MID-TERM PROGRESS REPORT

Climate Change Roadmap
Middle East and North Africa FY21–25
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Climate Change Roadmap
Middle East and North Africa FY21–25

WORLD BANK GROUP
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Irrigation systems create green circular fields in the dry Arabian desert.

—PHOTO: © JOERG STEBER / SHUTTERSTOCK.COM
Executive Summary

In the third year of implementation, this midterm progress report on the World Bank’s Middle East and North Africa (MENA) Climate Roadmap 2021–25 (hereafter, called the Roadmap) aims to provide an update on the status of climate action across the World Bank portfolio of activities in a dynamic regional context. The Roadmap was launched in 2021 and provides a galvanizing framework for World Bank–supported activities to accelerate climate action in the MENA region. (Figure 1) captures the key commitments set out in the Roadmap.

Figure 1: Key commitments in the MENA Climate Roadmap

The WBG MENA Climate Roadmap will deliver on key targets by 2025

- **INVEST**: $10 billion of WB and IFC financing in climate smart projects and policy reforms in MENA. Leveraging another $2 billion in private sector financing toward climate-smart investment.
- **DEVELOP**: Country Climate and Development Reports (CCDRs) for all MENA countries. All core analytics (SCDs, CPFs) and country products integrate climate risk management and opportunities for low carbon growth.
- **BALANCE**: Adaptation and Mitigation. Invest 50% of climate finance in building resilience, reflecting regional heterogeneity and country-specific demand.
- **ALIGN**: All financial flows align with the goals of the Paris Agreement by FY23. This includes climate-proofing all investments (especially infrastructure and other physical assets) to avoid stranded assets.

Note: CPF = Country Partnership Framework; FY = fiscal year; IFC = International Finance Corporation; MENA = Middle East and North Africa; SCD = Systematic Country Diagnostic; WB = World Bank.

Three years in, the MENA region is on track toward implementing and fulfilling the key commitments outlined in the Roadmap, as highlighted below:

- **INVEST**: The World Bank MENA region (World Bank, IFC, and MIGA) combined delivered US$6.25 billion in climate-related financing during FY21–23 and is on track toward achieving the commitment of US$10 billion for FY21–25. Across the Global Practices (GPs), the portfolio is increasingly more climate responsive and includes more focus on whole-of-government climate-smart operations.

- **BALANCE**: Over FY21–23, the World Bank MENA region has delivered equal focus on both climate mitigation and adaptation investments. Of the total financing from IBRD and IDA projects with climate-related investments, 51 percent was directed to climate mitigation (i.e., reducing net emissions) and 49 percent toward making all sectoral operations climate resilient and climate adaptive. This evens out the initial imbalance toward mitigation activities that was observed in FY11–21.

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1 The International Development Association/International Bank of Reconstruction and Development (IDA/IBRD), the International Finance Corporation (IFC), and the Multilateral Investment Guarantee Agency (MIGA).
» **DEVELOP:** The midterm report highlights that the World Bank has developed and leveraged its core diagnostic tools and sectoral analytics to better inform and support climate policy reforms, investments, and national strategies, which are consistent with or in support of countries’ Nationally Determined Contributions (NDCs) and climate goals. By increasingly integrating climate in country engagement instruments, including Systematic Country Diagnostics and Country Partnership Frameworks (CPFs), the Bank is promoting a coordinated approach to mainstream and deliver comprehensive and robust climate action in all engagements. For instance, the recent Arab Republic of Egypt, Jordan, and Tunisia CPFs prioritize climate change as a core pillar/result area of the plan. As of FY 24, seven country climate and development reports have been published in MENA region, covering Egypt, Morocco, Jordan, Iraq, Tunisia, West Bank & Gaza and Lebanon.

» **ALIGN:** The World Bank is on track to align 100 percent of new operations with the goals of the Paris Agreement (aka Paris Alignment) starting July 1, 2023. For the IFC and MIGA, 85 percent of new operations will be aligned starting July 1, 2023, and 100 percent from July 1, 2025. This is part of a broader multilateral development bank vision, and compliance with this commitment will be monitored and reported for the coming years.

**FIGURE 2:** Roadmap transformation areas

- **FOOD SYSTEMS, WATER SECURITY, AND RESILIENT NATURAL CAPITAL:** Shifting to a climate-smart approach to agriculture and natural resource management in the MENA region is crucial for achieving food security, preserving nature, while ensuring peace and stability.
- **ENERGY TRANSITION AND LOW-CARBON MOBILITY:** Decarbonizing the energy and transport sectors via increased energy efficiency, renewable energy, and clean mobility solutions will avoid significant environmental, health, economic, and trade-related risks.
- **CLIMATE-SMART CITIES AND RESILIENT COASTAL ECONOMIES:** Cities and coastal areas are on the frontlines of climate impacts, while serving as engines of economic growth. Climate-smart spatial planning and strategic investments can achieve carbon neutrality and ensure resilience and inclusivity in these areas.
- **SUSTAINABLE FINANCE FOR CLIMATE ACTION:** Climate change poses significant financial risks in the MENA region, compounding elevated levels of macro, banking sector, and debt risk. A green and resilient financial sector can play a key role in mobilizing climate finance and managing risk.

**CROSS-CUTTING CONSIDERATIONS**

Whole of Government Approach, Social and Spatial Inclusion, Citizen Engagement, Just Transition, Fragility, Conflict and Violence, Private Sector Mobilization, Climate Data and Digital Innovation, Regional Integration

**Note:** MENA = Middle East and North Africa.

The Roadmap also articulated four areas for systemwide transformations, along with equally important cross-cutting areas that have played a crucial role in galvanizing climate action by providing a framework for addressing climate change challenges (Figure 2). Cumulatively, within the four transformation areas and the cross-cutting areas, the World Bank in the MENA region approved 70 projects with climate-related activities and provided advice and knowledge products through 84 ASAs (Advisory Services and Analytics). Additionally, dialogue on the

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2 This refers to projects financed solely by IBRD/IDA resources. The number is higher if additional projects financed purely by trust funds, the IFC, and MIGA are considered.
Roadmap priorities and new CCDRs has helped make government counterparts aware of the urgent need for climate action on key priorities such as tackling water scarcity, food insecurity, building resilient natural and human capital, and scale-up of renewable technologies.

**Countries in MENA have made progress toward achieving climate-smart development over the last few years, however, obstacles remain substantial as we draw important lessons from the implementation of the Roadmap at midterm.** The lessons include the importance of a cross-sectoral implementation of nexus solutions (e.g., across the food-water-energy sectors) to tackle complex but interrelated challenges, and of developing and protecting human capital for inclusive green growth and resilience building. Future engagements could further sharpen focus on developing institutional capacities following a whole-of-government approach; maximizing financing through the private sector’s engagement across sectors, including expanding the use of carbon markets; and continuing to invest in emerging decarbonization technologies, including renewable energy, green hydrogen, carbon capture and storage, and circular economy practices.

**MENA continues to be held back by a huge climate financing gap, limited fiscal buffers, historical emission-driven economic growth, political instability, and multiple crises.** At the same time, the World Bank remains a leader in providing climate finance to client countries across the MENA region. It supports climate action at scale through development programs aligned with national climate ambitions and NDCs. Despite strong World Bank contribution, investment needs for climate mitigation and adaptation remain significant and largely beyond the reach of most countries in MENA. According to a recent assessment, the MENA region continues to receive the smallest share of global climate finance. The financing gap to address and cope with climate change up to approximately 2030 is estimated to be at least US$432 billion (UNFCCC 2022). Further, multiple crises, continued political instability, and conflicts undermine efforts to prioritize global public goods and climate action in the region. Overlapping crises, including COVID-19, political instability, recurring conflicts, food insecurity, and a dampened global economic outlook, have put additional strain on the resources of many countries and exposed existing vulnerabilities. For instance, in the aftermath of COVID-19 and related shocks, the World Bank has redirected investments to address the immediate needs, leaving less room for global public goods such as climate. Competing development priorities will continue to challenge policy makers in the region.

**Despite progress, increasing commitments by countries, and strong World Bank support, MENA continues to face significant challenges in addressing climate change; the next decade will be critical to achieving sustainability.** MENA remains among the regions most vulnerable to climate change and is one of the least prepared to face its impacts across sectors—highlighting the imperative to drive transformational action. Without urgent action, decades of development gains could be reversed and millions more people could be displaced, left hungry, and pushed into poverty. It is important to build on the progress made so far and accelerate efforts to decouple emissions from economic growth, increase resilience to climate impacts, and reduce poverty on a livable planet.
MENA on the road to climate-smart development

This progress update on the WBG MENA Climate Roadmap is amid a broader regional context. Over the past few years, countries in the Middle East and North Africa (MENA) have made positive changes in support of climate action, although significant challenges remain toward achieving green and climate-resilient development. The impacts of climate change and fossil fuel reliance are becoming visible across a region that is already burdened by population growth, protracted conflicts and forced displacement, a tightening fiscal space, and water scarcity. Policy makers in MENA have taken bold steps for the regionwide prioritization of low-carbon and resilient pathways. Countries rich in fossil fuel resources have committed to reducing the industry’s carbon footprint by developing circular carbon economy approaches, adopting new technologies, implementing ambitious sustainable transport projects, and committing to net zero emissions from domestic energy consumption. Similarly, countries suffering from the physical effects of climate change have developed policies and plans for climate resilience at both national and subnational levels.

