coordinating and monitoring the work for SWM in the city of Sharm El Sheikh, in particular the infrastructure works on upgrading the landfill establishment of

	recycling factory as well as support the engagement of private sector in a sustainable collection system.
The New and Renewable Energy Authority (NREA)	NREA falls under the of the Ministry of Electricity and Renewable Energy that serves as the focal point for expanding the use of renewable energy resources in Egypt and is implementing projects involving the use of wind energy, solar energy and biofuels. NREA also has a well-equipped testing laboratory for renewable energy technologies and energy efficient appliances. NREA has a list of certified suppliers for renewable energy technologies and will support the RE and EE technical activities and solutions offered by the project.
The Electric Utility and Consumer Protection Regulatory Agency (EGYPTERA)	EGYPTERA is affiliated with the MoEE and is regulating, supervising and controlling all matters related to electricity generation, transmission, distribution and consumption in Egypt with the aim of ensuring the availability and continuity of supply and satisfying environmental protection, the interests of the electric power consumers as well as the interest of the producers, transmitters and distributors. EGYPTERA will facilitate the connection of the installed renewable energy technologies with the electricity grid
Ministry of Tourism (MOT)	MOT has the responsibility for planning, coordinating, and promoting tourism development projects within the framework of the country's general policy and its economic plan. MOT have a Green Tourism Unit (GTU) that is mandated to promote use RE/EE in tourism sector and act a focal point for coordination with MOE/EEAA. The GTU will be a member of the Project Board to facilitate coordination with the tourism enterprises
Tourism Development Authority (TDA)	Statutory autonomous agency with substantial jurisdiction authority over tourism development areas and tourism planning. TDA's roles: a) provide support for coherent private sector tourism development; b) provide institutional framework for environmentally sound private investment participation in tourism development, and c) to help safeguard the resources of Egypt from environmental development degradation. TDA has the authority to acquire and sell tourism development lands and retain the income; to charge fees for the assessment and monitoring of projects; and to borrow, repay loans, and receive grants from national and international institutions. The role of the TDA in this project will be to provide information and promotional materials and coordinate work with NCS and impose regulations related to RE and EE for new hotels in Sharm El Sheikh.
Sharm El Sheikh Investors	The Association members include the owners of the hotels in Sharm El Sheikh as well as other touristic facilities in the city. The Association will play a major role in selecting

Association	hotels to benefit from the project services as well as assist in dissemination of pilot project results to beneficiaries in order to promote replication
Italian Agency for Development Cooperation	Cofinance and key local partner for UNDP and Government in project implementation and support regarding biodiversity and protected area management
Local communities	There are a Bedouin communities along the cpastal stretch where the project will work. They are involved in PA related tourism activities, but also in fishing, and will be beneficiaries of the project and hence be involved in the design and implementation of the project's site-level components.
Academia	Several departments of Cairo University will be mobilised to provide policy and technical/scientific expertise in support of this multi-faceted project, for output/outcome delivery under its different axes and for project-relevant M&E. This includes especially the Departments of Engineering, Economy and Science, as well as the Cairo University Research Centre and Energy Center. In addition the outpost of the Technical University of Berlin in El-Gouna will be mobilised who have led innovative sustainability and climate change mitigation work in the region. The Faculty of Science of Suez Canal University will support the biodiversity workstreams.
UNDP/GEF Small Grants Programme	SGP will be solicited to support local initiatives in the targeted PAs to complement the project's activities, and can contribute to CCM pilot projects including for awareness raising.

### **3. Gender Equality and Women's Empowerment**

**Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).**

121. The project aims to mainstream gender considerations into the financing, technical assistance, capacity building and policy dialogue activities of the project through the following:

- The PMU will be composed of gender-sensitive staff, whose awareness of the importance of gender equality and skills in incorporating gender into their work are enhanced through capacity development; recruitment will also consider gender balance in the selection of candidates.
- Stakeholder engagement will ensure all consultations be designed in a gender-responsive way and women will be equally consulted and participate in all discussions related to the project.
- The project will give a priority to women-owned enterprises to be supported with technical assistance.
- All capacity building activities will ensure equal participation of women and men.
- The project will adopt a gender-sensitive procurement policy through supporting the collection and analysis of sex-disaggregated data on trade and entrepreneurship to identify women-owned businesses, and develop a network of existing and new suppliers that are owned by women and capable of providing goods and services in the quantities and of the quality required to support the implementation of the project activities.

122. Converting Sharm El Sheikh into a green city will attract tourists to the city and accordingly will increase sales of handicrafts in the cultural center that the municipality intends to build. This is expected to increase the income of Bedouin women who are the main providers of those handicrafts.

123. A detailed Gender Assessment and Gender Action Plan will be developed during the PPG in line with UNDP policies.

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

**closing gender gaps in access to and control over natural resources;**

**improving women's participation and decision-making; and/or**

**generating socio-economic benefits or services for women.**

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

Yes

## **4. Private sector engagement**

**Will there be private sector engagement in the project?**

Yes

**Please briefly explain the rationale behind your answer.**

124. The project will engage with Sharm El Sheikh Investors Association that includes the owners of the hotels in the city as a beneficiary from the project technical assistance to encourage investment in converting their facilities into green hotels. The project will also support offering opportunities for private sector investment in PAs.

