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A New Approach to Unlocking Private Finance for Climate and the SDGs in Egypt & Morocco

Conclusions and roadmap resulting from the
Reflective Cycle conducted by UNEP FI in the
context of the SDG-Climate Facility

March 2022



About the SDG Climate Facility Project

Multiple UN agencies (UNDP, UNEP FI, WFP, UN-Habitat, UNDRR), together with the League of Arab States and the Arab Water Council have initiated a new regional project (SDG-Climate Facility Project) that aims to enhance the capacity of regional and national institutions to address climate change in a way that brings benefits across multiple goals, while also reducing the impacts of conflict and crises. The project has three main aims: (i) to build climate security, (ii) to leverage climate finance and (iii) to focus on the country level, where we aim to leverage our expertise, as well as our global membership, to help deliver innovative approaches to climate finance in the Middle East and North Africa region.

The SDG Climate Facility project will culminate in establishing an SDG-Climate Facility as an independent entity that will continue to take forward initiatives and actions beyond the life of the project. It is expected to serve as a long-term platform that will help to address the complex and intertwined challenges of climate change, sustainable development, and crisis (the nexus) in the region through regional and national actions. In other words, it is expected to bridge different agendas to enable maximum impact across different sectors. One of the main aims of the SDG-Climate Facility is to enable innovative finance and partnership models to catalyse investments to meet climate and sustainable development objectives, in a region characterized by different levels of fragility.

Activities will be geared towards creating a common agenda among relevant stakeholders, including line ministries, central ministries, and private sector stakeholders. For this purpose, the project will support the design and establishment of a Climate Investment Forum. The objective of the Forum, jointly led by UNDP, UNEP FI, and potentially other relevant partners, and building on their respective strengths and competitive advantages, will be to inform and catalyse public and private investments for climate-security in fragile and conflict-affected areas and countries in the Arab region.

About UNEP FI

United Nations Environment Programme Finance Initiative (UNEP FI) is a partnership between UNEP and the global financial sector to mobilize private sector finance for sustainable development. UNEP FI was conceived as a result of the first Rio Summit in 1992 as a partnership between the UN and the global financial system providing a unique platform at the intersection of governments, the financial sector and science. This partnership is dedicated to identifying and overcoming the barriers that prevent the transition to an inclusive green economy, especially as they pertain to the roles of financial institutions. UNEP FI works with more than 400 members—banks, insurers, and investors—and over 100 supporting institutions—to help create a financial sector that serves people and the planet while delivering positive impacts. We aim to inspire, inform, and enable financial institutions to improve people's quality of life without compromising that of future generations. By leveraging the UN's role, UNEP FI accelerates sustainable finance. At UNEP FI we work with our members and the finance industry at large to continue striving for the change needed to contribute to the SDG dialogue.

Disclaimer

This product is one of the outputs of the 'SDG-Climate Facility: Climate Action for Human Security' project. With financial support from the Swedish International Development Agency (Sida), the project is a multi-partner platform focusing on the impacts of climate change on human security in the Arab region, especially in the context of countries in crisis. It brings together the League of Arab States (LAS), Arab Water Council (AWC), United Nations Development Programme (UNDP), United Nations Environment Programme - Finance Initiative (UNEP FI), World Food Programme (WFP), United Nations Office for Disaster Reduction (UNDRR), and United Nations Human Settlements Programme (UN-Habitat), to deliver climate-oriented solutions that address climate challenges and bring co-benefits across the SDGs. In doing so, it aims to scale up access to and delivery of climate finance, including through innovative partnerships with the private sector.

Table of contents

- Abbreviations and acronyms 5
- Foreword 6
- Executive summary 8
- Proposed implementation plan 12
- Round 1—Status Quo: How is climate change currently being dealt with in Egypt and Morocco..... 13**
 - 1. Egypt and Morocco and climate change 13
 - 2. Climate change mitigation and adaptation measures in Egypt and Morocco 14
 - 3. The current role of private finance 21
 - Conclusions of Round 1 26
- Round 2: Hurdles and underlying issues for private climate finance 27**
 - 1. Definition of private finance 27
 - 2. Conditions for private finance (micro-economic considerations) 29
 - 3. Further conditions for private finance (macro-economic considerations) 34
 - Conclusions of Round 2 36
- Round 3: A roadmap for climate and SDG private finance in Egypt and Morocco..... 38**
 - 1. Proposed immediate road map 38
 - 2. Proposed long-term road map 42
- Acknowledgements 45**
- Sources 46**

Abbreviations and acronyms

AI	Artificial Intelligence
CCRMP	Climate Change Risk Management Program
COP26	2021 United Nations Climate Change Conference
CRIS	Climate Risk Impact Screening
CSE	Casablanca Stock Exchange
DFI	Development Finance
ECA	Export Credit Agency
EGX	Egyptian Exchange
EPC	Export Packing Credit
FDI	Foreign Direct Investment
FIT	Feed-in Tariffs
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
IT	Information Technology
JSE	Johannesburg Stock Exchange
KPI	Key Performance Indicator
LNG	Liquefied Natural Gas
MDB	Multilateral Development Banks
MENA	Middle East & North Africa
MESMEDA	Egyptian Micro, Small and Medium Enterprises Development Agency
MLA	Mandated Lead Arranger
MOF	Ministry of Finance (Egypt)
NYSE	New York Stock Exchange
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
POC	Proof Of Concept
PPP	Public Private Partnership
R&D	Research & Development
SDG	Sustainable Development Goal
SME	Small-to-medium Enterprise
UN	United Nations
UNEP FI	United Nations Environment Programme Finance Initiative
UNFCCC	United Nations Framework Convention on Climate Change

Foreword

As pointed out during the 2021 United Nations Climate Change Conference (COP 26) and the 2021 UN General Assembly (UNGA), money is still short to address climate change, and nowhere more so than in developing countries and their adaptation needs.

At the September 2021 UN General Assembly, the UN Secretary General stated¹ “OECD reported a gap of at least 20 billion in essential and promised climate finance to developing countries [...] more ambition on finance means developing nations finally seeing the USD 100 billion a year for climate action, fully mobilising the resources of both international finance institutions and the private sector too [...] more ambition on adaptation means 50 percent of all climate finance provided by developed countries and multilateral development banks should be dedicated to adaptation [...] the private sector is increasingly stepping up.”

In his opening speech at COP 26² he declared “Adaptation works [...] climate-smart agriculture and infrastructure save jobs [...] all donors must allocate half of their climate finance to adaptation. and public and multilateral banks should start as soon as possible [...] but beyond the USD 100 billion, developing countries need far greater resources to fight COVID-19, build resilience and pursue sustainable development [...] and multilateral banks must work much more seriously at mobilising greater investment through blended and private finance.’

The call and expectation for private sector action is ever higher and commitments increase every year.

As stated by the UN Secretary General, “the private sector is waking up, the Net Zero Owners Alliance is managing USD 10 trillion in assets and catalysing change across industries”. But for now the reality for developing countries continues to be a combination of multiple needs with scarce cash to address them. Private sector finance is by and large focused on developed countries.

As of 2018, the United Nations Environment Programme Finance Initiative (UNEP FI) pointed out the fact that the SDGs investment gap lied mainly in developing countries with more than a half (USD 1.3 trillion per annum) in Africa, and that the SDGs (i.e. economic, social and environmental impacts) were interlinked, which meant that they had to be addressed through a new, holistic and impact-based approach.

The other conclusion of UNEP FIs 2018 Rethinking Impact to Finance the SDGs paper was that, given the magnitude of the gap in Africa, there more than anywhere else it was necessary to mobilise the private sector and private finance, and that even with such a

1 Secretary-General’s address to the 76th Session of the UN General Assembly. UN, 21 September 2021

2 UN Secretary-General: COP26 Must Keep 1.5 Degrees Celsius Goal Alive. UNFCCC, 01 November 2021

mobilisation, “business as usual” would not suffice to meet the continent’s needs. The paper called for a new, “impact-based” development mode.

The Reflective Cycle sought to put this unique theory into practice in Egypt and Morocco, taking the specific prism of climate change action as the starting point. By applying UNEP FI’s, holistic and impact-based approach its aim was to uncover practical solutions for private sector and private finance climate and SDG action in Egypt and Morocco.

What follows are the conclusions of the Reflective Cycle, including a Roadmap and an Implementation Plan for private finance climate and SDG action in Egypt and Morocco.

On behalf of UNEP FI, I would like to thank all the participants for their time and valuable inputs throughout the Reflective Cycle. UNEP FI looks forward to supporting Egypt and Morocco in the implementation of the Roadmap going forward.



Eric Usher

Head

UNEP Finance Initiative

Executive summary

About the Reflective Cycle

The purpose of the Reflective Cycle was to explore how a new, holistic approach to climate change and the SDGs more broadly might help to boost the contribution of private business and finance in Egypt and Morocco. To this end, one SDG topic, climate change, and its current treatment was taken as an entry point for the exploration.

The Reflective Cycle combined desktop research with several rounds of discussion conducted in each country, involving government stakeholders, alongside a handful of local private sector stakeholders, including from the finance sector (see the Acknowledgements section for a full list of participants).

There were three rounds of research, bilateral consultations and group debates. The aim of Round One was to agree on the baseline, i.e. the current state of play in Egypt and Morocco. Round 2 focused on the main hurdles and underlying issues, and finally Round 3 explored specific solutions and actions to be put in place in the form of a Roadmap.

Round One: Climate change action and private climate finance today

Four main lines of climate change action were identified and explored: emission reductions, energy efficiency, greenhouse gas (GHG) capture, and adaptation.