Across the MENA region, climate-focused commitments and commitments under Nationally Determined Contributions (NDCs) are becoming more ambitious, along with climate initiatives. In recent years, a number of MENA countries have made progress toward updating their NDC commitments and better streamlining climate action in governments’ planning, budgets, and investments. For example, the Climate Action Tracker has ranked Morocco among the top 9 of the 40 assessed countries for its submission of NDCs that are almost sufficient in upholding the 1.5°C Paris Agreement (Climate Action Tracker 2023). Further, the 2022 United Nations Climate Change Conference (COP27) (hosted by Egypt), as well as the 2023 United Nations Climate Change Conference (COP28) (hosted by the United Arab Emirates) have put the spotlight on climate change in the region. At COP27, Egypt launched the water-energy-food nexus with the aim of investing in renewable energy, combating water scarcity while promoting food security, and following the National Climate Change Strategy 2050. Saudi Arabia launched the MENA Green Initiative and Saudi Arabia’s Greenhouse Crediting and Offsetting Mechanism. The United Arab Emirates has announced its net zero plan by 2050, making it the first in the region to do so. These are just some of the examples of how governments are reshaping their development priorities. Jordan has integrated climate action into the country’s new Economic Modernization Vision. Countries such as Lebanon and Tunisia have prioritized climate action in their national and sectoral development plans, despite competing priorities and challenges.

To support these developments and accelerate climate action as part of development pathways, the Roadmap plays a crucial role by offering a transformational action plan to ramp up climate-smart development. It was developed in consultation with the World Bank’s internal and external stakeholders in 2020 and released in 2021 to inform future operations and policy
dialogues in the region.³

Three years in, the Roadmap has helped galvanize climate action across the World Bank portfolio through a holistic approach; it has thus paved the way for outcomes that reflect scale, systemic shifts, and transformation. The purpose of this progress report is to highlight the progress made across the World Bank portfolio of policy and investment operations that are aligned with the Roadmap's commitments and priorities, capture challenges, and ensure the Roadmap's continued success. Chapter 2 of this report provides updates on the four commitments set out in the Roadmap, which are designed to monitor climate delivery in line with the World Bank's corporate commitments. Chapter 3 summarizes progress and future opportunities across the sectoral and multisectoral transformation areas and the equally important cross-cutting considerations that were prepared to guide investments, policy reforms, and technical assistance to World Bank clients. Chapter 4 identifies gaps and opportunities for future action.

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³ The Roadmap also leverages the Green, Resilient, and Inclusive Recovery (GRID) framework to align short-term recovery needs with the climate-smart development trajectory.
Coral reefs, concept of biodiversity of marine ecosystems untouched by human activities, concept of vacation, diving, resting and sport on exotic beaches of the Red Sea, Middle East.

— PHOTO: © GORSH13 / ISTOCKPHOTO.COM
Delivering on World Bank climate commitments in MENA

The MENA region has committed to delivering on key commitments by 2025—the commitments to be guided by client demand and fulfilled through the collective capacity of World Bank technical and operational staff across the International Bank of Reconstruction and Development (IBRD), the International Finance Corporation (IFC), and the Multilateral Investment Guarantee Agency (MIGA). In alignment with the corporate commitments, the MENA Climate Roadmap articulates four key commitments to track climate delivery (figure 3). Progress on and the achievement of these commitments are described in more detail below.

**FIGURE 3:** Key commitments in the MENA Climate Roadmap

The WBG MENA Climate Roadmap will deliver on key targets by 2025

| INVEST | $10 billion of WB and IFC financing in climate smart projects and policy reforms in MENA. Leveraging another $2 billion in private sector financing toward climate-smart investment. |
| DEVELOP | Country Climate and Development Reports (CCDRs) for all MENA countries. All core analytics (SCDs, CPFs) and country products integrate climate risk management and opportunities for low carbon growth. |
| BALANCE | Adaptation and Mitigation. Invest 50% of climate finance in building resilience, reflecting regional heterogeneity and country-specific demand. |
| ALIGN | All financial flows align with the goals of the Paris Agreement by FY23. This includes climate-proofing all investments (especially infrastructure and other physical assets) to avoid stranded assets. |

Note: CPF = Country Partnership Framework; FY = fiscal year; IFC = International Finance Corporation; MENA = Middle East and North Africa; SCD = Systematic Country Diagnostic; WB = World Bank.

**INVEST: Financing for climate-smart projects**

The MENA region has in the past three years (FY21–23) made steady progress toward prioritizing and delivering climate-smart investments and policy reforms, accounting for US$6.3 billion of financing. The World Bank evaluates its climate finance following a joint multilateral development bank (MDB) methodology, which allows it to effectively mainstream climate change considerations across all lending operations. Over the period FY21–23, climate finance in the IBRD/IDA (International Development Association) MENA portfolio amounted to US$4.9 billion (figure 4). In FY23 alone, climate finance accounted for 38 percent of the IDA/IBRD portfolio in MENA, or almost US$2.0 billion.

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4 This figure, US$6.3 billion, corresponds to climate financing from IBRD, IDA, IFC, and MIGA resources. Further breakdowns and details in the following pages are based on IDA and IBRD figures, unless otherwise stated. The IDA and IBRD climate finance data are sourced from the World Bank Climate Finance flyers published per fiscal year (for FY18, FY19, FY20, FY21, FY22 and FY23). The complete references are included at the end of this report.
FIGURE 4: IBRD/IDA climate finance provided over time as an absolute amount ($ million) and a percentage (%) of total lending, FY18–23

Climate finance, FY11–23 ($, millions and %)

Note: IBRD = International Bank of Reconstruction and Development; IDA = International Development Association; FY = fiscal year.

Over the period FY21–23, 70 out of 74 projects in the IDA/IBRD MENA portfolio included climate-related activities. This reflects enhanced climate mainstreaming, rooted in the recognition that climate considerations should be embedded in all sectors of development. IBRD/IDA’s largest cumulative climate finance contributions in the region – above US$500 million – were in the sectors of Transport; Social Protection and Jobs; Agriculture and Food; and Environment, Natural Resources, and Blue Economy (figure 7). Box 1 provides examples of projects with impactful climate action in these and other sectors. These projects demonstrate the significance of placing climate at the core of project design, and of dedicating substantial financial resources to address climate needs.
Some Global Practices saw a notable change in the share of financing dedicated to climate action between the periods FY18–20 and FY21–23 (see Figure 8). For example, for Urban Resilience and Land, Energy and Extractives, and Water, the proportion (percent) of the portfolio rose from 41 percent to 59 percent, 49 percent to 60 percent, and 49 to 73 percent, respectively, despite lower overall lending in these sectors. The Global Practices of Social Protection and Jobs, Agriculture and Food, Social Sustainability and Inclusion, and Transport experienced a decline in the share of their lending dedicated to climate action between FY18–20 and FY21–23. Amongst others, this is because the World Bank prioritized lending for immediate assistance to communities as part of the post–COVID-19 crises response and to tackle food insecurity due to the Ukraine war—a typical example of a competing priority due to crises and an evolving regional context.

Note: CCB = climate co-benefit; FY = fiscal year; GP = Global Practice.
FIGURE 8: Climate Finance per Global Practice—a comparison between FY18–20 and FY21–23 (%)

Note: FY = fiscal year
BOX 1
Example projects illustrating impactful climate action across select Global Practices, FY21–23

» The **Urban Resilience and Land** project, approved in FY21 (Tunisia Integrated Disaster Resilience Program), helps strengthen Tunisia’s disaster risk management and financing and is aimed to enhance the protection of the targeted population and assets against disaster and climate-related events.

» **Water** projects in Morocco, Jordan, and Tunisia (e.g., Morocco Resilient and Sustainable Water in Agriculture) aim to enhance the governance of water in agriculture, improve the quality of irrigation services, and increase access to advisory services and modern on-farm irrigation technologies.

» The **Energy and Extractives** project, approved in FY23 (Tunisia-Italy Electricity Integration and Renewable Energy Ecosystem), will link Tunisia’s power grid with the European network and support renewable energy trade essential to Tunisia’s sustainable development and climate goals.

» **Transport** projects in Egypt that are investing in rail systems (the “Railway Improvement and Safety for Egypt Project, approved in FY21, and Cairo Alexandria Trade Logistics Development Project, approved in FY23).

» **Environment, Natural Resources, and Blue Economy** projects in Morocco that are supporting the implementation of the objectives adopted as part of the Nationally Determined Contribution, besides improving climate resilience and carbon sequestration in marine areas (Blue Economy Program for Results,” which started in FY22, and “Morocco Climate Operation, approved in FY23).

» **Agriculture and Food** projects addressing climate-change-induced water insecurity and extreme weather events in the Republic of Yemen (the Yemen Food Security Response and Resilience Project, approved in FY21, receiving additional financing in FY23) and Jordan (the Agriculture Resilience, Value Chain Development and Innovation Program, approved in FY23).

» **Social Protection and Jobs** projects in Tunisia that are providing social support mechanisms addressing climate-change-induced food insecurity (Tunisia COVID-19 Social Protection Emergency Response Support Project Additional Financing, approved in FY21, with additional financing received in FY22).

