



Promoting Sustainable Finance and Climate Finance in the Arab Region

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- Alex Bank
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- Bank of Africa
- Al-Baraka Banking Group
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About UNEP FI

United Nations Environment Programme Finance Initiative (UNEP FI) is a partnership between United Nations Environment Programme (UNEP) and the global financial sector to mobilize private sector finance for sustainable development. UNEP FI works with more than 350 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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About The League of Arab States

The League of Arab States (LAS) is a regional intergovernmental organization established on 22 March 1945. The main goal of the organization is to “Draw closer relations between member States and coordinate collaboration between them, to safeguard their independence and sovereignty, and to consider the interests of the Arab countries, “with a focus on developing the economy, resolving disputes and coordinating political issues. The League of Arab States aims at improving the standards of living of the Arab citizens through developing and enhancing economic and social policies to achieve Arab integration within the framework of the Arab conventions, charters, and strategies adopted in all areas. In response to the Sustainable Development Agenda 2030, the Secretary-General of the League of Arab States issued resolution 91/1 in April 2016 to establish the Sustainable Development and International Cooperation Department (SDIC) within the structure of the Secretariat to support Arab efforts in implementing the sustainable development goals 2030. LAS-SDIC main challenges in achieving sustainable development are water scarcity, climate change, high rates of illiteracy, increased population rates, low level of infrastructure, and conflicts..

About DG Climate Facility Project: Climate Action for Human Security:

Focused on the nexus between climate action and human security, the SDG Climate Facility Project: Climate Action for Human Security seeks to enhance the capacity of regional and national institutions in the Arab States to effectively take climate action in a way that brings benefits across SDGs and for crisis prevention/recovery efforts, including support to scale-up climate finance for innovative local solutions.

The objectives of the project are to i. conduct regional level assessments to produce evidence-based data on the impact of climate change on vulnerabilities, and their implications for regional strategies and policies aimed at meeting the SDGs, thereby increasing the awareness of key stakeholders on the benefits of a nexus approach, ii. design innovative tools and approaches to integrate climate action into crisis recovery and development responses at the country level, and iii. mobilise and scale up climate finance—public and private—to enable countries to put in practice the integrated approach.

Underlying these objectives is the intention to establish an SDG-Climate Facility, which will take forward to nexus approach and agenda beyond the life-cycle of the project. The project, which runs until December 31, 2021 brings together multi-lateral institutions in the region such as the League of Arab States (LAS) and the Arab Water Council (AWC), and leading UN system partners active on climate actions in the region, including the UN Development Programme (UNDP), the United Nations Environment Programme Finance Initiative (UNEP FI), the UN Human Settlement Programme (UN-Habitat), the UN Office for Disaster Risk Reduction (UNDRR), and the World Food Programme (WFP).

Foreword

Financial institutions around the world need to play a significant role in the achievement of the UN Sustainable Development Goals (SDGs). The need for sustainable finance opens new opportunities for financial institutions to support communities and business in the shift to climate-resilient economic systems. This study sheds light on the Arab region's particular susceptibility to climate change risks such as rising sea levels, water scarcity, land degradation and desertification, among others. The study also emphasizes the importance of sustainable finance resources to transition from mainstream economic systems to responsible and resilient ones.

The incorporation of sustainability in the economic transition will require support at the regulatory as well as institutional levels. The adoption of sustainable finance practices can provide numerous benefits to financial institutions and wider access to finance for climate-vulnerable communities to equip them with the necessary resources. Policy makers and regulators ought to mainstream gender considerations in their policy recommendations to cater to all community members in an equal manner.

There is a shortage of data and research on sustainable and climate finance in the Arab region, and the available data is poorly organized. This research provides an important reference on the status of sustainable finance and climate finance in the region, with a focus on specific countries. The research zooms in on the existing landscape of strategies and policies on climate adaptation and mitigation, and the challenges these countries face. Policy recommendations provide a foundation for tackling the identified challenges based on good case practices, insights from policy makers, as well as feedback from practitioners in the focus countries. It is the first research to consolidate all this relevant information in the region and contributes to narrowing the data gap on sustainable and climate finance.

This research was carried out with the generous support of the League of Arab States (LAS) and the Ford foundation. LAS provided UNEP FI and the research team with the opportunity to connect with relevant focal points and policy makers in the region. In addition, support provided under the regional project "SDG Climate Facility: Climate Action for Human Security", led by UNDP in partnership with LAS, other regional and UN partners, and the financial contribution of Sida were all invaluable. We are eager to continue our work to support financial institutions in the Arab region on their journey towards more sustainable and climate-aware business models and approaches.



Eric Usher

Head

UNEP Finance Initiative

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List of abbreviations

AAIB	Arab African International Bank	DFSA	Dubai Financial Services Authority
ABJ	Association of Banks in Jordan	DNSs	Debt for Nature Swaps
ADGM	Abu Dhabi Global Market	EBI	Egyptian Banking Institute
ADSFF	Abu Dhabi Sustainable Finance Forum	EBRD	European Bank for Reconstruction and Development
ADX	Abu Dhabi Securities Exchange	EEEA	Egyptian Environmental Affairs Agency
AF	Adaptation Fund	EETC	Egyptian Electricity Transmission Company
AFD	Agence Française de Développement	EGX	Egyptian Stock Exchange
AFED	Arab Forum for Environment and Development	EIB	European Investment Bank
AMMC	Moroccan Capital Market Authority (Autorité Marocaine du Marché des Capitaux)	EPF	Environment Protection Fund
ASE	Amman Stock Exchange	ERBD	European Bank for Reconstruction and Development
BAB	Bahrain Association of Banks	ESCWA	Economic and Social Commission for Western Africa
BAM	Bank Al-Maghrib	ESG	Environmental, Social and Governance
BHB	Bahrain Bourse	EU	European Union
CBE	Central Bank of Egypt	FEB	Federation of Egyptian Banks
CBJ	Central Bank of Jordan	FIs	Financial institutions
CDD	Climate Change Directorate	FRA	Financial Regulatory Authority
CIB	Commercial International Bank	FSDP	Financial Sector Development Program
CMA	Capital Market Authority	GCC	Gulf Cooperation Council
CSE	Casablanca Stock Exchange	GCF	Green Climate Fund
CTF	Clean Technology Fund		
DCED	Donor Committee for Enterprise Development		
DFM	Dubai Financial Markets		

GDP	Gross domestic product	NAP	National Adaptation Plan
GEF	Global Environment Facility	NBFIs	Non-banking financial institutions
GGGI	Global Green Growth Institute	NCCC	National Committee on Climate Change
GHG	Greenhouse gas	NCCP	National Climate Change Policy
GIZ	Gesellschaft für Internationale Zusammenarbeit	NDCs	Nationally Determined Contributions
GRI	Global Reporting Initiative	NDP	National Development Plan
ICMA	International Capital Market Association	NESAP	National Environmental Strategy and Action Plan
IFAD	International Fund for Agriculture Development	NFIS	National Financial Inclusion Strategy
IFC	International Finance Corporation	NGFS	Network for Greening Financial Systems
INDCs	Intended Nationally Determined Contributions	NGGP	National Plan for Green Growth
IRENA	International Renewable Energy Agency	NTP	National Transformation Program
IsDB	Islamic Development Bank	OBG	Oxford Business Group
ISES	Integrated Sustainable Energy Strategy	PIF	Public Investment Fund
JEF	Jordan Environment Fund	PMR	Partnership for Market Readiness
JREEEF	Jordan Renewable Energy and Energy Efficiency Fund	PPP	Public-private partnership
KPIs	Key Performance Indicators	PRB	Principles for Responsible Banking
KSA	Kingdom of Saudi Arabia	PSI	Principles for Sustainable Insurance
LAS	League of Arab States	PV	Photovoltaic
MDGs	Millennium Development Goals	RBF	Results-based finance
MEAs	Multilateral environment agreements	SAMA	Saudi Arabian Monetary Authority
MENA	Middle East and North Africa	SBN	Sustainable Banking Network
MOE	Ministry of Environment	SCA	Securities and Commodities Authority
MRV	Monitoring, Reporting and Verification	SDGs	Sustainable Development Goals
MSMEs	Micro, small and medium enterprises		

SMEs	Small and medium enterprises
SRI s	Socially responsible investments
SSE	Sustainable Stock Exchange
SSEI	Sustainable Stock Exchange Initiative
SUNREF	Sustainable Use of Natural Resources and Energy Finance
SWLRI	Strategic Water and Land Resources for Iraq
TSP	Tunisian Solar Plan
UAB	Union of Arab Banks
UAE	United Arab Emirates
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
WB	World Bank
WFE	World Federation of Exchanges

Executive summary

In 2015, world leaders adopted the United Nations UN 2030 sustainable development agenda that embraces an integrated approach to development through three dimensions of sustainability—economic, social and environmental—to be achieved through 17 Sustainable Development Goals (SDGs). These goals include ending poverty, fighting inequality, improving access to education and health services and addressing climate change, while protecting the environment and securing sustainable economic development worldwide.

The Arab region is highly vulnerable to climate change. There are pressing mitigation and adaptation needs related to issues such as water scarcity, rising sea levels, drought, land degradation and desertification. Climate change is expected to have serious repercussions on the region's food, energy and water security through its negative impact on vital sectors including—but not limited to—water, health, coastlines, tourism and agriculture in a region where more than 50% of food is imported and most of its vulnerable population is still rural and dependent on agriculture for its livelihood.

The financial industry is expected to play an instrumental role in financing the 2030 sustainable development agenda by transitioning to a more resilient, inclusive and green economy. Financial institutions and markets would support the ongoing global structural transformation towards sustainable development by efficiently re-directing public and private resources towards more socially, environmentally and economically sustainable activities (UNE 2017).

The global financing gap for achieving the SDGs is estimated at USD 5–7 trillion annually, while in Arab countries, the financing gap for achieving the SDGs is estimated to be at least USD 230 billion annually (AFED 2018). That is why it is important to enhance the role of the financial system in the region to support their transition towards sustainable development by bridging the green financing gap, mobilizing resources, and re-directing financial flows towards more sustainable and responsible investment.

Sustainable finance

Sustainable finance is a new concept whose meaning is still evolving. This report uses the United Nations Environment Programme’s working definition, which states:

“A sustainable financial system is stable and creates, values and transacts financial assets in ways that shape real wealth to serve the long-term needs of a sustainable and inclusive economy along all dimensions relevant to achieving those needs including: economic, social and environmental issues (UNEP 2017a).”

This report investigates the most prevalent sustainable finance practices in six countries in the Arab region: Egypt, Jordan, Morocco, Bahrain, the United Arab Emirates (UAE) and the Kingdom of Saudi Arabia (KSA). Over the past two decades, all six countries have adopted green growth strategies. However, their progress in aligning their national financial systems with sustainable development needs and goals is varied.

The UAE leads sustainable finance practices in the region, Morocco is at an advanced stage and Egypt is preparing to develop its national sustainable finance framework. Jordan and Bahrain have committed to aligning their financial systems to finance their sustainable development agenda.¹ Saudi Arabia’s national policy framework has been driven mainly by economic diversification reforms to reduce their oil dependence and increase the contribution of their non-oil sectors to GDP, while also increasing private sector participation.

With the exception of Saudi Arabia, all six countries have developed ESG guidelines, engaged in sustainability reporting, and worked on promoting sustainable finance through awareness campaigns and education initiatives.²

As for financial market innovations, only three countries—the UAE, Morocco and Egypt—have issued green bonds, while all six countries have issued conventional Islamic bonds or sukuks. Sukuks may be used to promote sustainable finance in the region.

1 This is based on various issues of Sustainable Banking Network SBN Country and Global Progress Reports produced by the International Finance Corporation IFC.

2 This is based on Sustainable Stock Exchange Initiative SSEI website: <https://sseinitiative.org/stock-exchange/tadawul/>

Climate finance

Climate finance is a subset of sustainable finance. It generally refers to financial resources mobilized to fund actions directed towards mitigating and adapting the impacts of climate change. The United Nations Framework Convention on Climate Change (UNFCCC), defines climate finance as:

“local, national or transnational financing, which may be drawn from public, private and alternative sources of financing ... to significantly reduce emissions, notably in sectors that emit large quantities of greenhouse gases... and to adapt to the adverse effects and reduce the impacts of climate change (UNEP 2017a).”

This report assesses the status of climate finance in four countries in the Arab region: Egypt, Jordan, Iraq and Tunisia. In all four countries there are national energy strategies in place and committees or councils that exist to coordinate action across government. Egypt and Jordan have established national strategies to adapt to climate change while Iraq and Tunisia are developing theirs.

All four countries in the study have received international public climate finance from a number of sources to support their responses to climate change. These include climate funds such as the Green Climate Fund (GCF) and the Global Environment Facility (GEF) and the Adaptation Fund (AF), development financial institutions, and international and regional organizations such as the EU and the World Bank.

The majority of funds made available have been for mitigation not adaptation projects and have mostly funded energy, transport and infrastructure projects. Water and sanitation projects have accounted for less than 15% of the financial flows into Arab region countries. Estimating private sector financial flows is challenging because of data gaps and the lack of a standardized reporting format.

Assessment and recommendations

Arab countries have made different levels of progress in aligning their national financial systems with sustainability considerations to finance their development needs and goals.

There have been positive financial sector reforms over the past decade, which include improving financial institutions' capital adequacy levels, strengthening financial regulatory authorities and creating a supportive policy framework that is raising private sector participation. However, regulatory support is not yet adequate to see FIs make environmental risks and opportunities central to business strategy, FIs lack risk management capacity and at a societal level, sustainable finance is still considered a philanthropic rather than commercial investment.

To address the financial sector's needs, the reform measures and policy interventions that financial sector governance bodies in the Arab region need to consider are to:

- Strengthen governance, legislative and regulatory frameworks, including issuing and enforcing green finance guidelines, building capacity and incorporate gender awareness in sustainable and climate financing
- Raise awareness of the merits of sustainable finance and strengthen the capacity of financial sector stakeholders, through education programmes and initiatives to develop FIs capacity and understanding to develop a pool of bankable green projects to increase private sector engagement whenever commercially viable
- Raise national readiness for climate change and finance dictates reform measures to address institutional weaknesses, planning gaps as well as technical capacity and expertise constraints.

The way forward

The ongoing financial sector reforms, focusing on financial stability, inclusion and digital transformation, present a golden opportunity for the region to fully integrate environmental and social factors into their financial institutions' business models and core strategies. Islamic finance presents a potential vehicle for promoting sustainable finance and climate finance in the region where Islamic financing transactions have already been used in most Arab countries. Sustainability is inherent in Islamic finance's main principles, which look at environmental and social considerations in accordance with Islamic law. These principles aim at poverty alleviation, wealth distribution, social and financial inclusion, environmental preservation, financial stability and economic growth, hence sharing sustainable finance's main objectives (Sekuriti 2019) (El-Hawary, Grais and Iqbal 2004).^{3,4}

3 The Islamic finance industry has been rapidly growing with Shariah-compliant assets reaching USD 2 trillion worldwide.

4 The four main principles governing Islamic finance based on Islamic Shariah law are: risk sharing; no financing of haram (prohibited activities); no exploitation of any of the involved parties; and materiality, which means that any financial transaction should be backed up by real economic activity.

1.

Introduction



Background

In September 2015, world leaders formally adopted the United Nations UN 2030 agenda for sustainable development. Former UN Secretary General Ban Ki-moon described it as the most inclusive development agenda the world has ever seen. The agenda embraces an integrated approach to development through three dimensions of sustainability—economic, social and environmental—to be achieved through 17 Sustainable Development Goals (SDGs). These goals include ending poverty, fighting inequality, improving access to education and health services and climate change, while protecting the environment and securing sustainable economic development worldwide.

The global financing gap for achieving the SDGs is estimated at USD 5–7 trillion annually, whereas the developing world faces a financing shortfall estimated at USD 2.5 trillion per year until 2030 (AFED 2018). The financial industry is expected to play an instrumental role in financing the UN 2030 sustainable development agenda by transitioning to a more resilient, inclusive and green economy. Financial institutions and markets would support the ongoing global structural transformation towards sustainable development by efficiently re-directing public and private resources towards more socially, environmentally and economically sustainable activities (UNEP 2017a).

Social and environmental (E&S) factors should be integrated into the financial system's business models, approaches and operations (UNEP 2017a).

In Arab countries, the financing gap for achieving the SDGs is estimated to be at least USD 230 billion annually. The gap for Arab countries in deficit is estimated at USD 100 billion annually, for a cumulative total of more than USD 1.5 trillion through 2030 (AFED 2018). That is why it is important to enhance the role of the financial system in Arab countries to support their transition towards sustainable development by bridging the financing gap, mobilizing the necessary public and private resources, and re-directing financial flows towards more sustainable and responsible investment.

Sustainable finance is a broad concept whose meaning is still evolving, and for which there is no universal definition. This report uses the United Nations Environment Programme's working definition, which states:

“A sustainable financial system is stable and creates, values and transacts financial assets in ways that shape real wealth to serve the long-term needs of a sustainable and inclusive economy along all dimensions relevant to achieving those needs including: economic, social and environmental issues.”

A similar definition is adopted by the EU High-Level Expert Group on Sustainable Finance who define it as “finance fostering sustainable economic, social and environmental development” (UNEP 2017a).

Climate finance is a subset of sustainable finance. It generally refers to financial resources mobilized to fund actions directed towards mitigating and adapting the impacts of climate change. The UNFCCC defines climate finance as:

“local, national or transnational financing, which may be drawn from public, private and alternative sources of financing ... to significantly reduce emissions, notably in sectors that emit large quantities of greenhouse gases... and to adapt to the adverse effects and reduce the impacts of climate change (UNEP 2017a).”

The UN 2030 sustainable development agenda emphasizes the need to adopt integrated national financing frameworks to achieve the SDGs, and to implement the 2015 Paris Agreement on climate change which stipulates a global transition to a low carbon, climate resilient future. It is estimated that implementing the 2015 Intended Nationally Determined Contributions (INDCs) would require allocating more than USD 20 trillion between 2016–2030 in those developing countries that represent almost 50% of global greenhouse gas (GHG) emissions (UNEP 2017a).

Despite increased awareness of the importance of sustainability and climate change and their impact on the economy, in most countries these issues continue to be perceived as marginal and are not central to policymakers’ core mandate. In the financial sector, governance bodies mainly focus on conventional soundness and development indicators, such as capital adequacy, liquidity and leverage ratios, without paying sufficient attention to the risks associated with financing increasing social and environmental needs (UNEP 2019a).

The Arab region is highly vulnerable to climate change. There are pressing mitigation and adaptation needs related issues such as water conservation, rising sea level, land degradation, land desertification and drought. Countries in the region are water stressed, and it is expected that climate change will worsen the situation, leading to water scarcity by 2025. These concerns have important implications for water availability, health issues, agriculture production and productivity, food security and social welfare, in a region where more than 50% of its food is imported and most of its vulnerable population is still rural and dependent on agriculture for its livelihood (Watson et al. 2019).

Climate change is expected to transform the way economies operate worldwide through its impact on financial stability, and hence on economic growth and sustainable development. Climate hazards may have destabilizing effects on the financial sector, leading to physical and transitional risks that threaten the financial sector's stability and resilience. This mandates a systemic change in the financial sector to incorporate climate-associated risks and opportunities into financial institutions' business decision-making processes to identify their implications at the transaction, portfolio, institutional and economy levels. In other words, the financing model needs to evolve from being conventional into being sustainable to smooth the green growth transition process (UNEP 2019a).⁵

Good practices financing the transition to green economies

Innovative financing instruments can be used to scale up sustainable finance and climate finance in Arab countries to enable them to meet their pressing sustainable development needs while addressing their increasing social demands as well as climate change challenges. A number of funding mechanisms have been used globally and in the Arab region to mobilize the needed funding. These include blended finance, green bonds, green Islamic bonds "green *sukuks*," debt for climate swaps and results-based financing.

Blended finance

Blended finance is the use of public funds to catalyze or to crowd in private investment in climate-related activities. There is a perceived lack of profitable opportunities on the part of private investors in climate related projects, because responding to climate change needs has long been perceived as a public good that lack market returns. There is lack of awareness of the possibility of profitable PPP when it comes to climate change associated projects (UNDP 2018b).

Arab countries have been determined to increase the share and participation of the private sector in economic activity over the past few decades. This presents an opportunity for Development Finance Institutions and the public sector in the region to act as catalyst to crowd in private investment in climate change related opportunities. This could be undertaken in a number of ways, including a blended finance structuring approach.

5 Physical risks may lead to direct damage of a corporation's assets, disruption of its supply chains, operations, transport and delivery systems, and water and energy supply, among others. These disruptions negatively affect the operational and financial performance of any corporation, increasing its insurance costs and changing the demand for its goods and services. Transitional risks are associated with low carbon economy transition that entails changes at different levels including policy, institutional, legal, market and technology levels. These changes expose organizations to varying degrees of financial, operational and reputational risks.

Blended finance is a financial engineering tool that allows for combining concessional public funds with non-concessional private finance and expertise, while sharing risks and returns under clear and well-established rules. Specifically, public resources are mainly used to attract private investment through the creation of commercially viable investment opportunities by reducing projects' transaction costs and changing their risk/return profiles while aligning private incentives with public policy objectives through PPP structured deals. These help mitigate projects' risks, reducing their costs and increasing their success factors (ESCWA 2019).⁶

Green bonds

In the past few years, the green bond market has grown rapidly from USD 37 billion in issuance in 2014 to USD 170 billion in 2018, reaching over USD 230 billion by the end of 2019. The market is expected to significantly expand as indicated by the Climate Bond Initiative targeting an issuance of about USD 1 trillion by the end of 2020, providing a key instrument to finance countries' climate actions as per their NDCs (ESCWA 2019).

Green bonds are financing debt instruments that can be issued by national, regional, multinational public entities as well as private corporations. Their proceeds are specifically tied to financing green investment and socially centered activities, in accordance with clear set of rules that is an integral part of the bond issuance. Green bonds are usually issued for environmentally friendly projects including those addressing climate change mitigation and/or adaptation, namely, energy, low carbon buildings and transportation. The first green bonds were issued in 2007 by the World Bank and the European Investment Bank, to be followed by the first corporate green bond in 2013 and the first sovereign green bond in Poland in 2016 (ESCWA 2019).

The first green corporate bond in the Arab region was issued in the United Arab Emirates in 2017 by the National Bank of Abu Dhabi (ESCWA 2019). More recently, Egypt has become the first Arab country to issue sovereign green bonds to finance its sustainable development needs, with particular focus on environment friendly projects, namely, renewable energy and energy efficiency, pollution reduction and control, sustainable water and waste management, as per the Egyptian Ministry of Finance's statement in September 2020 (Arab News 2020).

Multilateral development banks have been using green bonds to finance environment friendly and socially responsible projects. The European Investment Bank and the World Bank are among the largest issuers to date. The African Development Bank established a "Green Bond Program" in 2013 to co-finance projects related to waste management, emission reductions, renewable energy and energy efficiency. The Asian Development Bank launched a similar program to finance Asian countries' transition to low carbon climate resilient economies (UNDP 2018b).

⁶ An example of blended finance is Morocco's Ouarzazate Solar Power project, undertaken in 2011.

Green sukuk

Islamic finance can significantly contribute to financing sustainable development goals in both developed and developing economies as its core principles are well aligned with sustainability considerations as they aim at promoting inclusiveness, equitable growth and social justice, among others. The industry has been rapidly growing from USD 200 billion in 2003 to USD 2 trillion in 2015, and is expected to reach USD 3 trillion by end of 2020 (UNDP 2018b).⁷

Green and social impact *sukuk*s are Islamic financing instruments that can be used to scale up financing of socially responsible and environment focused investment. They are green bonds that are compliant with Islamic *Shariah* principles and where the risks and returns are shared based on certain rules in accordance with investors' financial contributions. The first green *sukuk* issuance was undertaken in Malaysia in 2017 to finance a renewable energy project whose investment reached USD 58.5 million. This was followed by the first green sovereign *sukuk* in Indonesia in 2018 amounting to USD 1.25 billion to finance renewable energy, sustainable land use, waste management and green tourism. Qatar and the United Arab Emirates have recently expressed their intention to issue green *sukuk*s (ESCWA 2019).

In 2019, the Islamic Development Bank (IsDB) issued its Sustainable Finance Framework to support its member countries in the achievements of their SDGs by providing finance to their green and social projects. Under this framework, the IsDB aims to promote the issuance of *sukuk*s to finance sustainable investment in a socially responsible and transparent manner while diversifying its sources of funding. The IsDB aims to scale up investment in a number of areas that include: climate change, food security, poverty alleviation, quality education for all, health, sustainable cities, water and sanitation as well as women and youth empowerment, among others (Islamic Development Bank [IsDB] 2019).

Debt for Climate Swaps

Debt for Nature Swaps (DNSs) are based on a debt for equity swap model where the leveraged funds are used for local conservation efforts. The proceeds are then invested in climate-related activities in the indebted countries. DNSs were first developed in the 1980s to preserve forests in Latin America, and were a way to address the region's sovereign debt crisis. DNSs were later used in Africa, Asia and Europe. They are a triple win for all parties: the debtor government pays part of their debt, the environment conservation organization achieves greater environmental impact through the funds available and the creditor recovers part of their debts (UNDP 2018b).

Debt for climate swaps have been proposed as a variation of the debt for nature or debt for development swaps whereby public expenditures allocated for external debt payments are redirected towards financing climate change mitigation and adaptation projects. These provide a suitable instrument for financing climate change needs in countries with high debt burden and public expenditure constraints. Four Arab countries

⁷ Shariah or Islamic law prohibits the use of interest-bearing instruments, and mandates that financial transactions must be asset-backed, namely, associated with real economic activity.

have already used debt for development swaps: Egypt, Morocco, Jordan and Yemen, although no Arab country has used debt for climate swap as yet (ESCWA 2019).

