Part I: Project Information

GEF ID
10935

Project Type
MSP

Type of Trust Fund
MTF

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Introducing systemic climate resilience methodologies in infrastructure investment planning

Countries
Global, Antigua and Barbuda, Egypt

Agency(ies)
UNIDO,

Other Executing Partner(s)
UNIDO

Executing Partner Type
GEF Agency

GEF Focal Area
Climate Change

Sector
Mixed & Others

Taxonomy

Focal Areas, Climate Change, Climate Change Adaptation, Climate information, Private sector, Sea-level rise, Climate resilience, Mainstreaming adaptation, National Adaptation Plan, Ecosystem-based Adaptation, National Adaptation Programme of Action, Adaptation Tech Transfer, Complementarity, Climate finance, Innovation, Disaster risk management, Least Developed Countries, Livelihoods, Influencing models, Demonstrate innovative approache, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Deploy innovative financial instruments, Stakeholders, Type of Engagement, Consultation, Participation, Beneficiaries, Civil Society, Academia, Private Sector, Capital providers, Financial intermediaries and market facilitators, Individuals/Entrepreneurs, Communications, Awareness Raising, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Gender results areas, Participation and leadership, Access to benefits and services, Capacity, Knowledge and Research, Knowledge Generation, Workshop, Training, Capacity Development

Rio Markers

Climate Change Mitigation

No Contribution 0

Climate Change Adaptation

Principal Objective 2

Biodiversity

No Contribution 0

Land Degradation

No Contribution 0

Submission Date

5/12/2023

Expected Implementation Start

1/1/2024

Expected Completion Date

12/31/2026

Duration

36In Months

Agency Fee($)

108,035.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCA-1	Climate Change Adaptation, Priority Area 1: Scaling up Finance	SCCF-A	841,538.00	2,490,500.00
CCA-1	Climate Change Adaptation, Priority Area 1: Scaling up Finance	LDCF	295,676.00	2,819,500.00
		Total Project Cost($)	**1,137,214.00**	**5,310,000.00**

B. Project description summary

Project Objective

Systemic climate resilience methodologies, metrics and guidelines in infrastructure investment planning lead to increased resilience of economic infrastructure projects preventing future human and financial disasters.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1a. Adopting long- term climate resilient policies in investment plans for infrastructure.	Technical Assistance	**Outcome 1a:** Selected national and subnational authorities adopt a Physical Climate Risks (PCR)-informed policy and regulatory environment in line with best practices.	**Output 1.1a:** Metrics and strengthened policy frameworks for systemic climate resilience methodologies developed. **Output 1.2a:** Infrastructure investment planning analyses via a Climate Smart Investment Planning methodology (CSIP) prepared. **Output 1.3a:** Establishment of systemic climate resilience methodologies in selected national and municipal planning institutes **Output 1.4a:** Improved stakeholder awareness, including training on best practices in climate smart investment planning to incorporate systemic climate	SCCF-A	97,500.00	150,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			resilience methodologies (including gender dimensions)			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1b. Adopting long-term climate resilient policies in infrastructure investment planning	Technical Assistance	**Outcome 1b:** Selected national and subnational authorities adopt a PCR-informed policy and regulatory environment in line with best practices	Output 1.1b: Metrics and strengthened policy frameworks for systemic climate resilience methodologies developed. Output 1.2b: Infrastructure investment planning analyses via the CSIP prepared. Output 1.3b: Establishment of systemic climate resilience methodologies in selected national and municipal planning institutes Output 1.4b: Improved stakeholder awareness, including training on best practices in climate smart investment planning to incorporate systemic climate resilience methodologies (including	LDCF	32,500.00	50,500.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			gender dimensions).			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
2.a Demonstration of systemic climate resilience methodologies and metrics through selected pilots.	Investment	**Outcome 2a:** National and subnational governments gain sufficient evidence and experience in introducing and demonstrating systemic climate resilience methodologies and metrics for infrastructure investments plans.	**Output 2.1a:** Implementation of climate-resilient infrastructure planning in two national pilots (one in each country), demonstrating the CSIP ability to identify future risks to infrastructure networks and prioritize critical investments based on exposure and economic/social value at risk. **Output 2.2a:** Deliver report on lessons learned from the climate-resilient infrastructure planning pilots (national and subnational). **Output 2.3a:** Knowledge shared, and capacity built for local and global stakeholders about best practice for climate-resilient infrastructure	SCCF-A	528,877.00	1,569,250.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			planning in selected countries and municipalities, through a forum and other avenues.			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
2b. Demonstration of systemic climate resilience methodologies and metrics through selected pilots.	Investment	**Outcome 2b:** National and subnational governments gain sufficient evidence and experience in introducing and demonstrating systemic climate resilience methodologies and metrics for infrastructure investments plans.	**Output 2.1b:** Implementation of climate-resilient infrastructure planning in a subnational pilot, demonstrating the CSIP ability to identify future risks to infrastructure networks and prioritize critical investments based on exposure and economic/social value at risk. **Output 2.2b:** Deliver report on lessons learned from the climate-resilient infrastructure planning pilots (national and subnational). **Output 2.3b:** Knowledge shared, and capacity built for local and global stakeholders about best practice for climate-resilient infrastructure planning in	LDCF	189,939.00	2,507,250.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			selected countries and municipalities, through a forum and other avenues.			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
3a. Replication of systemic climate resilience methodologies in government infrastructure investments and structuring an investment environment	Technical Assistance	**Outcome 3a**: Relevant capacity is built for national, municipal, and financial stakeholders to enhance the CSIP, metrics and investment vehicles for upscaling.	Outcome 3.1a: Prepare strategy for upscaling and structuring the capital phase. Output 3.2a: Establishment of the modalities to set up technical assistance supporting participating funds to deploy capital to replicate systemic climate resilience methodologies and metrics piloting of solutions. Output 3.3a: Case studies distilling learnings from implementing the solutions in selected pilots to validate and strengthen the guidelines and systemic climate resilience methodologies and metrics approaches prepared	SCCF-A	97,500.00	149,500.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
3b. Replication of systemic climate resilience methodologies in government infrastructure investments and structuring an investment environment	Technical Assistance	**Outcome 3b:** Relevant capacity is built for national, municipal, and financial stakeholders to enhance the CSIP, Metrics and investment vehicles for upscaling.	Output 3.1b: Prepare strategy for upscaling and structuring the capital phase. Output 3.2b: Establishment of the modalities to set up technical assistance supporting participating funds to deploy capital to replicate systemic climate resilience methodologies and metrics piloting of solutions. Output 3.3b: Case studies distilling learnings from implementing the solutions in selected pilots to validate and strengthen the guidelines and systemic climate resilience methodologies and metrics approaches prepared.	LDCF	32,500.00	50,500.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
4a. Monitoring and evaluation	Technical Assistance	**Outcome 4a:** Project achieves objective through effective monitoring and evaluation.	Output 4.1a: Mid-term review Output 4.2a: ESMF, gender analysis and regular monitoring of the gender mainstreaming action plan. Output 4.3a: Final evaluation.	SCCF-A	40,073.00	60,000.00
4b. Monitoring and evaluation	Technical Assistance	**Outcome 4b:** Project achieves objective through effective monitoring and evaluation.	Output 4.1b: Mid-term review. Output 4.2b: ESMF, gender analysis and regular monitoring of the gender mainstreaming action plan. Output 4.3b: Final evaluation.	LDCF	14,992.00	24,000.00
			Sub Total ($)		**1,033,881.00**	**4,561,000.00**

Project Management Cost (PMC)

SCCF-A	77,588.00	561,750.00
LDCF	25,745.00	187,250.00

Project Management Cost (PMC)		
Sub Total($)	**103,333.00**	**749,000.00**
Total Project Cost($)	**1,137,214.00**	**5,310,000.00**

Please provide justification

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	UNIDO	Grant	Investment mobilized	50,000.00
GEF Agency	UNIDO	In-kind	Recurrent expenditures	100,000.00
Other	FMDV ? Global Fund for Cities Development	Grant	Investment mobilized	4,000,000.00
Other	African Development Bank	Grant	Investment mobilized	1,160,000.00
			Total Co-Financing($)	**5,310,000.00**

Describe how any "Investment Mobilized" was identified

The project team identified co-financing contributions through initial discussions with anchor ministries and implementing partners. Consultations focused on how the potential ways of how these systemic climate resilience methodologies, metrics and guidelines for infrastructure investment planning would be integrated into current planning and investment processes. Then, we identified where the design of upcoming investments could be potentially influenced to take on systemic climate resilience attributes. The identified contributions are initial, conservative estimations: the project team, in conjunction with country governments and our partners, will continue to refine the scale of investment mobilized as we more fully flush out the scope of the project. Although a significant amount of confirmed co-financing has not been mobilized at this stage, it is still expected that it will be mobilized at the project implementation stage. There are several initiatives in the selected countries whose objectives have a clear alignment with the programme proposed: 1) For Antigua and Barbuda the GCF funded project FP133 ?Resilience to hurricanes in the building sector? led by the Department of Environment, Ministry of Health and Environment. The Component 2 of the GCF project (worth 3,050,740 USD) is closely aligned with the proposed GEF-funded project. 2) The Kampala Capital City Authority (KCCA) Creditworthiness Action Plan included inside the Programme on Integrated Local Finances for Sustainable Urban Development (PIFUD 1) from AfDB, is a baseline for this project and has already received 60,000 USD funding. The entire value of the PIFUD 1 project is 4.0 million EUR (grants from the EU, AfDB, KCCA and UNDCF). The second phase (PIFUD 2) will bring additional funding from partners (incl. 1.16 million USD from the AfDB). 3) In Egypt, several expressions of interest in supporting the projects from stakeholders such as the National Bank of Egypt, The Sovereign Fund of Egypt, and Afreximbank have been received during the consultation process. Letters from support from these potential partners will be issued during the implementation phase. Investors and financiers need to verify that the assets to be built with their resources will withstand natural hazards over the expected life cycle of operation. By helping governments with climate-smart investment planning, the proposed activity will support the identification, selection, and

preparation of projects that will be more resilient. The methodology will include the calculation of foregone rehabilitation and reconstruction costs that will be averted by virtue of increased resilience. In addition, the methodology will also include the projection of operation and maintenance costs that will reflect lower expenditures thanks to climate-smart engineering and technological specifications. All of these elements will directly support co-financing by the identified investors and financiers. The proposed activity is designed to enhance the creditworthiness of beneficiary entities (or projects), which in turn will provide development organisations with clients (or projects) that can attract financing for debt and equity alike. By crowding in private financing for climate-smart infrastructure investments, development organisation will be able to maximise the leveraging of their limited resources, therefore providing stronger opportunity for development impact and for fulfilling the Paris agreements. The project team will cautiously monitor any development on co-financing and reflect yearly progress in annual Project Implementation Reports.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	SCCF-A	Antigua and Barbuda	Climate Change	NA	341,164	32,411	373,575.00
UNIDO	SCCF-A	Egypt	Climate Change	NA	500,374	47,535	547,909.00
UNIDO	LDCF	Global	Climate Change	NA	295,676	28,089	323,765.00
			Total Grant Resources($)		**1,137,214.00**	**108,035.00**	**1,245,249.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

50,000

PPG Agency Fee ($)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	SCCF-A	Antigua and Barbuda	Climate Change	NA	15,000	1,425	**16,425.00**
UNIDO	SCCF-A	Egypt	Climate Change	NA	22,000	2,090	**24,090.00**
UNIDO	LDCF	Global	Climate Change	NA	13,000	1,235	**14,235.00**
			Total Project Costs($)		**50,000.00**	**4,750.00**	**54,750.00**

Meta Information - LDCF

LDCF true
SCCF-B (Window B) on technology transfer false
SCCF-A (Window-A) on climate Change adaptation false

Is this project LDCF SCCF challenge program?
true

This Project involves at least one small island developing State(SIDS). false

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This Project involves at least one fragile and conflict affected state. false

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This Project will provide direct adaptation benefits to the private sector. true

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This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs). false

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This Project has an urban focus. false

This Project covers the following sector(s)[the total should be 100%]:*

Agriculture	**0.00%**
Natural resources management	**10.00%**
Climate information services	**0.00%**
Coastal zone management	**0.00%**
Water resources management	**10.00%**
Disaster risk management	**0.00%**
Other infrastructure	**80.00%**
Health	**0.00%**
Other (Please specify:)	**0.00%**
Total	**100%**

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise true
Change in mean temperature true
Increased climatic variability true
Natural hazards true
Land degradation false
Coastal and/or Coral reef degradation false
Groundwater quality/quantity true

Core Indicators - LDCF

CORE INDICATOR 1

Total
Male
Female
% for Women
Total number of direct beneficiaries

0
0
0
0%

CORE INDICATOR 2

Area of land managed for climate resilience (ha)

0.00

CORE INDICATOR 3

Total no. of policies/plans that will mainstream climate resilience

4

CORE INDICATOR 4

Male

Female

% for Women

Total number of people trained

200

125

75

37.50%

To calculate the core indicators, please refer to Results Guidance

OBJECTIVE 1

Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaption

OUTCOME 1.1

Technologies and innovative solutions piloted or deployed to reduce climate-related risks and / or enhance resilience

View

OUTCOME 1.2

Innovative financial instruments and investment models enabled or introduced to enhance climate resilience

View

OBJECTIVE 2

Mainstream climate change adaption and resilience for systemic impact

OUTCOME 2.1

Strengthened cross-sectoral mechanisms to mainstream climate adaption and resilience

View

OUTCOME 2.2

Adaptation considerations mainstreamed into investments

View

OUTCOME 2.3

Institutional and human capacities strengthened to identify and implement adaptation measures

View

OBJECTIVE 3

Foster enabling conditions for effective and integrated climate change adaption

OUTCOME 3.1

Climate-resilient planning enabled by stronger climate information decision-support services, and other relevant analysis, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.2

Increased ability of country to access and/or manage climate finance or other relevant, largescale, pragmatic investment, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.3

Institutional and human capacities strengthened to identify and implement adaptation measures as a support to NAP process and/or for enabling activities in response to COP guidance

View

Meta Information - SCCF

LDCF false
SCCF-B (Window B) on technology transfer false
SCCF-A (Window-A) on climate Change adaptation true

Is this project LDCF SCCF challenge program?
true

This Project involves at least one small island developing State(SIDS). true

This Project involves at least one fragile and conflict affected state. false

This Project will provide direct adaptation benefits to the private sector. false

This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs). false

This Project has an urban focus. false

This Project covers the following sector(s)[the total should be 100%]:*

Agriculture	**0.00%**
Natural resources management	**10.00%**
Climate information services	**0.00%**
Coastal zone management	**0.00%**
Water resources management	**10.00%**
Disaster risk management	**0.00%**
Other infrastructure	**80.00%**
Health	**0.00%**
Other (Please specify:)	**0.00%**
Total	**100%**

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise true

Change in mean temperature true

Increased climatic variability false

Natural hazards true

Land degradation false

Coastal and/or Coral reef degradation false

Groundwater quality/quantity true

Core Indicators - SCCF

CORE INDICATOR 1

Total

Male

Female

% for Women

Total number of direct beneficiaries

4,000

2,000

2,000

50.00%

CORE INDICATOR 2

Area of land managed for climate resilience (ha)

55,000.00

CORE INDICATOR 3

Total no. of policies/plans that will mainstream climate resilience

9

CORE INDICATOR 4

Male

Female

% for Women

Total number of people trained

950

550

400

42.11%

To calculate the core indicators, please refer to Results Guidance

OBJECTIVE 1

Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaption

OUTCOME 1.1

Technologies and innovative solutions piloted or deployed to reduce climate-related risks and / or enhance resilience

View

OUTCOME 1.2

Innovative financial instruments and investment models enabled or introduced to enhance climate resilience

View

OBJECTIVE 2

Mainstream climate change adaption and resilience for systemic impact

OUTCOME 2.1

Strengthened cross-sectoral mechanisms to mainstream climate adaption and resilience

View

OUTCOME 2.2

Adaptation considerations mainstreamed into investments

View

OUTCOME 2.3

Institutional and human capacities strengthened to identify and implement adaptation measures

View

OBJECTIVE 3

Foster enabling conditions for effective and integrated climate change adaption

OUTCOME 3.1

Climate-resilient planning enabled by stronger climate information decision-support services, and other relevant analysis, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.2

Increased ability of country to access and/or manage climate finance or other relevant, largescale, pragmatic investment, as a support to NAP process and/or for enabling activities in response to COP guidance

View

OUTCOME 3.3

Institutional and human capacities strengthened to identify and implement adaptation measures as a support to NAP process and/or for enabling activities in response to COP guidance

View

Part II. Project Justification

1a. Project Description

1) Environmental problem and current situation

Climate change is one of the greatest threats facing the world currently, with increasingly clear and far-reaching impacts on people, economies, and the environment. The 6th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) unequivocally states that human-induced climate change is already affecting many weather and climate extremes in many regions across the globe, including resulting in observed changes such as heatwaves, heavy precipitation, droughts, and tropical cyclones (IPCC 2021).

People who did the least to cause the problem ? especially those in developing and least developed countries - are experiencing the brunt of impacts. Even if emissions are drastically reduced in the near-term, there are already unavoidable changes underway that are locked in ? threatening development gains, jeopardizing the Sustainable Development Goals, and ?threatening the existence and livelihoods of many communities and societies? (Global Commission on Adaptation 2019). Antigua and Barbuda, Egypt, and Uganda (to be confirmed during the project implementation) are countries where the impacts of climate change are being felt acutely.

Antigua and Barbuda

In Antigua and Barbuda, the country is exposed economically, environmentally, and socially to projected climate change impacts which will result in a greater intensity of hurricanes, more frequent droughts, high temperatures and sea-level rise. Downscaled climate projections to inform detailed risk modelling for Antigua and Barbuda indicate that Antigua stands to lose approximately 26.6 to 35.3 square kilometres of low-lying coastal land to sea level rise by 2080. The estimated value of assets on this land is USD196 to USD 293 million.

Analysis of climate change for the island?s projects accelerated coastal erosion and inundation, lower average annual rainfall, increased rainfall intensity causing flooding, prolonged periods of drought, and an increase in tropical cyclones frequency and intensity. Under a high emission (RCP8.5) scenario, the mean annual temperature is projected to rise by about 2.8?C on average while annual precipitation is projected to decrease by about 20% on average by the end-of-century (i.e., 2071?2100). If emissions decrease rapidly (RCP2.6), the temperature rise is limited to about 0.9?C, with little projected change on average for annual precipitation.

Tropical cyclones have made landfall in Antigua and Barbuda on multiple occasions and on average, there is a 33% chance of at least one hurricane affecting (passing within 120 miles) of Antigua and

Barbuda in any given year. (Antigua and Barbuda Meteorological Services) It is anticipated that the total number of tropical cyclones may decrease towards the end of the century. However, it is likely that human-induced warming will make cyclones more intense; an increase in wind speed of 2?11% for a mid-range (RCP4.5) scenario or about 5% for 2?C global warming.

Economic and natural disaster shocks put an estimated 80.4% of the country?s GDP at risk. The country is still recovering from the economic and social fallout caused by the devastating Hurricane Irma in 2017. The country suffered damage and loss of USD155.1 million (10% of GDP) impacting houses, public buildings, hotels, rms engaged in tourism sector and safety nets of vulnerable households. In Barbuda, 95% of the housing stock was damaged or destroyed and the entire population of 1,600 persons were evacuated to Antigua following the devastation.

Between 2015 and 2020, the combined cost incurred to Antigua and Barbuda from tropical storms and hurricanes was USD232 million. On average, hurricanes account for 8.4% of the annual loss in GDP for Antigua and Barbuda. The combined immediate post-event damages caused by hurricanes Irma and Maria in 2017 ? which equated to USD136 million ? lowered Antigua and Barbuda?s GDP growth rate by 1.1% because of reduced tourism infrastructure and increased spending on relief efforts and repairs.

The country?s economy is heavily dependent on natural resources, low-lying coastal zones, and favourable climate conditions to support the tourism sector, which accounts for about 80% of output gross domestic product (GDP), about 70% of direct and indirect employment and 85% of foreign exchange earnings. Despite a high-income ranking, approximately 18% of the total population (which is above 97,000) falls below the national poverty line; 3.7% indigent (food poor); and 10% vulnerable to poverty in the event of a significant socio-economic shock or natural hazard.

When considering the proportion of the population that is at risk of falling into poverty if there is a shock to the economy, the percentage rises to 28%. This barrier has placed a strain on the country, limiting its ability to maintain economic growth and requiring the diversion of critical financing away from health and other development sectors to climate change loss and damage response programmes.

Egypt

Egypt has a high degree of risk to natural hazards and is highly vulnerable to climate change impacts. The 2020 ND-GAIN Index ranked Egypt 107 out of 182 countries scored, on the basis of the country?s vulnerability to climate change and other global challenges as well as their readiness to improve resilience. Egypt is considered highly vulnerable to climate change due to its primary dependence on the Nile River, which serves needs for potable water, agriculture, industry, fish farming, power generation, inland river navigation, mining, oil and gas exploration, cooling of machinery and power generation. This dependence on the Nile River?s water makes the country vulnerable to rising temperatures, reduced rainfall for the upper Nile Basin as well as the reduction of rainfall on the east Mediterranean coastal zone.

