

EGYPT

The First Sovereign Green Bond in
the Middle East and North Africa



CASE STUDY



THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

November 2022



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November 2022
The report was designed by Circle Graphics, Inc., Reisterstown, MD

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Acknowledgments

Farah Imrana Hussain led this report with input from Concepcion Aisa and Yidan Lee (World Bank Treasury); Craig Meisner (Environment, Natural Resources and Blue Economy Global Practice), Eric Le Borgne, Kevin Carey, Leandro Puccini Secunho, and Sara B. Alnashar (Macroeconomic and Fiscal Management Global Practice). We would also like to thank Amira Amat (World Bank Treasury), Banu Turhan Kayaalp (World Bank Treasury) and Helena Dill (consultant, World Bank Treasury) for their valuable time and support in producing this report. Weber Shandwick was hired as a consultant to help prepare the case study.

Special thanks to Mr. Ahmed Kouchouk, Vice Minister of Finance for Fiscal Policies and institutional reform, Egypt, and his team for sharing their experiences and insights: Eman Ahmed Abdel Azim, Noha Ahmed Mostafa, Ingy Mohamed, Mohamed Yehia, Omar Gamal.

Preparation of this report would not have been possible without the support of Marina Wes, Country Director, Egypt, Yemen, and Djibouti, World Bank; Ayat Soliman, Regional Director, Sustainable Development, World Bank; and Miguel Navarro-Martin, Manager, Financial Products and Client Solutions.

The State Secretariat for Economic Affairs, Switzerland, financed preparation of this report under the Government Debt and Risk Management Program. We appreciate their generous support.

The team thanks Circle Graphics, Inc. for design.

List of Acronyms

| | |
|------|---|
| EGP | Egyptian Pound |
| ESG | Environmental, Social, and Governance |
| GCC | Gulf Cooperation Council |
| GDP | Gross Domestic Product |
| IBRD | International Bank for Reconstruction and Development |
| IDA | International Development Association |
| MoF | Ministry of Finance |
| NDC | Nationally Determined Contribution |
| PM | Particulate Matter |
| SDG | Sustainable Development Goal |
| SDS | Sustainable Development Strategy |
| THB | Thai Baht |
| WBG | World Bank Group |

FOREWORD

We issued the first sovereign green bond offering in the Middle East and North Africa, with a value of US\$750 million for 5 years at a yield of 5.25 percent, putting the Arab Republic of Egypt on the map of sustainable financing. As of September 2020, Egypt had a portfolio of eligible projects worth US\$1.9 billion, of which 16 percent was in renewable energy, 19 percent in clean transportation, 26 percent in sustainable water and sanitation management, and 39 percent in pollution reduction and control. The proceeds of the green bond will be used to finance expenditures to help achieve the country's sustainable development plan in the areas of clean transportation, clean and renewable energy, pollution reduction and control, climate change adaptation and energy efficiency, and sustainable management of water and sanitation, in accordance with Egypt Vision 2030, which prioritizes green investment projects.

The Arab Republic of Egypt's sovereign green finance framework was completed on September 22, 2020, establishing the standards and rules regulating the issuance of sovereign green bonds and *sukuk* in line with the International Capital Market Association Green Bond Principles.¹¹ A formal interministerial green financing working group was created to ensure the suitability of eligible projects according to national priorities and collect data for preparation of post issuance impact reports. An independent international provider of environmental, social and governance research and services for investors and public and private organizations, Vigeo Eiris (part of Moody's Corp) evaluated the framework. The framework received a strong second-party opinion—"Robust"—for the governance procedures established and the list of selected projects.

The offering was in great demand by investors. The order book was oversubscribed by 7.4 times the announced amount of US\$500 million and 5 times the final size of US\$750 million. Two hundred twenty investors participated in the order book, including 16 who subscribed to U.S. dollar-denominated Egyptian bonds for the first time, highlighting the success of diversifying and expanding the existing investor base. Our allocation strategy focused on investors classified as sustainable fund investors (47 percent).

This case study showcases the factors that motivated the issuance of the sovereign green bond and contributed to the success of the transaction. It begins by explaining the market dynamics that led to the tremendous growth of the global green, social, and sustainability bond market and then provides a brief overview of Egypt's macro-economic and environmental circumstances, which present opportunities for investors to achieve financial and environmental returns while contributing to the government's efforts to implement sustainable development. The sovereign green bond has played a transformative role by raising awareness about these opportunities. The case study then highlights efforts made to design the bond in line with international best practice to

¹ *Sukuk* are fixed-income securities designed to comply with Shari'a law, which is the broad set of rules that define Islamic doctrine.

boost accountability and transparency, with emphasis on implementing a sustainable debt strategy and robust debt management framework, and the close collaboration with various line ministries. These are among the many success factors of the transaction. The case study also includes a section on the World Bank's recommendations for opportunities to make further progress on the sustainable financing agenda.

This case study was developed to provide a comprehensive understanding of what motivates and constitutes a successful emerging-market sovereign green bond transaction and concludes by examining the potential for similar issuances across the Middle East and North Africa. We hope our peers, academicians, and other stakeholders find it useful. We welcome their feedback as we continue to explore other innovative financing instruments to meet our development goals.



Dr. Mohamed Maait
Minister of Finance
Arab Republic of Egypt

September 2022



PREFACE

The COVID-19 pandemic has highlighted the risks that environmental, social, and governance factors pose to human health, economic resilience, and the long-term sustainability of developing countries. As governments develop strategies and programs to address environmental and social vulnerabilities, they must align and mobilize resources to support implementation of these ambitious plans to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity.

Dedicated financing tools designed to achieve positive social and environmental outcomes ensure that sustainable investments are prioritized over the business as usual that perpetuates unsustainable growth patterns. Green bonds are one such financing tool that supranational organizations (e.g., World Bank), corporations, and increasingly, governments are using to raise capital from capital markets. Bond proceeds are used to support climate- and environmentally friendly development and appeal to an expanding pool of investors (e.g., pension funds) seeking investment opportunities that have a positive environmental and social impact. The impact investing market—estimated to be more than US\$700 billion—provides a significant opportunity for governments to raise capital to address the climate change crisis and rebuild economies in a green, inclusive way (GIIN 2020).

Egypt has paved the way by issuing the first sovereign green bond in the Middle East and North Africa on September 30, 2021. As the president of the Committee of African Heads of State and Government on Climate Change in 2015 and 2016, Egypt played a key role in negotiating on behalf of the African continent on climate change matters. The World Bank is pleased to have supported and facilitated the transaction by sharing its knowledge and experience. On behalf of the World Bank, I congratulate the government of Egypt for this groundbreaking transaction. Alternative financing instruments such as green bonds allow ministries of finance to broaden the range of debt instruments used in implementing debt management strategies and change the risk profile of their public debt portfolios.

The World Bank originally developed the green bond to address investors' concerns about hedging climate risk in their investment portfolios. We are pleased that the green bond concept has expanded in recent years to include other types of labeled sustainable bonds. Drawing from its own experience, the World Bank works with emerging markets to develop sustainable financial systems and facilitate issuance of green and other types of sustainable bond transactions. Since the first labeled green bond was issued in 2008, 40 countries have issued sovereign green, social, sustainability, or sustainability-linked bonds, including developing countries such as Benin, Chile, Colombia, Egypt, Fiji, Guatemala, Nigeria, Indonesia, Mexico, and Thailand. The World Bank's technical advisory program has supported a number of these transactions, ensuring alignment with best practices while adapting the approach to each country's needs, priorities, and institutional arrangements, although sovereign green bonds remain a nascent public sector financing tool.

This case study was produced to share Egypt's experience with its peers. It describes the context in which the government of Egypt was motivated to embark on the journey and chronicles the Ministry of Finance's experience in structuring and issuing the bond. The intention is to capture lessons learned and provide other developing countries with a broad understanding of the things they need to consider in designing such transactions. Our hope is that other countries will learn from Egypt's experience and experience market growth and innovation.



Ms. Anshula Kant

Managing Director and World Bank Group Chief Financial Officer

September 2022



ABOUT THE WORLD BANK GROUP: MISSION AND STRATEGY

The International Bank for Reconstruction and Development (IBRD), an international global development institution owned by 189 member countries, was established in 1944 and is the original member of the World Bank Group (WBG). As the largest development bank in the world, it supports the mission of the WBG by providing loans, guarantees, risk management products, and advisory services to middle-income and creditworthy low-income countries. The IBRD and the International Development Association (IDA), which was established in 1960 and lends to low-income countries, are known collectively as the World Bank and share the same leadership and staff. The IBRD and the IDA issue bonds in the international capital markets to support the development mission.

At the heart of the WBG's strategy are two goals that its Board of Governors endorsed in 2013:

END EXTREME POVERTY: Reduce to 3 percent the proportion of people living on less than US\$1.90 a day by 2030.

PROMOTE SHARED PROSPERITY: Foster income growth for the bottom 40 percent of the population in every developing country.

To deliver on the twin goals and support the Sustainable Development Goals, the WBG's management and shareholders have agreed on three main priorities for our work with developing countries, including those affected by fragility, conflict, and violence: accelerate sustainable and inclusive growth, invest in human capital, and strengthen resilience.

This overarching strategic framework rests on four pillars: serving all clients in low- and middle-income countries; creating markets, mobilizing finance for development, and expanding the use of private sector solutions; leading on global issues; and improving how we do business to be agile, efficient, and closer to clients. The WBG is committed to bringing together the international community in the urgent task of achieving the goals by 2030. They can be reached only through the collaboration of all partners, including countries, other institutions, civil society, and the private sector.

The WBG consists of five organizations: the IBRD, IDA, International Finance Corporation, Multilateral Investment Guarantee Agency, and International Centre for Settlement of Investment Disputes.

ABOUT THE WORLD BANK TREASURY

The World Bank Treasury ensures the long-term financial sustainability of the World Bank (IBRD and IDA).

The World Bank Treasury manages the Bank's finances to enable all operations and lending by:

- Proactively managing our balance sheet to safeguard our triple-A ratings and our strong financial position
- Strategically and cost-effectively raising funds from global capital markets and providing financing to our borrowing clients
- Managing and administering assigned internal and external portfolios effectively and delivering targeted excess returns within approved risk limits

The Treasury is a trusted adviser to our member countries to maximize finance for development and support financial stability and resilience by:

- Applying international best practices to managing our clients' assets and reserves
- Developing innovative sustainable financing solutions to help our clients finance climate, pandemic, refugee crisis, and infrastructure development, among other priorities
- Leading and shaping the debate on sustainable finance
- Offering mechanisms to reduce risks and promote private sector investment



WORLD BANK TREASURY SUSTAINABLE FINANCE AND ENVIRONMENTAL, SOCIAL, AND GOVERNANCE ADVISORY SERVICE PROGRAM

The Treasury's Financial Products and Client Solutions team works with policy makers, ministries of finance, regulators, central banks, supervisors, and World Bank project teams to develop sustainable financial systems by:

- Advising on green financing strategies and action plans
- Helping borrowers consider sustainable financial instruments
- Facilitating issuance of green, social, and sustainability bonds
- Building the capacity of borrowers to engage with investors who incorporate environmental, social, and governance considerations into investment decisions
- Publishing knowledge products to share good practices and guidelines





1

OVERVIEW OF SUSTAINABLE DEBT AND ENVIRONMENTAL, SOCIAL, AND GOVERNANCE INVESTMENT LANDSCAPE

Sustainable debt is loan or bond financing that helps mitigate or address a specific environmental or social concern or achieve positive environmental or social outcomes (ICMA 2020). The total ever issued in sustainable debt surpassed US\$5.3 trillion in September 2022, propelled by investors focused on environmental, social, and governance (ESG) factors. The term ESG investing, often used interchangeably with sustainable investing, denotes an investment approach wherein investors apply nonfinancial factors related to ESG issues in their investment analysis to identify risks and opportunities.