Results-based Finance (RBF)

Results-based Finance (RBF) is a less common financing tool where payments are made upon delivery of a pre-defined and verified output. RBF is suitable for donor agencies who are looking to provide financing support to public sector projects, and planning to disburse concessional finance based on the achievement of targeted results. With private sector financing, RBF can be used by linking investors' returns to project performance, thereby aligning profit incentives with non-financial outcomes, such as climate mitigation or adaptation objectives. RBF has been successfully used in the Arab region, and specifically in Egypt where the World Bank used RBF to promote industrial compliance with environmental legislation (ESCWA 2019).

Purpose and scope of the report

This report assesses the readiness of the Arab region's financial sector framework to fully integrate and promote sustainable finance in general—and climate finance in particular—to enhance its role in financing the transition to greener and more inclusive economies, while also safeguarding the stability and soundness of the financial system. This is important to reduce the vulnerability of Arab economies to risks associated with both climate change and the increasing need to finance their social demands while promoting responsible investment.

The work is undertaken within the context of Arab countries' adoption of the United Nations UN 2030 sustainable development agenda and their commitment to the Paris Agreement.

Chapter One (this chapter) explains the purpose and scope of the report as well as the methodology used throughout the work.

Chapter Two discusses the most prevalent sustainable finance practices in six Arab countries: Egypt, Jordan, Morocco, Bahrain, the United Arab Emirates (UAE) and the Kingdom of Saudi Arabia (KSA). It provides an overview of the reforms supporting these countries' progress in promoting sustainable finance, then looks at the national reforms and initiatives in each country in more detail.

Chapter Three assesses the status of climate finance in four Arab countries: Egypt, Jordan, Iraq and Tunisia. It provides an overview of the current practices of climate finance in each country, investigates the institutional framework and looks at whether the national policy framework has been adjusted to mainstream sustainability in general, and climate change in particular. It examines national strategies and plans, such as the national development plan, national environment strategy, national climate change policy, national adaptation policy and national energy strategy.

Chapter Three then reviews each country's Intended Nationally Determined Contributions (INDCs) submitted to the UNFCCC in 2015, emphasizing its commitment to

addressing climate change impact through adaptation and mitigation targets while highlighting the cost estimates needed for the implementation of its INDCs. This is followed by a discussion of climate finance flows into the four countries under study as well as priority sectors and funds needed to undertake mitigation and adaptation actions. It concludes with an overview of some of the climate change mitigation and adaptation projects financed by dedicated climate funds in each country.

Chapter Four provides a SWOT analysis of the strengths, weaknesses, opportunities and threats associated with the readiness of Arab financial system to support the transition to greener economies. It discusses the barriers to scaling up sustainable finance in general—and climate finance in particular—in the Arab region. It also presents a list of the financial system’s needs to enhance its readiness to play its potential role in funding the green growth process in the region, and concludes with policy recommendations and closing remarks on scaling up sustainable and climate finance in the Arab region.

Methodology

This report involved intensive research, analysis and review of the various reforms, initiatives, policy documents and reports as well as databases developed by the national authorities in each of the countries under study. These include: Ministry of Finance, Ministry of Planning, Ministry of Environment, Central Banks, regulators for non-banking financial institutions (NBFIs) as well as national banking associations. Technical papers and expert reports developed by regional entities on sustainable development, environment and finance in the Arab world are also examined. These include works by entities such as the Arab Monetary Fund, the Arab Forum for Environment and Development (AEFD) and the League of Arab States (LAS), tracking and documenting Arab countries’ progress in implementing the UN 2030 agenda, while highlighting the main impediments to fully achieving the UN SDGs.

The report investigates the various programs, publications and databases developed by international organizations such as: the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Development Program (UNDP), the Economic and Social Commission for Western Africa (ESCWA), the United Nations Environment Programme Finance Initiative (UNEP FI), the United Nations Environment Programme (UNEP), the International Finance Corporation (IFC), the World Bank, the Global Green Growth Institute (GGGI), the International Renewable Energy Agency (IRENA), the United States Agency for International Development (USAID) and GIZ.

It also examines Climate Funds’ databases, such as the Global Environment Facility (GEF), the Adaptation Fund (AF) and the Green Climate Fund (GCF), among others, for projects and programs implemented in the countries under study.

The main findings of this report have been shared with stakeholders in a consultative process for review and feedback. These stakeholders include representatives of financial institutions, policy makers, international organizations and independent consultancies.



2.
**Sustainable
finance
practices
in the Arab
region**

Introduction

This chapter provides an overview of the most prevalent sustainable finance practices in six countries in the Arab region: Egypt, Jordan, Morocco, Bahrain, the United Arab Emirates (UAE) and the Kingdom of Saudi Arabia (KSA). These practices underline the six countries' ongoing efforts to integrate environmental and social considerations into their financial sector framework in order to scale up sustainable finance to enable their financial systems to promote responsible investment and to finance the transition to more inclusive, resilient and greener economies in accordance with the United Nations UN 2030 sustainable development agenda.

Over the past two decades, all six countries have adopted green growth strategies. However, their progress in aligning their national financial systems with sustainable development needs and goals is varied.

The UAE leads sustainable finance practices in the region, Morocco is at an advanced stage and Egypt is preparing to develop its national sustainable finance framework. Jordan and Bahrain have committed to aligning their financial systems to finance their sustainable development agenda.⁸ Saudi Arabia's national policy framework has been driven mainly by economic diversification reforms to reduce their oil dependence and increase the contribution of their non-oil sectors to GDP, while also increasing private sector participation.

With the exception of Saudi Arabia, all six countries have developed ESG guidelines, engaged in sustainability reporting, and worked on promoting sustainable finance through awareness campaigns and education initiatives.⁹

As for financial market innovations, only three countries—the UAE, Morocco and Egypt—have issued green bonds, while all six countries have issued conventional Islamic bonds or *sukuks*. *Sukuks* may be used to promote sustainable finance in the region. Sustainability is inherent in Islamic finance's main principles, which look at environmental and social considerations in accordance with Islamic law. These principles aim at poverty alleviation, wealth distribution, social and financial inclusion, environmental preservation, financial stability and economic growth, hence sharing sustainable finance's main objectives (Sekurti 2019, El Hawary, Grais and Iqbal 2004).^{10 11}

8 This is based on various issues of Sustainable Banking Network SBN Country and Global Progress Reports produced by the International Finance Corporation IFC.

9 This is based on Sustainable Stock Exchange Initiative SSEI website: <https://sseinitiative.org/stock-exchange/tadawul/>

10 The Islamic finance industry has been rapidly growing with Shariah-compliant assets reaching USD 2 trillion worldwide.

11 The four main principles governing Islamic finance based on Islamic Shariah law are: risk sharing; no financing of haram (prohibited activities); no exploitation of any of the involved parties; and materiality, which means that any financial transaction should be backed up by real economic activity.

On the regulatory front, the UAE, Egypt, Jordan, KSA and Morocco all have enacted public-private partnership (PPP) legislation. PPPs enable the private sector to play a bigger role in supporting the transition to a more resilient economy by increasing its investment in green and low carbon ventures (White and Case 2015).^{12 13} Only Bahrain has not developed specific legislation dedicated to implementing PPPs that are carried out within the legal framework of existing commercial, civil and administrative laws (Del Novo 2016).¹⁴

All six countries have prioritized financial inclusion, seeking to improve access to finance among the most vulnerable groups, including the rural poor, women, youth, and micro, small and medium enterprises (MSMEs). They have made good progress in developing their financial systems' technological infrastructure to ensure fast, efficient and secure digital transformation, and offering new financial instruments catering to the needs of the marginalized.

Table 1 highlights each countries' progress in promoting sustainable finance practices, by showing whether they have:

- developed a green growth strategy and sustainable development agenda,
- developed a national sustainable finance framework/strategy,
- issued environmental, social and governance (ESG) guidelines,
- published sustainability reports,
- conducted related awareness-raising and education programs/initiatives,
- promoted the development of financial market innovations such as green bonds and green *sukuks*,¹⁵ and
- enacted regulatory reforms to support the green growth transition process.

12 Public private partnership (PPP) laws have been issued in the following countries: the Jordanian law no. 31/2014, the Egyptian law no. 67/2010 and the Dubai Emirati law no. 22/2015.

13 White and Case 2015. Morocco issued PPP law no. 86-12/2014.

14 The National Center for Privatization 2018 and the National 2019. Saudi Arabia drafted a PPP law in 2019. <https://www.thenational.ae/business/property/draft-private-sector-law-will-drive-investment-in-saudi-projects-1.911486>

15 *Sukuks* are bonds issued in compliance with Islamic law's Shariah principles.

Table 1: Sustainable finance practices in selected countries in the Arab region

	UAE	Egypt	Jordan	Morocco	Bahrain	Saudi Arabia
Sustainable Development/ Green Growth Agenda	✓	✓	✓	✓	✓	✓
Sustainable Finance Framework	✓	✓	✓	✓	✓	
ESG Guidelines	✓	✓	✓	✓	✓	
Sustainability/ESG Reporting	✓	✓	✓	✓	✓	
Financial Market Innovations: Green Bonds	✓	✓		✓		
Financial Market Innovations: Islamic Bonds (conventional <i>sukuks</i>)	✓	✓	✓	✓	✓	✓
Sustainable Finance Awareness and Education Initiatives	✓	✓	✓	✓	✓	
Supportive Regulatory Framework: PPP Laws	✓	✓	✓	✓		✓



Egypt

Egypt's national policy framework and sustainable development

Egypt faces increasing climate-change-related pressures, exacerbated by rising temperatures and sea levels. Precipitation changes are affecting the Nile Delta and northern coastline, impacting vital productive sectors such as agriculture, which consumes about two-thirds of Egypt's fresh water supply. Sustainable and green growth has become central to Egypt's national development strategy in order to address its growing population's increasing demands, global warming, climate change and their challenging impact on water, food and energy security (Egypt 2018).

In February 2016 Egypt launched its *Sustainable Development Strategy Vision 2030* to ensure that its national development policy framework aligns with the UN 2030 sustainable development agenda and the African Agenda 2063, as well as SDG localization at both sectoral and geographic levels.

Egypt's *Vision 2030* seeks to establish a diversified, competitive, knowledge-based economy that is characterized by social justice, prosperity and balanced growth. It aims to achieve sustainable inclusive growth and includes the three dimensions of sustainable development:

- **Economic dimension:** economic development, energy, knowledge, innovation and scientific research, transparency and efficiency of government institutions
- **Social dimension:** social justice, health, education and training and culture
- **Environment dimension:** urban development and environment

Egypt aims to deliver on its sustainability vision by developing medium and long-term strategies in key policy areas, such as:

- Strategy for Science and Technology for Sustainable Development (2030)
- Industry and Trade Development Strategy (2020)
- Egypt's Education Transformation Program (2030)
- Egypt's Integrated Sustainable Energy Strategy (2035) (Egypt 2018).

Egypt's Integrated Sustainable Energy Strategy ISES (2035) aims to diversify national energy sources to ensure a stable, secure energy supply by raising energy efficiency and increasing the share of renewables in the total energy mix. It seeks to generate 20% of the country's electricity needs from renewable sources by 2022, and to raise the share of renewables in generating power to reach 42% by 2035 (International Renewable Energy Agency [IRENA] 2018).

Egypt's sustainable finance practices

The Central Bank of Egypt (CBE) is developing new guidelines and principles to promote sustainable finance practices across the banking sector, based on best international practice. A new section on sustainable finance will be added to Egypt's *Vision 2030*, prepared by representatives of the Egyptian banking sector. According to the Sustainable Banking Network (SBN), Egypt is currently developing the financial sector framework needed to scale up sustainable finance (International Finance Corporation [IFC] 2019a).

Banks' sustainable finance practices

Egypt is structuring its future financial sector's sustainability framework around the United Nations Environment Programme Finance Initiative's (UNEP FI's) Principles for Responsible Banking (PRB). These include: alignment, impact, clients and customers, stakeholders, governance and target setting, and transparency and accountability.

Two major Egyptian banks—the Arab African International Bank (AAIB) and the Commercial International Bank (CIB)—are involved in fostering a culture of sustainable finance in Egypt. These banks have adopted the PRB, and have been working on promoting best international practices in sustainable finance (FC 2019a).

Green finance initiatives have topped both banks' priorities as they work towards integrating sustainability into their business models. For example, CIB has developed green finance products that promote energy efficiency and renewable energy technologies by

offering clients financing packages supplemented by technical support, energy audits and list of trusted suppliers. CIB established a sustainability governance structure in 2013, comprised of a sustainability advisory board, sustainable development steering committee and department and green teams, all of which are responsible for developing and implementing CIB's sustainability framework, strategies and initiatives (CIB 2020). AAIB is the first bank in the Arab region to finance solar energy, backing the Benban project in Aswan, considered the region's largest solar park (Daily News 2018a).

In 2014 AAIB established a program to raise awareness about the importance of sustainable finance. The MOSTADAM program is the first platform in Egypt and the Middle East and North Africa (MENA) region for the development of sustainable finance products and services. It promotes advocacy and capacity building through educational and training sustainable finance programs tailored to finance providers (Arab African International Bank [AAIB] 2019).¹⁶ The Egyptian Banking Institute (EBI), the training arm of the Central Bank of Egypt, also offers training programs on environmental and social risk assessment.

CIB and AAIB are both pioneers in calculating their organizations' carbon footprint to minimize their negative impact on the environment and regulate greenhouse gas emissions and waste management.¹⁷ Both banks regularly issue carbon footprint and sustainability reports.

Central Bank sustainable finance practices

In 2018 the Central Bank of Egypt (CBE)—in close coordination with the Union of Arab Banks (UAB) and the Federation of Egyptian Banks (FEB)—held a green banking forum to highlight the importance of aligning the financial sector with ESG considerations to enable Arab countries to address societal and environmental challenges and to achieve the UN SDGs (Daily News 2018b).

In an interview, Mohamed El-Etreby, chairperson of Banque Misr and UAB's deputy director, explained that the FEB established its Sustainable Development Committee in 2014 to develop and implement its green banking vision for Egypt by promoting the financing of environmentally friendly and socially responsible projects (Daily news 2018a).¹⁸ In November 2018, FEB's Sustainable Development Committee asked Egyptian banks to adopt the UNEP FI's Principles for Responsible Banking to enhance their role in promoting financial inclusion, green financing and the implementation of the national sustainable development strategy. The banking sector is currently setting standards and regulations for implementing the UNEP FI's six principles, embedding them within each bank's strategy, while educating and training bank employees about the principles (Daily News 2019a).

16 This has been undertaken in close coordination with the UNDP and the Egyptian Corporate Social Responsibility Center.

17 CIB website. This green finance product was developed in partnership with the Ministry of Electricity and Renewable Energy and the United Nations Development Programme (UNDP). <https://www.cibeg.com/English/News/Pages/CIB-continues-to-be-a-model-of-sustainability.aspx>

18 Under this initiative and in coordination with the Ministry of Environment, in 2014 Egyptian Banks allocated more than LE 300 million for the rehabilitation of slums in Helwan and Giza with LE 100 million directed to health and education services. This is in addition to financing clean energy and supporting entrepreneurship and microenterprises in these areas.

In line with Egypt's *Vision 2030*, the CBE's policy reform agenda is making financial inclusion a priority,¹⁹ establishing an in-house financial inclusion department in 2016. The CBE is strengthening the banking sector's legal and regulatory framework to ensure customers' rights are protected, fostering digital transformation by establishing the technological infrastructure needed to transition to a cashless economy, and developing a fintech hub (AFI and CBE 2018).

The CBE is promoting entrepreneurship through numerous initiatives. These include offering micro, small and medium enterprise sector (MSMEs) loans at preferential rates, directing banks to allocate 20% of their total lending portfolios to this sector, and to establish specialized SME units to provide services to these enterprises. Some programmes under this initiative empower women and young people to develop their businesses.²⁰ NilePreneurs—a fast-growing initiative funded by the CBE and implemented by Nile University—supports Egyptian MSMEs by enhancing the entrepreneurship ecosystem. It is delivered in coordination with a number of banks, government entities and international organizations (Central Bank of Egypt [CBE] 2018).

In early 2020 the CBE instructed banks to establish financial inclusion departments and to submit their three- to five-year financial inclusion strategies to:

- increase outreach in the governorates and remote areas,
- foster new financial services and products catering to the needs of the unbanked, particularly women and youth,
- promote financial literacy,
- develop digital expansion plans for instruments such as pre-paid cards and e-wallets,
- coordinate inclusion initiatives among stakeholders (CBE 2018).

Government sustainable finance practices

To speed the transition to a green economy, the Ministry of Finance recently issued the first sovereign green bonds in Egypt and the MENA region. The bonds provide Egypt with an innovative funding vehicle for its eco-friendly and green projects such as clean transportation, renewable energy, energy efficiency, pollution reduction and control, sustainable water and wastewater management and climate change adaptation. The size of Egypt's first green bond issuance has reached USD 750 million for five-year maturity (Egypt 2020b). The Ministry has also noted plans to issue Islamic bonds (*sukuks*) to cover its funding needs (Waheesh 2020).

2020 saw the issuance of Egypt's first corporate *sukuks*. The Financial Regulatory Authority (FRA), the national regulator for non-banking financial institutions (NBFIs), approved an issuance for the real estate development group Talaat Mostafa Group (TMG). Since launching the issuance has reached USD 127 million (Ahram Online 2020).

¹⁹ According to the World Bank Global FINDEX, only 33% of Egyptian adults have bank accounts.

²⁰ AFI & CBE (2018)

In 2018, the FRA approved the legal framework for green bond issuance to promote sustainable funding tools for environmentally friendly projects in fields including renewable energy, energy efficiency, clean transport, construction and climate adaptation (Financial Regulatory Authority [FRA] 2018a). Green bond guidelines were also developed in coordination with the International Finance Corporation (IFC). The guidelines were based on the International Capital Market Association (ICMA)'s Green Bond Principles (FRA 2014).

To enhance the role of NBFIs in promoting sustainable finance and in funding Egypt's sustainable development goals, the FRA issued a comprehensive strategy for the non-banking financial sector in 2017. The strategy aims to:

- enhance good governance, transparency and combating corruption,
- strengthen the legal and regulatory framework,
- develop new products and services to finance Egypt's SDGs,
- improving financial literacy, and
- promote financial inclusion by increasing access to finance particularly for marginalized groups such as youth, women and MSMEs (FRA 2017).

The FRA has created a new sustainable development department whose mandate is to promote sustainable finance and development practices among NBFIs market participants (FRA 2018a). The FRA also plans to establish a regional center for sustainable finance to accelerate the shift towards a green economy by setting up a research and information database to enable stakeholders to make better decisions on sustainability-related issues. The center is expected to help Arab and African countries to develop new solutions to bridge the current funding gaps (Daily News 2019b).

In May 2019, the FRA and the Insurance Federation of Egypt decided to develop the *National Sustainable Insurance Roadmap, Strategy and Action Plan* by 2020 in cooperation with the United Nations Environment Programme's Principles for Sustainable Insurance (PSI). The roadmap aims to develop the sector's resilience and strengthen its ability to achieve the UN SDGs (International Finance Corporation [IFC] 2019a). FRA joined the United Nations Environment Principles for Sustainable Insurance UNE PSI in 2018 (FRA 2018b).

Stock Exchange

In November 2016 the Egyptian Stock Exchange (EGX) issued the first *Model Stock Exchange Guide* in the MENA region that disclosed listed companies' sustainability performance. The guide allows listed firms to incorporate environmental, social and governance (ESG) factors into their business plans, strategies and capital market communication. It specifically aims to promote transparency in listed firms' reporting and disclosure on sustainability-related issues. The voluntary guide *Model Guidance for Reporting on ESG Performance and SDGs* was updated in 2019, and provides recommended key performance indicators (KPIs) to guide listed firms in their ESG disclosure and sustainability reporting. The guide complements existing standards, and is not a substitute for EGX mandatory disclosure requirements imposed by its listing rules (EGX 2019).

In March 2010 EGX became the first stock exchange in the MENA region—and the second worldwide—to launch its sustainability S&P/EGX ESG index in collaboration with the Egyptian Institute of Directors and Standards & Poor’s (Standards & Poor’s [S&P] 2016).²¹ The Financial Regulatory Authority and EGX have held annual events to announce top-rated listed companies based on ESG index criteria as a way of promoting sustainability among market participants (Egyptian Stock Exchange [EGX] 2015). EGX is one of four pioneer exchanges that established the United Nations Stock Exchange SSE Initiative in 2012 to enhance listed firms’ transparency and commitment to ESG issues worldwide (EGX 2016).

EGX has committed to the recommendations of the Financial Stability Board’s Task Force on Climate Related Disclosures promoting consistent climate-related financial risk disclosures as part of firms’ reporting on environmental performance (EGX 2019).²² EGX also developed a sustainability committee²³ and strategy to improve its competitiveness by raising awareness of the importance of sustainability among market participants, engaging in regional and international sustainability initiatives, and developing sustainability-related products (EGX 2017).

21 The S&P EGX-ESG index is based on a number of indicators that quantify ESG factors and translate them into scores, in order to rank participating firms on their sustainability performance as well as their size and liquidity.

22 In 2015 EGX joined the UN Sustainable Stock Exchanges Consultative Working Group to develop model guidance for reporting ESG information for investors. It also helped prepare the World Federation of Exchanges (WFE) ESG Recommendation Guidance and Metrics, issued by the WFE Sustainability Working Group in 2016.

23 In 2016 EGX established an in-house sustainability committee to provide regular guidance on sustainability issues, develop ESG training for listed companies, raise awareness of the importance of ESG in the capital market and make recommendations for updating guidance on ESG disclosure and transparency based on international best practice.



Jordan

Jordan's national policy framework and sustainable development

Climate change, population growth and refugee migration present a development challenge to the Jordanian economy, increasing pressure on limited natural resources such as land and water. This is evidenced by rising temperatures, drought, eco-system loss, deforestation, a higher incidence of forest fires, fluctuating rainfall, and a decrease in both ground and surface water availability (Jordan 2015b). The resulting water-climate-food security nexus has had a negative impact on agricultural production, food security and hence on inclusion and social protection.

Launched in 2015, *Jordan 2025* presents a national vision and strategy to establish a prosperous, resilient and more inclusive economy aligned with the UN 2030 sustainable development goals (SDGs). *Jordan 2025* is a ten-year blueprint that addresses the country's economic, social and environmental dimensions of sustainable development (Jordan 2015a). It is supported by a number of Executive Development Programs (EDPs) at the national, sub-national and sectoral level as well enabling strategies for implementing the 2030 sustainable development agenda (Jordan 2017c). These include:

- National Climate Change Policy (2013–2020)
- National Strategy and Action Plan for Sustainable Consumption and Sustainable Production (2017–2025)
- Jordan Economic Growth Plan (2018–2022)

- National Energy Strategy (2015–2025)
- National Water Strategy (2016–2025) (Jordan, Ministry of Planning and International Cooperation 2017), and
- The National Plan for Green Growth (NGGP) (2017–2025).

The NGGP presents Jordan’s roadmap for transitioning to a higher, sustainable, greener growth path. It was developed in 2017 by the Ministry of Environment in consultation with stakeholders, and is a reference guide for developing green growth projects that align with green investment policies, planning and implementation (Jordan 2017a).

Given its limited primary energy sources, rising energy demand and dependence on imports, Jordan is working to safeguard the long-term security of its energy supply by developing a reliable renewable energy. The *National Energy Strategy* aims to increase the share of renewable energy in Jordan’s total energy mix to 6% in 2017, 8% in 2020 and 9% in 2025 (Renewable Energy Solution for the Mediterranean 2019). It also seeks to increase reliance on domestic energy sources to 25% by 2015 and up to 39% by 2020 (Jordan 2016c).

Jordan’s sustainable finance practices

According to the *Sustainable Banking Network (SBN) Global Progress Report* of 2019, Jordan is in the commitment phase of developing a national framework to align its financial sector with sustainable finance practices, formally introducing environmental, social and governance (ESG) factors into the sector’s business model (IFC 2019b).

Banks’ sustainable finance practices

The Association of Banks in Jordan (ABJ) has a sustainability strategy to help banks transition from mere social responsibility to playing a bigger role in financing the country’s sustainable development goals.²⁴ The strategy has four pillars:

- promote sustainability practices in the banking sector,
- develop a sector strategy for financing national sustainable development,
- enhance non-financial performance transparency and reporting, and
- increase the awareness of sustainability in the sector (Kandah 2017).²⁵

In 2016 the ABJ launched Jordan’s first industry-wide *Sustainability Report for the Banking Sector*. The report reviews Jordanian banks’ sustainability practices, such as socially responsible investment and banking services, and assesses banks’ awareness of the importance of integrating ESG factors into their operations and strategies. The report shows that 90% of surveyed banks have established sustainability targets, and that variations exist across the sector in adopting sustainability practices. While 76.5% of surveyed banks have integrated sustainability goals into their strategies, the remaining 23.5% have only partially done so (Association of Banks in Jordan [ABJ] 2016).

²⁴ ABJ’s strategy has been in line with the recommendations of the First National Sustainability Report for the Jordanian banking sector.

²⁵ In 2016 the ABJ joined the UNEP FI as a supporting institution to promote sustainable finance concept and practices in the financial industry in Jordan. ABJ was the second banking association in the Arab region to join this global initiative.

There has been an improvement in non-financial reporting and sustainability disclosure. In 2015, 38.5% of banks surveyed voluntarily issued sustainability reports, up from 28.5% in 2012. While the report shows an improvement in banks' tendency to develop new sustainable financing tools to attract new segments of the society, it also reveals that the financial sector still perceives sustainability as philanthropic practice rather than a strategic consideration to be integrated into the business model (ABJ 2016).