125. The project will work closely with the private sector to reduce risks and support the required upfront investment costs, mainly through (i) to include the above financial strategy towards private sector; and (ii) to refer to the UNDP strategy to engage private sector “Strategy for Working with the Private Sector” (2012), UNDP. The strategy identified four (4) main actions: (i) enhance its engagement with the private sector by building relationships, partnerships and new alliances and coalitions at country, regional and global levels. (ii) Advocate with other development actors in support of private sector partnerships for sustainable human development and inclusive market development. (iii) In close collaboration with other UN organizations and development actors, provide policy advice and capacity development support at country and regional levels for inclusive market development. (iv) Implement a select number of strategic partnership initiatives and programmes/projects at country or regional level.

## 5. 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)

Description of risks that might prevent the project objectives from being achieved	Level	Mitigation measures
Political instability and security concerns threaten the consolidation and further development of tourism in Egypt, undermining the value creation needed for the tourism sector to willingly adopt a more sustainable business model.	L-M	Political stability is now secured and there are large plans for investing in the Sinai in particular. The uniqueness of Egypt's cultural heritage and the quality of its tourism product renders the tourism sector fairly resilient. Tourism numbers are increasing gradually again and Sharm El Sheikh will be hosting several large international conferences including CBD COP14 in 2018 to promote the destination and security.
Slow start and delivery in related other GOE/UNDP/GEF projects undermine achievements of the stipulated outcomes of the present new project	L-M	<p>The PA Financial Sustainability Project is due to close in mid 2019 and will have achieved substantial albeit slow progress towards its own outcomes; the most important pending aspect is the creation/adoption of the PA Autonomous Agency, which would be a major step towards improving the management and financing of the PA system; the approval decree has been with the Parliament of Egypt and it will be passed to final approval by the President of Egypt as final step.</p> <p>The very recent signing of the long-overdue <i>Mainstreaming the conservation and sustainable use of biodiversity into tourism development and operations in threatened ecosystems in Egypt</i> (GEF # 5073) at the occasion of CBD COP 14 in Sharm El Sheikh in November 2018 is evidence for enhanced political mobilisation and support. If necessary the Biodiversity &amp; Tourism project can continue to promote the PA Agency approval process, such that it is emplaced by</p>

		<p>the time the here-proposed new project begins.</p> <p>The fact that Egypt will hold the CBD COP Presidency until COP 15 in late 2020 is expected to also facilitate processes and decision-making.</p> <p>UNDP will help fast-track the Inception Workshop for the Biodiversity &amp; Tourism project, as well as related procurement/recruitment, such that it will have started to deliver results by the time the here-proposed new project begins (in about 2020).</p>
Hotel owners resist investing in RE/EE	L-M	The project will support implementation of pilot projects in a number of hotels to demonstrate the technical and financial feasibility of the technologies EE/RE and the pilot projects results will be documented and shared with the owners of hotels to promote replication.
Lack of financial mechanisms to support investment in RE/EE in hotels	L-M	EBRD is offering a credit line to support EE/RE project in Egypt with a value of USD 120 million. Nevertheless, several large Egyptian banks have already established similar credit lines for own funds.
Lack of technical capacity in hotels to assess and implement RE/EE projects	M	The project will implement a capacity building programme for engineering departments in hotels
Vested interests – especially from selected tourism operators – will oppose and work to undermine the adoption and enforcement of stricter environmental regulations and practices	M-H	Egypt has set very ambitious targets for the expansion of its tourism industry. The achievement of these targets relies on long term competitiveness which for a significant proportion of the Egyptian tourism offer depends on good environmental quality standards, which in turn rely on landscape and biodiversity features. During project implementation, the project will mitigate the risk of obstruction from vested interests by maintaining a continuous constructive and informed high-level dialogue with key decision-makers and by engaging all concerned stakeholders, including policy makers, the private sector and community members, to convey the importance of systemic planning changes aimed at balancing economic development and environmental

