Chapter 6

Catalyzing Climate Finance for Climate Actions in MENA Countries: A Holistic View of Egypt, Morocco, and Tunisia

Sana Essaber[1], Abdelaziz Essayem[2], Imen Baccouche[3]

[1] Higher Institute of Accounting and Business Administration (ISCAE), University of Manouba Tunisia and LEGI- Polytechnic School of Tunisia, University of Carthage, Tunisia; sanaessaber@gmail.com
[2] Higher Institute of Accounting and Business Administration (ISCAE), University of Manouba, Tunisia and MOCFINE, ISCAE; a.essayem@yahoo.com
[3] University of Carthage, LEGI-Tunisia Polytechnic School;baccoucheiment@gmail.com

Abstract: The first way to think about Sustainable development (SD) is how economic, social, environmental, and government systems interact. The second way to think about it is to identify goals for society. Then we need to get into that complexity. Taking urgent action on climate change is one of this complexity. It is an SD target by 2030 but is also a Paris agreement target oriented towards climate neutrality by 2050. However, achieving these goals requires access to significant resources to finance mitigation and adaptation measures, resources identified as climate finance, one of the several dimensions of green finance.
Several barriers exist to how public and private climate finance are made available and accessed. This paper discusses financial instruments to sustain climate action and the latest trends in climate project financing in developing countries, emphasizing the MENA countries, Egypt, Morocco, and Tunisia. The work finds various domestic and foreign funds available for climate action initiatives in emerging countries, but they need an integrated climate project financing strategy. A collaborative effort involving all actors and mobilizing all resources in an integrated manner would allow countries to finance the investments they need to fight climate change.

Keywords: Green Finance, Climate finance, Green Climate Fund (GCF), Climate Investment Fund (CIF), Mitigation, Adaptation, MENA countries

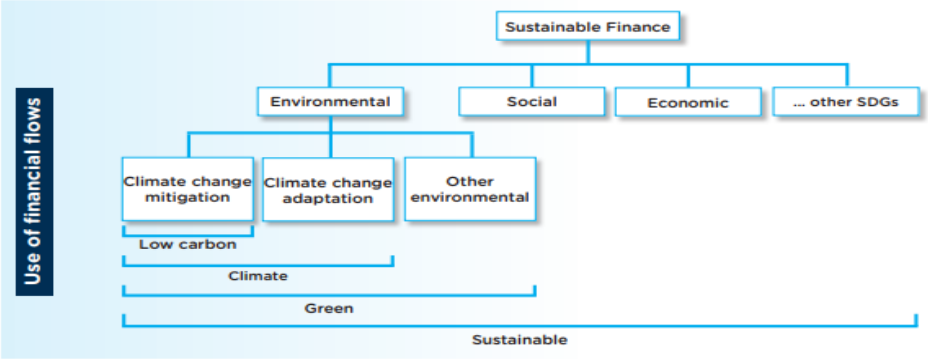
1. Introduction

The Paris Agreement clearly states that all funding sources must achieve the adaptation and mitigation goals set out in the Agreement. Achieving these goals depends on developing countries committing to emission reduction programs to drive low-carbon development and adaptation programs for more climate-resilient countries. The developing countries indicate their Defined National Contributions (NDCs) actions with local resources and the potential actions to be taken if they receive international support. They commit to reducing their

greenhouse gas (GHG) emissions voluntarily. In return, developed countries commit to the principle of common but differentiated responsibility. This requires massive investments in new infrastructure and bringing existing ones into line with the environment.

Moreover, current financing and investment patterns are considered unable to deliver sustainable development. In particular, expected returns on investments associated with sustainable development are often not as attractive as other opportunities, especially in the near term. At the same time, there are many competing demands on public resources, and governments have not been able to mobilize adequate public financing to undertake necessary investments that profit-seeking investors avoid. Through their survey of green finance literature, Gilchrist et al. (2021) argue that developed and developing countries have distinct agendas when establishing green finance criteria and, presumably, more pressing financial concerns dictate their short-term policy.