The review of the status quo of private finance vis a vis these four categories of climate change action in Egypt and Morocco suggested that:

- There is minimal private sector involvement in financing the fight against climate change.
- Most of the existing private finance involvement is backed by public funds and is in hard currencies.
- Private finance participation is particularly absent in the field of climate change adaptation, though this is the most acutely needed in both the Egyptian and Moroccan context. There is a contrast between the two countries' political stance, which prioritises adaptation, and their operational focus on mitigation.

Round Two: Underlying hurdles

Both the intrinsic and specific hurdles faced by private sector/private finance were reviewed. The intrinsic hurdles are mainly to do with meeting the appropriate risk/return, currency risk, transformation risk and deal size criteria. The specific hurdles, i.e. per type of climate action, can be summarised as follows:

- For the curbing of GHG emissions electricity price fluctuation, payment and currency risks are the main hurdles to the private financing of renewable energy. This can be sorted out through coordination with/optimisation of public sector involvement namely through PPP structures. Measures to cope with these hurdles have already been implemented.
- For energy efficiency the cross-sector nature of the topic and non-specificity of credit possibilities, the potential non-attractiveness of savings vs the investment to be performed, and the limited scope of current definitions/taxonomies, constitute the main hurdles.
- For GHG capture the problem lies in the identification/availability of profitable projects
- For adaptation, the hurdles are the cost, nature and narrow character of current definitions/taxonomies of adaptation action.

The analysis of these hurdles led to the following observations and general principles for action:

Observation n.1

Climate change is a cross-sector issue

General Principle n.1: Explore the potential of different sectors and broaden the definition of climate finance to drive systemic change

Private financing for renewable energy is available as there is a sector specificity as well as definitional consensus (unlike other sources of energy such as gas, hydro and nuclear). While key sectors have been identified for energy efficiency, energy savings do not often allow energy efficiency projects to be profitable as such; they need to be embedded in broader investments in order to be profitable. It is critical therefore to identify and boost these type of investments in order to make progress with energy efficiency.

As for the case of adaptation, definitional issues are key; the definition and scope of what qualifies as adaptation finance needs to be refined to take socio-economic development needs into consideration. For developing countries, climate change is on the critical path of socio-economic development, unlike developed countries where past and present socio-economic development are the source of climate change. As a result, adaptation definitions need to be expanded to affected sectors (e.g. water, agriculture, textile, etc.), in particular those at the heart of economic development.

Finally, the benefits of this new take on sectors and definitions can be amplified by a careful consideration of the scope and nature of blending solutions. Blended finance, the aim of which is to facilitate private finance, is already important but its impact and capacity alleviate the burden on national budgets could yet be further optimised and increased.

Observation n.2

Sectors that are key for climate change action, such as the energy and utilities sectors, are also fundamental for economic development

General Principle n.2: Gain a deeper understanding of country needs and set priorities accordingly

Climate change finance needs cannot be isolated and should be thought in the broader context of the SDGs. Namely, in emerging developing countries, climate change should be put in the context of economic development priorities. The exact nature and magnitude of the needs must be assessed. It is important to consider the local level and to listen to governates and communities to ensure accuracy, in the process of assessing the nature and magnitude of the needs. Priorities must then be set in such a way as to properly and fully integrate climate change in the framework of economic development.

Observation n.3

Climate Change is closely interlinked with other SDGs

General Principle n.3: Analyse the inter-linkages between climate change and other impact areas so as to leverage these interconnections.

Positive and negative impacts on the climate can be linked to further positive and negative impacts in other areas. For example: on the positive side, access to connectivity or local access to jobs, food and services such as healthcare and education diminishes the need for mobility which in turn can cut down emissions by reducing transportation needs.

Since revenues and/or cost savings can be associated with impacts, impact interlinkages are an opportunity from a finance point of view. They will allow solutions to emerge that cannot exist if climate change is considered in isolation.

Round Three: Proposed roadmap to mobilise private finance for climate and SDGs in Egypt and Morocco

Based on the three general principles derived from the review of the current status quo of climate finance and the underlying hurdles, an immediate and a long-term roadmap were developed. These, and in particular the long-term roadmap, provide a pathway towards an African development mode.

The **immediate roadmap** involves a combination of running actual pilot projects and undertaking supporting actions. In each country, a couple of actual projects of significant size (i.e. in the USD 100/1000 million range), and that meet with private sector requirements, are to be identified and worked on, while at the same time the following supporting actions are undertaken:

- 1. Expanding the scope of what qualifies as 'climate finance'** via an operative adaptation taxonomy that considers priority sectors facing climate change threats
- 2. Setting priorities for the finance sector** based on a better understanding of Egyptian and Moroccan SDG needs via a broader usage of the UNEP FI Holistic Impact Methodology and Tools
- 3. Agreeing on general guidelines for optimised blending solutions** (enhanced leveraging of public funds for maximum private business and finance engagement)

The **long-term road map** focuses on the development of an impact-based economy, key to the emergence of an "African development mode", and on upscaling the financial and economic strength of Africa.

For the emergence of an "African development mode", a three-step R&D programme is proposed:

1. Business Development: New, African Impact-based Solutions

Impact-based business models must be developed around those impact areas/needs for which there is currently no sector specificity (e.g. mobility, education, health). These will be supported by a high level of IT content.

2. Impact-based Tenders for Impact-based solutions

Once the new business models are available, and/or in order to make them happen it will be necessary for the public sector to move from the 'infrastructure' tender mode to "impact-based tenders".

3. An Implementation and Monitoring Tool

The programmes resulting from the tenders would then be implemented and monitored—this would require a further, complementary tool.

As regards the upscaling the financial and economic strength of Egypt and Morocco, the issue at hand is that, in light of the magnitude of needs in Africa, it is estimated that currently available finance would need to be multiplied by 10. This is a momentous challenge for private finance in Egypt and Morocco. Such levels of growth cannot easily be achieved but are a precondition for independent African economic growth.

Out-of-the-box thinking is needed with the countries' main private players and with stakeholders in other countries in Africa (governments, central banks, financial supervision, banks, insurance and asset managers).

Proposed implementation plan

It is suggested that in each country a Custodian Group be set up, which can convene a number of different Working Groups at its own rhythm and pace.

The Custodian Group would act as the custodian of the Roadmap, working with UNEP FI to convene and organise the broader set of entities participating in the implementation of the Roadmap. It would bring together the main government contributors to the Reflective Cycle as well as other relevant other participants, including entities representing private sector stakeholders (e.g. business associations/federations). One of the members of the Group would act as the 'Lead' Custodian, with a commitment to drive awareness and support across relevant government agencies and bodies

The Working Groups convened by the Custodian Group might fall into one of three categories:

- **Operational Working Groups**—focused on the development and implementation of actual pilot projects of significant size (> 100 MUSD). These could be in the agriculture/agri-business and/or textile sectors—or other sectors that are important for the Egyptian and Moroccan economies and are threatened by climate change. Each group should include a bank operating in the private sector, a public finance institution, and one or more important company(s) active in the private sector. All would be directly involved in implementing the project, while a company/bank duo within the group would be in the lead.
- **Supporting Working Groups**—focused on the delivery of supporting resources and practices that will support the implementation of private climate and SDG finance. These Working Groups should be made up of government participants from the Custodian Group, together with private banks and companies. They would focus on the three proposed supporting actions described above: adaptation operative taxonomy, priority setting/holistic impact analysis, optimising blending solutions.
- **R&D Working Groups**—focused on paving the way for the Long-Term Roadmap, in particular the development of impact-based business models and the upscaling of the financial and economic strength of Africa. They would act as “think tanks” and it is expected that participation could be extended to academics and entrepreneurs.

Figure 1: Custodian Group and Working Groups



Deliverables and timeline/s

The deliverables and timeline will be a function of the Working Groups that Egypt and Morocco decide to establish and whether these run in parallel or not. They may chose to commence with one or more Supporting Working Groups or to kick-start Operational and/or R&D Working Groups as well from the start. The timeline below is merely illustrative.

Figure 2: Illustrative timeline

2022	Q1	Q2	Q3	Q4
Set-up of Custodian and Support Working Groups (+R&D WGs as appropriate)				
Implementation of UNEP FI Holistic Impact Methodology (Tools) by pioneer group of banks and corporates				
Needs assessment updated (in UNEP FI Tools)				
Identification of Pilot Projects/Set-up of Operational Working Groups				
Operative Adaptation/Climate Taxonomy draft				
Blended Finance Guidelines drafted				
Detailed Business plan of actual pilot projects in the new climate scope and implementing blended finance guidelines				

Technical Support Unit

In order to support banks and companies in Egypt and Morocco in fulfilling their portion of the implementation plan, a technical support unit might be set up on two aspects (pending appropriate resourcing):

1. Implementation of the UNEP FI Methodology
2. Business/financial structuration (support for actual pilot projects)

Round 1 – Status Quo:

How is climate change currently being dealt with in Egypt and Morocco?

In this first Round we sought to summarise the current status of climate action and the role of private finance in Egypt in Morocco. We started by the position of Egypt and Morocco vis a vis climate change. We then reviewed the main forms of climate action and finally, we summarised the scope and scale of private finance today.

1. Egypt and Morocco and climate change

Three things stand out from the international agreements that act as the bedrock for the fight against climate change:

First, the international community has stressed that **climate change issues are the result of past and present economic development models in developed countries** and that **developing countries which are looking for their own economic development are suffering from the consequences of Climate Change**.

Second and relatedly, **in developing countries, a greater focus has been put on adaptation than on mitigation**. Nevertheless, developing countries have committed on a voluntary basis to GHG emission reduction.

Third and finally, from a financing point of view, it has been argued that **public finance from developed countries should be mobilised to finance programs in developing countries**.