Egypt is already severely impacted by and susceptible to droughts, which are expected to be more frequent and pronounced. Additionally, sea level rise is projected to lead to the loss of a sizable proportion of the northern part of the Nile Delta due to a combination of inundation and erosion, with

consequential loss of agricultural land, infrastructure, and urban areas. The country is particularly vulnerable to the impacts of climate variability and change, particularly with respect to water security, agriculture and livestock, increasingly adverse conditions to health, human settlements, and energy demand and supply.

Egypt?s climate is dry, hot, and dominated by desert. It has a mild winter season with rain falling along coastal areas, and a hot and dry summer season (May to September). Daytime temperatures vary by season and change with the prevailing winds. In the coastal regions, temperatures range between average winter minimums of 14?C (November to April) and average summer maximums of 30?C (May to October). Egypt also experiences hot wind storms, known as ?khamsin?, which carry sand and dust and sweep across the northern coast of Africa. These khamsin storms typically occur between March and May and can increase the temperature by 20?C in two hours, and can last for several days. According to analysis from the German Climate Service Centre (GERICS) of 32 Global Climate Models (GCMs), Egypt is expected to experience a change in annual mean temperature from 1.8?C (RCP 2.6) to 5.2?C (RCP 8.5) by the 2080s. Heat waves will also increase significantly in their severity, frequency and duration, with heat waves expected to last an additional 9 days to as much as an additional 77 days. Rainfall trends in Egypt are highly variable. Analysis from the GERICS GCMs indicates that the reduction in precipitation, observed over the past 30 years, is expected to continue by the end of the century. While overall, annual mean precipitation is expected to decrease, the intensity of heavy rain events is expected to increase by the 2080s in all scenarios.

Over the last 20 years, natural hazards have killed nearly 1,500 people in the country, with estimated economic damages resulting in $346.7 million. In 2009, a rockslide buried an informal settlement south of Cairo, causing severe damage to infrastructure and significant loss of life. In 2010, heavy flooding displaced thousands of people and over 4,000 houses were damaged or completely destroyed. Climate change is expected to increase the potential impact of hazards for Egypt.
Increased temperatures and degraded agricultural conditions will adversely affect ?working days?, impacting livelihoods and economic resilience of vulnerable groups. Most of the country?s population and infrastructure are concentrated in the Nile Delta and along the Mediterranean coast, making the country additionally vulnerable to the impacts of sea level rise, particularly inundation and saltwater intrusion. The Egyptian Government is focused on advancing the country?s disaster risk management (DRM) efforts and capabilities. The country?s National Strategy for Adaptation, to Climate Change and Disaster Risk Reduction includes plans for risk reduction, mitigation, and adaptation across different sectors. In order to strengthen DRM in the country, the department requires additional financial resources and institutional capacity. These priorities include, strengthening regional coordination and investment in technological innovations to address water scarcity; exploring disaster risk financing and insurance mechanisms; enhancing early warning systems; and building the capacity and financial resources of its Information and Decision Support Centre. Additional areas of needed investment include strengthening the country?s early warning system; developing disaster risk financing mechanisms; and integrating resilience into urban infrastructure investments.

Uganda

Uganda aspires to become a middle-income country by the year 2030 [1]. The economy of the country upon which the aspiration is hinged is dependent on natural resources, where agriculture employs over 70% of the population, making the country recognize climate as a key resource [2]. Thus, the country is highly vulnerable to the impacts of climate variability and change. Although the country has achieved the Millennium Development Goal of halving poverty, roughly 20% of the population still survives on less than USD 1.25 per day. The impacts of climate change are already being felt in Uganda. The 2020 ND-GAIN Index ranked Uganda 166 out of 182 countries scored, based on the country?s vulnerability to climate change and their readiness to improve resilience.

Uganda mostly has a tropical climate characterized by stable rainfall patterns. However, the effects of climate change have turned the seasons around, with the country experiencing shorter or longer rains and harsher droughts ? especially in the eastern and north-eastern Uganda. Climate change has seen the rise of decreased rainfall, increased temperature and evaporation, frequent drought spells leading to severe water shortage, increased heat stress on cattle, increased risk of food shortage and famine, reduction in ecosystem integrity and resilience, and decline in biodiversity, landslides in mountainous regions, increased potential of malaria transmission and burden on the country?s health care system. Uganda is extremely vulnerable to these climate change impacts due to its weak institutional capacity, limited skills, and equipment for disaster management, limited financial resources, low level of income reflected in per capita income (about U$300) and heavy dependence on rain-fed agriculture [3].

Uganda is seeing a rise in temperate due to climate change. The observed averages in annual near-surface temperatures are around 21?C. The observed temperatures between 1900 and 2009 show an increase in average annual temperature of between 0.8?C - 1.5?C, with typical rates of warming around 0.2?C per decade. The period 1960 - 2008 has been progressively warmer. It was also found that the nights are warming faster compared to the days. This has led to an increase in desertification due to temperature increases, while also effecting seed germination.

Uganda is characterized by diverse topography, consisting of lowlands, the plateau as well as hills and mountains. More than three quarters of Uganda's territory is a plateau, lying between 900 meters and 1,500 metres above sea level. These plateaus at medium and high-altitude areas are extremely vulnerable to heavy rainfall as it accelerates soil erosion and land degradation and also causes damage to communication infrastructure. The vulnerability assessment carried out in Uganda recounts problems of frequent flash flooding by mountain streams of Mt. Elgon and Ruwenzori in the lower valleys? areas in Kilembe stretching to Kasese airfield by the river Namwamba and lower Mbale area by Manafwa River. Other areas may also experience floods due to changing land use, increasing run off.

Weak and inadequate infrastructure (weak buildings, seasonal roads) makes the country susceptible to floods, as observed in the extent of damage caused by the El-Ni?o. The 1997/98 large-scale climate event, El Ni?o, induced high rainfall destroyed many crops in the Kitara region, contrary to the common belief that increased rainfall necessarily results in greater crop yields [4]. The El Ni?o rains also resulted in the death of 1,000 people from flood-related accidents; displacement of 150,000 people from their homes and damage to trunk and rural road infrastructure estimated at US$400 million. Low-lying areas could be cut off from the rest of the country by floods, preventing agricultural produce from being transported to markets in urban areas in time, as well as processed goods reaching the rural areas. Because traders are not willing to operate in areas of poor infrastructure, income from selling farm

produce is likely to be low since farmers will be forced to absorb such costs. In addition to economic losses, such developments may be a disincentive to farming, and people may try to enter other economic sectors [5].

Recently, Uganda has experienced frequent and severe droughts in most parts of the country, especially the northern and western parts. The higher frequency of droughts has left Uganda's economy, the well-being of its population and its recent positive development trajectory are particularly vulnerable to climate change since agriculture is the most important sector of the economy. Agriculture contributes up to nearly 20% of GDP, accounts for 48% of exports and provides a large proportion of the raw materials for the industry. Food processing alone accounts for 40% of the total manufacturing industry. The sector employs 73% of the population aged 10 years and older. Agriculture will be a key determinant in the country's efforts to reduce poverty in the immediate years ahead [6].

Uganda is also experiencing erratic rainfalls leading to frequent busting of rivers, mudslides, and landslides. Observed annual rainfall totals for Uganda vary from 500 mm to 2800 mm, with an average of 1180 mm. This has led to loss of lives and property of communities, predominantly affecting those living in the mountainous areas. From 1900 to 2018, Uganda has encountered 20 floods, 9 droughts, and 5 landslides events. The accumulative damages caused by climate disasters amounts to over 200,000 deaths and at least $80 million economic loss [7].

Resilient infrastructure investment

The 2019 Adapt Now report makes the case for three revolutions to systematically address the challenge, requiring fundamental changes in the way that all decision makers ? whether public or private, global, national, or subnational - understand, plan, and finance their programs and investments, to protect economies, people, and the environment (Global Commission on Adaptation 2019).

The Commission?s report estimated that investing US$1.8 trillion globally between 2020 and 2030 could generate US$7.1 trillion in total net benefits, with an average benefit cost ratio of 4 ? i.e., for every $1 invested, there is an average benefit of $4. This includes investments in climate-resilient infrastructure (Global Commission on Adaptation 2019). Investments in infrastructure assets and networks ? water and sanitation, energy, transport, housing ? are critical, as they form the backbone of economies and societies, and the growing impacts of climate change are further challenging the integrity of existing and new infrastructure systems. It is estimated that over US$60 trillion of investment in infrastructure is needed globally over the 2020 ? 2030 period to propel economic growth and recovery.

Tackling the infrastructure needs of countries ? as well as the climate crisis ? will require significant amounts of capital and investment. These challenges, however, also present a significant opportunity to embed and integrate resilience in future infrastructure investments.

Currently, the impacts of physical climate risks (PCRs) are inadequately integrated into infrastructure investments. This translates into an inefficient pricing of PCRs and an inadequate appreciation of the benefits of investing resiliently, including in the cost of capital, credit ratings, or other risk ratings. Resilient infrastructure can withstand and recover from various natural disasters and external shocks,

reducing the economic losses associated with these events. By incorporating resilience criteria, investments are made to withstand the test of time, protecting the financial stability of communities and businesses. This resilience leads to cost savings in repairs and reconstruction after disasters, making infrastructure investments more cost-effective in the long run. At the same time, resilient infrastructure is inherently safer for the public. By designing infrastructure with resilience in mind, we can prevent or minimize disruptions and damages during extreme events. This, in turn, protects human lives and minimizes injuries, ensuring that communities can continue to function during and after crises.

As investors increasingly recognize the impact of physical climate risks - from intense rainfall events, floods, droughts, increased temperatures on all asset classes, they seek solutions to address such risks proactively. It is becoming even clearer how acutely investments misprice these climate-related risks. This constitutes a form of market failure.

This project will focus on Antigua and Barbuda, Egypt, and Uganda. The project has selected countries in which the project can deliver the most impactful results and provide scalable solutions, using the following criteria:

1. Vulnerability to climate change [8]

A country's vulnerability to climate change may be assessed in many ways. To simplify the selection criteria, the ND-GAIN Index and ND-GAIN Index adjusted for GDP will be used as reference (see table below). Both values are used to identify countries which have high vulnerability and low readiness with additional negative values for the GDP adjusted index, which reflects the country's poorer performance compared to others with similar GDP. Countries with the highest ND-GAIN Index and lowest adjusted index values (negative values) are preferred. Additional preference will be given to countries of the Vulnerable Twenty (V20) Group of Ministers of Finance of the Climate Vulnerable Forum.

Table 1. Vulnerability indexes of the countries

Country	ND-GAIN Index (2020)	ND-GAIN Index adjuster per GDP (2020)
Antigua and Barbuda	**Score: 48.4 (Rank 87/182)**	**Score: -0.4 (Rank 90/182)**
Egypt	**Score: 45.1 (Rank 107/182)**	**Score: -1.4 (Rank 100/182)**
Uganda	**Score: 35.4 (Rank 166/182)**	**Score: -7.0 (Rank 156/182)**

2. Country classification in the World Bank's country classification by income level [9]

Country classification by income level is important in the context of the project. To provide a diverse set of economies, one country from the Least Developed Countries list and one from lower middle-income will be selected.

Table 2. Countries classification

Country	GNI per capita in US$	World Bank country classification by income level (2021)
Antigua and Barbuda	**15,780**	**High income**
Egypt	**3,350**	**Lower middle income**
Uganda	**760**	**Low income**

3. GDP Growth [10]

GDP growth is important in the context of a country's infrastructure development and investment planning capacity. Therefore, preference will be given to countries showing a high rate of GDP growth over the last 3 years.

Table 3. GDP growth of the countries

Country	2019	2020	2021
Antigua and Barbuda	**4.9%**	**-20.2%**	**5.3%**
Egypt	**5.6%**	**3.6%**	**3.3%**
Uganda	**6.4%**	**3.0%**	**3.5%**

4. Ratification of the Paris Agreement [11]

The project will work the countries which have ratified the Paris Agreement and submitted their INDC. Additional preference will be given to the countries which have not updated their NDC before the COP26 or have not increased their ambition in NDC. This project will work towards increasing countries' ambition.

Table 4. Status of Paris Agreement ratification in the countries

Country	Paris Agreement ratification date	INDC submission date
Antigua and Barbuda	**21 September 2016**	**October 2015**
Egypt	**29 June 2017**	**November 2015**

Uganda	**21 September 2016**	**October 2015**

5. Previous experience in infrastructure investment planning

The project will build on the experience of the World Bank with Climate-Smart Capital Investment Planning. A capital investment plan can be climate-smart when it measures projects and allows for the cost-effective modification of projects to meet the goals of reducing greenhouse gas emissions and improving resilience against the hazards that accompany climate change. A climate-smart methodology, when used with forecasts of the magnitude and location of impacts from climate change at the national or subnational level, results in a climate-informed capital investment plan. A capital investment plan is designed to serve governments anywhere in the world with a method for evaluating, prioritizing, and budgeting their own proposed capital investments. The production of a capital investment plan is a group effort, involving expertise from finance, revenue, planning, engineering, procurement, and construction management, as well as every department responsible for capital assets (i.e., tangible property, including land holdings, real estate, and equipment). Parts of the investment planning process are based on multi-criteria decision-making, strategic planning, and scenario planning, which have been the subject of planning theory and operations research for decades.

The climate-smart capital investment planning process is divided into five phases, which are carried out in a sequence over time, during the regular process of the budget cycle.

Phase 1: Budget and Project Information

Phase 2: Low Carbon Investment Planning

Phase 3: Resilient Investment Planning

Phase 4: Capital Investment Prioritization

Phase 5: Capital Investment Planning

These phases are designed to be completed sequentially ? one after the other. The data from Phase 1 is used as input to the other Phases. The outputs of each Phase become the inputs to the next Phase. If participants wish to change data that has already been entered in a previous phase, the data in all subsequent phases is likely to change, and should be reviewed for their impact on the results.

Phase 1 captures the basic information needed to forecast the available capital budget, identify the fiscal policies to be implemented through the CIP, and to identify the capital investments to be considered for funding in the CIP (the capital investments to be considered for funding from the capital budget of the next fiscal year). For the list of proposed investments to be complete, this data should bring together lists of proposed projects at the neighborhood (and/or district level) with proposed projects from departments, investment committees, and political authorities for the national or subnational government. These procedures differ from place to place.

Phases 2 and 3 involve screening and modifying the scope of proposed capital investments to make them cost-effective over their lifecycle (considering operations and maintenance, as well as capital cost), to reduce greenhouse gas emissions from each project, and to add design strategies to improve the resilience of the capital investment against climate hazards such as floods, drought, extreme storms, and extreme heat.

In Phase 4, participants to the investment planning process merge a political perspective of the benefits of capital investment with technical knowledge of each proposed project, to prioritize the investments (i.e., multi-criteria analysis). Criteria are written to convey the purpose and benefit of capital investments, and these criteria are selected and weighed for their importance by political authorities representing the public interest. Technical staff evaluate each proposed investment according to the expected performance of each investment against each criterion. The average scores that technical staff assign to each project are multiplied by the weights assigned by political representatives to each criterion. The final score suggests a ranking of projects, which may be adjusted before it is finalized.

Obviously, the schedule for these activities is at the discretion of the decision-makers and their advisors.

In Phase 5 the capital budget is allocated to projects, and this allocation is finalized in the investment plan. Projects are selected and adjusted to fit within existing budget constraints and opportunities for finance. Cities differ in terms of how they carry out this process, which is usually administered by a finance or budget officer in coordination with political leadership and engineering and planning advisors. At this phase, the investment planning process ensures investment decisions match the limits of existing budgets, consider the opportunities possible from various available sources of finance (e.g., loans, bonds, public-private partnerships), and organize the decisions into a plan that meets international standards for financial reporting.

6. Political support

Preference will be given to countries showing high political commitment in the climate agenda, which may provide additional visibility to the project.

This approach builds on a previous experience in Jamaica, the first ever pilot deploying systemic climate resilience methodologies, metrics, and guidelines in infrastructure investment planning. To understand whether these methodologies can be deployed at scale, globally, this project chose these three jurisdictions because of their diversity: they represent different levels of market maturity and economic development, variations in scope (national and subnational, economic and population size, productive sectors), geographic location, climate risks, and are of interest to private investors. These three locations, in addition to the ongoing work in Jamaica, will provide an opportunity to learn from and exchange between diverse experiences, allow for the testing of the approach, and provide private investors with multiple options to mobilize capital. The main target groups include relevant government Ministries and Departments involved in formulating and developing infrastructure investment plans. In the case of Antigua and Barbuda, this includes the Department of Environment (DOE) and the Ministry of Works, and in case of Egypt it includes Ministry of Planning and Economic Development of Egypt (MPED) and in the case of Uganda it includes the Ministry of Finance, Planning and Economic Development (MFPED), as well as the Ministry for Kampala Capital City and Metropolitan Affairs. The tools and methodologies as described above, pertain to national planning and adaptation appraisal processes. They will lead to a portfolio of proposed investments; however, the scope of this project does not extend to piloting on actual infrastructure. The tools and methodologies will focus on prioritizing infrastructure investment based on protecting and enhancing the maximum amount of value at risk. This will encompass investment in both existing as well as new infrastructure. An adaptation appraisal will be conducted as part of each pilot project to ensure both green and grey solutions are considered as part of the invest prioritization.

Root causes and barriers that need to be addressed

As discussed in the previous section, climate risks and existing vulnerabilities in countries are resulting in impacts on their infrastructure, including damage and destruction from extreme weather events and slower-onset events.

Yet, very few, if any infrastructure investments in these three localities actually integrate physical climate risks into their planning, design, and investments. Additionally, these countries struggle to mobilize the needed finance to invest in adaptation at scale. This is due to several reasons, including the lack of consistent analytical approaches for the assessment of current and, mainly, future levels of exposure that prevents adequate and accurate information to markets and financial decision-makers - whether public or private. These localities lack the needed capacity and know-how within central

decision-making ministries and authorities to be able to consistently integrate PCRs into their approach. Addressing this challenge is critical to mobilizing the public and private financing needed to address adaptation needs, as well as to systemically shift how decisions are made. The GEF?s investment in addressing this challenge will help set standards for how resilient infrastructure can be designed and mainstreamed into country approaches and mobilize the needed finance for adaptation at scale.

There are four main barriers that hinder resilient investments and the participation of public and private investors in advancing this critical agenda, including in policy frameworks, application of approaches, available capacity, and scaling up.

Barrier 1: Current infrastructure investment policies and regulatory framework are insufficient to assess and manage physical climate risks systemically at national and subnational levels.

Governments ? national and subnational ? are responsible for developing and implementing infrastructure policies and plans, setting priorities based on an understanding of desired economic and social development, and devising a regulatory environment that encourages environmentally and structurally sound investments.
Physical climate risks are not yet systemically integrated into these decision-making processes ? either at the planning, prioritizing, or investment stages, nor are they considered within the regulatory process.

Root causes leading to this barrier comprise:

? Limited acknowledgement of impact of future physical climate risks on infrastructure investments
? Lack of data on PCRs, infrastructure networks, and where social and economic value are concentrated.
? Lack of customizable approaches, including methodologies, that can integrate PCRs into infrastructure decision making.
? Lack of data on financial, economic, and social benefits from investing in resilient infrastructure

Barrier 2: Insufficient experience in assessing and managing climate risks systemically at national and subnational levels
The imperative to integrate PCRs in decision-making has grown more urgent over the last decade, but the needed experience and methods are still being developed. Most countries globally are yet to take on this challenge, and there is collectively little experience and capacity to do so.

Root causes leading to this barrier comprise:

? Lack of experience and pilots/success stories
? Methodologies, metrics, and guidelines not fully standardized/formalized.
? Under allocation and misallocation of resources due to short-term planning
? Lack of resources to invest in systemic decision-making platforms.

Barrier 3: Low capacity and awareness of systemic assessment and management of physical climate risks for infrastructure investment planning at the national and subnational level
This barrier is particularly acute in developing and least developed countries, where decision-makers are often constrained by competing priorities, lack of awareness, and limited support to plan, prioritize, and invest as needed to enable resilient infrastructure development.

Root causes leading to this barrier comprise:
? Limited awareness of opportunities and benefits
? Knowledge gap and experiences in systemic resilience methodologies and metrics implementation
? Lack of capacities in implementing methodologies, metrics, and guidelines

Barrier 4: Lack of financing due to unclear investment priorities and financial incentives for investing in resilient infrastructure.
Governments are often in the driving seat of clearly outlining investment priorities to stimulate other financiers ? from public/national development banks, the private sector, and international financial institutions ? to identify opportunities and structure investments accordingly. Governments have yet to fully conceptualize and communicate their changing priorities, given the impacts of PCRs, and thus other financiers are uncertain as to where to invest.
Secondly, both governments and private financiers are unaware nor are they equipped to evaluate the full suite of financial and non-monetary rewards that result from investing in resilient infrastructure.

Root causes leading to this barrier comprise:
? Lack of awareness of the impacts of climate change in infrastructure investment planning
? Lack of access to service providers of methodologies that integrate PCRs into decision-making.
? Lack of financial vehicles that provide returns to investing in resilient infrastructure.
? Lack of methodologies to evaluate financial and non-monetary returns from integrating physical climate risks into investment.

The subsequent figure illustrates a simplified problem tree for the project.