Given the importance of the financial resources to be mobilized and the scarce public funding and investments, many public and private initiatives have been undertaken to reduce the climate change impact, so the financial sector can contribute as a conducive vehicle for financing the transition to a climate-friendly economy (OECD 2018). Consequently, climate finance, namely for mitigation and adaptation actions, is one of the green finance dimensions, which in turn are a subset of sustainable development finance (Fig. 6.1).



Source: Adapted from UN Environment Inquiry 2016b.

Fig. 6.1: Elements of sustainable finance

The international community and private sector engagement will be very important (Climate Policy Initiative 2017). Moreover, aware of the systemic impact of climate risk, the regulator's role has become to support incentives for the financing of the energy transition and put in place an appropriate framework for managing collective risks and financial institutions (Campiglio, 2016). The financial sector and all its components (institutional investors, banks, insurance companies, etc.) are particularly exposed to the risks related to climate change (UN Environment 2017). Thus, access to climate finance requires countries to have a clear and concise strategy for planning and implementing climate projects (Buchner et al. 2017).

This research explores the potential sources and new patterns of climate action funds in developing countries. To this end, a detailed and extensive literature survey was performed to explore the barriers and challenges to climate finance in developing countries and better comprehend the core players involved in this area. For illustration, some MENA countries are used as case studies.

The paper is organized as follows: In Section 2, we present the principal current climate funding in Egypt, Morocco, and Tunisia. Section 3 treats the main constraints related to climate investment in these MENA countries. We conclude in Section 4.

2. Current climate finance in Egypt, Morocco, and Tunisia

To meet climate change commitments in the future, significant new funds are needed to be provided by various organizations and banks to support MENA governments in promoting innovative strategies, technologies, and financing options to manage the threats related to the climate change impacts and its impact on populations and countries main socio-economic indicators.

Based on the total funds identified in MENA countries, only a few amounts come from climate funds (GCF[1], GEF[2], AF[3], CTF[4], FIP[5]). The largest share comes from dedicated climate finance provided by MDBs, in particular, the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), and the International Bank for Reconstruction and Development (IBRD), and most funding was country-specific; regional projects (Midgley and al. 2018). However, the bulk of the regional funding went to the GCF.

In this work, Egypt, Morocco, and Tunisia (Fig. 6.2) are retained as study cases to highlight climate funds' financial resources to support climate projects. Climate impact scenarios are generally more serious in MENA than in other regions (Schaar 2019; Cooper 2020).

Fig. 6.2 : The sample countries to be studied

There are multiple climate funding providers in Egypt, Morocco, and Tunisia through bilateral channels, multilateral channels, or specific climate funds such as the Climate Investment Fund (CIF) and the Green Climate Fund (GCF). The World Bank's Climate Investment (CIF), the Agence Française de Développement (AFD), and the European Bank for Reconstruction and Development (EBRD) all finance major projects. Tunisia received more from Multilateral Development Banks, 387 Million US$ in 2017, less than Morocco and Egypt (Table 6.1).

[1] GCF: Green Climate Fund https://www.greenclimate.fund/
[2] GEF: Global Environment Facility https://www.thegef.org/
[3] AF : Adaptation Fund https://www.adaptation-fund.org/
[4] CTF : Clean Technology Fund : https://climatefundsupdate.org/the-funds/clean-technology-fund/
[5] FIP: Forest Investment Partnership https://www.climateinvestmentfunds.org/sites/cif_enc/files/results-2015/fip/

[1] **Table 6.1 :** Climate finance received by the economy from multilateral development banks for 2015, 2016, and 2017 (in US$ million), Source: Multilateral Development Banks (2020).

Economy	**2015**	**2016**	**2017**	**Total**
Tunisia	19	96	387	502
Morocco	914	729	668	2 310
Egypt	511	693	1,585	2 789

Access to Green Climate Fund resources is through accredited national, regional, and international entities to conduct climate change programs and projects. Consistent with the $100 billion pledge goals and the Paris Agreement, mitigation and adaptation goals are prioritized.

However, large investments are much more likely to be directed toward mitigation than adaptation (Table 6.2). This is due to more established measurement and reporting of mitigation benefits than for adaptation. Renewable energy and transportation projects are also more broadly agreed upon as having mitigation benefits/co-benefits, and these projects often yield a better return on investment.

