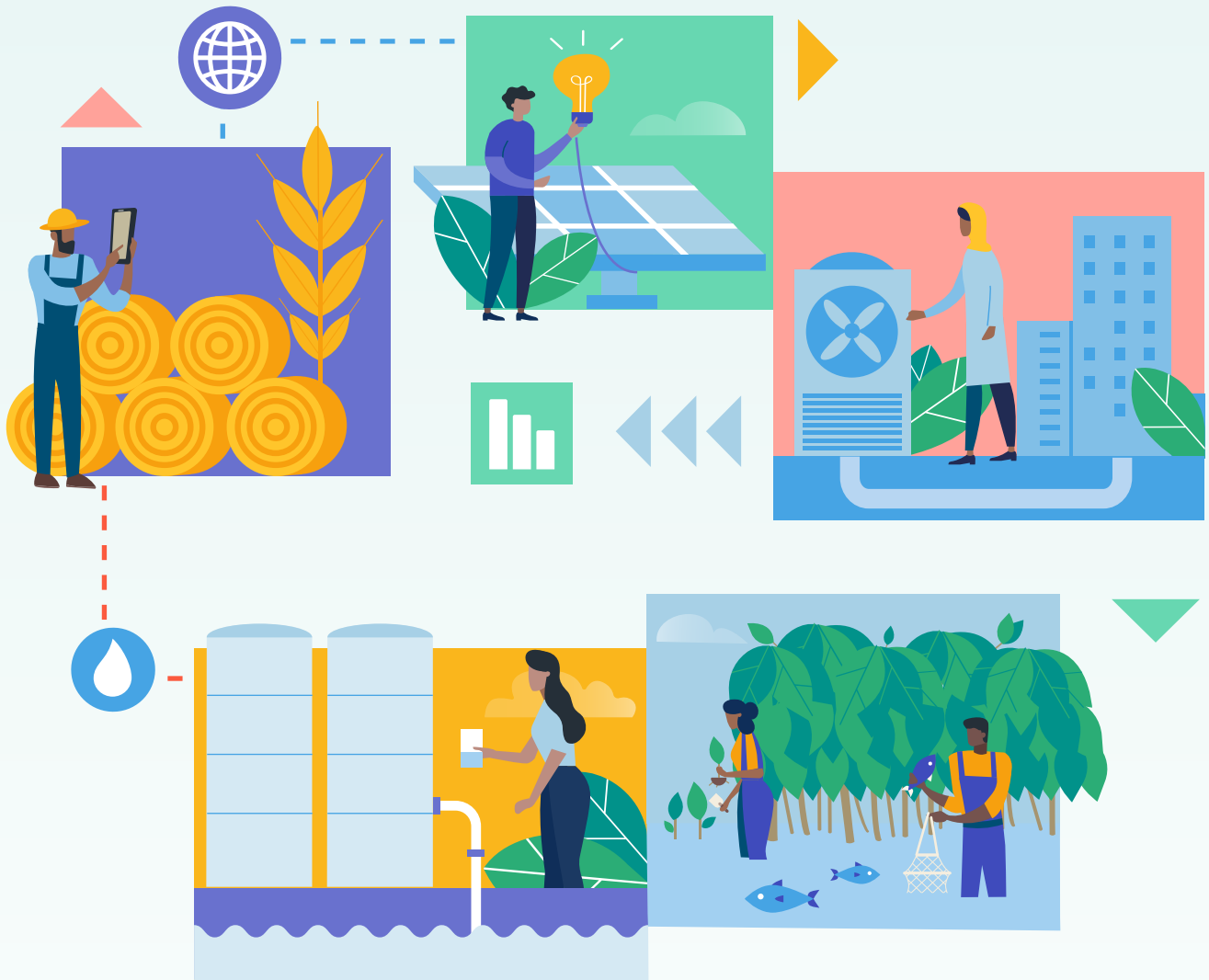


TECHNICAL ASSESSMENT OF CLIMATE FINANCE IN THE ARAB STATES

ANNEX TO THE ARAB STATES CLIMATE FINANCE
ACCESS AND MOBILIZATION STRATEGY



United Nations
Framework Convention on
Climate Change



Shared Prosperity Dignified Life





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Abbreviations and acronyms

AF	Adaptation Fund	NC	national communication
AfDB	African Development Bank	NDA	national designated authority
AFOLU	agriculture, forestry and other land use	NDC	nationally determined contribution
BUR	biennial update report	ODA	Official Development Assistance
CAMRE	Council of Arab Ministers Responsible for the Environment	OECD	Organisation for Economic Co-operation and Development
COP	Conference of the Parties	OPEC	Organization of the Petroleum Exporting Countries
COVID-19	coronavirus disease 2019	RCP	Representative Concentration Pathway
CO ₂ eq	carbon dioxide equivalent	SCCF	Special Climate Change Fund
DAC	Development Assistance Committee	SDG	Sustainable Development Goal
EBRD	European Bank for Reconstruction and Development	SLR	sea level rise
ESCWA	United Nations Economic and Social Commission for Western Asia	SWF	sovereign wealth fund
EWS	early warning system	TAP	technology action plan
FDI	foreign direct investment	TNA	technology needs assessment
GCC	Gulf Cooperation Council	UAE	United Arab Emirates
GCF	Green Climate Fund	UNDP	United Nations Development Programme
GDP	gross domestic product	UNEP	United Nations Environment Programme
GEF	Global Environment Facility	WB	World Bank
GHG	greenhouse gas		
ICZM	integrated coastal zone management		
IFAD	International Fund for Agricultural Development		
IFC	International Finance Corporation		
IMF	International Monetary Fund		
INDC	intended nationally determined contribution		
IsDB	Islamic Development Bank		
LAS	League of Arab States		
LDC	least developed country		
LDCF	Least Developed Countries Fund		
MDB	multilateral development bank		
NAP	national adaptation plan		
NAPA	national adaptation programme of action		
NBF	Needs-based Climate Finance		





Executive summary

The NBF project provides an opportunity for Arab States to assess and articulate their climate finance needs and mobilize and access climate finance from a variety of sources. Climate finance needs are articulated by LAS member states in their national reports to the UNFCCC and in the context of sustainable development and economic diversification.



Water, agriculture, coastal zones and health are identified as priority sectors for adaptation and adaptation with mitigation co-benefits. Energy, transport and waste are priority areas for mitigation and economic diversification with mitigation co-benefits. Climate finance flows into the region are derived from MDBs (63%), bilateral sources (33%) and climate funds (4%). Most flows are directed at priority sectors such as energy, transport, and water and sanitation. However, flows remain below the estimated needs of the region, with many countries facing access barriers and a slow disbursement of approved funds.

Given the considerable diversity among the countries in the region, including in terms of needs expressed and the capacity to access and mobilize resources, tools and resources need to be provided at country level to follow context-specific implementation paths for following through on the Arab States Climate Finance Access and Mobilization Strategy in the region.

Adaptation needs are starkly apparent across the region, particularly in relation to ensuring water and food security (see section II of this report). However, in submissions to the UNFCCC, more countries mention mitigation needs compared with adaptation needs, and countries have focused on costing mitigation needs (see section III). This may not reflect areas of greater need, but rather a lack of data, tools and capacity for assessing adaptation needs. In terms of technology identification, more countries identify the need for adaptation technologies compared with mitigation technologies. This issue also impacts the current flows, where most finance goes to mitigation projects, typically larger infrastructure projects (see section IV).