The practice of ESG investing began in the 1960s as socially responsible investing, with investors excluding stocks or entire industries from their portfolios to avoid investing in morally questionable businesses. In the 2000s, the United Nations supported the launch of initiatives such as the Principles for Responsible Investment (PRI), which has worked to achieve a sustainable global financial system by encouraging the adoption of its six responsible investment principles (PRI 2021). In recent years, ESG investing has garnered tremendous interest because of the recognition of environmental and social risks to the global economy; the urgency that the Paris Agreement and the 2030 Agenda for Sustainable Development have created; and the resulting impetus to finance initiatives that help limit global warming, environmental degradation, and various social problems (PRI 2022).

Investors use a variety of strategies, including negative or exclusionary screening,² positive screening,³ integration of ESG considerations,⁴ thematic and impact investing,⁵ and active ownership and stewardship,⁶ to incorporate ESG considerations into their investment processes. Climate change, resource scarcity, and demographic and social change feature prominently in several investment strategies. Impact investments are often made to address challenges in sectors such as sustainable agriculture, renewable energy, conservation, microfinance, and affordable and accessible basic services, including housing, health care, and education (GIIN 2019).

² Investment strategies that restrict the investment universe based on preselected criteria or screens.

³ Seeking entities that have been determined to perform well on certain ESG measures.

⁴ Integrating qualitative and quantitative ESG information into traditional investment decision-making processes, such as valuation and portfolio construction, to improve investment decision making.

⁵ Combining attractive risk-return profiles with desired environmental or social outcomes.

⁶ Investors using their influence as lenders (usually for equity investments but increasingly in the fixed income space) to manage exposure to ESG risks and increase borrowers' transparency.

Sustainable bonds allow issuers to access investors applying ESG strategies, particularly those interested in generating positive, measurable social and environmental impacts alongside financial returns. The Global Impact Investing Network estimated the size of the impact investing market to be US\$715 billion in 2020 (GIIN 2020). The United Nations Principles for Responsible Investment, an international network of investors helping signatories incorporate ESG factors into their investment and ownership decisions, has more than 3,800 members with more than US\$120 trillion in assets under management (UN PRI 2022). Governments can attract these investors by issuing mainly two types of sustainable bonds: use-of-proceeds bonds and outcome-linked bonds (also known as sustainability-linked bonds). Use-of-proceeds bonds include green, social, and sustainability bonds, which attract investors by committing funds to programs, projects, or assets that are deemed to be environmentally or socially beneficial and are labeled as such (sustainability bonds encompass both types of projects). Labeled sustainable bonds follow International Capital Market Association standards and guidelines (Green Bond Principles, Social Bond Principles, Sustainability Bond Guidelines) or the Climate Bond Standard. Sustainability-linked bond proceeds can be used for general purposes, but the issuer must commit to making progress toward pre-identified sustainability-related targets (e.g., less carbon intensity, greater use of renewables, reaching underserved populations) and pays a penalty (e.g., a higher interest or coupon rate or other pre-negotiated term) if it fails.



These bonds appeal to issuers and investors alike because the risk and return of both are the same. For issuers, the advantage of issuing sustainable bonds is the potential to access a wider investor base. Conventional investors also buy these bonds.

Global annual issuance of green, social, sustainability, and sustainability-linked bonds—collectively referred to as sustainable bonds—hit record volumes in 2021, with US\$1.1 trillion issued (Bloomberg 2022). Sustainable bonds that emerging markets have issued accounted for only 15 percent of total issuance in 2021, although emerging market issuances have been growing at a faster rate than advanced market issuances (with a compound annual growth rate of 100 percent since 2012, compared with 75 percent for advanced markets).

Sovereigns started issuing sustainable bonds in 2016, with Poland leading the market with the first sovereign green bond in the world. In 2017, Fiji became the first emerging market to issue a sovereign green bond. As of September 2022, 40 sovereigns have issued sustainable bonds (including green, social, sustainability, and sustainability-linked bonds) for a total of US\$307 billion. In September 2020, Egypt became the first country in the Middle East and North Africa to issue a sovereign green bond.



2

COUNTRY CONTEXT

2.1 Macroeconomic Context

Egypt is a lower-middle-income country in northern Africa with a fast-growing population of roughly 104 million (World Bank 2022). The economy is generally diversified, with the services sector being the largest, followed by industry (including manufacturing, extractives, and construction) and agriculture. Key foreign income sources include remittances, tourism, Suez Canal revenues, merchandise exports (especially from oil and gas extractives), and more recently foreign portfolio investments in fixed-income sovereign debt instruments. Critical economic reforms undertaken from 2016 to 2019 helped the government increase economic growth, reduce unemployment, increase foreign exchange reserves, and reduce public debt.

Despite the global recession and the effects of the COVID-19 pandemic, Egypt ended 2021 with gross domestic product (GDP) growth of 3.3 percent (World Bank 2022).⁷ Inflation decreased from 13.9 percent in the fiscal year 2019 to 5.7 percent in the fiscal year 2020 to 4.5 percent in the fiscal year 2021. Foreign reserves are sizeable, at US\$40.7 billion at the end of August 2021 (covering more than 7 months of merchandise imports), albeit still below the pre-crisis peak of US\$45.5 billion at the end of February 2020. The exchange rate depreciated marginally with the COVID-19 shock but strengthened once again to the pre-pandemic level of Egyptian pounds (EGP) 15.7 per US\$1 as of early 2021. The government debt-to-GDP ratio decreased to 87.5 percent at the end of the fiscal year 2020, after peaking at 108 percent only 3 years earlier, primarily driven by containment of the government expenditures-to-GDP ratio. The debt-to-GDP ratio is expected to have increased in the fiscal year 2021, despite the continued fiscal consolidation, but its downward trajectory is expected to resume as the COVID-19 crisis gradually abates. Egypt also continues to address entrenched economic problems by strengthening public debt management, enhancing the business environment (e.g., addressing cumbersome customs clearance process and payment of taxes), and promoting financial inclusion.

The government recently reported the first decrease in the national poverty rate since 2000 with the help of better targeted social protection programs, although the rate remains close to 30 percent and is higher than in 2015.⁸ Egypt has made slight gains in human capital over the past decade, largely due to gains in health (World Bank 2021a).

The World Bank is working with the Egyptian government on many fronts to help them progress toward environmental and social sustainability (Box 1).

⁷ “Egypt responded to the COVID-19 crisis with timely and prudent fiscal and monetary easing, which helped mitigate the health and social impact while safeguarding economic stability, debt sustainability, and investor confidence (IMF 2021).”

⁸ National poverty estimates may not be strictly comparable across survey years because they are calculated using a new poverty line set each survey year to capture changes in household consumption patterns.

BOX 1.**The World Bank in Egypt: Working for a Healthy Environment and Healthy Planet**

The World Bank Environment, Natural Resources, and Blue Economy Global Practice provides expertise, technical assistance, and financing to help low- and middle-income countries manage land, sea, and freshwater natural resources sustainably to help create jobs, improve livelihoods, enhance ecosystem services, decrease pollution, and increase resilience to climate change.

Selection of environmental projects World Bank has supported in Egypt

Greater Cairo Air Pollution and Climate Change Project (P172548; FY21). The overall approach of the project is to support a mix of institutional and investment actions to address air pollution and greenhouse gas emissions in Greater Cairo. Its components are enhancing the air quality management and response system, supporting operationalization of solid waste management master plans in Greater Cairo, reducing vehicle emissions by supporting e-mobility, and communicating and engaging stakeholders.

Sustainable Persistent Organic Pollutants Management Project (P116230; FY21). The project development objective is to improve management and disposal of targeted stockpiles of obsolete pesticides, including persistent organic pollutants and polychlorinated biphenyls, in an environmentally sound manner.

Pollution Management and Environmental Health Program (P164419; FY21). The activity will help the government of Egypt, specifically the Ministry of Environment, achieve comprehensive understanding of greenhouse gas emission sources and levels and pathways of pollution in the Greater Cairo area, improve air quality monitoring, analyze the health effects of air pollution, and prioritize measures in critical sectors to reduce air pollution cost-effectively by preparing a full-scale air quality management plan.

Alexandria Coastal Zone Management Project (under Investment Fund for the Mediterranean Sea Large Marine Ecosystem) (P095925; FY10). This project is designed to improve institutional mechanisms for sustainable coastal zone management in Alexandria, particularly to reduce land-based pollution flowing to the Mediterranean Sea. The proposed key outcome indicators of success are that the Integrated Coastal Zones Management plan is officially adopted, the institutional mechanisms for implementation are successfully in operation, and the pollution load entering the Mediterranean Sea through Lake Mariout is reduced by at least 5 percent.

Second Pollution Abatement Project (P090073; FY06). The proposed project's main development objective is to demonstrate the applicability of market-based financial and technical approaches to abating pollution in selected hot spots in and around Alexandria and Greater Cairo. The development objective outcome will be measured according to the decrease in pollution loads in the hot spot areas. The target for this indicator will be at least 75 percent reduction in the quantity of pollutants that the target companies in each of the targeted hot spots emit. The proposed project will also be a vehicle for helping the government of Egypt take advantage of the opportunities that the emerging carbon market established after the entry into force of the Kyoto Protocol in February 2005 offer.

Egypt Pollution Abatement Project (P054958; FY98). The project development objectives are to strengthen the monitoring and enforcement capabilities of the environmental institutions and establish technical and financial mechanisms for industrial pollution abatement investments in Greater Cairo, Alexandria, and the two new Suez Canal cities of Suez and Ismailia.

Source: World Bank.



2.2 Egypt's Sovereign Debt Portfolio⁹

At the end of June 2020, before issuance of the sovereign green bond, Egypt's sovereign debt was US\$314.4 billion, equivalent to 87.5 percent of GDP. Domestic debt accounted for the largest share of that amount (EGP 3.99 trillion, US\$246.2 billion, 68.6 percent of the country's GDP). Foreign central government debt was US\$68.2 billion, equivalent to 19 percent of GDP. These debt levels represented a significant decrease in sovereign debt in proportion to GDP from total debt of US\$234.9 billion at the end of June 2018, equivalent to 98 percent of GDP.

The country also had significant success in lengthening its debt maturities. In 2018, the average time to maturity of tradeable debt was 2.8 years. By 2020, that had risen to 3.2 years. This shift is important to reduce the risks associated with rising interest rates and refinancing pressures. Public budget sector debt¹⁰ is booked at fixed interest rates, but each refinancing of short-term debt exposes the government to new and prevailing rates, which can be higher with shocks such as the COVID-19 pandemic affecting capital costs. The country is therefore implementing a progressive shift from short-term treasury bills to long-term government securities and diversifying and deepening its long-term debt portfolio (Box 2).

The proportion of treasury bills and bonds that commercial banks hold, which by their nature prefer shorter-term investments when investing their bank deposits, has slowed progress in shifting investors into long-term bonds. By June 2020, commercial banks in Egypt held almost 62.2 percent of treasury bills and treasury bonds. Thus, a core aim of the government's medium-term debt strategy has been to diversify the investor base for government securities and develop the market for treasury bonds to be able to lengthen the average maturity of debt.

⁹ According to Egypt's medium-term debt strategy, sovereign debt includes only central government debt (excludes state-owned enterprise and other subnational debt).

¹⁰ Defined as budget sector debt in Egypt's medium-term debt strategy.

BOX 2.**The World Bank in Egypt: Fostering Sound Debt Management**

The World Bank has been providing technical assistance on public debt and risk management for the Ministry of Finance (MoF) of Egypt since 2015. This support is provided under the Government Debt and Risk Management program funded by the Swiss Economic State Secretariat for Economic Affairs. The first phase of the program (2015–18) assessed Egypt's institutional and technical capacity and made recommendations to reform the institutional arrangements for public debt management.