Table 6.2 : Climate finance received by the economy from Green Climate Fund (GCF)

	Egypt	Morocco	Tunisia
Number of projects	4	9	6
Total GCF financing (US$ million)	300,7	228,9	120,5
Project nature :			
- Mitigation	2	4	4
- Adaptation	1	2	-
- Cross-cutting	2	3	2

Source: Green Climate Fund

The CIF's goal is the *"transformational change towards climate-resilient, low-carbon development in developing countries through scaled-up financing".* CIF's scale and flexible approach help countries mitigate and adapt to climate change in an integrated, programmatic fashion. It was established in 2008 to deploy climate finance at scale to advance clean technology (CTF) and renewable energy (SREP), sustainable management of forests (FIP), and climate-resilient development (PPCR).

The CIF is implemented through five MDBs (i.e., AfDB; ADB; EBRD; IDB; and WBG, including IFC) that strengthen planning and action for climate-friendly development in 72 developing and middle-income countries worldwide.

The Clean Technology Fund (CTF) provides financing for investments in innovative technologies and clean energy projects. The fund provides loans, grants, guarantees, equity, and local currency financing at reduced market rates on a scale that is big enough to matter. Egypt and Morocco benefit from the clean technology fund (CTF), and Tunisia benefits from CTF through a regional project but mainly from the forest investment program (FIP). More details are given in table 6.3 below.

Table 6.3 : Climate finance received by the economy from Climate Investment Fund (CIF)

Projects in Egypt				
Name	Fund	Funding (US$ million)	Cofinancing (US$ million)	MDB
DPSP III: Sustainable Urban Infrastructure: Expansion	Clean Technology Fund	30.00	145.00	IFC
Wind Power Development Project	Clean Technology Fund	150.00	653.50	IBRD
Projects in Morocco				
Name	Fund	Funding (US$ million)	Cofinancing (US$ million)	MDB
Clean and Efficient Energy Project	Clean Technology Fund	23.95	134.36	IBRD
One Wind Energy Plan	Clean Technology Fund	125.00	2263.74	AFDB
Projects in Tunisia				
Name	Fund	Project cost (US$ million)	Cofinancing (US$ million)	MDB
Integrated landscape management in Tunisia's lagging regions	FIP	96	-	-
Integration of the tree in degraded private farmland	FIP	34	-	-
Sustainable management of Tunisian rangelands	FIP	28	-	-

Source: https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/fip_investment_plan_for_tunisia_0.pdf

3. Constraints related to climate investment in Egypt, Morocco, and Tunisia

The main constraints to achieving climate change mitigation and adaptation projects are institutional, technical, and financial. In addition, climate change-related investments are significantly lower than total foreign direct investment (FDI). This can be justified by the risks of this type of investment, such as exchange rate risk, project liquidity, credit risk, and project operational risks (implementation, the technology used, etc.). The main obstacles to climate investment in MENA countries are recurrent in the rest of the developing countries. We

summarize the main constraints for three MENA countries, namely Egypt, Morocco, and Tunisia, in table 6.4 below:

Table 6.4: Main climate projects barriers in Egypt, Morocco, and Tunisia

	Political-regulatory field	**Economical-financial field**	**Technological or other fields**
Egypt*	• High risk and uncertainties because of the unstable political situation • The national electricity monopoly • Administrative delaying of bureaucracy • No incentives from the state.	• High costs of capital and transactions. • high level of interest • Non-involvement of national banks. • Opposition to hard currency. • Small-size initiatives.	• Lack of management capacity. • Insufficient local knowledge and expertise. • Heavy reliance on fossil fuels (oil and natural gas).
Morrocco*	• Initial low-level of thinking. • No allowances for independent electricity supply. • No commitment to transportation emissions • Large subsidies on fuel	• High CDM project fees and costs • The long-time cycle of CDM projects • Debt is not an option for small and medium-sized enterprises (SMEs) • No engagement of domestic banks in the fund-raising decision process. • No long-term financing in hard currency. • No tax or other financial benefits	• Lack of local expertise in technical matters • Limited consciousness of the issues and mechanisms of the environment • Limited national natural gas reserves.
Tunisia**	• The monopoly of STEG is not perceived as positive and may affect public policy. • Lack of market visibility. • Unclear national vision for the	• The Tunisian currency's inflation and the fact that most investments are made in foreign currency. • Absence of a clear and steady implementation	• Lack of technical specifications for renewable energy developers to be plugged into the electricity grid. • Limited expertise in high-value components