Country-level action is needed to better assess climate vulnerabilities and identify adaptation measures, including technological solutions, that can address them across sectors. Despite submitting their NDCs and associated climate action plans, many Arab States have not estimated their climate finance needs, and very few have published granular estimates with sector- or programme-specific costs. Readiness support funds may help to strengthen institutional capacity and enable a project pipeline to be developed, and should be pursued by countries that have not yet solicited them.

Owing to different methodologies and approaches being utilized to assess and cost climate finance needs, there is a need to map a suite of available guidelines, methodologies and approaches. This could be initiated through the United Nations system, regional research organizations and think tanks.

However, to enable countries to prepare to systematically mobilize resources at scale, climate must be mainstreamed into national and sectoral development planning and budgeting. This can facilitate the prioritization of projects, encourage cross-cutting initiatives and reduce strain on scarce public resources, as well as help to clarify in which cases grant or highly concessional finance is needed and when other instruments, most notably non-concessional debt or policy instruments, may be best placed to achieve national ambitions. Pursuing climate mainstreaming and cross-cutting projects can also help to identify design alternatives and foster integrated approaches that improve resilience or lower emissions without increasing costs or only doing so incrementally.

There is an opportunity to diversify sources of climate finance in the region, including by increasing climate finance flows from climate funds, particularly for coordinating greater use of readiness funding for multi-country projects among member states. Geographically, flows are concentrated in four or five countries, although needs are identified across the region, particularly in LDCs. Furthermore, owing to the dominance of MDBs, non-concessional loan instruments dominate flows, whereas more concessional instruments and grants are typically required to assist in meeting adaptation needs. Improving access to concessional sources of climate finance and identifying effective ways to scale up private sources of finance from domestic and international sources, including intraregional sources, can help. Climate debt swaps can provide an alternative source of funding for climate action.

Another opportunity lies in expanding the breadth and depth of inclusive domestic markets for financing voluntary climate action, including by enabling interventions to remove technical and financial barriers that banks and financial institutions face in financing both mitigation and adaptation projects. Targeted public support can also expand the range of financial and banking products that are aligned with national climate action objectives. Standardized climate and sustainable finance definitions or taxonomies may facilitate the growth of domestic capital markets for green bonds and other emerging financial instruments. When matched with increased disclosure, these instruments can facilitate FDI flows that are subject to climate-related screening by parent companies based in external markets.

Expanding Islamic banking and microfinance or considering private investments as supplementary resources are further opportunities Arab States can pursue to diversify sources of climate finance in the region. Green banks can play an important role in raising finance, including in local currency. MDBs, such as AfDB, EBRD and IsDB, and other institutions that support Arab States are equally important in mobilizing and facilitating access to climate finance. Their familiarity with and understanding of the socioeconomic and cultural context of the region provides an opportunity in terms of facilitating access to finance by offering a range of financial instruments and support windows for Arab States.

Ministries of finance and central banks can play an important role in mobilizing and facilitating access to public and private climate finance, including by (i) participating in global and regional initiatives; (ii) setting up institutional arrangements on green and climate finance; (iii) enabling interventions and targeted support to strengthen the provision of private climate finance in domestic capital markets; (iv) managing environmental related risks and disclosure; (v) strengthening integrated whole-of-government planning and budgeting and developing strong pipelines of bankable projects and climate-aligned expenditure programmes; (vi) establishing national climate expenditure tracking systems; and (vii) enhancing collaboration across ministries responsible for climate change and national development planning with a view to facilitating data exchange for needs assessments and aligning positions in international forums.

I. Introduction and context

A. Framing the mandate

1. In 2017, in its decision pertaining to long-term climate finance, COP 23 requested the UNFCCC secretariat, in collaboration with the operating entities of the Financial Mechanism, United Nations agencies and bilateral, regional and other multilateral channels, to explore ways and means to assist developing country Parties in assessing their climate finance needs and priorities, in a country-driven manner, including technological and capacity-building needs, and in translating climate finance needs into action.¹ Furthermore, the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol encouraged financial institutions to support the financing of projects for the Executive Board of the clean development mechanism.²

2. Collectively, these mandates form a secretariat-wide initiative called the NBF project, which aims to facilitate mobilization of and access to climate finance and investment by supporting the needs identified by developing countries for the implementation of the priority projects and programmes outlined in their NAPs, NDCs and other relevant national policies and/or strategies.

B. Aim and purpose

3. The objective of this technical assessment is to inform and thereby facilitate the development of an Arab States Climate Finance Mobilization and Access Strategy in order to enhance mobilization of and access to finance, and to catalyse climate finance and investment for the implementation of priority mitigation and adaptation actions.



4. The NBF project in the Arab States is implemented in collaboration with LAS and ESCWA, and therefore covers the 22 member States of LAS, which extend from Northern Africa to Western Asia: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Somalia, State of Palestine, Sudan, Syrian Arab Republic, Tunisia, UAE and Yemen.

5. The proposed strategy is based on needs identified by the Arab States in accordance with goals outlined in their NDCs, NAPs and other relevant policies or strategies. It therefore adopts a bottom-up approach to feed into a strategy across the region.

6. This document is a technical assessment of the finance, technology and capacity-building needs and priorities of the Arab States contained in their official communications to the UNFCCC and in national policies and other relevant documents where available, as well as of the overarching climate-related finance flows, domestic and international, to the Arab States. This technical annex therefore represents an attempt to identify gaps and barriers in relation to meeting stated needs that can be addressed by the climate finance mobilization and access strategy.

7. The proposed Arab Climate Finance Mobilization and Access Strategy and its guidelines for implementation shall ideally be endorsed at the highest political level through the LAS with a view to focusing efforts on delivering in response to the needs expressed by the Arab States in the region.

¹ Decision 6/CP.23, para. 10.

² See decisions 3/CMP.1, annex, paras. 4(d) and 5(i); 6/CMP.11, para 8; 3/CMP.12, para. 4; and 3/CMP.13, para 2.

8. As the mandated intergovernmental organization established by the 22 Arab States to serve the region, LAS tackles a plethora of policy areas ranging from international relations and diplomacy to legal, social and economic issues and policies through an elaborate organizational structure.³ Institutionally, climate change falls under the responsibility of the Economic Affairs Sector, specifically the Environment and Meteorology Department, which serves CAMRE and the Arab Council of Ministers Responsible for Meteorology and Climate. Other ministerial councils served by the LAS secretariat and its respective organs also address climate change issues, including those responsible for agriculture, disaster risk reduction, electricity, health, housing and construction, and water. LAS has fostered consensus on a range of regional policies that address climate change in these different sectors, such as the Strategy for Sustainable Arab Agricultural Development for the Upcoming Two Decades (2005–2025),⁴ the Arab Strategy for Water Security in the Arab Region to Meet the Challenges and Future Needs for Sustainable Development 2010–2030,⁵ the Arab Framework Action Plan on Climate Change 2010–2020, the Arab Strategy for Housing and Sustainable Urban Development 2030,⁶ and the Guide on Renewable Energy and Energy Efficiency (2017).⁷ These initiatives fall under the auspices of the LAS Economic and Social Council.

9. ESCWA is a regional commission of the United Nations that is mandated to serve all Arab States with the exception of the Comoros and Djibouti. It supports member States on climate change through its ministerial sessions and intergovernmental committees on energy, financing for development, statistics, technology, transport and water resources.⁸ ESCWA also serves member States through its Arab Centre for Climate Change Policies,⁹

which provides technical assistance and advisory services; capacity-building and institutional strengthening services; support for regional platforms and regional consensus-building; integrated responses to climate change challenges; and access to regional knowledge and information, including through the Regional Knowledge Hub.¹⁰

C. Methodology

10. The methodology for the technical assessment predominantly consists of the technical analysis of aggregated quantitative and qualitative data derived from the Arab countries' own assessment of their needs and priorities. As such, it is primarily a desk-based assessment complemented by engagement with stakeholders from the region and consultations with national, regional and international experts. The stakeholder engagement takes the form of regular communications and regional workshops to which international experts are invited. The process is guided by the UNFCCC secretariat in consultation with LAS and ESCWA. Figure 1 provides the project's timeline in terms of key events and milestones.