Table 5. Simplified Problem Tree

Problem Tree				
	Policy framework	Application	Capacity-building	Funds/Scaling-up

Barriers	Barrier 1: Infrastructure investment policies and regulatory framework insufficiently assess and manage climate risks systemically at national and subnational level	Barrier 2: Insufficient experience in assessing and managing climate risks systemically at national and subnational levels	Barrier 3: Low capacity and awareness of systemic assessment and management of physical climate risks for infrastructure investment planning at the national and subnational level	Barrier 4: Lack of financing due to unclear investment priorities and financial incentives for investing in resilient infrastructure
Problem	**The absence of and lack of (market) appreciation for resilient infrastructure investment planning leads to human and economic losses.**			
Causes	? Limited acknowledgement of impact of future physical climate risks on infrastructure investments ? Lack of data on physical climate risks, infrastructure networks, and where social and economic value are concentrated	? Lack of experience and pilots/success stories ? Methodologies, metrics, and guidelines not fully standardized/formalized ? Under allocation and misallocation of resources due to short term planning	? Limited awareness of opportunities and benefits ? Knowledge gap and experiences in systemic resilience methodologies and metrics implementation ? Lack of capacities in implementing methodologies, metrics, and guidelines	? Lack of awareness of the impacts of climate change in infrastructure investment planning ? Lack of access to service providers of methodologies that integrate PCRs into decision making ? Lack of financial vehicles that provide returns to investing in resilient infrastructure ? Lack of methodologies to evaluate financial and non-monetary returns from integrating physical climate risks into investments

2) The baseline scenario and any associated baseline projects

Currently, there are very few, if any, approaches that consistently (a) integrate future physical climate risks into infrastructure planning, (b) integrate mitigation risks into infrastructure planning, (c) allow for a modeling of adaptation/mitigation options, (d) integrate lifecycle costing and financing projections, and (e) enable decision makers to prioritize based on these factors. Climate Smart Investment Planning (CSIP), is an approach that brings together these five integral pieces into a single dynamic and visual decision support platform.

The proposed methodology models infrastructure networks (e.g., transport, energy, water), overlaying with climate impacts like floods, urban heat island effects, and droughts. Through this exercise, it also identifies where adaptation options could be useful to shore up responses to climate risks, and the associated costs and benefits of these options. CSIP will not be limited to adaptation, but will additionally incorporate projections on the mitigation impact, providing a cross-cutting approach.

This proposal concerns the development and implementation of climate-smart capital investment planning models to Antigua and Barbuda, Egypt, and Uganda. The country selection offer diversity in economic and financial market maturity, size of economies and infrastructure networks, climate risks faced, geographic spread, as well as the level of decision making, allowing for innovation, and testing of this approach.

A joint approach to developing and implementing a CSIP methodology in the three selected countries offers the advantage of incorporating diverse perspectives, challenges, and opportunities into the methodology. This approach can lead to more robust, adaptable, and effective models for climate-resilient capital investment planning that can serve as valuable examples for other countries facing climate-related challenges worldwide.

As it was stated in section 1 these three countries present a diverse set of climate challenges. While Antigua and Barbuda are small island states vulnerable to rising sea levels and extreme weather events, Egypt faces water scarcity and increasing temperatures, and Uganda grapples with issues such as flooding, soil erosion, and extreme temperatures. By addressing different climate risks, the methodology can be rigorously tested and refined to cater to a wide range of climate impacts. Additionally, the geographic spread of these countries covers different regions and climate zones. Egypt is in North Africa, Antigua and Barbuda in the Caribbean, and Uganda in Sub-Saharan Africa. This variation enables the incorporation of region-specific climate data, adaptation strategies, and risk assessments into the planning models, ensuring they are relevant and effective in various geographic contexts.

The selected countries also differ in terms of economic and financial market maturity. Antigua and Barbuda may have more limited financial resources compared to Egypt, which boasts a larger economy. Uganda might fall somewhere in between. This diversity enables the development of adaptable financial models and strategies that can be tailored to countries with varying financial capacities. Furthermore, the collaborative nature of this initiative encourages innovation and shared learning. These countries can exchange experiences, best practices, and lessons learned. This collaborative learning process can lead to innovation and the adoption of effective strategies from one country to another, accelerating the implementation of climate-smart investments. Furthermore, the joint approach promotes data and knowledge sharing among the participating countries and create successful experiences that can be shared with a broader audience. This data exchange can enhance the accuracy of climate risk assessments and ensure that the planning models are based on the most up-to-date and relevant information.

Climate-smart capital investment planning has emerged as a critical component of addressing the complex challenges posed by climate change. In the face of intensifying climate impacts, countries worldwide are recognizing the urgent need to integrate climate resilience into their infrastructure and

economic development strategies. Nevertheless, the route to achieving climate-smart capital investment planning is notably diverse. In light of these variations, it becomes imperative to assess the baseline of each party individually, considering the specific challenges and opportunities presented by each country's circumstances.

Antigua and Barbuda are currently in the process of developing its NAP, where it has so far collected the necessary data, stakeholder consultations, development of sector plans, and support efforts to further build capacity within the country. Their priority sectors include finance, managed/protected areas, infrastructure and housing, tourism, food security and wholesale and retail. For example, an Adaptation Fund supported project is supporting concrete adaptation actions that are improving natural and physical drainage systems along semi-urban and urban waterways to reduce flooding and disease incidence. The project also directly distributes resources through a revolving fund to vulnerable households and businesses to shore up their infrastructure to meet new guidelines for built infrastructure. This would provide a basis for more systemic decision making within the national government.

In Egypt, the United Nations Development Program (UNDP) is supporting the development of its National Adaptation Plan (NAP), through the GCF readiness program. Some key sectors will include agriculture and water ? two of Egypt?s main economic considerations. The NAP process will also explore how best to improve institutional and technical capacity for climate change adaptation planning, examining climate risks, determining adaptation priorities, integrating it into national and sectoral planning and budgeting. It also seeks to leverage Egypt?s large and fast growing small and medium enterprises, direct its private sector to invest in adaptation and resilience, and establish the enabling environment to increase investment in adaptation.

In 2022, Uganda received funding from the Green Climate Fund (GCF) to support the development of the country's National Adaptation Plan (NAP) and has made significant progress in the country since the submission of the INDC in 2015. This including the development of the third National Development Plan (NDP III) and Uganda's NDC Implementation stocktake report, informed Uganda's NDC revision process. These processes harmonised current national climate change initiatives such as Uganda's Long-Term Climate Strategy (LTS). Uganda's updated NDC now prioritise adaptation. The Adaptation component covers adaptation planning priorities and outlines actions and targets in the sectors of water, sanitation, and ecosystems; agriculture, forestry, and fisheries; energy; transport, cities, and the built environment; health; and Disaster Risk Reduction.

The associated baseline projects for the selected countries include:

Table 6. Associated baseline projects

Country	Project	Relevance

Antigua and Barbuda	Resilience to hurricanes in the building sector in Antigua and Barbuda. Antigua and Barbuda| Department of Environment, Ministry of Health and Environment, Government of Antigua and Barbuda	This project addresses the resilience of building construction in the country, in addition to climate information systems and post-disaster responses. It will climate proof critical public service and community buildings to improve resilience to, and recovery from, extreme climate events. This timely initiative will also ensure that climate change adaptation is mainstreamed into the building sector and relevant financial mechanisms, as well as strengthening climate information services to allow for early action in responding to extreme climate events.

	Integrated physical adaptation and community resilience through an enhanced direct access pilot in the public, private, and civil society sectors of three Eastern Caribbean small island developing states Accredited Entity: Department of Environment, Antigua and Barbuda	The project works on infrastructure and built environment and ecosystem and ecosystem services. It aims to strengthen the resilience Antigua and Barbuda to climate change-related threats by improving the hurricane resilience of community buildings, homes, and businesses, and through flood prevention measures. A funding mechanism for public infrastructure (including drainage and irrigation) and ecosystems will also reduce disruptions in the water system and improve soil and water conservation, which are all threatened by the results of climate change.

Egypt	Formulation and Advancement of the National Adaptation Plans Process of Egypt National designated authority: Ministry of Environment Implementing Institution: United Nations Development Programme	This project assesses Egypt?s ability to respond to climate impacts with being challenged by low technical capacity for adaptation planning and limited information on climate risks and vulnerabilities. The project aims to help Egypt build climate resilience by improving institutional and technical capacity for CCA planning, examining climate risks, determining CCA priorities, integrating CCA into national and sectoral planning and budgeting, and increasing investment in adaptation actions.

	Industrial Clusters and Value-chain development in Egypt - UNIDO	The proposed project will be part of the EU action aims at improving the efficiency of Egyptian trade and quality institutions and the competitiveness of the private sector to access both international and domestic markets, promote decent work and economic growth, industry modernization and products innovation. The EU support will focus on supporting the Government of Egypt (GoE)'s institutional reforms and trade negotiations efforts, strengthening the Egyptian institutions and private sector to improve and modernize the national quality infrastructure. UNIDO will focus on supporting industrial clusters and value chains.

	Programme for Country Partnership in Egypt - UNIDO	UNIDO is supporting the Government of Egypt?s (GoE) vision for sustainable development and its pillars of economic development, knowledge and innovation, environment and social justice, as outlined in its Sustainable Development Strategy: Egypt Vision 2030. UNIDO?s efforts are also in line with the Ministry of Trade and Industry?s Strategy 2016 - 2020 for industrial development and trade enhancement. The Programme of technical assistance focuses on sectors with high-growth potential and is planned on six components, to synergize with other industrial development programs and pool additional resources in efforts for Egypt to meet the SDGs.

	Enhancing climate change adaptation in the north coast and Nile delta regions in Egypt Accredited Entity: United Nations Development Programme	The focus for this project is on adaptation and infrastructure, with the GCF aiding Egypt in the efforts to provide climate resilient defences. These include improving coastal defence soft structures and integrated coastal management to adapt to coastal flooding from sea level rise and increased frequency of storms. This will reduce the vulnerability of coastal infrastructure, protecting surrounding villages, agricultural land, and the international coastal road. The project will also lead to the development of an integrated coastal zone management plan for the entire North coast of Egypt.

Uganda	Building Resilient Communities, Wetlands Ecosystems and Associated Catchments in Uganda	This grant-based project will assist the Government of Uganda take climate change effects, such as droughts, floods, high temperatures and violent storms, into account in managing wetlands. The project will assess meteorological and hydrological infrastructural investments such as automatic weather stations, lightning sensors, hydrological monitoring equipment, agro-meteorological stations, forecasting equipment, and data archiving systems (GCF, UNDP). It will also improve capacity building of relevant staff by training meteorological and hydrological technicians on technical aspects regarding the operation and

		maintenance of infrastructure.
	Project for Development of the Construction Equipment Operator Training Centre - UNIDO	The project aims to bridge the industrial skills gap for road equipment operators in Uganda, UNIDO is working with the Ministry of Works and Transport (MoWT) on the establishment of the country?s first training centre for road construction equipment operators and the development of new curricula. The project will include training-of-trainers (ToT) workshops for MoWT instructional staff.

	SCALA Uganda - UNDP	Uganda was part of the FAO and UNDP supported Integrating Agriculture in National Adaptation Plans (NAP-Ag) Programme from 2015-2020, and developed a gender-responsive National Adaptation Plan (NAP) for the agriculture sector and its monitoring and evaluation (M&E) framework which now requires support for implementation. Based on the first and updated interim NDC, Uganda continues to prioritize adaptation as the first response to climate change and aims to strengthen mitigation actions, starting with the expansion of extension services and climate-related information. The country is committed to working on reducing climate change vulnerability and addressing

		climate actions in several key economic sectors including energy, waste, and industrial processes and product use (IPPU).

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

This proposal addresses existing market failures: an inadequate integration of PCRs into investments, alongside mobilizing the needed constellation of public and private institutions and investors to (a) advance the use of practical tools and methodologies that systemically assess and manage PCRs at national and subnational levels, (b) prioritize infrastructure investments based on an understanding of maximizing the resilience benefits of every $1 invested, and (c) mobilize capital for investments identified and designed through the use of these tools.

To address the causes and barriers for integrating PCRs into infrastructure investment decision making and mobilizing the necessary public and private capital for adaptation, this project proposes a multi-faceted approach that does the following:

a. Addresses the policy framework for infrastructure investment.

b. Supports application of cutting-edge methodologies for assessing and managing PCRs

c. Builds capacity within critical stakeholders and decision-makers to use these methodologies.

d. Promotes financing for investing in resilient and clean infrastructure.

These are translated into four components. The respective outcomes and outputs for each of these are summarized below. These components apply equally across all three locations.

Component 1: Adopting long-term climate resilient policies in investment plans for infrastructure.

This component addresses the upstream policies and practice around infrastructure investment planning and prioritization. It targets national and subnational authorities involved in these decision-making processes. It focuses on improving these actors? knowledge and awareness of the latest approaches, their benefits, and empowers them to customize these methodologies for their use.

Outcome 1: Selected national and subnational authorities adopt a PCR-informed policy and regulatory environment in line with best practice.

Output 1.1: Metrics and strengthened policy frameworks for systemic climate resilience methodologies developed.

Building off the initial scoping work, the next step would be to understand how the three selected jurisdictions move from planning to financing their infrastructure needs. This step is critical to understand when/how systemic risk assessment and investment prioritization and plans can/should be integrated into current approaches. It would also identify which decision makers need to be supported in this endeavor.

Activity 1.1.1 Development of specific systemic climate resilience planning methodology focused on infrastructure investment planning and prioritization

Activity 1.1.2 Organization of workshops to enable target officials to apply metrics and policy frameworks for systemic climate resilience methodologies.

Deliverables Output 1.1:

- ? Proposal for integration of these methodologies for the selected jurisdictions

Output 1.2: Infrastructure investment planning analyses via the Climate Smart Investment Planning (CSIP) prepared.

The Project will support the introduction of systemic climate resilience methodologies and metrics into regular planning processes of the pilot locations. The first step is to scope the opportunities to integrate assessment and management of PCRs into existing policies and regulatory environment for infrastructure planning and investment.

The table below reflects different levels of sophistication with respect to investment planning. At the very minimum, national/subnational entities should approve on an annual basis a systematically prioritized list of projects with clearly identified funding/financing sources. For public-private partnerships, it is absolutely essential that the investment plan includes reliable cost estimates for each project, both capital and operational expenditures. For debt issuances, the plan should also reflect the

available fiscal space for such transactions. For green financing, the plan should incorporate climate-smart engineering/technological specifications as part of the project preparation/selection process.

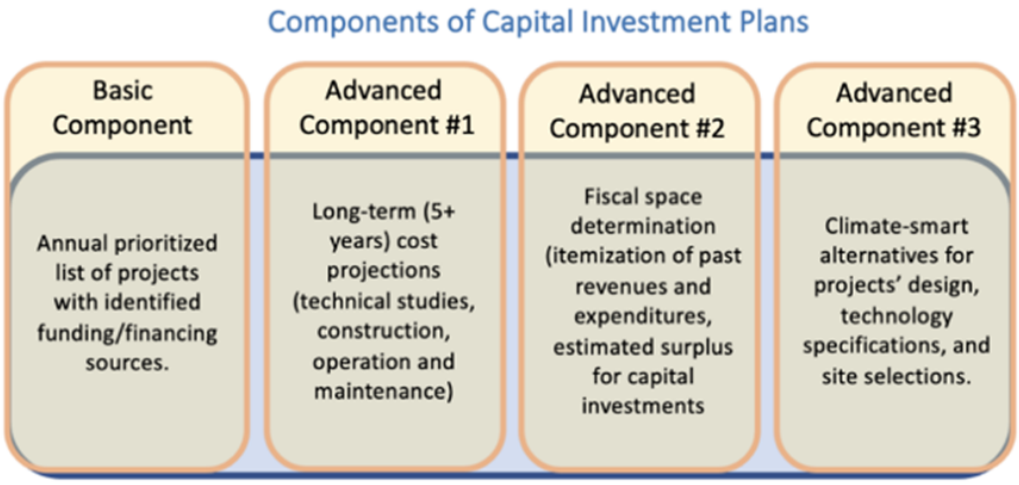


Figure 1. Investment planning levels

UNIDO will procure services of a specialized methodology provider (research institute/academia/NGO which will be identified through an open international procurement process). The methodology development process will follow adequate research process (incl. organization of workshops with experts and other stakeholders, surveys, peer-review process). It will also include public-private consultation, stakeholder dialogue and inter-governmental coordination in the project countries. Detailed requirements will be set out int the Terms of Reference for the procurement.

The general methodology approach to be adopted for the proposed activity is described below. It will be further developed in detailed through the selected methodology provider during the project execution. The capacity building begins by supporting target national/subnational entities with the development and adoption of procedures for capital investment planning that meet the following objectives:

Procedures should produce capital investment plans as part of the regular budget cycle.

- ? The time horizon of the plan should be 15 or more years, thus expenditures on capital in the current year, for the coming year, and for an additional 13 years or more are presented (though greater certainty can be attached to the early years of the plan).
- ? The fiscal policies used in planning for capital investments should be specified in the plan, and reflect common global knowledge as well as local conditions for establishing creditworthiness.
- ? The criterion used in the process of selecting and prioritizing proposed capital investments should originate, at least in part, from local development plans with long-term horizons.
- ? Procedures should specify the roles and responsibilities of decision-makers and the support of technical staff and program management for the purpose of capital investment planning.

Once procedures are in place, appropriate personnel should be delegated authority to engage in capital investment planning, in their respective roles. The procedures described above should also promote balanced decision-making through the participation of multiple persons, representing differing points of

view (e.g., budget officers, finance officers, planners, public works directors, specialists in environmental systems, public representatives) in the process of selecting and prioritizing proposals for investment.

A comprehensive capital investment planning methodology should:

- ? identify policy objectives to be fulfilled by proposed investments;
- ? analyze and select resiliency and low carbon alternatives;
- ? schedule expenditures for the proposed capital projects over 15 years;
- ? rank the projects based on both objective criteria and subjective criteria from multiple participants; and
- ? quantify the impact of the proposed projects in terms of cost, use of available capital funding, improved resiliency, and reduced carbon emissions.

The engineering analysis will review the design of projects to ensure they will be cost effective to build and operate in a climate-smart manner over the long term, include lifecycle analysis to develop replacement reserves, and incorporate defenses against risks of climate change events.

The financial analysis ensures that revenues are based upon a realistic demand for the service and user willingness to pay, revenues are sufficient to cover the full cost of operations and the replacement of components as they wear out, and (should debt proceeds be used to build the facility) that the margin remaining after subtracting operating costs and replacement reserves is sufficient to pay for debt service and debt service reserves.

The foregoing capital investment planning procedures should be incorporated into a manual, to be approved by the respective national/subnational entities? management. The manual should be shared with appropriate departments and training should be provided to ensure that the procedures are well understood and implemented.

Provide a standardized approach to prioritize infrastructure investment, including resilience criteria and improving its capability to withstanding future climate impacts.

Deliverables for Output 1.2:

- ? Analysis of how systemic climate resilience methodologies can improve current planning approaches for 3 selected jurisdictions, including a specific gender analysis of existing policy frameworks.

Activity 1.2.1 Application of resilience planning methodology in the pilot countries

Output 1.3: Establishment of systemic climate resilience methodologies in selected national and municipal planning institutes.

The establishment of systemic climate resilience methodologies in selected national and municipal planning institutes can be effectively implemented through a structured approach based on the World Bank's Climate-Smart Capital Investment Planning model. This approach involves five key phases, carried out in a sequential manner, within the regular budget cycle.

In Phase 1, essential budget and project information are gathered to forecast the available capital budget, identify fiscal policies to be incorporated into the Capital Investment Plan (CIP), and compile a comprehensive list of proposed capital investments. This step ensures that the capital investment list reflects projects from various levels of government and relevant departments.

Phases 2 and 3 focus on making proposed capital investments more cost-effective over their lifecycle, reducing greenhouse gas emissions, and enhancing resilience against climate-related hazards. This involves modifying the scope of projects and adding design strategies to enhance their climate resilience.

Phase 4 merges a political perspective with technical expertise to prioritize investments through a multi-criteria analysis. Criteria are defined to convey the purpose and benefit of capital investments, with weights assigned by political representatives. Technical staff assess each project against these criteria, resulting in a ranked project list.

In Phase 5, the capital budget is allocated to projects, ensuring decisions align with existing budget constraints and available sources of finance. This phase coordinates with financial and budget officers and includes opportunities for financing from various sources, such as loans, bonds, and public-private partnerships, while adhering to international financial reporting standards.

Alongside key stakeholders in the three locations, the project will identify the main sectors to be studied, the data needed to advance the tool development, consult stakeholders on their needs, and overall policy priorities.

Deliverables Output 1.3:

- ? Schematics of tool including sectors and climate risks to be studied, stakeholders? needs, and data requirements for tool development.

Activity 1.3.1: Workshops with stakeholders to adjust the planning tools to specific needs

Output 1.4: Improved stakeholder awareness, including training on best practices for climate smart investment planning to incorporate Systemic climate resilience Methodologies (including gender dimensions).

This will include raising awareness of what systemic resilience methodologies and metrics mean for current planning processes, how these can be improved to include PCRs consistently, and how best to move towards a system wide view of infrastructure networks and prioritize investments accordingly.

Also, knowledge products and information will be prepared and disseminated based on the findings of the gender analysis, lessons learnt from the gender mainstreaming action plan and policy frameworks amongst stakeholders and beneficiaries.

Deliverables Output 1.4:

? Gender Equality and Empowerment of Women knowledge products and information are prepared and disseminated amongst stakeholders.