		matters.
Effective implementation of enhanced protection and regulations for biodiversity in the (marine) PAs near Sharm El Sheikh is undermined by a growth of tourism development, tourism numbers and fishing pressure	M-H	Special attention will be paid to identify the most effective conservation measures in the different PAs with their different PA categories, and to identify and resolve barriers to effective enforcement. The project will look at updating PA zoning and categories and at enforcement regimes and resources, and ensure that the growth of financial resources made available to the PA system as per the predecessor projects, is realised, including in Southern Sinai.
Long-term changes in climate will exacerbate or present additional challenges for biodiversity in the targeted regions, most notably impacting the coral reefs	M	The objective of the project is to support biodiversity conservation efforts and alleviate current and future threats and pressure, including those presented by climate change. The project will climate-proof its activities ex ante and adopt adaptive management approaches as required. Well-designed measures taken to protect biodiversity are amongst the most valuable options to increase the resistance and resilience of species and ecosystems to climate change. Damage to coral reefs is best managed by reducing all non-climate pressures such as pollution, which this project will work towards.
<b>Description of potential social and environmental risks that may result from project implementation</b>		<b>Mitigation measures</b>
The livelihoods / economic activities and short-term revenues/benefits of individuals/ businesses/ operators (hotels, boat and diving and sportfishing operators, local fishermen, informal waste collectors, etc.; especially those involving environmentally unsustainable aspects viz. waste generation and discards, open waste burning, water and energy use, ecosystem/ biodiversity impacts) may be curtailed - by enhanced regulations and enforcement, improved municipal waste collection,	H	Enhanced regulations and their enforcement through govt authorities is at the core of the project, so if the project is successful this risk will become manifest. It is the role of govt to control this and prioritise public and shared interest, and long-term environmental and economic sustainability over short-term private benefit. Discussions will be held with operators individually and via platforms to raise understanding and reduce potential conflict. Peer pressure will also be applied using sustainable business leaders. Some of the sustainability improvements may also only be costly initially but pay back quickly, which will be underlined where possible. Other employment opportunities will be promoted.
Infrastructure development supported	M-L	The project will integrate a multi-disciplinary team that will watch out

<p>financially or technically by the project may be placed in areas important for biodiversity (marine, coastal, terrestrial, migratory)</p>		<p>for such risks. Such risks will also be addressed through the urban and marine spatial planning under Component 1.</p>
<p>Sharm El Sheikh has plans to build new desalination plants; this will in fact increase GHG emissions given that presently the grid is largely fed by the gas powered station</p>	<p>H</p>	<p>The desalination plant is unavoidable give the demand for more tourism, here and elsewhere in South Sinai. The project will work towards a significant increase in renewables and to reduce energy efficiency incl. through water use efficiency to reduce the carbon footprint – which is a key part of the project’s GEBs.</p>

## 6. Coordination

**Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.**

126. This proposed project will liaise/ coordinate with and use relevant lessons and experience from the following GEF-funded projects:

Initiative	Objective	Coordination with project
<p>EEAA/ UNDP/ GEF</p> <p><i>Strengthening Protected Area Financing and Management Systems</i></p> <p>GEF-4 Project ID 3209, GEF Project Grant USD 3,616,000, endorsed in May 2010 and due to close in June 2019</p>	<p>The project objective is the establishment of a sustainable protected area financing system, with associated management structures, systems and capacities needed to ensure the effective use of generated revenues for priority biodiversity conservation needs. It should achieve this objective by: (i) strengthening legal, policy, regulatory and institutional frameworks that facilitate revenue generation, revenue retention and other aspects of sustainable PA financing and management are established and functional; (ii) ensuring that levels of financial resource mobilization are adequate for effective conservation-oriented management of Egypt's PA system; (iii) establishing business planning and cost-effective management systems ensuring the effective allocation and management of mobilized resources.</p>	<p>The proposed project will complement the efforts of the financial sustainability project by: continue the upgrade and maintenance of tourism infrastructure within the three targeted PAs. Moreover, the project will develop and implement integrated long-term integrated monitoring programs for biodiversity components with special concentration on the marine fragile ecosystems in the Gulf of Aqaba (i.e. Red List of marine species, Red List of ecosystems, etc.). Additionally, the project will take steps toward recognizing the three targeted PAs on the available global initiatives (World Heritage Site, Ramsar Site, Green List, etc.). Also, the project will enhance the existing institutional and legal framework of the targeted PAs for more effective management with long term mechanisms of monitoring and evaluation. Coordination will be achieved by involving the soon-outgoing PA Finance project management unit as well as the consultants and govt staff working with the project (such as the Head of the PA and BD Units in NCA and CBD Resource Mobilisation Focal Point) in the design of this new project.</p>