11. Key research questions include:

- (a) What are the identified needs and priorities for countries in the region from the perspective of sustainable development and economic diversification and in terms of balancing adaptation and mitigation with co-benefits?
- (b) How are climate finance flows currently channelled?
- (c) What are the challenges and opportunities in terms of addressing needs and scaling up climate finance flows?

³ See <http://www.lasportal.org/ar/councils/lascouncil/Pages/default.aspx?RID=75&Ctype=1> (in Arabic).

⁴ See <http://www.aoad.org/strategy/straenglish.pdf>.

⁵ LAS. 2012. Arab Strategy for Water Security in the Arab Region to Meet the Challenges and Future Needs for Sustainable Development 2010–2030. Available at https://www.unescwa.org/sites/www.unescwa.org/files/events/files/arab_strategy_for_water_security-english_translation-2012_0.pdf.

⁶ LAS. 2017. Arab Strategy for Housing and Sustainable Urban Development 2030. Available at <https://oldweb.unhabitat.org/wp-content/uploads/2017/05/Arab-Strategy-English.pdf>.

⁷ See <http://www.leagueofarabstates.net/ar/councils/ministerialcouncil/Pages/MCouncilDocuments.aspx?RID=8> (in Arabic).

⁸ See <https://www.unescwa.org/about-escwa/governing-and-advisory-bodies/escwa-committees/executive-committee>.

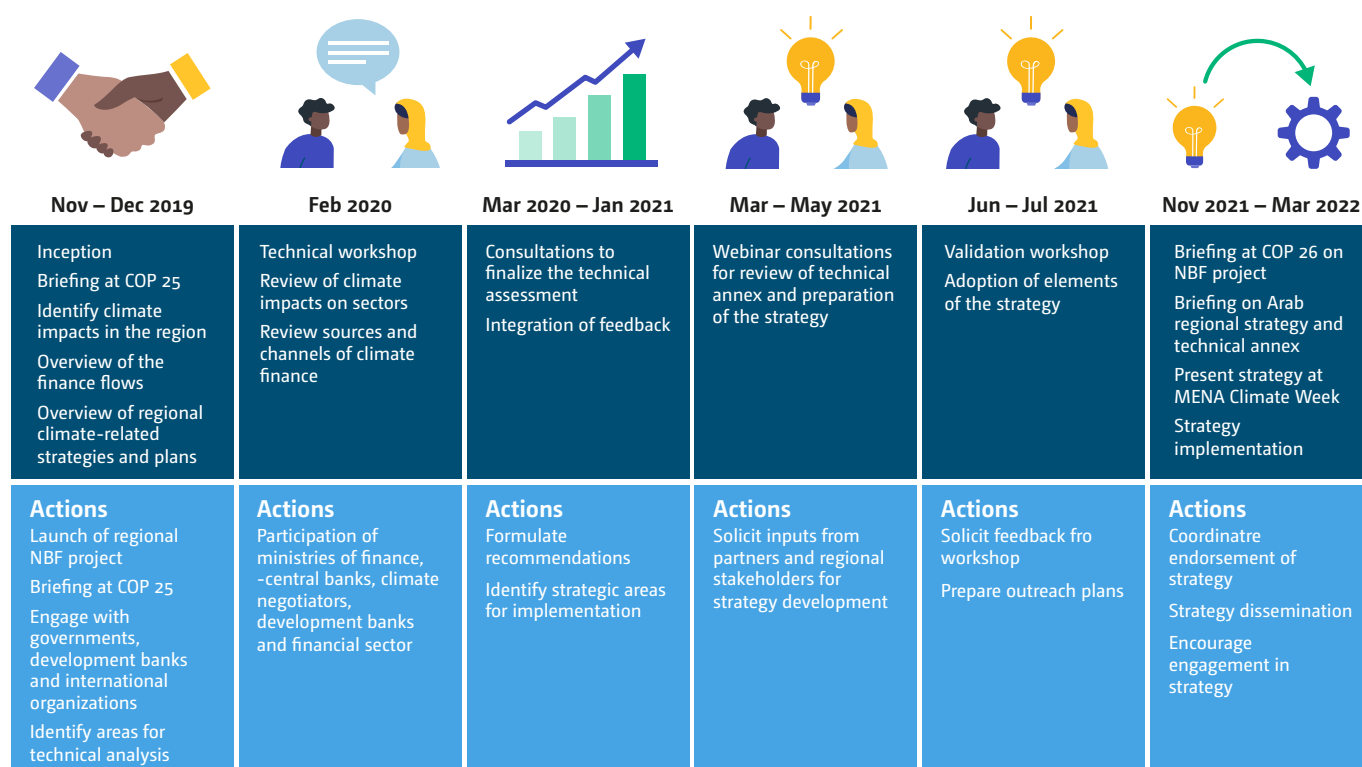
⁹ See <https://www.unescwa.org/arab-centre-climate-change-policies>.

¹⁰ See <https://www.riccar.org>.

12. The sources of the data vary, with both primary and secondary sources. These include reports submitted to the UNFCCC, country strategies of MDBs and funds, and regional, subregional and national strategies by theme and/or by sector. Reports from Parties to the Convention include BURs, NAPs, NAPAs, NCs, NDCs, TAPs and TNAs. MDB country strategies include those of AfDB, EBRD, IsDB and the WB. The GCF also develops country programmes to support its financing decisions. Regional, subregional and national strategies by theme and/or sector include those provided by line ministries in the Arab Petroleum Investments Corporation, the Arab States, GCC, LAS, and the Union for the Mediterranean established under the auspices of OPEC. Data availability and quality is not consistent across all 22 member States and data gaps remain, particularly in relation to domestic actions.

13. The technical assessment provides an evidence-based framework for the development of the strategy for enabling Arab States to mobilize and access climate finance in a country-driven manner. This technical assessment is an annex to the Arab States Climate Finance Mobilization and Access Strategy through LAS, which is a concise and actionable document that will be implemented through a pipeline of projects prioritized to meet regional needs, as identified by the LAS member States.