? Good practice guidelines on integrating PCRs into infrastructure planning, value of systemic approaches, and how to prioritize investments based on a holistic understanding of exposure to climate risks, network benefits of a particular investment, and its economic and social value will be developed and disseminated.

Activity 1.4.1 Development of Gender Equality and Empowerment of Women knowledge products

Activity 1.4.2 Development of good practice guidelines on integrating PCRs into infrastructure planning

Activity 1.4.3 Workshops, training and knowledge dissemination

Component 2: Demonstration of systemic climate resilience methodologies and metrics through selected pilots.

Through this component, the project team aims to further demonstrate the feasibility, value, and attractiveness of using systemic climate resilience methodologies in the infrastructure planning and investment cycles. It includes the operationalization of systemic climate resilience assessments, investment prioritization and planning tools, and contributing to the development of appropriate metrics to signal the adoption of these methodologies within infrastructure planning and investment cycles.

Outcome 2: National and subnational governments gain sufficient evidence and experience in introducing and demonstrating Climate Smart Investment Planning (CSIP) and Metrics for infrastructure investments plans.

Output 2.1: Implementation of climate-resilient infrastructure planning in two national pilots and a subnational pilot, demonstrating the CSIP ability to identify future risks to infrastructure networks and prioritize critical investments based on exposure and economic/social value at risk.

The implementation of climate-resilient infrastructure planning in two national pilot locations involves a systematic approach: (1) Select diverse pilot areas, (2) form a multi-stakeholder working group, (3) collect and analyze data, (4) assess climate risks, (5) integrate the Climate-Smart Capital Investment Planning (CSIP) model, (6) evaluate existing and proposed projects, (7) identify projects with the highest

risk exposure and prepare ESMF, (8) prioritize projects through multi-criteria decision-making, (9) allocate the capital budget, and (10) prepare a comprehensive Capital Investment Plan (CIP) following international financial reporting standards . The process includes regular monitoring, evaluation, and knowledge sharing to showcase the CSIP's effectiveness in enhancing climate resilience and prioritizing vital infrastructure investments, providing a model for national adoption.

Deliverables Output 2.1:

? Customized models to map out physical climate risks for the selected national jurisdictions.

Activity 2.1.1 Consultation and selection of pilot areas

Activity 2.1.2 Data collection

Activity 2.1.3 Project evaluation and development of Capital Investment Plans

Output 2.2: Deliver report on lessons learned from the climate-resilient infrastructure planning pilots (national and subnational).

One of the major outputs from these pilots is the comprehensive examination of the experiences and insights gained through the implementation of climate-resilient infrastructure planning at both national and subnational levels. These lessons learned are invaluable for shaping future strategies and enhancing the effectiveness of climate resilience initiatives.

The report will distil key takeaways from the pilots, shedding light on how the systemic climate resilience approach influenced the investment priorities of the participating jurisdictions. It will offer insights into the challenges and obstacles encountered in adopting and implementing these innovative approaches. This insight will help identify areas where improvements can be made, enhancing the overall resilience of infrastructure systems.

Additionally, the report recognizes the critical role of gender equality considerations within the project. It highlights the project's commitment to promoting gender equality as a core principle, acknowledging that resilience strategies should be inclusive and equitable. The report will specifically monitor and document the progress and outcomes of gender equality goals in the long term. Lessons learned in this domain are just as vital as those related to technical and operational aspects, as they contribute to creating resilient infrastructure that is sensitive to the diverse needs of the community.

Deliverables Output 2.2:

? Three short documents targeted at decision-makers on lessons learned from immediate implementation of systemic climate resilience methodologies and metrics. This would include and explain expected impacts in the long run-on gender equality and empowerment of women.

Activity 2.2.1 Development of lessons learned documents from the pilot projects

Output 2.3: Knowledge shared, and capacity built for local and global stakeholders about best practice for climate-resilient infrastructure planning in selected countries and municipalities, through forums and other avenues.

These national and subnational experiences need to be disseminated widely as they are critical to advancing resilience at scale and help make the case for investing in resilient infrastructure. An international workshop ? including the participation of public and private institutions from target countries, MDBs, investors, engineering, and technical experts, is one medium through which best practice can be exchanged. It will also leverage UNIDO platforms to disseminate lessons. Lessons from these jurisdictions? efforts to proactively integrate climate risks and increase their resilience will be shared through these platforms to help advance the state of practice globally.

In addition to the best practice examples, stakeholders and beneficiaries of the project will benefit from the piloting of a UNIDO Training on Impact Gender Lens Investing (GLI). UNIDO?s ITPO Germany, the Energy Department and Gender Office developed the training in cooperation with experts from existing Programmes of the Energy Department such as the Global Cleantech Innovation Programme (GCIP) and the Private Financing Advisory Network (PFAN). The training has a modular approach, particular emphasis will be focused on delivering module six on Financing climate change mitigation and adaptation with a gender lens. Participants will be encouraged to take all the training's modules for a more comprehensive approach.

Deliverables Output 2.3:

- ? Two moderated exchange events between the three pilots that allow for cross-fertilization of lessons.
- ? Three webinars/moderated discussions showcasing innovations and experiences.

Activity 2.3.1 Organization of international knowledge exchange workshops

Activity 2.3.2 Organization of online knowledge exchange evens

Component 3: Replication of systemic climate resilience methodologies in government infrastructure investments and structure an investment environment for upscaling pilots.

This component focuses on building the needed capacity within the relevant stakeholder institutions to continuously update and use the systemic climate resilience approaches in their decision-making process.

Additionally, it will focus on developing and structuring an investment vehicle, alongside other public and private financiers, that will deploy capital based on the use of these systemic climate resilience approaches.

Outcome 3: Relevant capacity is built for national, municipal, and financial stakeholders to enhance the CSIP, Metrics and structure investment vehicles for upscaling.

Output 3.1: Strategy for upscaling and structuring the capital phase.

The team will work with public and private financial institutions to develop an investment vehicle that is dedicated to financing projects that are identified through adoption of these systemic climate resilience methodologies. This will also include development of guidelines for how other countries/jurisdictions could access funds from this investment vehicle through their adoption of systemic climate resilience methodologies.

Deliverables Output 3.1:

- ? Design an investment vehicle strategy, including eligibility criteria (e.g., use of systemic climate resilience assessments), access modalities, and development of an investment pipeline from these three pilots.

Activity 3.1.1 Identification of an investment vehicle dedicated to financing projects

Activity 3.1.2 Development of recommendations on risks and mitigation measures associated with the various investment projects

Output 3.2: Establishment of modalities to set up technical assistance supporting participating funds to deploy capital to replicate Systemic climate resilience Methodologies and Metrics piloting of solutions.

Building on the investment vehicle design, the team will help mobilize the capital needed from private and public financial institutions to launch the vehicle and finance projects in the pipeline.

Deliverables Output 3.2:

- ? Establishment of an investment vehicle, including different financing windows and technical assistance modalities, with the necessary funds to deploy.

Activity 3.2.1 Development of recommendations for financing options suitable for projects included in the investment planning pipeline

Output 3.3: Case studies distilling learnings from implementing the solutions in selected pilots to validate and strengthen the Guidelines and Systemic climate resilience Methodologies and Metrics approaches prepared.

The project will bring together the lessons learned from implementing systemic climate resilience methodologies (building on Output 2.2 and 2.3) to devise and validate overall guidance on how to implement systemic climate resilience assessment methodologies, investment prioritization approaches, and metrics. This will include gender equality considerations, as established in Outcomes 1 and 2.

Deliverables Output 3.3:

- ? UNIDO guidelines on best practice/gold standard for adopting systemic climate resilience methodologies, investment prioritization processes, and use of metrics, including gender considerations.

Activity 3.3.1 Development of case studies documents and guidelines document

Component 4: Monitoring and Evaluation

Component 4 will focus on the effective monitoring and evaluation (M&E) of the project during implementation and after completion. All monitoring and evaluation tools and documents, such as the monitoring plan, progress reports, final evaluation report, and thematic evaluations (e.g., training needs assessment), will include gender dimensions, and report with respect to an established baseline for gender related targets. When data collection or assessments are conducted, gender dimensions will be considered. This will include in particular collection of sex-disaggregated data.

Outcome 4: Project achieves objective through effective monitoring and evaluation.

Output 4.1: Mid-term review

At the mid-point of the project, UNIDO will coordinate an independent midterm review to identify the achievements to date, make suggestions as needed to revisions of the project, and identify lessons learned to be disseminated within UNIDO.

Activity 4.1.1 Independent mid-term review

Output 4.2: ESMF, gender analysis and regular monitoring of the gender mainstreaming action plan

An Environmental and Social Management Framework (ESMF) will be developed for the project describing procedures and tools to manage the potential impacts of forthcoming but yet undefined projects (?subprojects?) will be developed. UNIDO will routinely monitor implementation of the gender mainstreaming action plan.

Deliverables Output 4.2:

- ? Environmental and Social Management Framework (ESMF) and regular monitoring
- ? Gender analysis and gender mainstreaming action plan

Activity 4.2.1 Development of gender analysis and action plan

Activity 4.2.2 Development of the Environmental and Social Management Framework

Activity 4.2.3 Regular monitoring of project activities against project targets, gender action plan and ESMF

Output 4.3: Final evaluation

UNIDO will facilitate a final evaluation by an independent evaluator within 6 months of project closure to verify achievements to date, make any final suggestions for the closing period of the project, and identify lessons learned.

Activity 4.3.1 Independent terminal evaluation

Theory of change

The Project aims to improve national and subnational capacities to manage and assess physical climate risks, prioritize critical investments that maximize the resilience benefits of every $1 invested, and send the right signals to public and private investors. The project will support the enacting of supportive policy frameworks, the development of systemic climate resilience assessment methodologies and metrics that can communicate the macroeconomic value at risk from PCRs, build capacity within the relevant institutions to routinely assess and manage their PCRs, facilitate exchanges with interested private investors, and structure an investment vehicle that will base access on how efficiently national and subnational governments have managed their PCRs. These assessment methodologies will enable decision makers to base their investment decisions on evidence of not just current, but future PCRs? impacts, and direct resources towards the areas that need it the most. This will also allow for larger resilience benefits to the infrastructure network at large to be recouped, enabling private investors to receive returns from investing in resilience.

The theory of change graph below illustrates the impact, objectives, and outcomes of the project along the three components described (excluding monitoring and evaluation).

Figure 2. Simplified theory of change of project impact, objectives, and outcomes

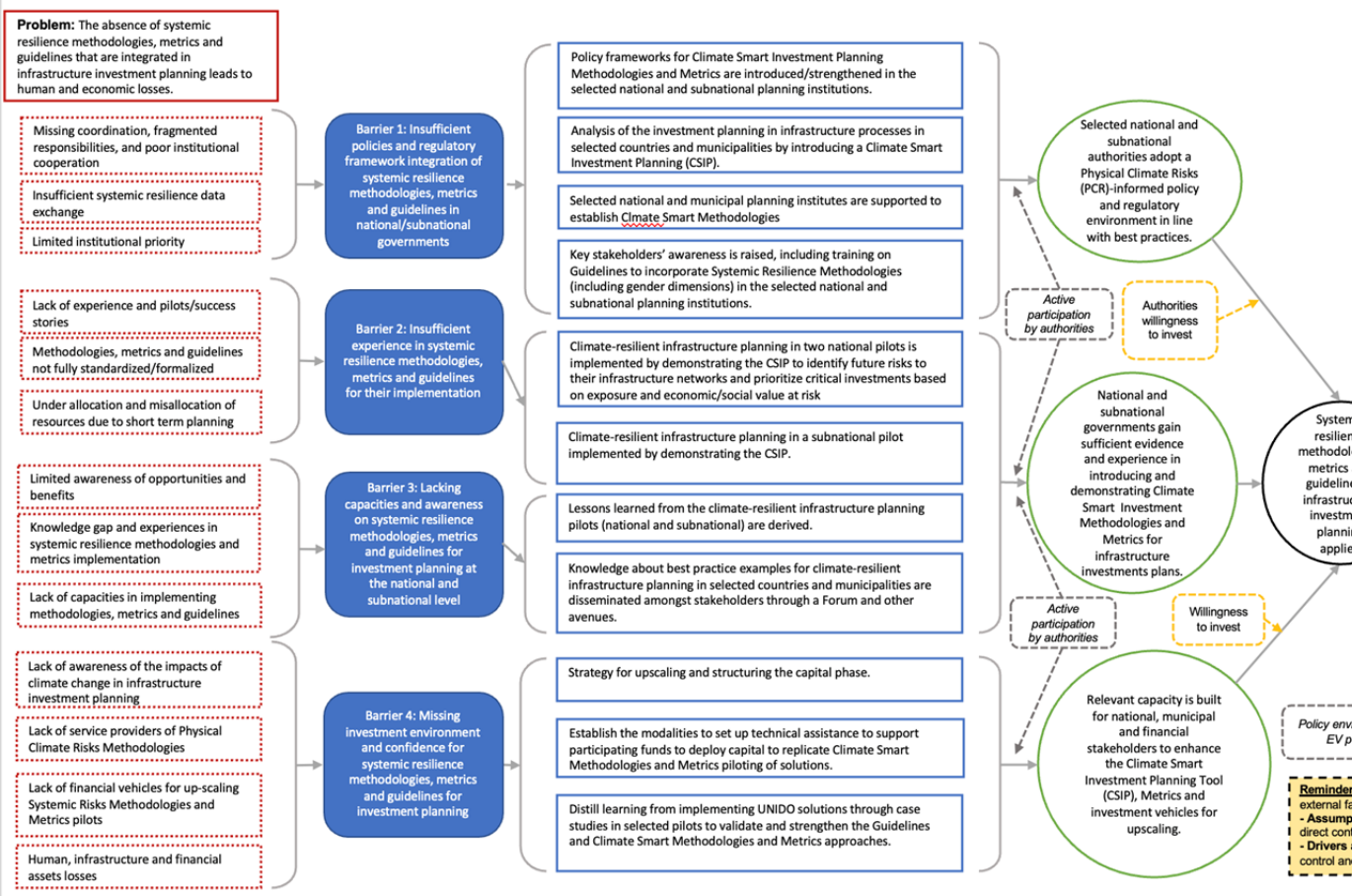


Figure 2. Simplified theory of change of project impact, objectives, and outcomes

4) Alignment with GEF focal area and/or Impact Program strategies

The Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) finance the GEF's Climate Change Adaptation Strategy. The project aligns with the GEF Climate Change Adaptation Focal Area, specifically Objective CCA-1:

? Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation.

Regarding the alignment of the initiative with the GEF Priority Areas, there are a few points that are worth mentioning. Climate-smart capital investment planning is inherently linked to the mobilization and allocation of financial resources to address climate change challenges. By developing robust and context-specific investment models, the project facilitates the efficient utilization of financial resources, ensuring that they are directed toward initiatives that effectively enhance climate resilience. Moreover, it may identify innovative financing mechanisms and investment opportunities, which can attract both public and private sector investments, thereby **scaling up financial support** for climate-smart initiatives. At the same time, effective resilient capital investment planning requires innovation in infrastructure development, risk assessment, and adaptation strategies. The project's collaborative approach, involving

diverse stakeholders and drawing on international best practices, **fosters innovation in climate adaptation and mitigation strategies**. Furthermore, by promoting partnerships with the private sector, the project encourages the engagement of businesses and industries in sustainable and climate-resilient projects, thus aligning with GEF's goal of **strengthening innovation and private sector involvement**. The project's emphasis on collaboration and knowledge sharing among stakeholders encourages the active participation of government bodies, local communities, civil society organizations, and the private sector in climate-smart capital investment planning.

The project aims at supporting government planning institutes with technical assistance to adopt systemic climate resilience methods to integrate physical climate risks (PCRs) in infrastructure investments (water, transport, electricity). Hence, reducing exposure to immediate and future dangers posed by climate change by moving to a climate-resilient development pathway. The project supports efforts to demonstrate the methodologies, metrics, and guidelines in planning exercises, thereby reducing the vulnerability of people, livelihoods, natural systems, and financial assets.

A principal goal of the GEF Challenge Programme for Adaptation Innovation is to mobilize private investments in climate resilience through innovative ways. By scaling up and creating a business environment for climate-resilient investments, communities, private sector, national and subnational governments will benefit through increased resilience in infrastructure, generating an added value when climate change events may risk their functionality.

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

The incremental cost reasoning of the project is further summarized in the table below:

Table 7. The incremental cost reasoning

Components	Business as usual	Incremental cost reasoning	Main outcomes expected

1. Adopting long-term climate-resilient policies in investment plans for infrastructure.	National and subnational responsible institutions such as planning institutes, ministries and municipalities have limited awareness of and access to potential systemic climate resilience solutions such as dynamic mapping platforms, standardized metrics and data in pricing PCRs and their long-term impact on the benefits of investing resiliently. Missing vertical coordination between national and sub-national levels and horizontal coordination across ministries/departments leads to insufficient integration of systemic climate resilience methodologies and guidelines on climate resilience investment strategies, policies, and regulations for infrastructure investments at the national and subnational government level.	A systemic resilient policy framework and coordinative capacity are built at the national levels to incorporate Physical Climate Risks considerations and methodologies in infrastructure investments planning. Key stakeholders are aware and trained on systemic climate resilience methodologies, metrics, and guidelines to better guide public decision-makers.	Systemic climate resilience assessment methodologies that incorporate PCRs into investment planning, associated metrics, and guidelines are adopted, thus enhancing the policy and regulatory environment.

2. Demonstration of Systemic climate resilience Methodologies and Metrics through selected pilots.	National and subnational practical experiences of systemic climate resilience methodologies will remain stagnant in the short term, Limited prioritization of infrastructure investments that incorporate resilience benefits, due to lack of methodologies, guidelines, or metrics. Infrastructure projects overlook physical climate risks triggering future human and financial disasters. There are insufficient data and metrics in systemic climate resilience solutions, leading to under allocation and misallocation of resources in the short and long planning horizons.	Governments gain sufficient evidence and experience in introducing the CSIP and Metrics. The project will demonstrate the application of systemic climate resilience methodologies, metrics, and guidelines. Lessons learned from the climate-resilient infrastructure planning pilots (national and subnational), Guidelines and best practice examples for climate-resilient infrastructure planning in selected countries and municipalities are disseminated through a Community of Practice.	Stakeholders gain sufficient evidence and experience in applying Systemic climate resilience Guidelines, Methodologies (CSIP) and Metrics for infrastructure investments plans.

3. Replication of Systemic climate resilience Methodologies in government infrastructure investments and structuring of an investment vehicle for upscaling pilots.	Currently, governments lack awareness of how to manage the impacts of climate change in infrastructure investment planning. Simultaneously, other public and private organizations do not systematically integrate physical climate risks into their financial decision-making, resulting in potential human and financial losses. These institutions and the government are not financially rewarded for investing in resilient infrastructure: lack of appropriate methodologies continues to perpetuate the knowledge and practice gap on how to design/structure financial vehicles and investments that reward integration of physical climate risks.	Governments will plan more resilient infrastructure investments by integrating physical climate risks in financial decision-making. The structuring of financial vehicles will mobilize public and private capital for investing resiliently and will help accelerate uptake of the CSIP and associated metrics in developing and developed countries. The visibility of climate resilience investment plans will provide signals to private and public investors on where they may best be able to reap benefits of investing resiliently.	The structuring and launching of the capital phase will scale-up use of systemic climate resilience methodologies in national and subnational governments as well as the private sector. Relevant capacity is built for national, subnational, and private stakeholders to utilize Systemic climate resilience Methodologies (CSIP), metrics and appropriate investment vehicles for upscaling.
4. Monitoring and evaluation	Lessons from implementation are not captured and the project risks not meeting its objectives	Effective monitoring and evaluation of the project is completed	Project achieves objectives with lessons learned for improving future projects

6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

National and subnational governments set investment and budget priorities, including for long-term investments like infrastructure. Private investors also rely on these signals to understand where they might invest. With physical climate risks already severely impacting current and future infrastructure stock, public and private investors need to adopt practical approaches that (a) systematically integrate physical climate risk considerations into their portfolio planning process and (b) structure investment vehicles such that they are rewarded.

CSIP approach and dynamic mapping platform helps prioritize investments such that each $1 invested maximizes climate resilience benefits and protects vital infrastructure investments and people from the worst impacts of climate change. Combined with a to integrate PCRs during the physical and

investment design stages of each infrastructure asset, the approach will provide benefits at both the infrastructure asset and network level.

This approach is currently being tested in Jamaica, where the methodology is being applied by the country?s Planning Institute. The process includes the mapping of the exposure of the country?s energy, water, and transport infrastructure networks to physical climate risks, the economic and social value at risk due to this exposure, adaptation options available (including leveraging nature-based solutions where possible), and where investments need to be prioritized.

While this approach is still being piloted, and the impact on the country?s investments yet to be fully quantified, it is expected that the following environmental, adaptation, and financial benefits will be reaped. First, this approach and methodology will enhance the resilience of infrastructure investments in the three chosen jurisdictions leading to the following: (a) minimized potential disruptions to society due to inadequate infrastructure services, particularly due to climate risks, (b) increased availability of infrastructure services to the economy, (c) lower operation and maintenance costs of the asset due to better quality of built infrastructure, and (d) increased use and protection of nature based solutions vs. hard infrastructure to respond to climate impacts.