» **Governance** project in Jordan investing in climate-responsive budgeting (Jordan Inclusive, Transparent and Climate Responsive Investments Program for Results, approved in FY23).
In addition to tracking the financing contributing to climate change adaptation and mitigation, the World Bank measures the impact of climate-smart interventions through project-level **Climate Results Indicators**. These indicators measure mitigation outcomes, such as a reduction in greenhouse gas (GHG) emissions or an enhancement of GHG sinks due to project investments, or adaptation outcomes, for example, savings in freshwater use aimed at addressing climate-change-induced water scarcity. Chapter 3 of this report contains examples of mitigation and adaptation outcomes of MENA projects for each sectoral or cross-sectoral transformation area of the Climate Roadmap.

**All IBRD/IDA MENA projects have undergone climate and disaster risk screening.** All IBRD/IDA operations are mandated to undertake an assessment for identifying potential short- and long-term risks, with the aim of building resilience into development projects, policies, and programs. By conducting such climate and disaster risk screening for all projects, the World Bank ensures that all investments can endure the challenges posed by climate change and natural disasters. This proactive approach has also allowed designing climate adaptation investments based on knowledge of context-specific climate vulnerabilities.

**BALANCE: Equal focus on adaptation and mitigation**

The World Bank MENA region has ensured an increasingly balanced prioritization of climate mitigation and climate adaptation as part of its development programs. While adaptation finance accounted for 44% of total IBRD/IDA climate finance in the MENA region in FY18-20, this share stood at 49% in FY21-23 (figure 9). The growing focus on adaptation and resilience activities reflects a recognition of our global responsibility to not only mitigation but also address the impacts of climate change. In FY22, MENA delivered more than twice as much financing for adaptation as for mitigation activities.
The Global Practices with the highest share of adaptation finance over FY21–23 in overall climate finance were Social Protection and Jobs (100 percent); Digital Development (100 percent); Urban Resilience and Land (80 percent); Education (79 percent); Agriculture and Food (66 percent); and Health, Nutrition, and Population (64 percent). Compared to the preceding three-year period, the adaptation share increased significantly, notably for the Global Practices of Macroeconomics, Trade, and Institutions (from 2 percent to 42 percent), and Education (from 41 percent to 79 percent). (See figure 10).
FIGURE 10: Share of adaptation finance in total climate finance (%) per Global Practice, FY18–20 vs FY21–23

Note: FY = fiscal year.

BOX 2
IFC and MIGA climate finance in the MENA region, FY21–23

The International Finance Corporation (IFC) invested US$865 million in climate change mitigation and adaptation over FY21–23. This investment accounted for 45 percent of the overall investments over this period (own account). This represented a noteworthy increase from the previous three-year period (FY18–20), when climate finance amounted to US$589 million, or 31 percent of the total portfolio (own account investments). The share of projects including climate finance also increased, from 39 percent in FY18–20 (26 of 66 projects) to 45 percent in FY21–23 (21 of 47 projects) (see figure 10).

The Multilateral Investment Guarantee Agency (MIGA) issued guarantees committing US$516 million in climate change mitigation and adaptation over FY21–23. This amount accounted for 63% of MIGA’s guaranteed investments in the region over this period (own account). The share of climate finance in the MENA region represented an increase from the previous three-year period (FY18–20), which was at 29% of the MENA portfolio during FY18–20.
While the portfolio of the IBRD/IDA is significantly larger than IFC's and MIGA's, and therefore accounted for a larger share of total climate finance in the region in FY21–23, the percentage of climate finance was higher for both MIGA and IFC (figure 11): 63 percent for MIGA and 45 percent for IFC, compared with 33 percent for IBRD/IDA.
DEVELOP: CCDRs and other sectoral climate analytics—integrating climate into all our country engagement products

Climate change has been featuring strongly in all recently completed and under-preparation strategic country engagement and analytical products for MENA, notably in Systematic Country Diagnostics (SCDs) and Country Partnership Frameworks (CPF). The core strategic products are paving the way for more climate-responsive investments and policy dialogues. Country Climate and Development Reports (CCDRs) and other key analytical products provide the knowledge and analytical underpinning (figure 12).

FIGURE 12: Relation between the Roadmap, the CCDRs, and SCDs and CPFs

Mainstreaming climate change in country strategies and programs

Note: CCDR = Country Climate and Development Report; CEM = Country Economic Memorandum; CPF = Country Partnership Framework; FY = fiscal year; MENA = Middle East and North Africa; PA = Paris Alignment; PER = Public Expenditure Review; SCD = Systematic Country Diagnostic.

Systematic Country Diagnostics and Country Partnership Frameworks

The latest SCDs integrate climate dimensions in development priorities, providing a comprehensive overview of risks and opportunities. The Egypt SCD notes that climate change acts as a threat multiplier, exacerbating vulnerabilities and risks to economic, social, and political stability (World Bank 2021c). The SCD highlights that focusing on resilience building, improving resource use efficiency, and raising the ambition on climate change mitigation and adaptation provide an unprecedented opportunity to boost long-term economic competitiveness and sustainable development. This is mainstreamed in the priority areas, especially on promoting...
resilient, efficient, and sustainable resource use—which is already jeopardized by climate change. The Tunisia SCD, “Rebuilding trust and meeting aspirations for a more prosperous and inclusive Tunisia,” identifies climate change and natural resource overreach as substantial risks to the country’s development aspirations (World Bank 2022e). The projected climate-change-related increase in heat waves, dust storms, coastal flooding, and extreme weather events comes at the backdrop of growing feelings of exclusion, inequality, and worsening livelihoods, which have been reflected in increasing levels of public protest. The SCD highlights that water is a growing concern, which already impacts the food security of the most vulnerable. For a climate-resilient future, the government will have to invest in a low-carbon transition, including creating green jobs, phasing out fossil fuel subsidies, investing in renewable energy, promoting green infrastructure, and giving increasing consideration to climate risks in financial and policy decisions.

In the recent CPFs, for Jordan, Iraq, Egypt, Tunisia, and Djibouti, climate change is mainstreamed across the core strategic pillars:

» The Iraq CPF (World Bank 2021d) mainstreams climate change, citizen engagement, and gender equality across its two foundational pillars: (1) improved governance, public service delivery, and private sector participation; and (2) strengthened human capital. This approach, combined with a goal to strengthen the private sector, seeks to address the drivers of fragility and integrate conflict-sensitive approaches and opportunities for peace-building, and bring about inclusive and sustainable economic growth in Iraq.

» The Djibouti CPF (World Bank 2021e) prioritizes vulnerability reduction through the promotion of climate adaptation and following a whole-of-government approach to bolster the national capacity to improve climate resilience and disaster preparedness. This is articulated around two objectives: (1) strengthening basic service delivery to improve access, quality, and inclusion, while enhancing climate resilience; and (2) strengthening economic institutions, public financial management systems, and debt transparency and management.

» The Egypt CPF (World Bank 2023b) prioritized climate change in the core pillar/result area as part of building the country’s resilience to shocks, enabling it to implement the National Climate Change Strategy 2050, which was introduced by the Ministry of Environment in November 2021, at COP26, and launched in May 2022.

» The latest Tunisia CPF (World Bank 2023a) places significant emphasis on climate action, with its third High-Level Objective, “Improved resilience to climate change and reduced carbon emissions.” This pillar aligns perfectly with Tunisia’s CCDR climate ambitions as stated in its NDC and aims to steer the country toward a path of low-carbon, climate-resilient development. It also promotes a participatory approach that involves all sectors of society in collectively addressing climate change challenges.
The Jordan CPF (World Bank, forthcoming), which expands on the recently completed CCDR, aims to build on the recommendations of that CCDR, which identified resilience enhancement, especially along the water-energy-agriculture-food nexus, and the promotion of low-carbon development along the urban development–transport–energy nexus. These nexus areas encourage a whole-of-society approach, while improving resource efficiency, increasing sustainability, and promoting enhanced urban services.

Country Climate and Development Reports

The MENA CCDRs are filling an important knowledge gap through evidence-based analytics and have enabled strong engagement on climate action with government counterparts. In FY22, four CCDRs were delivered: Egypt, Morocco, Jordan, and Iraq (World Bank 2022a, 2022b, 2022c, 2022d). Key emerging messages from these CCDRs revolve around (1) a need to counter climate change by instilling resilience in key sectors such as water, agriculture, and urban development, as well as in social systems to safeguard the poor; and (2) a need to implement decarbonization pathways that are compatible with economic growth and fiscal constraints. In FY23, two CCDRs were completed—Tunisia and West Bank and Gaza. In addition, the Lebanon, Djibouti, and Yemen CCDRs will be completed in FY24. Figure 13 summarizes the objectives/pathways of each CCDR.

FIGURE 13: CCDR pathways

Note: FY = fiscal year.

The operationalization of CCDR recommendations into concrete actions is well underway in MENA, with climate-responsive investments in Morocco, Jordan, and Lebanon. MENA CCDRs
have identified entry points for effective climate action that are also aligned with countries’ development needs and objectives. Consequently, following (or in parallel to) the development of the MENA CCDRs, the knowledge and priorities underlined in them informed several operations. Figure 14 shows examples of how such a process has unfolded. In Morocco, the Water Security and Resilience Program (US$300 million) responded to the CCDR’s emphasis on greater water security and the country’s need to make drinking water supply and irrigation more resilient. In Jordan, the CCDR informed a number of projects, including the Jordan Inclusive, Transparent, and Climate Responsive Investments Program, which aims to ensure public investments to scale up climate action are fiscally sustainable. In Lebanon, alongside the CCDR’s development, the Green-Agri Food Transformation for Economic Recovery project was developed. The project aims to support the climate-responsive and climate-resilient recovery of the country’s key economic sectors. Annex 1 contains all approved projects following from the CCDR’s objectives/pathways.