Figure 1
Indicative timeline for Needs-based Climate Finance Arab States





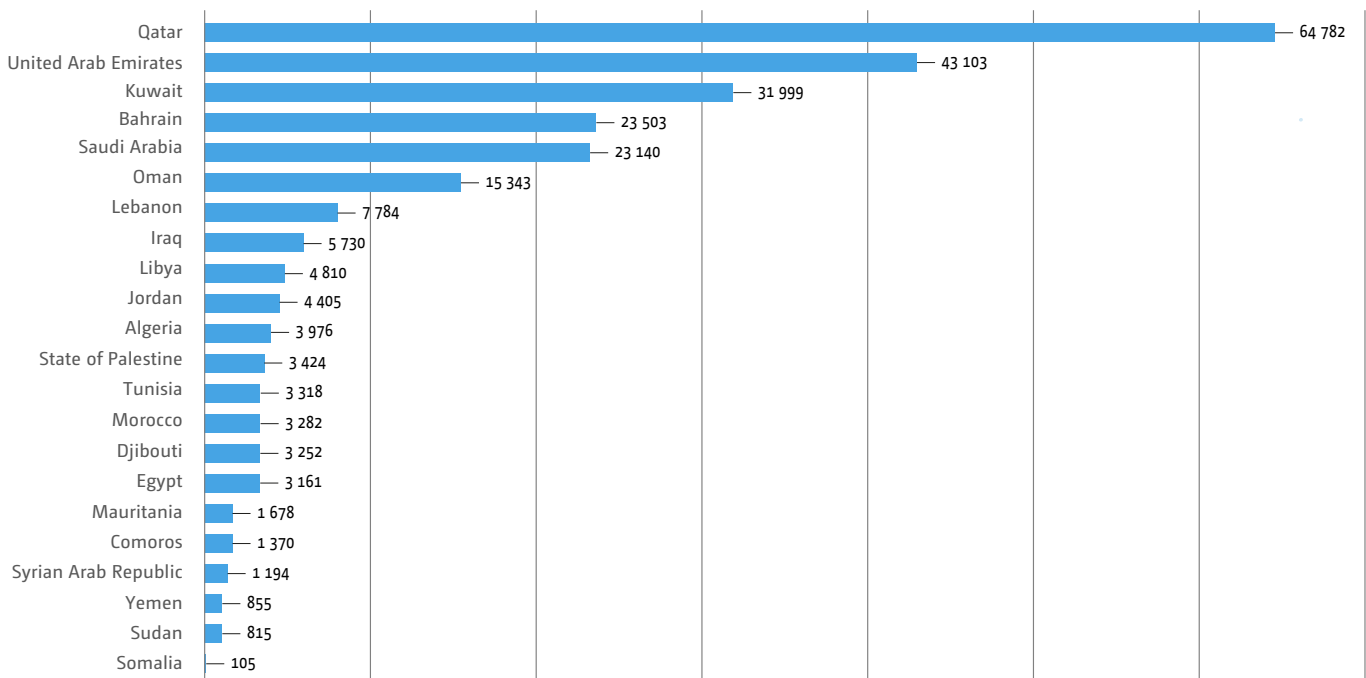
II. Regional context

A. Socioeconomic context

14. The 22 member States of the LAS have a combined population of 420 million and approximately USD 6 trillion in GDP.¹¹ This collective strength masks significant disparities across the region. Indeed, GDP per capita in 2019 ranged from USD 105 in Somalia to USD 64,782 in Qatar. Six Arab States are categorized as LDCs: Comoros, Djibouti, Mauritania, Somalia, Sudan and Yemen. Six are members of GCC: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE. Other subregional groupings include the Maghreb – comprised of Algeria, Libya, Morocco and Tunisia; and the Mashreq – comprised of Egypt, Iraq, Jordan, Lebanon, the State of Palestine and the Syrian Arab Republic (see figure 2).



Figure 2
Gross domestic product by capita by League of Arab States member State
(2019 USD)



¹¹ On a purchasing power parity basis from <https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.CD?locations=1A>.

1. Major economic sectors

15. The structure of Arab economies varies from oil exporters to oil-importing middle-income countries to LDCs. In 2018, the Arab region experienced an economic growth rate of 2.3%, compared with 1.7% in the previous year. This was driven by the hydrocarbon sector in the region's oil-exporting countries, and particularly GCC countries. In contrast, oil-importing countries such as Jordan, Lebanon and the Sudan relied heavily on oil imports, which widened their account deficits and increased public debt.¹² The global health crisis caused by COVID-19 has wreaked havoc on the global and regional economy, with IMF estimating that the Arab region's GDP will fall by some USD 152 billion as a result of the forecasted 5.7% contraction in growth between 2019 and 2020, which reflects the lowest economic forecast for the region in 50 years.¹³

16. Although economic diversification has been pursued in the past, labour productivity largely remains stagnant. In 2017, manufacturing value added as a share of GDP was the second lowest in the world at 9.6%, compared with a global average of 16.4%.¹⁴ Despite some advances in transport and logistics following the expansion of a number of ports and free trade zones, integration into regional and global value chains is weak, and poorly integrated regional infrastructure undermines regional economic integration. Small-scale industries are a key driver of employment and income but suffer from a largely inefficient regulatory environment that limits private investment and access to financing, particularly credit. Access to finance is low, with less than one third of adults holding a bank account and only 8% having loans from formal financial institutions in 2018.¹⁵

17. These challenges are compounded by a low regional expenditure on research and development; at 0.64% of GDP, it is significantly below the global average of 1.73%. In contrast, at 6.2% of GDP, military expenditure in the region is extremely high, triple the second highest expenditure of 2.06% in North America.¹⁶

18. Agriculture accounts for 7% of GDP in the region, yet it is the main source of employment and livelihoods for about 38% of the population. It accounts for 23% of GDP in the LDCs. The region is also characterized by underinvestment in the agriculture sector, even though it is a net food importer and suffers from water scarcity,

land degradation and desertification. Regional agricultural output could decrease by 21% by 2080 as a result of climate change. The yields of some crops could decline by 30–60% in some areas if no action is taken to counter rising temperatures and changes in rainfall patterns.

2. Gaps in meeting the SDGs

19. The Arab region is not on track to achieve the goals under the 2030 Agenda for Sustainable Development. Transformative change is needed in order to accelerate efforts and secure the finance required to achieve the 2030 Agenda for Sustainable Development within a framework that advances policy integration, environmental sustainability and universal human rights.¹⁷

20. Levels of poverty are increasing, with the most vulnerable at risk of being left behind. Roughly three quarters of the Arab population live in States where multidimensional poverty affects 41% of the population on average. Extreme poverty is increasing, even in States classified as middle-income countries. Undernourishment is prevalent in the Arab LDCs, with hunger also impacting two thirds of people in countries affected by conflict.

21. Food security policies in the Arab region take into account national production capacity and the region's high dependence on imports, particularly for staple and protein-rich foods. For example, the region imports 65% of the wheat it consumes and spends USD 110 billion on food imports.¹⁸ A substantial number of people are food insecure in rural parts of the Maghreb and Mashreq regions. In GCC countries, food security is largely dependent on imports.¹⁹

22. Unemployment (10.3%) is twice the global average. It affects over one quarter of young people in the region and is higher among young women at nearly 40%. Informal employment (outside agriculture) ranges from 45–75% of the population. In the Arab region, women's economic participation is the lowest in the world (25%) in 2015, compared with a global average of around 50%. Over 41% of workers in the region are migrants, with roughly half coming from outside the region.²⁰ High rates of unemployment and informal employment have a bearing on access to health care, with Arab LDCs having the lowest coverage of essential health services in the world.²¹

¹² ESCWA. 2019. Survey of Economic and Social Developments in the Arab Region 2018–2019, ESCWA/EDID/2019/1, p. 7.

¹³ United Nations. 2020. Policy Brief: The Impact of COVID-19 on the Arab Region - An Opportunity to Build Back Better, p. 8. Available at <https://unsdg.un.org/resources/policy-brief-impact-covid-19-arab-region-opportunity-build-back-better>.

¹⁴ ESCWA. 2020. Arab Sustainable Development Report 2020, E/ESCWA/SDD/2010/2.

¹⁵ According to IMF, as referenced in ESCWA. 2020. Arab Sustainable Development Report 2020, E/ESCWA/SDD/2010/2, p. 15.

¹⁶ See footnote 14.

¹⁷ See footnote 14.

¹⁸ ESCWA. 2020. Socioeconomic Impact of COVID-19: Policy Briefs. E/ESCWA/2020/INF.1.

¹⁹ See footnote 14.

²⁰ See footnote 14.

²¹ See footnote 14.