Egypt's position in climate change negotiations in line with African and Arab group positions

1. Adaptation to climate change negative impacts is an essential priority for developing countries and must have enough global attention in terms of providing financial, technical, and capacity building support from developed countries according to the UNFCCC principles and provisions.
2. The international system for combating climate change is based on UNFCCC and its Kyoto protocol including principles and provisions, especially articles 3 and 4 of UNFCCC mainly, historical responsibility of developed countries on the accumulation of emissions in the atmosphere and common but differentiated responsibilities and respective capabilities and equity, and the right for developing countries to achieve sustainable development and poverty eradication according to their national priorities and strategies.

2. Climate change mitigation and adaptation measures in Egypt and Morocco

Both countries are following the international patterns, with climate change related measures being divided into four main categories:

- a. Curbing GHG emissions
- b. Reducing energy consumption and promoting energy efficiency
- c. GHG capture
- d. Adaptation to the adverse effects of climate change

a. Curbing GHG emissions

As a reminder, and as per Table 1 below, the current level of CO₂ emissions in both countries are far lower than the world average.

Table 1: Comparative CO₂ emissions of Egypt and Morocco³

	World (2017)	Egypt (2017)	Morocco (2017)
CO ₂ emissions	33 513.3 Mt (100%)	223.6 Mt (0.67%)	58.9 Mt (0.18%)
CO ₂ emissions/Pop.	4.4 t	2.3 t	1.6 t

3 World Bank Data CO₂ Emissions, World, Egypt and Morocco

Both countries have committed to curb GHG emissions and put the emphasis on growing the proportion of renewable energy production (solar, wind) in the energy mix.⁴

Although growth of the portion of renewable energy in the energy mix is planned, the exact nature of the overall energy mix is not clearly defined in Climate/SDG documentation; it is rather addressed in “energy strategy” documents. These reveal a tension between the anticipated capacity of renewables and the actual energy needs, which are increasing.

Thus, one finds that **Egypt** is a major and growing gas producer⁵ in the region and is positioning itself as an energy exporter, namely through regional electricity grids. Egypt has, however, invested in the larger and more efficient combined cycle power plants, that are predominantly financed through ECA backed export credits.⁶

Given the anticipated growth in energy demand, the share of coal power is expected to increase to 11% in 2030 and 16% in 2035.

Nuclear energy is considered as a potential option to further meet energy needs locally and abroad.⁷ In addition, the Ministry of Environment and the Ministry of Petroleum and Mineral Resources are currently working on exploring new green technology, namely the production of hydrogen.⁸

Globally renewable energy in the global mix should reach 42% by 2030.⁹

To be noted that MLA/DFIs are the main finance contributors to renewable energy projects and ECAs the main source of finance for gas projects.¹⁰

Morocco is importing over 90% of its energy, hence energy is a matter of national sovereignty, and of overall economic security. Hence, Morocco will diversify imports energy mix (namely through gas importation) and will develop local production to mitigate energy dependency.

Climate/SDG documentation focusses on the increase of the share of renewable energy installed that would increase to reach 52% (20% solar, 20% wind, 12% hydro) in the local electricity mix.

Renewable energy is the only available path but is far from sufficient to meet Moroccan energy needs,¹¹ despite the consideration of a variety of modes of production and distribution: multiple solar technologies, decentralised/local energy production and grids.

4 *2035 Egyptian Integrated Sustainable Energy Strategy & Morocco Stratégie Nationale de Développement Durable (SNDD) 2030*

5 *Egypt produces 6.2 billion cubic feet of gas per day, ranks 13th in world*, published by Egypt Today on Monday 14 December 2020.

6 *Completion of world's largest combined cycle power plants in record time*, published by Siemens Press, 24 July 2018, updated 27 July 2018.

7 *Project Overview of El Dabaa Nuclear Powerplant* by Nuclear Power Plants Authority in Egypt.

8 Egypt Group Discussion—Reflective Cycle UNEP FI, Ms. Lydia Elewa, Ministry of Environment, 27 July 2021

9 IRENA (2018), *Renewable Energy Outlook: Egypt*, International Renewable Energy Agency, Abu Dhabi

10 *Completion of world's largest combined cycle power plants in record time*, published by Siemens Press, 24 July 2018, updated 27 July 2018.

11 *Dépendance énergétique du Maroc : Le taux chute à 88% en 2020*, published on 23 October 2020 by Finance News Hebdo.

As a result, energy related documentation deals with the role coal should continue to play, the diversification of sources for gas imports (gas pipeline from Nigeria¹² and LNG tankers¹³). Morocco is also considering the nascent new sources of energy like Hydrogen.

Questions arising:

- What are the precise figures in relation to the following?
 - Energy mix
 - Primary energy/power
 - Installed power capacity
 - Energy production
 - Demand (primary energy and power), including split between industry, agriculture, services, individuals and public demand, specific focus on the energy needs linked to desalinisation
 - Energy exports and imports
 - Scenarios for energy demand in relation to population growth and economic development
 - What is the anticipated timing to step up renewables and diversify energy sources?
- What role can Egypt and Morocco play beyond their own borders?

b. Reducing energy consumption and promoting energy efficiency

In the context of our research, energy consumption and energy efficiency have been reviewed through the lens of key sectors, i.e. those with the highest levels of energy consumption: buildings, transportation, agriculture, and general manufacturing.

Detailed programs of the development of such sectors are addressed in sector-related documentation.¹⁴ These programs give generally a precise insight of what is planned.

Main actions identified in **Egypt**:

- Energy efficiency for electricity generation and end users (8% gain)¹⁵
- Sustainable transport program and expansion of metro network¹⁶
- Green and sustainable¹⁷ building methods¹⁸

12 Maroc-Nigeria : un projet de gazoduc pour exporter du gaz jusqu'en Europe, wrote by Laurent Ribadeau Dumas, published by France Télévisions, 12 June 2018.

13 Le Maroc mise sur le GNL et les énergies renouvelables pour son futur mix énergétique, published by Oxford Business Group, 2 April 2018.

14 *Règlement thermique de Construction au Maroc (RTCM)*, published by Agence Marocaine d'Efficacité Energetique

15 IRENA (2018), Renewable Energy Outlook: Egypt, International Renewable Energy Agency, Abu Dhabi

16 *Egypt: The EU Bank supports urban transport*, European Investment Bank, 29 December 2020

17 *Egypt Vision 2030*, National Programme, Egyptian Government, February 2016

18 EBRD Green Cities welcomes 6th of October City to its programme, European Bank for Reconstruction and Development, 22 April 2021

Main actions identified in **Morocco**:

- Improvement of water efficiency & introduction of green energy in agriculture¹⁹
- Energy efficiency (20% gain)²⁰
- High Speed Train extension & Classic Train Expansion by 2040²¹
- Public lighting program (LED)
- Green and sustainable building (positive energy social dwellings in Settat)

Questions arising

- How have future energy demand estimations been made?
- Were scenarios of massive and rapid development of manufacturing and agriculture considered?

Since both countries are facing water stress, it is also important to understand how future water demand is computed and, consequently, what the estimated magnitude of desalination programs is (as well as the consequences on energy demand).

These water issues are specifically important for the development of agriculture which represents over 80% of global water consumption.²²

c. GHG capture

There are few CO₂ capture technology projects currently being implemented in either of the two countries. No documentation was found on the financing of gas capture and flaring projects.

In Egypt, the only important project aimed at capturing CO₂ is in waste management (methanation process), the Onyx Alexandria Landfill Gas Capture and Flaring Project.²³ This project emerged in 2006, before the discovery of important natural gas fields. No documentation was found on the financing of gas capture and flaring projects.

In Morocco, the country in the MENA region with the greatest forest cover, investments in the protection and extension of forest coverage is seen as a key sector²⁴ for CO₂ capture. (renewal or extension by 5 000 ha/year). Morocco is looking to monetise these efforts through the development of eco-tourism that is aiming at providing a DH 5Mds revenue.

There is also an embryonic start in waste management and methanation,²⁵ other new technologies are also investigated.

19 Programme "Génération Green 2020-2030" du Ministère de l'Agriculture, de la Pêche maritime, du Développement Rural et des Eaux et Forêts.

20 Stratégie Nationale d'Efficacité Energétique à horizon 2030

21 Plan Maroc Rail 2040

22 87% in Morocco, 80% in Egypt, according to Agrimaroc, specialized in Agriculture media and information

23 *Project 0508: Onyx Alexandria Landfill Gas Capture and Flaring Project*, Registered 15 December 2006.

24 *Plan Climat National à l'Horizon 2030*, Published by State Secretariat to the Minister of Energy, Mines and Sustainable Development, in charge of Sustainable Development.

25 *Maroc : Fès s'éclaire au biogaz en valorisant ses déchets*, published by L'Usine Nouvelle, on 2 September 2015.

d. Adaptation to the adverse effects of climate change

Risk management vis a vis the adverse effects of climate change ought to be a priority in both countries, as they are highly vulnerable. Egypt and Morocco both are conscious about these vulnerabilities, with both countries facing important water scarcity issues, water is the primary climate-related risk and challenge they face.

In Egypt

The IPCC considers the Nile Delta to be one of the world's three vulnerability hotspots; climate change in Egypt will result in sea level rise, water scarcity, and extreme weather events with negative consequences on land in the northern part of Nile delta, namely for infrastructure, the agriculture sector,²⁶ fisheries and as a result, negative impacts are present in food security, human health, housing, telecommunications, tourism, and the overall economy.

A specific example in the agriculture sector was identified in relation to mango production across Egypt due to climate change, stating there are vectors for disease to migrate to the north through pestilence. The agricultural sector also has a material problem with salt tolerance.²⁷

The sea level rise and heatwaves are also a concern alongside water availability, Egyptian biodiversity and aquaculture are heavily impacted.²⁸

Being aware of these issues, Egypt has started policies to not only protect and preserve its north coastal line,²⁹ but also to tackle future issues with a Climate Change Risk Management Program (CCRMP).³⁰ The Ministry of Environment (MSDMEDA) is discussing what should be the definition and scope of adaptation finance and has emphasised that a consensus should be reached on this³¹

In Morocco

In Morocco, there has been drought in 20 out of the last 70 years, with dire consequences on agriculture, as 87% of water resources are allocated to the sector.