**FIGURE 14:** Examples of CCDR operationalization in MENA

**Operationalization of the MENA CCDRs is well underway**

<table>
<thead>
<tr>
<th>CCDR</th>
<th>RECOMMENDATION</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morocco</td>
<td>Improve water security by accelerating investments in the water sector and increasing the resilience of drinking water supply and irrigation</td>
<td>Morocco Water Security and Resilience Program US$350 million</td>
</tr>
<tr>
<td>Jordan</td>
<td>Improve the development effectiveness and fiscal sustainability of public investment, to scale up support to climate-responsive public and private investment</td>
<td>Jordan Inclusive, Transparent, and Climate-Responsive Investments Program for Results US$400 million</td>
</tr>
<tr>
<td>Lebanon</td>
<td>Improve the resilience of farmers and small and medium enterprises (SMEs) in the Lebanese agri-food sector</td>
<td>The Green-Agri Food Transformation for Economic Recovery (GATE) Project US$200 million</td>
</tr>
</tbody>
</table>

*Note: CCDR = Country Climate and Development Report.*

**Beyond the specific projects outlined above, the CCDRs are informing country products, country-level dialogue, and policy support. These products include SCDs and CPFs.** Egypt has seen the nexus approach presented in the CCDR as valuable development insight, which helped support the high-level Nexus for Water, Food, and Energy (NWFE) government initiative, which was presented at the donor conference and launched at COP27. The Jordan CPF (CPF FY24), which is under preparation and builds on the recently completed CCDR, aims to integrate the country’s high vulnerability to climate change into the required high-level objectives, investments, and policy reforms. While the CPF in Morocco, Tunisia, and Iraq preceded the CCDR preparation, the CCDR has received the
highest level of attention in each country, significantly contributing to dialogue around both policy and investment.

**CCDRs have also contributed to important dialogues with external partners in the MENA region, including academic institutions and financial institutions.** The CCDRs were developed in close collaboration with governments. This allowed identifying the key climate change risks and opportunities of interest. The CCDRs have therefore proven to be an excellent entry point for climate-focused policy dialogue and lending. In a noteworthy dialogue with the Arab Fund for Economic and Social Development, in the capacity of chairs, a group of Arab funds showed keen interest in the CCDRs to inform their climate finance. The Arab Monetary Fund requested World Bank expertise to support a technical workshop on climate change for policy makers in MENA. Experiences have highlighted the importance of collaboration and knowledge sharing with external partners for bringing climate change to the foreground in the policy makers’ agenda.

**Increased climate focus across advisory and analytical activities**

**Climate is also becoming an increasingly important consideration and receiving greater focus in sectoral analytics.** Beyond the CCDRs, MENA has seen a growing demand for and interest in climate-focused Advisory Services and Analytics (ASAs). Figure 15 presents ASAs approved after the Roadmap’s launch between FY21 and FY23. Cumulatively, the World Bank in the MENA region provided advice and knowledge products through 84 climate-focused ASAs. More details and examples of such ASAs can be found in chapter 3 of this report.

**FIGURE 15: Climate-focused analytics**

ASAs per Roadmap Transformation Areas (FY21–23)

- Transformation 1: Food systems, Water Security, and Resilient Natural Capital
- Transformation 2: Energy Transition and Low-Carbon Mobility
- Transformation 3: Climate-Smart Cities and Resilient Coastal Economies
- Transformation 4: Sustainable Finance for Climate Action
- Cross-Cutting Solutions

*Note: ASA = Advisory Services and Analytics; FY = fiscal year.*
There is wide recognition that concessional trust fund financing for analytics and technical assistance activities paves the way for much needed evidence for action, entry points for dialogue, and increased operationalization of CCDRs into country operations. Trust funds such as the Climate Support Facility, the Technical Assistance window of Climate Investment Funds, the Global Facility to Decarbonize Transport, the Global Facility for Disaster Reduction and Recovery, the Energy Sector Management Assistance Program (ESMAP), and others are critical to advancing knowledge and analytics toward informing the design of policy interventions and future investment programs.

**ALIGN: Alignment with the goals of the Paris Agreement**

The World Bank also committed itself to aligning its financing operations with the Paris Agreement’s goals. This commitment forms part of the Bank’s Climate Change Action Plan 2021–25. This is the most comprehensive institutional undertaking by the World Bank to reconcile development and climate. The Bank is on track to align 100 percent of new operations, starting July 1, 2023. For the IFC and MIGA, 85 percent of new operations will be aligned starting July 1, 2023, and 100 percent from July 1, 2025. This is part of a broader MDB vision to align financing flows with the Paris Agreement’s goals.

The commitment to align with the Paris Agreement’s goals started in FY24 in the MENA region (July 1, 2023, for all operations\(^5\)). The Paris Agreement is an opportunity for the World Bank to influence the selection of projects and investments by prioritizing those that contribute to climate mitigation and adaptation. A practical rollout plan for implementing the alignment with the Paris Agreement has been created and shared with all World Bank MENA region staff. The rollout plan includes the adoption of mechanisms for integrating this new commitment with the project preparation cycle through a system of technical focal points across GPs and capacity building for operational staff. Country teams are working on adopting the plan and sharing information with government counterparts. Progress on this commitment will be monitored and will be reported for each year beyond FY23 and in the final progress report for the Climate Roadmap.

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\(^5\) This also includes trust-funded operations.
Panorama of white city and the blue sea with a coastline in Sharm el-Sheikh.
— PHOTO: © DENIS MIRONOV / SHUTTERSTOCK.COM

PROGRESS ON SECTORAL TRANSFORMATIONS AND OPPORTUNITIES FOR FUTURE ACTION
Progress on sectoral transformations and opportunities for future action

The Roadmap outlined a need for cross-sector climate-smart action under four transformation areas (figure 16). The priority actions identified under each transformation area and each cross-cutting solution are designed to scale up climate action in high-impact areas and are implemented through the portfolio of investments and technical assistance. This chapter provides a review of progress under each transformation area and identifies additional opportunities for future action. Annex 1 contains a summary of transformative climate action themes illustrating select tools and instruments.

**FIGURE 16: Roadmap transformation areas**

Transformation 1: Food systems, water security, and resilient natural capital

Climate change exacerbates food insecurity, water scarcity, and environmental degradation, in an already vulnerable context. Climate changes put additional burden on limited water resources and arable land, straining already fragile food systems. Eleven countries of MENA are among the 17 most water-stressed countries in the world. Eighty percent of the water use in MENA region is for agriculture purposes (UNICEF 2021). Climate change will raise temperatures, reduce precipitation, and aggravate water scarcity, potentially causing a 15–45 percent decline in freshwater availability in a 2°C world (World Bank 2016). MENA also grapples with high air pollution levels, marine plastic pollution, and eroding coastlines. Local communities, livelihoods, and economies are endangered as a result.

The Roadmap outlines a path to improve food systems, tackle water scarcity, and protect natural assets (figure 17). Key priorities include climate-smart agriculture technologies,
reduction of water and food loss, integrated water resource management, and exploration of nonconventional water sources. Regional cooperation is also highlighted for water management and conflict prevention. The Roadmap also promotes integrated natural resource management, including landscape preservation, promotion of sustainable fisheries, and nature-based solutions (NBSs).

FIGURE 17: Priority areas

Building climate-resilient food systems will reduce growing food insecurity in a region of high import dependency and 70% rain-fed agriculture.

Climate-smart water resource management will increase adaptive capacity to cope with increasing water scarcity, in the most arid and semiarid region in the world.

Incorporating climate into natural capital management will yield vast mitigation and adaptation benefits, while preserving biodiversity and vital ecosystems.

Results

Over FY21–23, IBRD/IDA supported 12 climate-responsive lending operations and 24 climate-focused ASAs aimed at improving food systems, tackling water security, and building resilient natural capital in MENA.

Promote climate-smart agri-food systems. The World Bank has ramped up technical solutions, support for policy reforms, and investments to promote climate-smart agri-food systems across the countries of MENA:

» Projects are increasingly mainstreaming climate considerations. This helps farmers tackle the impacts of extreme events (droughts, floods), reduced water availability, and make agri-food value chains more efficient. The focus has predominantly been on adaptation, given the context of climate-induced water scarcity and increased production costs. For instance, in Morocco (P175747; Resilient and Sustainable Water in Agriculture), the World Bank aims to support in tackling drought and water scarcity hazards by enabling improvements to irrigation and drainage service quality and contributing toward the implementation of efficient water allocation systems. It aims to reach nearly 24,000 farmers with agricultural assets or services that provide climate resilience.

» In Jordan, through the Agriculture Resilience, Value Chain Development and Innovation (ARDI) Program (P167946), our current efforts in building more resilient food systems are also contributing to increased competitiveness and inclusion, with a potential to generate 12,000 new jobs for women and youth.