The project will provide direct adaptation benefits to the private sector as well support the implementation of National Adaptation Plans. A preliminary assessment of the global adaptation benefits has been completed and calculated that the project will contribute to a combined 69,449 ha of land managed for climate resilience. This calculation was completed based on the inhabited land in each country and where infrastructure networks are based with attention to hotspots and areas at risk, with the assumption that the project will support at least 3 infrastructure projects in each country.

The total number of people trained has been calculated at 1,150 (675 male and 475 female). These figures are based on those in government who are directly trained and benefit from applying the systemic resilience assessment tool, metrics, and guidelines. Total beneficiaries for Antigua and Barbuda, Egypt, and Uganda have been calculated at 6,000 (3,000 male and 3,000 women), assuming at least three infrastructure project per jurisdiction of which there will be beneficiaries. This figure will be recalculated during PPG as national and subnational areas for intervention are confirmed.

The project will also contribute to the development of a total of 13 policies/plans that will support mainstreaming climate resilience. This calculation is based on the assumption that economic, public, and private finance policies, and sectoral infrastructure development plans from the project would target mainstreaming climate resilience.

Global adaptation benefits can be attributed to each fund as follows.

Table 8. Global adaptation benefits

	Total	Male	Women
Core Indicator 1: Total number of beneficiaries	**6,000**	**3,000**	**3,000**
SCCF	4,000	2,000	2,000
LDCF	2,000	1,000	1,000

Core Indicator 2: Area of land managed for climate resilience (ha)	**69,449**		
SCCF	55,000		
LDCF	14,449		
Core Indicator 3: Total no. policies/plans that will mainstream climate resilience	**13**		
SCCF	10		
LDCF	3		
Core Indicator 4: Total number of people trained	**1,150**	**675**	**475**
SCCF	950	550	400
LDCF	200	125	75

7) Innovation, sustainability and potential for scaling up

Innovation: The project will allow governments to integrate climate risk analytics in national decision-making and enhance cost-benefit analyses at a macro-economic level. It innovates by uniting existing applicable systemic climate resilience methodologies, metrics and guidelines developed by a forum. Along with UNIDO's technical expertise in deploying climate-resilient finance initiatives, the project will introduce an inter-sectoral approach by combining innovative experiences such as the National Investment Prioritization Tool showed-case at the United Nations Climate Change Conference (COP26), allowing the execution and implementing agencies to bolster governments' capacity to undertake inclusive and climate-informed planning for new and existing infrastructure.

Sustainability: After the intervention, the national and subnational beneficiaries take ownership of the introduced systemic climate Resilience methodologies, metrics, and guidelines, guaranteeing further implementation thereby. As described in Components 2 and 3, UNIDO will ensure that the know-how transference and capacity building activities will enhance the Community of Practice, relevant stakeholders, and beneficiaries to promote good practices and facilitate the knowledge required for their further introduction. Even after completion of the GEF-7 project, the beneficiaries will integrate a long-term vision into their investment plans ensuring climate-resilient infrastructure.

Potential for scaling up: The policy, coordination, regulatory work, and replicability will be achieved under Component 1 and Component 2, leading to scaling-up potential by setting up the national and sub-national coordination structures and rules that allow the standardization and formalization of systemic climate resilience methodologies, metrics and guidelines addressing Physical Climate Risks. The support under Component 3 to structure a capital phase will proceed to further pilot solutions by mobilizing additional investments and building relevant capacity. A series of asset managers, commercial and development banks, will raise capital for funds committed to integrating the technical solutions. In such a manner, de-risking infrastructure investments will encourage and enable national and subnational authorities and the private sector to unlock investments in sustainable and climate-resilient projects across the countries.

1b. Project Map and Coordinates

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

The project interventions will be located throughout Antigua and Barbuda (Coordinates: 17.0608? N, 61.7964? W); Egypt (Coordinates: 26.8206? N, 30.8025? E) and Uganda (Coordinates: 1.3733? N, 32.2903? E). However, the project cannot specify the exact locations of each pilot's activities due to the normative character of the same. An indicative map provides a general illustration of each country of intervention. The PPG phase will determine and confirm the exact location of the pilots.

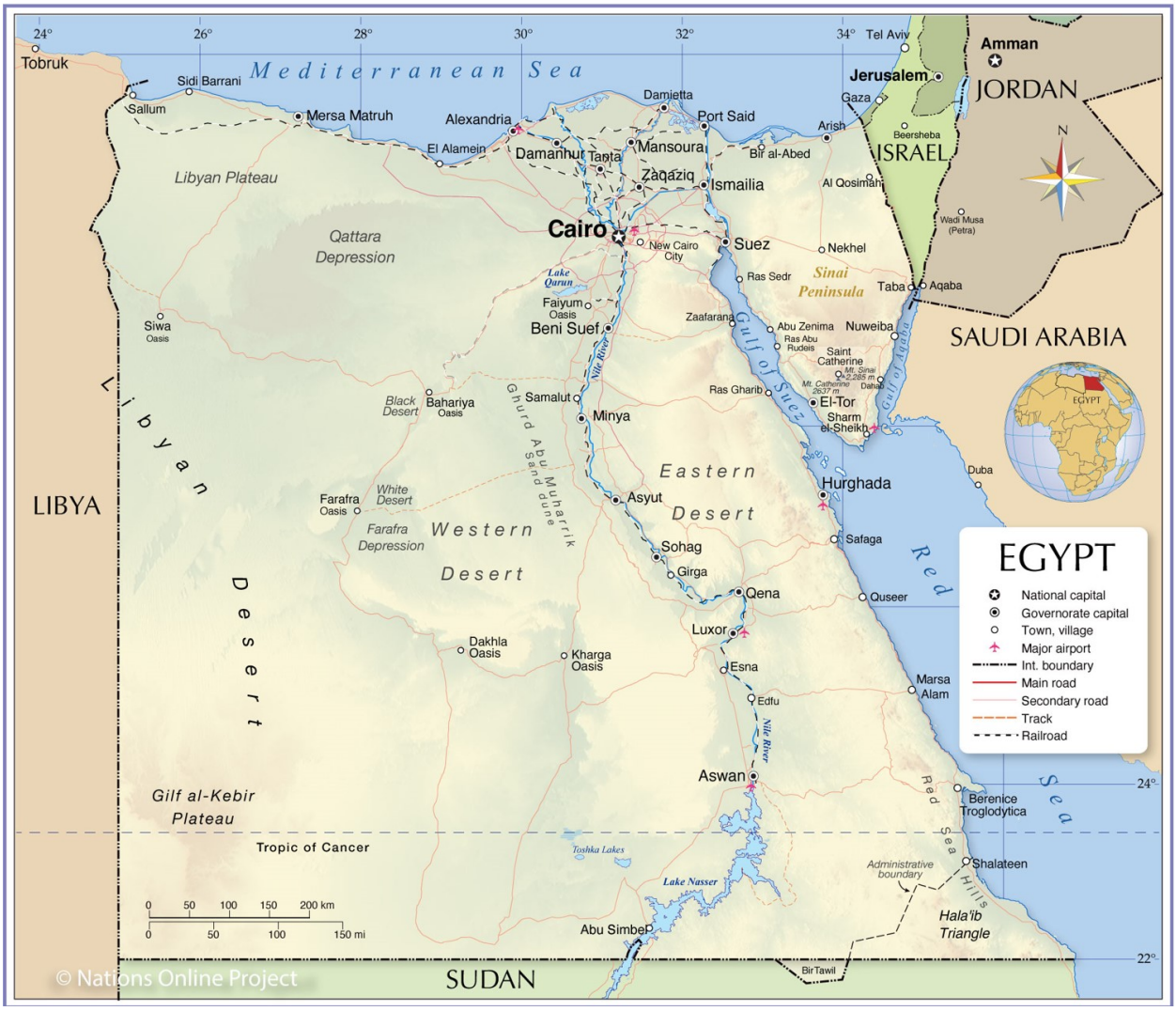
Figure 3. Map of Antigua and Barbuda


ATLANTIC OCEAN
Saint Martin (Fra.) (Neth.)
Saint Barthelemy (Fra.)
Saba (Neth.)
St Eustatius (Neth.)
Basseterre
SAINT KITTS AND NEVIS
Barbuda
ANTIGUA AND BARBUDA
Saint John's
Antigua
Redonda
Montserrat (U.K.)
Guadeloupe (France)
Pointe-à-Pitre
Basse-Terre
CARIBBEAN SEA
DOMINICA
Roseau
35 km
Goat Island
Cedar Tree Point
Hog Point
Two Feet Bay
Rubbish Bay
Low Bay
Codrington Lagoon
Codrington
The Highlands
Palmetto Point
Spanish Well Point
Pelican Bay
Cocoa Point Beach
Gravenor Bay
Cocoa Point
Spanish Point
Barbuda
HAITI
DOMINICAN REP.
Puerto Rico (U.S.A.)
Lesser Antilles
VENEZUELA
GUYANA
COLOMBIA
BR.
Antigua
Boon Point
Beggars Point
The Sisters
Crosbies
SAINT JOHN PARISH
Cedar Grove
New Winthorpes
Friars Hill
Barnes Hill
SAINT JOHN'S
Woods
Osbourn
International Airport
Fitches Creek Bay
Five Islands Village
Gambles
Pigotts
SAINT GEORGE PARISH
Parham
Guiana Bay
Crump Island
Pelican Island
Sutherland
Denfields
St Johnstone Village
Potters
Tomlinson
Gray's Hill
The Flashes
Beanns Hamlet
Belmont
Golden Grove
Creekside
Maiden I.
Five Islands Harbour
Bellevue Heights
Sea View Farm
Vernons
Mount Joy
SAINT PETER PARISH
Seatons
Mayers
Freemans
Pares
Willikies
Glanvilles
Jennings
Ebenezer
Five Islands
Jolly Hill Salt Lake
St. Lukes
Buckleys
Emanuel
Nonsuch Bay
Green Island
All Saints
Bolans
Malthews
Falworths Dam
Elmes
Newfield
SAINT PHILIP PARISH
SAINT MARY PARISH
Ffryes Point
Willocks
Boggy Peak
Sawcolts
SAINT PAUL PARISH
Morris Lobbys
St Philips
Freetown
York Island
Friars Head
John Hugues
Swetes
Belhesda
Liberta
Crab Hill
Christian Hill
Johnsons Point
Signal Hill
Cobbs Cross
Willoughby Bay
Hudson Point
Falmouth
Urlings
Claremont
Barters
Cherry Hill
Falmouth Harbour
English Harbour Town
Doigs
Old Road
Old Road Cape
Rendez-Vous Bay
English Harbour
Long Island
Maiden Island
Rabbit I.
Guiana Island
CARIBBEAN SEA
Redonda
200 m
100 m
0 m
100 m
200 m
1000 m
2000 m
4000 m
6000 m
National Capital (25,000 In 2006)
main city
other main city
other city
ANTIGUA AND BARBUDA
0 km 2 4 6 km
©2018 GEOATLAS® for Worldometer.org

Source: Worldometer

Coordinates: 17.0608? N, 61.7964? W

Figure 4. Map of Egypt



Source: Nationsonline.org

Coordinates: 26.8206? N, 30.8025? E

Figure 5. Map of Uganda

Source: Nationsonline.org

Coordinates: 1.3733? N, 32.2903? E

1c. Child Project?

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

N/A

2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities

Private Sector Entities Yes

If none of the above, please explain why:

N/A

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholder Engagement Plan provided as Annex J.

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

Stakeholders will form a comprehensive integrated structure to enhance a synergy among the project partners and serve as the knowledge source of new clean technologies, emerging entrepreneurs, knowledge network, applied research collaboration and additional team members. Furthermore, to promote gender quality and the empowerment of women the guiding principle will be to ensure equal opportunity for women and men to lead, participate in and benefit from the project, e.g., early involvement of women entrepreneurs, associations that promote GEEW and gender focal points. This will be in line with the GEF Policy on Stakeholder Engagement that sets out the core principles and mandatory requirements for stakeholders? involvement.

Table 9. Participation of stakeholders

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
Government and National Agencies	Ministry of Planning and Economic Development, Egypt	The Ministry plays the leading role in achieving sustainable development, formula ting impact-based policies via effective planning, monitoring & evaluation of government performance to implement the sustainable development agenda. The Ministry has developed Government priorities to ensure progress toward Egypt Vision 2030, which was reflected in the government action program for the period 20 18/2019 - 2021/2022.	The leading national counterpart will be the Ministry of Planning and Economic Development. It is responsible for co-ordination with relevant ministries and national agencies in executing the project activities. Among other areas of intervention, the Ministry will consult the project regarding (domestic) public and private sector funding opportunities and technical supp ort in identifying and developing investment project s. Also, the Ministry will support baseline data collection during PPG or the initial project phase. The Ministry will be part of the Project Steering Committee and the Project Management Unit.	Participation in Project Steering Committee; Meetings Face-to-face meetings; tele-communication; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	1, 2, 3, 4

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
	Ministry of Petroleum and Mineral Resources, Egypt	The Ministry plays the leading role in the energy sector and achieving sustainable development, formulating impact-based policies via effective planning, monitoring & evaluation of sector performance to implement the sustainable development agenda. The Ministry is working to ensure progress toward Egypt Vision 2030, The MoPMR had issued the Energy efficiency strategy in 2022, and developing a low carbon strategy for all activities of the sector	The Ministry of Petroleum and Mineral Resources will be engaged in the project inception phase and will further support project implementation. The Ministry will consult the project regarding (domestic) public and private sector funding opportunities and technical support in identifying and developing investment projects. Also, the Ministry will support baseline data collection.	Participation in Project Steering Committee; Meetings Face-to-face meetings; tele-communication; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	1, 2, 3, 4

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
	Ministry of Foreign Affairs, Egypt	The Ministry engages in Egypt's comprehensive development efforts by trying to attract foreign investments, acquire eco nomic assistance, and facilitate technology transfer. There are specialized departments for international cooperation and economic relations have been establish ed within the Ministry to achieve these goals. They also coordinate and cooperate with other Egyptian ministries and institutions working in those domains.	Among other roles and partnerships, the Ministry plays an active role in the UN and its specialized agencies to foster economic development. The Ministry will ensure coordination and the highest degree of ownership among Government stakeholders. The Ministry will be part of the Project Steering Committee and the Project Management Unit.	Participation in Project Steering Committee; Meetings Face-to-face meetings; tele-communication; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	1, 2, 3, 4

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
	Ministry of Health, Wellness & The Environment, Antigua, and Barbuda	The Ministry is inter alia responsible for regulations, administration, and protection of the environment. Among other functions, the Ministry provides technical advice and implements projects to protect and enhance the country's environment, a s well as seek common solutions to national, regional, and global environmental problems.	The Ministry will be a partner in the execution of the project and will assist the project especially for policies targeting adaptation measures. In particular, the Ministry will contribute its expertise and capacity building in integrated environ mental planning and management system supported by public participation and interagency collaboration.	Meetings Face-to-face meetings; tele-communication; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	1, 2, 3, 4

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
	Ministry of Works, Antigua, and Barbuda	The Ministry of Works & Housing is responsible for national infrastructure development in Antigua and Barbuda. It covers planning and construction of major infra structure services.	The Ministry will be a key partner in the adoption of long-term climate-resilient policies in investment plans for infrastructure. It will provide essential inputs for the contextualization of the methodology and the demonstration of its validity and replication potential through the pilots. The Ministry will be part of the P SC.	Participation in Project Steering Committee; Meetings Face-to-face meetings; tele-communication; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	1, 2, 3, 4
	Ministry responsible f or Finance, Planning and Economic Development in Uganda	Uganda?s ministry will be responsible for formulating sound economic policies that lead to sustainable economic growth and development.	The Ministry will determine criteria, definitions, and policies to be applied to the climate-smart capital investment planning process, particularly with respect to the potential to scale up the project to subnational authorities in the country. The ministry will join the Project Steering Committee, as well as relevant technical Groups.	Participation in Project Steering Committee; Meetings Face-to-face meetings; tele-communication; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	1, 2, 3, 4

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
	Ministry for Kampala Capital City and Metropolitan Affairs	Kampala?s ministry will lead the formulation of economic policies oriented to sustainable economic growth and development at local level.	The Ministry will determine criteria, definitions, and policies to be applied to the climate-smart capital investment planning process. The ministry will join the Project Steering Committee, as well as relevant technical Groups.	Participation in Project Steering Committee; Meetings Face-to-face meetings; tele-communication; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	1, 2, 3, 4

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
Implementing Agency	UNIDO ? TCS/DSE	UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization, and environmental sustainability. UNIDO has in-depth experience of environmental and infrastructure priority areas of energy, transport, and subnational financing.	UNIDO will serve as the GEF Implementing Agency for the project, through its Department of Energy in Vienna, supported by the UNIDO Regional Offices. UNIDO will take a lead role in managing Component 4: Monitoring and Evaluation. UNIDO will regularly monitor progress on each component to ensure the project is completed on time and to budget, as well as to be responsive and proactive about any potential adjustment or opportunities that arise that can further leverage the GEF grant for achieving additional GEBs. As per GEF and UNIDO guidelines, an independent terminal evaluation will be conducted at the conclusion of the project to glean best	Participation in Project Steering Committee; Meetings, trainings, emails, phone calls, exchange of minutes, memos and official letters, project website, training material and capacity building, global advocacy, coordination and coherence, international forums, knowledge products, etc.	1, 2, 3, 4

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
			practices and lessons learned for future projects. UNIDO will join the PSC.		

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
Project Executing Entity (PEE)	UNIDO ? Field Offices	UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization, and environmental sustainability. UNIDO has in-depth experience of environmental and infrastructure priority areas of energy, transport, and subnational financing.	It will serve as the Project Executing Entity for this project. It will lead country engagement, ensuring early, frequent, and consistent consultations with in-country partners, including the government, in shaping the scope of work, monitoring of progress (thus allowing for changes if need be), and in identifying potential investment avenues. It will take the lead in implementing Components 1 - 3, coordinate within and across the various components, in disseminating lessons learned, and leveraging project activities to connect with broader conversations on mobilizing private finance for adaptation purposes. It will be part of the PSC, establish and be responsible for	Participation in Project Steering Committee; Meetings, trainings, emails, phone calls, exchange of minutes, memos and official letters, project website, training material and capacity building, global advocacy, coordination and coherence, international forums, knowledge products, etc.	1, 2, 3, 4

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
			the PMU within and across each pilot jurisdiction.		
Financial Sector	Development Finance Institutions (DFIs)	DFIs understand the opportunities and challenges of de-risking infrastructure and development project activities. Potential partners comprise the World Bank, the African Development Bank, the Inter-American Development Bank, and the International Finance Corporation (IFC).	DFIs will support the project with technical and financial support for the pilot demonstrations and in contributing to setting up the financial investment environment.	Face-to-face meetings, e-mails; participation in Project Steering Committee meetings; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	2, 3

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
	Private financial institutions/commercial banks	Private financial institutions are interested in developing local investment opportunities, particularly in domestic currency. This includes subnational debt and equity transactions.	Private financial institutions will support project implementation by highlighting bottlenecks and solutions to enhance the investment environment, with particular respect to innovative financing mechanisms such as public-private partnerships, land-based financing, etc.	Face-to-face meetings, e-mails; participation in Project Steering Committee meetings; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	2, 3
	Infrastructure asset managers	Infrastructure asset managers require safe and long-term investment opportunities. Creditworthy transactions to finance infrastructure services reflect long-term investments that can attract the global investment industry.	Infrastructure asset managers will support project implementation by providing inputs on the methodology for the development, selection, and prioritization of projects, as well as by financing pilot transactions.	Face-to-face meetings, e-mails; participation in Project Steering Committee meetings; Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletters	1, 2, 3

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
Project partner	Gender focal points and associations that promote. Gender Equality and Empowerment of Women (GEEW) (e.g., gender focal points in ministries, women?s right groups, women business / finance associations).	UNIDO?s mandate to promote inclusive and sustainable industrial. development (ISID) relies on the advancement of gender equality and the empowerment of women. UNIDO addresses gender inequalities in industry and harnesses women?s full potential as economic agents of change and leaders thereby transforming economies and generating inclusive growth. One of the guiding principles of the project will be to ensure that both. women and men are provided equal opportunities to lead, participate in, and benefit from the project (UNIDO Gender Policy	Gender dimensions will be considered in all decision-making processes. With respect to project management, the Project Steering Committee meetings will aim to be gender balanced and extend invitations to observers. that represent gender dimensions, such as organizations / associations. promoting gender equality and advocating women?s empowerment. During project activity implementation, effort will be given during stakeholder. consultations towards focusing on gender equality and women. empowerment issues, in particular during policy review and formulation.	Meetings, trainings, emails, phone calls, exchange of minutes, memos and official letters, project website, training material and capacity building, global advocacy, coordination and coherence, international forums, knowledge products, etc.	1, 4

Stakeholder main group	Stakeholder name / Agency	Existing activities with potential to be leveraged	Content engagement, contributions to the project	Engagement methods	Relevant components
		2019). The project has been developed considering the UNIDO guide on gender mainstreaming in energy and climate change projects.			