Financial institutions' sustainable finance practices

International financing institutions are providing new sources of green funding to help Jordan scale up green finance. This supports the government's efforts to promote sustainable growth by increasing investment in energy efficiency, renewable energy and other environmentally friendly and socially responsible projects. For example, the Agence Française de Développement (AFD) has extended a soft credit line valued at USD 53 million to two local banks—Cairo Amman Bank and Capital Bank of Jordan—for onward lending to businesses and households. This has been undertaken through the AFD's Sustainable Use of Natural Resources and Energy Finance (SUNREF) program, whose main objective is to improve access to affordable sustainable energy (SUNREF 2020).²⁶ Similarly, in 2019 the European Investment Bank signed a loan agreement for EUR 45 million with the Cities and Villages Development Bank to finance energy efficiency projects targeting municipal, building and lighting infrastructure in Jordan (European Investment Bank [EIB] 2019).

Central Bank sustainable finance practices

In line with *Jordan 2025 Vision and Strategy* and *Jordan National Economic Growth Plan*, in 2017 the Central Bank of Jordan (CBJ) launched the *National Financial Inclusion Strategy (NFIS)* (2018–2020). The NFIS aims to reduce socio-economic inequalities and to increase the level of financial inclusion with a special focus on under-served populations such as women, refugees, low-income groups, youth and micro, small and medium enterprises (MSMEs).²⁷ Its 2020 targets are to:

- increase the level of financial inclusion from 24.6% to 36.6% for the adult population
- reduce the gender funding gap from 53% to 35%
- increase the share of financing extended by banks and microfinance institutions (MFIs), as percentage of total lending portfolio, from 8.5% to 15% (Central Bank of Jordan [CBJ] 2017a).

The NFIS strengthens the link between financial inclusion and the SDGs. The strategy is based on a set of policy areas, three of which are core financial industry pillars: micro-finance, digital financial services and small and medium finance. The remaining policy areas are considered supporting enablers, such as financial education, financial technology, data and research and financial consumer protection (CBJ 2017a).

26 This led to the implementation of eight renewable energy projects – namely, solar PV systems – and to the integration of energy efficiency in the two banks' strategies and operations.

27 More than 90% of Jordan's businesses are classified as MSMEs. In 2016 the CBJ established the first private credit bureau to improve access to actual and potential borrowers' credit information, reducing their financing constraints.

To enhance digital financial inclusion and to promote the development of digital financial services, in 2018 the CBJ established the FinTech Regulatory Sandbox. It provides incubation and support for pioneer entrepreneurs in the financial technology sector to test their innovative business models without jeopardizing the stability or integrity of the financial system (CBJ 2018).

Stock Exchange and Islamic bonds (*sukuks*)

The Amman Stock Exchange (ASE) has been a member of the Sustainable Stock Exchange (SSE) Initiative since 2016. In 2018 the ASE published its *Guidance on Sustainability Reporting* to promote sustainability practices in the Jordanian capital market by encouraging listed firms to report their sustainability performance (Amman Stock Exchange [ASE] 2018a). This voluntary guide aims to raise awareness among all stakeholders (regulators, investors and companies) about the benefits of socially and environmentally responsible investment. It outlines the steps needed to prepare sustainability reports as well as the recommended sustainability metrics and indicators used for disclosure based on best international practices and the *Global Reporting Initiative's Sustainability Reporting Guidelines* (ASE 2018b).

In 2018 the ASE issued two introductory brochures explaining the benefits of sustainability reporting to firms:

- increased transparency,
- improved ability to manage risks, and
- an enhanced competitive edge compared to peers that do not disclose their sustainability performance.

Sustainability 1 explains the concept, definition and history of sustainable development, the SDGs (ASE 2018c), and provides information on sustainability reporting and business practices. **Sustainability 2** sets out the types of sustainability reports and their principles, and provides an overview of global reporting frameworks addressing social, environment and economic aspects (ASE 2018d).²⁸

In 2012 the Islamic Finance *Sukuk* Law was enacted to enable Islamic banks to mobilize their significant capital base using *Shariah*-compliant funding options (CBJ 2017b). Islamic bonds (*sukuks*) provide an innovative instrument to finance Jordan's national projects supporting its economic expansion and infrastructure development.

Green energy projects have been financed through sovereign *sukuks*—for example, the 2016 five-year bond issuance worth USD 48 million, supported by the Islamic Development Bank and the Japan International Cooperation Agency. Similarly, the National Electric Power Company issued USD 105.8 million worth of *sukuks* priced at 3.5% in 2016, and a second equal value tranche in 2017 priced at 4.1% under a *murabaha* framework (Oxford Business Group [OBG] 2018).²⁹

28 In 2017 ASE signed a memorandum of understanding (MOU) with a management consultancy firm to provide research and training programs on the principles of sustainability and their business practices.

29 This was developed using an amortized *ijara* structure and was more than three-times oversubscribed, with an expected profit rate of 3.01%.



Morocco

Morocco's national policy framework and sustainability development

The harmful effects of climate change present a development challenge for the Moroccan economy by making its primary sectors more vulnerable to environmental factors such as increasing temperatures, rising sea levels and declining rainfall. Agriculture, which makes up 15% of GDP, was hard hit by regional droughts in 2016. This led to a sharp decrease in cereal production and ultimately reduced GDP growth to 1.1% (Morocco 2017a).

In 2019 Morocco adopted its *National 2030 Climate Plan*, which aims to ensure the adaptability of the most vulnerable sectors including water, agriculture and fisheries, and mitigate the effects of greenhouse gas emissions caused by sectors such as power generation and transport.³⁰ Implementing the plan will require considerable investment, estimated at about USD 50 billion for mitigation programs and another USD 35 billion for adaptation projects by 2030 (OBG 2020a).

30 Speech by BAM's Governor at BAM-AFI Global Conference on Green Finance in October 2019.

Sustainability is embedded in Morocco's 2011 Constitution, which describes both sustainable development and environment protection as fundamental rights for every citizen, alongside health care and social protection. Morocco adopted the *National Charter for Environment* as part of its *National Sustainable Development Strategy*. The strategy has seven interlinked pillars:

- transition towards a green economy,
- promote sustainable development culture,
- consolidate sustainable development governance,
- improve natural resource management,
- promote human development and reduce social inequalities,
- give particular attention to sensitive areas, and
- accelerate the implementation of climate change policy (Morocco 2017b).

Promoting energy efficiency is also a national policy priority. An initial target to achieve energy savings of 12% by 2020 and 15% by 2030, has been scaled up to 20% energy savings by 2030 (International Energy Agency [IEA] 2019). Morocco's *National Energy Strategy* was adopted in 2009 as a roadmap for transitioning to a low-carbon energy system, and reconciling economic development with social and environmental objectives. Strategic priorities include:

- developing a well-diversified, optimized energy mix,
- enhancing energy supply security,
- fostering the development of renewable energy and energy efficiency industries,
- promoting the development of domestic energy resources, and
- integrating with regional and international energy markets, particularly in Africa and Europe (IEA 2019).

The strategy established a 42% renewable energy target—of the total installed power capacity—to be achieved by 2020. In 2015 the target was revised upward to 52% by 2030, distributed between solar, wind and hydropower resources. It is estimated that Morocco will need substantial investment of USD 30 billion to reach its 2030 renewable energy target (IEA 2019).

Morocco's sustainable finance practices

Government sustainable finance practices

In November 2016 Morocco hosted the COP22 in Marrakech. It chose the occasion to launch its national *Roadmap for Aligning the Financial sector with Sustainable Development* and its climate change commitments. The roadmap aims to promote higher investment flows into sustainable and climate-change-related projects in order to address Morocco's mounting social and environmental challenges. By enabling the financial sector to play an instrumental role in closing the green investment gap (estimated at USD 24 billion), it seeks to smooth the transition to a green economy (Green Climate Fund [GCF] 2019a). In line with its commitment to enhance South-South cooperation, the roadmap contains a section on integrating green finance in the African continent.³¹

Its guiding framework reflects a comprehensive unified vision for the financial sector's commitment to support national efforts by mainstreaming sustainability through five main pillars:³²

- Extending risk-based governance to socio-environmental risks,
- Developing sustainable financial instruments and products,
- Promoting financial inclusion as a vehicle for sustainable finance,
- Training and capacity building in the field of sustainable finance, and
- Enhancing transparency and market discipline.

The roadmap calls for:

- developing a sustainable finance charter that integrates ESG factors into FIs' core operations, business strategies, investment decision-making processes and governance structures,
- adopting a shared definition for green assets, projects and instruments,
- identifying FIs' businesses' carbon footprint,
- assessing climate-change-related risks and opportunities,
- publishing guidelines to promote transparency and market discipline among FIs,
- communicating environmental concerns and the merits of sustainable finance through training and financial education programs.

The roadmap enhances transparency by encouraging FIs to report their activities on green investment flows and to disclose their environmental and social (E&S) policy and governance. It recommends monitoring FIs' exposure to climate risks at transaction and portfolio levels as well as assessing their E&S risks and opportunities to undertake the necessary mitigation measures and to incorporate adequate provisions into their financing agreements.

31 The roadmap has been developed in close coordination with stakeholders, including: the Ministry of Economy and Finance, the Moroccan Capital Market Authority, the Supervisory Authority of Insurance and Social Welfare, Casablanca Finance City Authority, Casablanca Stock Exchange, the Moroccan Bankers' Association, and the Moroccan Federation of Insurance and Reinsurance Companies, among others, such as civil society representatives all showing commitment to scaling up sustainable finance practices.

32 The roadmap was developed in accordance with the National Charter for Environment and Sustainable Development as well as the National Strategy for Sustainable Development. The document is meant to be dynamic and subject to periodical reviews for necessary adjustments.

According to the *Sustainable Banking Network Country Report (2019)*, Morocco's progress in aligning its national financial sector with sustainable development is categorized as "advancing". This is based on best international practices and reflects NDCs, national and regional climate change targets. The roadmap promotes the development of green financing products and services such as green bonds, through the issuance of guidelines, standards and definitions to be implemented and understood by FIs (IFC 2019c). The roadmap has allocated MAD 6 billion to be invested in green assets over a five-year time period (Central Bank of Morocco 2016).

Central Bank sustainable finance practices

The Central Bank of Morocco—Bank Al-Maghrib (BAM)—has committed to achieving the SDGs and transitioning to a low-carbon, more resilient economy. BAM has participated in developing the national roadmap for aligning the banking sector with sustainable development priorities. This participation addresses both climate change challenges and financial exclusion issues to eradicate poverty by 2030 through reforms such as adopting the *National Financial Inclusion Strategy* in 2019.

The National Financial Inclusion Strategy aims to improve access to finance, particularly among youth, women and the rural population while promoting green financing solutions. It targets the development of alternative finance mechanisms such as mobile payment, microfinance and inclusive insurance (OBG 2020b).³³

For example, a public credit guarantee institution is offering incentives for extending green loans to micro, small and medium enterprises (MSMEs). This is in addition to the Solidarity Fund, an insurance scheme deployed to cover small farmers' losses associated with climate-related incidents.³⁴ It also aims to close gender gaps in access to formal financial services by encouraging finance providers to mainstream the gender dimension when developing their financial services and products to cater to women's needs (Central Bank of Morocco 2016). However, green financing solutions are still limited in scope and need to be further strengthened.

BAM was one of the first members to join the Network for Greening Financial Systems (NFGS). Established in December 2017, NFGS is a global platform to share FIs' experiences of achieving the Paris Agreement 2015's objectives by disseminating green finance practices. BAM has established a working group on green finance to discuss regulatory options with stakeholders, including commercial banks, some of which already integrate environmental, social and governance (ESG) factors into their business operations and strategies (Fosse et al. 2018).

33 The strategy is developed in coordination with the Ministry of Economy and Finance.

34 Speech by BAM's Governor at BAM-AFI Global Conference on Green Finance in October 2019. BAM is currently conducting a national study on climate risks in Morocco.

Financial institutions' sustainable finance practices

Morocco's Insurance Regulatory and Supervisory Authority (ACAPS) has worked with the United Nations Environment Programme (UNEP) on developing a sustainable insurance strategy that promotes sustainable finance practices in the Moroccan insurance sector, based on international best practice. ACAPS also signed the Principles for Sustainable Insurance (PSI) with UNEP during its first-ever Sustainable Insurance day in Rabat in late 2017 (UNEP 2017b).

Over the past few years, the insurance sector has introduced multi-risk insurance products to protect investments undertaken in major crops by hedging against climate-related damages associated with droughts, sand storms and frost, among others. This has been further reinforced in the national roadmap, which recommends extending the insurance coverage against climate-related risks and developing innovative insurance solutions for environmental challenges. The roadmap also encourages the deployment of green saving products, such as retirement savings, into green assets.

Stock Exchange and green bonds

To promote the development of green bonds and their instrumental role in financing Morocco's transition to a more sustainable economy, the Moroccan Capital Market Authority (AMMC), in partnership with the International Finance Corporation (IFC), published its first guidelines in 2016 setting the regulatory framework and rules for issuing green bonds. The guidelines aim to enable issuers and investors to identify, evaluate and select eligible projects. They provide guidance on the regulatory requirements needed for the issuance, use and management of green bonds' proceeds, independent external reviews, and as reporting and disclosure requirements (Autorité Marocaine du Marché des Capitaux [AMMC] 2017).

These guidelines were followed by the *Corporate Social Responsibility and Environmental, Social and Governance Reporting Guide*, issued by the AMMC in cooperation with the Casablanca Stock Exchange (CSE). Its purpose is to promote CSR culture among publicly traded firms and to provide a practical guide for ESG reporting (AMMC and CSE 2017).

In 2018 the AMMC published new guidelines on green, social and sustainability bonds, expanding the market for available financing opportunities by introducing new funding mechanisms, namely, social and sustainability bonds (AMMC 2018).

The CSE—in coordination with ESG Vigeo Eiris, an independent international research and services agency—has set up Casablanca ESG-10, an environmental, social and governance benchmark index. ESG-10 is expected to contribute to the development of socially responsible investments (SRIs) and to promote the adoption of ESG best practice among publicly traded firms. The index includes the ten best performing listed stocks by ESG rating, in accordance with their ESG compliance, which is based on 38 criteria and more than 300 ESG indicators. These underline firms' commitments to ESG practices, risk-management efficiency and performance improvement capacity (CSE 2018).

In November 2016 the Moroccan Agency for Sustainable Energy issued Morocco's first green bonds, valued at USD 125 million, to raise finance for the establishment of the 60-MW Noor (I) concentrated solar power plant (OBG 2020c). In October 2018 Morocco launched its first *Shariah*-compliant sovereign bonds, or *sukuks*, valued at USD 104.2 million. These were well received by the market, as they were 3.6 times oversubscribed (OBG 2020d). As of early 2020, five green bonds valued at USD 416.7 million have been issued in Morocco to fund projects such as solar power plants, energy efficiency, renewable energy and sustainable buildings (OBG 2020c).

Capitalizing on its vision to establish Casablanca as a green finance hub in Africa, the *Casablanca Statement for Financial Centers Sustainability* was issued in 2017. It promotes strategic action for scaling up green and sustainable finance to increase capital flows into clean energy and sustainable agriculture by harnessing international expertise in climate change and sustainable development (Marrakech Pledge 2017).



Bahrain

Bahrain's national policy framework and sustainable development

Bahrain has embedded climate change into national policies, considering it to be one of the Kingdom's main development challenges. Adverse effects associated with rising sea levels, droughts and extreme temperatures are threatening public health, water and agriculture resources, and hence food security. Climate change has highlighted the urgent need to allocate the funds necessary to build national capacities, adopt green technologies, increase energy efficiency and raise the share of renewable energy in the energy mix while promoting awareness about sustainable consumption and production patterns.

Sustainability is at the heart of Bahrain's national policy framework as one of the main guiding principles of its *Economic Vision 2030*, along with competitiveness and fairness. Launched in 2008, *Vision 2030* provides a comprehensive strategy to support sustainable development through the achievement of both financial and economic sustainability in order to ensure a smooth transition to a greener economy. *Vision 2030* aims to capitalize on the Kingdom's natural resources by:

- increasing investment in technologies that reduce carbon emissions and pollution,
- improving energy efficiency,
- promoting renewable energy use and production,

- supporting green infrastructure, and
- encouraging the optimal use of water resources. (Bahrain 2008)

In alignment with its regional and international commitments—The League of Arab States Energy Framework, the UN 2030 Sustainable Development Agenda and the Paris Agreement (2015)—in 2017 Bahrain endorsed both the *National Energy Efficiency Action Plan* (NEEAP) and the *National Renewable Energy Action Plan* (NREAP). NEEAP adopts a 6% energy efficiency target by 2025 (Bahrain 2017a), while NREAP aims to achieve a renewable energy mix of solar, wind and waste-to-energy technologies, setting targets of 5% by 2025 and 10% by 2035 (Bahrain 2017b). These are expected to produce energy and fiscal savings and reduce greenhouse gas emissions.

Economic diversification is embedded in government reform efforts, programs and action plans. Bahrain’s *Government Action Plan 2015–2018* sought to reduce Bahrain’s dependence on oil and gas revenues while supporting the growth of non-oil sectors and their contribution to GDP. This reached more than 80% in 2017, by increasing foreign investments, strengthening public-private partnerships and promoting innovation and entrepreneurship (Bahrain 2019).

Responsible for more than 15% of GDP, the financial sector is the second largest contributor to the economy after the hydrocarbon sector and is Bahrain’s largest employer. It is expected to be the main growth engine supporting the country’s economic diversification reforms and the transition to a more resilient and greener economy (Lopez, Bendix and Servin 2020).

Bahrain’s sustainable finance practices

Central Bank sustainable finance practices

Home to more than 400 domestic, regional and international licensed financial institutions, Bahrain has established itself as a regional hub for the financial services industry and a global center for Islamic finance. In the past few years, the financial sector has undergone strategic transformation through innovation, modernization and digitalization, expanding its outreach and accessibility (Economic Development Board 2019).

The development of Bahrain’s Fintech Bay (BFB) in 2018³⁵ is a major step towards an innovation-driven economy (Economic Development Board 2019).³⁶ The Central Bank of Bahrain made BFB possible by adopting an innovative regulatory framework and using Fourth-Industrial-Revolution-relevant technology to create the basis for a sustainable domestic fintech industry (Lopez, Bendix and Servin 2020).

35 This is established as public-private partnership between Bahrain’s Economic Development Board EDB and Singapore Fintech Consortium, in line with the Government Action Plan (2015–2018) focusing on both innovation and technology.

36 Bahrain Fintech Bay supports fintech-focused firms through incubation, acceleration, education and training.

Banks' sustainable finance practices

In 2018 the Bahrain Association of Banks (BAB) established a permanent sustainable development committee to enhance the role of the banking sector and its contribution to sustainable development and economic growth in line with the UN 2030 Sustainable Development Agenda (Bahrain Association of Banks [BAB] 2018). The committee promotes sustainable finance practices by increasing financial and investment flows to sectors such as education, healthcare, agricultural development, sustainable energy, infrastructure, transport and green financing (Bahrain 2018).

In doing so, BAB's sustainable development committee is focused on establishing a sustainable financing framework and adopting international best practice for financing environmentally friendly and socially sustainable projects (N Business 2018). In 2018 BAB signed a Memorandum of Understanding with the United Nations Development Programme (UNDP) to promote sustainable finance practices in Bahrain by encouraging FIs to finance sustainable development projects that align with the SDGs (DT Business 2018).

BAB's sustainable development committee recently issued a policy paper on developing a national sustainable financial system that focuses on two main areas: establishing a sustainable and green finance framework, and financing sustainable infrastructure. To that end, the paper provides a set of policy actions and recommendations based on international best practice (BAB 2020).

These aim to internalize sustainability into banks' operations and strategies by developing innovative green financing tools and disclosing and reporting on green activities, among others. This is in addition to:

- establishing a Bahrain Green Fund to provide credit enhancement and risk management support to green sustainable projects
- developing national sustainable and green finance support mechanisms, including a green finance policy framework, incentives, regulations, and training and awareness programs and institutions (BAB 2020).

Government sustainable finance practices

TAMKEEN is an existing national program that promotes sustainable growth, entrepreneurship and innovation, particularly in renewable energy and sustainable development. To promote banks' extension of green loans and increase the financing of environmentally friendly projects, TAMKEEN recently signed a partnership agreement with a number of leading banks for an Islamic *Shariah*-compliant Solar Financing Scheme. The scheme will encourage small, medium and large enterprises to use renewable and clean sources of energy by purchasing and installing solar panels for power generation, hence reducing their energy costs and carbon footprints (GloballyToday 2020).

Stock Exchange and green bonds

In recognition of the importance of sustainability, the Bahrain Stock Exchange, Bahrain Bourse (BHB), joined the United Nations Sustainable Stock Exchange (SSE) Initiative in 2019. This demonstrates its commitment to supporting sustainable and transparent capital markets by promoting environment, social and governance (ESG) practices among the BHB's listed firms and investors (Bahrain Bourse 2020a).

In January 2020 the BHB signed a Memorandum of Understanding (MOU) with an advisory services group to set a comprehensive action plan of sustainability-related initiatives which include awareness workshops and producing a research report on the status of sustainability in the national capital market. These aim to enhance transparency and the disclosure and reporting of ESG data and information (Bahrain Bourse 2020b). The BHB action plan promotes ESG research and the development of new financial products such as ESG indices, and green, social and sustainable bonds (Bahrain Bourse 2020c). It has been offering trading in bonds and *sukuks* whose total value reached BD 2.68 billion in 2019 (Bahrain Bourse 2019).

In June 2020 the BHB launched its voluntary environment, social and governance (BHB ESG) reporting guidelines supporting sustainable capital markets through enhanced disclosure. The guidelines provide stakeholders with a roadmap for integrating ESG considerations into firms' business decisions, reporting processes and strategies. This will help meet institutional investors' demand for ESG information to make better-informed decisions with respect to identifying opportunities and hedging risks. The BHB ESG reporting guide centres on the voluntary disclosure of a set of 32 key performance indicators (KPIs) based on the recommendations of the Sustainable Stock Exchange Initiative (SSE) and the World Federation of Exchanges (WFE) (Bahrain Bourse 2020c). Leading by example, BHB has also integrated ESG information on its own performance and impact in its 2019 annual report covering issues such as BHB capacity development, efforts towards gender equality in the marketplace, among others (Bahrain Bourse 2020c).



The United Arab Emirates (UAE)

Climate change and extreme weather conditions are expected to affect UAE banks' businesses. Indeed, UAE banks are highly exposed to environmental risks because of their exposure to climate change and to the hydrocarbon sector, which accounts for about 26% of the country's nominal GDP and for 50% of the government's total revenues (as of 2018).

The UAE is one of the world's most arid states. Most of its water is produced by energy-intensive desalination plants. In recent decades water sustainability challenges have been exacerbated by rapid economic and population growth (Saudi Gazette 2020).

UAE banks face environmental risks arising from issues such as:

- the expected increase in pressure by both domestic and global investors on banks to demonstrate strong ESG credentials as a result of the ongoing shift towards more sustainable investment, and
- exposure to borrowers with stranded hydrocarbon assets or those constrained by water sustainability and consumption efficiency issues.

The UAE's national policy framework and sustainable development

In 2012 the UAE launched the Green Economy for Sustainable Development Initiative, fully endorsing its implementation plan in 2015. Based on *UAE Vision 2021*, which aimed to embed green growth into national strategies, position the nation as a model for a low carbon, green economy and become a global hub for sustainable development, the *UAE Green Agenda (2015–2030)* is a joint effort between federal and local authorities. It is based on five strategic objectives, which cover aspects of the transition to a greener economy:

- competitive knowledge economy,
- social development and quality of life,
- sustainable environment and valued natural resources,
- clean energy and climate action, and
- green life and sustainable use of resources.³⁷

The *UAE Green Agenda* is supported by twelve programs, including the Green Diversification Program, which itself consists of a number of sub-programs such as the Green Finance and Investment Support Scheme. This scheme aims to enhance the financial sector's role in increasing investment in green and clean energy projects and innovating new green financing instruments. This entails the development of domestic green finance models and products including energy performance contracts and green *sukuks*. The scheme also seeks to provide capacity building, policy support and matchmaking between entrepreneurs and potential funders (UAE 2017).

To that end, the Dubai Green Fund was established in 2015 as a strategic move to support the implementation of viable green economy projects and programs through the deployment of about USD 27 billion. The fund serves as seed capital to encourage the private sector to increase its investment flows allocated to financing environment friendly ventures, such as climate and energy related activities (UAE 2017). The fund's green financing activities include energy efficiency and green energy power generation in Dubai International Airport and Mohamed Bin Rashid Al Maktoum Solar Park (phase 4).

The *UAE National Energy Strategy 2050* aims to achieve an energy mix of 44% clean energy, 38% natural gas, 12% coal and 6% nuclear. The UAE has also set a 7% renewables generation target from its total energy capacity by 2020 (UAE 2017). Abu Dhabi plans to reduce its oil dependency and achieve a 65% contribution to GDP from non-oil sectors by 2030. Similarly, Dubai plans to increase the share of clean energy to 75% of its total generation mix by 2050 (S&P 2019).

³⁷ The UAE Vision 2021 is considered to be the national UAE blueprint for social, economic and environmental development.

Sustainable finance practices in the UAE

Dubai Sustainable Finance Declaration

In line with the *UAE Vision 2021*, the *UAE Green Agenda* and the Paris Climate Change Agreement—and in close coordination with the Ministry of Climate Change and Environment (MOCCAЕ)—a number of leading banks and financial institutions launched the Dubai Declaration on Sustainable Finance during UNEP FI Global Roundtable in 2016. This marked the UAE financial sector’s commitment to transition towards a more inclusive, greener and climate-resilient economy. This can be achieved by integrating sustainability into their business practices as well as stepping up finance and investment flows into greener and responsible ventures.