<p>BirdLife/ EEAA/ UNDP/ GEF</p> <p><i>Mainstreaming conservation of Migratory Soaring Birds (MSB) into key productive sectors along the Rift Valley/Red Sea flyway</i></p> <p>Tranche I: GEF ID 1028, GEF Project Grant USD 6,243,243, closed;</p> <p>Tranche II: GEF ID 9491, GEF Project Grant USD 3,500,000, endorsed in July 2017, ongoing until March 2023.</p>	<p>Implemented through BirdLife International, the MSB Project is headquartered in Jordan and works in several countries along the flyway on those sectors that pose the greatest risk to the safe migration of these birds.</p> <p>These are most importantly hunting, agriculture, waste management and especially energy (from energy infrastructures). Some of the most exciting outcomes of this project have been in Egypt, most notably in the engagement of public authorities, private sector and finance institutions regarding the placement of wind farms and their operations (world-leading shut down on demand practices are being rolled out on reducing collision risks when migratory flocks approach turbines). The project here focuses especially on the key migration bottlenecks – which in Egypt is the crossing from Sinai to the Egyptian/African mainland. The project is also working in Sharm El Sheikh, on the open wastewater treatment plant, at which hundreds of White Storks die every year, presumably due to bacterial or chemical contamination; for now this is limited to installing bird hides to convert it to a birding spot, and reducing pathogen contamination through the proven addition of EM (Effective Microorganisms).</p>	<p>The here-proposed project will complement the efforts of the Migratory Soaring Birds project by: enhancing existing efforts for integrating biodiversity in the tourism, energy and waste management sectors at the governorate and municipal levels. Also, it will enhance the efforts regarding the conservation of migratory birds as Ras Mohamed NP is an important bird area (IBA) according to Birdlife International. The project will work to support activities to reduce the negative impacts of sewage treatment plans on migratory birds in Sharm El Sheikh, and in fact promote its conversion into a bird-friendly wetland. Additionally, the project will further introduce bird watching as a tourism activity that respects the environment. The project will use all available data about bird migration to develop booklets for bird matcher inside the three targeted PAs. All these will complement the efforts to turn Sharm El Sheikh into Green Sharm. Coordination will be achieved by involving the MSB project management unit in the planning and implementation of this new project.</p>
<p>EEAA/ Ministry of Tourism/ UNDP/ GEF</p>	<p>This project focuses on i) mainstreaming biodiversity into national-level decision-making processes, to reduce biodiversity impacts by tourism infrastructure</p>	<p>This project will play a critical supporting role to the here-proposed project at national level, and to clearly articulate best practices in terms of tourism activities, yet it cannot achieve the same level of integration at city and</p>

<p><i>Mainstreaming the conservation and sustainable use of biodiversity into tourism development and operations in threatened ecosystems in Egypt</i></p> <p>GEF-5 Project ID</p> <p>5073, GEF Project Grant 2,574,338, endorsed Apr 2015, due to start eventually before 2019</p>	<p>developments, provide a better framework for biodiversity-friendly tourism practices and enhance biodiversity-friendly tourism promotion; and ii) work with private sectors and protected areas in three regions to implement better tourism practices and PA management: Siwa PA in the western desert, the southern mainland stretch of the Red Sea near Marsa Alam (towards Sudan), and the north-western Mediterranean coast (towards Libya).</p>	<p>site levels. The here-proposed project aims to achieve a much more profound multi-focal transformation and more ambitious model linking tourism with coral reef conservation. These twop project will have to work hand in hand, with the GEF-*5 project focusing on national level planning and practices, and the new GEF*7 project focusing on implementatipm at Governorate level. Coordination will be achieved because both projects fall under NCS, opopr the future PA agency, but special attention has to be paid that MOT is strongly involved.</p>
<p>Egyptian-Italian Environmental Cooperation Programme</p>	<p>Presently in its third phase, EIECP aims at further developing Egypt's PA system, mainly with the view of establishing income-generating mechanism and, thus, facilitate the process for mobilizing resources toward the financial sustainability of the Egypt's PAs system and, in this way, its conservation and sustainable development endeavours. EIECP also tackles other PA management needs identified by NCS/EEAA, such as on information gathering/ generation management and analysis. A new phase is expected that will focus on CBNRM in a number of PAs, incl. those in S Sinai where they plan to work with Bedouin tribes, incl.</p>	<p>The here-proposed project will add substantial scope to the efforts of EIECP. Also, the project will support the three targeted PAs to turn the existing entrance and concession fees into electronic ways to increase the efficiency of the financial procedures within these PAs. Given that EIECP has been implemented through UNDP Egypt through cost sharing, the project will be directly linked and integrated to achieve synergies and economies of scale.</p>

	through support of women to enhance their capacities in production of handcrafts.	
Ministry of Electricity and Renewable Energy/ UNDP/ GEF  <i>Improving the Energy Efficiency of Lighting and Building Appliances</i>  GEF-4 ID 3832, GEF Project Grant USD 4,450,000, endorsed Oct 2010, ending 2018	The project aims is to achieve a market transformation to efficient lighting systems and home appliances in Egypt.	The project has implemented pilot projects for converting lighting systems in hotels to efficient lighting systems. The pilot projects results were documented and contributed to the replication in many hotels in Egypt. The project will end in 2018 but the case studies and other project outputs will be shared with the hotels in Sharm El Sheikh that have not converted yet
Industrial Modernization Center/ UNDP/ GEF  <i>Grid-Connected Small-Scale Photovoltaic Systems</i>  GEF-5 ID 5064, GEF Project Grant USD 3,536,364, endorsed in Dec 2014	The project aims to encourage and accelerate the development of solar PV systems by opening markets for roof top small scale PV systems in industrial, residential and commercial sectors.	The project will provide technical assistance to hotels in Sharm El Sheikh to promote installation of roof top PV system. The project may also provide some financial contribution to selected hotels to encourage implementation of pilot projects whose results will be shared with hotels in Sharm El Sheikh. The project will provide training for Engineers in hotels on design, implementation and maintenance of PV systems and LED lighting
Cleaner Production Center/ UNIDO/ GEF	The project is implemented by the Cleaner Production Center of the Ministry of Industry and Foreign Trade. Its objective is	The project focuses on improving the energy efficiency of the industrial process heat system and the introduction of solar thermal technologies mainly in industrial