23. In 2012, the investment required to provide reliable, robust, safe and resilient infrastructure in the Arab region was estimated to be up to USD 100 billion. Increasing conflict and natural and man-made disasters have since magnified this need by causing the deterioration and destruction of roads, buildings, water networks, electricity grids and telecommunications networks.²² The region has the highest carbon dioxide emissions per unit of manufactured value added in the world, but these emissions are only marginally higher than those of Central and Southern Asia.²³

24. It is estimated that some 70.5 million people do not have access to basic sanitation in the region, and some 47.5 million do not have access to drinking water services. Agriculture uses 80% of water in the region, yet water productivity is low. Inefficient irrigation causes significant losses, estimated at around 60%. Transboundary water resources account for two thirds of freshwater resources, although basin-level cooperation to manage transboundary surface-water and groundwater resources remains limited. Despite these challenges, the Arab region received just 19% of global ODA flows for water and sanitation in 2017 (USD 1.5 billion).²⁴

25. Almost 90% of the Arab population has access to electricity, although the LDCs lag far behind in this area, with access levels below 50%, falling as low as 30% in Somalia. Furthermore, many countries with access experience service disruptions and power outages.²⁵ Energy consumption has almost tripled since the 1990s, with the transport sector representing 39% of total energy use.²⁶ Energy consumption in GCC countries is almost four times the global average.²⁷ Renewable energy accounts for just 4.1% of total final energy consumption in the region, compared with a global average of 18% for 2015, although some progress is being made in advancing energy efficiency in the building sector.²⁸

26. Efforts are being made to shift towards sustainable consumption and production patterns, but more progress is needed. Domestic material consumption per capita in the region increased by 60% between 1990 and 2015 but remains below the global average. This growth is due to increasing consumption of biomass, fossil fuels and minerals. The share of populations serviced by municipal

waste collection is above the global average but remains low in countries emerging from conflict and in the LDCs, with significant disparities between rural and urban areas and limited recycling.²⁹ Wastewater treatment is advanced in GCC States and in some middle-income countries such as Jordan and Tunisia, where treated sludge effluent is being used to combat water scarcity.³⁰

3. Other characteristics

27. The majority of the region's inhabitants (58%) live in urban areas; by 2050, almost 70% will be living in cities.³¹ However, this masks regional disparities; the GCC economies are among the most urbanized countries in the world. Almost 100% of the population in Bahrain, Kuwait, Qatar and the UAE live in cities. The wealth of these city States separates them from their regional peers with larger, more dispersed and more rural populations.³² However, 31% of urban dwellers live in slums, informal settlements or inadequate housing, with particularly high levels in LDCs, where lack of access to basic water, sanitation, electricity and transport services is widespread.³³

28. Conflict in the region has reversed development gains, severely damaged industries and productive capacities, and destroyed vital infrastructure. The economic cost of conflict was estimated to be USD 752 billion between 2011 and 2015, covering direct costs incurred by Iraq, Libya, the Syrian Arab Republic and Yemen, and the indirect spillover effects on neighbouring countries.³⁴ The region hosts over 9 million refugees and 15 million internally displaced persons, placing an additional burden on host States seeking to achieve the SDGs. In 2018, 40% of global refugees came from the Arab region.³⁵

B. Climate and environment context

29. The Arab region is extremely dry and suffers from water scarcity. In total, 18 of the 22 Arab States are considered water scarce, and 13 fall below the absolute freshwater scarcity threshold of 500 m³ per capita per year. More than 44 million people in the region have been affected by droughts since 1990,³⁶ while changing rainfall patterns have also impacted water availability for domestic, agricultural and industrial uses.³⁷

²² See footnote 14.

²³ See footnote 14, p. 128.

²⁴ See footnote 14.

²⁵ See footnote 14.

²⁶ See footnote 14, p. 96.

²⁷ See footnote 14.

²⁸ See footnote 14.

²⁹ See footnote 14, p.158.

³⁰ LAS/UNESCWA/Arab Countries Water Utilities Association. 2016. Moving towards the SDGs in the Arab Region: Key Findings from the 2016 MDG+ Initiative Report. E/ESCWA/SDPD/2016/Booklet.5, Beirut. Available at: https://www.unescwa.org/sites/default/files/event/materials/moving_towards_the_sdgs_in_the_arab_region.pdf

³¹ See footnote 14.

³² United Nations Environment Programme Finance Initiative. 2020. Adaptation risks and opportunities. Available at <https://www.unepfi.org/risks-and-opportunities/adaptation-opportunities-for-the-arab-region/>.

³³ See footnote 14.

³⁴ Arab Forum for Environment and Development. 2018. Financing sustainable development in Arab countries.

³⁵ ESCWA and International Organization for Migration. 2019. Situation Report on International Migration 2019. The Global Compact for Safe, Orderly and Regular Migration in the Context of the Arab Region. E/ESCWA/SDD/2019/3.

³⁶ See footnote 14.

³⁷ See footnote 14.

30. Only 37% of the region’s surface area is available for agricultural or livestock production. Additionally, 73% of the region is affected by land degradation, which costs the region an estimated USD 9 billion each year.³⁸ At the same time, 32% of the region is prone to flooding, which affects urban and rural areas alike. Just 7% of the region is covered by forests and wetlands.³⁹ Seasonal sand and dust storms affect large swaths of the region. Almost 98% of people in the region are exposed to levels of particulate matter in the air that exceed World Health Organization guidelines.

1. Vulnerability and disaster risk

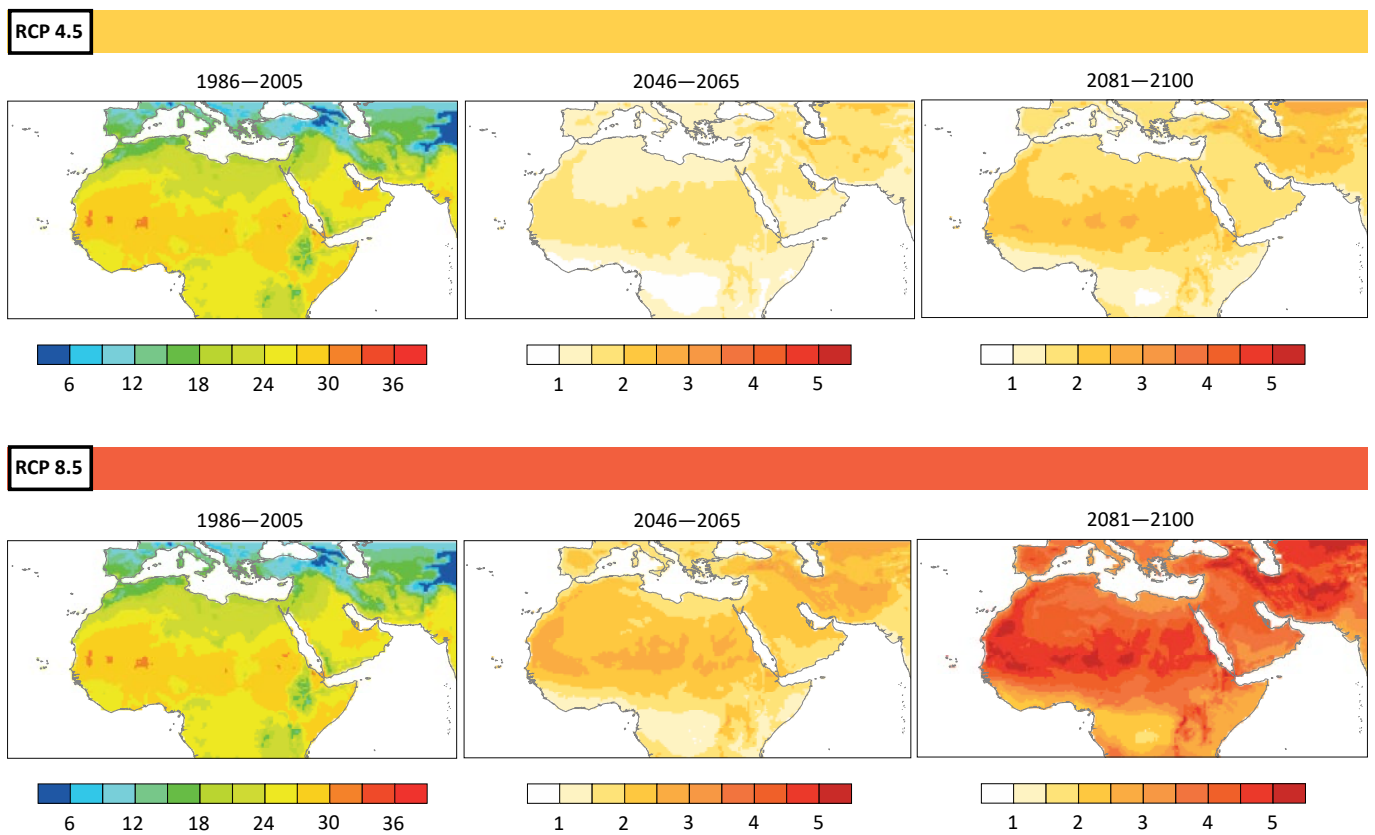
31. The Arab region is facing compound social, environmental and economic challenges with far-reaching impacts for several sectors, including water, agriculture, infrastructure, aquaculture, health and tourism. These challenges are exacerbated by climate change, with implications for vulnerability and disaster risk.