» Promoting food security in the contexts of fragility, conflict, and violence (FCV) is also a key priority in MENA. In the Republic of Yemen (P178439; Food Security Response and Resilience Project), we are focusing on ensuring availability and access to food and nutritious diets.
and enhancing the country’s capacity to respond to food insecurity, including by adopting a food security preparedness plan. Improvements to climate-resilient agricultural production infrastructure help ensure availability and access to food and nutritious diets and enhance the country’s capacity to respond to food insecurity. Greater emphasis on water infrastructure and increase of domestic food production and market development through restoration of climate-smart agricultural production, food supply chains, and value addition help achieve the above two objectives.

**Enhance climate-sensitive water resource management.** MENA has been moving toward more holistic water security and climate-resilient approaches to address the growing challenges of water scarcity:

- In **Jordan** (P176619; Water Sector Efficiency Project), the World Bank is making water services more efficient through rehabilitating water distribution networks. It also making the drought management systems adaptive to climate change’s detrimental impacts on water availability, besides mitigating climate change through reducing the energy requirement for delivering each unit of water to the customer. This will benefit 1.6 million customers, who will get improved access to water services.

- In **Tunisia**, the Sanitation PPP Support Project (P162957) aspires to generate emission reduction of over 1 million tons of carbon dioxide equivalents (tCO2eq) and provide improved sanitation services to over 2 million people. It aims to do so by improving the quality of wastewater management services and strengthening the capacity of the National Office of Sanitation of Tunisia (ONAS) to manage public private partnership (PPP) contracts.

- This new wave in engagements stems from the analytical underpinnings of the CCDRs and the recent flagship report titled “The Economics of Water Scarcity in MENA: Institutional Solutions” (De Waal 2023). The report argues that difficult trade-offs amid reduced water could increase in legitimacy if locally representative governments are delegated greater powers over water allocation decisions, as part of a national water strategy. Analytics and operations also put a focus on strengthening countries’ capacity to prepare national water accounts and incorporate water information systems to support decision-making to better plan and manage water resources.

**Build resilient natural capital.** In MENA, the adoption of NBSs and the revitalization of natural ecosystems for climate are gaining momentum. These are driven by a recognition of these solutions’ potential to address environmental challenges, support sustainable development, and build climate resilience:

- Recent analytical work has played a catalyzing role in the recognition of the significance of
natural capital. Work such as the Wealth Accounting and the Valuation of Ecosystem Services

**FIGURE 18:** Priority areas

| PROMOTE LONG-TERM EMISSIONS REDUCTION AND ECONOMIC DIVERSIFICATION STRATEGIES |
| SCALE UP RENEWABLES AND ENERGY EFFICIENCY |
| SHIFT TO LOW-CARBON AND RESILIENT TRANSPORT SYSTEMS |

- Readiness and capacity building to underpin policies and investments for long-term, deep decarbonization strategies for a clean and resilient energy system.
- Policies and programs to drastically increase share of renewables in the energy mix and achieve energy efficiency goals.
- Low-carbon transportation will significantly improve air quality and livability of densely populated areas while reducing GHG emissions.

*Note: GHG = greenhouse gas.*

**Results**

**Over FY21–23, IBRD/IDA investments to foster energy transition and low-carbon mobility in MENA supported 10 climate-responsive projects and helped develop 17 climate-focused ASAs.**

**Promote long-term emission reductions and economic diversification strategies.** The Roadmap is helping drive policies and programs to drastically increase renewables’ share in the energy mix and achieve energy efficiency goals:

- A key focus of the World Bank is also to leverage regional connectivity in energy markets. This led to the development of the Pan-Arab Electricity Market (PAEM) initiative to support regional energy trade, scale up renewable energy, and reduce emissions with support from regional partners. The landmark Tunisia-Italy interconnector (P179240) project positions Tunisia as a regional renewable energy hub by connecting its power grid to the much larger European network via a 600-megawatt undersea cable. In Djibouti (P173763), the Second Djibouti-Ethiopia Power System Interconnection Project aspires for greater regional connectivity through improved low-cost and clean electricity transmission between the two countries. Djibouti will benefit from Ethiopia’s renewable energy surplus and reduce emissions by 410,000 tCO\(_2\)e per year.

- The World Bank is actively supporting efforts to shape the dialogue on and facilitate the transition away from fossil fuels, including subsidy reforms. An example is the project “Disruptive Energy Transition and Opportunities for Job Creation and Electric Mobility in MENA (P170546),” which has sparked discussions on the positive impacts of energy transition and electric mobility on health, environment, and employment. Case studies estimate that achieving the 2030 renewable energy and energy efficiency targets could deliver approximately 2 million net jobs by 2050 in Egypt and 760,000 in Morocco compared with business as usual. The ASA has also informed country dialogues in Egypt, Morocco, Tunisia, and Jordan. For instance, the Tunisian government has requested support for a Renewable Energy Center of Excellence to enhance capacity and skills for renewable energy projects in Tunisia and the broader Africa region. The World Bank is also providing a range of ASAs.
to support MENA countries (Jordan, Tunisia, and Egypt) formulate enabling policies and regulations for scaling up renewable energy and green hydrogen development.

**Scale up renewables and energy efficiency.** Countries are making strides toward a clean energy transition with transformational investments:

- The Noor Solar project in Morocco and the joint World Bank–IFC–MIGA Benban Solar Energy Project in Egypt successfully demonstrated the business case for solar energy in the region in the past. Renewable energy transitions also offer significant advantages in the contexts of FCV, where they can provide affordable off-grid energy alternatives. The second phase of the Yemen Emergency Electricity Access Project (P178347) will provide new or improved electricity services to 3.5 million people, as well as 700 public services facilities and 100 schools, largely through solar energy solutions.

- Support in the energy transition is being shaped by upstream engagement and analytics, including sectoral decarbonization pathways and energy modeling (e.g., Energy Portfolio Management [EPM], Materials And Processes Technical Information System [MAPTIS]) for the CCDRs. An example of this is the Jordan Electricity Sector Efficiency and Supply Reliability Program (P171296), which builds on the CCDR and aims to make Jordan's electricity sector more efficient, besides helping the country sustain the significant progress achieved in integrating renewable energy and electricity service reliability, and improving sector governance. The project should save Jordan US$77 million, which can be reinvested in generating renewable energy. The Jordan: Support for Industry Development Fund (P178215) project aims to promote investment and export by project beneficiary firms in the manufacturing sector, besides operationalizing the Industry Development Fund.

- By helping electricity sector institutions improve their operational and financial performance, the World Bank can also contribute to improving access to affordable clean electricity for the most vulnerable and in the contexts of FCV. A key component of the Phase 2 Advancing Sustainability in Performance, Infrastructure and Reliability of the Energy Sector in the West Bank and Gaza (P1747080) is reducing technical losses (by up to 45 percent in West Bank) and continuing the scale-up of the Revenue Protection Program for improved metering and billing.

**Shift to low-carbon and resilient transport systems.** World Bank technical assistance and lending operations are actively helping countries in the MENA progress toward sustainable mobility, in turn reducing GHG emissions and improving air quality:

- The World Bank is helping countries in MENA leverage and improve existing railway infrastructure. An example is Egypt, whose rail system is among the most extensive in Africa, but is aging and poorly maintained, with frequent accidents. The Railway Improvement and
Safety for Egypt project (P175137) is helping to make railway services along the Alexandria-Cairo-Nag Hammadi corridor safer and superior. Further, the Cairo Alexandria Trade Logistics Development Project (P177932) in Egypt will reduce GHG emissions by 965,000 tons over 30 years, consistent with the idea to shift from freight transport via trucks to rail. It will do so through the modernization of the logistics sector, building a functional railway bypass to the network in the Greater Cairo Area, and establishing a robust regime and action plans to set charges for accessing the rail infrastructure.

Transport infrastructure also plays a crucial role in a country’s development and can be considered a part of its vital services infrastructure when connecting remote areas and for trade purposes. Climate-resilient improvement of rural roads (e.g., enhancement of drainage systems) will provide all-weather access to 575,000 beneficiaries in the Republic of Yemen (P177053; Emergency Lifeline Connectivity Project) and improve 500 kilometers of existing feeder roads in Morocco (P167894; MA North-East Economic Development Project). Similarly, in Djibouti (P174300), the World Bank is upgrading 42 kilometers of vital trade route under the Regional Economic Corridor Project, alongside building the government’s capacity to facilitate a modal shift to railways, which will reduce GHG emissions by 6.5 percent.

**Transformation 3: Climate-smart cities and resilient coastal economies**

Cities are crucial in addressing climate change in MENA, since 65 percent of its population is urban, above the global average. (World Bank 2021a). Cities consume 78 percent of the region’s energy (World Bank 2021a), besides being especially vulnerable to intensifying extreme weather events such as floods and heat waves, which disrupt access to essential services by causing infrastructure damage. Coastal cities, home to the majority of industrial, urban, and tourism activities, are especially vulnerable to sea-level rise, storm surges, and coastal erosion. Biodiversity and natural resource protection, besides policy and investment support, are therefore critical to support the blue economy of these regions.

The Roadmap highlights cities’ importance in combating climate change by putting emphasis on strengthening climate-resilient urban planning and developing sustainable coastal economies (figure 19). Climate-smart urban planning includes updating building regulations, implementing energy efficiency codes, and developing resilient building systems, especially for public services. Further, transit-oriented development and grid infrastructure upgrade can reduce reliance on high-emission transportation. Key priorities for coastal resilience include integrated coastal management, marine ecosystem restoration, and strategies for resilience of the tourism sector.