Water is a major concern in Morocco; it is estimated that the 2020 ratio of 600m³/year/person will be reduced to 500m³/year/person by 2030.

The current policy is to favour adaptation and namely to develop efficient irrigation,³² to tackle the social consequences through insurance³³ and the creation of food stocks to ensure food security.³⁴

26 *Egypt Second National Communication*, May 2010.

27 *Egypt Group Discussion—Reflective Cycle UNEP FI*, Prof. Dr. Tarek A Temraz, Centre of Excellence for Environmental Studies and Applications for Climate Change and Sustainable Development, 27 July 2021

28 *Enhancing Climate Change Adaptation in the North Coast of Egypt*, Submitted on August 2016.

29 *Enhancing Climate Change Adaptation in the North Coast of Egypt*, Submitted on August 2016.

30 *Climate Change Risk Management Programme in Egypt (CCRMP)*

31 *Egypt Group Discussion—Reflective Cycle UNEP FI*, Ms. Lydia Elewa, Ministry of Environment, 27 July 2021

32 *Guide irrigation localisée de l'agriculteur*, published by the Moroccan Ministry of Agriculture

33 *L'Assurance Agricole au Maroc: Une adaptation progressive*, published by MAMDA, 6 July 2017.

34 *Adaptation des petits agriculteurs au Changement Climatique en appui au Plan Maroc Vert (PACC-PMV)*

Preservation and optimisation of water resources are also part of adaptation namely through irrigation and construction of large dams (In Morocco, since the 1980's, 140 large dams have been built and this is accelerating³⁵).

Desalinisation programs are also developing, bearing in mind that the above-mentioned measures will not be sufficient to meet water needs.

Different initiatives are looking for the measurement of “physical risk” incurred due to climate change: Climate Risk impact Screening (CRIS) and BAM physical and transition risk analysis/financial stability.

To be noted that 80% of infrastructure and industry in Morocco are located in coastal zones exposed to the rise in sea level (among others: Casablanca, El Jadida, Rabat, Tanger, Agadir and Laanouye).

Participants all agree that the vast majority of the projects are focused on mitigation and that few are tackling adaptation.

Question arising

What does adapt to climate change (i.e. adaptation) look like? Well-rehearsed measures and activities include building resilience to natural disasters, desalination and, more generally, water preservation. What of the measures taken (or that should be taken) directly by the economic actors whose activities and business models are dependent on ensuring resilience and water availability? The agriculture sector is key here, and others such as mining, cement, and textile are also relevant.

Since in some regions entire sectors (namely agriculture) are threatened by climate change, should the simple fact of continuing to finance these sectors not qualify as climate finance? If so, it would mean that private finance would be burdened with increasing “physical risks”, which Central banks view negatively from a financial stability point of view, an issue that deserves further consideration.

Defining adaptation finance is a key issue in the pursuit of private climate finance.

3. The current role of private finance

From the Kyoto Agreement³⁶ to the Paris Agreement,³⁷ climate finance for developing countries has been discussed as a purely public matter i.e. finance should be provided through local budgets (unconditional commitments), or through transfers from developed countries (conditional commitments). In those agreements the private finance issue is not really addressed.

35 *Water security in Morocco*, published by The World Bank on 29 August 2017.

36 Kyoto Protocol

37 Paris Climate Agreement

Nevertheless, for several years now, a call has been made by the UN³⁸ and civil society for private finance³⁹ to be mobilised for the fight against climate change and to help meet the Paris Agreement targets.

From an economic development point of view, the UN and Multilateral Development Banks (MDBs) have stressed the importance of the private sector, and namely SMEs.⁴⁰ Governments have been called on to put in place favourable conditions (creating a 'business-friendly environment'), namely from a financial, legal and tax perspective. It has also been recommended that public utilities be opened to private competition⁴¹ and that electricity prices cease to be subsidised, instead, in order to ease Renewable Energy Project finance "feed-in tariffs" should be put in place.

The underlying logic is that "the money is there" and that appropriate "green tagging" and de-risking are the key to unlocking the private finance issue. Numerous initiatives have been launched by the private sector and private finance on this basis.⁴²

In practice, sectoral documentation reveals that a significant part of climate finance is extended through MDBs and ECAs, namely for energy and public transportation projects.⁴³ Renewable energy⁴⁴ project finance⁴⁵ constitutes most instances of "pure" private finance

As for energy efficiency, blended finance solutions seem to be the norm.

Social issues arising from scale down of subsidies meant to ease private finance⁴⁶ are also mentioned as a substantial hurdle.

In parallel, the UN and financial supervision authorities have raised concerns about the impact of climate change on financial stability.⁴⁷ Regulation has been put in place (including in Morocco) that requires banks to estimate their exposure to "transition, physical and legal risk" under different climate change scenarios.⁴⁸ This may ultimately result in preventing private financial institutions from financing sectors exposed to physical risks.

In this context, UN and MDBs are also calling for "financial innovation"⁴⁹ and for the development of financial products such as PPPs, green bonds and blended finance.

38 *Rethinking Impact to Finance the SDGs: A Position Paper and Call to Action*, prepared by the Positive Impact Initiative, published by UNEP FI, November 2018.

39 Finance for Sustainable Development Conference 2020, 28–30 January 2020.

40 *Rethinking impact to finance the SDGs: A Position Paper and Call to Action*, prepared by the Positive Impact Initiative, published by UNEP FI, November 2018.

41 *Restructuring Public Utilities for Competition*, Published by OECD, 2001.

42 *Morocco Infrastructure Review*, Published by The World Bank, May 2020.

43 *Catalyzing Climate Finance: A Guidebook on Policy and Financing Options to Support Green, Low-Emission and Climate-Resilient Development*, published by UNEP, April 2011.

44 *Morocco Infrastructure Review*, published by The World Bank, May 2020.

45 *Nubian Suns (Egypt): Scale at Speed*, published by International Finance Corporation World Bank Group,

46 *New Directions in Social Policy in the MENA Region*, published by UNRISD, November 2018

47 IMF Working paper: *Macroeconomic and Financial Policies for Climate Change Mitigation: A Review of the Literature*, published by IMF, September 2019.

48 *Bank Al Maghrib, Directive relative au dispositif de gestion des risques financiers liés au changement climatique et à l'environnement*, published by Bank Al Maghrib, 4 March 2021.

49 *Financial Innovation for the SDGs*, United Nations Global Impact.

Below is an overview of the nature and scope of these products in Egypt and Morocco, as well the initiatives and programmes that seek to promote financial innovation for climate in either country.

a. Private climate finance in Egypt

Product overview

i. PPPs⁵⁰

Fifty-five projects for a total of USD 10.3 billion in total have reached final closure since 1990. The largest project was the Suez Canal Container Terminal, with its financial closure in 2000 totalling USD 893.9 million. The most recent project finalised was West Bakr Wind Farm, with its financial closure in 2019 USD 35 million. 53 projects are under construction or operation for an estimated outstanding of USD 3.5 billion.

ii. Green Bonds

Egypt is the first government in the MENA region to have issued a green bond. The amount of the issue was USD 750 million, directed mainly at funding clean transport projects.

In addition, the Ministry of Planning and Economic Development and Ministry of Environment have designed and implemented the Environmental Sustainability Guidelines,⁵¹ a set of criteria to ensure the greening of the national budget. Under these criteria, 15% of the projects funded from the public budget under the national investment plan of the physical year 2020–2021 are green projects. The government wants to double that target (reaching the 30% of the national investment plan) for the year 2021/2022 is aiming to reach 50% of green projects by the year 2024/2025.

The overall license of the Finance Ministry for issuing bonds is USD 7.8 billion. The estimated Green bond current outstanding is USD 750 million.

iii. Blended finance

Based on MDB's and DFI's reports,⁵² the estimated amount of MDB/DFI outstanding loans is approximately USD 27.9 billion.⁵³ To obtain the full amount of blended finance in Egypt, (i.e. including the privately financed part), it could be considered that only 70% of MDB/DFI finance is "blended finance" and that the ratio between MDB/DFI and private finance is 50/50. This would lead to a global outstanding of USD 39.1 billion integrating the private finance part

50 PPP Knowledge Lab, Egypt, 1 September 2021.

51 Decarbonisation et économie verte : Guide des programmes de financement et d'appui pour les entreprises marocaines—AMEE

52 IFC, EIB, EBRD, IDB, ADB, AFD, KfW, GIZ, FMO, IBRD/IDA are the sources for these numbers

53 This estimation may involve some double accounting bearing in mind that individual OUTMDBs/DFIs may in practice only be covering a share of the PPPs referenced in their reports.

Initiatives to promote financial innovation in Egypt

Measures have been taken to promote financial innovation, mostly this has been to ease private project finance for renewable energy projects. Below is an overview of the main measures identified.