The second phase of the program was launched in 2019 and covers (re)organization of the institutional arrangements for public debt management; capacity building for development of a debt management strategy; monitoring and management of contingent liabilities arising from government guarantees; support for improving reporting, communication, and investor relations; and reforms targeting development of the domestic government securities market. With support from the program, an updated medium-term debt strategy was published in late 2020, and recommendations for the reform of the existing primary dealers system were made.

Discussions between the World Bank and the MoF on the possibility of issuing sustainable bonds to attract a diverse range of investors were initiated in the context of supporting the debt management program. At the MoF request, a sixth component was included in the second phase of the Government Debt and Risk Management program to ensure that any such transaction is aligned with Egypt's debt management strategy, government policies, and international best practice. Ahead of the transaction, the World Bank made recommendations on the Green Bond Framework; issuance process; best practices in engaging with environmental, social, and governance (ESG) investors; and communication strategy. After successful issuance of the sovereign green bond in September 2020, the World Bank delivered training and technical assistance to develop the capacity of the debt team and relevant ministries to identify eligible projects and impact reporting indicators and to prepare the post issuance allocation and impact report according to World Bank guidelines (World Bank 2018). The World Bank organized a series of knowledge-sharing workshops with peers as part of a strategy to promote issuance of the sustainable bond market and share Egypt's experience with other emerging markets.

The World Bank provides technical assistance to emerging market public sector issuers to develop sustainable capital markets, facilitate market-based solutions, promote sustainable investment, and engage in dialogue with investors on ESG issues. The World Bank Treasury leverages its own knowledge and experience as a pioneer of green bonds and sustainable development bonds, expertise in sustainability, relationships with market actors, and convening power, to deliver the technical assistance program. The sustainable finance technical assistance program is part of the World Bank's broader work to promote sustainable development, drive resources toward national environmental and social priorities, and contribute to the global agenda.

During 2019 and 2020, the government increased the number of re-openings to raise more on each long-term bond, quadrupling the average issuance size of treasury bonds by the end of September 2020 from the average size in the fiscal year ending June 2018. It also increased the number of treasury bond issuances. In combination, these moves increased the outstanding stock of treasury bonds to 48 percent of total government debt by June 2020, up from 38 percent in June 2019.

To further reduce its cost of debt, Egypt has sought to increase its bilateral and multilateral loans at concessional rates while pursuing a broadening of its debt instruments. The medium-term aim is to use *sukuk*, green bonds, corridor-linked bonds, and inflation-linked bonds to finance development and infrastructure projects.

This strategy is designed to build on its own success in May 2020, when Egypt reopened the debt capital markets for Africa after the COVID-19 outbreak by successfully raising US\$5 billion in its largest single issuance to date, drawn from an order book that peaked at US\$21.5 billion—the largest that an African sovereign issuer has achieved.¹¹

The government has also targeted a shift in favor of tradeable debt, to 75 percent to 80 percent by June 2024, up from approximately 68 percent in June 2020, with plans to raise US\$3 billion to US\$5 billion per year in the international capital markets from mid-2020 to mid-2023. This strategy would involve an increase in debt denominated in euros and U.S. dollars from 33.6 percent to 47.1 percent of GDP, although through the planned measures, its goal is to increase the average time to maturity of central government domestic and foreign tradeable debt to 4.5 to 5.0 years by June 2024.

Based on macroeconomic assumptions of growth and fiscal projections, Egypt also aims to reduce its debt as a percentage of GDP from 87.5 percent in mid-2020 to 79.5 percent by 2022 (66.2 percent domestic debt, 13.3 percent external debt).

¹¹ The three-tranche issuance was split into US\$1.25 billion in 4-year bonds at a yield of 5.750 percent, US\$1.75 billion in 12-year bonds at 7.625 percent, and US\$2 billion in 30-year bonds at 8.875 percent.



3

THE SOVEREIGN GREEN BOND

3.1 Rationale and Motivation

The government of Egypt's inaugural sovereign green bond was conceived as a solution that matched its policy priorities, the pressing need for green investment, rising investor appetite for green finance, and its debt management strategy. Specifically, the bond offered the opportunity to execute Egypt's sustainable development plan for fiscal year 2021. By 2020, the government was directing approximately 14 percent of public investment to green investment projects under the annual action program, in line with its Sustainable Development Plan. Under the annual plan, the country's main priorities were development of sustainable transport, renewable energy, solid waste management, water desalination, and sewage treatment. It also set a target of increasing the proportion of green projects in the investment budget to 30 percent by 2022 and 100 percent by 2024/25, but the country had been facing a public funding gap since 2019 and was intent on maximizing all sources of financing available, including the eurobond market.

Egypt's medium-term debt strategy called for lengthening average time to maturity, increasing the share of tradable domestic and external debt, diversifying funding sources and financing instruments, and reducing the share of debt that domestic commercial banks held (see previous section, Egypt's Sovereign Debt Portfolio). The green bond offered the opportunity to do all of the above: attract a new kind of investor as part of the country's targeted plan to diversify its funding sources and instruments, increase the share of tradable debt by financing green projects with bonds rather than loans, increase the maturity, and achieve potential cost savings.

Officials at the highest levels of the government who championed the inaugural green bond transaction see it as an opportunity to reinforce Egypt's image and reputation not just as an issuer in the international financial markets, but also as a leader in sustainable finance.

3.2 Governance, Use, and Management of Proceeds

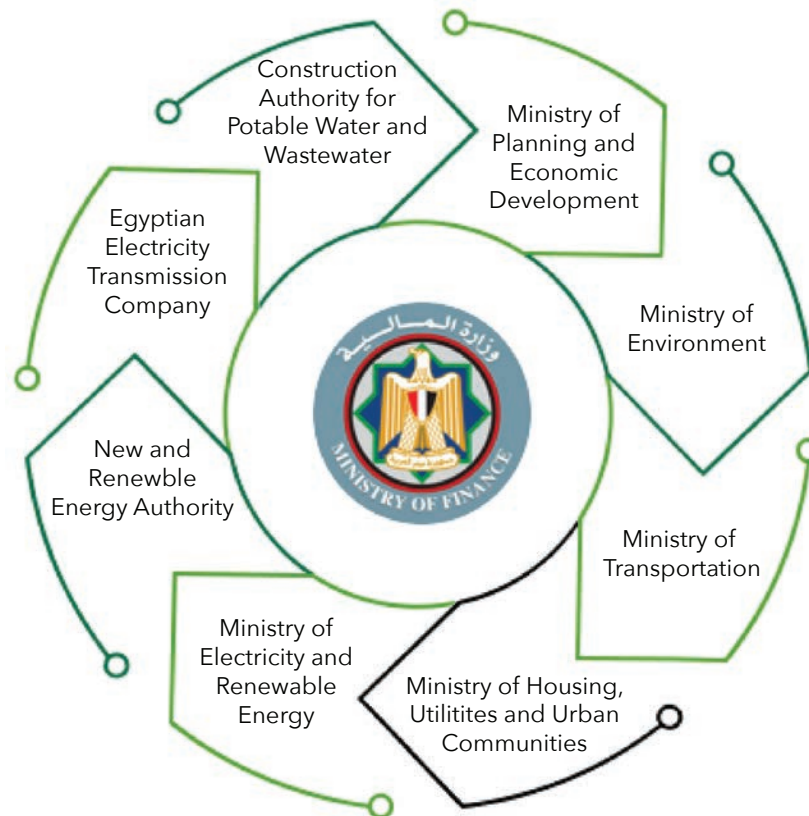
A major difference between green and conventional bonds is that issuers of green bonds must establish specific governance processes designed to ensure the green credential of the bond. The convention in the market is for the issuer to align with the International Capital Market Association Green Bond Principles, which recommend that issuers disclose what the bond proceeds will be used for, how eligible projects will be evaluated and selected, how the proceeds will be managed, and how the issuer will report to the investor the allocation of bond proceeds and the expected environmental impact of projects supported.¹²

¹² The Green Bond Principles are modeled on the processes that the World Bank established for the first labeled green bond issued in 2008.

To some extent, the policy and governance structures that the government established to drive resources toward green investments had set the stage for the green bond. In 1996, the government established a climate change unit in the Egyptian Environmental Affairs Agency, upgrading it to a climate change central department in 2009 with responsibility for adaptation, diagnostics and mitigation, and technology and research. In 2015, the prime minister established the National Council on Climate Change, chaired by the prime minister since 2019 and including sector ministries, experts, civil society, and the private sector, to oversee the country's mitigation and adaptation strategies, policies, and implementation. In 2020, as the country approached the launch of its first green bond, it formed an interministerial Green Finance Working Group consisting of the Ministry of Finance (MoF); Ministry of Planning and Economic Development; Ministry of Environment; Ministry of Transportation; Ministry of Housing, Utilities, and Urban Communities; Ministry of Electricity and Renewable Energy; New and Renewable Energy Authority; Egyptian Electricity Transmission Company; and Construction Authority for Potable Water and Wastewater. The Vice Minister of Finance was the chair of the working group (Figure 1).

Key technical staff from various ministries acted as focal points, working alongside the Ministry of Planning and Ministry of Environment led by the MoF. The working group's main responsibility was to select the criteria for green projects, pre-identify and pool projects that serve the Sustainable Development Goals (SDGs), and refine the list to include the best projects directly financed through the budget and meeting the criteria established in the bond framework.

FIGURE 1.
Egypt's Green Finance Working Group



Source: Ministry of Finance, Egypt.

After issuance of the bond, the working group was expanded to include more technical, engineering, and project management staff to develop the post issuance allocation and environmental impact report. The Ministry of Transportation and Ministry of Housing and Urban Communities had the biggest role in data collection, validation, and verification, because the selection phase prioritized clean transportation and sustainable water and wastewater management projects for the first issuance.

PREPARING THE DOCUMENTATION

Issuers can explain their governance processes in a stand-alone document called the Green Bond Framework or legal documentation (e.g., base prospectus, Annual Information Form). Developing the formal Green Bond Framework for the bond was a significant part of the issuance process for Egypt. According to the Green Bond Principles, eligible green projects include those for renewable energy, energy efficiency, pollution prevention and control, eco-efficient products or products adapted for the circular economy, production technologies and processes, green buildings, terrestrial and aquatic biodiversity conservation, and clean transportation.

The Green Finance Working Group included the following categories of projects in the Green Bond Framework:

- Clean transport
- Renewable energy
- Pollution prevention and control
- Climate change adaptation
- Energy efficiency
- Sustainable water and wastewater management

Selection of the categories was aligned with the Sustainable Development Plan of fiscal year 2021, which seeks to prioritize investments in those areas. Eligible projects also had to have clear net positive environmental and climate benefits (Figure 2).










The Green Bond Framework, published in September 2020, sets clear criteria and metrics in each category of green investment. For instance, under clean transport, indicators of environmental impact include growth of public transport use; kilometers of new train lines created and maintained; and greenhouse gas emissions reduced or avoided, measured in tonnes of carbon dioxide equivalent. The learning was considerable in this process, with projects that were expected to qualify failing and some not originally envisaged as green investments clearly qualifying as eligible.

Types of expenditures include investment, operating, and tax expenditures. State disbursements to a local agency or local authority that participates in capital markets to raise financing, such as issuance of green bonds or *sukuk*, were excluded to avoid double counting.

The government also indicated that approximately 28 percent of proceeds could be allocated to projects already funded (and the remaining proceeds to new financing). The look-back period for refinanced projects was set at three years.

The interministerial working group committed to reviewing each project every six months to ensure proceeds are allocated as committed, projects still qualify as green, and the details of allocation and environmental impact are publicly disclosed.