**FIGURE 19:** Priority areas
Delivering on World Bank climate commitments in MENA

Climate-smart urban development, with a focus on coastal cities is critical to improve livability of cities, promote economic growth. With the appropriate institutional frameworks and master plans, MENA can build readiness to ensure the continuity of critical public services, especially in water, sanitation, and waste management.

Integrated coastal management and climate-adaptive coastal economies will mitigate significant risks in the face of increasing climate hazards and reduce livelihoods.

PROMOTE CLIMATE-SMART URBAN DEVELOPMENT AND PLANNING
ENSURE CLIMATE-SMART PUBLIC SERVICES
DEVELOP RESILIENT COASTAL ECONOMIES

Note: MENA = Middle East and North Africa

Results

Over FY21–23, IBRD/IDA financing in support of climate-smart urbanization and resilient coastal economy programs was channeled through 9 lending operations, and helped develop 12 climate-focused ASAs.

Promote climate-smart urban development and planning. The World Bank actively supports climate-smart urban planning and resilient initiatives in the MENA region to improve livability and economic growth:

» The Vibrant Cities report (P176356) advocates for integrated urban planning and management for resilient, low-carbon development in cities in MENA, while improving economic prospects. One key element of the report is the upgrade of public transport infrastructure and promotion of affordable urban transport alternatives. In Morocco (P173048), the World Bank is strengthening the capacity of urban transport institutions to plan, implement, and monitor infrastructure and services. It is also helping to improve the service level of urban transport in targeted corridors through additional financing. The program has already delivered tangible results by improving service level for 40,000 daily urban transport users. By program completion, the objective is to increase the total beneficiaries to 130,000 urban inhabitants per day.

» Promotion of climate-smart cities also involves another aspect: improving disaster risk management and financing efforts to better protect populations and safeguard assets against climate-related disasters. In Tunisia, floods accounted for the most significant economic losses (approximately 60 percent of total losses) and affected the highest number of people compared with other extreme events (approximately 560,000 people). The Integrated Disaster Resilience Program (P173568) project aims to cover 90,000 people directly through implementing urban flood risk reduction infrastructure. It also aims to strengthen public financial protection for 1 million eligible beneficiaries. Similarly, in Morocco, the Integrated Disaster Risk Management and Resilience Program—Additional Financing (P176349) focuses on improvement of the institutional framework to finance disaster risk reduction activities and strengthen financial resilience to natural disasters; the aim is to insure nearly 6 million people.
Vulnerable groups should receive particular attention since they tend to be disproportionately affected by the impacts of climate change but have the least resource to cope with them. In **Djibouti**, the Integrated Slum Upgrading Project (P162901, with additional financing provided through P172979) protects 6,000 refugees from floods. It ensures their safety and well-being, helps them become resilient, and ensures they have access to climate-resilient housing and infrastructure.

**MIGA has financed green buildings in **Morocco** by issuing a guarantee to the OCP Group to cover loans of up to EUR 570M to finance the construction of a new green university campus for the Mohammed VI Polytechnic University (UM6P). This innovative operation is the first of its kind in the education sector in Morocco.**

**Ensure climate-smart public services.** The World Bank is increasingly strengthening municipal finance and countries’ capacity to decentralize their urban services:

- In **Morocco**, building on the initial program’s success, the additional financing for the Casablanca Municipal Support Program (P149995, with additional financing provided [P178141]) will emphasize fiscal sustainability, social inclusion, and climate change. Among others, the project aims to kick-start green municipal investments, extend green spaces, enhance energy efficiency, and increase climate resilience through a 204-hectare reduction of the area watered through reused wastewater. Climate-smart urban planning in the contexts of FCV must address the unique challenges faced by countries experiencing instability and witnessing violence. They should also consider the impacts of climate change on urban areas.

- Cities in **the Republic of Yemen** have been severely impacted by years of conflict. Floods, which caused extensive damage to urban road networks, exacerbated the impacts. To prevent future climate-related asset damages, the integrated urban services project (P175791 and P181053) aims to directly reduce flood risk for 360,000 Yemenis. It also aspires to restore public sanitation services in a climate-resilient manner for over 1.4 million people.

**Develop resilient coastal economies.** The Roadmap directly supports countries’ NDC commitments to build more resilient coastal areas:

- The **flagship** report “Blue Skies, Blue Seas: Air Pollution, Marine Plastics and Coastal Erosion in the Middle East and North Africa” highlights that the Maghreb is the second-fastest-eroding region worldwide. The Blue Economy Program in **Morocco** (P1729260) is a direct response; it focuses on policy and institutional changes, integrated management of coastal and marine areas, reduction of marine and coastal degradation, and attracting investments in the blue economy sectors. The program aims to protect 78,270 hectares through reforestation and coastal dune stabilization, which will mitigate flooding risks and coastal erosion, but
also sequester carbon. Other countries are beginning to recognize the significance of and risks for coastal areas. The integrated marine and coastal management in the Tunisia ASA (P166339) produced a new physical data set for coastal erosion, besides enhancing modeling and monitoring capacity.

» **The Republic of Yemen** (P178143) is the first of seven member countries to benefit from the Program on Sustainable Fishery Development in Red Sea and Gulf of Aden (SFISH). The SFISH will help enhance regional cooperation for sustainable fishery management in the Red Sea and Gulf of Aden. Among other goals, the project seeks to revitalize and more effectively manage the fisheries sector in select areas in the Republic of Yemen, increase food availability, and create livelihood opportunities for Yemeni households involved in the fisheries value chain.

**Transformation 4: Sustainable finance for climate action**

National-level planning, budgeting, and financial systems play a crucial role in driving sustainable investments and facilitating the transition to a low-carbon economy. MENA continues to receive the smallest share of global climate finance as a region. MENA is estimated to be receiving US$5.1–7.4 billion in financing a year, including international private sector investments, whereas at least US$436–478 billion is needed to address and cope with climate change up to approximately 2030 (UNFCCC 2022). While resource-rich countries in the MENA region can afford to invest in climate change, resource-poor nations are more vulnerable. All countries in the region must work to transform public, private, and financial institutions to invest in low-carbon, resilient infrastructure.

The Roadmap provides a galvanizing framework to help green financial institutions and unlock the required capital to finance the necessary transitions. The Roadmap emphasizes a need for climate stress tests for financial systems, guidelines for managing climate risks, standards and regulations for financial institutions, and greening national budgets and expenditures (figure 20). These should be accompanied by capacity building and guidance for regulators, including unlocking private capital.

**FIGURE 20: Priority areas**

<table>
<thead>
<tr>
<th><strong>GREENING FINANCIAL SYSTEMS</strong></th>
<th><strong>IDENTIFY AND ADDRESS TRANSITION RISKS</strong></th>
<th><strong>UNLOCK GREEN FINANCING FOR CLIMATE-SMART INVESTMENTS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Greening the financial institutions, systems, and instruments will be the cornerstone of climate-smart transitions. The World Bank, IFC, and MIGA will jointly support this transition working closely with national and private sector institutions.</td>
<td>Identifying climate-related physical and transition risks to the economy will be essential to formulate policies for resilient financial institutions and governance in MENA.</td>
<td>Supporting national budgets and expenditures to align with green financing needs; unlocking private capital flows for green investments.</td>
</tr>
</tbody>
</table>

*Note: IFC = International Finance Corporation; MENA = Middle East and North Africa; MIGA = Multilateral Investment Guarantee Agency.*
Results

**Over FY21–23, 7 climate-responsive projects and 7 climate-focused ASAs financed by IBRD/IDA supported this transformation area.**

**Greening financial systems.** Through several technical assistance activities, the World Bank is providing support in building more sustainable financial systems. This includes developing strategies for greening the financial sector, building institutional capability, and promoting greener public finance management:

» One such example is the Central Bank of Jordan’s Green Finance Strategy (P178738), as well as its executive plans for the implementation of green finance and green climate risk management practices in the financial sector. The Strategy, covers the risk dimension (making the financial sector more resilient to climate-related financial risks) as well as the opportunity dimension (mobilizing green finance); is seen as one of the most comprehensive strategies of this type in the region and globally; and is an example of the operationalization of the recommendations in the CCDR. The Strategy’s implementation has already begun, with the World Bank providing technical assistance to the Central Bank of Jordan in implementing the first key milestones (e.g., climate risk assessment, green finance capacity-building program).

» Similarly, the first results area of the Morocco climate operation to support the implementation of Morocco’s NDC (P178763)—Strengthen Policy and Institutional Capacity in Green Public Finance Management, Green Finance, and Climate Data—should elevate and mainstream climate considerations into the policies and practices of the public finance and financial sector. The development of a green taxonomy through this operation is also one of the results of the Joint Capital Market Program (J-CAP) Morocco Sustainable Finance Facility (P178690), which was initiated in 2022.