32. The Arab Climate Change Assessment Report projects an average temperature increase towards the end of the twenty-first century of 1.5–2.3°C under RCP 4.5 (moderate emissions scenario) and 3.2–4.8°C under RCP 8.5

(high emissions or ‘business as usual’ scenario). The areas facing a larger increase are in the Sahara region in North and East Africa, including Morocco and Mauritania (see figure 3). The increasing temperature signals along the western shores of Yemen and Saudi Arabia under RCP 8.5 are also stronger than those under RCP 4.5 in comparison with the rest of the Arabian Peninsula. These projections show that warming in the Arab region will exceed the global average. The number of very hot summer days peaking at above 40°C is also projected to increase across the Arab region by an average of 76 days per year by the end of the twenty-first century under RCP 8.5.⁴⁰

33. By the end of the twenty-first century, both scenarios also predict a reduction in average monthly precipitation reaching 8–10 mm in the northern coastal areas of the region and in the upper Euphrates and Tigris rivers. However, increasing precipitation trends can also be witnessed in the south-eastern Arabian Peninsula and parts of the Sahel; a possible signal for an increase in precipitation intensity, which is associated with flood risks.⁴¹

Figure 3
Projected mean change in annual temperature (°C) for the Arab/Middle East and North Africa region compared with the reference period, 1986–2005



³⁸ See footnote 14.

³⁹ ESCWA et al. 2017a. Arab Climate Change Assessment Report. Snapshot of Key Findings. Beirut, E/SCWA/SDPD/2017/RICCAR/Booklet.1. Available at <https://www.riccar.org/index.php/publications/arab-climate-change-assessment-report-snapshot-key-findings>.

⁴⁰ ESCWA et al. 2017. Arab Climate Change Assessment Report. Main Report. Beirut, E/ESCWA/SDPD/2017/RICCAR/Report. Available at <https://riccar.org/arab-climate-change-assessment-report-main-report>.

⁴¹ See footnote 40.

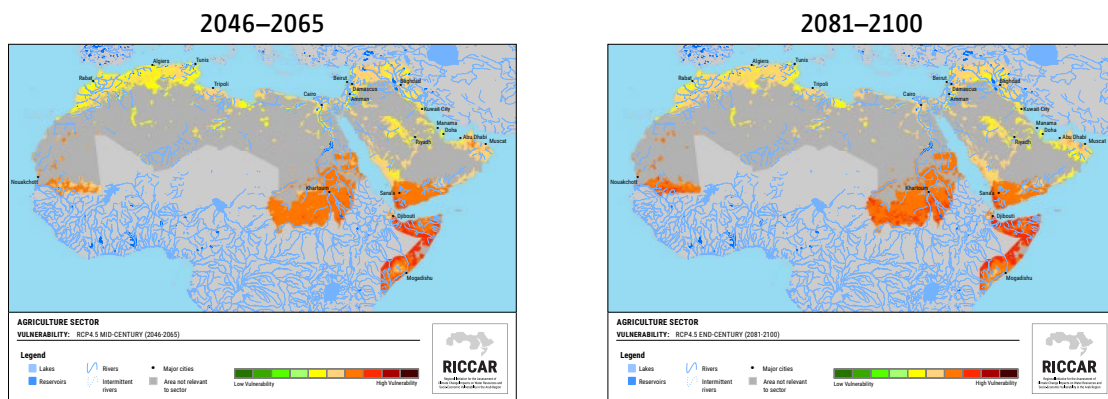
34. At the same time, Arab States are becoming increasingly vulnerable to the impacts of climate change. For instance, the region is expected to face reductions in water availability for agricultural crops and livestock (see figure 4), with Arab LDCs, the northern Mashreq region and the eastern tip of the Arabian Peninsula particularly vulnerable. This is expected to lead to losses in terms of agricultural employment,⁴² with women particularly affected, in the absence of investment and strengthened adaptive capacities. Additionally, 96% of the region is moderately to highly vulnerable to inland flooding,⁴³ with hotspots in the Sahel, Horn of Africa and isolated areas in the southern Arabian Peninsula. The region is also vulnerable to storm surges and coastal flooding, as witnessed in Lebanon and the Gaza Strip, State of Palestine, and in Oman and Socotra island, Yemen, in recent years, since a significant share of the urban population resides in coastal areas.⁴⁴

35. With respect to disaster risks, the number of deaths due to disasters in the Arab region is second only to that of Oceania, with 96% of those deaths occurring in the Arab LDCs. Floods, flash floods, forest fires, droughts, heat waves, storms and earthquakes are significant sources of disaster losses in the region.⁴⁵ Between 1990 and 2019, disaster losses due to floods and storms were estimated at USD 5.7 billion and USD 6 billion, respectively.⁴⁶

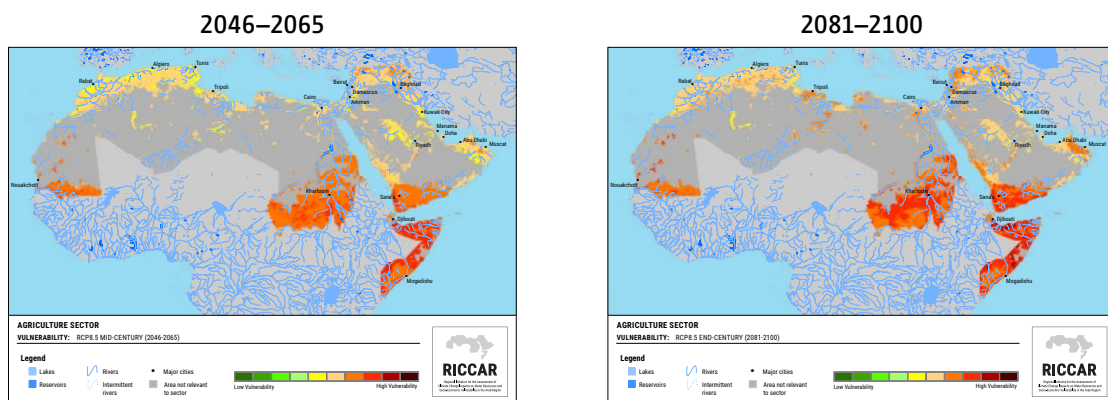
36. Despite facing these climate change impacts and vulnerabilities, the countries in the region have not been able to attract the climate finance needed in terms of amounts or quality. Indeed, climate finance for mitigation exceeds finance for adaptation by a factor of five to one even though the Paris Agreement seeks a balance between finance for adaptation and mitigation.⁴⁷ In the light of this, this assessment is aimed at addressing climate change in the broader context of sustainable development and economic diversification in the Arab region with a view to tackling pressing issues such as aridity, recurrent drought, water scarcity and food security.