Abu Dhabi Sustainable Finance Declaration

In collaboration with the UAE Central Bank, the Securities and Commodities Authority (SCA) and the MOCCAЕ, the Abu Dhabi Sustainable Finance Declaration was launched by the Abu Dhabi Global Market (ADGM) at the inaugural of the Abu Dhabi Sustainable Finance Forum (ADSFF) in 2019. This confirmed the financial sector’s commitment to addressing climate change and mainstreaming sustainability by integrating ESG considerations into their business conduct, core strategies and operations at the local, national and regional levels (Dubai Declaration for Sustainable Finance 2016) (Abu Dhabi Securities Exchange [ADX] 2019).

The UAE sustainable finance guiding principles³⁸

In January 2020 the UAE published its first guiding principles on sustainable finance, a milestone in the nation’s efforts to ensure a smooth transition to a sustainable economy by developing a strong sustainable financial sector that can play an instrumental role in supporting the Emirates’ efforts to advance both social progress and environmental mitigation. They represent the Arab region’s first sustainable finance guiding principles, and are compliant with Islamic *Shariah* law.

The principles align with international best practice and focus on integrating ESG factors into financial entities’ governance, strategy and risk management frameworks. They are:

- Integration of ESG Factors into Governance, Strategy and Risk Management
- Minimum Eligibility Requirements
- Promotion of Appropriate ESG-Related Reporting and Disclosures.

38 Guiding Principles on Sustainable Finance in the UAE 2020. These guiding principles were developed consultatively through cooperation between a number of financial services regulatory authorities: the UAE Central Bank, the Ministry of Climate Change and Environment (MOCCAЕ), the UAE Insurance Authority, the Securities and Commodities Authority (SCA), Dubai Financial Services Authority (DFSA), the Financial Services Regulatory Authority of Abu Dhabi Global Market, the Dubai Islamic Economy Development Centre, the Dubai Financial Market (DFM), Nasdaq Dubai, and the Abu Dhabi Securities Exchange.

The principles are voluntary, and are expected to be implemented gradually as the relevant authorities recognize that financial entities differ in their capacity to publish ESG data and to develop timely and appropriate sustainability strategies and reports.

The principles support the UAE's transition to a more sustainable and diversified economy. They aim to encourage financial firms to incorporate sustainable practices by integrating ESG considerations into their business decision-making process, risk management framework and investment strategies. This helps to mitigate the risks associated with climate change and the anticipated reduced global demand for oil.

UAE banks and green finance

In the past few years UAE banks have made progress in integrating ESG considerations into their business frameworks. Twenty-five UAE public and private entities signed the *Abu Dhabi Sustainable Finance Declaration* at the 2019 ADSFF's inaugural, and eleven other entities followed suit the following year. Signatories include First Abu Dhabi Bank PJSC, Abu Dhabi Commercial Bank and Abu Dhabi Islamic Bank (Saudi Gazette 2020).³⁹

The UAE sustainable finance guiding principles are expected to help national banks to integrate environmental, social and governance (ESG) into their core businesses and strategies, enabling them to better manage ESG-related risks that affect their credit profiles. In a survey on green finance practices in the UAE, the response from financial institutions demonstrated their positive attitudes towards integrating ESG considerations into their business decision-making processes and an understanding that sustainability makes business sense. This is mainly because they believe that integrating ESG factors leads to cost savings and efficiency, additional revenues, an enhanced market reputation, and improved competitive edge (UAE 2016).⁴⁰

SCA's Capital Markets' Sustainability Plan

In early 2019 the UAE Securities and Commodities Authority (SCA) launched its Capital Markets' Sustainability Plan (UAE 2019).⁴¹ It serves as a comprehensive roadmap driving SCA's sustainability agenda by promoting green and responsible investment while ensuring the national financial markets' stability and development. The plan is meant to enable regulatory authorities to shift to sustainability-driven investment, to limit risks, to enhance market liquidity and to create a market system that stimulates sustainable investment and finance.

39 Saudi Gazette 2020. In March 2017 First Abu Dhabi Bank raised the first green bond of the GCC region. The bank publishes annual sustainability reports including a corporate ESG report, an Equator Principles report and a green bond report. Emirates NBD PJS offers interest rate discounts on auto financing of selected electric and hybrid cars as part of its green auto loan scheme. ENBD also publishes an annual sustainability report.

40 Some respondents have perceived that additional benefits associated with ESG integration could reach up to 2% of their total profits.

41 The SCA master plan was developed in consultation with key stakeholders based on international best practice. SCA intends to complete the Sustainable Capital Markets Master Plan by mid-2020 in close coordination with relevant parties to improve the UAE financial markets and to ensure a smooth transition towards sustainability.

The SCA summarizes the plan's main objectives as:

“providing new cost-effective means for obtaining finance for sustainable projects and ventures, enhancing corporate governance practices in companies that incorporate sustainability in their strategic decision making, promoting high quality disclosure of sustainability related matters, encouraging investors and those who act on their behalf to become strong advocates of sustainable investing and providing them with the information, tools, channels and instruments to do so, and incorporating the concepts of sustainability into its regulatory policies wherever possible and relevant”.

The plan is based on seven interlinked pillars:

- classification and standard setting,
- legal and regulatory framework,
- market platforms and investment tools,
- corporate governance,
- transparency and disclosure,
- education and awareness, and
- awards and incentives.

These pillars share a number of common themes including: responsible investment, transparency, awareness, effective governance, incentives, guiding standards and principles, innovation, engaging stakeholders and cooperation.

DFSA's Green Bond Best Practice Guidelines

In 2018 the Dubai Financial Services Authority (DFSA) issued the first *Green Bond Best Practice Guidelines* (Dubai Financial Services Authority [DFSA] 2019) to provide market practitioners with a reference framework for issuing and listing green bonds and *sukuks*. These voluntary guidelines ultimately led to the listing of high-profile green financial instruments on Nasdaq Dubai in 2019. These include the listing of two sovereign green *sukuks* by the government of Indonesia reaching a total of USD 2 billion, and the world's first corporate green *sukuks* by Majid Al Futtaim Holding, valued at USD 600 million.

This is in addition to the EUR 1 billion listing by the Islamic Development Bank IsDB's first green *sukuk* on Nasdaq Dubai in late 2019. Both sovereign and corporate green issuances highlight the global shift in sentiment towards investments that consider ESG factors. Proceeds will be used to finance and refinance green sustainable development activities that target the construction of energy-efficient buildings, renewable energy, sustainable water management, energy efficiency projects and sustainable agriculture, among others.⁴²

Abu Dhabi Securities Exchange's ESG disclosure guidance

In 2019, the Abu Dhabi Securities Exchange (ADX) issued its *Environmental, Social and Governance (ESG) Disclosure Guidance* (Abu Dhabi Securities Exchange 2019) to promote its competitiveness and to attract more responsible investments into the UAE. The guidance is based on the recommendations of the United Nations Sustainable Stock Exchanges Initiative (SSEI), the World Federation of Exchanges (WFE), the Global Reporting Initiative (GRI) and the International Integrated Reporting Framework.

The ADX's guidelines aim to support listed companies with an enabling trading environment and encourage them to adopt sustainability practices. They provide listed companies with a sustainability reporting framework made up of more than thirty key performance indicators (KPIs) to support their voluntary disclosure of ESG information.⁴³

According to the guidelines, the ADX has adopted key initiatives to encourage listed firms and investors to integrate ESG factors into their business conduct, strategies and decision-making processes. These initiatives mainly aim at:

- developing sustainable financial products such as green bonds and ESG indices,
- promoting responsible investment practices, and
- encouraging sustainability reporting through market education and issuing ESG guidelines.

Abu Dhabi Stock Exchange's First Sustainability Report

Shortly after publishing its first *ESG Disclosure Guidance*, the Abu Dhabi Securities Exchange (ADX) launched its environmental, social and governance (ESG) sustainability report in June 2020 (Business Wire 2020). The first report of its kind in the Arab region, it reinforces guiding principles on sustainable finance, and encourages growth and sustainable investment opportunities in the UAE.

The ADX plans to publish the report annually, and aims to encourage listed companies to issue their own sustainability reports in an attempt to deepen sustainability practices in the financial markets.

42 Dubai is considered to be the world's largest center for *sukuk* listings reaching USD 51.21 billion with NASDAQ Dubai's *sukuk* listing reaching USD 49 billion. Dubai NASDAQ website <https://www.nasdaqdubai.com/products/islamic-securities>

43 These guidelines complement the UAE Securities and Commodities Authority SCA's Corporate Governance Code, updated in 2016.

Dubai Financial ESG Reporting and Disclosure Guide

In 2019 the Dubai Financial Markets (DFM)—the world’s first Islamic *Shariah*-compliant capital market since 2007—published its environmental, social and governance (ESG) reporting guide, *Value Enhancement through Voluntary Sustainability Disclosures* (Dubai Financial Markets 2019a). The guide promotes sustainability practices among listed companies and enables them to integrate ESG information into their reporting processes by voluntarily disclosing a set of 32 ESG metrics and indicators based on the recommendations of both the World Federation of Exchanges (WFE) and the Sustainable Stock Exchanges (SSE) Initiative.

In doing so, the DFM has updated its *Shariah* standards to promote the development of innovative financial sustainable products such as green *sukuks*, social and sustainable bonds, and their listing and reporting frameworks. It has also established a sustainability committee to ensure the alignment of its core strategies and operations with sustainability principles.

Dubai Financial Markets’ Sustainability Plan 2025

The DFM issued its *Sustainability Strategic Plan 2025* (Dubai Financial Markets 2019b) to position itself as the region’s leading sustainable financial exchange by the year 2025. The strategy is based on four pillars:

- sustainability reporting and disclosures,
- sustainable investment education,
- green products and listings, and
- gender balance and empowering people.

To enhance its ability to attract more investments, the DFM established a Sustainability Committee with a mandate to:

- integrate sustainability into its core strategy and operations,
- work on initiatives to raise awareness among stakeholders, including market participants, listed firms and investors, and to
- deepen sustainability practices, in accordance with the UAE’s sustainable development agenda.

Dubai Financial Markets’ First ESG Index in MENA

In 2011 Hawkamah (the Institute for Corporate Governance for the MENA region) developed the first-of-its-kind ESG index for the region’s equity markets in partnership with the International Finance Corporation (IFC) and Standard & Poor’s Financial Services. The *S&P/Hawkamah Pan-Arab ESG Index* (Hawkamah 2014) is a benchmarking tool for investors interested in sustainability issues. It ranks and tracks the ESG performance, transparency and disclosure of regional companies listed in a number of Arab exchange markets. These include Egypt, Bahrain, Jordan, Morocco, Lebanon, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia and the UAE. This is done using an ESG score-weighting scheme based on almost 200 ESG metrics and standards.

Other sustainable finance initiatives in the UAE

A number of sustainable finance initiatives were announced during the Abu Dhabi Sustainable Finance Forum (ADSFF) held in early 2020. ADSFF brought together leading organizations, specialists and various market participants to discuss ways to advance the agenda on sustainable finance practices at the national and regional levels. Initiatives include the following (BNP Paribas 2020):

MENA First Social Bond Project

The issuance of the Arab region's first social impact bond was announced during the ADSFF 2020. Social bonds are defined as bonds whose proceeds are used to finance or re-finance projects with positive social outcomes. The main objective is to increase capital allocation and investment flows to social projects which include, but are not limited to: employment generation, SME financing and socioeconomic advancement and empowerment.

ADX Green Bond Accelerator Program

The Green Bond Accelerator Initiative (Emirates News Agency 2020) aims to position Abu Dhabi as the region's hub for sustainable finance and investment, with special focus on the issuance of green bonds and green *sukuks* at the national, regional and global levels.⁴⁴ It was launched by the Abu Dhabi Department of Energy (DoE), in collaboration with the (ADGM and the Abu Dhabi Securities Exchange (ADX). The DoE plans to issue a consultation paper on its Green Bonds Policy Framework that may also address the inclusion of both blue and transition bonds. The Green Bonds Policy will cover environmentally friendly green projects including energy and water efficiency schemes, green buildings, new electric vehicle charging infrastructure, carbon capture and efficient technologies for water, wastewater and recycled water management.

ADGM Sustainable Finance Certification

Recognizing the importance of sustainable finance to stakeholders in the region and worldwide, the Abu Dhabi Global Market ADGM Academy has launched an education program leading to a Certificate in Sustainable Finance in cooperation with the London Institute of Banking and Finance. The ADGM Academy is responsible for the education, training programs and awareness initiatives at ADGM.

44 The first green bond in the region was issued in 2017 by the National Bank of Abu Dhabi (now First Abu Dhabi Bank, after its merger with First Gulf Bank) for a total of USD 587 million, S&P Global Ratings (2019).



The Kingdom of Saudi Arabia

Saudi Arabia's national policy framework and sustainable development

Climate change poses a great threat to the Kingdom of Saudi Arabia (KSA). The country is at risk of several natural hazards including floods, drought and sand and dust storms. The impact of climate change is expected to affect all aspects of life in Saudi Arabia including water resources, health, fishery, agricultural production and biodiversity (World Bank 2020a). The Kingdom's ongoing demographic growth coupled with the rising standard of living has led to a continuous increase in energy demand, consumption and carbon emissions. Between 1990 and 2013 Saudi Arabia's carbon emissions grew by 75%, making it the second largest carbon emitter per capita among the G20 countries (Climate Transparency Report 2016) and the eighteenth country in terms of global ranking (Petroleum Economist 2019).

In 2016 Saudi Arabia launched its ambitious *Vision 2030*. Based on three pillars—a vibrant society, thriving economy and ambitious nation—*Vision 2030* seeks to deliver a more balanced, sustainable economy through structural change that enhances economic development, social cohesion and environmental protection. In 2018 Saudi Arabia published its first Voluntary National Review at the UN High-Level Political Forum on Sustainable Development, affirming its commitment to achieving the SDGs in line with *Vision 2030* (Saudi Arabia 2018c).

To that end, the Council of Economic and Development Affairs launched 12 Vision Realization Programs mandated to translate *Vision 2030*'s objectives into measurable delivery plans. The programs aim to:

- enhance economic growth and diversity,
- increase employment,
- promote government effectiveness, and
- advance social responsibility (Saudi Arabia 2017).

These programs include the Public Investment Fund Program, the National Transformation Program, the Financial Sector Development Program and the Fiscal Balance Program, among others. In that respect, Saudi Arabia has been working on promoting sustainable development by reducing its dependence on oil as well as its contribution to global carbon emissions. At the same time, it has diversified its economy by boosting the development of non-oil sectors such as tourism, manufacturing and renewable energy (Invest Saudi 2020).

Saudi Arabia launched a public investment fund to develop a sustainable economy in order to achieve *Vision 2030*. The Public Investment Fund (PIF) Program is the driving force behind the Kingdom's economic diversification reform efforts to:

- increase private sector participation in the economy,
- maximize the energy sector's value and investment returns, and
- unlock the growth potential of non-oil sectors.

The PIF is set to become one of the world's largest sovereign wealth funds, enabling the development and funding of new strategic sectors through equity and debt finance (SAUDI ARABIA 2017). The fund will include returns from the sales of Aramco shares estimated at USD 30 billion, boosting investment in new industries including manufacturing and technology (Reuters 2020). The PIF Program specifically aims to reduce Saudi Arabia's dependence on oil revenues, which has averaged more than 75% of its total budget revenues and more than 25% of its GDP since 1985 (IMF 2018).

The National Transformation Program (NTP) seeks to strengthen efforts to diversify the economy by enhancing economic enablers to increase:

- private sector contributions to GDP from around 40% to 65%,
- non-oil exports in total non-oil GDP from 16% to 50%,
- the rate of economic participation by women from 17% to 25%,
- the SME contribution to GDP from 20% to 35%, (Saudi Arabian Monetary Authority [SAMA] 2019), and
- the digital economy to non-oil GDP to 3% by 2030.

In addition, the NTP aims to ensure the sustainability of the Kingdom's vital resources through objectives such as: environmental protection, enhancing food security, promoting social development, ensuring sustainable access to water resources, and improving the quality of the national health care system (SAUDI ARABIA 2020b).

In 2019 a new Private Sector Participation Law was drafted to promote private investment, strengthen public private partnerships (PPPs) and regulate the national Privatization Program by establishing a more transparent legislative framework. This law is expected to boost private investment in sectors such as water, infrastructure, real estate, power and renewable energy (The National 2019). The Fiscal Balance Program seeks to improve energy efficiency, boost energy productivity and undertake energy price reforms to increase domestic price levels to reach international benchmarks by 2020. These reforms play a key role in shaping the Kingdom's future energy efficiency and industrial development (King Abdullah Petroleum Studies and Research Center [KAPSARC] 2017).

In recognition of its harmful impact, Saudi Arabia committed to reducing domestic greenhouse gas emissions, and submitted its Intended Nationally Determined Contribution (INDCs) in 2015 during the UN Climate Change Conference (COP21) in Paris. It pledged to avoid up to the equivalent of 130 million tons of CO₂ per year by 2030, while diversifying its economic activity towards the non-oil sector, and developing its energy efficiency and renewable energy programs (SAUDI ARABIA 2015).

The National Renewable Energy Program was launched in 2016. Part of *Vision 2030's* National Transformation Program, it establishes renewable energy as a sector with great potential to generate employment opportunities and to move the country into more service and knowledge-based industries. The Kingdom's energy mix strategy aims to produce 70% of its power generating capacity from natural gas and 30% from renewables by 2030. It plans to invest between USD 30–50 billion in renewable energy by 2023, attracting private investment to the sector (IRENA 2019). In 2019, Saudi Arabia raised its renewable energy target from 9.5 GW by 2023 to 58.7 GW installed capacity by 2030 (Climate Transparency Report 2019).

In 2019 the Ministry of Environment, Water and Agriculture signed a cooperation agreement with the United Nations Environment Programme (UNEP) to ensure the sustainability of its natural resource use and environmental protections. The UNEP will support the Kingdom in implementing its National Environment Strategy and National Transformation Program through technical assistance to develop its human capacities, institutional structure and regulatory framework (UNEP 2019b).

Saudi Arabia's sustainable finance practices

Financial Sector Development Program (FSDP)

Saudi Arabia's Financial Sector Development Program (FSDP) launched in 2017. It aims to establish a vibrant financial sector that supports the *Vision 2030* objectives by enhancing financial development, inclusion, digitalization and stability. This can be achieved by creating an effective, well-diversified financial service industry capable of supporting the development of the economy, diversifying its sources of income, stimulating private sector growth and promoting investment (SAUDI ARABIA 2018a).

Financial inclusion is at the heart of the FSDP, which aims to improve access to finance among excluded, marginalized groups, and increase the number of adults with bank accounts from 74% in 2016 to 80% in 2020.⁴⁵ The FSDP also commits to raising SMEs' contribution to the economy by increasing their share of financing in the banking sector from the current level of 2% to 5% by 2020 (SAUDI ARABIA 2018a).

The General Authority for Small and Medium Enterprises (MONSHAAT) was established in 2016 to support the SME sector and increase their productivity to become the Kingdom's main growth engine (SAUDI ARABIA 2020a).

In partnership with ELITE of the London Stock Exchange Group, MONSHAAT launched the TOMOUH Elite program to promote the development of promising firms in the Kingdom (SAUDI ARABIA 2018b). In 2018 MONSHAAT also established a SME support center in 2018 to enhance the growth of startups. Moreover, the Kingdom's national insurance company TAWUNIYA created an SME Integrated Insurance Program to meet their insurance needs (World Finance 2019).

Digital Transformation Agenda

Vision 2030 aims to establish an ecosystem to boost Saudi's digital transformation agenda by investing in technology such as artificial intelligence, data mining and cloud technology. It also targets the development of digitalized financial infrastructure to promote digital payment services and the move towards a cashless society, seeking to increase the share of non-cash transactions from 18% in 2016 to 28% by 2020 (SAUDI ARABIA 2018a).

The Saudi Arabian Monetary Authority (SAMA) launched the Fintech Saudi Initiative to help develop a financial services technology ecosystem. It aims to transform the Kingdom into a fintech hub to promote financial e-transactions, support entrepreneurship and stimulate innovation among financial institutions, firms, investors, universities and government institutions.

It also launched a regulatory sandbox to enable firms to test their new digital financial solutions which aim to achieve strategic objectives such as enhancing financial inclusion, promoting investment and supporting the transition to cashless economy. Financial products and services being tested by SAMA include e-wallet services, e-wallet transfers and direct international transfers (SAMA 2019).⁴⁶

45 Women represent about 60% of the unbanked adults.

46 SAMA recently launched licenses for two non-bank financial technology institutions for the establishment of an Electronic Wallet Company and a Payment Services Company.

MUTAJADED A Renewable Energy Program

Saudi Arabia recently launched the MUTAJADED A program to promote the development of environmentally friendly projects and attract investment into the renewable energy sector. The program provides financial support through the USD 28 billion government financed Saudi Industrial Development Fund (SIDF). Under this program, SIDF grants loans up to USD 310 million and finances up to 75% of the total project cost. Loan repayment periods extend up to 20 years, with a 36-month grace period for all sectors interested in using renewable energy to reduce oil dependence, while bolstering new sources of energy (OBG 2020e).

Saudi Stock Exchange (TADAWUL)

In December 2018 TADAWUL became a member of the United Nation Sustainable Stock Exchange (SSE) Initiative, promoting sustainable and transparent capital markets. According to the initiative's report on TADAWUL, the Saudi stock exchange has yet to publish an annual sustainability report, and has not established ESG reporting requirements. However, it has committed to publish a few rules on ESG reporting. TADAWUL has a listing platform for SMEs and has created a parallel equity market with lighter listing requirements, serving as an alternative platform for companies to go public (Sustainable Stock Exchange Initiative 2018).

Corporate governance regulations

In 2019 the Capital Market Authority (CMA) amended its *2017 Corporate Governance Regulations* for companies listed on TADAWUL in order to promote governance and transparency. The amended regulations provide shareholders with better rights and more clarity about their duties, paving the way for the Kingdom's financial market to compete internationally (SAUDI ARABIA 2019).

Islamic bonds (sukuks)

Saudi Arabia has been considered the largest *sukuk* issuer among the Gulf Cooperation Council GCC countries since 2017, raising about USD 9.5 billion during the first seven months of 2018, and accounting for about 55% of the Gulf region's issuance over the same time period. Saudi Arabia has been issuing Islamic bonds since the early 2000s, with infrequent issuances in the initial years. As part of the Kingdom's efforts to promote investment and to develop the capital market, the Ministry of Finance established a Saudi riyal-denominated issuance program in 2017 with the aim to diversify its funding base. Since then, Saudi Arabia has become a regular issuer of Islamic bonds with more than USD 20 billion of local-currency-denominated *sukuks* issued since July 2017 (Saudi Gazette 2018). The Ministry of Finance has recently issued new information for its Sukuk Issuance Program to facilitate capital raising by both the government and the private sector to provide finance for its development projects (SAUDI ARABIA 2020c).

A close-up photograph of palm fronds, showing the intricate patterns of the leaves and the way they catch the light. The fronds are a mix of green and yellowish-brown, suggesting some dryness or a specific climate. The background is a clear, light blue sky. The overall composition is dynamic, with the fronds creating a sense of movement and depth.

3. Climate finance in the Arab region

Introduction

Climate change is expected to have serious repercussions on the Arab region's food, energy and water security through its negative impact on vital sectors such as agriculture, water, health, coastlines and tourism. This increases the region's persistent development challenges and puts additional fiscal pressures on already constrained budgets.

Financing climate change requires the allocation of significant financial resources towards climate adaptation and mitigation (Economic and Social Commission for Western Africa [ESCWA] 2019). Adaptation refers to increasing resilience to environmental and social shocks associated with climate change, while mitigation focusses on transitioning to a low carbon energy economy and reducing greenhouse gas (GHG) emissions (UNEP 2019a).

The Paris Agreement calls for maintaining a balance between adaptation and mitigation while taking into consideration national needs and priorities (ESCWA 2019). It is roughly estimated that the annual cost for global climate adaptation will reach between USD 140–300 billion by 2030, whereas the annual adaptation cost in developing countries is estimated to exceed USD 70–100 billion (UNEP 2019a).

Over the past few years, climate change action has mainly focused on mitigation rather than adaptation in both developed and developing countries. Factors slowing adaptation action include:

- the prevailing presumption that governments will provide public support after climate disasters such as extreme storms and floods, (UNEP 2019a)
- the higher share of bankable mitigation projects providing investors with a business deal flow, particularly in renewable energy and energy efficiency sectors, (ESCWA 2019a) and
- the perception that adaptation is a public good addressing a public problem whose transaction costs are huge and where market returns are lacking as it may be difficult for governments to align private incentives with public interest (UNEP 2019a).

The Economic and Social Commission for Western Africa (ESCWA) report *Climate Finance in the Arab Region* (2019) shows that bilateral, regional and international public climate support to the region reached about USD 4.6 billion as of 2016 (ESCWA 2019).⁴⁷ The support is mostly directed to financing mitigation rather than adaptation projects, by a factor of five to one. It also shows that more than 75% of these financial flows were used for energy, transport and infrastructure, and less than 15% of these flows for water and sanitation projects (ESCWA 2019). Multilateral Development Banks' mitigation flows have increased from 8% to 12% from 2015 to 2018, again mostly financing the energy, transport and infrastructure sectors.

⁴⁷ These numbers are from the United Nations Framework Convention for Climate Change (UNFCCC) dataset. This amount does not include climate specific financial flows from multilateral climate funds or Multilateral Development Banks (MDBs).

On the other hand, Multilateral Development Banks' climate finance adaptation flows to the region have declined from about 10% of global flows in 2015 to only 6% in 2018.

The UNFCCC 2018 Biennial Assessment of Climate Finance Flows estimates that in 2016 global private climate-specific finance exceeded USD 455 billion, reaching more than double the reported public flows. The UNFCCC also notes that estimating private sector climate finance flows is challenging as it is subject to data gaps and uncertainty associated with stakeholders' diversity, double counting, lack of standardized reporting format and absence of mandated reporting (ESCWA 2019).