FIGURE 2.
Green Bond-Eligible Expenditures

| Eligible Green Project Category | UN Sustainable Development Goals Alignment | Eligibility Criteria | Examples of Projects |
|---|---|--|---|
| Clean transportation |   | <p>Investment in electric rail and related infrastructure</p> <p>Projects encouraging public transport and related infrastructure, leading to reduced emission from transportation activities</p> | <ul style="list-style-type: none"> - Electric train linking the new administrative capital to other cities in the country through the fourth stage of the third line for Cairo Metro - Third line for underground Metro (Tharwa Line) - Upgrading and Modernization of Cairo Metro Line1 (Helwan - ElMarg) |
| Renewable energy |   | <p>Renewable energy facilities such as solar energy, wind energy, hydro (<25MW), and biomass</p> <p>Transmission and distribution infrastructure associated with renewable energy facilities</p> | <ul style="list-style-type: none"> - 240 M.W wind farm project in GabalElzayt - 50 M.W photovoltaic project in komEmbo - wind projects In Gulf of Suez - NagahHamadi Industrial Pipeline/Benban 3 Solar Park - Electric stations with wind power (Gulf of Suez) |
| Pollution prevention and control |  | <p>Waste collection, waste recycling and composting facilities</p> | <ul style="list-style-type: none"> - Investments in municipal solid waste composting facilities (mechanical biological treatment) |
| Climate change adaptation |  | <p>Projects increasing resilience and adaptive capacities and reducing risk and vulnerabilities</p> | <ul style="list-style-type: none"> - Adaptation projects in all sectors such as early warning systems, development of crop species resistant to salinity and temperature increase, coastal zone management |
| Energy efficiency |   | <p>Projects leading to increase in energy efficiency of buildings</p> | <ul style="list-style-type: none"> - Energy efficiency - Selection of building systems and materials - Indoor environmental quality improvement - Design and innovation process |
| Sustainable water and wastewater management |  | <p>Infrastructure for transportation and treatment of wastewater, including for example, building new wastewater treatment plants, sewer systems and pumping stations and maintaining and optimizing existing ones</p> <p>Infrastructure for sewage sludge treatment, including for example, using anaerobic fermentation of sludge in generating electric power</p> <p>Seawater desalination plants with most energy-efficient technologies</p> <p>Projects that reduce water consumption or improve the efficiency of resources e.g., collection, treatment, recycling or reuse of water, rainwater, or wastewater</p> | <ul style="list-style-type: none"> - Sewage treatment plants - Sea water desalination plants - Sludge treatment facility of Abu Rawash W.W.T.P |

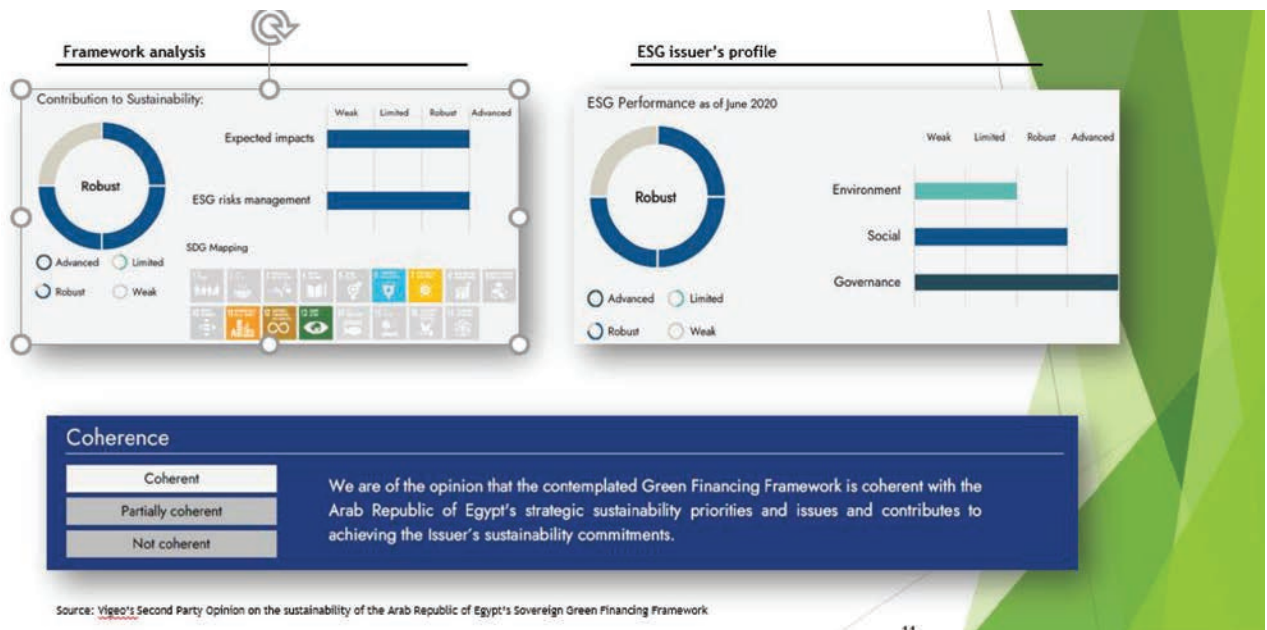
Source: Ministry of Finance, Egypt.

The Framework specified that proceeds of the green bond will be deposited in the general funding account and earmarked for allocation in a green financing register that will be reviewed annually. Egypt aims to allocate 100 percent of proceeds within 24 months of issuance. The MoF and the Ministry of Planning and Economic Development oversee the allocation and tracking of expenditures on eligible green projects. The Green Financing Register will be used to estimate the impact of each green bond expenditure. The government of Egypt has committed to reporting annually on the allocation of proceeds until full allocation and on the expected environmental impact until the bond matures, subject to the availability of data. The government worked with the World Bank to develop the impact report.

The governance arrangements laid out in the Green Bond Framework conform to the standards set in the Green Bond Principles 2018.

Egypt commissioned an external review of its Framework as a second opinion from Vigeo Eiris, which specializes in ESG research and services. Their review found that the country's Framework aligned with all four components of the Green Bond Principles and classified the Framework as providing a "robust" contribution to sustainability with "advanced" governance structures in place. They also found that the positive environmental contribution of green investments in clean transport, renewable energy, and climate adaptation were advanced (receiving the highest grade of 4), and that the contribution of pollution prevention, water management, and energy efficiency projects was robust (Figure 3).

FIGURE 3.
Summary: Vigeo Eiris Opinion on Egypt's Green Bond Framework



Source: Ministry of Finance, Egypt.

3.3 Execution

The MoF debt management office issued the bond as part of its usual debt management decision-making and operational processes. The MoF funded US\$2 billion of the targeted US\$7 billion for fiscal year 2020 with a triple-tranche eurobond in November 2019, issuing US\$0.5 billion in 4-year bonds at a yield of 4.55 percent, US\$1 billion in 12-year bonds at 7.05 percent, and US\$0.5 billion in 40-year bonds at 8.15 percent. For fiscal year 2021, the MoF considered a variety of alternatives, including *sukuk*, green bonds, and variable-rate bonds, to diversify its funding sources. The rationale for choosing the green bond over alternatives included the potential to attract new segments of investors seeking socially responsible investments (sustainable, ethical, and green projects) and improve the country's image by signaling its commitment to sustainability, potential pricing advantages and the ability to hedge against market volatility, and the fact that no separate legislation is required for issuance of green bonds (as opposed to *sukuk*, for instance).¹³

Moreover, for several reasons, 2020 seemed an opportune year to confirm the confidence of international investors in the performance of the Egyptian economy with its first sovereign green bond: Egypt was experiencing stable economic growth. GDP increased 3.6 percent from 2019 to 2020, and the overall deficit-to-GDP rate declined to 6.3 percent. Inflation was subsiding; the consumer price index increase rate was 4.2 percent before the issuance. The unemployment rate dropped from 12.9 percent in fiscal 2015 to 9 percent in fiscal 2020. Egypt also managed to keep its credit rating with all three main rating agencies with stable outlook during the pandemic. Egyptian bonds were highly attractive for emerging market investors. At the same time, global issuances of green, social, and sustainability bonds were seeing tremendous growth. Market participants were expecting new green bond issuances to rise to US\$300 billion in 2020.

The MoF engaged three types of advisers and executors to prepare and market the bond transaction. Crédit Agricole and HSBC Bank were selected through a transparent request-for-proposal process to act as structural advisers. Citigroup Global Markets Limited, Crédit Agricole Corporate and Investment Bank, Deutsche Bank AG, and HSBC Bank were hired as issuance lead managers. Legal advisers included Dechert LLP, who advised the government on U.S. and U.K. law, and Al Tamimi & Partners who advised on Egyptian law.

The COVID-19 pandemic initially disrupted the MoF's plans. As the extent of the pandemic became clearer and European governments began working on sizable fiscal packages to limit the macro fallout, investors returned to emerging markets in pursuit of yield, but Egypt's MoF decided not to experiment with a new instrument, preferring to issue its largest international bond to date—a triple-tranche US\$5 billion plain vanilla eurobond—in May 2020, which helped cover the revenue shortfall that the COVID-19 pandemic caused. Strong demand from global investors (4.4 times oversubscribed) convinced the MoF to identify a window of opportunity in the market to issue its first sovereign green bond.

The MoF adopted a proactive, transparent communication strategy to market the bond to investors. Road shows normally provide an opportunity to meet investors face to face and to present and

¹³ The cabinet approved the sovereign *sukuk* law in 2020.

market a new transaction. COVID-19 lockdowns did not allow for in-person road shows, but the MoF adapted to a virtual platform, participating in dedicated fixed-income investor calls with more than 30 ESG-focused investors. More than 100 investors from Asia, Europe, the Middle East, North Africa, North America, and the United Kingdom viewed a prerecorded presentation ahead of the offering.

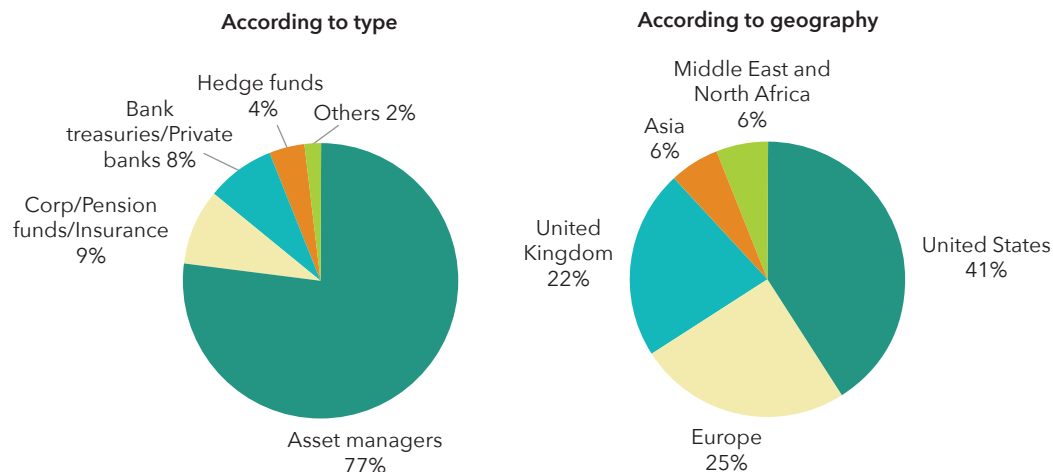
3.4 Issuance Details

As a result of positive investor feedback and a relatively stable market backdrop after the road shows, the MoF announced a 5-year benchmark transaction (Rule 144A/Regulation S) on September 28, 2021, with the initial price guidance of 5.75 percent referenced to the benchmark pricing on the same tenor of the comparable 5-year yield curve. The order book peaked at US\$3.7 billion (7 times the announced size of US\$500 million), allowing the issuer to make a significant price revision (50 basis points lower than initially marketed). The bond was priced on September 29, raising US\$750 million with a coupon of 5.25 percent and offering a yield of 5.25 percent. This was equivalent to a spread of +499.8 basis points over the U.S. treasuries. The bond printed 12.5 basis points lower than the benchmark price on the conventional bond of the same tenor, achieving a negative new issue concession.