	development of a domestic renewable energy market. • A confusing set of competition-distorting policies	framework for renewable energies. • Absence of a transparent financing scheme, namely for small and medium-sized enterprises.	(photovoltaic cells, float glass, receivers, etc.) • lack of public as well as private investment in R&D • Lack of methodological tools for climate indicators and project implementation

Sources: * Karakosta and Psarras (2013) **Morsy et al. (2018)

4. Opportunities related to climate investment in Egypt, Morocco, and Tunisia

Various mechanisms to foster a more attractive investment climate have been created at the global, regional, national, and sub-national scales. Developing a national strategy to develop RE in the local market is insufficient. Its implementation requires a favorable regulatory, technical and economic framework, particularly regarding key issues such as administrative procedures, grid connection permits, or financial incentives (tax rebates, preferential lending rates, etc.). Several factors, such as weak governance, inadequate institutions, imperfect macroeconomic policy and infrastructure, weak legal systems, and lack of public service transparency, have created an adverse investment environment. Addressing these numerous issues may involve new skills, such as financial and risk management expertise, technical knowledge of sustainable development, and skills for evaluating climate projects' financial benefits and sustainability impacts.

Besides, efficient public climate finance could reduce the risks related to climate investment and encourage private funding (Westphal et al. 2015). The central bank's role is essential in enhancing the value of greenhouse gas emission reduction activities and transforming climate finance. Indeed, instituting a monetary value for GHG emission reduction activities could engage more investors. Entrepreneurs who wish to engage in climate investment need some guarantee that entrepreneurs' private gain can also be equivalent to the collective gain for society. However, the market cannot do it by itself. Instead, the Central Bank can introduce this social and monetary value and institute it, which provides a guarantee and a safeguard for these costly investments and long-term returns on investment (Campiglio 2016). The central bank should regulate a deep financial transformation process.

On the one hand, this process requires the certification of the volume of GHGs avoided by the investments made and, on the other hand, the issuance of green bonds. This is the path that may lead to the goal of carbon neutrality (Campiglio 2016). We summarize the key challenges and principal bank activities in Table 6.5.

Table 6.5 : Main objectives and tasks of the Bank

Egypt	• Supporting the competitiveness of the Egyptian private sector by building deeper value networks and chains. • Better access to finance for small and medium-sized enterprises (SMEs) • Increasing the number of economic opportunities for both women and youth
Morocco	• Improve Access to Finance for SMEs • The rural-urban gap results in significant deficits in access to services and finance and significant imbalances in the subjacent business environment. • Support sustainability and marketing of public services and infrastructure
Tunisia	• Strengthening financial and economic inclusion of youth and underperforming regions, including support for SMEs, microfinance, and advanced technologies. • Funding the growth of green and sustainable transport services (e.g., railroads, ports, logistics zones, intermodal terminals) and energy storage systems. • Improve the governance of the financial sector

5. Conclusion

The country's capacity to efficiently manage the climate change risks relies on many elements, including the regulatory and institutional capacity to build and deploy adaptation strategies, the ability to monitor and gather information to respond to the impacts of climate change, the reinforcement of capacities in using technologies dedicated to climate action, as well as access to finance, among others.

Climate change financing sources include all national, regional, or international financial support for activities or projects addressing an aspect of climate change. The study of the Egyptian, Moroccan and Tunisian cases provides interesting examples of the need for an integrated mitigation and adaptation strategy to access financial resources that are still progressing slowly despite the efforts.