This chapter assesses the status of climate finance in four countries in the Arab region: Egypt, Jordan, Iraq and Tunisia. It investigates the climate finance institutional framework in each country—their national strategies and plans, including national development plans, national environment strategies, national climate change policies, national adaptation policies and national energy strategies.

It looks at each country's Intended Nationally Determined Contributions (INDCs) submitted to the UNFCCC in 2015, highlighting adaptation and mitigation targets' cost estimates and priority sectors. This is followed by an overview of some of the climate change mitigation and adaptation projects financed by dedicated climate funds in each country.



Egypt

Egypt's climate finance policy and institutional landscape

Egypt is vulnerable to climate change, which has had adverse effects on sectors such as water, agriculture, health, fisheries, coastal zones, tourism and energy through: elevated heat, increased soil salinization, groundwater contamination, sand storms, fresh water deficiency and rising sea levels. These have led to beach erosion, coral reef loss, reduced crop yields and quality, livestock losses and heightened food insecurity (Abdallah 2020). To address climate change and its harmful impact on the economy, Egypt has undertaken a number of policy actions and regulatory reforms.⁴⁸

Egypt's Intended Nationally Determined Contributions (INDCs)

In November 2015 Egypt submitted its INDCs, highlighting national plans to promote resilience, address climate change impact through adaptation and reduce its greenhouse gas (GHG) emissions through mitigation. In its INDCs, Egypt noted that climate change adaptation and mitigation would require an estimated USD 73 billion over 2020–2030, but did not provide categorized adaptation and mitigation costs separately. It also emphasized the importance of mobilizing international financial support and technical assistance for the technology transfer and capacity building needed to implement the INDCs (Egypt 2015).

⁴⁸ Egyptian Environmental Affairs Agency EEAA 2018. The Ministry of Environment was established in 1997, and the Egyptian Environmental Affairs Agency EEAA has acted as its executive arm. The Climate Change Unit was established at EEAA in 1996 and was later changed to become a Central Department to enhance the Climate Change institutional structure at the national level.

National Council for Climate Change

In 2019 the Prime Minister updated his decree concerning the establishment of Egypt's National Council for Climate Change.⁴⁹ To ensure close coordination among stakeholders, the Council includes representatives from the Ministries of Environment, Planning, International Cooperation and Investment, Finance, Water Resources and Irrigation, Agriculture and Land Reclamation, Scientific Research, Industry and Trade, and Foreign Affairs, among others, as well as a representative from the General Union for Civil Society Associations.

The Council is responsible for developing and updating the comprehensive national strategy for climate change as well as sectoral plans and policies, ensuring their compatibility with *Egypt Vision 2030*. Other responsibilities include:

- conducting research on climate change,
- improving data collection, management and knowledge dissemination,
- implementing projects to reduce GHG emissions and to adapt to climate change risks,
- approving projects submitted to the Green Climate Fund (GCF),⁵⁰
- proposing the integration of climate-related financial provisions into the relevant ministries' budget lines on a graduated annual basis,
- allocating necessary finance from the national budget and regional and international sources,
- building institutional and individual capacities for dealing with climate change, its mitigation and adaptation, and
- following up on all negotiations concerning climate change, related protocols and agreements.⁵¹

The National Committee for Climate Change

The National Committee for Climate Change was established in 1997 and restructured in 2007.⁵² It is responsible for developing mitigation and adaptation strategies, plans and programs to address climate change risks in Egypt over both the short and long term. The Committee includes representatives from the Ministries of Foreign Affairs, Water Resources and Irrigation, Agriculture and Land Reclamation, Electricity and Energy, Petroleum, Trade and Industry, Economic Development and Defense, as well as experts from national and relevant agencies (Egypt 2016a).

49 PM Decree No. 1129, amending PM Decree No. 1912/2015.

50 Prime Minister PM Decree No. 1912 for year 2015.

51 Prime Minister PM Decree No. 1129 for year 2019. The National Council for Climate Change in Egypt is chaired by the Prime Minister, and consists of higher committee, executive office and technical group.

52 The restructuring was based on PM Decree 272/2007.

The National Strategy for Adaptation to Climate Change and Disaster Risk Reduction

In 2011 the *National Strategy for Adaptation to Climate Change and Disaster Risk Reduction* was issued to strengthen national capacity to adapt to climate change in severely affected sectors such as coastal zones, water resources and irrigation, agriculture, housing, roads, tourism, among others. The strategy's three main objectives are to (Egypt and UNDP 2011):

- increase the Egyptian community's resilience in dealing with risks and disasters resulting from climate change and its impact on different sectors,
- develop the capacities needed to contain climate change risks and disasters through plans and programs that respond to the needs of local communities, and
- reduce climate change risks by developing early warning mechanisms based on accurate scientific analysis and calculations, and implement projects that help to reduce risks resulting from climate change.

National Energy Strategy and Regulatory Framework

In 2014 the government implemented a number of reforms within the framework of its *Strategy for Integrated Sustainable Energy 2035*,⁵³ to:

- improve energy efficiency and security,
- increase renewable energy to 37% of the total electricity mix by 2035,
- and to encourage private investment through feed-in tariffs, net metering and other schemes.

In September 2014 the Prime Minister imposed Feed-in Tariff (FITs) for solar photovoltaics (PV) and wind projects, with fixed tariffs over 25 years for PV and over 20 years for wind.⁵⁴ FITs aim to promote the development of renewables by guaranteeing that the government will pay a set price for privately produced clean power and encourage private investment in renewables.

By the end of 2014 legislation was introduced (Egypt Government 2014) to scale up electricity generation from renewable energy sources through a number of mechanisms, including the Build, Own and Operate system for projects tendered by the Egyptian Electricity Transmission Company (EETC) (Egyptian Environmental Affairs Agency [EEAA] 2018).⁵⁵

53 The strategy was issued in 2015.

54 The Prime Minister issued Decree No. 1947 of 2014 to impose feed-in tariffs.

55 This is in addition to issuance of Electricity Law No. 87/2015 considered a milestone in the liberalization of the energy market.

Environment Protection Fund (EPF)

Egypt had already established the EPF as an affiliate to the Ministry of Environment (Egypt Government 2009).⁵⁶ Its purpose is to promote investment supporting the national effort to tackle social, economic and environmental priorities. The EPF is specifically tailored to extend financial support to projects that benefit the environment through mechanisms based on the Fund's policies and project needs.

Financial flows into Egypt's climate mitigation and adaptation

The Egyptian government has received international public climate finance to support its mitigation and adaptation efforts from various sources. These include climate funds, development financial institutions, and international and regional organizations such as:

- the European Union (EU),
- the European Investment Bank (EIB),
- the European Bank for Reconstruction and Development (EBRD),
- the World Bank (WB),
- the United Nations Development Programme (UNDP), and
- the United Nations Framework Convention on Climate Change (UNFCCC).

In 2018 the Egyptian Environmental Affairs Agency estimated the total amount of international support funding received by Egypt for climate adaptation from 2005 onwards at around USD 20 million.⁵⁷ This has been mostly allocated to coastal protection, agriculture and waste water (Table 2).

This is a fraction of the funds allocated to mitigation activities, despite Egypt's strong need for adaptation. The government's total budget for planned future adaptation projects and programs from 2016–2035 for the three sectors most vulnerable to climate change has been estimated at more than USD 20 million, accounting for technology, technical and capacity building support requirements. Specifically, future adaptation needs for the three sectors are estimated as:

- USD 9,328 million for coastal zone protection,
- USD 7,974 million for water resources and irrigation, and
- USD 3,455 million for agriculture.

The financial support allocated to mitigation activities is much higher (Table 3). It has reached about USD 290 million and more than EUR 150 million from various sources. This is in addition to more than USD 70 million allocated from national resources. Mitigation funds have been extended to renewable energy, energy efficiency and electricity generation, pollution abatement, solid waste management and sustainable transport programs, among others. The total funding allocated to cross-cutting projects across multiple sectors—the climate risk management program and the low emission capacity building project—is USD 5 million (Table 4) (EEAA 2018).

⁵⁶ This was done by Law 4/1994 and its amendment Law No. 9/2009.

⁵⁷ This is based on Egypt's First Biennial Update Report to the United Nations Framework Convention on Climate Change UNFCCC, developed by EEAA and issued in 2018 in coordination with the UNDP and the Global Environment Facility GEF.

Climate funds operating in Egypt: Selected projects

A number of climate funds have been providing Egypt with financial and technical assistance for climate change mitigation and adaptation for the past two decades. These include:

Japan's Fast Start Finance Initiative (FSFI)

FSFI focuses on renewable energy projects to mitigate climate change. It has provided Egypt with a USD 338 million loan to construct the Gulf of El Zayt 220 MW Wind Power Plant Project in the Red Sea through the Japanese International Cooperation Agency (Nakhooda, et al. 2012) (UNFCCC 2013).

Green Climate Fund (GCF)

In 2017 Egypt received the largest single investment made by the GCF in the MENA region, supporting two projects with a total fund of USD 186.1 million (Watson and L. Schalatek 2019). One project is for mitigation and aims to scale up renewable energy investment and enhance its policy framework development and planning (Green Climate Fund [GCF] 2017a).⁵⁸ The second project seeks to enhance climate change adaptation in the North Coast, defend the vulnerable Nile Delta region against coastal flooding damage risks, and improve the resilience of rural communities (Green Climate Fund [GCF] 2017b).⁵⁹

Clean Technology Fund (CTF)

The CTF, in cooperation with the World Bank (WB), recently provided Egypt with technical and financial support to scale up wind power development and enhance the required transmission infrastructure capacity through a WB loan of USD 70 million and CTF loan of USD 149.75 million, in addition to CTF's grant of USD 0.25 million (World Bank 2020b).

Global Environment Facility (GEF)

GEF, in cooperation with the International Fund for Agriculture Development (IFAD), developed the Sustainable Agriculture Investments and Livelihoods (SAIL) project for 2014–2023. It focusses on climate change adaptation by promoting sustainable agriculture, improving agriculture productivity and diversifying rural livelihoods in Egypt, thereby reducing poverty and increasing food security. The total project cost is about USD 95 million. IFAD is providing a USD 63.2 million loan and USD 1.4 million grant, while the GEF is contributing a USD 7.8 million grant (International Fund for Agriculture Development [IFAD] 2015).⁶⁰

58 This project uses debt financing totaling USD 507 million from EBRD and GCF, including USD 154.7 million from GCF (USD 150 million loan and USD 4.7 million grant). The remaining project cost is expected to be covered by other international financial institutions and commercial lenders at a later stage.

59 The GCF financed this project using a grant reaching USD 31.4 million whereas the Government of Egypt's co-finance component reached USD 73.8 million.

60 The government of Egypt is co-financing this project.

Adaptation Fund (AF)

AF and the UN World Food Programme provided Egypt with a USD 6.9 million grant to implement the Building Resilient Food Security Systems to Benefit the Southern Egypt Region project. The project focuses on climate change adaptation through technology development and transfer to enhance resilience and improve food security. It will serve about 45% of the region's population, and build the capacity needed for climate knowledge and adaptation replication to understand climate trends and impacts and to replicate necessary interventions (Adaptation Fund 2012 and Ghoniem 2015).

Millennium Development Goals (MDG) Achievement Fund

MDG supported Egypt with the Climate Change Risk Management Joint Program during 2008–2013, providing a total budget of USD 4 million. The joint program's main objective was to enable Egypt to align its climate risk management and human development efforts while also achieving millennium development goals. It aimed to embed greenhouse gas mitigation into national policy and investment frameworks, and to strengthen the national capacity of the water resources and agriculture sectors to adapt in response to climate change (Millennium Development Goals 2013a).



Jordan

Jordan's climate finance policy and institutional landscape

With climate change posing a significant threat to the economy, Jordan has developed strategies and policies to mitigate and adapt to climate change and to control the risks associated with its GHG emissions. It has also worked to embed climate change into its national policy framework to ensure consistency and coordination. Climate change is one of the four pillars of the environment sector in Jordan's Government Executive Program (2013–2016), which the Ministry of Planning developed in 2013 (Jordan 2014a).

Jordan's Nationally Determined Contributions (NDCs)

In September 2015 Jordan voluntarily submitted its NDCs to the UNFCCC. Jordan has also ratified and signed the Paris Agreement. The NDCs aim to reduce Jordan's GHG emissions by 14% by 2030 (Jordan 2016c). The energy sector has been the largest contributor to Jordan's GHG emissions. Its share is expected to decrease from 81% of total emissions in 2012 to 69% in 2040 through Jordan's ongoing efforts to increase the share of renewables and nuclear power sources in its current energy mix (Jordan 2017b).⁶¹

The 14% GHG emissions reduction target was set based on the achievement of a 1.5% GHG emission reduction by 2030 under the unconditional availability of local funding of about USD 0.5 billion, which the government has secured. This is in addition to the conditional target of reducing GHGs emissions by

⁶¹ The second largest contributor to GHG emissions in Jordan is the industrial sector with a 12% share in emissions, and its share is expected to increase modestly to 13% in 2040. The contribution of the waste sector is expected to increase from 6% in 2012 to 11% in 2040.

12.5% by 2030 subject to the availability of international support and funding estimated at an additional USD 5.2 billion. Accordingly, the total estimated cost to reach Jordan's 14% GHG emission reduction target by 2030 is USD 5.7 billion (Jordan 2016c) (Jordan 2017b).

National Green Growth Plan (NGGP)

Climate change is integrated into the NGGP (2017–2025), which was developed by the Ministry of Environment, in consultation with stakeholders, in 2017. It serves as a reference guide for developing green growth projects that align with green investment policies, planning and implementation.

The NGGP is Jordan's roadmap for transitioning to a higher, sustainable and greener growth path. It has five interlinked green growth dimensions: sustained economic growth, social development, resilience, biodiversity and ecosystems services, as well as GHG emission reductions and avoidance. The NGGP encourages both the public and private sector to invest in priorities such as energy, water, transport and agriculture (Jordan, Ministry of Environment 2017a).

Jordan Environment Fund (JEF)

In 2006 JEF was established under the provisions of the Environment Protection Law of the Ministry of Environment (Jordan Government 2018). It complements Jordan's environment expenditure by extending financial support to environment protection and preservation related projects. JEF has focused on sectors including water, agriculture, irrigation and waste management. JEF's financial support model is based mainly on providing grants (Jordan 2017a).

Its mandate includes the following (Jordan, Ministry of Environment 2020):

- Supporting environment protection and conservation activities and developing environmentally friendly practices,
- Enhancing sustainable development through resource efficiency initiatives,
- Raising awareness about the importance of environment preservation and clean technology, and
- Promoting cooperation and knowledge transfer with different concerned entities, nationally, regionally and globally to support environmental protection activities.

The Ministry of Environment is seeking to change JEF's financial support mechanism to providing soft loans and revolving finance instead of grants and subsidies (Jordan 2017a). The Global Green Growth Institute recently provided an overview of JEF's role as the national financing vehicle for climate and green growth projects, and underlined JEF's capitalization and staffing constraints limiting its future potential contribution to Jordan green growth needs (GGGI 2019).

The National Climate Change Policy

In 2013 the Ministry of Environment adopted and launched its 2013–2020 *National Climate Change Policy* (NCCP). The first of its kind in the country and in the region, the NCCP provides a sector strategic guidance framework for Jordan. Its long-term objective is:

“to achieve a pro-active, climate-risk-resilient Jordan, to remain with a low carbon but growing economy, with healthy, sustainable resilient communities, sustainable water and agricultural resources, and thriving and productive ecosystems in the path towards sustainable development”.

The NCCP aims to provide the government with guidance and assistance in achieving its national climate change objectives and priorities around the adaptation and mitigation of climate change by addressing issues such as awareness, technology transfer, education and capacity building (Jordan 2013).

The National Committee on Climate Change (NCCC)

The NCCC (Jordan 2017b)⁶² is the designated owner of the NCCP. It supervises its implementation, and coordinates and facilitates proposal development submitted to donor agencies for raising finance for mitigation and adaptation projects. The NCCC is currently headed by the Ministry of Environment and represents various stakeholders, including the respective line ministers and representatives from the private, civil, research and academic sectors (Jordan 2013).

Climate Change Directorate (CDD)

In 2014 the Ministry of Environment established the CDD, which was considered a milestone in strengthening the climate change institutional structure in Jordan. The CDD acts as the official focal point for coordinating and developing all national climate change activities associated with the UNFCCC and the global climate change governance structure and initiatives (Jordan 2017b). The CDD aims to enhance the Ministry of Environment’s capacity to implement the NCCP by developing and updating relevant climate change strategies, policies and programs related to vulnerability, adaptation, mitigation, technology transfer and finance, among others (Jordan 2014a).

62 The NCCC was established in 2001 based on a decision by the Prime Minister.

Climate Change Policy for a Resilient Water Sector and the National Water Strategy

Jordan suffers from water scarcity that has been exacerbated by climate change and population growth. It could be a major barrier to sustainable development through its harmful impact on health, agriculture and livestock, and hence vulnerable groups' livelihood (Jordan 2016a). Jordan is one of the four most water-constrained countries in the world. The water level per capita declined sharply from 3,600 m³/year in 1946 to only 145 m³/year in 2008. Water per capita share is expected to continue decreasing unless appropriate measures are taken to preserve existing water resources and generate additional ones (USAID 2017).

To address the detrimental impact of water scarcity on the economy, the Ministry of Water and Irrigation developed a number of policy documents including the *National Water Strategy* (2016–2025) and the *Climate Change Policy for a Resilient Water Sector* in 2016.⁶³

The *National Water Strategy* aims to develop a resilient water sector through an integrated approach to water resource management, sustainable water supply, sewage and sanitation services and water usage for sectors including agriculture, irrigation, industry and energy. It also seeks to strengthen the sector's institutional structure and enhance its capacity building. It addresses issues associated with decentralization, commercialization and public-private participation (Jordan 2016b).

The *Climate Change Policy for a Resilient Water Sector* is an integral part of the *National Water Strategy*. The policy's main guiding principle is to provide a framework for strengthening all sectors' resilience. Its related action plan provides the concept, solutions and implementation mechanism, while addressing the three main levels of resilience: persistence, adaptability and transformability (Jordan 2016b).

National Energy Efficiency Strategy, and Renewable Energy and Energy Efficiency Law

Given its limited primary energy sources, the rising demand for energy and its dependence on imports, Jordan issued the *National Energy Strategy (2015–2025)*, which aims to raise the contribution of renewables to the total energy supply mix. The *National Energy Strategy* and *National Energy Action Plan* seek to:

- increase the share of renewable energy in its total energy supply mix to 6% in 2017, 8% in 2020 and 9% in 2025 (RES4Med 2019).
- increase its reliance on domestic energy sources to 25% by 2015, and to 39% by 2020 (Jordan 2016c).

63 The first national water strategy Jordan Water Strategy and Policies (1998), was followed by several strategies such as Water for Life: Jordan's Water Strategy (2008–2022), developed in 2008 to align with the millennium development goals. More recently, the Ministry of Water and Irrigation developed the National Water Strategy (2016–2025) to ensure a sustainable future for Jordan's water sector in alignment with the SDGs.

In 2012 Jordan issued the Renewable Energy and Energy Efficiency Law (Jordan 2012). Amended in 2014, the law establishes a new regulatory framework for the energy sector, and ensures cooperation among concerned entities working with Ministry of Energy and Mineral Resources (MEMR). The law supports the achievement of *National Energy Efficiency Strategy* targets and promotes renewable energy utilization in Jordan. It specifically aims to:

- exploit new renewable sources to safeguard its national energy supply,
- raise energy efficiency,
- reduce consumption, and
- contribute to environment protection (Jordan 2012).

The law promotes private sector participation and investment in the energy sector by allowing investors to identify and develop electricity-related projects, providing a well-developed price list for various renewable energy technologies, and offering tax incentives granting exemptions for renewable energy and energy efficiency systems and technologies (Jordan 2017b).

Jordan Renewable Energy and Energy Efficiency Fund (JREEEF)

JREEF was established by MEMR under Renewable Energy and Energy Efficiency Law provisions. JREEF has funding sources from the government, grants, donor financing from development partners and support from banks. JREEF's main purpose is to facilitate the promotion of both renewable energy and energy efficiency to meet the targets set in Jordan's *National Energy Strategy* and action plan. It provides support through revolving credit structure, direct grants, equity financing and technical assistance directed mainly to the tourism and residential sectors, public entities and small and medium enterprises (SMEs) (Jordan 2017a).

The National Adaptation Plan (NAP)

In 2017 the NAP was launched by the Ministry of Environment's Climate Change Directorate (CDD), the government's focal point for coordinating climate change and national adaptation planning in Jordan. The NAP approach aims at "achieving a climate risk-resilient Jordan with healthy, sustainable resilient communities, sustainable water and agriculture resources". The NAP sets a roadmap for implementing adaptation plans across all sectors in Jordan. Based on a stocktaking exercise, it is expected to provide a comprehensive overview of all national adaptation activities, an estimated cost of all related financial needs, and a monitoring and reporting system for evaluating progress at the national level (NAP Global Network 2019).

Financial flows into Jordan's climate mitigation and adaptation

According to the *National Climate Change Policy (2013–2020)*, it estimated that climate change mitigation costs will reach about USD 3.5 billion by 2020, while a minimum of USD 1.5 billion is needed for adaptation, specifically for major projects in the water, industry and energy sectors (Jordan 2013). According to Jordan's *First Biennial Update Report*, submitted to the UNFCCC in 2017, only 0.5% of the public budget is allocated to funding projects in the environment sector, and that is distinct from infrastructure investment undertaken in both the energy and water sectors (Jordan 2017b).

The government of Jordan has determined which sectors to target for financing mitigation and adaptation projects. Based on the NDCs, mitigation actions focus on a number of sectors including: energy, transport, waste management, industry, water as well as agriculture and food security. It is estimated that the energy sector needs more than USD 5 million to meet the conditional mitigation target (Jordan 2017b). For adaptation, the sectors focused on are: water, health, biodiversity, eco-systems and protected areas as well as agriculture and food security (Jordan 2016c).

Jordan's **First Biennial Report to the United Nations Framework Convention on Climate Change** set out financial flows from national, international and private sources. These cover technical assistance, finance, technology transfer and capacity building. Funds include grants, budgetary contributions and concessional loans allocated to sustainable development purposes in general and not necessarily fully dedicated to climate finance (Table 6).

Both mitigation and adaptation actions and programs require significant financial resources. The majority of funding sources for the environmental sector in Jordan come from international donor agencies. International funding sources include:

- **Development banks**, including the Agence Française de Développement (AFD), the KfW, the United Nations Development Programme (UNDP), the European Bank for Reconstruction and Development (EBRD), the International Finance Corporation (IFC), the European Union (EU) and the Kuwait Fund for Arab Economic Development.
- **Direct aid** with specific purposes, such as financial assistance from the Abu Dhabi Fund for Economic Development, USAID with around USD 1 billion annual aid targeting the development of Jordan's water infrastructure, and the Millennium Challenge Account extending about USD 275 million annually focusing on water efficiency and water treatment programs.
- **Specialized climate finance**, such as the Jordan Sustainable Finance Facility) that has been set up between the EBRD, European Investment Bank EIB and the KfW, and supported by the EU grants, with pilot funding of EUR 34.5 million.
- **Commercial or private financing** green projects have attracted debt finance from the commercial banking sector in Jordan, particularly in the energy sector (energy efficiency and renewables).
- **Climate funds**, such as the Green Climate Fund and Adaptation Fund.

Local funding sources directed to green growth projects include budgetary contributions from line ministries, such as the Ministry of Environment and the Ministry of Finance, and support by development partners (Jordan 2017b). Other domestic sources include:

- **Agriculture Credit Cooperation:** a quasi-governmental lending facility affiliated to Ministry of Agriculture, focused on supporting farmers, and
- **Other local institutions,** including Jordan Loan Guarantee Corporation, a loan guarantee scheme focused on SME lending, grant funding available through Jordan Enterprise Development Corporation and Amman Chamber of Industry, among others, and loans granted through Governorates Development Fund and the Central Bank of Jordan (CBJ).

This is in addition to dedicated national funds such as Jordan Renewable Energy and Energy Efficiency Fund (JREEEF) and the Environment Protection Fund discussed earlier.

Climate funds operating in Jordan: Selected projects

Adaptation Fund (AF)

The Adaptation Fund has provided Jordan with grants up to USD 9.23 million to finance “increasing the resilience of poor and vulnerable communities to climate change impacts in Jordan through implementing innovative projects in water and agriculture in support of adaptation to climate change.”

This project aims to adapt the agriculture sector to climate-change-related risks and problems associated with water scarcity and food security issues. Mechanisms include policy support, technology transfer, capacity building, training and knowledge management (Adaptation Fund 2015).

The Adaptation Fund, in cooperation with the United Nations Human Settlements Programme, has supported a project in both Jordan and Lebanon with a total grant amounting to USD 14 million. This project aims to increase the resilience of displaced persons and host communities to climate-change-related water challenges in urban host settlements. This will be undertaken through (Adaptation Fund 2020):

- Managing climate change risks and vulnerabilities in urban areas related to water scarcity and urban population growth,
- Enhancing replicable techniques to expand unconventional water harvesting and supply,
- Improving awareness and enhancing capacity to respond to climate change to maintain and replicate resilient water harvesting, supply and irrigation systems, and
- Improving knowledge, policies and regulation to enhance urban resilience.

Partnership for Market Readiness (PMR)

PMR, in cooperation with the World Bank, provided Jordan with a USD 3 million grant to assist the government in establishing an integrated Monitoring, Reporting and Verification (MRV) framework in targeted sectors, as well as mitigating greenhouse gas emissions by enhancing the technical capacity of both public and private sector stakeholders. According to the PMR 2019 project, a climate change tag has been proposed to be included in the Ministry of Finance's Public Investment Management System to help identify climate related projects proposed by various government entities.