<p><i>Utilizing Solar Energy for Industrial Process Heat in Egyptian Industry</i></p> <p>GEF-5 ID 4790, GEF Project Grant USD 6,500,000, endorsed Dec 2014</p>	<p>to develop the market environment for the diffusion and local manufacturing of solar energy for industrial process heat.</p>	<p>companies with a high fraction of low and medium temperature heat demand in industrial sectors. The same solar water heating systems will be suitable for hotels as well. Accordingly the UNDP project will liaise with the Cleaner Production Center to obtain the technical assistance packages that were provided under the UNIDO project to test and promote within the hotel sector in Sharm El Sheikh</p>
<p>UNDP Low Emission Capacity Building Project (LECB)</p>	<p>LECB is a global UNDP project funded by the EU and the Governments of Germany and Australia. The project aims to develop the capacity of experts and institutions in Egypt to respond to opportunities that have been identified for engaging Public Sector and Industry support and participation in addressing the issue of climate change.</p>	<p>The project is supporting the preparation of Low Emission Development Strategy (LEDS) for Tourism Sector in Egypt that will be completed by the end of 2018 and will provide useful information during the PPG for the project proposal development.</p>
<p>EEAA/ MoH / UNDP/ GEF</p> <p><i>Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste.</i></p>	<p>The project objective is to protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste. The project is expected to achieve this objective by: (i) Reduction of UPOPs emissions through capacity building, introduction and demonstration of BEP and BAT and strengthening of the legislative and policy framework; (ii) Reduction of Mercury emissions through capacity building, demonstration and introduction of mercury-</p>	<p>The HCWM and E-waste Management project under implementation will be able to provide lessons-learned and outcomes related to hazardous and non-hazardous waste management in Egypt (collection, storage, treatment and disposal), including the following (list not exhaustive) which will help to further inform the development of the Green Sharm-El-Sheikh project during its CEO endorsement phase and support the proposed project with guidance during its initial stages of implementation: (i) Feasible methods to calculate UPOPs baselines and UPOPs reductions over the duration of the project; (ii) understanding of waste flows and involvement and roles of various actors in the waste</p>

<p>GEF-5 Project ID 4392, GEF Project Grant USD 4,100,000, endorsed in 2013.</p>	<p>free medical instruments and strengthening of the legislative/policy frameworks (in combination with component 1); (iii) E-Waste: Reduction of emissions of UPOPs, and POPs through capacity building, introduction and demonstration of BEP and BAT (refurbishment and end-of-life) and strengthening of the legislative and policy framework; (iv) E-Waste: Reduction of emissions of other hazardous substances (mercury, lead, cadmium) through capacity building, introduction and demonstration of BEP and BAT (in combination with Component 3's investments for the end-of-life management) and strengthening of the legislative and policy framework.</p>	<p>management supply and demand chain in Egypt; (iii) Successful strategies, regulations and policies to support improved collection, treatment and disposal of various waste streams in Egypt; (iv) Assessed and implemented financial mechanisms to support the long-term (financial) sustainability of collection, transfer, treatment and disposal schemes; (v) Developed and implemented incentives for public and private sector entities to improve waste segregation, collection, treatment and disposal; and, (vi) Feasible and workable BEP and BAT interventions that are suitable to the local conditions in Egypt.</p>
<p>Egyptian - German Joint Committee on Renewable Energy, Energy Efficiency and Environmental Protection</p>	<p>The project is implemented by GIZ in collaboration with the Ministry of Electricity and Renewable Energy to support climate-friendly investments in renewable energies and energy efficiency.</p>	<p>The GIZ project is supporting the Green Tourism Unit (GTU) in the Ministry of Tourism while GTU is main stakeholder in the UNDP project. Hence, this GIZ project will provide technical assistance to hotels on RE/EE that will complement the GEF project activities and will work jointly with the GEF CC projects to disseminate the results of pilot project aiming to expand replication in Sharm El Sheikh.</p>

## 7. Consistency with National Priorities

**Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions**

Yes

**If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc**

127. The project is in line with Egypt's **Sustainable Development Strategy: Egypt Vision 2030**, responding to the SDGs. Environment is one of its 4 dimensions and entails an Urban Development Pillar and an Environment Pillar, who have as visions, respectively: *A balanced spatial development management of land and resources to accommodate population and improve the quality of their lives and Environment is integrated in all economic sectors to preserve natural resources and support their efficient use and investment, while ensuring next generations' rights. A clean, safe and healthy environment leading to diversified production resources and economic activities, supporting competitiveness, providing new jobs, eliminating poverty and achieving social justice.*

128. The project is also fully in line with the **Third National Communication Report (2016)** to the UNFCCC, which identified tourism as one of the main sectors with large potential and benefit for climate change mitigation actions – including *inter alia*:

- Improve energy efficiency and load/energy management;
- Increase on-site energy production from renewable sources, in particular solar energy;
- Promote for sea water desalination-based concentrated solar power and using high efficient desalination technologies;
- Set achievable specific energy, water consumption and waste generation

129. While Egypt hasn't prepared a UNFCCC Technology Needs Assessment, a **National Economic and Development Study for Climate Change (NEEDS)** was submitted to UNFCCC in 2010. It highlighted that mitigation alternatives at 2020 and 2050 time horizons rely on 10 mitigation priority programs identified as a result of NEEDS assessment for climate change. These programs comprise the large-scale grid-connected wind farms; integrated combined cycle solar system (ICCSS) plants; the expansion of the use of domestic solar water heating units; the expansion of the use of photovoltaic systems for different applications; the expansion of the

use of efficient lighting systems; the construction of nuclear power plants; the construction of gas-fired combined cycle power plants and gas-fired steam thermal power plants; and the replacement of aging taxi vehicles in the Greater Cairo Region. Total financial needs required to implement priority mitigation measures in the energy sector are estimated at USD 420 million annually till the year 2020 for an aggregate abatement of 4.5 million tons of CO<sub>2</sub> equivalent emissions of GHGs, annually. This amounts for an average abatement cost of USD 94 per ton of CO<sub>2</sub> reduction. Extrapolating these figures into the future, projected financial needs for mitigation measures in the energy sector are estimated to be USD 4.2 and 12.6 billion for the 2020 and 2050 time horizons, respectively.

130. The **INDC** report in 2016 included an initial estimate for the cost of implementing adaptation and mitigation measures in Egypt during the period 2020-2030: USD 73 billion. The report also indicated that the coral reefs which constitute a major attraction in Red Sea resorts are highly vulnerable to climate change.

131. Egypt as a Party to the CBD in 2016 prepared a revised **NBSAP / Egyptian Biodiversity Strategy and Action Plan 2015-2030** in line with the CBD Strategic Plan 2011-2020 through a wide participatory process. The project with its different components is in line with the following national targets:

- 1 – *By 2030, PAs network secured and expanded to cover 17% of total terrestrial and inland water and at least 5% of coastal and marine representative areas, especially priority sites of particular importance for biodiversity and key ecological processes, and effective management of PAs.*
- 6 – *By 2018, apply CBD tools to monitor and control the impact of tourism on biodiversity, in particular in protected areas and vulnerable ecosystems.*
- 7 - *By 2020, measures, including waste management plans and law enforcement, are in place to prevent and reduce the impact of pollution and waste on ecosystems, especially on wetlands and coastal and marine areas.*
- 8a – *By 2025, negative effects of different sectoral policies (land-use planning, transport, energy, uncontrolled urbanization, etc.) on priority elements of biodiversity are minimized, and measures to correct these effects are applied through developing and implementing land use management plans.*
- 9 – *By 2027, promote the implementation of good fishing practices in both Mediterranean Sea and Red Sea, favorable to fish protection and their habitats.*

- 16 – *By 2018, biodiversity values are promoted and integrated into national planning process and mechanisms to support **their incorporation into national accounting and reporting systems** to be developed.*
- 18 – *By 2017, proper NBSAP and **associated resource mobilization are in place**, in addition to establishment of the national biodiversity committee to ensure periodic evaluation of NBSAP*

132. With regard to Chemicals and Waste, Egypt's latest 2005 **POPs National Implementation Plan**<sup>[1]</sup> identifies the open burning of waste, medical waste incinerators and industrial processes as the three largest emitters of UPOPs. Priorities related to UPOPs listed in Egypt's NIP are: prevention of uncontrolled waste combustion, sound environmental management of waste, implementation of BAT/BEP measures for the reduction of dioxin and furan emissions, adjustment of national legislation to adequately address POPs/UPOPs issues as well as the provision of education and awareness building. Furthermore, the 2002-2017 National Environment Action Plan (NEAP) lists programmes on waste management, pollution abatement, transferring clean technologies, environmental monitoring and evaluation, technical assistance and capacity building among the nine listed main priorities. The proposed project will address all the priorities listed in the NIP, as well as address the priorities related to waste management as listed in the NEAP, to reduce the releases of UPOPs from uncontrolled waste combustion in Sharm El Sheikh.

133. The project is also line with the **National Capacity Self Assessment** regarding the three Rio Conventions, given that it includes joint work towards Climate Change and Biodiversity. Because there are no pressing land degradation issues in the area of Sharm El Sheikh, LD was not considered a further work stream to be added. Instead work on Chemicals was added that now also fall under the global environmental conventions served by the GEF. The NCSA highlighted the need for enhanced cooperation and synergies across the conventions at national level, which the here-proposed project will contribute to. The project is also submitted in the context of the CBD Conference of the Parties in November 2018, which will be hosted in Sharm El Sheikh by the Government of Egypt, which will assume the COP Presidency and has chosen enhanced collaboration across Rio Conventions as (one of) its lead topics.