Figure 4
Projected vulnerability of the agricultural sector to climate change in the Arab region

RCP 4.5



RCP 8.5



⁴² See footnote 40, p. 310.

⁴³ See footnote 40, p. 278.

⁴⁴ See footnote 40.

⁴⁵ United Nations Office for Disaster Risk Reduction. 2017. Disaster Loss Data and Linkage to Climate Change Impacts for the Arab Region. RICCAR Technical Report. Beirut, E/ESCWA/SDPD/2017/RICCAR/TechnicalReport.3.

⁴⁶ See footnote 14.

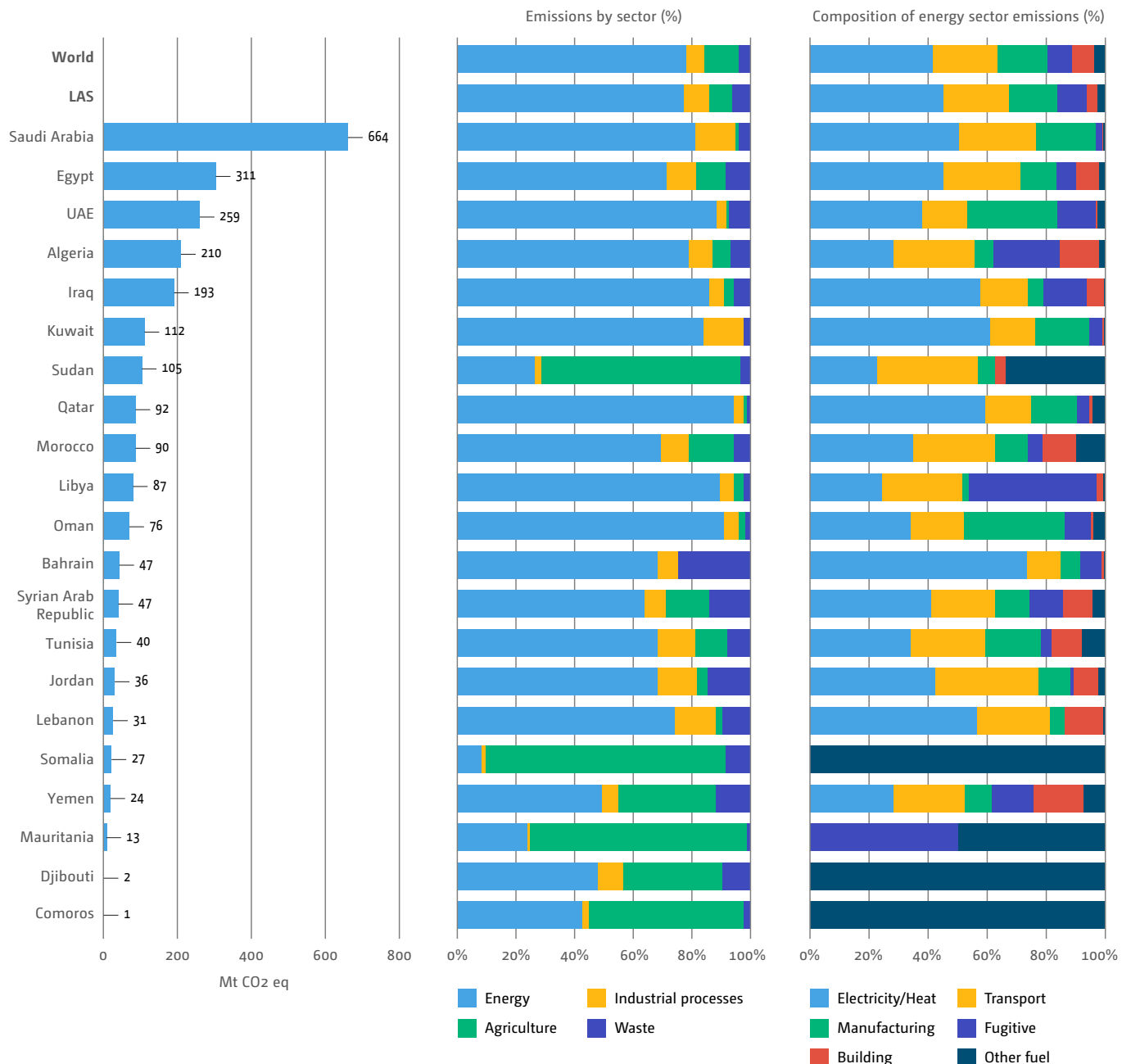
⁴⁷ ESCWA. 2019. Climate Finance in the Arab Region: Technical Report. E/ESCWA/SDPD/2019/TP.10, 27 December 2019.

2. Emission profile

37. In 2018, Arab States’ emissions amounted to approximately 2.4 Gt CO₂ eq or 5.3% of global GHG emissions, although the contribution of individual States ranged from 0.001% to 1.4%.⁴⁸ The breakdown of GHG emissions by sector is similar to the global pattern; the energy sector is the source of 77% of emissions, compared with 78% globally. The energy sector is the largest emitter for 16 of the 22 LAS member States, with energy sector operations responsible for between 64% (Syrian Arab Republic) and 95% (Qatar) of emissions. In the remaining six member States, which are LDCs, the agriculture sector produces the largest proportion of emissions.

38. Within the energy sector, the electricity/heat subsector is the source of some 45% of emissions in the region. However, the make-up of energy sector emissions varies among countries. In seven countries, more than 45% of energy emissions are linked to electricity/heat. Transportation plays a more significant role in some countries, acting as the second-largest energy emissions source for five countries, a position occupied by manufacturing/construction for two countries (see figure 5).

Figure 5
Emission profiles of League of Arab States member States in 2016



⁴⁸ The Climate Data Explorer platform of the World Resources Institute uses production-based accounting, excluding land use, land-use change and forestry and bunker fuels; no data on the State of Palestine.

C. Climate-related policies

1. Regional policies

39. Following the release of the first Arab Ministerial Declaration on Climate Change by CAMRE in 2007, several initiatives were launched to incorporate climate change considerations in intergovernmental processes undertaken under the auspices of CAMRE and the LAS ministerial councils responsible for agriculture, electricity, housing, water and disaster risk. LAS, together with its member States and regional organizations, began work on the consolidated Arab Framework Action Plan on Climate Change 2010–2020 in 2009. The action plan, which was adopted by CAMRE in 2012 and revised in 2017, has an overarching objective to address climate change in a manner conducive to achieving sustainable development (see figure 6). The plan comprises four pillars: adaptation, mitigation, cross-cutting issues; and finance and other means of implementation. The adaptation pillar targets several sectors, namely water, land and biodiversity, agriculture and forestry, economic diversification, housing and construction, tourism, population and human settlements, and oceans. Mitigation programmes target the following sectors: water, land use and biodiversity, agriculture and forestry, sustainable industries, energy, transport, housing and construction, and mines. Cross-cutting programmes for regional cooperation focus on, *inter alia*, awareness-raising issues and engaging civil society in the preparation of climate change policies and strategies. Finally, the various funding sources for implementing the action plan are set out under finance and other means of implementation, which also covers technology transfer and institutional, legislative and regulatory frameworks.