Several actions were carried out with the aim of engaging stakeholders during phase 1 of the project, in order to encourage key stakeholders and all interested parties, including society, to contribute to the preparation of the project proposal and its implementation. During the project preparation process, public consultations were carried out in each country on the project's general guidelines, which involved a wide variety of stakeholders.During the project design stage consultation were carried out to raise the awareness of various stakeholders in Antigua and Barbuda, Egypt, and Uganda on systemic resilience methodologies in infrastructure and investment planning. The consultations were carried out through workshops and bilateral meetings, including specific discussions with international and country/locale-specific private sector actors. Consultations will continue over the project executing phase, focused on the potential ways of how these systemic climate resilience methodologies, metrics and guidelines for infrastructure investment planning would be integrated into current planning and investment processes. Consultations will also consider the barriers and needs to support the country in adaptation planning. Further information about the stakeholder engagement can be found on Annex J.

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

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

Executor or co-executor;

Other (Please explain)

N/A

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

UNIDO recognizes that gender equality and the empowerment of women (GEEW) have a significant positive impact on sustained economic growth and inclusive and sustainable industrial development, which are key drivers of poverty alleviation and social progress. Commitment of UNIDO towards gender equality and women?s empowerment is demonstrated in its 2019 policy on Gender Equality and the Empowerment of Women which provides overall guidelines for establishing a gender mainstreaming strategy.

Environmental factors have gender-differentiated effects, due to men?s and women?s different roles and behaviours in various societies, as well as their different physiological characteristics. Whether one looks at energy, water, transport, urban design, agriculture, or consumption patterns, a gendered lens is key to understanding differences in environmental impacts. According to General Recommendation No. 37 of the Committee on the Elimination of Discrimination against Women (CEDAW) , in many contexts, gender inequalities limit the control that women and girls have over decisions governing their lives, as well as their access to resources such as food, water, agricultural input, land, credit, energy, technology, education, health services, adequate housing, social protection and employment. The OECD points out that as a result of these inequalities, women and girls are more likely to be exposed to disaster- related risks and losses to their livelihoods and are less able to adapt to changes in climatic conditions. This section describes some aspects of how women and girls are affected by physical climate risks and how it affects their socioeconomic development.

Egypt?s rapid population growth and extreme water scarcity make the country highly vulnerable to the impacts of climate change. The country?s long Mediterranean coastline is already experiencing the consequences of sea level rise, including saltwater intrusion, soil salinization and deterioration of crop quality. In a country where 95 percent of freshwater resources are generated outside its territory, any change to water availability can have major consequences for food and energy security, as well as employment, housing, sanitation, education and health care, heightening risks of social tension and political instability.

UN Women also states that this situation constitutes a particularly serious threat for women, who are marginalized in economic, social, and political spheres. One third of adult women in Egypt are estimated to be illiterate, as compared to 15 percent of adult men, severely limiting their opportunities for employment. Agriculture employs 45 per cent of all women in the labour force in Egypt, but women only own 5.2 percent of the land.

Apart from sea level rise, an expected increase in the frequency and severity of storm surges along the coastline in Egypt will also impact the large-scale coastal infrastructure present in coastal cities, such as harbours, urban settlements, and roads. These direct and indirect impacts are expected to lead to the immigration ? and resettlement - of 6 to 7 million people from the Nile Delta, with the most significant impact on women and girls, who are more vulnerable to climate change impacts. The scale of the risk from these extreme weather events is much influenced by the quality of housing and infrastructure in

that city, the extent to which urban planning and land use management have ensured risk reduction within urban construction and expansion, and the level of preparedness among the city?s population and key emergency services. However, due to their inherent vulnerability, women still face an increased risk from these climate events affecting key infrastructure. Women in cities often suffer disproportionately, not only because they are, on average, poorer than men, but often also because they experience greater difficulty in accessing resources and services tailored to their needs, and decision-making opportunities.

Involvement of women in infrastructure projects is crucial. For example, women benefit from improved water management, sanitation infrastructure and techniques and they provide a crucial perspective once they have access to decision making. Informal settlements and the millions living in them under unhygienic conditions, with minimal or no basic infrastructure services, further increase the magnitude of environmental health hazards ? exasperated by climate-related phenomena. Informal settlements are often built on marginal or dangerous land that is not deemed suitable for permanent residential structures, such as steep slopes, flood plains or industrial areas. Faulty construction methods and missing or inadequate infrastructure design contribute further to slope degradation. These populations are even more vulnerable to the impacts of climate.

Women can be found in various government positions related to infrastructure, including ministries and agencies responsible for infrastructure development. Their participation can be in roles ranging from ministers to civil servants. While there has been progress in involving women in infrastructure policy development and implementation in Egypt, challenges and disparities still exist. Addressing these disparities and ensuring that women have equal opportunities and are well-represented in infrastructure development and decision-making processes is an ongoing effort to promote gender equity and inclusive infrastructure policies.

The Egyptian government has made efforts to mainstream gender considerations in infrastructure policies, as recognized in its national development plans. This includes conducting gender-sensitive analyses and assessments to understand the differential impacts of infrastructure projects on women and men.

According to CEDAW , Antigua and Barbuda have achieved steps towards the economic empowerment of women. However, women in the agricultural sector, including unmarried women and women who do not own property, are negatively affected by their lack of representation in the ongoing decision- making processes concerning land use and development planning. The lack of better-informed investment decisions to meet the particular needs of disadvantaged women in sectors such as agriculture, unpaid work, hospitality, and the informal economy also represents an opportunity to be addressed by Physical Climate Risks Methodologies.

Climate change and natural disasters distinctively affect women in Antigua and Barbuda. Despite adopting a gender-responsive disaster risk reduction plan and gender-responsive early warning systems. The country still faces challenges in the lack of gender-responsive information in decision-making processes on disaster risk reduction strategies. The impact of Hurricane Irma in September 2017 continues to pose challenges to the education, health and livelihood of the affected women and girls.

Government of Uganda considers gender equality and women?s empowerment as critical for the attainment of accelerated socio-economic transformation. The country has made some advancements towards the attainment of gender parity and narrowed gender gaps in the economic participation and opportunity, educational attainment, health and survival and political empowerment spheres. Uganda?s female labour force participation rates historically have been higher than those in other countries in Sub-Saharan Africa, which tends to have higher rates than other developing regions. Women comprise 40 percent of all business owners ? making Uganda one of seven countries in the world to achieve gender parity in the rate of entrepreneurial activity. Women also fare relatively well in financial inclusion: in 2019/2020, 49 percent of Ugandan women had access to some form of financial service, compared to 57 percent of Ugandan men.

The country has also ratified important international gender equality instruments and commitments and put in place legal frameworks to advance Gender Equality and Women?s Empowerment (GEWE). The 1995 Uganda Constitution guarantees equality of women and men before the law, promotes affirmative action for women and other marginalised groups and provides for the rights of women. The Vision 2040 prioritizes gender equality as a cross-cutting enabler for socio-economic transformation and notes the persistent gender inequalities in access to and control over productive resources such as land; limited share of women in wage employment in non-agricultural sectors; sexual and gender-based violence and limited participation in household, community and national decision-making. The Third National Development Plan (NDP) III which integrates the Sustainable Development Goals (SDGs), has a goal of ?Increasing Household Incomes and Improved Quality of Life of Ugandans? with gender equality considered as one of the crosscutting issues.

Due to the normative character of the project that seeks to reduce impacts of physical climate risks in infrastructure, women and men are expected to be affected differently by the project (in terms of their rights, needs, roles, opportunities, etc.). Therefore, the project aims to demonstrate good practices in mainstreaming gender aspects into an approach, knowledge products, and guidance for CSIP Methodology, Metrics and Guidelines wherever possible and avoid negative impacts on women or men due to their gender, ethnicity, social status, or age.

Promoting women participation early in the project development phase is essential. Ensuring capacity building and skills transfer is important for women?s inclusion in technical and management roles. In this respect, national and subnational beneficiaries can capitalize on experiences with gender mainstreaming from ongoing projects, including training courses such as:

UN Women free online training on I Know Gender Modules 1-2-3: Gender Concepts to get Started; International Frameworks for Gender Equality; and Promoting Gender Equality throughout the UN System.

? UNIDO and UN Women free online training Module 15 on Gender and Industrial Development.

? UNIDO's free online training on Impact Gender Lens Investing Module 1: Basics of gender lens investing.

? UNIDO's free online training on Impact Gender Lens Investing Module 6: Financing climate change mitigation and adaptation with a gender lens.

? Gender mainstreaming awareness raising workshops and conferences.

? Technical Skills upskilling/support from gender experts & consultants.

Consequently, during the project?s PPG phase, the project will actively seek to further gender-mainstream the whole project cycle. To this end, a gender analysis will be conducted to identify entry points for defining gender mainstreaming action plan and gender-sensitive project outcomes, outputs as well as activities, and the project log-frame will be refined to reflect key gender dimensions of the respective outputs, activities, indicators, and targets. Additionally, relevant representation from gender equality and women?s empowerment groups and institutional focal points (e.g., gender focal points in ministries, women?s right groups, women business / finance associations) will be informed and consulted on gender-related activities.

Gender Mainstreaming approach:

The analysis above shows the importance of considering gender dimensions in all project activities to enhance the effectiveness and sustainability of the project intervention. Accordingly, the project logical framework incorporated, wherever possible, the gender dimensions with specific indicators and targets in line with UNIDO and GEF Gender Policies and Strategies. In practical terms, the project will address, among others, the following actions:

1. A detailed gender analysis will take place and based on that a gender mainstreaming action plan will be developed during the inception phase. This will inform the project annual work plan to promote women's engagement and gender equality in the project execution and be adhered throughout the project execution and considered for regular monitoring of the progress.

2. Efforts will be made to promote the participation of women and men at parity levels (to the extent possible) in capacity building and awareness- raising activities, at community, managerial and technical levels, as participants (such as entrepreneurs) and trainers. Given that some of the trainings to be provided by this project will be technical, if necessary, the project will also provide bridging training courses so that women who may not have a technical background will have intermediary training.

3. Gender-responsive recruitment will be practiced at all levels where possible, especially in the selection of project staff. Gender-responsive TORs will be used to mainstream gender in the activities and tasks of consultants and experts. In cases where the project does not have direct influence, gender-sensitive recruitment will be encouraged. In cases where the project is not expected to affect women and men differently, gender-sensitive recruitment will still be encouraged to ensure diversity in team composition. Furthermore, whenever possible existing staff will be trained, and their awareness raised regarding gender issues. Project staff is required to take the online training I Know Gender Modules 1-2-3: Gender Concepts to get Started; International Frameworks for Gender Equality; and Promoting Gender Equality throughout the UN System. Given the nature of the project, all project staff is required to take all modules of UNIDO?s Impact Gender Lens Investment online training course. When specific

gender expertise is required, the project will hire gender experts to fulfil gender- mainstreaming activities.

4. All decision-making processes will consider gender dimensions. At the project management level, Project Steering Committee meetings will invite observers to ensure that gender dimensions are represented, while also the gender-balanced composition in the project committee will be emphasized. For this purpose, women?s groups and associations, gender experts and /or other stakeholders concerned with gender and energy will be consulted.

5. When data-collection or assessments are conducted, especially for monitoring and evaluation gender dimensions will be considered. This can include sex-disaggregated data collection, performing gender analysis, etc.

6. All training materials and knowledge management activities will be gender mainstreamed. This includes integration of gender dimensions into publications, for instance presenting sex-disaggregated data, gender-energy nexus theory, gender-sensitive language in publications, photos showing both women and men, and avoiding presenting stereotypes, as well as assuring that women, men, and the youth have access to and benefit from the knowledge created.

Gender will be mainstreamed across the activities of the project, below are a few examples of how activities the project envisions to undertake specifically that address Gender Equality and the Empowerment of Women:

1. A gender analysis and a gender mainstreaming action plan will be carried and developed.

2. Specific Analysis of the existing policy frameworks and inclusion of a gender component for the policy frameworks to be developed under Outcome1.

3. The piloting of the Impact Gender Lens Investing Module 6: Financing climate change mitigation and adaptation with gender lens for the capacity building of stakeholders.

4. Including a special focus on Gender Equality and the Empowerment of Women in the lessons learnt and knowledge sharing under Outcome 2.

5. The lesson under Outcome 2 will then inform replication of the systemic reliance methodologies in Component 3

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

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

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

Yes

4. Private sector engagement

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

The private sector will be engaged in all three pilots as well as in the process of developing the systemic climate resilience metrics and the investment vehicle. They have already been consulted during project formulation. The proposed activity is designed to enhance the creditworthiness of beneficiary entities (or projects), which in turn will provide development organisations with clients (or projects) that can attract financing for debt and equity alike. By crowding in private financing for climate-smart infrastructure investments, development organisation will be able to maximise the leveraging of their limited resources, therefore providing stronger opportunity for development impact and for fulfilling the Paris agreements.

For the pilots and development of the systemic climate resilience assessment methodologies, private providers of data and analytical services, engineering firms, will be engaged in helping design and execute the dynamic mapping platform. Private investors ? particularly domestic commercial banks, institutional investors, infrastructure asset managers ? will be consulted as part of the extensive stakeholder consultation process to ensure that their needs are considered and to bridge the potential gaps between what private investors need to know and what governments are sharing as relevant information.

A forum will be the main avenue through the private sector will be consulted with and involved in shaping the approach within countries and on metrics. The private sector is critical to developing systemic climate resilience metrics. These metrics need to accommodate what private investors would like to know about a country or jurisdiction?s ability to proactively assess and manage climate risks and the exposure of a jurisdiction to PCRs if no action was taken to reduce risk. Consultations will include specific discussions with international and country/locale-specific private sector actors.

The structuring of the investment vehicle relies heavily on private investor participation. They will be integral to the design of the vehicle ? the project will consult key members of these sector who have already expressed interest in investing in the vehicle, as well as other infrastructure and emerging market investors.

Under the scope of this project, infrastructure construction/ engineering firms will be involved in the development of methodologies for assessing the resilience of infrastructure systems and adaptations options available to enhance this. As such, the scope down not extend down to individual asset design and structuring.

5. Risks to Achieving Project Objectives

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

The identified project's risks have been described in the table below.

Table 10. Overview of risks and risk mitigation strategies

Risk	Impact Severity	Likelihood	Risk Mitigation Strategy	Responsible Party
National/subnational government stakeholders remove support of project	High	Low	The Project is securing high level buy-in and endorsement from the Ministries in Egypt and Antigua and Barbuda, and Uganda. The project will also engage intra-Ministry committees (E.g., national planning or finance councils) to secure cross-government support. A removal of support would complicate implementation of Components 1 and 2 ? the project will continue to be in dialogue with other potential national/subnational candidates in the unlikely event that our primary pilots fall through.	UNIDO
Co- finance partners are unable to fulfil responsibilities	High	Low	Liaise frequently with current and potential financial partners. Showcase the value of this work and its potential for mobilizing finance.	UNIDO
Accessibility of data	High	Medium	The project will begin immediately to work on sourcing data ? often, this is the most complex part of the process due to permissions, purchasing timelines, etc.	UNIDO

Pilot projects cannot be implemented due to changing priorities or a s planned	Medium	Medium	Based on our experience in Jamaica, a strong project management and central coordinating team is necessary to ensure rapid and early identification of potential issues, changing priorities, and to ensure that tendering/procurement happens in a timely manner.	UNIDO
Inadequate support for national/local stake holders to change policies and approaches	High	Low	The project will establish a multi-stakeholder cross government dialogue to bring together relevant parties and to secure their commitment to the project as well as to the necessary changes needed. It will conduct political economy analyses at an early stage of the project to ensure that potential roadblocks are identified early and inform project engagement.	UNIDO
Investors are not interested in investment vehicle	Medium	Medium	The project has already begun consulting with public and private investors, with verb al commitments already secured to structure an investment vehicle. The project will continue to consult regularly with potential investors, sharing project updates, conduct prefeasibility studies for investment potential, and facilitate connections between investors and potential project proponents.	UNIDO
Methodologies do not meet stakeholder expectations	High	Low	The project will co-develop the methodology and requirements for the mapping platform with the planning institutes of each jurisdiction. It will be tailored/customized to the necessary processes and will also consider other key stakeholders? nee ds.	UNIDO

Inadequate consultation and participation of women	High	Medium	Inadequate consultation with and participation of women in project decision-making can result in project not addressing their specific needs or concerns. The project development teams will ensure women are consulted each step of the way, to develop a fully inclusive project.	UNIDO

Climate risks and mitigation measures by output

Climate changes will progressively impact infrastructure assets and networks ? water and sanitation, energy, transport, housing, and the ability to invest and prioritize at national and sub-national levels. In addition, rising levels of the oceans, desertification and rapidly growing population in cities increase the expected climate hazards and their consequences in current and future infrastructure, making countries more vulnerable to climate change. However, The character of the project is normative. As it focuses on introducing systemic resilience methodologies that consider Physical Climate Risks (PCRs) in government investment planning exercises for infrastructure, climate risks represent an opportunity for the project to achieve its objective. Therefore, mid-, and long-term impacts of climate risks will not severely affect the project implementation.

Table 11. Climate risks and mitigation measures

Project Objective and Output	**Climate risks over the period 2020 to 2050**	**Resilience practices and mitigation measures**
Outputs under Component 1: Adopting long-term climate-resilient policies in investment plans for infrastructure.	This component will intrinsically integrate the climate risks expected over the next 3. 0 years into its approach.	- Institutional capacity strengthened on addressing climate risks, knowledge of resilience enhancement measures and climate risks are integrated into policy measures to address PCRs.

Outputs under Component 2: Demonstration of systemic climate resilience methodologies and metrics through selected pilots and Component 3: Replication of systemic climate resilience methodologies in government infrastructure investments and structuring an investment environment for upscaling pilots.	Climate risks and hazards could affect the project?s objectives or outputs over 202 0 to 2050. Due to its geographical location, Antigua and Barbuda may experience a higher impact of environmental hazards linked to climate change to physical, project and institutional infrastructure. These could include risks of flooding due to rising sea levels, blackouts and storms affecting software and hardware and impacts of hurricane s that may halt the normal operations of government institutions and economic activities.	- Comprehensive risk assessment completed during PPG will ensure appropriate locations within national and subnational agencies are selected that have minimal exposure to identified hazards. - Project stakeholders engage with regional and international platforms to facilitate knowledge exchange on best practices for addressing climate risks related to infrastructure investment plans.

Technical and institutional capacity and information needed to address climate risks and resilience enhancement measures.

The project stakeholders will provide technical and institutional support in the form of personnel and computational equipment, where the systemic climate resilience methodologies will support and inform their decision-making bodies. Project beneficiaries such as ministries and planning institutes will facilitate data, statistics and any additional inputs that will enhance the adaptation of the Systemic Climate Resilience Assessment and Investment Prioritization Tool for each national and subnational context.

The results of the analysis of investment planning as per Output 1.1 will inform the project management if transference of technology such as hardware and software as well as training of technical personnel in using the methodologies is required. Also, project stakeholders will provide the required information to address climate risks such as local data, statistics and liaise with planning institutes to promote the introduction of the adapted methodologies and metrics that address physical climate risks in their country contexts.

6. Institutional Arrangement and Coordination

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

UNIDO as the GEF Agency will be responsible for the implementation of the project, which entails oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and requirements.

Change of executing entity for the project

As a result of the GEF Adaptation Innovation Challenge, in December 2021, the project grant has been initially awarded by the GEF to the Coalition for Climate Resilient Infrastructure (CCRI) and the World Resources Institute (WRI), supported by UNIDO as a GEF Agency.

During the PPG phase, in December 2022, due to the dissolution of the coalition, CCRI decided to withdraw from the project and the WRI took over as a project execution entity. Due to geographical limitations and changing organizational priorities, on April 3, 2023, the WRI decided to withdraw from the project.

After consultation with the GEF Secretariat and the extension of the project submission deadline, in August 2023 UNIDO launched an international call for proposals to identify an entity that would execute the project. The tender yielded no results even after the submission deadline extension. UNIDO consulted the entities that indicated interest but did not submit an offer to elaborate on the reasons for not submitting the tender. There were two key factors identified, 1) not sufficient budget to execute the project in three countries, 2) lack of local presence in the countries in different geographies.

Therefore, UNIDO had another round of consultation with the GEF Secretariat expressing willingness and capacity to provide execution support for the work in the selected pilot countries on an exceptional basis. For the execution, UNIDO would utilize 50% of the budget through its local offices and experts, whereas implementation and oversight would be done in UNIDO headquarters. The two substantive offices have a separate reporting lines in the organization, that would secure the segregation of implementation and execution duties.

The remaining 50% of the budget would be utilized to develop the climate-resilient infrastructure planning in methodology. The executing entity for this work would be procured by UNIDO through an open call for proposals. Entities such as the University of Washington, University of Oxford, WRI, etc., would be invited to submit their proposal based on their earlier interest in the work on methodology.

On 2 October, the GEF Secretariat informed UNIDO that the GEF senior management has agreed with the solution proposed by UNIDO to self-execute this project, and to contract the methodology development aspect of the project once the CEO Endorsement document is approved.

Implementation arrangements

UNIDO will keep a major executing role, keeping responsibilities such as procurement and coordination under its sphere of action, and requesting specific support from other agencies through a procurement process in topics where applicable, such as the methodological development. All procurement activities foreseen will be in line with UNIDO?s standard procurement modality of Open International Competition, following UNIDO?s rules, regulations, and related processes.