The bond was listed on the London Stock Exchange on October 18 and admitted into the exchange’s dedicated Sustainable Bond Market, which champions innovative issuers in sustainable finance and increases access, flexibility, and transparency for investors.

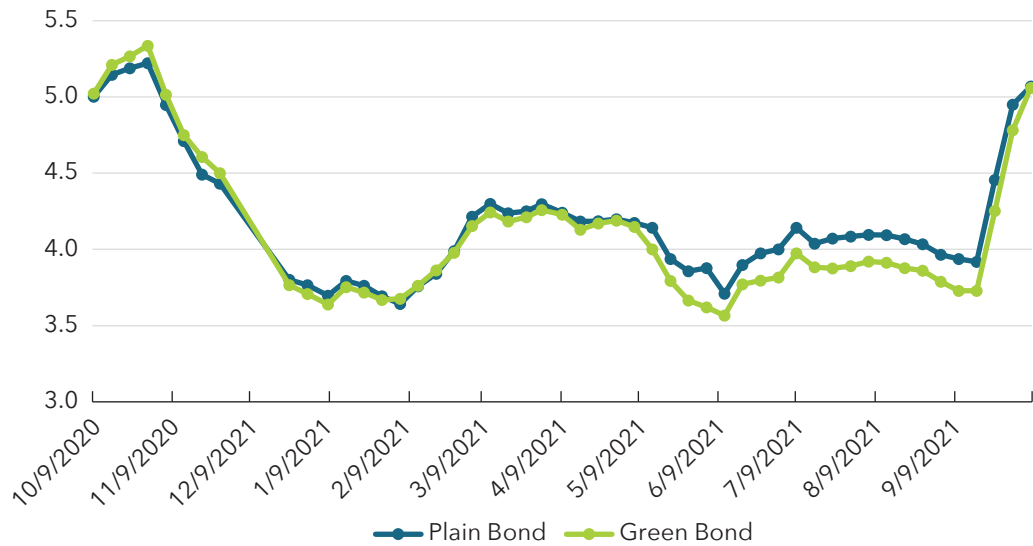
The MoF expanded the offer in response to investor demand, balancing new investors (adding 16 first-time investors in Egypt U.S. dollar sovereign bond transactions) with long-standing supporters of Egypt bonds to ensure strong secondary market performance. Forty-seven percent of the bond was allocated to ESG investors with green mandates. The order book also allowed the MoF to build a solid database of interested investors (Figure 4).

FIGURE 4.
Investor Breakdown



Source: Crédit Agricole.

FIGURE 5.
Historical Evolution of Secondary Market Yields for Green Bonds and June 2025 Plain Vanilla Bonds



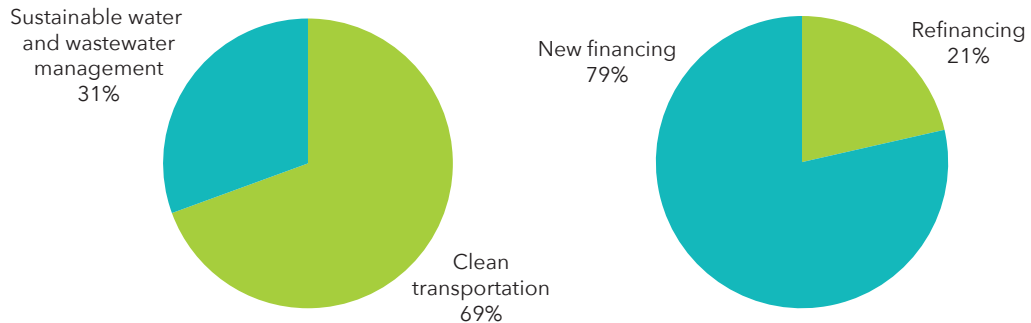
Source: Ministry of Finance, Egypt.

In the secondary market, the bond has performed similarly to plain vanilla eurobonds of the same tenor but with a slightly lower yield. In June 2021, the average difference in yield between a eurobond maturing on June 11, 2025, and the green bond was 0.187 (Figure 5).

3.5 Allocation of Proceeds and Post-Issuance Reporting

The government of Egypt prioritized funding projects in clean transportation and sustainable water and wastewater management with the proceeds of the first sovereign green bond because of the significant impact of these sectors on economic development and social welfare and in accordance with efforts to implement Vision 2030 (Figure 6).

FIGURE 6.
Allocation of Green Bond Proceeds



Source: Ministry of Finance, Egypt.

Of the US\$750 million raised through the green bond, US\$254 million was disbursed for expenditures in 2017, 2018, and 2019 (refinancing); US\$168 million was disbursed in 2020; and US\$143 million was disbursed in 2021. Thus, 75 percent of the green bond proceeds (\$565 million) was allocated within 12 months after the transaction. The rest will be allocated in 2022.

The government of Egypt published the first allocation and impact report for the 2020 sovereign green bond in November 2021, showcasing the use of green bond proceeds for project categories specified in the Green Bond Framework and disclosing the expected environmental and social impact of projects supported (Green Finance Working Group 2021). The MoF prepared the report in cooperation with the Ministry of Planning, Ministry of Environment, Ministry of Transportation, and Ministry of Housing Utilities and Urban Communities. The World Bank provided technical assistance.

3.6 Key Success Factors and Lessons Learned

An important objective of this case study is to highlight the main success factors and capture lessons learned to ensure replicability and improve execution in future transactions. These takeaways present the challenges the government of Egypt faced as a first mover in the region and the solutions it used.

Understanding the value proposition. Issuing a green bond requires understanding the value proposition of the instrument and the challenges that must be considered in the design and implementation of the program, including the pros and cons of issuing a green bond versus a conventional bond. It is important to reach out to peer issuers to understand their motivations, strategies, and experiences. The strategic objectives of developing a green bond program should be defined and alternatives considered. This will inform decisions on whether to embark on a transaction. The value of a sovereign green or social bond is not limited to pricing and investor diversification; it also helps build a positive image for the country, as Egypt evidenced during investor road shows and in media coverage.



Aligning with debt management strategy. Sometimes the directive to issue a sovereign green or social bond comes from the highest authorities, who are keen to signal the country's sustainability commitments, but the decision to issue a green or any other labeled thematic bond should be made in accordance with the government's medium-term debt strategy, which takes into account a wide range of cost and risk factors besides market development and macroeconomic considerations and provides guidance regarding financial terms.

Coordinating with various ministries. Designing a green bond program entails significant commitment, technical expertise outside the realm of finance, and human resources. It is important to engage key stakeholders in various ministries from the outset—in defining the value proposition, identifying potential green expenditures, developing the framework, analyzing and selecting eligible projects, and developing the post issuance impact report. The Green Finance Committee, comprising key ministries, played an important role in the successful structuring of Egypt's green bond. Even though the learning curve was steep, regular physical and virtual meetings with high- and mid-level decision makers ensured political ownership and fruitful collaboration. This is especially important where debt management functions are small, staff turnover is high, and human resources are overstretched. The MoF stated after the launch that the bond program would not have been possible without the cross-governmental coordination that the Working Group achieved. Good internal information flow and coordination with line ministries are critical to the success of such an initiative. Although not all parties must be active from start to finish, it is important to obtain early buy-in of ministries of environment, transportation, energy, housing, and so forth who are likely to be implementers of the projects that green bond proceeds will support and play important roles.

Developing a robust communication strategy for investors and other stakeholders. Early adoption of a communication strategy contributed significantly to the overwhelmingly positive reception from global investors, raising awareness of Egypt's sustainability commitments and improvements in transparency and accountability. The MoF maintained transparent, ongoing investor communication during the COVID-19 pandemic. Beyond the green nature of the issuance, investors cited the government of Egypt's prudent balance sheet management, which positioned it as one of the most resilient emerging markets during the COVID-19 lockdown. When the transaction was announced on September 29, 2020, investors were already up to date on Egypt's economic performance and focused on the green bond financing framework during the road show. A full day was dedicated to engaging with green-focused investors and addressing questions on eligible projects and ongoing disclosure commitments. The initial price target was released the next day. Investors, the financial press, and the general media welcomed Egypt's inaugural green bond offering as the first from the region and expected it to encourage regional and broader emerging-market sovereigns to pursue green bond offerings (Box 3). The MoF continues to provide ongoing information to investors and participate in conferences and events.



Ensuring that the size of the transaction meets funding needs. The target size of the bond is crucial for market transactions. It must strike the right balance between the size of eligible expenditures ready for financing within one year of issuance, investor preference for a minimum size of US\$500 million to ensure tradability and liquidity in the secondary market, and the minimum size eligible for international bond indices (Emerging Market Bond Index or other). In this case, the government had identified a US\$1.9 billion portfolio of eligible projects and expenditures. The MoF initially decided to pilot a US\$500 million green bond and learn from its experience. The bond was eventually upsized to US\$750 million in response to tremendous investor demand. The issuer was able to do this by raising the amount earmarked for identified green expenditures. Egypt resisted the temptation to increase the transaction size further, despite pressure from investors.

Increasing demand by accessing a global fixed income benchmark that integrates ESG. In early 2018, J.P. Morgan launched ESG-weighted versions of the Emerging Market Bond Index and Government Bond Index-Emerging Market. The former tracks emerging market debt in hard currency and the latter in local currency. The conventional versions of the indices are well known to sovereign debt managers for the extensive assets under management tracking them (US\$375 billion for the Emerging Market Bond Index, US\$222 billion for the Government Bond Index-Emerging Market as of May 2020). On April 8, 2021, Egypt met the requirements to list its bonds on the ESG-weighted versions of the indexes. Inclusion in these indices and changes in weights can significantly affect demand for Egyptian bonds. The sovereign green bond is listed in the ESG-weighted version of the Government Bond Index-Emerging Market, and the issuance of regular green bonds may generate “automatic” demand for Egyptian bonds.

Investing in capacity building. Ongoing capacity building is needed not only to transfer knowledge because of staff turnover and continuation of the green bond program, but also to raise awareness of the green bond program’s purpose. Capacity building should be extended to stakeholders beyond the executives engaged in the transaction, such as the legislature, oversight institutions, media, and civil society.

BOX 3

INVESTOR AND FINANCIAL MEDIA COMMENTS

- “Egypt can attract a strong orderbook from both traditional emerging market debt investors and green bond investors . . . their green financing initiative sounds promising.” – European asset manager
- Egypt is a “pioneer in green bonds from the African continent and from EM sovereigns.” – Global asset manager
- “We are looking at Egypt and the green does make a big difference as it obviously helps regarding ESG [environmental, social, and governance] scoring.” – Investor quoted by IFR
- “Middle East sovereigns must follow Egypt’s green example—Middle East sovereigns have been taking their time in getting round to doing green financing, despite many of the region’s companies and banks embracing the shift to sustainability-linked issuance. They have no excuse not to print and every incentive to cement their commitment to sustainability.” – GlobalCapital
- “Egypt pulled in orders for nearly five times the US\$750 million size of the Middle East and North Africa’s first sovereign green bond as it pushes ahead with anti-pollution and renewable projects.” – Bloomberg
- “Its peers must take inspiration from Egypt’s pioneering work.” – GlobalCapital



4

FUTURE OPPORTUNITIES

4.1 Expanding the Sustainable Financing Agenda

While preparing the transaction, the government of Egypt identified a portfolio of green projects worth US\$1.9 billion, including pollution reduction, renewable energy, clean transportation, and sustainable water management. Buoyed by the success of the initial transaction, the MoF plans to issue green bonds regularly, including a potential transaction in fiscal year 2022. The MoF is also studying the possibility of expanding its sustainable financing agenda by upgrading the green financing framework to include financing projects that generate a positive social return, which will allow it to issue social and sustainability bonds as well as sustainability-linked bonds. Successful issuances by Chile, Ecuador, Mexico, and Thailand suggest that there is potential for Egypt to tap investors with sustainable mindsets further by issuing such bonds (Box 4).