[1] <http://chm.pops.int/Implementation/NIPs/NIPTransmission/tabid/253/Default.aspx>

## 8. 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.**

**134.** This project builds on several past and ongoing initiatives. It will consult project evaluations as well as the project host agencies and project team members wherever possible. It will also coordinate with ongoing projects as already described above, especially given that this is inherent in the cross-sector nature of the project. The socio-economic and environmental/ecological impacts of the project's interventions in Sharm El Sheikh and adjacent sites will be regularly monitored following the M&E framework to be developed during the project preparation stage. The project will integrate important work on KM and related communication efforts to reflect the innovation and complexity of this cross-sector undertaking and the need to constantly monitor the project's activities in relation to its goals and react through careful adaptive management. KM/Communication efforts (domestic and international) will be especially important to replicate the best practices and exploit the potential for Sharm El Sheikh to become a model green tourism destination, especially where there are plans even in Egypt to build more new tourism cities. KM/Communications will hence target at least on a yearly basis the Ministry of Tourism, TDA, the different Governorates and Municipalities especially in the Red Sea and South Sinai, and relevant NGOs such as HEPCA in Hurghada, with the dissemination of project activities and results. Lessons can also be shared internationally via platforms on sustainable cities and sustainable tourism. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and any other network that could be beneficial to the project implementation in terms of teachings.

### Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

#### A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Mohamed Salah	CEO & GEF OFP	Egyptian Environmental Affairs Agency	10/4/2018

#### ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

Maps are available in pages 37-39

#### ANNEX B: GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, Table F to the extent applicable to your proposed project. Progress in programming against these targets for the program will be aggregated and reported at any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Core Indicator	Terrestrial protected areas created or under improved management for conservation and sustainable use				(Hectares)	
					<i>Hectares (1.1+1.2)</i>	
			<i>Expected</i>		Achieved	
		PIF stage	Endorsement	MTR	TE	
		1,170,000				
Indicator 1.1	Terrestrial protected areas newly created					
N/A						
Name of Protected Area	WDPA ID	IUCN category	Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE

			Sum					
<b>Indicator 1.2</b>	<b>Terrestrial protected areas under improved management effectiveness</b>							
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score				
				Baseline		Achieved		
					Endorsement	MTR	TE	
Ras Mohamed NP (estimated 40% of 850,000 ha)	9782	II	340,000					
Nabq Managed Resource PA (estimated 80% of 600,000 ha)	40977	VI	480,000					
Abu Galum Managed Resource PA (estimated 70% of 500,000 ha)	40978	VI	350,000					
		Sum	1,170,000					
<b>Core Indicator 2</b>	<b>Marine protected areas created or under improved management for conservation and sustainable use</b>							<i>(Hectares)</i>
				Hectares (2.1+2.2)				
				Expected		Achieved		
				PIF stage	Endorsement	MTR	TE	
				780,000				
<b>Indicator 2.1</b>	<b>Marine protected areas newly created</b>							
Name of Protected Area	WDPA ID	IUCN category	Hectares					
			Expected		Achieved			
			PIF stage	Endorsement	MTR	TE		

			Sum				
Indicator 2.2	Marine protected areas under improved management effectiveness						
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score (Scale 1-3)			
				Baseline		Achieved	
				PIF stage	Endorsement	MTR	TE
Ras Mohamed NP  (estimated 60% of 850,000 ha)	9782	II	510,000				
Nabq Managed Resource PA (estimated 20% of 600,000 ha)	40977	VI	120,000				
Abu Galum Managed Resource PA (estimated 30% of 500,000 ha)	40978	VI	150,000				
		Sum	780,000				
<b>Core Indicator 3</b>	<b>Area of land restored</b>						<b>(Hectares)</b>
N/A							
<b>Core Indicator 4</b>	<b>Area of landscapes under improved practices (hectares; excluding protected areas)</b>						<b>(Hectares)</b>
N/A							
<b>Core Indicator 5</b>	<b>Area of marine habitat under improved practices to benefit biodiversity</b>						<b>(Hectares)</b>
N/A							

<b>Core Indicator 6</b>	<b>Greenhouse gas emission mitigated</b>				<b>(Tons)</b>	
		Tons (6.1+6.2)				
		Entered		Entered		
		PIF stage	Endorsement	MTR	TE	
	Expected CO2e (direct)	750,000				
	Expected CO2e (indirect)	360,000				
<b>Indicator 6.1</b>	<b>Carbon sequestered or emissions avoided in the AFOLU sector</b>					
			Tons			
		Entered		Entered		
		PIF stage	Endorsement	MTR	TE	
	Expected CO2e (direct)					
	Expected CO2e (indirect)					
	Anticipated Year					
<b>Indicator 6.2</b>	<b>Emissions avoided</b>					
			Hectares			
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
	Expected CO2e (direct)	712,500				
	Expected CO2e (indirect)					
	Anticipated Year					
<b>Indicator 6.3</b>	<b>Energy saved</b>					
			MJ			
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
		3.8 GWh				
<b>Indicator 6.4</b>	<b>Increase in installed renewable energy capacity per technology</b>					
			Capacity (MW)			
		Technology	Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		Solar Photovoltaic	1.5 MW			
<b>Core Indicator</b>	<b>Number of shared water ecosystems (fresh or marine) under new or improved</b>				<b>(Number)</b>	