- Electricity sector subsidy reform program⁵⁴ (partially postponed)
- Enhancement of Feed-in Tariffs⁵⁵ (FIT)
- Promotion of Build Own Transfer and EPC contract schemes⁵⁶
- Awarding contracts through an auction process
- Development of local content in renewable energy projects
- Legal opening for private sector role (still only 10% in production, mainly in non-renewable energy)⁵⁷

b. Overview of financial innovation in Morocco

Product overview

i. PPPs⁵⁸

Thirty-one projects for a total of USD 22.3 billion have reached final closure since 1990. The largest project was Lyonnaise des Eaux de Casablanca (financial closure in 1997 USD 3 billion) and the most recent project finalised was NOOR MIDELT CSP-PV Plant Stage 1 (financial closure in 2020, USD 837.5 million).

ii. Green Bonds

Morocco is very active on the green bond market through a series of issuers for a total MAD 4 billion (USD 447 million) in 2016.⁵⁹ The issuers were: MASEN, Bank of Africa, AttijariWafa Bank, Banque Populaire, Al Omrane, Casablanca Finance City.

iii. Blended finance

Blended finance is very important in Morocco. A brief overview by development bank is included in Table 2 below.

54 *Electricity Sector Liberalization in Egypt: Features, Challenges and Opportunities for Market Integration*, KAPSARC, September 2020

55 *Nubian Suns (Egypt): Scale At Speed*, International Finance Corporation, WorldBank Group, 13 March 2019

56 *The Renewable Energy Law Review: Egypt*, *The Law Reviews*, Donia Al Mazghouny, 10 August 2021

57 *Country Profiles : Egypt*, Res4Med, November 2015

58 PPP Knowledge Lab, Egypt, 1 September 2021.

59 "Green Bonds : Les émissions en stand-by" Finance News Hebdo, 09 March 2020, visited 1st September 2021

Table 2: Blended finance volumes

<p>a. African Dvpt Bank⁶⁰ i. USD 7.9 billion since 10/09/1964</p> <p>b. AFD⁶¹ i. 92 projects ii. EUR 5.6 billion (1967–2016)</p> <p>c. EBRD⁶² i. 73 Projects in total ii. 60 Active projects iii. EUR 2.949 million Cumulative investments iv. EUR 1.611 million Current portfolio of projects v. 44% Private sector share of portfolio vi. 5% Equity share of portfolio</p> <p>d. EIB⁶³ i. 129 Projects since 1979 ii. EUR 8.64 billion iii. 15 Local Partners</p> <p>e. FMO⁶⁴ i. 2 Investments ii. USD 11.5 million</p>	<p>f. GIZ⁶⁵ i. 44 Ongoing Projects ii. 198.238.234 Overall volume of commissions of all ongoing projects iii. 6% share of Co-Financing</p> <p>g. IBRD/IDA⁶⁶ i. USD 16,681,340,000 Between 1963 and 2018 ii. 189 Projects between 1963 and 2018</p> <p>h. Islamic Dvpt Bank⁶⁷ i. 246 Projects ii. 215 Completed Projects iii. 31 Actives iv. Total Funding USD 6.9 billion v. Join Date 12 August 1974</p> <p>i. KFW⁶⁸ i. 84 Commitments between 2007 and 2020 ii. EUR 4,065,447,760 Invested between 2007 and 2020</p>
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Initiatives to promote financial innovation in Morocco

Measures have been taken to promote financial innovation, mostly this has served to enable private project finance for renewable energy projects and to decentralise financing processes and projects. Below is an overview of the main measures identified.

- Measures have been taken to ease private project finance in for renewable energy projects
- Creation of « Sociétés Régionales Multiservices (SA à actionariat public) » to decentralise financing processes and projects
- Reform of electricity auto-production legal framework, Loi n° 13-09
- Awarding of contracts through auction process
- Cancellation of fossil fuel subsidies with the exception of butane GPL

60 African Development Bank in Morocco

61 Agence Française du Développement in Morocco

62 European Bank for Reconstruction and Development in Morocco

63 Morocco and the European Investment Bank

64 FMO Investments in Morocco

65 GIZ Investments in Morocco

66 World Bank Data : Morocco, Projects & Operations

67 Islamic Development Bank Summary in Egypt

68 KFW World Data

Conclusions of Round 1⁶⁹

The conclusions below reflect the findings of the desktop research as well as the opinions of participants as expressed during the bilateral and group meetings.

- There is **minimal private sector involvement in financing the fight against climate change**.
- **Most of the existing private finance** involvement is **backed by public funds and is in hard currencies**.
- **Private finance participation is particularly absent in the field of climate change adaptation**, though this is the most acutely needed in both the Egyptian and Moroccan context. Adaptation finance requires more attention and a broader definition. There is a contrast between the two countries' political stance, which prioritise adaptation, and their operational focus on mitigation.
- **Climate change finance needs cannot be isolated and should be considered in the broader context of the SDGs**. Thus, in developing countries, climate change should be put in the context of economic development.
- **The exact nature and magnitude of needs must be assessed**. It is important to consider the local level, and to listen to governates, to ensure accuracy in the process of assessing the nature and magnitude of the needs.
- **Priorities need to be set** in such a way as to properly and fully integrate climate change in the framework of economic development.
- **Blended finance**, the aim of which is to facilitate private finance, is already important but **should be revisited to further increase impacts and alleviate any burden on national budgets**.
- **Technology and capacity gaps have to be taken in consideration** in order to maximise local solutions and business models.

69 *Egypt Group Discussion—Reflective Cycle UNEP FI*, M. Sherif Dawoud, Ministry of Planning and Economic Development, 27 July 2021

Round 2: Hurdles and underlying issues for private climate finance

In this Round we first rehearsed what is meant by private finance. We then reviewed the general conditions for private finance to be extended, followed by a deep dive into the specific hurdles that undermine private finance for the four categories of mitigation and adaptation actions previously reviewed in Round 1. Lastly, we concluded on the underlying issues and identified general principles to overcome the hurdles.

1. Definition of private finance

a. What qualifies as private finance?

Given the context of scarce public national resources, **private finance should add financial resources and avoid or reduce the need for national budget** to support the investments that are needed to meet with the SDGs/to address climate change.

The main criteria is not whether the finance is provided by a private institution but whether the finance put in place will affect the national budget or not, either directly at the inception or when reimbursement of finance takes place.

On this premise, only privately owned financial institutions or structures that finance privately owned companies or privately owned projects fully qualify as **strictu sensu private finance**.

Nationally owned companies may qualify for private finance, provided that they operate in an **open competition** context with the private sector and not on the basis of regulated prices for goods or services.

Cases where the impact on the national budget is **only mitigated/reduced** are however also relevant and should therefore also to be taken in consideration.

b. What is the status of private finance in “innovative finance”?

When referring to “innovative finance”, the usual techniques/financial products that are under consideration are: PPPs (Public Private Partnerships), green bonds, blended finance and “bundling”. The status of private finance in these techniques/products must be questioned: what is the impact of these innovations on national budgets?

PPPs (Public Private Partnership) are projects whereby the private sector (corporates and financial institutions) are providing an infrastructure with a guarantee of the state in different forms (rent, direct guarantee, conditional guarantee in case of insufficient cash-flow; etc.). **In most cases therefore, PPPs are a direct burden or a potential burden to the budget.**

Green bonds can be issued by sovereign, public or private entities, including financial institutions. In the case of financial institutions, the proceeds of a green bond are usually meant to refinance green assets that are or will be in the books of the issuer, meaning that the risk that bondholders take is on the issuer rather than on the assets. **Hence, green bonds issued by private finance institutions are only a funding instrument and do not bring additional finance to projects/corporates.** Therefore, only green bonds directly issued by private corporates can be considered as additional private finance, even though one could argue that companies issuing green bonds are also able to raise finance through regular bonds.

Blended Finance: Blended finance is a combination of finance provided by private finance institutions with the support of specialised foreign finance institutions: multilateral development banks (MDBs), development finance institutions (DFIs) and/or local/national public finance institutions. The support of these institutions can consist of refinancing and/or risk sharing and/or other types of support for assets that are originated by local or foreign private finance institutions. Export Credit Agency (ECA) financings can be included in this category (either providing direct financing or pure credit guarantees). **Blended finance offers support to the private finance sector and hence may reduce some burden on national budgets.** (To note, however, that the involvement of foreign institutions may represent a burden to foreign national budgets).

“Bundling” is the technique of aggregating a collection of small financial assets to constitute a “bundled asset” aimed at attracting private finance which would not be interested in the individual assets because of their small size. In practice this mechanism is usually deployed as blended finance and is hence bears the same impacts on the national budget. It should be noted that comparatively few cases of bundling have emerged—none were identified in Egypt, nor in Morocco.

In conclusion, private finance issue is not a matter of “innovative financial products” but a matter of ensuring that private finance can be provided on its own in its normal course of business. For this reason, it is important to start with the basics, which is to understand what are the conditions for private finance (see next section).

2. Conditions for private finance (micro-economic considerations)

a. What are the basic requirements for private finance?

We turn now to the basic requirements for private finance to be possible.

Private finance needs to be in a position to meet with its own requirements in order to finance a given project or company.

Generally speaking, **anything that is economically viable can be financed by the private sector**. Notwithstanding, the private financial sector can only act **within the boundaries of its own cost/income constraints and within the limits of existing financial markets**. These constraints and limitations are examined below.

Appropriate risk/return profile of the project or borrower

Any profitable business can be financed, since the profit made by a company/project is the normal source of medium and long term loan repayment.

As an addition/substitution to address risk issues, risk can be guaranteed by fixed assets, current assets, or personal guarantees. When the risk return of a project/company is considered acceptable, private finance can adjust loan duration and pricing based on risk/return criteria.

Currency stability/hard currency financing

Private finance is not willing to take currency risks which may appear when the currency of investment (hard currency) is different from the currency of revenues (local currency).

Local currency prices pegged on hard currency is only a partial solution since the end-user is de facto bearing the currency risk, which become unbearable for the end-user and supposes a free access to hard currency.

Finance in hard currency presupposes that finance institutions have access to those currencies at a competitive price. National finance institutions have little access and at non-competitive prices compared to foreign finance institutions which in turn creates a dependency.

To catalyse local private finance, it will be necessary to develop local production in local currency.