These bonds can also be issued in the domestic market. A domestic bond market provides a durable source of financing to issuers, allows smaller sizes and more frequent issuance, and protects against foreign exchange risk (World Bank 2019b). Issuance of sovereign green and other types of sustainable bonds would allow Egypt to develop a domestic sustainable bond market and help green the country's financial system by stoking interest for sustainable bonds of local banks, financial institutions, and institutional investors, as well as retail investors, and encouraging local banks and corporates to issue green bonds. This is also in line with the Financial Regulatory Authority's commitment to redirect private capital flows to support achievement of the SDGs, including climate mitigation and adaptation. Developing a national green taxonomy may be useful for these purposes (World Bank 2020). It will also be important to encourage local institutional investors to develop frameworks and strategies to incorporate ESG into investment decisions.



BOX 4.**Sovereign Social and Sustainability Bonds Issued by Emerging Markets**

Social bonds are designed to address or mitigate a specific social issue or achieve positive social outcomes. There has been rapid growth in issuance of social bonds during the COVID-19 pandemic, with overall social bond issuance increasing from US\$18 billion in 2019 to US\$151 billion in 2020 and to US\$215 billion in 2021. Although there are a limited number of sovereign social bond issuances, emerging market countries lead them all, and the market readily accepts them. In January 2020, Ecuador issued the world's first sovereign social bond. The US\$400 million issuance was aimed at providing access to decent affordable housing. In April 2020, Guatemala issued a social bond to finance direct response to COVID-19. In August 2020, Thailand issued a THB 30,000 million sustainability bond in the domestic market to finance green mass transit and COVID-19-related activities (public health expenditures and support to small and medium-sized enterprises affected by the pandemic). The Chilean Ministry of Finance issued its first social bond for US\$2.1 billion in November 2020. According to the Republic of Chile's Sustainable Bond Framework, this issuance finances projects that support households, education, essential health services, and programs to prevent or alleviate the effects of COVID-19, among others.

Source: World Bank.

4.2 Tapping the Islamic Finance Market

Egypt has the opportunity to tap the Islamic finance market by issuing green, social, or sustainability *sukuk* (Box 5). On February 13, 2018, the Egyptian Parliament approved the most comprehensive amendments to the Capital Markets Law No. 95 of 1992 since its enactment to establish a legislative framework for *sukuk* issuance and trading in Egypt. The House of Representatives is set to revise a proposed framework pertaining to a sovereign *sukuk* sale, which would treat sovereign *sukuk* no differently than other instruments that the government of Egypt sells, including eurobonds, green bonds, and local treasuries. This will open the possibility for Egypt to access the Islamic finance market as a strong, nontraditional source of financing for its SDGs, broaden its investor base, and attract more nonbank financial institutions.

BOX 5.**Green and Sustainability Sukuk Issued by Emerging Markets**

Green *sukuk* are used to finance environmentally sustainable initiatives. Tadau Energy in Malaysia issued the first green *sukuk* in 2017 with the support of the World Bank to finance a 50-megawatt solar project. In 2018, Indonesia issued the world's first sovereign green *sukuk*, drawing banks, asset managers, and pension funds from Asia, the European Union, the United States, and other regions. The US\$1.25 billion in proceeds funded public projects such as solar power plants, a double-track railway to shift transportation away from cargo trucks, improvements to a waste management system, and reservoirs. The concept of the green *sukuk* can be expanded to a social and sustainability *sukuk*. On April 22, 2021, Malaysia priced the world's first sovereign U.S. dollar sustainability *sukuk* by issuing US\$800 million in 10-year trust certificates. Proceeds will be used for eligible social and green projects aligned with the United Nations Sustainable Development Goals.

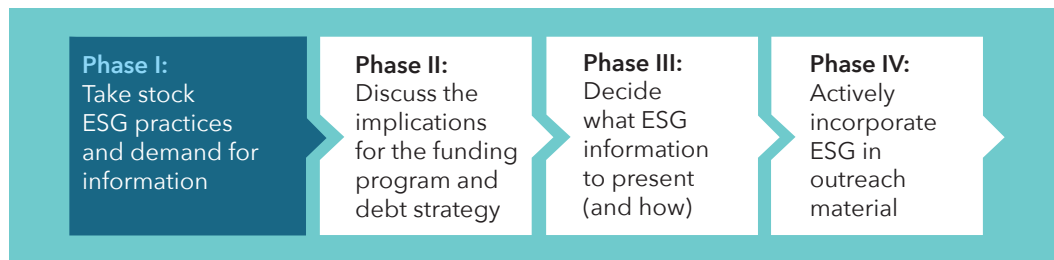
Source: World Bank.

4.3 Enhancing Engagement with Investors on ESG

Issuing sustainable bonds is often the first step that debt management offices can take to increase transparency and better communicate to investors the risks of and opportunities presented by national development plans and goals. Investors are increasingly seeking this information to assess the value of their investments and, beyond that, trying to understand what products they can support that make a positive difference. Issuing the sovereign green bond was an important step for Egypt in this regard. The MoF should build on this and proactively and systematically communicate ESG information to address investor expectations for more disclosure. Proactive engagement and better communication with investors can provide a competitive advantage (World Bank 2021b). The World Bank toolkit for sovereign debt managers lists key actions sovereign debt managers should take to ensure that they meet investor expectations for ESG information (Figure 7).

FIGURE 7.

Toolkit for Debt Management Offices for Communicating ESG Information to Investors



Source: World Bank.

4.4 Developing a Green Taxonomy and Budget Tagging

The government of Egypt can consider developing a national green taxonomy to identify green assets more easily and undertake a budget tagging exercise to align its public budget with commitments to national sustainable development priorities and the Paris Agreement climate goals. A green taxonomy can help support better-informed, more-efficient decision making. Several jurisdictions, including Bangladesh, China, Colombia, the European Union, Malaysia, and Mongolia, have adopted national green taxonomies (World Bank 2020). Budget tagging can help countries integrate climate and environmental considerations into the planning and budget process. The expenditure data that tagging generates can contribute to resource allocation decisions, identify financing gaps, and support resource mobilization (World Bank 2021c).



5

POTENTIAL FOR REPLICATION OF EGYPT'S EXAMPLE IN THE MIDDLE EAST AND NORTH AFRICA

5.1 Environmental Challenges in the Middle East and North Africa

Based on analysis conducted in the last 20 years, environmental degradation has been costly for Middle Eastern and North African countries. Since 1999, the World Bank has helped several of these countries examine the cost of environmental degradation¹⁴ at the national and local level. Present and future environmental damage cost the countries from 2.1 percent to 7.4 percent of their GDP, and this is expected to increase because of the region's vulnerability to climate change (Figure 8) (Croitoru and Sarraf 2010).

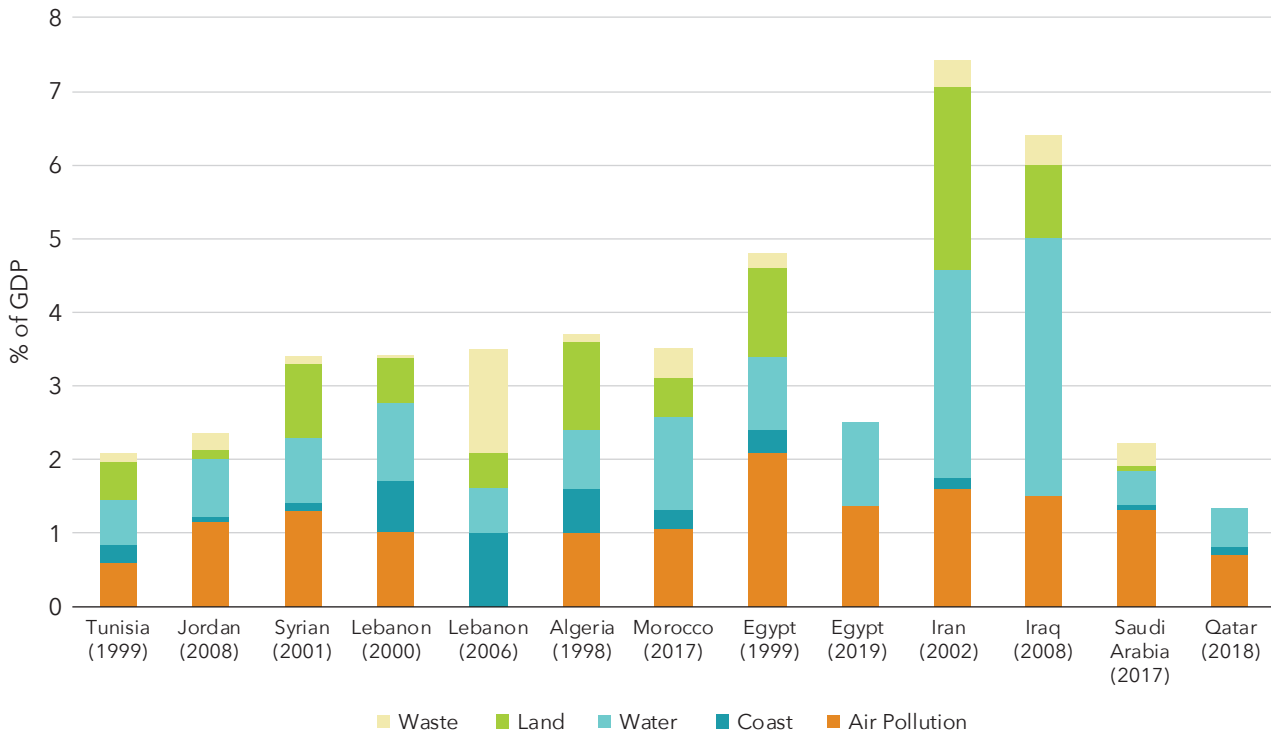
The Middle East and North Africa is the second most air-polluted region in the world, with only South Asia having higher concentrations of PM2.5,¹⁵ which is considered to have the greatest health effects globally. Two main factors affect air quality in the region: naturally caused dust storms linked to wind-blown geological dust and salt from the semi-arid and arid landscape (World Bank 2019a) and human activities (from, e.g., industry, road transport, power plants) that affect air quality, especially in urban areas. Guidelines from the World Health Organization (WHO 2021) stipulate that mean annual exposure to PM2.5 should not exceed 10 micrograms per cubic meter; the average Middle Eastern or North African citizen is exposed to air with concentrations approximately five times as high as this threshold.

Air pollution varies widely between Middle Eastern and North African countries. Cairo has the highest concentrations of PM2.5 in the region, with Baghdad and Riyadh close behind (Figure 9). Cairo residents experience substantial respiratory and cardiovascular health problems, with approximately 11 percent of premature deaths attributable to PM2.5 pollution (Wheida et al. 2018). Although Amman, Marrakech, and Tehran are less polluted, levels are still approximately three times as high as the World Health Organization recommendation.

¹⁴ Cost-of-environmental-degradation studies estimate the annual cost of environmental degradation by measuring present and future annual economic impacts of environmental damage. Each final estimate is then stated as a percentage of the country's GDP for the year of reference. The cost of environmental degradation usually measures damage in several environmental categories: water, air, agricultural land, forests, waste, and coastal zones. The cost estimates are based on standard valuation techniques (Dixon et al. 1994), with specific approaches chosen largely based on data availability in each country.