A clean energy digital finance platform is currently being developed in coordination with the Central Bank of Jordan, the Credit Information Bureau, development partners and financial sector representatives. The PMR has also supported the Ministry of Environment in drafting a climate change bylaw to support the government's MRV efforts, which has been submitted to the Cabinet for approval (PMR 2019).⁶⁴

Millennium Development Goals (MDG) Achievement Fund

The MDG Achievement Fund supported one joint program in Jordan during 2009–2013 with a total budget of USD 4 million. The program's main objective was to reduce water scarcity risks and other climate change threats to health, food security, productivity, to maintain Jordan's human development achievements and growth by focusing on its long-term adaptation needs. The joint project specifically aimed at:⁶⁵

- Establishing sustained access to improved water supply sources, and
- Enhancing adaptive capacity for health protection and food security

Green Climate Fund (GCF)

The GCF has supported two projects targeting both climate change mitigation and adaptation in a number of countries including Jordan. The first project, Green Cities Facility, spans nine countries: Georgia, Jordan, Republic of Moldova, Armenia, Tunisia, Mongolia, Serbia, North Macedonia and Albania. The project seeks to help cities transition to low-carbon, climate-resilient urban development.

The second GCF project focusses on sustainable energy financing facilities. EBRD and GCF co-financed a program to promote private sector climate finance through local financial institutions across a number of countries, including four in the MENA region: Egypt, Morocco, Tunisia and Jordan along with Georgia, Armenia, Republic of Moldova, Mongolia, Tajikistan and Serbia. Both projects have used debt finance from the GCF reaching USD 481.3 million, with loans reaching USD 421.1 million and grants amounting to USD 60.2 million (GCF 2016) (GCF 2018).

64 Partnership for Market Readiness (PMR) is a forum for collective innovation and action and a fund to support capacity building to scale up climate change mitigation.

65 This project has been jointly undertaken with a number of agencies including the UNESCO, UNDP, FAO and WHO.

Clean Technology Fund (CTF)

In 2009 the CTF proposed a project to accelerate global deployment of concentrated solar power (CSP) by investing in CSP expansion programs in five countries in the MENA region: Algeria, Egypt, Jordan, Morocco and Tunisia. According to the last update in 2014, the CTF initially allocated financing amounting to USD 750 million which then was reduced to reach only USD 543 million as a result of uncertainties amid political turmoil in the region. This includes the USD 50 million of finance dedicated to Jordan (CTF 2014).

International Fund for Agricultural Development (IFAD)

IFAD supports national climate change mitigation and adaptation efforts in Jordan by:

- focusing on rural development,
- improving access to financial services and markets,
- increasing agriculture's contribution to GDP,
- expanding job opportunities,
- empowering women and youth to develop small enterprises to improve their livelihoods.

IFAD's overall strategy program aims to raise rural communities' income and reduce their vulnerability to climate change risks by targeting small scale farmers, the unemployed and landless in rural areas. It has nine projects operating in Jordan with total IFAD financing amounting to USD 104 million and benefitting more than 90,000 households.



Iraq

Iraq's climate finance policy and institutional landscape

Iraq has suffered significant economic, political, environmental and security challenges over the past years. Climate change has brought rising temperatures, reduced precipitation, increased water scarcity and salinization, dust and sand storms, exacerbating these difficulties. Climate change is expected to have serious implications for the nation's future water, food, health and social security through its adverse impact on limited water resources, and reduced agriculture production and productivity. Agriculture is an important source of livelihood for about 25% of the Iraqi population (Netherlands 2018).

Iraq recognizes the importance of addressing the effects of climate change. Despite long years of political instability, wars and sanctions it has been keen to join the international environment community. In 2003 the Ministry of Environment (MOE) was established to develop and implement state policy to protect and improve the quality of the environment, promoting environmental awareness and mitigating the negative impacts of climate change (Netherlands 2018).

The MOE is cooperating with international development partners and working on strengthening environmental management and protection, ensuring compliance with international treaties and raising national authorities' capacities for effective environmental governance, management of renewable and natural resources as well as addressing climate change challenges (UNDP 2016).⁶⁶

Iraq has accessed various multilateral environment agreements (MEAs) and joined the Vienna Convention and Montreal Protocol for the protection of the ozone layer in 2008 (UNDP 2016). In addition, Iraq became a member of the United Nations Framework Convention to Combat Desertification in 2009 and is a member of the UNFCCC. Iraq has also ratified the UN Framework Convention on Climate Change and the Kyoto Protocol in 2009 (Netherlands 2018). In December 2016 Iraq signed the Paris Agreement on climate change (Netherlands 2018), and ratification is still progressing (GCF 2019b).

The MOE worked with the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF) to prepare Iraq's INDCs to the UNFCCC 2015 Agreement, which were submitted by the end of 2015 (UNDP 2016). It has also worked with the UNDP, the GEF and the United Nations Environment Programme (UNEP) to prepare and submit Iraq's Initial National Communication to the UNFCCC in 2016 (Iraq 2016).

The MOE acts as a national liaison among national and international stakeholders, including the Ministry of Water Resources, Ministry of Agriculture, and other government entities; and development partners such as the UNDP, UNESCO, UNEP and FAO for conducting studies on climate-change-related issues. These include studies on repeated dust storms phenomenon, drought risk management and desertification in order to examine their impact on vital sectors such as water, agriculture and health (Iraq 2016).

Environmental Protection and Improvement Law

The Law of Environmental Protection and Improvement⁶⁷ provides the technical and legal framework for the MOE's operations, duties and responsibilities. It contains provisions protecting people, the environment and biodiversity from air, water and soil pollution, provisions related to environment control, and sanctions for polluting activities (Iraq 2016).

Climate Change National Committees and Permanent National Committee

The MOE established a national committee for each of the ratified agreements to show its strong commitment to MEAs, and ensure proper follow-up and fulfillment of its international obligations (UNDP 2016). The MOE set up a national climate change unit within its technical department to oversee climate-related issues, coordinate with stakeholders at regional and international levels, and undertake capacity building and training (Iraq 2016). In 2011 the Permanent National Committee on Climate Change was established to follow-up on developing and implementing national policies, strategies and action plans. The Permanent Committee is chaired by the Minister of Health and Environment.

66 In 2015 the Ministry of Environment merged with the Ministry of Health to become the Ministry of Health and Environment.

67 Law no. 27/2009.

Its members include representatives from the Prime Minister's advisory group, relevant ministries, municipalities and research institutions (GCF 2019b) (Iraq 2016).

National Development Plan (2018–2022)

Iraq's *National Development Plan* (NDP) aims to achieve sustainable and balanced growth, social justice and a pollution-free environment. Its pillars include:

- laying foundations for good governance,
- promoting the role of the private sector in the economy,
- reducing poverty rates and unemployment, and
- post-crisis recovery and reconstruction of most affected areas.

The NDP is guided by sectoral policies and strategies that are based primarily on developing human capital and establishing a socially responsible economy that is capable of efficiently mobilizing and optimally using its scarce resources to improve the quality of life in a secure, stable and sustainable environment. The NDP (2018–2022) and earlier development plans emphasize the importance of embedding environmental and socio-economic dimensions into Iraq's development planning framework (Iraq 2018).

National Environmental Strategy and Action Plan (2013–2017)

In 2012 the MOE developed Iraq's first *National Environmental Strategy and Action Plan* (NESAP), in coordination with the UNDP, UNEP and WHO. Its purpose was to develop sustainable planning and implementation approaches for protecting the environment and managing Iraq's natural resources. NESAP provides a strategic reference for:

- developing and implementing environmental policy, plans and action programs,
- identifying priorities, problem areas and causes, and
- sorting out potential short- and long-term policy interventions and solutions to address national climate change challenges (Iraq 2012).

NESAP builds on the five pillars of environmental sustainability set out in Iraq's *National Development Plan (2010–2014)*: reducing air pollution, water pollution, soil degradation, waste and solid waste and desertification. It addresses key objectives for integrating environment protection and management, including (Iraq 2012):

- Protect and improve air quality,
- Protect and improve water quality,
- Reduce land degradation and desertification,
- Preserve coastal and marine environment,
- Conserve sustainable use of marine biodiversity,
- Develop and improve waste management,
- Reduce oil pollution,
- Integrate the management of hazardous chemicals,
- Reduce radioactive contamination, and
- Develop a legal and institutional framework.

The *Strategy's Action Plan* consists of the national environment protection and improvement programs and projects, estimated at more than 65 programs covering over 150 projects, developed in alignment with the NDP. It aims to implement the strategy's ten key objectives in cooperation with relevant stakeholders, including government and non-government entities, and private institutions, under the supervision of the MOE with responsibility for coordinating, following-up and evaluating the *Plan's* implementation (Iraq 2012).⁶⁸

Iraq's Intended Nationally Determined Contributions (INDCs)

In November 2015 Iraq submitted its INDC to the UNFCCC, setting a greenhouse gas (GHG) emissions reduction target at 90 million metric tons of CO₂. This is about 14% below its business-as-usual emission base between 2020 and 2035. The 14% reduction target consists of:

- 13% to be achieved by executing 27 projects (conditional on receiving international financial and technical support)
- 1% to be achieved by executing 15 projects (unconditional and to be financed from Iraq's own resources) (Iraq 2015)

Iraq's INDC does not include a total cost estimate for its national mitigation and adaptation needs except for some adaptation projects in water management, waste water treatment and agriculture (irrigation) estimated at more than USD 11 billion, USD 80 billion and USD 45 billion respectively. No cost estimate has been specified for adaptation measures in other sectors such as forestry and sustainable land management, climate smart agriculture, water conservation and reuse, tourism, health services and disease control. Similarly, no cost estimate has been made for needed mitigation action in the following sectors: renewable energy, energy efficiency, industry, oil and gas, public transport, aviation, rail, conservation and buildings (Iraq 2015).

National Adaptation Plan (NAP)

In its INDCs, Iraq noted its intention to develop a *National Climate Change Adaptation Strategy and Action Plan*, and to work on national strategies for its most vulnerable sectors, water and agriculture (Iraq 2015). The strategy would be developed by the MOE, and would take into consideration the regional dimension of water scarcity in neighboring countries (Iraq 2016).

Recently Iraq started preparing its national adaptation plan. Its aim is to develop the nation's capacity to adapt to the adverse effects of climate change by strengthening the resilience of its most vulnerable sectors and raising awareness and readiness among the most affected groups, especially the rural poor, women and youth. Iraq is developing the plan in close cooperation with the United Nations Environment Programme (UNEP). It will be funded through the Green Climate Fund (GCF) over three years at an estimated cost of USD 2.5 million. The project aims to strengthen national authorities' institutional, financial and technical capacities to address Iraq's medium- and long-term adaptation

⁶⁸ The projects cover a number of sectors such as agriculture, industry, transport, and communication, buildings and services as well as education.

needs while ensuring climate change adaptation is integrated into the national planning framework (UNEP 2020).

Strategic Water and Land Resources for Iraq (SWLRI) Plan

In 2015 the Ministry of Water Resources developed the SWLRI Plan, setting objectives for achieving sustainable and optimal use of land and water supply and ensuring integrated management of water resources. This is in addition to updating national priorities for investment in related sectors' infrastructure. The UNDP has worked on developing a strategic framework to provide Iraq with technical assistance to develop its institutional capacity and for integrated water management. The SWLRI builds on previous national water plans, such as, the National Water Plan developed in 2005 in cooperation with the United States Agency for International Development (USAID) (Iraq 2016) (Iraq Energy Institute 2018).

Integrated National Energy Strategy (2013–2030)

The *Integrated National Energy Strategy (INES)* was developed by a national committee, established by the Prime Minister's Advisory Commission, which included representatives from the Ministries of Oil, Electricity, Planning, Finance, Environment, and Mining and Industry. The strategy's main objective was to establish a plan for developing Iraq's energy resources. The INES vision states: "Develop the energy sector in a coherent, sustainable and environment-friendly manner to meet domestic energy needs, foster the growth of a diversified national economy, improve the living standard of Iraqi citizens, create employment, and position Iraq as a major player in regional and global energy markets." (Iraq 2016) (World Bank 2013)

Financial flows into Iraq's climate mitigation and adaptation ⁶⁹

Much of the funding for Iraq's climate change mitigation and adaptation efforts comes from:

- The Green Climate Fund,
- the Adaptation Fund, and
- the Global Environment Facility,
- with additional financial and technical support from the UNDP.

The largest finance comes from the Adaptation Fund with total support reaching USD 10 million, followed by the UNDP, which has provided Iraq with USD 6.5. The Global Environment Facility has supported Iraq with two projects whose cost estimates totaled about USD 5.3 million, while the Green Climate Fund's financial flows reached USD 3.64 million to implement three projects in Iraq (Adaptation Fund 2018a) (GCF 2019a) (GCF 2019b) (GCF 2017c) (UNDP 2018a).

⁶⁹ It should be noted that Iraq has not prepared a biennial report to be submitted to the UNFCCC.

Climate funds operating in Iraq: Selected projects

Adaptation Fund (AF)

AF, in cooperation with the International Fund for Agricultural Development, has provided support through its project Building Resilience of the Agriculture Sector to Climate Change in Iraq) with a total grant amounting to USD 10 million. This project addresses one of the main development constraints in Iraq—increasing irrigation water scarcity. It specifically aims to strengthen the agro-ecological and social resilience to climate change in four governorates—Muthanna, Qadisiya, Missan and Thi Qar—by enhancing water availability and use efficiency. It also promotes adaptive production systems and technologies in the agriculture sector to improve rural households' livelihoods and food security. The project is based on two main components: promoting climate-resilient investments, and developing national capacity to integrate climate change adaptation and risk reduction into the sector's planning and production frameworks (Adaptation Fund 2018a).

Green Climate Fund (GCF)

The GCF has supported three projects in Iraq, with total funding costs estimated at USD 3.6 million. The first GCF project, conducted in coordination with the UNEP, provides financing up to USD 2.6 million. It aims to develop Iraq's national capacity to advance the National Adaptation Plan (NAP) preparation process by extending institutional, financial and technical support. It also targets the integration of medium and long-term adaptation needs into the country's planning framework. The project will enable the identification and planning for needed support activities as well as multi-sectoral cooperation to ensure proper coordination of both NAP formulation and implementation processes. This will be achieved through identifying resource mobilization areas and institutional capacity gaps while proposing solutions and follow up mechanisms (GCF 2019b).

The second GCF project seeks to provide Iraq with technical guidance and assistance to support the development of a comprehensive Technology Needs Assessment (TNA) and Action Plan. This work will be carried out in cooperation with the Climate Technology Center and Network through the UNIDO. The TNA aims to categorize and prioritize national mitigation and adaptation technologies, in compliance with Iraq's INDCs, across sectors such as water, energy, agriculture and oil and gas. The total funding requested for this project is up to USD 373.5 thousand (GCF 2019c).

The third GCF project aims to promote Iraq's national readiness by strengthening its capacity to efficiently access, manage and track climate finance while abiding by the GCF funding rules and requirements. The project targets a number of key objectives, including:

- establishing a National Designated Authority under the Fund's leadership,
- strengthening stakeholders' engagement and participation, and
- assessing and prioritizing national needs while following the GCF accreditation standards.

The project cost is estimated at about USD 0.67 million (GCF 2017c).

Global Environment Facility (GEF)

GEF, in cooperation with the UNDP, has supported two projects for mitigating the impacts of climate change on Iraq's environment and energy sectors. The total grants provided total USD 5.3 million. The projects aim to reduce Iraq's GHG emissions by demonstrating and catalyzing the application of solar PV technology to meet all the energy needs of offices, small businesses, residences and small-town services in Baghdad City, and promoting the reduction of carbon emissions through energy efficiency techniques (GEF 2014) (GEF 2019).

United Nations Development Programme (UNDP)

The UNDP and the government of Iraq have been cooperating since 2009 on disaster risk management to provide technical support and to ensure multi-sectoral coordination among national stakeholders under the Development of Disaster Risk Management Capacities Project, whose total cost is estimated at USD 6.5 million. The project focusses on:

- developing early warning mechanisms,
- improving stakeholders' emergency response, and
- raising the awareness and preparedness of vulnerable communities to deal with risks and hazards.

The project has also provided Iraq with technical assistance in preparing a related disaster risk management legislative framework (UNDP 2018a) (Netherlands 2018).



Tunisia

Tunisia's climate finance policy and institutional landscape

Tunisia is considered one of the most vulnerable countries to climate change in the region as a result of increasing temperatures, rising sea levels, reduced precipitation and extreme weather conditions such as floods and droughts. These have all increased Tunisia's exposure to climate change risks and have had adverse socio-economic and environmental impacts, such as water shortage, increasing evapo-transpiration, reduced agricultural land, output and productivity, land salinization and coastal erosion (Tunisia 2015).

In its newly adopted 2014 constitution, Tunisia emphasized its determination to join the global fight against climate change, noting that the State will "provide the means necessary to guarantee a healthy and balanced environment and contribute to climate's integrity" (Tunisia 2019). To show its strong commitment to global efforts to combat climate change, Tunisia ratified the Paris agreement in 2017. It has also ratified the UNFCCC in 1993, the United Nations Convention to Combat Desertification in 1995, and the Convention on Biological Diversity in 2003 (Adaptation Fund 2019).

Tunisia National Development Plan

Tunisia has adopted a new development model that is based on the transition to greener economy set out in its *National Development Plan (2016–2020)*. The plan seeks to:

- promote the green economy and sustainable development,
- enhance human development and social inclusion,
- reduce poverty, and
- ensure regional balanced development.

The plan specifically aims to increase the economic growth rate to an average 4% per year compared to less than a 2% average over the 2011–2015 period, and reduce poverty rates from 4.6% to 2%, while creating 400,000 new employment opportunities (Tunisia 2019).

The NDP (2016–2020) aligns with *Tunisia's Sustainable Development Strategy (2014–2020)* that emphasizes the importance of mainstreaming sustainability considerations into the national policy framework. This can be achieved through measures such as promoting sustainable production and consumption patterns, optimizing natural resource management, ensuring balanced regional development and enhancing capacity building for climate change adaptation (UNECA 2014).

Tunisia's Intended Nationally Determined Contributions (INDCs)

In September 2015 Tunisia submitted its INDCs to the UNFCCC. Tunisia plans on reducing its GHG emissions across all sectors, including industry, energy, agriculture, forestry, land use, waste and wastewater treatment, to achieve its 41% carbon intensity reduction national target by 2030 compared to 2010 (Tunisia 2015).

Climate change mitigation efforts in Tunisia focus on the energy sector as it is the largest contributor to GHG emissions, and aim at reducing 46% of the sector's carbon intensity by 2030 (Tunisia 2015). Tunisia's national adaptation efforts aim at reducing Tunisia's vulnerability to global warming and its adverse impacts on its vital sectors including water, agriculture, coastline, ecosystems, health and tourism.

Based on its INDCs, Tunisia is targeting a 13% carbon intensity reduction target to be achieved by 2030 relative to 2010, under unconditional contribution, or by using its own domestic resources. An additional 28% reduction in its carbon intensity can be achieved under conditional contribution, that is by relying on international support providing financial resources, capacity building and technology transfer. The total cost for achieving its climate change mitigation and adaptation 2030 targets is estimated at USD 20 billion, under both conditional and unconditional contributions (Tunisia 2015).

National Strategy on Climate Change

In 2012 Tunisia launched the *National Strategy on Climate Change* focusing on mitigating climate change impacts on the economy with special focus on the energy sector. Tunisia has been one of the pioneering countries in developing its nationally appropriate mitigation actions targeting sectors such as energy, cement, building, waste water treatment, agriculture and forestry (Fadhel 2012), and supporting the transition to a low-carbon economy (Tunisia 2015).

The strategy aims to achieve the following mitigation objectives (Fadhel 2012):

- Reducing the whole economy's carbon intensity by about 60% in 2030 compared to 2009 levels through:
 - Promoting energy efficiency policies and measures to contribute to the continuous 2–3% carbon intensity decrease annually,
 - Increasing renewable energy share in electricity generation to 30% by 2030, and
- Stabilizing GHG emissions by 2050.

National Climate Change Unit

In 2018 the Tunisian government established a National Climate Change Unit, under the authority of the Ministry of Local Affairs and Environment. Its role is to coordinate, monitor and implement climate-change-related activities across all sectors. The Unit is in charge of developing the National Adaptation Plan, and has established two advisory committees for mitigation and adaptation, respectively. It is also responsible for integrating climate change into the national development planning framework, strengthening stakeholders' capacity and monitoring the INDC's implementation (Adaptation Fund 2018b).

Tunisia National Adaptation Plan

Tunisia has adopted a strong environment protection policy since the late 1980s, with the establishment of the National Environment Protection Agency in 1988, the development of the National Environmental Action Program in 1990, followed by the establishment of the Ministry of Environment and Territorial Improvement in 1990 and the Tunisian Observatory for Environment and Sustainable Development in 1994 (Adaptation Fund 2019).

Previously, Tunisia had taken a sectoral approach to deciding its climate adaptation actions. It developed adaptation strategies for sectors that are highly vulnerable to climate change, such as water, agriculture, health, coastline and tourism, working in close coordination with development partners such as the UNDP and GIZ. Over the last few years, Tunisia has made progress on developing its National Adaptation Plan (NAP) and in setting out a National Roadmap to implement both its INDCs and NAP, while ensuring cross-sectoral coordination in developing the adaptation planning framework (Adaptation Fund 2018b).

Sustainable Energy Policy and Programs

Tunisia is considered one of the few developing countries to have been proactive in adopting a sustainable energy framework since the mid-1980s. By the mid-2000s the energy transition process had been accelerated—a result of global increases in oil prices coupled with a growing national energy deficit. This led Tunisia to develop ambitious renewable energy and energy efficiency programs to meet national requirements in a cost-effective manner while reducing the country's vulnerability to increased oil prices (GIZ 2012a).

The main objectives of the *Tunisian Sustainable Energy Policy* are (GIZ 2012a):

- Reducing the country's energy intensity and dependence on fossil fuels by diversifying energy supply sources through the development of alternatives such as renewables,
- Enhancing the economy's competitiveness by reducing energy costs, and
- Contributing to global climate change combatting efforts by reducing GHG emissions.

Tunisia adopted a three-year program (2005–2007), followed by a four-year program (2008–2011), to reduce national exposure to rising oil prices that increased Tunisia's energy fiscal cost, estimated at 12% of its GDP in 2007. Both programs aimed to promote sustainable energy development through greater investments in renewable energy and energy efficiency (GIZ 2012a). The energy-saving action plan for 2017–2030 presents a total investment cost of more than USD 11 billion. It aims to scale up energy efficiency and renewable energy in the following sectors: industry, residential buildings, transportation, public lighting, agriculture and fishery (Tunisia 2019).

National Energy Transition Fund

The Energy Transition Fund was established in 2014 to deliver Tunisia's national energy transition agenda. The agenda seeks to strengthen energy sector management and its two main pillars—energy efficiency and renewable energy—by achieving a 30% reduction in primary energy demand, and a 30% increase in renewable energy share in electricity production by 2030. The Energy Transition Fund replaced the National Energy Management Fund, expanding its scope of intervention and actions. In its INDCs, Tunisia states that the Transition Fund needs international funding support to increase its financial resources, which are partly raised through imposing taxes on energy consumption (Tunisia 2015).

Tunisian Solar Plan (TSP)

The TSP was developed in 2009 and revised in 2012 and 2015. Its main objective was to achieve a total renewable energy penetration target of 30% of the national electricity generation mix by 2030. This is in addition to adopting energy efficiency measures to reduce electricity demand by an average 1.4% annually between 2013–2020. TSP implementation is expected to result in GHG emission reductions in the order of 53 MtCO₂ during this period (UNFCCC 2015).

TSP is an integral part of Tunisia's sustainable energy framework as it addresses its future energy needs and climate change issues. TSP mainly aims at achieving the following objectives (GIZ 2012a):

- deploying of renewable energy, particularly wind and solar, in electricity generation,
- improving energy demand and saving management, and
- establishing a strong base of expertise to promote the development of solar energy equipment industry in Tunisia.

Between 2010 and 2016, forty projects were implemented under the TSP in a number of areas including solar power, wind power, energy efficiency and research (GIZ 2012a).

The United Nations Development Programme (UNDP), in coordination with the Global Environment Facility (GEF), helped the National Agency for Energy Conservation to develop a Nationally Appropriate Mitigation Action to support the TSP (UNDP 2014).

Financial flows into Tunisia's climate mitigation and adaptation

In its INDCs, the Tunisian government identified its funding needs for achieving its climate change mitigation and adaptation objectives. These were estimated at a total of USD 20 billion over 2015–2030. Climate change mitigation would require the mobilization of large investments amounting to USD 17.5 billion, while the total cost for adaptation is estimated to be about USD 1.9 billion over 2015–2030 (Tunisia 2015).

Tables 7 and 8 present Tunisia's target sectors and funding requirements for climate change mitigation and adaptation as identified in its INDCs. Table 7 shows that more than 80% of Tunisia's mitigation funding needs will be allocated to the energy sector, which is the country's largest contributor to GHG emissions. As for adaptation, most of the funding needs are required to provide institutional support, capacity building, and research and development (Tunisia 2015).

Table 7: Tunisia's sectors and funding needs for mitigation

Sector/Field	Funding (USD millions)	% of Total
Energy	14,917	86%
Energy efficiency	6,991	47%
Renewable energy	7,926	53%
Agriculture, forestry and other land use (AFOLU)	1,533	9%
Agriculture	967	63%
Forestry and other land use	566	37%
Water	972	6%
Solid water	70	7%
Sanitation	902	93%
Total	17,422	100%

Source: Tunisian Ministry of Environment and Sustainable Development (2015)

Table 8: Tunisia's sectors and funding needs for adaptation

Sector/Field	Funding (USD millions)	% of Total
Water resources	533	28%
Coastline	556	29%
Agriculture	21	1%
Ecosystems	782	41%
Health	7	0.4%
Tourism	17	1%
Total	1,916	100%

Source: Tunisian Ministry of Environment and Sustainable Development (2015)

Climate funds operating in Tunisia: Selected projects

Adaptation Fund (AF)

AF has recently provided Tunisia with support reaching about USD 10 million for its integrated natural resource management and livelihood project. Implemented in the rural Kairouan region, the project aims to promote sustainable land management and reduce poverty by improving the rural poor's resilience to climate change and protecting their livelihoods. It plans on promoting sustainable land management practices by reducing water losses, encouraging groundwater replenishment, reducing damage to productive land and rural transport infrastructure as well as introducing climate resistant agriculture technologies and livelihood schemes. The project's objectives will be achieved through its three main components (Adaptation Fund 2019):

- Improving access to basic services and protecting livelihoods,
- Strengthening sustainable value chains through climate resilient infrastructure, and
- Promoting knowledge management.