Appropriate loan duration and management of transformation risk

Loan duration must be adjusted to time delays for investment returns, which means that medium- and long-term loans must be put in place. In the absence of a medium- and long-term debt finance market, local banks, when extending local currency finance, are bearing a transformation risk and are not in a good position to propose a fixed rate of interest.

Appropriate deal size in regard of the cost of finance structures

Some deals need complex legal structures and complex financial solutions to be put in place and/or may carry heavy administration costs.

As a global indication:

- Project finance structures can bear those costs when deals > USD 100 millions
- Fund structures can bear those costs when deals > USD 500 million

b. What are the specific hurdles/issues for private finance in each of the categories of mitigation and adaptation measures?

The different categories of mitigation and adaptation action create “specific hurdles” to meet with the basic requirements.

Curbing GHG emissions

The private sector and private finance can be involved in energy production but will need to take indirect or direct sovereign risk. This means that the financing structures will have some budget impacts. To facilitate private finance, efforts should focus on enhancing the pertinence of blended finance, to ensure it addresses risks private finance is not able to take.

An area for private finance is non-specific energy production finance (i.e. wider financings including any energy production content), something which is now open with auto-production regulation.

A number of additional considerations also come into play:

Role of the State. The level of state control on the exploration/production/transportation/distribution value chain and the social difficulties faced in lowering subsidies to tariffs to be paid by end users are the main hurdles to private finance. This state of affairs creates a direct or indirect sovereign risk and a burden to national budgets.

State involvement in the energy sector is likely to continue. Schemes have been put in place to facilitate private sector contribution while taking some indirect sovereign risk. These schemes should be considered as partial relief to the national budget given the different aspects of the government’s commitments (currency risk, tariffs...).

Energy targets. A target relative to the global energy mix rather than to renewable energy only could helpfully be considered and would increase opportunities for the private sector. Financing gas to replace coal or fuel could then be part of a transition plan to curb GHG emissions. This would also help to clarify the status of large dams and nuclear energy.

The question of gas is key for both Egypt and Morocco. Egypt is a major gas producer and is also exporting electricity produced by gas fired power plants. Morocco will be diversifying its energy imports by increasing its gas imports (pipe from Nigeria and tankers).

Energy consumption/energy efficiency

To begin with it is important to understand that, in the context of developing countries, energy efficiency is relative because energy consumption will inevitably grow. In an emerging market context, reducing overall energy consumption compared to current consumption is not an option. The main factors leading to an inevitable increase of consumption are: economic development, increase of population, water scarcity and increased water demand (this will drive desalinisation, which in turn requires energy).

Energy efficiency investments face intrinsic hurdles, as well as additional hurdles that are specific to the sectors where energy efficiency gains could be important (e.g. real estate, transportation, agriculture). Below we shall look at the intrinsic hurdles first and then examine some sector-specific issues.

i. Intrinsic energy efficiency hurdles

The cross-cutting nature of energy efficiency

On the positive side, energy efficiency is cross-sector and constitutes a very wide array of opportunities. On the negative side, energy efficiency finance is not industry-specific, making it more difficult to identify and channel capital to.

Since energy efficiency is not a sector as such and is often integrated in wider investment programs, financing cannot be regarded as specific “energy efficiency project finance”, unlike “renewable energy project finance”. This means energy efficiency finance needs to be captured in broader project finance or corporate finance schemes.

The challenge of savings versus revenues/attractiveness of savings

Energy efficiency saves costs, rather than creating new cash flows. Costs are difficult to monetise unless associated to revenues (“cash-flows”). Moreover, the levels of savings may not be attractive when energy prices are subsidised. In financial terms, the more energy is subsidised, the lower the savings linked to energy efficiency and thus the incentive for energy efficiency.

Return on investment for energy efficiency considered on its own also often does not compare favourably with other investment opportunities. Generally speaking, only energy efficiency with a return < 3 years are financed.

Non-specificity of credits

Financing is not extended based on the savings themselves but on the credit value of the borrowers. For this reason, the financing structure is not specific. When included in wider financings the partial energy efficiency purpose of loans is not always mentioned.

Limitative taxonomies

Programs extended by some MLA/DFIs limit support to just the energy efficiency part of such wider investments (the calculated energy efficiency portion is usually based on a taxonomy of “approved” capital goods included in the overall investment).

ii. Sector-specific hurdles

Real Estate

Real estate is one of the main sectors where energy gains should be pursued. Current approaches are based on heavy governmental subsidies.

Construction

The additional costs incurred to reach high energy efficiency standards beyond what is required by regulation cannot be reflected in sales prices. Hence the hurdle is technical rather than financial: the challenge of not creating additional costs.

Refurbishing

Finance for energy efficiency refurbishing is usually about financing individuals. Typically, financing is provided based on customers' credit worthiness and the availability of governmental subsidies. From a finance point of view this type of financing is to be assimilated to consumer credit or mortgage loans (when refurbishing takes place in a context of acquisition). Financial products taking energy efficiency risks rather than client risk have not yet been put in place.

Transportation

Transportation is the next sector of importance for energy efficiency. The subject is mainly seen as public issue and as a matter of working on public/collective transportation (bus, metro, trains). In addition, energy efficiency is sought by the evolution of construction standards and the introduction of fuel constraints and speed restrictions for private cars/trucks.

Other actions include those of aircraft constructors, who are committing to reduce power consumption and investing in R&D for hydrogen powered aircraft. There is also an evolution in the shipping sector, where gas-powered vessels are under consideration.

As with the real estate sector, the hurdle for climate finance for the transportation sector is a technical one, namely, to reach acceptable costs for new technologies that need heavy investments (e.g. electric or hydrogen vehicles). In some cases, extra costs are borne by governments in the form of subsidies or tax incentives.

If the focus were placed on achieving mobility and reducing transportation needs, rather than on transportation means and infrastructure, this would open new opportunities for the private sector. A focus on mobility would mean that new, integrated, business models and companies could be promoted, which are more specific in nature and which private finance could support.

Agriculture

Agriculture is both energy and water intense. The on-going availability of water is the main issue for agriculture and producing water (pumping, desalinisation), recycling and/or irrigation is power intensive. Hence water efficiency in turn also creates energy efficiency and thus leads to double cost savings.

The hurdle is that subsidised water prices, together energy subsidies, bring down the scale of the savings that can be made and reduces the incentives for efficiencies.

Financings are typically not extended based on the value of savings but on the value of project/borrower.

GHG capture

Gas capture (oil, coal) is not profitable as such. Only regulation creating taxes for GHG emissions would be an incentive to invest in gas capture to avoid taxes. Even though the purpose of the financing would be to avoid taxes, the structure of the financing would not be specific.

Forestry financing in Morocco is not open to private finance, but investment in tourism linked to forestry could be investigated.

Adaptation

Adaptation in its traditional definition means costs and not revenues. The important implication is that adaptation cannot be financed as such, and private finance can only be extended to those companies/project) bearing these costs based on their creditworthiness.

The key issue is the definition of what qualifies as “adaptation finance” (see previous Round).

Among the investments that should qualify are water-related investments. However, water financing faces the exact same hurdles as energy production and energy efficiency, meaning that while it would create some private sector contribution opportunities, these would still come with impacts to the national budget.

What would unlock a broader range of opportunities is to extend the notion of adaptation finance to sectors dependent upon water such as agriculture and agri-related business, textiles, cement, mining, and/or others.

Questions arising

- Are there cases of profitable energy efficiency < 3 years?
- What is the potential for coupling energy efficiency with renewable energy projects?
- What are the options for financing structures to be based on the financial value of the savings?
- Can we think mobility rather than transportation? (i.e., how to reduce transportation of goods, how to make services locally available, how to reduce the need for people to move)
- To what extent can climate finance be isolated from the rest of the SDGs?
- What is the scope and definition of adaptation?

3. Further conditions for private finance (macro-economic considerations)

Even when the micro economic conditions for private finance are met, given the magnitude of SDGs needs, the private financial system may still face additional issues, of a macro-economic order.

a. The financing gap

The magnitude of the financing needs in Egypt and Morocco, and more widely in Africa, and how these compare to the nature and magnitude of finance available in both countries and in Africa needs to be candidly considered as a final, critical component of understanding 'what it takes' for private finance to act and play its role.

Let us refer firstly to the **magnitude of the gap in Africa to meet with the SDGs**. This gap is estimated to be a **yearly USD 1.3 trillion** investment gap, with only 15% of the needs currently met.⁷⁰ The sheer magnitude of these needs is a call for new economic development models; "business as usual" will not suffice to bridge such a large gap.

Hereafter we will illustrate the limitations of "business as usual", still looking at the pan-African scale.

b. Additional equity and debt needs

As an indication, **the total additional equity needed would be USD 4.8 trillion, while the total of additional outstanding loans needed would be USD 9.1 trillion.**

This is based on the estimated yearly USD 1.3 trillion investment gap. This assumes an average loan duration of 10 years for those investments with a 30/70 equity/debt ratio for the projects or companies supporting the investments. For the lending banks a capital ratio of 10/90 has been considered,

The USD 4.8 trillion in additional equity needed comprises USD 3.9 trillion for corporates and projects and USD 910 billion in the banking sector.

For reference, it is helpful to compare this figure to the **current stock exchange capitalisation of stock exchanges in the continent.**

Some examples include the Johannesburg Stock Exchange (JSE) valued at USD 1.1 trillion, the Egyptian Exchange (EGX) valued at USD 44.5 billion, and the Casablanca Stock Exchange (CSE) valued at USD 71.3 billion.