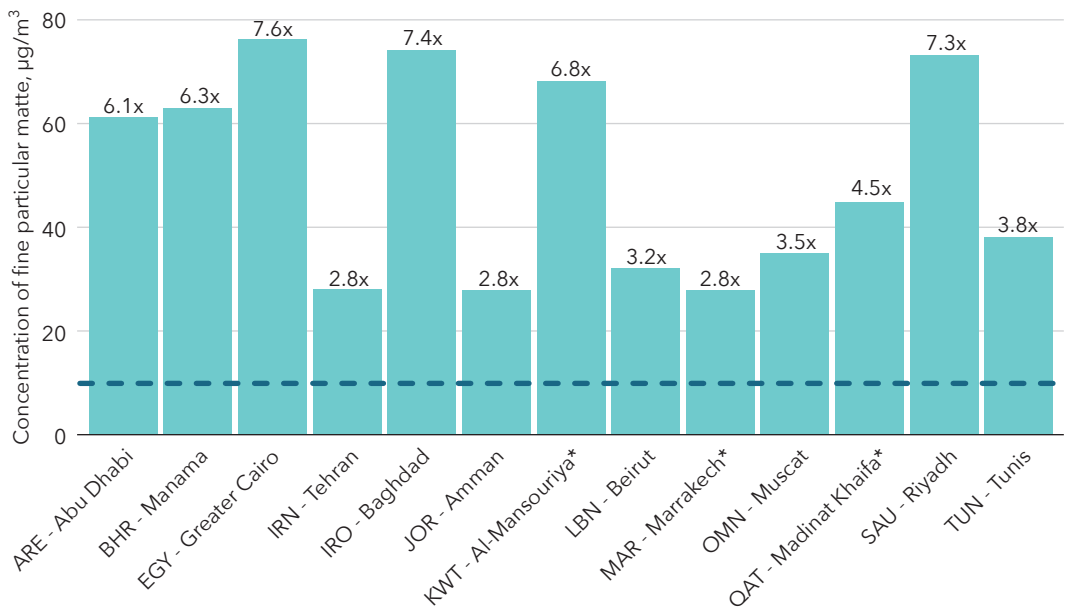
¹⁵ PM2.5 is an indicator of air pollution that means fine inhalable particles with diameters that are 2.5 micrometers and smaller. Chronic exposure to such particles contributes to the risk of developing cardiovascular and respiratory diseases, as well as lung cancer (WHO 2021).

FIGURE 8.
Costs of Unsustainable Use of Natural Capital



Source: World Bank 2002 and Larsen 2019.

FIGURE 9.
Ambient Air Pollution in Middle Eastern and North African Cities



Note: Cairo's air quality has improved since 2020/21 but is still above the Egyptian limit and international thresholds. Dark blue line denotes 2021 WHO annual mean threshold for PM2.5 (particulate matter of 2.5 microns or less in diameter) of 5 µg/m³ (micrograms per cubic meter of air). Values above bars indicate multiples of that threshold found in each respective city. The selected countries are those for which ground monitoring data for capital cities were available.

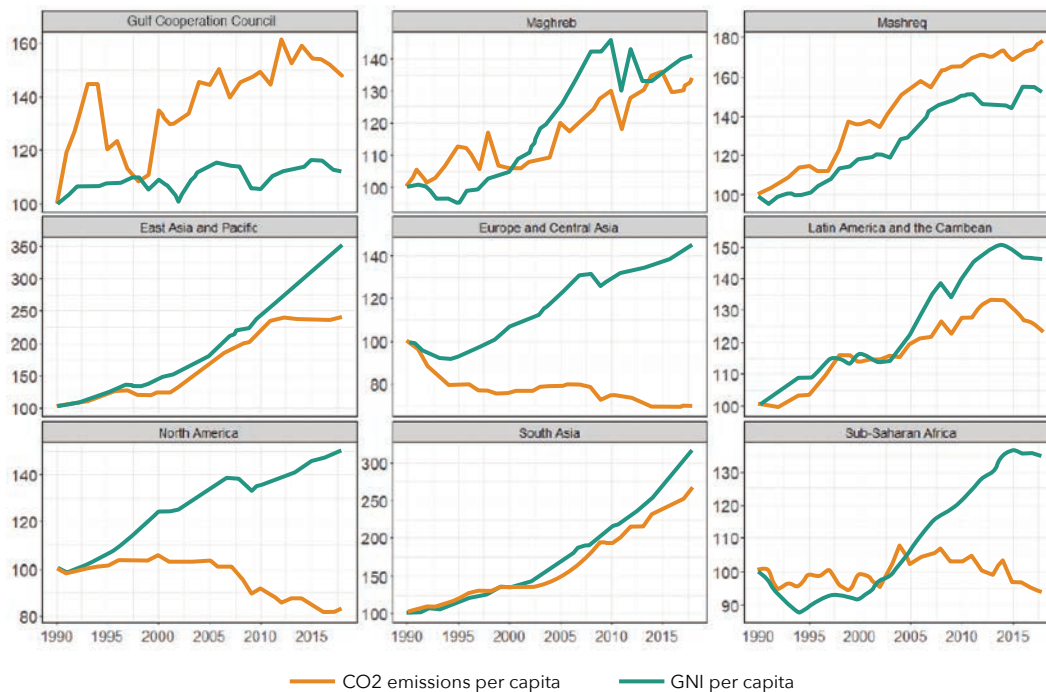
*Capitals not available, other major cities used.

Source: World Bank staff analysis based on WHO 2018 and Heger et al 2022.

Countries in the Middle East and North Africa have yet to decouple growth from air pollution and greenhouse gases. Other regions of the world have been decoupling their economic growth from negative environmental externalities such as carbon emissions, but in the Middle East and North Africa, carbon emissions have grown as fast as (Maghreb) or even faster than (Mashreq and GCC) economic growth (Figure 10). The decoupling trends are lower in some sectors, especially those related to industrial, power generation, and motorized transport activity. Continued high population growth and increasing incomes will place increasing pressure on emissions.

FIGURE 10.

Growth Rates of Per Capita Carbon Dioxide Emissions and Gross National Income



Note: 1990 = 100. The top three panels represent subregions of the Middle East and North Africa, as follows: The Gulf Cooperation Council (GCC) includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. The Maghreb subregion includes Algeria, Libya, Malta, Morocco, and Tunisia. The Mashreq subregion includes Djibouti, the Arab Republic of Egypt, Iraq, the Islamic Republic of Iran, Jordan, Lebanon, the Syrian Arab Republic, West Bank and Gaza, and the Republic of Yemen. "North America" includes Canada and the United States.

Source: Authors based on Heger et al 2022 and data from Global Carbon Project 2020 and UNDP 2020.

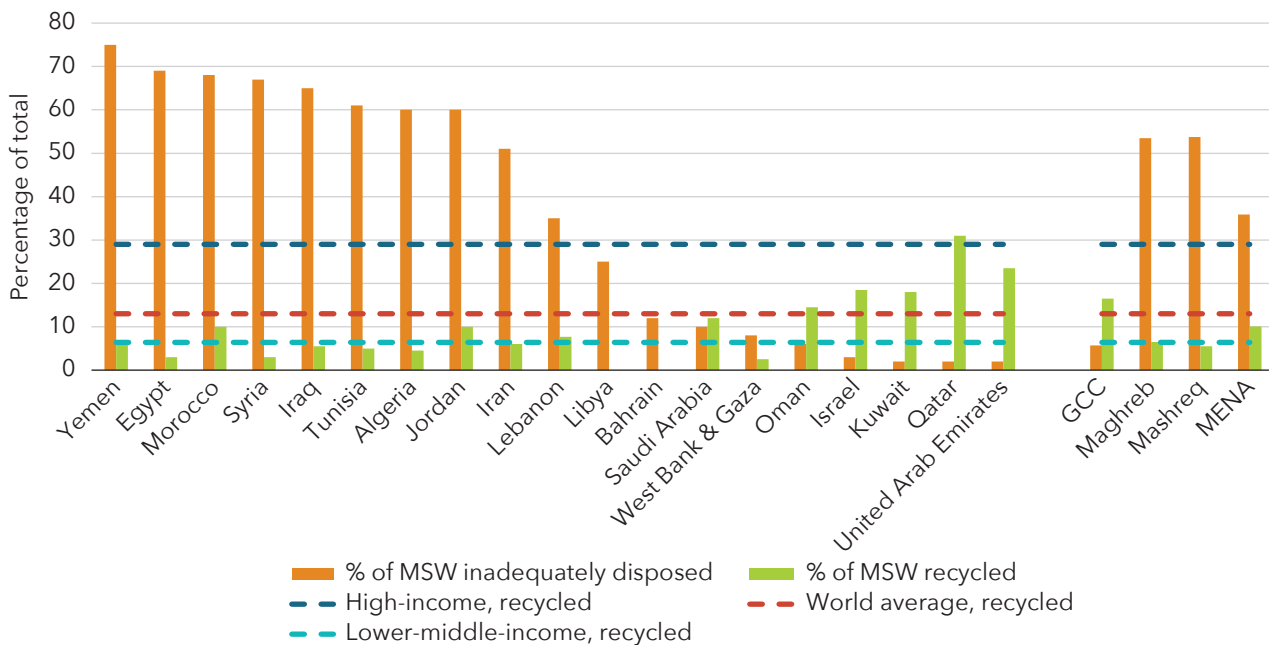
Lack of appropriate waste management is a major challenge in the Middle East and North Africa.

Lack of collection and inadequate disposal of waste is a major problem in the Maghreb and Mashreq subregions, where up to 60 percent of waste is disposed of in open dump sites and often burned, increasing air pollution. Even though the number of well-managed landfills has increased in countries such as Egypt, Morocco, Qatar, and Tunisia over the last few years, and there have been several waste-to-energy initiatives in the Gulf countries, open dumping is still prevalent in the region.

Middle Eastern and North African recycling levels are lower than the global average. The share of waste recycled is also low for the region—approximately 9 percent, compared with the global average of 13.5 percent (Kaza et al., 2018)). Gulf Cooperation Council (GCC) countries have higher rates of material volume recovered (~15 percent) but still lower than the world-wide average for high-income countries of approximately 29 percent (Figure 11). There is a high degree of informality in the recycling sector, with waste pickers deriving income from waste, which is an important social development challenge as well.

FIGURE 11.

Proportion of Municipal Solid Waste (MSW) Inadequately Disposed of and Recycled, 2020



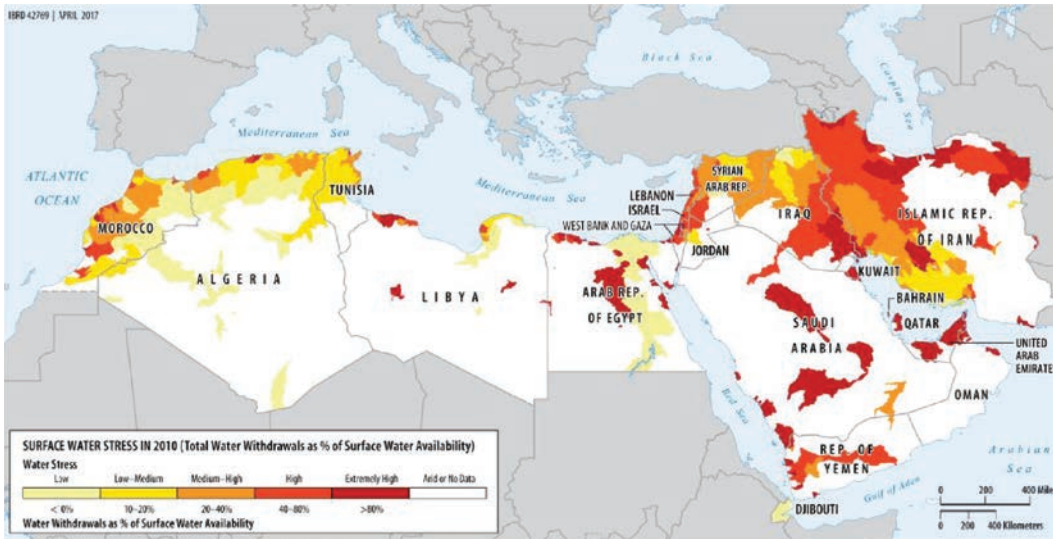
Note: Red line denotes the world average for recycling, dark blue line the average for high-income countries, light blue line for lower-middle-income countries.