7	cooperative management				
N/A					
Core Indicator 8	Globally over-exploited fisheries Moved to more sustainable levels				(Tons)
N/A					
Core Indicator 9	Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products				(Tons)
		Metric Tons (9.1+9.2+9.3)			
		Expected		Achieved	
		PIF stage	PIF stage	MTR	TE
Indicator 9.1	Solid and liquid Persistent Organic Pollutants (POPs) and POPs containing materials and products removed or disposed				
		Metric Tons			
	POPs type	Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
Indicator 9.2	Quantity of mercury reduced				
		Metric Tons			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
Indicator 9.3	Number of countries with legislation and policy implemented to control chemicals and waste				
		Number of Countries			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
Indicator 9.4	Number of low-chemical/non-chemical systems implemented particularly in food				

	production, manufacturing and cities					
		Technology	Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
<b>Core Indicator 10</b>	<b>Reduction, avoidance of emissions of POPs to air from point and non-point sources</b>				<b>10.8 grams</b>	
Indicator 10.1	Number of countries with legislation and policy implemented to control emissions of POPs to air					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
			1			
Indicator 10.2	Number of emission control technologies/practices implemented					
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
			1 [1]			
Indicator 10.3	Number of countries with legislation and policy implemented to control chemicals and waste					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
			1			
<b>Core Indicator 11</b>	<b>Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment</b>				<b>(Number)</b>	
			Number Achieved			
			PIF		MTR	TE
			3,750	Female		
			3,750	Male		
				Total		

[1] leading to emission reductions by 2.7 g-TEQ/yr with 10.8 g-TEQ during project lifetime (2.7g/yr \* 4yrs=from yr2)

## ANNEX C: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part1 by ticking the most relevant keywords/topics//themes that best describes the project

Level 1	Level 2	Level 3	Level 4
Influencing Models	<ul style="list-style-type: none"> <li>- Transform policy and regulatory environments</li> <li>- Strengthen institutional capacity and decision-making</li> <li>- Demonstrate innovative approaches</li> </ul>		
Stakeholders	<ul style="list-style-type: none"> <li>- Private Sector</li> <li>- Local Communities</li> <li>- Civil Society</li> </ul>	<ul style="list-style-type: none"> <li>- Capital providers</li> <li>- Large corporations</li> <li>- SMEs</li> <li>- Non-Grant Pilot</li> <li>- Community Based Organization</li> </ul>	
Type of Engagement	<ul style="list-style-type: none"> <li>- Partnership</li> <li>- Consultation</li> <li>- Participation</li> </ul>		

Capacity, Knowledge and Research	<ul style="list-style-type: none"> <li>- Capacity Development</li> <li>- Knowledge Generation and Exchange</li> <li>- Targeted Research</li> <li>- Learning</li> <li>- Innovation</li> <li>- Stakeholder Engagement Plan</li> </ul>	Indicators to Measure Change	
Gender Equality	<ul style="list-style-type: none"> <li>- Gender Mainstreaming</li> <li>- Gender Results Areas</li> </ul>	<ul style="list-style-type: none"> <li>- Beneficiaries</li> <li>- Sex-disaggregated indicators</li> <li>- Gender-sensitive indicators</li> <li>- Access and control over natural resources</li> <li>- Participation and leadership</li> <li>- Access to benefits and services</li> <li>- Capacity development</li> </ul>	
Focal Area/Theme	<ul style="list-style-type: none"> <li>- Biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>- Protected Areas and Landscapes</li> <li>- Mainstreaming</li> </ul>	<ul style="list-style-type: none"> <li>- Terrestrial Protected Areas</li> <li>- Coastal and Marine Protected Areas</li> <li>- Productive Landscapes</li> <li>- Productive Seascapes</li> </ul>

			<ul style="list-style-type: none"> <li>- Tourism</li> <li>- Fisheries</li> </ul>
Focal Area/Theme	- Climate Change	- Climate Change Mitigation	<ul style="list-style-type: none"> <li>- Energy Efficiency</li> <li>- Sustainable Urban Systems and Transport</li> <li>- Renewable Energy</li> </ul>
Focal Area/Theme	- Chemicals and Waste	<ul style="list-style-type: none"> <li>- Unintentional Persistent Organic Pollutants</li> <li>- Sound Management of chemicals and Waste</li> <li>- Emissions</li> <li>- Disposal</li> <li>- Plastics</li> <li>- Open Burning</li> <li>- Best Available Technology / Best Environmental Practices</li> </ul>	
	Rio Marker	<ul style="list-style-type: none"> <li>- Paris Agreement</li> <li>- SDGs</li> <li>- CCM Marker 2</li> </ul>	