The total of the above 3 stock-exchanges is USD 1.2 trillion. For further reference, below are the capitalisations of some of the larger global stock exchanges and the volume of global FDI (Foreign Direct Investment) in Africa:

70 *Rethinking Impact to Finance the SDGs: A Position Paper and Call to Action* prepared by the Positive Impact Initiative, published by UNEP FI, November 2018

EURONEXT Paris has a capitalisation of USD 2.1 trillion, the New York Stock Exchange (NYSE) has a capitalisation of USD 24.9 trillion and NASDAQ has a capitalisation of USD 22.1 trillion.

As a final point of reference, the **volume of FDI was USD 67 billion in 2015**. If we take this as a baseline this would make USD 670 billion for a 10-year period.

On the debt side it is also worth comparing the need **of USD 9.1 trillion** in additional outstanding debt to a number of **sources of finance**. These are outlined in table X below:

Table 3: Volume of diverse sources of funding

Sources of finance	Current Status
ODA (Official Development Assistance)	USD 50 billion commitment to Africa which would lead a volume of outstanding credit of USD 500 billion (NB. ODA can also take the form of grants)
MDBs (Multilateral Development Banks)	USD 25 billion commitment to emerging markets which would lead to a volume of outstanding credit of USD 250 billion
DFIs (Development Finance Institutions)	USD 16 billion commitment to Sub-Saharan Africa from the 20 largest DFIs which would lead to a volume of outstanding credit of USD 150 billion
ECAs (Export Credit Agencies)	USD 5 billion commitment to Africa from OECD which would lead to a volume of outstanding credit of USD 50 billion
African Green Bonds Issuances	USD 2 billion, representing a likely outstanding of USD 1,5 billion.

All of the above together totals a volume of outstanding loans of **USD 951 billion**.

Finally, as a point of reference, the above sources of finance (typically considered when considering how to finance SDGs) can also be compared to **remittances** (which are generally overlooked). In 2015 these amounted to USD 67 billion in Africa, which means an outstanding **USD 670 billion** over a 10-year period.

In sum, the additional equity needed is 4 times the capitalization of the main African exchanges and 2.5 times the main global stock exchanges and FDI combined. In short, whatever the sources of equity, the magnitude of additional equity needed is huge.

From a credit point of view, the needs are close to ten times the currently available volume of debt

To be noted that **the volume of remittances is very significant (equivalent to 70% of the volume of the sources of finance traditionally considered)**. To finance SDG investments these foreign currency flows should be seriously considered.

c. Implications

The magnitude of the challenge is such that it requires the emergence of local, i.e. African, leading companies and finance institution. Even though Africa is overall an open economy, Africa needs to be able to conduct its economic development from within, without being dependent upon foreign support.

In short, this macro-economic reality (the size of the gap relative to the size of the local economy), is a concern not just for the financial sector but also for the private companies operating in Africa. **It will require both companies and financial institutions to think “out of the box”.**

Conclusions of Round 2

As we have seen the conditions for private finance to contribute to the fight against climate change in Egypt in Morocco are not met, which explains the strong dependence on public incentives and guarantees.

Below three key observations emanating from the explorations of both Round 1 and 2 are outlined. These lead us to three general principles that might inform how to overcome the hurdles—this latter point being the object of Round 3.

The first observation is that climate change action is a cross-sector issue; and as seen above, the lack of sector specificity represents a major hurdle to private finance. The main exception is energy production, since renewables is a sector unto itself. For the other measures, and particularly for energy efficiency and for adaptation, there is no sector specificity. On the contrary, the topic, as currently treated, is a cost centre spread across multiple sectors.

This means that a deeper analysis of what/how each sector can contribute and how it is affected is necessary. Beyond the energy sector, among the many other sectors that play a role in and/or are affected by climate change include:

- Water/utilities (adaptation)
- Agriculture and agri-business (adaptation & energy efficiency, water efficiency and preservation)
- Transportation (energy efficiency)
- Textile (water efficiency)
- Cement (energy production, energy efficiency and water efficiency)
- Mining (energy production and efficiency, water efficiency, water preservation)
- Construction heating and cooling (adaptation & energy efficiency)
- IT (adaptation and energy efficiency), namely also use of Artificial intelligence (AI)
- Public lighting (energy efficiency)
- General industry (energy efficiency)
- Forestry (carbon capture)

General Principle n.1

Explore the potential of different sectors and broaden the definition of climate finance to drive systemic change.

The second observation is that sectors that are key for climate change action, such as the energy and utilities sectors, are also fundamental for economic development in that they deliver and/or enable basic services such as electricity, water, and IT solutions. As such they are essential for the creation of the jobs and revenues that constitute the bedrock of population's overall well-being.

While the multiplicity of additional sectors involved can be leveraged to expand private finance, from an economic development perspective, it is also necessary to correctly set the priorities that will bring revenues and jobs.

To continue economic reform, three main sectors will be driven forward that are strategic for the Egyptian government:

- the manufacturing sector
- the agricultural sector
- IT sector (especially AI)

According to the different participants the key sectors for Morocco would be:

- Water
- Agriculture and Agro-industry
- Textile
- Tourism

General Principle n.2

Gain a deeper understanding of country needs and set priorities accordingly

The third observation is that Climate Change is closely interlinked with other SDGs (or impact topics). Positive and negative impacts on the climate can be linked to further positive and negative impacts in other areas. For example: on the negative side, increased water costs incurred through the desalinisation process is needed to face increased water demand, which can undermine affordability of water and in turn create food security problems. On the positive side, access to connectivity or local access to jobs, food and services such as healthcare and education diminishes the need for mobility which in turn can cut down emissions by reducing transportation needs.

Since revenues and/or cost savings can be associated with impacts, impact interlinkages are an opportunity from a finance point of view. They will allow solutions to emerge that cannot exist if climate change is considered in isolation.

General Principle n.3

Analyse the inter-linkages between climate change and other impact areas so as to leverage these interconnections.

Round 3: A roadmap for climate and SDG private finance in Egypt and Morocco

Having derived three general principles from the review of the current status quo of climate finance and the underlying hurdles, in Round 3 the contours of an immediate and a long-term roadmap were explored. These, and in particular the long-term roadmap, provide a pathway towards an African development mode.

1. Proposed immediate road map

Implementation is the weak point of many existing initiatives, which fail to translate into practice or do so at too small a scale. To avoid this pitfall, it is proposed that a couple of actual **projects of significant size (i.e. in the USD 100/1000 million range), and that meet with private sector requirements, be identified and worked on, while at the same time a number of actions be explored to support the implementation of such projects.** It is important that a “private champion” would lead the actual project(s) so as to turn them into viable projects. Further on, a similar approach would be extended to other SDG/climate projects, capitalising on the numerous initiatives of the governments of the two countries.

The three specific actions that should be conducted in parallel are described below.

a. **Setting priorities for the finance sector based on a better understanding of Egyptian and Moroccan SDG needs: Towards a broader usage of the UNEP FI Holistic Impact Methodology and Tools**

The objective of what is described below is to ensure that the selected projects are aligned with actual priorities and to maximise the number of impacts covered. In the longer term, the Holistic Impact Methodology and Tools could be used to align public and private sector on common targets and projects.

Broadening the scope of climate finance (in particular adaptation finance), is in itself an acknowledgement of the interlinkage between the different SDGs (in this case between SDG 13 on Climate Action and SDG 8 on Decent Work and Economic Growth).

As per General Principle n.2—Gain a deeper understanding of country needs and set priorities accordingly, it is necessary to go further still; the full scope of SDGs needs to be taken in consideration to set appropriate climate and SDG priority targets for the finance sector.

This is also a first step to operationalising General Principle n.3—Analyse the inter-linkages between climate change and other impact areas so as to leverage these interconnections.

This can be achieved by building on the UNEP FI Holistic impact analysis methodology, and Tools, which were designed to help financial institutions analyse their portfolios across the SDGs and to set business and impact targets accordingly. The methodology includes a needs assessment framework so as to ensure that priorities and targets are aligned with socio-economic needs and environmental constraints on the ground.

Figure 4 below provides a summary of the UNEP FI Holistic Impact Analysis Methodology, and its needs assessment framework.

Two specific areas of focus are outlined below. These are intended to align public and private objectives and to make sure objectives are consistent with private sector profitability objectives and constraints (as examined in Round 2).

i. The economic, social and environmental (i.e. SDG) country needs/priorities identified in the Tool to be reviewed with the related governments (Egypt and Morocco):

- expand so as to cover not only the country level but also from a local point of view, since needs vary depending upon regions
- analyse what impacts are currently delivered by economic sector, geographic locations and type of economic actors (companies, cooperatives, individuals...) so as to better what still needs to be achieved (i.e. the gap)
- develop a plan to address the gap (“SDG/impacts plan”). NB 1: Alignment of impact KPIs and of programs with private business plans/finance need to be sorted out. Impacts KPIs to be defined not as a static macro-economic aggregate but as “vectorial” impacts that generate action and revenues. Target impact KPIs to have significance to all (government, governates, private sector/finance).

ii. Expand the use of the UNEP FI Methodology by financial institutions (especially banks) and leading corporates in the country:

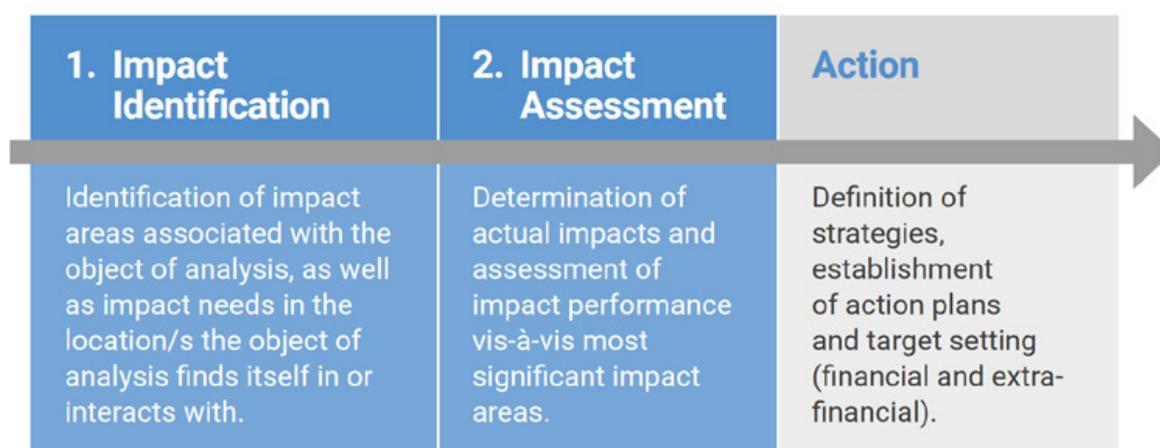
- create working groups of financial institutions supported by the financial authorities of Egypt (usage of the Portfolio Impact Analysis Tool)
- create an Egyptian and a Moroccan working group of corporates from key sectors (usage of the Corporate Impact Analysis Tool)

Figure 3: UNEP FI Holistic Impact Analysis Methodology

The UNEP FI Holistic Impact Analysis Methodology is a process to understand and manage actual and potential positive and negative impacts of a company, an asset or a portfolio across the spectrum of environmental, social and economic issues.