Source: Verisk Maplecroft 2020.

The Middle East and North Africa is a water scarce region, and many countries do not manage their water resources sustainably. Physical water scarcity is perhaps one of the most pressing environmental concerns in the region, arising from the low supply of and high demand for water, often referred to as water stress. Most countries and economies in the Middle East and North Africa have high to very high water stress (Map 1). More than 60 percent of the population in the region lives in areas with high or very high surface water stress, compared with the global average of 35 percent, making it the most water-scarce region in the world (World Bank 2017). Poor water resource management, especially of agricultural water, which accounts for more than 80 percent of water use in the region, depletes water resources and degrades water quality (World Bank 2017). In GCC countries, desalinated water accounts for an increasing share of water supply, which has a significant environmental footprint because desalination is energy intensive. Decreasing water flow in rivers, caused by increasing upstream water abstractions, also leads to insufficient flows entering the sea, contributing to saline intrusion, and poor upstream water management can contribute to coastal erosion.

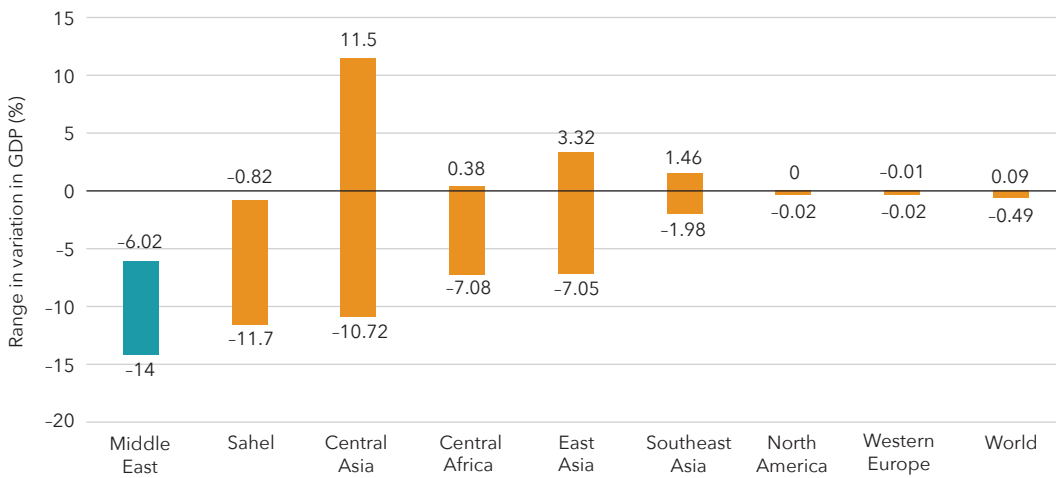
Countries that fail to achieve water security forgo potential growth, increase their vulnerability to hydrological shocks, and may compound social and political fragility. The Middle East and North Africa has the greatest expected economic losses from climate-related water scarcity, estimated to be 6 percent to 14 percent of GDP by 2050 (Figure 12) (World Bank 2016). Weak forecast and warning systems, inadequate storm water and flood management, inadequate irrigation infrastructure, and insufficient water stored in reservoirs and aquifers can increase the impacts of scarcity and hydrological shocks such as droughts and floods. Governments' failure to deliver basic water services and mitigate the impacts of water-related hazards and risks can erode legitimacy and compound social and political fragility.

MAP 1.
Water Stress in Middle Eastern and North African Countries



Source: World Bank 2017. Analysis and calculations based on World Resources Institute Aqeduct data.

FIGURE 12.
Economic Impacts of Water Variability on Gross Domestic Product in the Middle East and North Africa



Source: World Bank 2016.

5.2 Sustainable Finance in the Middle East and North Africa

As a hot spot for a variety of environmental challenges, as outlined in the previous section, expanding dedicated financing for green projects is essential for sustainable development of countries in the Middle East and North Africa. As more new issuers efficiently and successfully tap the sustainable bond market and market participants readily understand the value proposition, more countries in the region may enter international capital markets with sovereign green bonds. In this context, Egypt's successful issuance of a sovereign green bond marks a significant beginning for the region.

Countries' existing access to international capital markets, given their experience and exposure to international investors and the potential to broaden the range of debt instruments available to implement debt management strategies and change the risk profile of their public debt portfolios, can to some extent indicate the potential for sovereign green bond transactions. Seven of 13 countries in the Middle East and North Africa (excluding the GCC) have issued sovereign bonds in the international market.¹⁶

Most investors in African, European, and Middle Eastern bonds are traditional emerging-market investors, comprising sophisticated asset managers and dedicated hedge funds. Their primary objectives are geographic diversification and higher yields than other emerging market issuers. In recent years, some of the largest emerging-market dedicated funds have included ESG as a criterion for entering into new transactions. The preference is for issuances from sovereign or quasi-sovereign issuers (e.g., development banks, national railroad companies, national utility companies, cities and municipalities), as well as large, well-known corporates in the more developed emerging-market economies. The Middle East and North Africa, excluding the GCC, consists of frontier emerging markets with smaller economies.

A major challenge in the region is the urgent debt crisis that many countries face. Moreover, several countries rely heavily on concessional financing from development finance institutions. Concessional financing is typically the preferred source of financing because of lower rates and longer tenors. Although development finance is an important source of financing, no single source of development finance is sufficient to cover green financing needs. Countries may therefore be interested in mobilizing private sector capital by issuing bonds in the domestic or international markets while taking debt sustainability into consideration. The domestic financial sector plays a central role in financing investment in support of sustainable development. Where domestic markets are not deep enough, countries may need to tap external capital markets. An international rating of B is generally considered the minimum for issuance in the international capital markets.

A few countries in the region have focused on promoting private sector green bond issuances instead. Several financial regulatory authorities have developed guidelines for sustainable finance to raise awareness of public and private sector borrowers and promote healthy growth of the market. In 2018, Egypt's Financial Regulatory Authority paved the way for a sovereign green bond by approving a legal framework for issuance of green bonds. The same year, the Moroccan Capital Market Authority launched green, social, and sustainability bond guidelines. Both were developed with the support of the World Bank Group. The Financial Market Council of Tunisia launched a consultation process for similar guidelines in September 2019 (IFC 2019). The Securities and Exchange Commission in Jordan is embarking on an effort to create green bond guidelines. All this indicates interest in and demand for green financing in the region.

¹⁶ According to the World Bank, Algeria, Bahrain, Djibouti, Arab Republic of Egypt, GCC, Islamic Republic of Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, West Bank and Gaza, and Republic of Yemen constitute the Middle East and North Africa.

Several corporates have issued green bonds in the region. The Moroccan Agency for Solar Energy issued the first Moroccan green bond in 2016 (1.15 billion dirham; US\$118 million) to finance the NOOR PV1 solar power project. The same year, Banque Centrale Populaire in Morocco issued a €100 million green bond to support selected renewable energy projects (Green Investment Group 2017).

Table 1 lists the countries in the Middle East and North Africa with corporate green bond issuances and sustainable finance road maps as of June 2021.

TABLE 1.
Bond Issuance Programs in Middle East and North Africa

| Country | Credit rating (S&P/ Moody's/ Fitch) ^a | International bond issuance | Domestic bond issuance | Corporate and financial institution green bond issuance ^b | Sustainable finance road map and green bond guidelines |
|------------------------|--|-----------------------------|------------------------|--|--|
| Algeria | NA | Yes | Yes | No | No |
| Djibouti | NA | No | No | No | No |
| Egypt, Arab Republic | B/B2/B+ | Yes | Yes | No | Yes ^c |
| Iran, Islamic Republic | NA | No | Yes | No | No |
| Iraq | B-/Caa1/B- | Yes | Yes | No | No |
| Jordan | B+/B1/BB- | Yes | Yes | No | Under preparation ^d |
| Lebanon | D/C/RD | Yes | Yes | No | No |
| Libya | NA | No | No | No | No |
| Morocco | BB+/Ba1/BB+ | Yes | Yes | Yes | Yes ^e |
| Syria | NA | No | No | No | No |
| Tunisia | NA/B3/B- | Yes | Yes | No | No |
| West Bank and Gaza | NA | No | No | No | No |
| Yemen | NA | No | Yes | No | No |

Source: World Bank.

Note: NA = not applicable;

a. Data from Trading Economics: <https://tradingeconomics.com/country-list/rating>, accessed July 2021.

b. Based on data from BloombergNEF, accessed July 2021.

c. Green Finance Platform 2018.

d. SBN 2018.

e. SSEI 2018.



6

CONCLUSION

In the wake of the COVID-19 crisis, the public sector in many countries have signaled political commitment to a sustainable, resilient recovery. Sovereign green bonds can play an important role in supporting large public spending on the environment, health, and social protection by complementing official development finance, yet emerging market labeled bonds, representing 16 percent of new issuances in the second quarter of 2021, are still lagging significantly behind the developed markets. The number of emerging-market public sector issuances (including sovereigns, government agencies, and municipalities) is even smaller—2 percent of total new issuances. Countries wishing to issue sovereign green bonds can apply the lessons learned from Egypt’s experience.

Any such transaction must be managed in the context of higher levels of debt sustainability. Countries must be careful not to increase debt burdens, so issuance of a green bond should be considered within the parameters of a sustainable fiscal envelope.

It is critical to adhere to a sound public debt management strategy. It is necessary to build institutional capacity to manage public debt and ensure that the transaction is structured in line with the country’s medium-term debt strategy in terms of currency, maturity, and interest-rate composition so as not to increase debt servicing costs or financial risk, including refinancing risk. The entity with direct responsibility for borrowing on behalf of the central government should carefully consider the pros and cons of issuing such bonds, carefully set objectives, and implement the strategy in line with the medium-term debt strategy.

Investment priorities should be aligned with the country’s development goals. The underlying investments should support the economic, environmental, and social objectives of the country. These are part of the national development or sector strategies, or they support the global SDGs. From an investor’s perspective, investments tied to these higher-level objectives can be a more attractive investment because of the link to the improvement of public welfare.

Investors expect the highest levels of accountability and transparency in labeled sustainable bond transactions. Structuring of the transaction requires additional steps that debt management functions or offices may not be familiar with, such as developing the bond framework, analyzing the portfolio to ascertain potential size of eligible expenditures, defining governance processes for evaluating eligible projects and management of proceeds, and preparing post-issuance allocation and impact reports. The implications for the debt management function or office are considerable. It is important to coordinate with line ministries; secure their commitment from the outset; enlist help in identifying eligible expenditures; and ensure accurate, complete, timely reporting of environmental impact.

Financing choices (bilateral, multilateral, international bonds, domestic market) have increased for governments with the continued evolution of international capital markets and the potential to mobilize private sector capital. Issuers must consider their institutional capacity when considering these alternative sources of financing. Some issuers may benefit from partnering with an objective, knowledgeable third party like the World Bank which can support development of the debt management strategy, consideration of various funding options, structuring advice, guidance, and training.

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