The proposed institutional structure for the GEF funded project comprises a number of bodies. In general, the project will be managed by a Project Manager at the Project Executing Entity (PEE) that works in close cooperation with the Planning Institutes of Antigua and Barbuda, Egypt, and Uganda. The main project bodies are the following:

The Implementing Agency (IA) for the project will be United Nations Industrial Development Organization (UNIDO), i.e., UNIDO?s Division of Decarbonization and Sustainable Energy (TCS/DSE) in Vienna. UNIDO supports the project implementation and serving as counterpart towards GEF.

UNIDO?s Field Offices in Colombia for Antigua and Barbuda, Egypt and in relevant field office for Uganda take the role of Project Executing Entities (PEE) and will be responsible for the management and administration of the project as well as managing the delivery of project outputs in each country. UNIDO will be supported by Executing Partners (e.g. Kampala Capital City Authority (KCCA) for Uganda). As the PEE, UNIDO will be responsible for the implementation of Components 1 - 4, including the Monitoring and Evaluation. UNIDO will procure the services of a specialized methodology provider for the development of a systemic climate resilience methodologies, metrics, and guidelines for infrastructure investment planning. The methodology provider will be responsible for working with UNIDO and supporting the countries directly.

The PEE will establish the Project Steering Committee (PSC), a high-level cross-sectoral committee composed of representation from each pilot jurisdiction, the IA, PEE, and other partner organizations. Representatives from the following institutions will be included: lead policy makers from each jurisdiction?s planning authority, with observers from their relevant financial authority, UNIDO, co-financing agencies such as GCF, AfDB, and partner organizations like the World Bank.

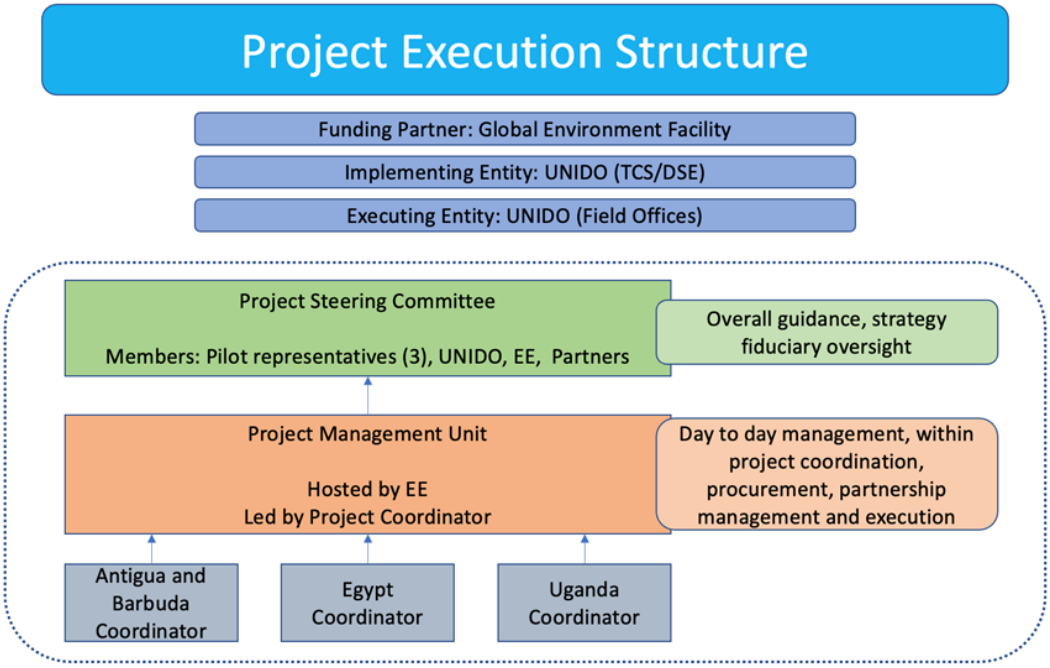
The project steering committee will supervise and provide guidance to the project execution. The function of the PSC is to focus mainly on overall progress in meeting project objectives, strategic issues, and financial management of the project. It will meet at least twice a year or more frequently, if required.

The Project Management Unit (PMU) will be responsible for day-to-day management of the project. The PEE will appoint a Project Coordinator, who will lead this unit. The PMU will report to the PSC and UNIDO. The PMU will be responsible for procurement of contracting services as is necessary for implementation of the project. Each jurisdiction?s planning institute and/or main counterpart will have decision-making power in selecting service providers for their jurisdiction. The PMU is designed to achieve efficiency and coordination in the execution of components (particularly where there are interdependencies) and in the management of funding from a variety of donors, the government, and non-governmental organizations (NGOs). Each jurisdiction will have dedicated coordinators.

The project team will work with project stakeholders during the PPG phase to create and strengthen existing linkages with other agencies and actors presently planning or implementing relevant projects that could contribute to the final outcomes of this GEF project. The project team will actively identify relevant partners and engage in multiple stakeholder consultations to ensure related issues and concerns are considered in the implementation and management of the project. A comprehensive stakeholders? involvement plan will also be created to build on best practices and ensure lessons learned are incorporated by the project implementation team. A coordination mechanism will also be established to facilitate proper coordination and monitoring of the baseline project proponents.

The anticipated institutional setting is illustrated below:

Figure 6. Institutional arrangements



The project will coordinate with other relevant project to leverage synergies among different projects. This includes coordinating within UNIDO to build on and compliment two UNIDO GEF-financed projects: 1) ?Using systematic approaches and simulation to scale Nature Based Infrastructure for climate change? (GEF ID: 10632); and 2) the UNIDO GEF-financed project entitled ?Piloting innovative financing for climate adaptation technologies in medium-sized cities (GEF ID: 10433). Knowledge and lessons learned from these projects will be integrated into the CEO Endorsement document during the PPGs and opportunities to create additional partnerships and synergies explored and realized.

Technology transfer: Full or partial ownership of equipment/assets purchased under the project may be transferred to national counterparts and/or project beneficiaries during the project implementation as deemed appropriate by the government counterpart in consultation with the UNIDO Project Manager.

Legal context: It is expected that each set of activities to be implemented in the target countries will be governed by the provisions of the Standard Basic Cooperation Agreement concluded between the Government of the recipient country concerned and UNIDO or ? in the absence of such an agreement ? by one of the following: (i) the Standard Basic Assistance Agreement concluded between the recipient country and UNDP, (ii) the Technical Assistance Agreements concluded between the recipient country and the United Nations and specialized agencies, or (iii) the Basic Terms and Conditions Governing UNIDO Projects.

7. Consistency with National Priorities

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

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

Consistency of national priorities with this project for Antigua and Barbuda, Egypt, and Uganda is now presented.

The Government of Antigua and Barbuda approved the Sustainable Island Resource Management and Zoning Plan (SIRMZP), which serves as an additional source to periodically update the National Physical Development Plan (NPDP) . The SIRMZP presents a national spatial development framework that addresses current development issues and provides a platform for feasible private and public-sector development initiatives over the next twenty years.

Additionally, Antigua and Barbuda will submit its National Adaptation Plan (NAP) to the UNFCCC by 2022. The NAP aims to contribute to the achievement of the 2015 Paris Agreement?s global goal on adaptation by mainstreaming evidence-based adaptation planning processes and implementation into the day-to-day operations of Antigua and Barbuda?s public and private sectors.

The NAP has a hybrid approach, incorporating sector-focused with national assessments to form a comprehensive strategic plan on adaptation planning. Their priority sectors include finance, protected/managed areas, infrastructure, housing, tourism, food security and wholesale and retail. The NAP aims to update the SIRMZP to ensure recent climate information is included and inform actions to accomplish NDC targets.

Guided by its NDC, Antigua and Barbuda?s NAP process involves, amongst others, downscaled and GIS-based baseline data collection and climate risk assessment activities for adaptation action; evidence-based and consultative sectoral and local areas planning; and development of a corresponding enabling environment via policies, legislation, and financial incentives necessary for the implementation of the selected adaptation actions.

The project seeks to support Antigua and Barbuda, and selected countries as signatories to the UNFCCC and the Paris Agreement in achieving their Nationally Determined Contributions. The project targets to support the beneficiary countries in overcoming capacity, methodological, and technology needs as identified in Intended, Interim and Nationally Determined Contributions and National Communications. These frameworks highlight the importance of introducing systemic resilient methodologies and cross-cutting data to strengthen climate change adaptation efforts. The project also links to other international reporting frameworks and policy documents in enhancing transformational shifts towards a low-emission and resilient development path, including the Agenda 2030 with its SDGs.

Egypt has submitted Initial, Second and Third National Communications to UNFCCC (INC, SNC, and TNC). In March 2018 the Fourth National Communication (FNC) process was launched. The Egyptian Environmental Affairs Agency conducts the process with the support of UNDP as implementing agency and is funded by the GEF. Initial consultations and discussions have highlighted the importance of capacity building for national experts on risk assessment methods and tools, additionally, the government has begun the process of identifying additional priority sectors and detailing a risk assessment approach.

Egypt?s Intended Nationally Determined Contribution (INDC), submitted in 2015, articulates the vulnerability of the agriculture, coastal zones, tourism, health, energy, and water resources and irrigation sectors. The INDC included Egypt?s intended actions to promote resilience in various sectors and additional adaptation policies and measures. Additional adaptation policies and measures include enforcing environmental regulations, building capacities for using regional water circulation models and increasing stakeholders' awareness of efficient energy and water utilization. The INDC concludes adaptation measures implementation will require international financial support.

The Government of Egypt began a National Adaptation Planning (NAP) process in May of 2015 to address climate change risk in the mid and long term, catalyse investment in climate change adaptation, and build on policy and capacity building efforts through the GCF readiness program. The NAP process will also explore how best to improve institutional and technical capacity for climate change adaptation planning, examining climate risks, determining adaptation priorities, integrating it into national and sectoral planning and budgeting. It also seeks to leverage Egypt?s large and fast growing small and medium enterprises, direct its private sector to invest in adaptation and resilience, and establish the enabling environment to increase investment in adaptation.

The Government of Uganda embarked on its NAP process by submitting its NAP roadmap to the UNFCCC in 2015, but it is still clarifying its approach to the NAP process. To date, the country has pursued a hybrid approach where adaptation is simultaneously considered at the national level and in sector-specific planning. The Ugandan government launched a NAP for the agriculture sector in November 2018; and the Strategic Program for Climate Resilience. This established the business cases for five priority projects to catalyse investment to build the resilience of communities, improve food security, climate-proof urban infrastructure and strengthen capacity to manage climate change . The country is developing a proposal to access funding from the Green Climate Fund for its NAP process. Uganda?s high-level adaptation priorities are identified in the country?s Nationally Determined Contribution (NDC) and include reducing vulnerability and addressing adaptation in agriculture and livestock, forestry, water, energy, health, and disaster risk management , which is directly related with the infrastructure that sustains these activities.

8. Knowledge Management

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

The purpose of knowledge management (KM) is to streamline and improve the impact of UNIDO/GEF funded project in the three selected countries and capacity built for local and global stakeholders about best practice for climate-resilient infrastructure planning. the project will apply several instruments for its knowledge management (KM) which are partially integrated into the activities and deliverables of the project components. The KM instruments and products are based on experiences and best-practices approaches of UNIDO.

The KM activities (Output 2.4a, Output 2.4b) will explore the ways to create, manage and disseminate knowledge on resilient infrastructure investment planning and best practices from the pilots at national level.

The implementation will follow a KM system that will be constantly updated throughout the project implementation period. The approach will explore different ways and processes to better manage knowledge gained and cycles, aiming at interlinking knowledge from the multiple stakeholders involved in the process. Best practices, new technologies and climate finance mechanism will be tailored to support collaborative and innovative exchanges, and it will be gender mainstreamed. As described under Component 2, the Impact Gender Lens Investing (GLI) will be piloted. UNIDO, as the executing entity will make sure that relevant stakeholders and beneficiaries of the project build capacity through this online training, specifically Module 6, on Financing climate change mitigation and adaptation with a gender lens.

The project will consider from its start developing a comprehensive work plan for building a knowledge management system. To that fact the following steps will be undertaken:

? Creation of KM team (composed with members from the project team and project partners)

? Preparation of detailed KM implementation plan

? Build KM tools easily integrated into IT platforms through an open access approach.

The project will focus on streamlining an effective KM roadmap including:

? Improve the information management sharing and collaboration and learning across the partners (other pilots/projects/programs, central and local project partners, national agencies active in infrastructure investment planning)

? Strengthen/expand the approaches for up taking the lessons and best practices (use of UNIDO experiences and current projects)

? More systematically integrate knowledge capture, dissemination and learning into UNIDO/GEF project design, implementation, and reporting.

The results from the piloting of CSIP, Metrics and GLI will inform material for fact sheets and the lessons learned. The following KM results indicators will be applied (see description below):

Table 11: knowledge management indicators

KM objective	KM Indicators	Baseline	Targets	Means of Verification

Results documentation and assessment	**Indicator KM1:** Number of Systemic Risk Assessments per countries **Indicator KM2**: Number of Investment Prioritization Tools introduced. **Indicator KM3**: Number of Systemic Climate Resilience Metrics developed per country. **Indicator KM4**: Number of national planning institute staff trained with the GLI Online trainings. **Indicator KM5:** Number of country fact sheets	**Baseline KM1:** 0 **Baseline KM2:** 0 **Baseline KM3:** 0 **Baseline KM4:** 0 **Baseline KM5:** 0	**End of project target KM1:** 3 **End of project target KM2**: 3 **End of project target KM3**: 3 **End of project target KM4**: minimum 45 staff **End of project target KM**5: 3	M&E reporting and results
Dissemination and sharing with stakeholders	**Indicator KM6**: Number of guides and guiding documents e.g., case studies **Indicator KM7**: Number of moderate d exchange events between the three pilots that allow for cross-fertilization of lessons. **Indicator KM8**: Number of webinars/ moderated discussions showcasing innovations and experiences. **Indicator KM9**: Findings of the specific gender analysis in PCR frameworks and gender-mainstreaming achievements disseminated	**Baseline KM6**: 0 **Baseline KM7**: 0 **Baseline KM8**: 0 **Baseline KM9**: 0	**End of project target KM6**: 3 **End of project target KM7**: 2 **End of project target KM8**: 3 **End of project target KM9**: 3	M&E reporting and results Publication on web page Gender Mainstreaming action plan

The knowledge management and dissemination envision the following activities:

? The results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in meetings and conferences which may be of benefit to project implementation through lessons learned. The project will identify, analyse, and share lessons learned that may be beneficial in the design and implementation of similar future projects. To easily share knowledge and lessons learned within and beyond the project intervention zone, UNIDO?s Open Data Platform will be used to collect relevant reports and data on technology investments projects.

? The results of the pilot activities will be captured in knowledge products, e.g., fact sheets (see Deliverables for Output 2.3). The fact sheets will present the lessons learnt and main technical,

environmental, and economic characteristics. The sheets will be informed by project documentation (e.g., policy framework analyses) and the first performance reports summarizing the results in terms of Physical Climate Risks, GHG mitigation and sustainable development impact, if available in the initial phase already. In addition, sanitized information of the country profiles in regard to PCRs will be published on UNIDO?s webpage.

? Continuous monitoring will be conducted throughout the project lifetime. Up-to-date reports will be shared with the main stakeholders. The project will develop strategic communication plan for information exchange with the key organizations active in the area and other international organizations that can pave the way to achieving project targets and outcomes.

? Outreach and dissemination to stakeholders: The knowledge products focus on sharing information and results of the project and on systemic climate resilience methodologies to relevant stakeholders and the public. This will be done as described through training sessions, workshops and multi-stakeholder meetings tailored to the needs of each stakeholder (national and subnational governments, project developers, investors, and operators). Additionally, a website on Systemic Climate Resilience Methodologies will be developed on the executing entity website following elements could be published subject to the final design and content available and required:

- ? Demonstration projects fact sheets include a summary of the technical, environmental, and economic characteristics of all the demonstration projects developed.
- ? International case studies and best practices including international case studies and best practices.
- ? Resources including reports, summaries, recordings and live streams from workshops and webinars, and infographics are available for download.
- ? Access to the Impact Gender Lens Investment Online Training.
- ? News / Media and event calendar including news, updates on events as well as media tool kits with tailored communication.

? All knowledge management activities (such as workshops, trainings, awareness raising) will be gender mainstreamed. This includes integration of gender dimensions into project documents (incl. action plans), publications, for instance presenting sex-disaggregated data, gender-energy nexus theory, gender sensitive language in publications, photos showing both women and men, and avoid presenting stereotypes, as well as assuring that women, men, and the youth have access to and benefit from the knowledge created.

As a GEF Implementing Agency, UNIDO has a growing global experience in the inclusion of resilient criteria into infrastructure investment planning and the knowledge and network to be leveraged by the proposed project will consolidate knowledge of the sector within and across UNIDO projects and for global level initiatives. This approach will enable and facilitate knowledge sharing between stakeholders involved to provide an ongoing coordination mechanism that will remain in place beyond the project period.

Table 12. Key Knowledge Management deliverables timeline

Key Deliverables	Timeline
KM team is formed up	First 3 months of the project
KM Implementation plan is developed	First 6 months of the project
Project is published in UNIDO webpage.	First 6 months of the project
Strategic communication plan for information exchange with the key organizations is developed	First 6 months of the project
The main outcomes of key meetings and conferences are reported as news piece in the project website	After key meetings and conferences
Main results and lessons-learned from the project are reported and disseminated	Continuous through the project

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Under this project, project monitoring and evaluation (M&E) will be conducted in accordance with established UNIDO and GEF procedures: ?According to the Monitoring and Evaluation policy of the GEF and UNIDO, follow-up studies like Country Portfolio Evaluations and Thematic Evaluations can be initiated and conducted. All project partners and contractors are obliged to (i) make available studies, reports and other documentation related to the project and (ii) facilitate interviews with staff involved in the project activities.? The overall objective of the monitoring and evaluation is to provide visibility of the progress being made in the implementation of the project by observing and reviewing project activities. The evaluation team reports and verifies the actual progress against the work plan approved by the Project Steering Committee. Thus M&E enables the project manager to take corrective measures in case there are significant deviations between the forecasted work plan and the actual implementation.

The M&E procedure will consist of project inception, project progress report, PIRs, a project final report and tracking tools following GEF requirements. A detailed monitoring plan for tracking and reporting on project time-bound milestones and accomplishments will be prepared by UNIDO in collaboration with the PMU and project partners at the beginning of project implementation and then periodically updated. The terminal evaluation report will be submitted to the ODG/EVA, and thus will also fall under their responsibility.

During the inception stage of the project an Environmental and Social Management Framework (ESMF) is a framework, describing procedures and tools to manage the potential impacts of forthcoming but yet undefined projects (?subprojects?) will be developed.

All M&E tools and documents will include gender dimensions, and report with an established baseline for gender related targets. Integrating gender considerations into the M&E process is crucial to assess the impact of interventions on women and men, promote gender equality, and generate accurate and comprehensive data that can inform decision-making and policy development. Gender-sensitive M&E helps identify how interventions affect women and men differently. This understanding is essential for adapting strategies to better address the specific needs and vulnerabilities of both genders.

Gender dimensions will also be considered during the data collection process. Collecting gender-disaggregated data ensures that outcomes and impacts are not masked. This enables more precise analysis of trends and disparities in access, participation, and benefits.

Overall, gender-inclusive M&E will provide project teams with evidence-based information on how to design, implement, and adjust interventions to maximize their effectiveness for all genders.

By referring to the impact and performance indicators defined in the Project Results Framework, the monitoring plan will track, report on and review project activities and accomplishments in relation to the core indicators defined: total policies/pans that will mainstream climate resilience, number of beneficiaries, number of people trained, and area of land managed for climate resilience. In addition, it will assess the overall socio-economic impacts, including those on gender and community, of the project activities to include wide scale adoption of innovative technologies, better working environments at SMEs and an increase in income levels and opportunities for entrepreneurs and workers etc.

The National Project Coordinator will be responsible for continuous monitoring of project activities implementation, and performance. The executing entity project manager will be responsible for tracking overall project milestones and progress towards the attainment of the set project outputs and will also be responsible for narrative reporting to the GEF. The GEF OFP will be engaged in the M&E activities, such as regularly receiving all project progress reports, and providing inputs and comments, etc.

Table 13 Monitoring and evaluation budget

M&E Activity	**Timeframe**	**GEF Budget (USD)**	**Co-financing (USD)**	**Responsible Parties**
Mid-term review	At 1.5 years	15,523	20,299	External evaluator, submission to EEA
ESMF, gender analysis, monitoring, and evaluation	At 1.5 years and project closure stage	21,732	29,540	EEA, external evaluator, submission to EEA
Project completion report	At the project closure stage	24,836	34,161	External evaluator, submission to UNIDO
Total		55,065	84,000	

10. Benefits

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

The project will support the introduction of climate smart investment methodologies and metrics into regular planning processes of the pilot locations. The inclusion of resilience standards into infrastructure planning will boost existing providers of innovative and alternative solutions, creating new markets and job positions, and improve the overall capacity to adapt to climate related hazards.

The pilots deployed will contribute to the reduction of the impact of climate change in water, power, and transport infrastructures, reducing the health risks, potential water/energy shortages, and the loss of accessibility to the territory. Demonstrating the capacity of the methodology to identify future risk to infrastructure networks aims to priorities investment on climate resilient infrastructure. The activities proposed will also improve of resource efficiency, reducing maintenance cost and extending the lifespan of the interventions.