There are two key steps to the process. The first step is impact identification, where the impact profile of the company, asset or portfolio are identified. This is done by reviewing both the nature of the underlying activities or assets, and the context in which these exist. Understanding context is critical to ensuring that decision-making and target-setting is based on the actual needs and priorities of countries and populations, and therefore is a key aspect of the methodology.

The second step consists in assessing current performance, so as to enable users to set up meaningful action plans and targets. For instance, a bank with a strong focus on consumer banking might aim to increase the proportion of its portfolio dedicated to underserved populations. A bank delivering corporate banking products and services might set itself a target to grow its agro-food portfolio and introduce energy or water efficiency targets so as to support an economy that is both heavily reliant on the industry and significantly exposed to climate change.



The methodology is currently operationalised through 4 tools designed for different audiences and objects of analysis: the Corporate Impact Analysis Tool, the Bank Portfolio Tool, the Investment Portfolio Tool and the Real Estate Tool.

[More information](#)

b. Adapting the scope of what qualifies as 'climate finance': Towards an operative Taxonomy

The meaning of climate change action is fundamentally different for developed countries and developing countries. For developed countries action means a combination of mitigation and compensation of damages caused to developing countries by past and on-going industrialization. Developing countries, for their part, need to concentrate on climate change adaptation in the context of their development plans.

Climate change represents an additional hurdle to the socio-economic development of Egypt and Morocco. This reality should be the basis for defining what qualifies as climate change adaptation. In short, climate change must be integrated in the broader logic of economic development priorities rather than the other way around.

As per General Principle n.1 the potential of different sectors needs to be explored in depth so as to broaden the definition of climate finance. An operational taxonomy, identifying those sectors with the greatest exposure to climate change, would facilitate greater private sector involvement.

This broadening of the scope is particularly critical when one considers that some of the sectors (utilities, agriculture) the most affected by climate change are critical to meet basic human needs such as food and water. An outline proposal is included below in Figure 3.

Figure 4: Towards and operative taxonomy for adaptation business and finance

Water availability is among the first consequence of climate change in countries like Egypt and Morocco. In turn, agriculture, fish farming and agri-industry, together with other economic sectors (textile, mining, tourism, others?) endangered by water scarcity are affected.

Possible Inclusions

Water: All investments/costs related to water resources preservation, treatment, recycling, sewage, processes leading to water efficiency usage, alternative water production (desalination)

Agriculture and agro industry: All farming investments/costs located in "water scarcity zones" provided that:

- **culture** integrates intelligent water usage, preservation of aquifer, use of renewable energy and excludes GMO
- **breeding** is extensive

NB investment/costs include machinery, storage, transportation, slaughter, transformation (ie the whole agri business)

Other selected industries

(standards need to be set regarding water and energy efficiency and source of energy used)

The above taxonomy will help define/identify the pilot projects, though as already stated other factors will need to be taken in consideration in order to ensure country priorities are met (see next section). Ultimately, the blending guidelines combined with the

new climate adaptation scope should help define Egyptian and Moroccan “blending programs” that could be proposed to and supported by MDBs/DFIs.

c. General guidelines to optimise blending solutions

Ultimately, the aim for blending programs is to fit with private sector needs and to optimise the use of limited public resources. Different techniques can be envisaged: credit risk sharing (pari passu, junior and senior debt), fund creation, guarantee structures, currency exchange risk cover, liquidity risk cover, equity/quasi equity participation, grant leverage etc.

As a first step, a review of existing programmes, and of what works and doesn't work could be conducted. From this review general guidelines could be derived and applied in the context of the pilot project, thus ensuring the most appropriate techniques are used in each case.

2. Proposed long-term road map

Broadening the scope of definitions, better understanding needs and increasing the efficiency of current solutions can help significantly, however, it will not change the fact that Climate Change actions such as energy efficiency and adaptation are not sectors, nor cash flow producing activities. To go further it is necessary to fully leverage the interconnectedness between climate change issues and other SDG issues—as per General Principle n.3—Analyse the inter-linkages between climate change and other impact areas so as to leverage these interconnections.

The current solutions to address economic development, social needs within the boundaries of the planet have been elaborated mainly by developed countries and as a result are reflective of their own development model.

Despite the successes that will be achieved through the “immediate roadmap”, the results will be insufficient to meet all the needs in Egypt and Morocco. Egyptian and Moroccan specificities must be taken even further into consideration, international solutions may partially address issues and needs, but Egypt and Morocco also need to elaborate their own solutions.

What is at stake is to invent an “African development mode” that would be more efficient and deliver the required results at a much lower cost compared to the “traditional development mode”.

Whereas the Immediate Roadmap is focused on implementation, the Long-term Roadmap is more of an R&D type programme. It is about creating an impact-based economy, the key to the emergence of an “African development mode” and to upscaling the financial and economic strength of Africa.

a. Development of an impact-based economy: the key to the emergence of an “African development mode”

This would be developed through three key components, outlined below.

i. Business Development: New, African impact-based business models

While the importance of impacts is increasingly being acknowledged, they are still not thought about as ‘proper’ sectors of activity by industry and are also not yet reflected in public accounting.

For an “African development mode” to emerge, impact-based business models must be developed around those impact areas/needs for which there is currently no sector specificity. The underlying principle is to work back from the desired impacts to elaborate solutions. These will be supported by a high level of IT content.

Thus, in an impact-based, “African development mode” one deals with mobility rather than public transportation, with education rather than schools, and with healthcare rather than hospitals.

Impact-based business models could be elaborated for a number of impact areas, such as: education, healthcare, mobility, energy efficiency (dwellings retrofit, public lighting) and others.

Once these business models are available, and/or in order to make them happen it will be necessary for the public sector to move from the ‘infrastructure’ tender mode to “impact-based tenders” (see next section).

ii. Impact-based tenders for impact-based solutions

Going beyond the needs assessment component of the UNEP FI Tools, a further tool should be designed to launch tenders to foster impact-based solutions that maximise impacts to cost ratios and minimise the need for public financial support.

Responses to tenders should favour the maximisation of the local content of the programs and minimisation of the public financial support and would include a financial feasibility analysis.

The ‘Impact Tender’ tool would be developed in POC (Proof of concept) mode. The prototype of the tool (V0) could be piloted with one program, the first iteration (V1) could be applied to 3 to 5 additional programs in different contexts (regions, sectors); finally, the consolidated iteration (V2) would be the final Tool.

The programmes resulting from the tenders would then be implemented and monitored—this would require a further, complementary tool (see next item).

iii. An implementation & monitoring tool

The development of a further tool is needed to create an iterative, on-going dialogue between government, populations/communities and private sector/finance during the full life-time of a program (design, contracts, implementation, potential adaptation, impacts monitoring).

To boost local decision-making that would better fit with local populations needs, it will be necessary to provide the local level with technical, legal and financial support.

This tool would be developed following the same principles as the Tenders tool.

b. Upscaling the financial and economic strength of Africa

From a pure finance perspective, as we have seen in Round 2, the magnitude of the needs in Egypt and Morocco cannot be borne by the private sector unless the private sector and private finance grow dramatically. This issue is as fundamental as it is complex, but must be raised with the countries' main private players and with stakeholders in other countries in Africa (governments, central banks, financial supervision, banks, insurance and asset managers).

To this effect, expanding the geographic scope of this Roadmap beyond Egypt and Morocco, further onto the African continent, might be considered over time so as to unlock further opportunities. Ultimately, Africa needs to be in a position to finance its own development.

What works elsewhere doesn't always work in Africa, but what works in Africa could work elsewhere.

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List of participants to the Reflective Cycle

Egypt:

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Sources

To conduct the research, three types of documentation related to Egypt and Morocco were consulted:

- Documentation directly dealing with Climate Change/Climate Finance
- Documentation dealing with SDGs/SDGs Finance
- Documentation dealing with the main sectors involved in Climate Change and the way these sectors are financed

The full list of resources consulted is available below.

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United Nations Environment Programme Finance Initiative (UNEP FI) is a partnership between UNEP and the global financial sector to mobilize private sector finance for sustainable development. UNEP FI works with more than 450 members—banks, insurers, and investors—and over 100 supporting institutions—to help create a financial sector that serves people and planet while delivering positive impacts. We aim to inspire, inform and enable financial institutions to improve people’s quality of life without compromising that of future generations. By leveraging the UN’s role, UNEP FI accelerates sustainable finance.

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