**Identify and address transition risks.** Since FY21, the World Bank’s Finance, Competitiveness and Innovation GP has intensified efforts to help countries identify and monitor their exposure to climate-related transition risks; the aim has been to mitigate the impacts of climate change on financial systems, including in the area of disaster risk finance:

» A key milestone of the Central Bank of Jordan’s Green Finance Strategy (P178738) is to conduct the first comprehensive climate risk assessment for Jordan’s financial sector. The World Bank team has already started supporting the Central Bank of Jordan in conducting this exercise, which will be innovative, since it will cover not only the banking sector, which was the usual practice so far in many countries, but also the insurance sector and microfinance institutions.
The World Bank is also helping countries and their populations to achieve greater financial resilience to climate-related hazards and be able to recover from them. In Tunisia (P173568), the creation of a database on exposure to financial disasters represents one important step for the country in using advanced techniques to understand its vulnerability to disasters and climate change. Hereafter, a report on the current findings in the database will be published annually. Leveraging these findings will help the country to remain prepared to face financial disasters. The project, Strengthening Morocco’s Financial Resilience to Climate Physical Risks (P175523), aspires to strengthen systems for claims management and postdisaster monitoring, while achieving a sovereign reinsurance coverage of US$50 million against floods.

Unlock green financing for climate-smart development. The World Bank is committed to supporting MENA bridge its climate finance gap by catalyzing climate financing through governments’, financial institutions’, and the private sector’s involvement:

» The Jordan Inclusive, Transparent and Climate Responsive Investments Program (P175662) is a prime example of a project focusing on unlocking green financing. It has already implemented several initiatives, for example, Green Bond Guidelines were issued in 2021, eligibility criteria for climate-responsive projects have been defined, a 2030 climate investment pipeline and a mobilization plan have been finalized, the draft policy framework for international carbon markets has been published, and the Center of Excellence and a potential business plan for its operation have been structured. Restructuring of the operation has added new results, for example, the preparation of the first sovereign green bond in Jordan and the development and adoption of the National Green Taxonomy.

» In Egypt (P179896), the 30 by 30 Zero program aims to create an enabling environment for the financial sector to become climate risk resilient. It also aspires to catalyze climate finance through a field survey, helping to inform the Central Bank of Egypt’s new circular on sustainable finance published in 2022.

» MIGA has also supported green financing in Egypt: the Guarantee Agency provided cover for issuance of a first climate-certified green bond in Egypt’s energy sector. The innovative bond structure was fully subscribed by institutional investors and received a credit rating comfortably above the minimum required for an investment grade credit.

» The whole-of-economy technical assistance aims to support Egypt, Jordan, Morocco, and Tunisia in greening their financial systems. For example, it supported the finalization of the Central Bank of Jordan’s Green Finance Strategy. In Egypt, a working group on climate and disaster risk finance diagnostics was established, and a high-level climate finance strategy covering blended finance for NWFE (nexus of water, food, and energy) projects.
and carbon markets was being developed. Further, initial discussions on the alternatives for the implementation of a blended finance strategy are being organized. The next step is to develop either an Integrated Economic Study for Decisions on Article 6 or a Roadmap for a Domestic Ecosystem on Voluntary Carbon Credit Markets, or the Implementation of a Domestic Ecosystem for Voluntary Carbon Credit markets.

Cross-cutting solutions
A total of 32 lending operations supported critical cross-cutting solutions for climate. Progress enabled by these projects is captured below.

Whole-of-government approach

A whole-of-government approach has been crucial in view of advocating and supporting a coordinated approach among all government agencies and departments to ensure climate action is integrated into policies, programs, and strategies. Existing engagement leverages the whole-of-government approach through cross-sectoral policy reform dialogues:

» The World Bank is working with Jordan’s government to strengthen green public financial management and green recovery efforts. As part of this work, the climate readiness of Jordan’s public financial management system (using PEFA-Climate; P175662) to inform the government on necessary law and regulation, institutional, systems, and procedural reforms is being assessed. This dialogue has also led to the Jordan Inclusive, Transparent and Climate Responsive Investments Program for Results (P175662). Similarly, the Morocco Climate Operation (P178763) operationalizes certain key CCDR recommendations and leverages the “whole-of-government” approach with an aim to enhance coordination mechanisms at the climate-development nexus.

» The IFC is also supporting the subscription of up to US$50 million in the first green bond to be issued by the Jordan Kuwait Bank (the “Bank” or “JKB”) in Jordan covering the full issuance and up to US$40 million Global Trade Finance Program trade line for up to one year. The investment will include up to US$36 million from IFC’s own account, besides a co-investment of up to US$14 million, provided through the participation of the Canada-IFC Blended Climate Finance Program and the MENA private sector development facilities under IFC Blended Finance, as described under the Blended Finance Section. The Bank will use the bond proceeds to finance eligible green projects and assets in Jordan. The Roadmap is also facilitating the growth of proven clean energy solutions.

Private sector engagement

The private sector is one of the most important channels to bring the necessary innovation,
capital, and technology to create a more resilient and sustainable future for MENA. The opportunities lie in treasury markets, policies to incentivize investments in low-carbon technologies, and carbon finance mobilization:

» In recent years, MENA’s private sector, with support from the World Bank and other development partners, is capitalizing on green transition opportunities to mitigate climate risks, improve competitiveness, and create jobs, while pushing forward the climate agenda. For example, in 2021, the IFC became the lead arranger of a US$360 million loan to the Basrah Gas Company to develop a plant to treat and process associated gas that would otherwise be flared. IFC’s investment in Iraq’s Basrah Gas Company supports one of the largest gas-flaring-reduction projects in the world. It is helping to improve energy access, prevent GHG emissions by about 10 million tons per annum, and supports a more resilient and sustainable energy sector in the country.

» In Morocco, the IFC and the OCP Group, the world’s largest phosphate-based fertilizer producer, signed a landmark green loan to design, install, and operate four solar power plants—with 202 megawatts-peak cumulative installed capacity—at two phosphate mines in central Morocco (the “Project”); the Project will avoid about 285,000 tCO2e annually.

» Finally, the IFC is providing advisory support and technical assistance in Morocco to build a pipeline of bankable projects that can attract commercial financing (e.g., the Casablanca Cities Project [P603604], which aims to help the Casablanca-Settat region manage its increasingly complex transportation system, besides enhancing the governance structure, financial sustainability, and operational performance of the public transport sector).

Poverty, inclusion, and a just transition

Without action, climate change could push an additional 132 million people globally into poverty (World Bank 2020). The Groundswell Report Part 2, “Acting on Internal Migration,” estimates that by 2050, North Africa alone could see as many as 19 million internal migrants. Unfortunately, vulnerable households are more likely exposed to and less able to cope with climate risks. For instance, rising temperatures and heatwaves especially affect those working outside (e.g., agricultural workers), and they can cause heat-related illnesses and exacerbate existing cardiovascular and respiratory conditions:

» The World Bank is working with countries in MENA to strengthen social safety nets, which help vulnerable populations become resilient, besides preventing people from falling into poverty or preventing poverty from becoming more entrenched. For example, work is underway as part of the Tunisia COVID-19 Social Protection Emergency Response Support Project Additional Financing (P177821) or the Lebanon Emergency Crisis and COVID-19 Response Social Safety Net project (P173367) to establish an integrated and functional delivery system
to provide social protection services efficiently to climate-vulnerable beneficiaries. One specific goal in Tunisia is to ensure that 80 percent of beneficiary women can receive their payments digitally; this will significantly improve payment processing speed. MENA also carries out the preparation of Programmatic Poverty Assessments (e.g., the Maghreb Programmatic Poverty Work [PI68292]), which contribute to the creation of an evidence base for informed reforms to support the impoverished.

» People across MENA are also exposed to the health implications from climate change. The Yemen COVID-19 Response Project Additional Financing (P176827) facilitates awareness campaigns to promote good hygiene and sanitation practices to prevent the spread of diseases exacerbated by climate change. The Djibouti Health System Strengthening Project (P178033) aims at making the national health systems more resilient through better utilization of quality reproductive, maternal, neonatal, child, and adolescent health and nutrition (RMNCAH-N) services. For instance, the project aspires to reduce the risk of preventable diseases by increasing the share of children fully immunized before their first birthday from 50 to 80 percent. Finally, diagnostic and research toolkits, for example, the Social Protection Stress Test and Climate Health and Vulnerability Assessment, offer countries evidenced-based recommendations to strengthen their national systems to be adaptive to climate change, for instance, in the context of the West Bank and Gaza CCDR.

» Inclusion in climate transitions also requires that the voices of marginalized communities and groups, including women, are heard and their needs are reflected in decision-making processes. The MENA region is currently preparing a technical note, “Citizen Climate Action Framework: Operationalizing Citizen Engagement for Climate Change in MENA and Beyond,” defining citizen climate action as a core part of the institution’s whole-of-society response with the goal to promote public participation and citizen engagement in climate policy making. With analytics such as the report “Understanding Climate Change Resilience in the West Bank and Gaza (P178271),” the World Bank is further providing evidence to inform operation at the climate-fragility nexus.