Green Climate Fund (GCF)

GCF has supported three projects targeting climate change mitigation and adaptation in a number of countries including Tunisia. The first GCF project focusses on sustainable energy financing facilities, and is implemented in coordination with the European Bank for Reconstruction and Development (ERBD), with total finance reaching USD 420.5 million. It seeks at scale up private climate finance through local financial institutions for more than 20,000 scalable and replicable renewable energy, energy efficiency and climate resilience projects to be undertaken in a number of sectors including industry and agriculture. The project is implemented in a number of countries, four of which are in the Arab region (GCF 2016).

The GCF has also provided funding support reaching EUR 228 million to finance its Green Cities Facility project. It has been implemented in a number of countries including Tunisia, in coordination with the EBRD. The project aims to enable the transition of cities to low-carbon and climate-resilient urban development. Its target is to help 10 cities to plan and undertake comprehensive green city actions, reducing more than 11 million tCO₂eq, and benefitting more than 23 million individuals (GCF 2018).

In its recent High Impact Program for the Corporate Sector project, implemented in coordination with the EBRD, the GCF aims to enable a structural transformation within energy intensive industries, (non-fossil energy) mining companies, agribusinesses and agribusiness value chains through de-carbonization. This can be achieved by establishing strong links between climate considerations at the project level and corporate governance performance, supported by the adoption of low carbon, climate resilient technologies and sectoral strategies. The total GCF finance provided to implement this program in seven countries including Tunisia, has reached more than USD 250 million (GCF 2020).

4.

**Scaling up
sustainable
finance in
the Arab
region**

Introduction

This chapter begins by setting out a SWOT analysis of sustainable finance in the Arab region. It then details some of the barriers to change, building on the weaknesses identified in the SWOT table. It highlights the necessary reform measures that financial sector governance bodies would need to consider in order to scale up sustainable finance in general and to promote climate finance in particular, and includes a list of policy recommendations.

Financial sector's SWOT analysis

This section provides an overview of the strengths, weaknesses, opportunities and threats of the Arab region's financial sector, as discussed in Table 9 below.

SWOT Analysis: Arab Region's Financial Sector

Table 9: Arab Region's Financial Sector SWOT Analysis

STRENGTHS	WEAKNESSES
<p>Financial soundness indicators The banking sector has shown signs of stability and development in the past few years (Arab Monetary Fund 2019),⁷⁰ including:</p> <ul style="list-style-type: none"> ▪ Capital adequacy ratios averaging more than 16% between 2015–2018⁷¹ ▪ Liquidity ratios averaging 28% in 2018 (Arab Monetary Fund 2019) ▪ High earnings with return on equity (ROE) ratio averaging 12.5–14% between 2013–2018 (Arab Monetary Fund 2019) ▪ Loan-to-deposit ratio for the region reaching 100% in 2018, up from 90% in 2017 (Arab Monetary Fund 2019) ▪ Reduced ratios of non-performing loans (NPLs) to total loans ranging from less than 2% in countries such as Qatar, Saudi Arabia and Kuwait, to a maximum of less than 14% in countries such as Tunisia, Iraq and Algeria, as of 2017 (Hassan 2019). <p>Financial sector reforms In the wake of the 2008 global financial crisis the role of financial supervisory and regulatory authorities in the region was strengthened (Zarouk 2011).</p> <p>Reforms undertaken over the past decade have improved the performance of the Arab region's financial systems. These focused on:</p> <ul style="list-style-type: none"> ▪ restructuring the financial sector through mergers and acquisitions, ▪ injecting capital to raise FIs' capital adequacy ratios, and ▪ cleaning FIs' balance sheets through debt settlement and rescheduling (Zarouk 2011). <p>Further reforms are underway to develop the non-banking financial sector to improve access to finance.</p>	<p>Inadequate regulatory support</p> <ul style="list-style-type: none"> ▪ No explicit climate-specific financial regulations have been enacted. ▪ No mandatory enforcement of the ESG guidelines that exist in some Arab countries, which are adopted on a voluntary basis. ▪ Poor enforcement of environmental laws, make it difficult for FIs to embed E&S risks into their core operations and strategies by requiring their clients to abide by E&S procedures. <p>Absence of skills and expertise A sufficient base of well-qualified lawyers, accountants and data providers (among others) are needed to support the growing sustainable finance sector, to address issues associated with fully integrating sustainable and climate finance into the region's financial system.</p> <p>Under-developed risk management capacity Despite ongoing progress, most FIs still need to develop their risk assessment and management capacity. Reasons for this under-development include:</p> <ul style="list-style-type: none"> ▪ Long legacy of FIs' state ownership and prolonged period of directed credit to public enterprises. ▪ Risk aversion and reluctance on the part of lending institutions to extend credit in light of financial sector reforms reducing NPLs built up over the past decades. ▪ FIs' preference for investing in high return/ low risk financial assets, such as government treasury bills, limiting private sector access to credit. <p>Underdeveloped risk management capacity may increase FIs' exposure to operational risk through a lack of understanding of the environmental and social (E&S) risks associated with promoting sustainable and climate finance.</p>

70 Arab Monetary Fund (2019). The total assets of the region's banking sector represent more than 120% of Arab countries' total gross domestic product GDP (as of 2018). Insurance – both conventional and Islamic takaful – represents a small part of the region's financial system, constituting only 1.7% of total GDP.

71 Arab Monetary Fund (2019). Arab banks' capital adequacy ratios are higher than the Basel III requirement of 10.5%.

Supportive policy framework

The existing policy framework supports a gradual move towards a sustainable financial system. In the past two decades, most Arab countries have enacted and adopted regulations to raise private sector participation while targeting increased investment in sectors such as energy.

Enacted regulations include public-private partnerships laws. These may be considered as stepping-stones to further policy support needed to promote sustainable finance.

Opportunities

Capitalize on current reform momentum

The Arab region's financial sector is undergoing structural transformation at the regulatory, operational and technological levels. The region is making steady progress towards establishing a more inclusive financial sector and a cashless economy.

Current reforms aim to promote both financial inclusion and digitalization to improve access to finance among the most vulnerable groups and to speed the move to cashless economies. This is being driven by the development of national financial inclusion and digital transformation strategies as well as new products and services.

Arab countries aim to increase private sector engagement in greening their economies. The financial sector can support this by extending credit and by developing new tools and services to capitalize on sustainable and climate-change-related investment opportunities.

Increased operational risk may ultimately lead to systemic risk negatively affecting the financial sector's stability nationally and regionally.

There is still a lack of awareness of the merits of sustainable finance. Most FIs still consider sustainable finance as a philanthropic and humanitarian cause rather than a business case for developing their ventures.

THREATS

Threats to the financial sector mostly arise from climate-change-related risks with ensuing costs to the stability of the system and economy as a whole. This is in addition to the operational and systemic risks above.

Climate-change-related risks include (UNEP 2019a):

- **Transitional risks:** Transitioning to low-carbon green economies requires changes to policy, institutions, regulatory frameworks, markets and technology that may disrupt FIs' operations and systems.
- **Physical risks:** The impact of climate change on borrowing firms through potential damage to assets, disruption of supply chains, operations, transport and delivery systems, water and energy supply.
- **Operational risks:** Inadequate risk management capacity and lack of understanding of E&S risks associated with promoting sustainable finance and climate finance may increase FIs' exposure to operational risk.
- **Systemic risks:** May result from FIs' heightened exposure to physical, transitional and operational risks, if not well assessed, priced, managed and adequately provisioned for.

Barriers to promoting sustainable finance in the region

Sustainable finance practices in the Arab region are still in the early development phase, and are expected to deepen in the years ahead. It is important to understand the various barriers that could be inhibiting the promotion of sustainable finance in general and climate finance in particular in order to be able to address them through appropriate policy measures.

Inadequate legislative support

One barrier could be the non-mandatory nature of requirements to adhere to sustainable finance policies and rules. Most Arab countries have yet to enact explicit climate-related financial regulations. Where ESG guidelines for accessing finance and for reporting disclosures have been developed, they are voluntary and not mandatory. The absence of adequate enforcement mechanisms for green finance policies, rules and regulations has been cited among the top barriers to scaling up green finance in the United Arab Emirates (UAE 2016).⁷²

This has also been the case in Egypt where the adoption of ESG rules has been voluntary and sustainability requirements have not been strictly enforced in the banking sector. A recent case study on mainstreaming green finance in the Egyptian banking sector found that some banks expressed reluctance to impose non-mandatory requirements that went beyond what regulators demanded, fearing they would lose their customers to less strict competitors. In that respect, inadequate enforcement may lead to inconsistency in implementation across the sector and may create an unwarranted opportunity for unhealthy competition among financial institutions (Atef 2017).⁷³

To that end, enforcement may be necessary to motivate financial institutions to adopt green finance practices and to promote investment in greener solutions while penalizing those who do not comply with green and sustainable finance policies (Atef 2017).

Lack of awareness of sustainable finance merits

Lack of understanding or awareness of the merits of green sustainable finance could act as a barrier for both investors and finance providers. According to the UAE Securities and Commodities Authority's *Master Plan for Sustainable Capital Markets* (2019), one of the main challenges to developing sustainable financial markets is that many investors do not appreciate the importance of sustainability and its benefits to their businesses, beyond corporate social responsibility (UAE 2019).

72 This has been noted by financial institutions in response to an online survey developed and conducted in 2015 by the Ministry of Environment and Water (MOEW) and the Central Bank in cooperation with the Insurance Authority, Securities and Commodities Authority (SCA) and Dubai Financial Services Authority (DFSA). The survey aimed to assess green finance practices in the UAE, looking at the challenges as well as the financial sector's readiness.

73 The study's results are based on interviewees' responses to questionnaires addressed to senior/middle risk management officials with credit approval and decision-making authority in a number of Egyptian banks.

Based on a Sustainability Awareness Survey conducted by the Egyptian Stock Exchange, more than 85% of investors in Egypt are unaware of sustainability indices that differentiate between firms listed on the stock market. This underscores investors' inability to understand the link between firms' adoption of sustainability practices and their potential higher profitability, through better risk assessment, management and mitigation. This also explains investors' lack of interest in pursuing information and knowledge about firms' sustainability rankings and ratings (Atef 2017).

Some Egyptian banks report that corporations do not appreciate that integrating sustainability practices makes good business sense, seeing it primarily as a means to acquiring green certifications and enhancing their brand positioning (Atef 2017).

It is also possible that financial institutions still perceive integrating environmental and social risk assessment systems into their business model as a philanthropic practice, rather than a strategic consideration to be factored into their business decision-making process. The Association of Banks in Jordan *Banking Sector Sustainability Report* (2016) concludes that the merits of mainstreaming sustainability are still underestimated and mostly associated with charity and humanitarian actions (ABJ 2016).

Lack of incentives to finance the transition to green, climate-resilient economies

A lack of explicit incentives that encourage finance providers to promote financial sector greening may be another barrier limiting the potential role of the region's FIs to support the transition to greener and more resilient economies. In most Arab countries, incentives have been offered within the sustainable energy framework to promote private investment in renewable energy and energy efficiency sectors through measures such as tax incentives and exemptions.

For example, in Jordan the Renewable Energy (RE) and Energy Efficiency (EE) Law makes all RE and EE production equipment and inputs—whether locally developed or imported—exempt from sales taxes and custom duties (Jordan 2017a).

On the other hand, finance providers have not been explicitly incentivised to participate in scaling up green finance through measures such as preferential rates and credit allocation policies, as has been done in countries such as Bangladesh and India (see Policy recommendations).

Market barriers

The limited pipeline of bankable green projects in general—and climate-specific projects in particular—may be attributed to the difficulty of identifying and structuring related investment opportunities. This may limit the development of an efficient market for financing green and climate-change-related projects, thus reducing the ability of financial institutions to scale up sustainable and climate finance in the region.

To a large extent, low private investment in climate change projects has been determined by the nature of their risk-return profile. Most such projects are capital intensive and the amount at risk is very high. In addition, lack of capital, human resources and technical

know-how act as barriers to market formation and private investment (UNEP 2019a). These barriers also underline the perceived lack of profitable investment opportunities, low commercial readiness associated with green projects' riskiness, long payback period and low profitability (UAE 2016).

In the UAE, more than 20% of financial institutions surveyed noted these challenges as some of the main impediments to promoting green finance (UAE 2016). Similarly, the UAE Securities and Commodities Authority's *Master Plan for Sustainable Capital Markets* (2019) states that investment decision-making short termism, misconceptions about sustainable investment's risk-return profile and lack of sufficient investment opportunities are among the important challenges inhibiting the development of sustainable financial markets (UAE 2019).

Challenges accessing climate funds

Slow and complex procedures make it difficult to access dedicated climate funds' resources. Coupled with the under-developed capacity of national implementing agencies, this could be an important barrier to scaling up climate finance in Arab countries. Despite a strong need for climate adaptation financial and technical support, four of the region's low-income countries—Djibouti, Mauritania, Sudan and Comoros—have successfully accessed the Adaptation Fund's resources only once between its establishment in 2001 and 2019, while Yemen has had no access at all to the Fund (ESCWA 2019).

Countries seeking funding must submit their proposals through accredited agencies. This demands strong institutional capacity, which many Arab countries lack. It has been estimated that accrediting and endorsing investment plans takes 10–28 months on average, while project approval may require an additional 12–22 months.

In addition, some climate funds impose caps or limits that constrain countries' access to financing their adaptation priority needs. For example, Morocco, Jordan and Iraq have already reached their funding limit with the Adaptation Fund—set at only USD 10 million per country—despite each implementing only one project (ESCWA 2019).⁷⁴

To address these challenges, some climate funds have developed country readiness programs to enhance the capacity of national implementing agencies in both project proposal development and the accreditation process. This has been the case with the Green Climate Fund (GCF) whose readiness program allocates up to USD 1 million per country in the form of grants and technical assistance. The GCF has already approved readiness support requests from a number of Arab countries under the National Designated Authority Strengthening and Country Programming projects. These countries are: Algeria, Comoros, Djibouti, Egypt, Iraq, Jordan, Libya, Mauritania, Morocco, Oman, Sudan and Tunisia (ESCWA 2019).

74 The accreditation process aims to ensure that the recipient entity has sufficient capacity to use the financial resources efficiently. It assesses factors including fiduciary standards and social and environmental safeguards.

Implementing agencies' limited institutional capacity

The under-developed capacity of implementing agencies in most Arab countries may be limiting their ability to access the private and public climate finance available nationally and internationally. This results from factors including: poor quality data, lack of experience and know-how, and institutional constraints such as the absence of a centralized body to monitor activities and coordinate between stakeholders.

These factors have been noted in Egypt's *First Biennial Update Report*, which was presented to the UNFCCC in 2018. The report highlights:

- the lack of reliable and consistent data sets,
- inefficient institutional coordination mechanisms,
- under-developed systems for measurement, reporting and verification (MRV),
- a lack of personnel capable of developing funding proposals and adequately communicating climate-related risks to vulnerable communities as well as the opportunities to society at large (EEAA 2018).

These constraints have also been reported in Jordan's *First Biennial Update Report (BUR)*, presented to the UNFCCC in 2017 (Jordan 2017b).

Absence of data, standards and definitions

Lack of consistent, good quality data as well as absence of well-developed commonly accepted metrics, classification standards, definitions and methodologies all act as barriers to promoting sustainable finance in general—and climate finance in particular—in the region. Without them, stakeholders cannot adjust to business-related risks efficiently or adequately capitalize on opportunities (Goud and Tabet 2020).⁷⁵ Investors need well-structured information to make well-informed decisions. and without it, climate-specific investment opportunities will have failed to successfully pass through risk assessment and due diligence decision-making processes (UNEP 2019a).

75 Data availability on credit borrowers' GHG emissions footprint can enable banks to properly price and manage climate-related risks when extending sustainable/green finance.

Policy recommendations

This section presents policy recommendations for scaling up sustainable finance and climate finance in the Arab region. There are four overarching recommendations to:

- Strengthen governance, legislative and regulatory frameworks,
- Raise awareness of the merits of sustainable finance and strengthen the capacity of financial sector stakeholders,
- Develop a pool of bankable green projects, and
- Raise national readiness for climate change and finance.

The suggestions to improve the governance, legislative and regulatory frameworks are further divided into six recommendations.

Recommendations 1–6: Strengthen the governance, legislative and regulatory frameworks

Over the past few decades, Arab countries have made progress in developing their policy framework to increase private sector participation in their economies. They have paid special attention to promoting private investment in green sectors, with a focus on sustainable energy—namely, renewable energy and energy efficiency projects—through Public Private Partnership (PPP) laws as well as Renewable Energy and Energy Efficiency regulations. However, this has not been the case with the financial sector’s regulatory framework, where no explicit climate-related financial regulations have been enacted and enforced (UNEP 2019a).⁷⁶

A national roadmap for the country’s financial sector stakeholders would help to align the financial sector nationwide with sustainable development and responsible investment goals. It should include (UNEP 2017a):

- Assessing the national financial system’s needs,
- Estimating required financial and technical resources,
- Identifying barriers to scaling up sustainable finance,
- Developing proper policy reforms and intervention measures, and
- Creating a result measurement framework to assess progress and impact.

The gradual adoption of a sustainable and climate finance **taxonomy** is required so financial sector governance bodies better understand sustainability and climate-change-related issues and challenges. It would also help them create the regulatory policies and supervisory measures necessary to green the financial system while also safeguarding its soundness.

76 Some developed countries have endorsed the mandatory adoption of ESG reporting and disclosure requirements to safeguard the transition to greener economies. For example, in France the French Energy Transition and Green Growth Law of 2016, the world’s first mandatory climate change financial disclosure law, requires publicly traded firms, banks, credit providers, asset managers and institutional investors to disclose and to report on climate-related financial activities.

Regulators should **enact climate-change-related financial rules** and regulations and **endorse ESG mandatory reporting** and disclosure requirements. This will serve to scale up sustainable finance and climate finance by ensuring FIs integrate social and environmental risk assessment procedures in their business models, products and services. (UNEP 2017a).⁷⁷ The region's current voluntary implementation of green finance rules could be combined with a supportive incentive system to promote greening practices. This could be gradually phased out for mandatory rules within a three- to five-year timeframe.

Requiring financial institutions to adopt **sustainability lending practices** may also improve the enforcement of existing environmental regulations, which have been to a large extent poorly enforced in the Arab region (Atef 2017).

Policy recommendations

Recommendation 1.

Issue green finance guidelines and regulations.

These are needed to provide FIs with a guidance framework to enable them to efficiently integrate sustainability considerations into their operations and core strategies while addressing potential risks (UNEP 2017a) (UNEP 2015).

Develop green finance guidelines to provide FIs with a set of green finance definitions, methodologies, standards and tools.

Enact green finance regulations to enable FIs to deal with climate-change-related transitional and physical risks (UNEP 2019a) (Goud and Tabet 2020).

Recommendation 2.

Enforce green finance rules and regulations.

FIs may be mandated to adopt green finance rules and regulations, which can be undertaken gradually within a three- to five-year timeframe.

Align the incentive system for financial institutions with sustainable finance through (UNEP 2017a):

- Selective intervention: This may include measures such as credit allocation policies and priority sector lending. This is where central banks provide FIs with direct incentives to lend to specific sectors, as has been done in countries such as India and Bangladesh (UNEP 2019a) (UNEP 2017a) (UNEP 2015).
- Sustainability and green financing targets that could be incorporated into FIs' business strategies, governance frameworks and key performance indicators (KPIs) to which finance providers are held accountable (UNEP 2017a).

⁷⁷ The Financial Stability Board's Task Force on Climate-related Financial Disclosures recommends mandatory disclosure by all financial institutions.

Recommendation 3.

Enhance the capacity of the financial sector's governance bodies.

Financial sector governance bodies such as regulators and supervisors of both central banks and non-banking financial institutions (NBFIs) must **build capacity** so they can undertake their regulatory and supervisory roles efficiently.

The governance should entail (UNEP 2017a):

- Establishing a Green Finance Department within governance bodies to enhance sustainable finance supervisory, regulatory and market practices. This will also raise awareness of the merits of green finance and promote its practice to SMEs as other countries have done.
- Integrating environmental risks such as climate-related physical and transitional risks into their supervisory and prudential oversight.
- Supporting sustainable-finance-related research, such as examining the level of risk in green assets and their impact on financial sector stability and resilience, and
- Promoting collaboration with international organizations, such as UNEP, UNDP and IFC, to provide guidance in financing sustainable investment and to ensure national alignment with global best practice.

Recommendation 4.

Offer incentives to green the financial system.

Arab countries need to be more proactive in greening their national financial systems through the role of their central banks and NBFIs' regulators offering incentives such as preferential rates and credit allocation policies. This has been done in countries like India and Bangladesh where Central Banks have mandated their financial institutions to scale up financing of green priority sectors (UNEP 2019a) (UNEP 2017a).

Recommendation 5.

Mandate the use of a sustainable financial taxonomy.

Financial sector regulators should mandate finance providers to adopt sustainable finance metrics, definitions, standards and methodologies that have already been developed in more advanced economies, such as the European Union and China. Arab countries could also work together to develop a regional sustainable financial taxonomy that is better suited to their social- and climate-specific financing needs.

Recommendation 6:

Incorporate gender awareness in sustainable and climate financing.

Gender-responsiveness in climate-related and green financing opportunities contributes positively to the success of programmes. It yields greater economic growth, improves the wellbeing and livelihoods of families and strengthens the resilience of affected areas with significant positive returns on the SDGs (DCED 2019). There is a growing understanding that addressing SDG Five 'Gender Equality' is closely connected with progress in other SDGs. Additionally, there is an increase in the number of climate funds such as the Global Green Growth Institute (GGGI) where applicants are assessed on their gender policies and requirements. Entities that intend to seek access to these funds are encour-

aged to actively address their gender issues by ensuring that they are considering men, boys, women and girls equally (DCED 2019).

Gender awareness in sustainable and climate financing is needed because women suffer the adverse impacts of climate change more than men. Women have disproportionately less access to capacity and resources to support their resilience. It has also been shown that women who directly experience climate-related adverse impacts are better prepared to lead strategies and set resilience plans for their people and families. Both genders ought to be seen as equally important in contributing to decision-making around climate and be considered equally in climate-related financing policies, frameworks, and regulations (OECD 2015).

Develop gender-based criteria in the development, governance and tracking of climate-related financing.

Ensure a gender equality ratio in decision-making bodies for climate-related projects and funding.

Build the capacity of women in high-risk areas, and educate men to provide the necessary support to increase women's opportunities for resilience.

Recommendation 7: Raise awareness of the merits of sustainable finance and strengthen the capacity of financial sector stakeholders

Over the past decade, most countries in the region have made good progress developing financial inclusion education programmes and awareness campaigns to improve financial literacy and increase access to finance, reaching out to marginalized groups in their societies. More recently, digital transformation campaigns have been conducted in a number of Arab countries to raise awareness of the financial sector's ongoing efforts to support the transition to cashless economies.

Additionally, education and training programmes enable finance providers across the sector to better identify, assess, price and mitigate environmental and social (E&S) risks associated with sustainable, green and climate finance.

Policy recommendations

Develop awareness campaigns on the merits of the green economy transition while highlighting the need to adopt and enforce sustainable finance rules and regulations. Cultural change should be promoted by conducting comprehensive education, training and awareness campaigns similar to the ones conducted on financial inclusion and digital transformation by most central banks in the region. This is necessary to address misconceptions and lack of awareness and understanding on the part of stakeholders including investors, consumers, producers and finance providers.

Develop financial institutions' capacity. Through education and training programmes, enable finance providers across the sector to better identify, assess, price and mitigate environmental and social (E&S) risks associated with sustainable, green and climate finance.

Enhance FIs' risk management capacity and understanding of E&S issues, risks and opportunities. This will improve their ability to analyze and evaluate financing proposals for the funding of green projects (UNEP 2017a).

Mandate FIs to integrate climate-change-risk considerations into their stress-testing approaches and to use scenarios based on climate change trends as part of their overall risk management practices. This will ensure the resilience of their investment portfolios to environmental risks (UNEP 2019a).

Establish sustainable finance units within FIs to raise awareness of green finance merits and promote its practice. In some countries banks have created dedicated units to increase lending to SMEs.

Recommendation 8: Develop a pool of bankable green projects

Policymakers should play an active role in developing a bankable pool of green and climate-change-specific projects by identifying and structuring investment opportunities during the planning stage to increase private sector engagement whenever commercially viable. This would provide the region's FIs with a pipeline of bankable projects which would scale up sustainable and climate finance.

Policy recommendations

Better align private investment flows with Arab countries' nationally determined climate action priorities. This may be possible through financial engineering mechanisms such as blended finance in order to ensure an appropriate balance of risk-sharing between the public and private sectors (ESCWA 2019).

Enlarge the pool of green bankable projects by identifying regional green investment opportunities and structuring joint mega-scale projects suitable for regional syndicated loan financing. This would address the region's development needs through sustainable investment in areas such as electricity and power generation while creating employment opportunities and promoting sustainable finance in the region.

Recommendation 9: Raise national readiness for climate change and finance

According to the UNFCCC 2018 Biennial Assessment, "some of the most vulnerable countries... have their access to climate finance hindered by institutional capacity barriers, weak policy and fiscal framework" (ESCWA 2019).