There is not usually sufficient detail on the funding level required to sustain adaptation actions or the potential future benefits/savings from avoided losses that can be realized through resilience and adaptation actions. This last point is related to the fact that, unlike mitigation, there is no single measure to quantify the benefits of adaptation actions. Hence, a need for adaptation finance and concessional finance in the MENA region is identified. Over 80% of climate finance from international public finance flows supports mitigation, largely in renewable energy funding (Midgley et al. 2018; ECSWA 2019); however, adaptation is a key priority amongst MENA countries (ESCWA 2019).

Despite the availability of financial instruments for climate investments from public and private sources, they are not often accessible due to restrictions on possible beneficiaries, strict eligibility criteria, or lengthy application procedures.

References

Buchner et al. (2017) Global Landscape of Climate Finance. *Climate Policy Initiative,* October.

Campiglio E (2016) Beyond carbon pricing: The role of banking and monetary policy in financing the transition to a low-carbon economy. *Ecological Economics*, 121: 220-230.

Climate Action Network (2013) Climate change adaptation and the role of the private sector: Creating effective tools for private sector engagement, *CAN Europe*.

Climate Analytics (2019) Annual Report 2018. Available from: https://climateanalytics.org/publications/2019/climate-analytics-annual-report-2018/

Climate Policy Initiative (2017). Global landscape of climate finance architecture. October. Available from: https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2017/

Cooper, R (2020) Climate Change risks and opportunities in the Middle East and North Africa, *K4D Helpdesk Report,* Brighton, UK: Institute of Development Studies.

Della et al. (2011), The role of pension funds in financing green growth initiatives, *OECD Publishing*, 10, Paris.

ESCWA - Economic and Social Commission for Western Asia (2019) Technology for development. *Annual Report 2018*.

Gilchrist and Zhong (2021) The limits of green finance: A survey of literature in the context of green bonds and green loans, *Sustainability,* 13, 478.

Jeulin and,Delbosc (2011) The role of regional authorities in public support for renewable energies: Examples in Europe and France, *Climate Report*, 30, November.

Karakosta and Psarras (2013) Understanding CDM potential in the Mediterranean basin: A country assessment of Egypt and Morocco, *Energy policy*, 60.

Midgley et al. (2018) International public climate finance in the Mediterranean – Updated results for 2016 – Final report, *Union for the Mediterranean. Climatekos*.

Ministère de l'Environnement et du Développement Durable (2015) Contribution prévue déterminée au niveau national.,République Tunisienne, Tunis. Available from: https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Tunisia%20First/INDC%20Tunisie%20VF%205%20aout%20Valid.pdf

Mohd and Kaushal (2018) Green finance: a step towards sustainable development. *MUDRA Journal of Finance and Accounting*, 5 (1), 59-74, July.

Morel and Delbosc (2012) Financer la lutte contre le changement climatique dans les pays en développement: Quelle place pour les NAMA? *CDC Climat Recherche*, 32, Février.

Morsy et al. (2018) Tunisia diagnostic paper: assessing progress and challenges in unlocking the private sector's potential and developing a sustainable market economy. *European bank for reconstruction and development*, November.

Multilateral Development Banks (2020) Joint report on multilateral development banks climate finance, August. Available from: https://www.eib.org/attachments/press/1257-joint-report-on-mdbs-climate-finance-2019.pdf

OECD (2018) Climate finance from developed to developing countries: Public flows from 2013-2017. *OECD Publications*.

Pauw and Pegels (2013) Private sector engagement in climate change adaptation in least developed countries: An exploration. *Climate and Development*, 5 (4), August.

Pauw W P (2015) Not a panacea: Private-sector engagement in adaptation and adaptation finance in developing countries. *Climate Policy*, 15 (5), 583-603.

Schaar J (2019) A confluence of crises: On water, climate and security in the Middle East and North Africa. *SIPRI Insights on Peace and Security*.

UN Environment (2017) Roadmap for a sustainable financial system, inquiry: Design of a

sustainable financial system. November.
Westphal et al. (2015) Getting to $100 billion: Climate finance scenarios and projections to 2020. *World Resources Institute*, Working paper, May.
World Economic Forum (2011) The global competitiveness report 2011–2012, Geneva, Switzerland.