It is expected that special attention will be given to address gender issues as described above; therefore, the project will contribute to the promotion of women entrepreneurial development and job creation for women in the selected countries.

11. Environmental and Social Safeguard (ESS) Risks

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

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Low	Low		

Measures to address identified risks and impacts

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

The proposed project is likely to have minimal or no adverse social and/or environmental impacts. A detailed Environmental and Social Management Framework (ESMF) will be developed during the

project inception stage, to guide the E&S screening and assessment of the pilot and subsequent infrastructure investment projects.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
ES_Screening_Template_SAP_ID_210285_GEF7_AEU_updated	**Project PIF ESS**	

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

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

Results	Indicators	Baseline	Targets	Means of Verification	Assumptions and Risks
GEF 8 Core indicators					
People benefiting from GEF-financed investments	Total # of beneficiaries (disaggregated by gender)	0	Male: 3,000 Female: 3,000 Total: 6,000	? Project progress reports ? Final independent project evaluation report ? GEF Tracking Tools ? Database and records maintained during and after project completion	Adequate participation is possible based on eligible potential beneficiaries
Core Indicators for the LDCF and SCCF (2022-2026)[1][1]					
Area of land managed for climate resilience (ha)	Total area of land managed for climate resilience in ha	0	SCCF: 55,000 LDCF: 14,449 Total: 69,449	? Project progress reports ? Final independent project evaluation report ? GEF Tracking Tools ? Database and records maintained during and after project completion	This calculation was completed based on the inhabited land in each country and where infrastructure networks are based with attention to hotspots and areas at risk, with the assumption that the project will support at least 3 infrastructure projects in each country.

Total number of policies, plans, and frameworks that will mainstream climate resilience	Total # of policies, plans, and frameworks	0	SCCF: 9 LDCF: 4 Total: 13	? Project progress reports ? Final independent project evaluation report ? GEF Tracking Tools ? Database and records maintained during and after project completion	These figures are based on those in government who are directly trained and benefit from applying the systemic resilience assessment tool, metrics, and guidelines.
Number of people trained or with awareness raised disaggregated by gender	Total # of beneficiaries (disaggregated by gender)	0	SCCF: 950 LDCF: 200 Total: 1,150 (Male: 675, Female: 475)	? Project progress reports ? Final independent project evaluation report ? GEF Tracking Tools ? Database and records maintained during and after project completion	This calculation is based on the assumption that economic, public and private finance policies, and sectoral infrastructure development plans from the project would target mainstreaming climate resilience.

Results	Indicators	Baseline	Targets	Means of Verification	Assumptions and Risks
Objective					
? Reduce vulnerability and increase resilience through the adoption of systemic climate resilience methods to integrate physical climate risks (PCRs) in infrastructure investments (water, transport, electricity).	Total # of beneficiaries (disaggregated by gender) Total area of land managed for climate resilience in ha Total # of policies, plans, and frameworks Total # of beneficiaries (disaggregated by gender)	Inadequate integration of physical climate risks (PCRs) into infrastructure investment. Inefficient pricing of PCRs and inadequate appreciation of the benefits of investing resiliently.	Advance the use of practical tools and methodologies that systemically assess and manage PCRs at national and subnational levels. Prioritize infrastructure investments based on an understanding of maximizing the resilience benefits of every $1 invested. Mobilize capital for investments identified and designed through the use of these tools.	Project progress reports; Final independent project evaluation report; GEF Tracking Tools; Database and records maintained during and after project completion.	Governments of Antigua and Barbuda, Egypt and Senegal remains committed to the project approach. Investors are committed to including PCRs into infrastructure investment.
Component 1 : Adopting long-term climate resilient policies in investment plans for infrastructure.					
Outcome 1: Selected national and subnational authorities adopt a PCR-informed policy and regulatory environment in line with best practice.	Technical and financial services including PCR-informed methodology.	Limited awareness of mainstreaming PCRs integration in infrastructure investment. Limited internal capabilities to mainstream resilience criteria into infrastructure planning.	Policy analysis report and guidelines are developed. Technical tools and experts are developed, trained and operational to enable the conduct CSIP. Strengthened internal capabilities to identify climate risks and incorporate its impacts into infrastructure planning.	Criteria used for the identification of potential opportunities to include PCR impacts into infrastructure planning Project progress and evaluation reports Training sessions reports Surveys of experts trained Methodologies, guidelines and tools developed	Continuous support and participation by government, R&D institutions, SMEs and other project partners Sufficient commitment and participation from all project stakeholders involved

Output 1.1: Metrics and strengthened policy frameworks for systemic climate resilience methodologies developed.	Total # of policies, plans, and frameworks # of Systemic Climate Resilience Metrics developed per country. # of methodologies, guidelines and tools and training systems developed # training material including gender awareness training	The current policy and regulatory frameworks do not include systemic climate resilience methodologies on infrastructure planning. .	Policy analysis report and methodologies are developed Proposal for integration of these methodologies for the selected jurisdictions At least one gender sensitization workshop per year (gender balanced participants, i.e. at least 35% women) and one set of training materials	Project progress and evaluation reports Number of methodologies, guidelines and tools developed Criteria used for the identification of potential cleantech experts Surveys of experts trained	Executing Entity has the capacity to develop relevant tools, methodologies and guidelines to mainstream climate resilience into infrastructure planning
Output 1.2: Infrastructure investment planning analyses via the Climate Smart Investment Planning (CSIP) prepared.	# of Systemic Risk Assessments per countries		Systemic Risk Assessments are developed in the selected countries Analysis of how systemic climate resilience methodologies can improve current planning approaches for 3 selected jurisdictions. Gender analysis and gender mainstreaming action plan.		Continuous support from the Government and national partner institutions

Output 1.3: Establishment of systemic climate resilience methodologies in selected national and municipal planning institutes.	Total # of policies, plans, and frameworks # CSIP methodologies, tools and standards adapted and followed # training sessions attended # of national planning institute staff trained with the Online trainings.		Operational CSIP methodologies, tools and standards adapted and followed in Antigua and Barbuda, Egypt and Senegal Inclusive stakeholder engagement strategy developed		
Output 1.4: Improved stakeholder awareness, including training on best practices for climate smart investment planning to incorporate Systemic climate resilience Methodologies (including gender dimensions).	# of national planning institute staff trained with the Online trainings # of guides and guiding documents e.g., case studies	Very limited awareness on the benefits and opportunities within relevant stakeholders	Awareness raising is increased through using media platforms and workshops (Gender disaggregated data on stakeholder participation) Good practice guidelines on integrating PCRs into infrastructure planning Knowledge products and information will be prepared and disseminated based on the findings of the gender analysis, lessons learnt from the gender mainstreaming action plan and policy frameworks amongst stakeholders and beneficiaries.		Continuous support from the Government and national partner institutions; Continuous support and participation by industry and other partners.

Component 2: Demonstration of systemic climate resilience methodologies and metrics through selected pilots.					
Outcome 2: National and subnational governments gain sufficient evidence and experience in introducing and demonstrating Climate Smart Investment Planning (CSIP) and Metrics for infrastructure investments plans.	# of country fact sheets # of guides and guiding documents e.g., case studies	Lack of previous experience that demonstrates the benefits of CSIP. The current policy and regulatory frameworks neither support the demand for assessing climate change impact and improve resilient in infrastructure planning, nor cover innovative market mechanisms	Demonstrate the feasibility, value, and attractiveness of using systemic climate resilience methodologies in the infrastructure planning and investment cycles	Project progress and evaluation reports Terminal evaluation report	Relevant institutional sector remains interested and committed to CSIP
Output 2.1: Implementation of climate-resilient infrastructure planning in two national and a subnational pilots, demonstrating the CSIP ability to identify future risks to infrastructure networks and prioritize critical investments based on exposure and economic/social value at risk.	Total # of beneficiaries (disaggregated by gender)	N/A	Customized models to map out physical climate risks for the selected national jurisdictions. A strategy developed to equally benefit men and women during project selection and implementation, based on the outcomes of the assessment conducted	Project progress and evaluation reports Terminal evaluation report	Continuous support from the Government and national partner institutions There is sufficient capacity and technical skills to implement the pilots

Output 2.2: Deliver report on lessons learned from the climate-resilient infrastructure planning pilots (national and subnational).	# of moderate d exchange events between the three pilots that allow for cross-fertilization of lessons.	N/A	Three short document targeted at decision-makers on lessons learned from immediate implementation of systemic climate resilience methodologies and metrics, including how the projected affected and benefited women and men in project areas		Sufficient commitment and participation by national experts and mentors
Output 2.3: Knowledge shared, and capacity built for local and global stakeholders about best practice for climate-resilient infrastructure planning in selected countries and municipalities, through a systemic climate resilience forum and other avenues.	Knowledge management, communication and advocacy strategy and action plan # of country fact sheets # of guides and guiding documents e.g., case studies # of webinars/ moderated discussions with SRF members showcasing innovations and experiences.	No strategy Lack of awareness of resilient infrastructure investment benefits Shortage of effective and good quality public awareness raising and marketing material on resilient infrastructure investment benefits	Knowledge management, communication and advocacy strategy and action plan. Two moderated exchange events between the three pilots that allow for cross-fertilization of lessons. Three webinars/moderated discussions with SRF members showcasing innovations and experiences.	# of events and tools contributing to disseminate climate-resilient infrastructure planning learning and collaboration among SMEs and start-ups	Sufficient commitment and participation by national experts and mentors Continuous support from the Government and national partner institutions
Component 3: Replication of systemic climate resilience methodologies in government infrastructure investments and structure an investment environment for upscaling pilots.					
Outcome 3: Relevant capacity is built for national, municipal, and financial stakeholders to enhance the CSIP, Metrics and structure investment vehicles for upscaling.	# of Investment Prioritization Tools introduced.	No climate resilient approach for decision making to incorporate it in infrastructure planning	Systemic climate resilient approaches are updated and incorporated into decision-making process by relevant stakeholders	Project progress and evaluation reports Terminal evaluation report	Relevant institutional sector remains interested and committed to CSIP

Output 3.1: Strategy for upscaling and structuring the capital phase denominated League of Investment Funds for Resilience (LIFR).	Financial mechanism established to provide access to CSIP	No clear prioritisation of investment to assess CSIP	Strategy for upscaling and structuring the capital phase denominated League of Investment Funds for Resilience (LIFR), with gender streamlined throughout the strategy	Project progress and evaluation reports Terminal evaluation report	Continuous support from the Government and national partner institutions Interest from impact investors in CSIP
Output 3.2: Establishment of the LIFR modalities to set up technical assistance supporting participating funds to deploy capital to replicate Systemic climate resilience Methodologies and Metrics piloting of solutions.	# of Investment Prioritization Tools introduced.	N/A	Establishment of investment vehicle, including different financing windows and technical assistance modalities, with the necessary funds to deploy, with gender being considered and streamlined throughout		
Output 3.3: Case studies distilling learnings from implementing the solutions in selected pilots to validate and strengthen the Guidelines and Systemic climate resilience Methodologies and Metrics approaches prepared.	# of country fact sheets # of guides and guiding documents e.g., case studies	N/A	UNIDO guidelines on best practice/gold standard for adopting systemic climate resilience methodologies, investment prioritization processes, and use of metrics, including gender considerations.		
Component 4: Monitoring and Evaluation:					
Outcome 4: Project achieves objective through effective monitoring and evaluation.	Systems established for effective project implementation, responsive management and tracking of project results	N/A	Efficient MRV system is in place	MRV reports produced and verified	MRV is undertaken efficiently and in accordance with the Programmatic framework

Output 4.1: Mid-term review	M&E plan Progress reports	N/A	M&E plan Progress reports every six months (including progress report on gender action plan and all related gender-responsive targets) ? one of which will serve as mid-term evaluation report halfway through project implementation	Project reporting and project correspondence Project documents	Continuous support from the Government and national partner institutions Sufficient commitment and participation by national experts and mentors
Output 4.2: ESMF, gender analysis and regular monitoring of the gender mainstreaming action plan	Findings of the specific gender analysis in PCR frameworks and gender-mainstreaming achievements disseminated Environmental and social safeguards included in the PCR	N/A	Gender Mainstreaming action plan, with a particular focus on how the project impacted and benefited men and women. Environmental and Social Management Framework for supported projects	ESMF Gender analysis Project reporting and project correspondence Project documents	Continuous support from the Government and national partner institutions. Sufficient commitment and participation by national experts and mentors.
Output 4.3: Final evaluation	Terminal evaluation report	N/A	Terminal evaluation report (including evaluation on execution of gender action plan and all related gender dimensions)	Project reporting and project correspondence Project documents	Continuous support from the Government and national partner institutions. Sufficient commitment and participation by national experts and mentors.

[1] https://www.thegef.org/sites/default/files/2022-01/GEF_LDCF.SCCF_SM.02_01_Programming_Strategy.pdf

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

#	Comment	Response
1	**Part II? Project Justification** **3. Is the proposed alternative scenario as described in PIF/PFD sound and adequate? Is there sufficient clarity on the expected outcomes and components of the project and a description on the project is aiming to achieve them?** Yes. Please briefly explain the substantive differences, if any, between "Systemic Risk Assessment and Investment Prioritization Tool (SRAT) and Metrics" and the "Climate Smart Investment Planning Tool (CSIP)".	The proposed Programme is the result of a prior collaboration between UNIDO and CCRI to incorporate global best practices on capital investment planning, as it was presented in the PIF documents. In particular, CCRI has developed and rolled out its Systemic Risk Assessment Tool (SRAT), a geospatial analysis platform for infrastructure risk assessment and investment prioritisation. CCRI?s Tool quantifies the macro-economic impacts of simulated disruptions from natural hazards. In order to respond to the changes in the partnership status, the Climate Smart Investment Planning (CSIP) methodology that is currently proposed in this document will be developed ad-hoc for this project. UNIDO will procure services of a specialized methodology provider (research institute/academia/NGO), which will be identified through an open international procurement process. The CSIP methodology will not be limited to adaptation, but will additionally incorporate projections on the mitigation impact, providing a cross-cutting approach. The substantial difference between both methodologies is that CSIP will quantify, on top of the adaptation-specific analysis that SRAT could provide, the carbon emissions saving potential from improved technologies and design specifications for new infrastructure projects. A more detailed explanation on the methodology was incorporated into *Part II, Section 5: Previous experience in infrastructure investment planning*.

2	**Stakeholders** **Does the project include detailed report on stakeholders engaged during the design phase? Is there an adequate stakeholder engagement plan or equivalent documentation for the implementation phase, with information on Stakeholders who will be engaged, the means of engagement, and dissemination of information?** Please add a brief description of how stakeholders were engaged during the design (PPG) phase.	Stakeholder?s consultations status: ? Antigua and Barbuda: an informative session was held with representatives of Antigua and Barbuda to share the project details, validate the country?s support, and gather feedback regarding the project proposed activities. ? Egypt: A workshop with key stakeholders was held virtually on September 21st. For more details on the agenda and participants check the Annex J: stakeholder?s engagement plan. ? Uganda: Bilateral in person and virtual meetings were held in Uganda with various agencies between October 2022 and September 2023. The main goals of this meetings were to communicate the initiative, check for potential partnerships, and collect feedback from key stakeholders. The change has been reflected in *Section 2. Stakeholders and Annex J - Stakeholders engagement Plan.*
3	**Coordination** **Is the institutional arrangement for project implementation fully described? Is there an elaboration on possible coordination with relevant GEF-financed projects and other bilateral/multilateral initiatives in the project area?** Please note all executing entities need to be specified prior to CEO approval. Please clarify if there will be a different national project executing entity for each country, or otherwise. We note that UNIDO will maintain a minority project executing role, focused on procurement and coordination, for approximately 20% of the total project finance or less. This is subject to final GEF approval at the CEO approval stage.	Given that the previously defined executing entities from the PIF will no longer be part of this project, UNIDO got the approval from GEF to take the role of executing entity. Due to this change, UNIDO will keep a major executing role, keeping responsibilities such as procurement and coordination under its sphere of action, and requesting specific support from other agencies through a procurement process in topics where applicable, such as the methodological development. Given that the previously defined executing entities from the PIF will no longer be part of this project, UNIDO got the approval from GEF to take the role of executing entity. Due to this change, UNIDO will keep a major executing role, keeping responsibilities such as procurement and coordination under its sphere of action, and requesting specific support from other agencies through a procurement process in topics where applicable, such as the methodological development. The change has been reflected into *Section 6. Institutional arrangements and coordination.*

4	**Knowledge Management** **Is the proposed? Knowledge Management Approach? for the project adequately elaborated with a timeline and a set of deliverables?** Yes. Please note opportunities for shared learning with other projects supported by the Challenge Program for Adaptation Innovation that are developing metrics and good practice on factoring in physical climate risks and monitoring into investment decision making.	The Knowledge Management section was improved to incorporate the learnings and best practices from previous UNIDO experiences and strengthen. The new activities proposed in the KM section include: ? Dissemination of the programme results and lessons learned through networks and forums, including UNIDO?s Open Data Platform. ? Fact sheets preparation and performance reports summarising the results will be published in UNIDO?s webpage. ? Up-to-date reports on project monitoring will be shared with key stakeholders and organisations active in the area. ? Training sessions, workshops and multi-stakeholder meetings will be use to share information about the project and methodology. The change has been reflected into *Section 8. Knowledge management.*

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

Project Preparation Activities Implemented	*GETF/LDCF/SCCF Amount ($)*		
	Budgeted Amount	*Amount Spent To date*	*Amount Committed*
1100 - International consultants	19,480.00	5,367.95	14,112.05
1500 ? Local travel	0.00	0.00	0.0
1700 ? National consultant	0.00	4,450.35	-4,450.35
2100 ? Contractual services	30,520.00	34,970.35	-4,451.35
5100 ? Other direct costs	0.00	0.00	0.0
Total	**50,000.00**	**44,788.65**	**5,210.35**

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

The committed funds will be spent in the project start-up phase, i.e. they will be used 1) predominantly to strengthen the capacity of and provide training to the national PEE on the project execution arrangements with due consideration of the updated GEF guidelines on the project and programme cycle policy (the training of the national PEE is directly related to project/country preparation and as such its cost is eligible to be financed from the PPG), 2) as well as to fund additional relevant start-up phase activities, such as for example translation of documents in local language, etc.

ANNEX D: Project Map(s) and Coordinates

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

Please refer to attached file (Annex D)

GEO LOCATION INFORMATION

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

Location Name	Latitude	Longitude	Geo Name ID	Location & Activity Description

ANNEX E: Project Budget Table

Please attach a project budget table.

Please refer to Annex E for the detailed project budget. A summary budget table is presented below.

Expenditure Category	Detailed Description	Component (USD)									Total (USD)	Responsible Entity
		Component 1		*Component 2*		*Component 3*		*Sub-Total*	*M & E*	*PMC*		
		Outcome 1.a	*Outcome 1.b*	*Outcome 2.a*	*Outcome 2.b*	*Outcome 3.a*	*Outcome 3.b*					
Contractual Services ? Company	Consultancy on application of the methodology in pilot countries			86,567	24,744			**111,311**			**111,311**	Executing entity - methodology partner
	Consultancy on the methodology development	13,500	3,500					**17,000**			**17,000**	Executing entity - methodology partner
	Data collection			270,000	80,000			**350,000**			**350,000**	Executing entity - country partners
	Development of local guidelines	8,000	2,000					**10,000**			**10,000**	Executing entity - methodology partner
	Organization of international workshops			26,444	9,497			**35,941**			**35,941**	Executing entity - methodology partner

International consultants	Consultancy on application of the methodology in pilot countries	29,250	9,750					**39,000**			**39,000**	UNIDO - execution
	Consultancy on project financing					54,000	18,000	**72,000**			**72,000**	UNIDO - execution
	Consultancy on risk mitigation for the investment projects					24,000	8,000	**32,000**			**32,000**	UNIDO - execution
	Delivery of Capital Investment Plans			130,000	70,000			**200,000**			**200,000**	UNIDO - execution
	Development of case studies on risk mitigation and financing					19,500	6,500	**26,000**			**26,000**	UNIDO - execution
	Development of ESMF							-	2,697		**2,697**	UNIDO - implementation
	Development of gender analysis and action plan							-	2,829		**2,829**	UNIDO - implementation

	Mid-term review							-	13,766		**13,766**	UNIDO - implementation
	Terminal evaluation							-	19,273		**19,273**	UNIDO - implementation
Local consultants	Consultancy on application of the methodology in pilot countries			15,866	5,698			**21,564**			**21,564**	UNIDO - execution
	Development of knowledge products	2,000	1,000					**3,000**			**3,000**	Executing entity - methodology partner
	National Project Coordinators							-	16,500		**16,500**	UNIDO - execution
Training/workshop/meeting	Organization of consultation workshops	29,250	9,750					**39,000**			**39,000**	Executing entity - methodology partner
	Organization of methodology workshops	6,000	3,000					**9,000**			**9,000**	UNIDO - execution
	Organization of workshops with stakeholders	9,500	3,500					**13,000**			**13,000**	Executing entity - methodology partner

Salary and benefits / Staff costs	PMC - project manager & project assistant							-		103,333	**103,333**	UNIDO - implementation
Grand Total		97,500	32,500	528,877	189,939	97,500	32,500	**978,816**	55,065	103,333	**1,137,214**	

ANNEX F: (For NGI only) Termsheet

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

N/A

ANNEX G: (For NGI only) Reflows

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

N/A

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

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

N/A