Raising national readiness for mitigating and adapting to climate change as well as for accessing climate finance dictates reform measures to address institutional weaknesses, planning gaps as well as technical capacity and expertise constraints.

Policy recommendations

Enhance national implementing agencies' institutional capacities to efficiently collect and categorize data, to track climate mitigation and adaptation actions and measures, to identify related financing needs and to develop funding proposals. This would improve national entities' access to financial resources available from climate funds and financial institutions, creating more room for private sector engagement.

Develop financial sector infrastructure ability to enable the integration of E&S considerations in product development through (UNEP 2017a):

- Sustainability information and data sharing: Stronger disclosure and reporting of issues, risks and opportunities will promote transparency within the financial system. This would address information gaps while strengthening the role of financial data providers.
- Promoting the use of green and sustainable finance instruments, such as green bonds and sukuk, that are aligned with sustainable development goals.

Integrate climate change into the national planning framework and ensure the allocation of adequate financial flows to relevant ministries' budgets. These should be increased gradually on an annual basis to address mitigation and adaptation needs.

Develop a pool of well trained, qualified industry experts such as lawyers, accountants and data providers to support the sustainable and climate subsector of the finance industry.

Improve coordination among stakeholders—including government entities, financial sector regulators, FIs and investors—to better communicate climate change financing mitigation and adaptation needs as well as associated investment risks and opportunities. This may entail:

- Including FI's representatives in climate change policy-making entities, such as the National Council for Climate Change, to enable FIs to contribute to policy design while swiftly responding to emerging sustainable finance issues, and
- Holding national and regional forums to strengthen peer learning by sharing experience of challenges and potential solutions.

The way forward

The instrumental role of the financial system in supporting the Arab countries in their transition to more inclusive, sustainable and greener economies is unquestionable. The ongoing financial sector reforms, focusing on financial stability, inclusion and digital transformation, present a golden opportunity for the region to fully integrate environmental and social factors into their financial institutions' business models and core strategies. Islamic finance presents a potential vehicle for promoting sustainable finance and climate finance in the region where Islamic financing transactions have already been used in most Arab countries. It provides an adequate sustainable financing framework as environmental, social and governance (ESG) considerations are embedded into its core principles.

Arab countries should continue working on improving their business environments to increase private sector participation in climate change mitigation and adaptation investment. This is necessary to reduce investors' perceived high cost of capital associated with the potential risks of investing in countries with legal uncertainties, political instability and conflict.

While examining the potential impact of COVID-19 on the region's progress in promoting sustainable finance practices is beyond the scope of this report, it may pose additional challenges resulting from higher risk aversion on the part of financial institutions given the associated uncertainties and tighter financing/credit conditions at national, regional and global levels. Addressing the impact of COVID may be useful to consider for future research.



Appendices

Table 2: International support received by Egypt for adaptation programs since 2005

Program	Sector	Measures achieved	Donor	Total funding (amount and type)	Other support received			Time-frame (years)
					Technology	Capacity building	Technical support	
Mainstreaming global environment in national plans and policies by strengthening monitoring and reporting systems for Multilateral Environmental Agreements in Egypt	Waste resource	<ul style="list-style-type: none"> Capacity building for public participation in climate change. 	GEF	USD 475 million		✓		2008–2011
Climate change adaptation in the Nile Delta through Integrated Coastal Zone Management (ICZM)	Coastal protection	<ul style="list-style-type: none"> Beach reinforcement and nourishment. Construction of seawalls and breakwaters. Vegetative buffers, sand placement and dune stabilization. 	GEF/SCCF	USD 4 million		✓	✓	2009–2014
Building resilient food security systems to benefit the southern Egypt region	Agriculture	<ul style="list-style-type: none"> Capacity development for farmers. Integrate on-farm water conservation solutions through small-scale, low-cost technological solutions. Using drought tolerant crop varieties. Innovative irrigation tools. Early warning system for weather extreme events. 	UNFCCC Adaptation Fund	USD 6.9 million	✓	✓		2013–2016

Program	Sector	Measures achieved	Donor	Total funding (amount and type)	Other support received			Time-frame (years)
					Technology	Capacity building	Technical support	
Integrated management and innovation in rural settlements	Agriculture	<ul style="list-style-type: none"> ▪ Improve rain harvesting techniques. ▪ Water recycling. ▪ Improve irrigation techniques. ▪ Improve long-term forecasting to enhance Egypt's ability to cope with prolonged drought. 	GEF	USD 7.8 million	✓	✓	✓	2015–present
Fifth operational phase of GEF small grants program in Egypt	Cross-cutting		GEF	USD 0.82 million		✓	✓	2011–2015

Source: EEAA (2018), based on data from Global Environment Facility (GEF), UNFCCC Adaptation Fund Egypt, GIZ and EU

Table 3: International support received by Egypt for mitigation programs since 2005

Program	Sector	Measures achieved	Donor and total funding amount and type	Other support received			Time-frame (years)
				Technology	Capacity building	Technical support	
Electricity Sector Subsidy Reform Program	Electricity generation	<ul style="list-style-type: none"> Gradual removal of subsidies on electricity from 2014. Re-pricing electricity in a tier-based system. Establishing social safety nets in the context of energy sector reform. Modeling National Energy Sector based on four comprehensive, long-term, strategic scenarios. Developing Egypt's Strategy for Integrated Sustainable Energy 2035. 	<p>Energy Reform Policy Support Program EU: EUR 60 million</p> <p>Technical Assistance to Support Reform of the Energy Sector Social Safety Nets WB: USD 6 million</p>		✓	✓	2014–2015
Increase of energy contribution to national electricity generation	Energy, Renewable energy	<ul style="list-style-type: none"> Setting two targets for contribution of RE in national power generation (electricity): 20% by 2022 and 37% by 2035. Implementation of utility-scale wind, solar, and hydropower projects: Nagaa Hammadi hydropower station; Kureimat Hybrid Concentrated Solar Power (CSP) plant; and small-scale PV solar with net metering system. Issuance of feed-in tariff and net-metering schemes. 	<p>Kureimat Hybrid Concentrated Solar Power (CSP) plant GEF/WB: USD 49.8 million</p>	✓	✓	✓	2013–2015

Program	Sector	Measures achieved	Donor and total funding amount and type	Other support received			Time-frame (years)
				Technology	Capacity building	Technical support	
Energy Efficiency for Electricity Generation and End Users	Energy, Energy efficiency	<ul style="list-style-type: none"> Implementation of a package of energy efficiency measures accompanying subsidy reform and RE investments. Standards and Labeling program on home appliances for electricity rating. Promotion of LED lighting technology. Nationwide awareness campaign to reduce electricity consumption. Promulgation of Electricity Law 87/2015 (with specific articles 45–51 for electricity efficiency and energy management). Implementing a conversion program for simple cycle power plants to Integrated Gasification Combined Cycle (IGCC). 	<p>Energy Efficiency Improvement and Greenhouse Gas Reduction Project (1998–2010) GEF: USD 4.11 million</p> <p>Improving Energy Efficiency of Lighting and Building Appliances (2010–2015) GEF: USD 4.45 million</p> <p>Conversion of Shabab and West Damietta Power Plants from simple cycle to IGCC European Bank for Reconstruction and Development (EBRD): USD 190 million</p>	✓	✓	✓	2005–2015
Sustainable Transport Program and Expansion of Cairo Metro Network	Energy, Transportation	<ul style="list-style-type: none"> Egypt Sustainable Transport Program activities and pilot projects. Stage 5 of Cairo Metro Second Line. Stage 1 & 2 of Cairo Metro Third Line. 	<p>STP GEF/UNDP: USD 7 million National: USD 37 million</p>	✓	✓	✓	2009–2015

Program	Sector	Measures achieved	Donor and total funding amount and type	Other support received			Time-frame (years)
				Technology	Capacity building	Technical support	
Industrial Energy Efficiency Project (IEE)	Energy, Industry	<ul style="list-style-type: none"> National program to define energy benchmarks and energy efficiency policy. Awareness raising on industrial energy efficiency and management in industry. Capacity Building for Energy Efficiency Services. Access to finance for energy efficiency improvement projects. Implementing energy management systems and system optimization. 	GEF: USD 3.95 million National: USD 24.1 million		✓	✓	2012–2015
Egyptian Pollution Abatement Project (EPAP II)*	Energy, Environment, Industry	<ul style="list-style-type: none"> Pollution abatement measures financed for cement, brickworks, petroleum, chemical, and steel industrial facilities in Greater Cairo and Alexandria. Six projects involving switching from heavy fuel oil to natural gas. 	Finance: EIB: EUR 40 million AFD: EUR 40 million JBIC: YEN 4.7 billion WB: USD 20 million Technical Assistance: EIB: EUR 3 million Government of Finland: EUR 0.9 million National: 17.5 M LE	✓	✓	✓	2007–2015
Private Public Sector Industry Project (PPSI)*	Energy, Environment, Industry	<ul style="list-style-type: none"> Pollution abatement measures financed for industrial facilities in Upper and lower Egypt (excluding Greater Cairo and Alexandria) 	KfW: 7.26 M Euro (grant)	✓	✓	✓	2008–2012

Program	Sector	Measures achieved	Donor and total funding amount and type	Other support received			Time-frame (years)
				Technology	Capacity building	Technical support	
Egyptian National Solid Waste Management Program (NSWMP)	Waste, Environment	<ul style="list-style-type: none"> Established National Waste Management Regulatory Authority (WMRA). Issued Strategic Directives on Integrated Solid Waste Management. Annual national forum on waste management for knowledge transfer and networking. Established an internet platform for solid waste related issues. Drafting a solid waste management law that addressed planning, finance, standards for implementing integrated solid waste management systems in the context of social inclusion, cost recovery, the Polluter Pays, Extended Producer Responsibility (EPR) principles. Piloted operator models for primary collection and recycling of municipal solid in four governorates. Supporting implementation of holistic solid waste management systems in four governorates. 	KFW GIZ EU SECO	✓	✓	✓	2012–2015
Bioenergy for Sustainable Rural Development	Energy, AFOLU, Waste		GEF: USD 3 million Co-financing: USD 12.4 million	✓	✓	✓	2010–2015

*The climate change component was minor in this project.

Source: EEAA (2018)

Table 4: International support received by Egypt for cross-cutting programs

Program	Sector	Measures achieved	Donor and total funding amount and type	Other support received			Time-frame (years)
				Technology	Capacity building	Technical support	
Climate Change Risk Management Program	Multiple	<ul style="list-style-type: none"> ▪ Established Clean Development Awareness and Promotion Unit. ▪ Helped establish the Energy Efficiency Unit (EEU) to advise the Cabinet of Ministers on Energy Efficiency. ▪ Supported development of a national Energy Efficiency roadmap. ▪ Supported modeling climate change scenarios in the water sector. ▪ Provided resources to develop the forecasting capacity and long-term forecast analysis of climate change impact on water. ▪ Supported the Ministry of Agriculture and Land Reclamation and its affiliated research centers to develop methodological approaches and planning tools, with particular emphasis on zoning and mapping tools. ▪ Supported research activities (mainly concentrating on deficit irrigation) and simulation exercises on the impacts of climate change on key crops. ▪ Supported the production and screening of a documentary film “The Future of Climate Change in Egypt” in the framework of public awareness and advocacy on climate change. 	FAO, IFAD, UNDP, UNEP, UNESCO, UNIDO: USD 4 million		✓	✓	2008–2013
Low Emission Capacity Building Project (LECB)	Multiple	Aimed to strengthen national capacities to embed climate change policies into national development plans.	EU and co-finance: USD 1 million		✓	✓	2013–2018

Source: EEAA (2018)

Table 5: International support received by Egypt for renewable energy programs
(agreements signed between 2005–2015)

Program / Project	Donor	Agreement Date	National Recipient	Currency	Amount (Millions)
Loans					
Zafarana wind farm, phase 3	Germany	2003	New and Renewable Energy Authority (NREA)	EUR	15
West Gulf of Suez wind farm	Spain	2008	MoERE	EUR	119
Gabal El-Zeit 220 MW wind farm	Japan	2010	NREA	YEN	388
Wind farm	World Bank (WB)	2010	EETC	USD	70
Wind farm	Clean Technology Fund (CTF) World Bank (WB)	2010	EETC	USD	150
Aswan 20 MW PV power plant	Agence Française de Développement (AFD)	2015	NREA	EUR	40
Grants					
Wind farm	CTF-WB	2010	EETC	USD	0.25
Wind energy potential	Arab Fund for Economic and Social Development	2011	NREA	KD (Kuwaiti Dinars)	0.3
Feasibility study for a 20 MW PV power plant	AFD	2012	NREA	EUR	0.8

Source: EEAA (2018), based on data from Ministry of Investment and International Cooperation

Table 6: Mapping Jordan's climate finance flows from international and national sources (and other purposes)

Support Received						
Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2015– 2019	Increasing the resilience of poor and vulnerable communities to climate change impacts through innovative projects in water and agriculture in support of adaptation to CC	Donor: Adaptation fund Implementing agency: MOPIC	Grant: USD 9.27 million	X	X	The program's first component supports climate change adaptation in the agricultural and water sectors through technology transfer (the use of nonconventional water resources, rainwater harvesting, and permaculture). The second component seeks to strengthen climate change adaptation capacities at the national and local community levels, knowledge dissemination, and policy and legislation mainstreaming.
2014– 2018	Irrigation technology pilot project to adapt to climate change in Jordan	Donor: GEF Implementing agency: IFAD in cooperation with National Center for Agricultural Research and Extension (NCARE)	Grant: USD 2 million	X	X	Reducing the vulnerability of Jordan's agricultural system to climate change, particularly from impacts on water resources, by testing innovative and efficient water use technologies.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2009– 2015	Mainstreaming sustainable land and water management practices	Donor: GEF Implementing agency: IFAD in cooperation with Ministry of Agriculture	Grant: USD 6.44 million	X	X	Reducing land degradation, promoting the integration of an ecosystem-based approach into public supported development activities, designing and implementing community activities to improve the economic productivity of land and support the adoption of sustainable land management concept and the concept of integrated management of water resources at local level.
2015– 2018	Mainstreaming RIO Convention provisions into national sectorial policies	Donor: GEF Badia restoration program Implementing agency: UNDP in cooperation with Ministry of Environment	Grant: GEF: USD 1million Additional grant: USD 0.78 million	X		RIO Convention mainstreaming in targeted strategies by developing roadmaps for each strategy and improving awareness and understanding of RIO Convention contribution to local sustainable development.
2015– 2017	Preparation of first biennial update report	Donor: GEF Implementing agency: UNDP in cooperation with Ministry of Environment and RSS	Grant: USD 0.35 million	X	X	Helping Jordan mainstream and integrate climate change considerations into national and sectoral development policies, and assisting in preparing and submitting Jordan's First Biennial Update Report to UNFCCC.
	ICE	Donor: GIZ Implementing agency: Ministry of Environment	Grant: EUR 0.65 million	X	X	Increasing cooperation between ministries and the public and private sectors, while agreeing achievable and constructive targets to reduce national GHG emissions, and combat climate change efficiently.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
	Partnership for Market Readiness (PMR) (phase 1)	Donor: World Bank Implementing agency: Ministry of Environment	Grant: USD 0.35 million		X	Preparing the organizational framework for Jordan.
	Partnership for Market Readiness (PMR) (phase 2)	Donor: World Bank Implementing agency: Ministry of Environment	Grant: USD 3 million	X	X	The Jordan Market Readiness Proposal (MRP) outlines a plan to implement necessary market readiness components to help develop appropriate market-based instruments. Phase One's objectives are to: develop a robust and transparent MRV framework that builds on and utilizes the existing information management systems managed by different ministries and funds; and develop the pipeline of GHG mitigation activities through engagement, technical assistance, and capacity building in the private sector, and increase market participation through a web-based registry for climate projects and financing sources.
	REIII	Donor: European Union Implementing agency: Ministry of Energy	Grant: EUR 90 million	X	X	Replacing diesel-operated water pumps with 300 solar units, 200 in the Jordan Valley and 100 in the highlands.
	SNAP	Donor: CCAC Coalition Implementing agency: UNEP in cooperation with Ministry of Environment	Grant: USD 0.120 million	X	X	Training and support of GHG emissions inventories (including BC), and mainstreaming short-lived climate pollutants (SLCPs) in national plans.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
	INDCs	Donor: GIZ Implementing agency: Ministry of Environ- ment			X	Jordan has committed to reduce its GHG emissions by 14% by 2030. This contribu- tion of GHG emissions reduction will be unconditionally fulfilled at, maximally, 1.5% by the country's own means compared to a business as usual scenario. However, Jordan, conditionally and subject to availability of international financial aid and support to means of implementation, commits to reduce its GHG emissions by at least 12.5% by 2030.
	Climate South Project	Donor: EU	Technical assessment only		X	Technical assistance task for Middle East developing countries.
2011– 2019	Badia Rehabilitation Program: Monitoring and evaluation	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Environ- ment in coopera- tion with University of Jordan	Grant: JD 716 thou- sand			Monitoring and evaluation of progress made in the project.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2014– 2016	Ecosystems and livelihoods project in the Jordanian desert	Donor: GEF Implementing agency: Ministry of Environment in cooperation with the Royal Society for the Conservation of Nature	Grant: JD 1,056 thousand			Developing an eco-tourism program in the Eastern Badia region Ruwaished.
2013– 2017	Badia Rehabilitation Program: Training, guidance, and awareness raising for livestock breeders and the local community	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Environment in cooperation with Jordan Cooperative Corporation	Grant: JD 737 thousand	X		Publications, lectures, training, and awareness-raising courses.
2011– 2019	Badia Rehabilitation Program: Implementing rainwater harvesting in the small level of waterfalls (lines a semi-contour circles)	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Environment in cooperation with National Center for Agricultural Research and Extension	Grant: JD 1,839 thousand	X		Establishment of water harvesting techniques on 105 thousand acres of land using Valerian.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2011– 2019	Badia Rehabilitation Program: Water diffusion and soil conserva- tion technologies	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Environ- ment in cooperation with National Center for Agricultural Research and Exten- sion	Grant: JD 140 thou- sand	X		Implementation of 10 thousand meters of water diffusion technologies.
2011– 2016	Badia Rehabilitation Program: Rehabilitation of artesian wells in Badia and improving water quality	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Environ- ment in cooperation with the Water Author- ity of Jordan	Grant: JD 2,866 thou- sand	X	X	Rehabilitation of one well.
2011– 2019	Badia Rehabilitation Program: Water harvesting technologies at a large level of waterfalls	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Environ- ment in cooperation with the Jordan Valley Authority	Grant: JD 11,936 thou- sand			Digging a total of 26 holes/wells.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2013– 2019	Badia Rehabilitation Program: Sustainable production of irrigated feed through rising height of AlWaleh Dam	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Environment in cooperation with the Jordan Valley Authority	Grant JD 27,878 thousand			Cultivation of 16,000 dunum of barley using the Al Waleh Dam water.
2016– 2019	Completion of the national network of protected areas	Implementing agency: Ministry of Environment	General budget: JD 55 thousand			Increasing the size of protected areas to become 4% of the Kingdom's area by 2025. Completing the addition of nine new protected areas in addition to existing ones.
2013– 2016	Development of a comprehensive database about the state of the environment in Zarqa River basin	Implementing agency: Ministry of Environment	General budget: JD 30 thousand			Developing and setting up a database about the state of the environment in the Zarqa River basin.
2013– 2016	Development of the evaporative unit in Al-Hamra landfill for Zibar water treatment	Implementing agency: Ministry of Environment	General budget: JD 260 thousand			Treatment of Zibar produced from olive presses in Al Balqa'a.
2016– 2019	Studying air pollutants concentrations from industries	Implementing agency: Ministry of Environment	General budget: JD 1,156 thousand			Monitoring the concentration of air pollutants in industrial areas.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2013– 2018	Replacement of ozone depleting substances in the cooling and air conditioning maintenance sector	Donor: Montreal Fund Implementing agency: Ministry of Environ- ment	Grant: JD 3,540 thou- sand	X		Reducing ozone depleting substances by 40% by 2025.
2012– 2016	Solar air conditioning and cool- ing project	Donor: Government of Germany Implementing agency: Ministry of Environ- ment	Grant: JD 2,720 thou- sand	X		Installation of solar air conditioning and cool- ing systems.
2016– 2019	Central station for industrial wastewater treatment	Implementing agency: Ministry of Environ- ment	General budget: JD 75,000 thou- sand			Establishing a central station for industrial wastewater treatment.
2015– 2016	Preparing the National Green Growth Plan	Donor: GGGI	Grant: JD 797 thou- sand		X	Preparing the National Green Growth Plan.
2016– 2019	Setting up a solid waste recy- cling unit and waste-to-energy production unit	Implementing agency: Ministry of Environ- ment	Private sector: JD 15,000 thou- sand			Setting up a solid waste recycling unit and waste-to-energy production unit.
2013– 2019	Badia Rehabilitation Program: Environmental education for students in Al- Badia	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Education	Grant: JD 1,416 thou- sand	X		Reaching out to 300 schools in the Al-Badia.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2011– 2019	Badia Rehabilitation Program: Cultivation of pastoral shrubs with water harvesting technol- ogies	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Agriculture	Grant: JD 3,909 thou- sand	X		Cultivation of 5,250,000 plants.
2011– 2019	Badia Rehabilitation Program: Protection of grassland and grazing and the application of the pastoral cycle	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Agriculture	Grant: JD 3,093 thou- sand	X		Protection of pasture.
2011– 2019	Badia Rehabilitation Program: Raising the productivity of livestock in Badia and improving the income of targeted groups	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Agriculture	Grant: JD 4,119 thou- sand	X		Improving the productivity of livestock.
2015– 2017	Badia Rehabilitation Program: Studies and surveys on land use in areas under rehabilitation	Donor: Governing Council of the Badia Rehabilitation Program in the UN Implementing agency: Ministry of Agriculture	Grant: JD 60 thousand		X	Reporting on the progress made in the project currently being implemented by the compensation program for Al-Badia.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2016– 2018	Public-private partnership with 500,000 EUR funded by EIB to conduct feasibility studies and tender documents.	Implementing agency: Ministry of Environment	Private sector: JD 26,500 thousand			Construction of an industrial wastewater treatment plant in Halabat area.
2016– 2019	Development of Al-Ekeder landfill and construction of a Zibar landfill	Implementing agency: Ministry of Environment	General budget: JD 2,004 thousand			Treatment of Zibar produced from olive presses in northern governorates.
2016– 2020	Construction of a single landfill at the site of the Khirbet Al Samra wastewater treatment plant	Donor: WAJ and KFW	Grant and general budget			Construction of a single landfill at the site of the Khirbet Al Samra to bury the sludge in the landfill and collect biogas according to international technical and environmental standards.
2016– 2020	Treatment and management of sludge at the Central Irbid treatment plant and Wadi Al Arab plant	Donor: WAJ and KFW	Grant and general budget			Sludge treatment and management in Central Irbid treatment plant and Wadi Al Arab plant, according to international standards.
2015	Wind energy, Tafila, 117 MW	Jordan Wind project Company (JWPC)	Private sector: USD 290 million			Diversification of energy sources. Generating clean energy. Reducing carbon emission. Raising awareness about energy rationalization, conservation of energy resources, and protection of environment.
2015	Solar energy, Mafraq, 10 MW	Philadelphia Company for Solar Energy	Private sector: USD 22.5 million			Same as above.
2015	Solar energy, Azraq, 2.17 MW	Atersa	Spanish grant: USD 5 million			Same as above.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2015	Solar energy, Azraq, 3 MW	Ennera	Spanish loan: USD 6 million			Same as above.
2016– 2017	Solar energy, round I, 200 MW	International and local companies	Private sector: USD 400 million			Same as above.
2017	Wind energy, Ma'an, 80 MW	Elecnor	Private sector: USD 150 million			Same as above.
2017	Solar energy, Zaatari	Belectric Gulf Ltd.	KfW: EUR 15 million			Same as above.
2017	Solar energy, Mafraq, 50 MW	Fotowatio Renewable Ventures	Private sector: USD 86 million			Same as above.
2017	Solar energy, Mafraq, 50 MW	Hareon Swiss Holding	Private sector: USD 79 million			Same as above.
2017	Solar energy, Mafraq, 50 MW	Sun Rise PV Systems	Private sector: USD 80 million			Same as above.
2017	Solar energy, Alsafawi, 50 MW	Saudi Oger	Private sector: USD 80 million			Same as above.
2018	Solar energy, Quwera, 103 MW	TSK and Environmena	Grant, Abu Dhabi Fund: USD 150 million			Same as above.
2019	Wind energy, Fujj, Showbak, 90 MW	KEPCO	Private sector: USD 182 million			Same as above.
2019	Wind energy, Tafila, 50 MW	About Energy Company (Xenel)	Private sector: USD 113 million			Same as above.

Year	Project	Donor/ Implementing Agency	Type of Support			Project Objectives
			Financial Resources	Capac- ity Building	Techni- cal Support	
2019	Wind energy, Tafila, 50 MW	KOSPO	Private sector: USD 113 million			Same as above.
2019	Wind energy, Tafila, 100 MW	Mass Energy	Private sector: USD 201 million			Same as above.
2019	Wind energy, Irbid, 45 MW	Hecate Energy	Private sector: USD 100 million			Same as above.
2018	Solar energy, Muwaqer, 200 MW	Masdar	Private sector: USD 200 million			Same as above.
2020	Solar energy, Round III, 200 MW	International and local companies	Private sector: USD 250 million			Same as above.
2021	Wing energy, Round III, 100 MW	International and local companies	Private sector: USD 150 million			Same as above.
2019	Solar energy, Risha, 50 MW	ACWA Power	Private sector			Same as above.
2019	Solar energy, East of Amman, 50 MW	AES/Mitsui	Private sector			Same as above.

Source: Ministry of Environment (2017a)

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