» On the other hand, countries can combine labor market and education analyses to maximize the potential demand for and supply of people ready to work in low-carbon jobs. In Egypt, Morocco, and Tunisia, the Energy and Education GPs are working together; they are using the Clean Energy Employment Assessment Tool, alongside institutional assessments of technical and higher education programs to compare the programs’ readiness to equip students with the required skills. The Regional Network in Energy for Women in MENA (RENEW MENA) was launched in June 2022 to support women. It aims to increase women’s participation and leadership role in the energy sector, and enhance opportunities for entrepreneurship in renewables. This initiative includes the public sector, the private sector, and academia and has over 200 individual members.
Digital innovation and data

A more widespread use of digital services and a strong digital economy would boost economic growth. These would raise the GDP per capita by at least 46 percent over 30 years and could provide opportunities for mitigating and adapting to climate change (World Bank 2021):

» The World Bank in MENA is actively supporting climate change adaptation efforts through digital innovation. For example, it is helping to improve early warning systems for extreme weather events; this will contribute to climate-resilient infrastructure and enhance disaster response and recovery. In Djibouti, through the Djibouti Digital Foundations Project (P174461), the Bank is working to enable SMS- or instant-messaging-based alerts of imminent extreme weather events for a larger share of the population, from 39 percent to 55 percent. It aims to achieve this by the project’s end.

» The World Bank recently provided to Morocco (P174005) an additional US$450 million—the third in a series of three policy reform operations totaling US$1.6 billion. The successful Development Policy Financing series has given Morocco increased access to financial services (44 percent in 2023 from 29 percent in 2017) and to digital payments (30 percent in 2023 from 17 percent in 2017). It has also improved the infrastructure for digital payments, mobile payments and mobile broadband networks, microinsurance, and collateral registries, besides giving women access to finance and empowering them economically.

» Digital innovation is also key to adapt to water scarcity. The software developed by KarmSolar in Egypt, with the IFC’s support, leverages advanced analytics to monitor water consumption, detect leaks, and optimize irrigation practices; this results in significant water savings for farmers.

» The World Bank also continues to provide ASAs to support countries in MENA in further promoting digital inclusion and transformation. Examples include the Maghreb ASAs P177507 and P501807. Maghreb countries share an ambition to attract international investment in digital technologies and become regional digital hubs. Significant renewables-based generation and significant supply of renewables-based energy are key prerequisites for new digital infrastructure (e.g., in the data center market).
LOOKING AHEAD: GAPS AND OPPORTUNITIES FOR ACTION
Looking ahead: Gaps and opportunities for action

As countries continue advancing toward a green and resilient future with institutions’ and partners’ support (e.g., from the World Bank), we continue to learn what success look like and what works, and where and how. The World Bank has adopted a proactive approach to addressing issues that will directly impact the ability of countries in MENA to navigate their responses to the increasing threats posed by climate change. The Bank continues to support the decarbonization of high-emission sectors.

Despite significant increases in World Bank financing for green and resilient projects and the growing recognition of climate action among governments, challenges to implementation and scale-up persist; these challenges hold MENA back from a green and resilient pathway. Overlapping political and economic crises have dampened the global economic outlook, have put additional strain on the resources of many countries, and exposed existing vulnerabilities. For the MENA region, there remains a significant financing gap since it receives the lowest share of global climate finance, and public finance alone cannot meet the investment needs to fulfill competing development priorities. COP28 promises to bring all high-level stakeholders to help crowd in climate financing, including the Damage and Needs Fund, which was announced at COP27. However, expectations for breakthrough financing packages must be checked given donor countries are also facing a shrinking fiscal space. It is also worth noting that the World Bank’s support on climate in MENA is largely driven by countries’ development needs and priorities, which continue to shift and evolve.

It would also be important to track the outputs and outcomes of technical advice, policy reforms, and green and resilience-focused investments. Traditionally, financial institutions, including MDBs, have measured progress by tracking the amount of financing and other input matrices. However, there is a need to shift toward measuring outcomes (see part III for the anticipated outcomes in MENA). This shift is crucial because it provides a more comprehensive understanding of these programs’ impact and effectiveness. The World Bank and other MDBs are piloting approaches to develop integrated frameworks for measuring results on climate change. This is a complex endeavor, and updates on progress will be captured in the subsequent updates of the roadmap.

It is therefore even more critical for countries in MENA to adopt climate and development pathways advocated in the World Bank CCDRs, besides developing enabling environments for crowding in all possible sources of financing. It is important to build on the progress made so far and accelerate efforts to decouple economic growth from emissions and build climate resilience. As countries chart a pathway of shared, inclusive economic growth with the World Banks’ and other partners’ support, the following areas will need special attention:
Concessional climate finance and private sector engagement. It is evident that public national and international finance alone cannot meet the scale of financing needed to tackle the climate challenge. It is therefore critical to leverage and crowd in all possible financing sources, including treasury markets and private sector investments, besides domestic and international sources of concessional financing. Country-led action must remain a core of these financial solutions to direct policy, inform strategic directions, and build an enabling environment for financing to flow. The World Bank “Evolution Roadmap” aims to support and implement global public goods through a wide array of possible instruments, although without a clear vision and decisive leadership of countries, innovative solutions will not reach the scale required for green and resilient growth.

Readiness for scaling up carbon finance. Carbon markets will also play an important role in the pursuit of maximizing public and private financing for low-carbon solutions over the next 10 years. Despite increased interest and progress in MENA, there is much to do for the countries to help establish national policies, implement carbon market infrastructure and institutions (e.g., national registries and cross-sectoral mapping of emission sources), and introduce regulations to ensure compliance (Article 6) and support voluntary carbon markets. The financial sector could play an important role in the establishment of transparent emission trading standards, as in the case of Egypt’s Financial Regulatory Authority, with the World Bank’s and other partners’ support.

Support for decarbonization technologies. Despite progress on renewable energy in MENA, where renewable energy potential is high and prices are falling, renewable energy has had limited deployment, to a few large projects, which are not sufficient to decarbonize energy systems in the long run. Technical challenges (e.g., peak load management, insufficient investments in storage technologies), political challenges, and economic challenges continue to hamper low-carbon transition. All development partners, including the World Bank, must continue investing in renewable energy and in the phase-out fossil fuel subsidies as a key pillar of the transition toward a sustainable and resilient future. Besides renewable energy, the diversity of the countries in MENA also suggests significant opportunities for harnessing innovative technologies such as green hydrogen, carbon capture and storage6 and accelerated use of circular carbon economy principles. In April 2023, the World Bank first organized the inaugural partner meeting for the Hydrogen for Development (H4D) initiative; MENA is kicking off the engagement with strategies and roadmaps in select countries. Another key focus area for emission reduction is methane emissions from the oil and gas industry but also from other critical sectors such as agriculture and waste management.

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6 The World Bank CCS Trust Fund, established in 2009, works to launch programs supporting the development and deployment of carbon capture, utilization, and storage in developing economies. The programs provide support on a range of issues, including regulatory frameworks, implementation, storage, and the development of pilot projects. To date, seven country programs have been supported in MENA.
» **Investment in human capital.** Populations in MENA are already seeing the impacts of climate transitions. Besides, shifts to low-carbon and green transitions will have disproportional labor market implications. There exists significant potential to invest in upgrading green skills and strategically align labor market reforms with opportunities for green transitions. A well-managed transition will help create new and better jobs especially for women, who have traditionally not been active participants in the labor market. Similarly, social protection programs must adapt to identify climate-vulnerable groups, especially in lagging areas, and to improve targeting mechanisms so that the most vulnerable do not suffer due to climate impacts on productive and service sectors.

» **Cross-sectoral and nexus approaches.** It is becoming evident that single-sector solutions have limited scope to address the complex challenges of climate change. Countries and World Bank programs must prioritize solutions at the intersection of sectors. One such example is the nexus of water scarcity, food insecurity, and energy supply. All CCDRs in MENA have highlighted solutions that require multisector involvement, including for implementation. However, such implementation also requires cross-sectoral collaboration and coordination upstream, at the design stage. The World Bank can help facilitate dialogue and partnerships, and support the implementation of integrated policies and projects that address the nexus challenges in MENA.

» **Nature-based solutions (NBSs).** Through the implementation of the MENA Roadmap, the Bank has increased investments in NBSs. Despite NBSs’ potential as crucial solutions to climate-induced challenges, including water scarcity, economic constraints and limited awareness among policy makers and stakeholders pose barriers to the prioritization of NBS initiatives and the allocation of sufficient funds for these solutions. It is essential to continue raising awareness of NBSs’ benefits among decision makers and stakeholders and facilitate fund mobilization through innovative financing mechanisms such as green bonds or concessional climate funds.

**Knowledge, data, digital technologies, and implementation capacity.** Data gaps, a lack of climate expertise in public institutions, and a lack of fit-for-purpose technical tools and digital technologies’ hinder the management of climate-related risks and the implementation of green financing activities. As countries articulate national visions and strategies for climate action (e.g., NDCs, the Economic Modernization Vision, the Climate Change Policy), the World Bank (and other

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7 Countries’ adaptation to climate change benefits from digital technologies, which can make the right information available to public and private decision makers, people, and organizations at the right time. For instance, digital tools and networks are crucial in real-time environmental and hydromet monitoring and for the ability to forecast and deliver timely warning. New technologies also make it possible to maintain infrastructure services during extreme weather events; this is because they add to system resilience and adaptability. Digital public services significantly enhance governments’ ability to support people and organizations when they are affected by shocks. Here, digital public services contribute by helping to collect information and enabling swift delivery of support.
partners) must work closely with national policy makers to inform climate action plans, support analysis for action, and identify data and capacity gaps. These efforts will build on the analysis conducted as part of the World Bank CCDRs, promote alignment with national development priorities for advancing climate action, and contribute to poverty eradication on a livable planet.
References


IRENA. 2019. [provide details]