40. Funding for the action plan has been provided by national and regional sources. The strategy has an initial time frame of 10 years and runs until 2020, but it is expected to be updated and extended until 2030 if financial resources are secured to support its implementation at both the national and regional level. At the country level, the plan is coordinated through the National Climate Change Committees, which can access international sources of public and private sector finance. At the regional level, the plan is implemented through CAMRE and the Arab Council of Ministers Responsible for Meteorology and Climate, which report to the Arab Economic and Social Council and Arab Summit. Regional and international organizations also support the implementation of the strategy through related Arab ministerial councils. Monitoring and evaluation takes place at the national and regional level, with reports delivered during meetings of the Arab Group of climate change negotiators, which convenes under CAMRE.

41. Other regional strategies and action plans that incorporate climate change action include the Arab Strategy for Water Security in the Arab Region to Meet the Challenges and Future Needs for Sustainable Development 2010–2030 and associated action plan, the Arab Strategy for Disaster Risk Reduction 2020 and its action plan, the Arab Sustainable Development Framework, the Arab Strategy for Housing and Sustainable Urban Development 2030, the Arab Sustainable Consumption and Production Strategy, the Green Economy Roadmap and the Pan-Arab Renewable Energy Strategy 2030: Roadmap of Actions for Implementation.

42. A range of LAS, international and regional organizations support the implementation of the regional policy frameworks adopted by Arab States with the aim of advancing cross-sector climate action. LAS subsidiary bodies working on climate change adaptation include the Arab Organization for Agricultural Development and the Arab Center for the Studies of Arid Zones and Dry Lands. Mandated support on regional climate strategies is provided by United Nations organizations such as ESCWA, UNDP, UNEP, the United Nations Educational, Scientific and Cultural Organization, the Food and Agriculture Organization of the United Nations, the United Nations Human Settlements Programme, the United Nations Office for Disaster Risk Reduction, the World Food Programme and the World Meteorological Organization. Active support for preparing and implementing climate-related Arab regional strategies also comes from regional and international organizations, including the International Centre for Biosaline Agriculture, the International Renewable Energy Agency and the Regional Centre for Renewable Energy and Energy Efficiency.

Figure 6
Arab Framework Action Plan on Climate Change, 2010–2020⁴⁹



2. National policies

43. Climate change policymaking in the Arab States is largely focused on the national level. While ministries of environment tend to be the designated authority responsible for coordinating climate projects with certain climate funds, several line ministries, such as those responsible for national development planning, agriculture, energy, health, industry, scientific research and technological development, urban planning or water, take the lead on climate policies and action in their respective areas. As a result, each institution puts into place policies and directives related to climate change and, in some cases, climate finance, with a view to helping to identify and prioritize national climate actions. Table 1 outlines implemented and planned policies of Arab States in a selection of key sectors that reference climate change.

⁴⁹ Adapted from the presentation available at https://unfccc.int/sites/default/files/resource/NBFArabStates_Session3_Laamrani.pdf.

Table 1
Overview of national climate-related policies by key sector

	Overarching climate policies	Energy	Transport	Water	Agriculture/land use, land-use change and forestry ^a
Algeria	National Strategy for the Environment and Sustainable Development (2019–2035) National Climate Plan	Target: 27% share of renewable energy in electricity generation by 2030*	–	National Biodiversity Strategy and Action Plan (2016–2030)	–
Bahrain	National Economic Vision 2030	Target: 5% share of renewable energy in electricity generation by 2025*	–	National Water Strategy 2030 National Biodiversity Strategy and Action Plan (2016–2021)	–
Comoros	–	Target: 43% share of renewable energy in electricity generation by 2030; 100% by 2050	–	–	–
Djibouti	Vision Djibouti 2035 National Strategy on Climate Change	–	–	–	–
Egypt	Egypt Vision 2030 Sustainable Development Strategy	Target: 17% share of renewable energy in primary energy by 2035 Target: 100% share of renewable energy in electricity generation by 2020*	–	National Water Resources Plan for Egypt (2017–2037) Environment Pillar in the Future Vision for Water Resources and Irrigation until 2030 National Water Resources Plan (2005–2017)	Future Vision for Water Resources and Irrigation until 2030 National Food and Nutrition Policy and Strategy (2007–2017) Sustainable Agricultural Development Strategy 2030 Country Programming Framework 2012
Iraq	Iraq National Development Plan (2018–2022) Iraq Vision for Sustainable Development 2030	Target: 10% share of renewable energy in electricity generation by 2020*	–	National Environmental Strategy and Action Plan for Iraq (2013–2017) National Strategy for Water and Land Resources Management for Iraq: (2015–2035)	National Strategy for Water and Land Resources Management for Iraq(2015–2035) Ministry of Agriculture Strategy (2005–2025)
Jordan	National Climate Change Policy (2013–2020) Jordan 2025: A National Vision and Strategy A National Green Growth Plan National Strategy and Action Plan for Sustainable Consumption and Production (2016–2025)	Updated Master Strategy of the Energy Sector (2007–2020) Target: 10% share of renewable energy in primary energy by 2020 (16% in 2018); 15% in final energy by 2025 (2.8% in 2018) Target: 30% of households with solar water heaters by 2020 Target: 20% share of renewable energy in electricity generation by 2020; 30% by 2030*	Public policies for the transport sector Long-term national strategy for the transport sector Strategic Plan for Road Safety Public Transportation in Jordan Policy Study	Water for Life, Jordan's Water Strategy (2008–2022) National Water Strategy (2016–2025) Groundwater Sustainability Policy (2016–2025) Water Demand Management Policy 2016 Wastewater policy	National Agricultural Development Strategy (2015–2025) National Strategy and Action Plan for Sustainable Consumption and Production 2016 Irrigation Water Policy Aligned National Action Plan to Combat Desertification in Jordan (2015–2020)

Table 1 (continued)
Overview of national climate-related policies by key sector

	Overarching climate policies	Energy	Transport	Water	Agriculture/land use, land-use change and forestry ^a
Kuwait	Kuwait Vision 2035 Kuwait Mid-Range Plan (2015/2016–2019/2020) Kuwait 2040 Plan for a Better Future strategy/The Long-term National Petroleum Plan 2040 Strategy for Entrepreneurship and Sustainability	Target: 15% share of renewable energy in electricity generation by 2030*	–	National Biodiversity Strategy and Action Plan (2011–2020)	–
Lebanon	National Renewable Energy Action Plan (2016–2020) Lebanon Economic Vision	Target: 15% share of renewable energy in final energy by 2030 (1.6% in 2018) Target: 12% share of renewable energy in electricity generation by 2020; 30% by 2030; 100% by 2050*	General Orientations for Land Transport Policy in Lebanon	National Water Sector Strategy 2010 Paris Pact on Water and Adaptation	Ministry of Agriculture Strategy (2015–2019) Ministry of Agriculture and Ministry of Industry Decision 950/1 National Forest Program (2015–2025) The National Afforestation and Reforestation Program, aimed at increasing forests from 13% to 20% of Lebanon's total area over 20 years.
Libya	Libya 2020 Vision	Target: 250 MWth solar water heating capacity by 2020 Target: 7% share of renewable energy in electricity generation by 2020; 22% by 2030*	–	–	–
Mauritania	Accelerated Growth and Shared Prosperity Strategy (2016–2030) National Action Plan for the Environment (2012–2016)	Target: 20% share of renewable energy in primary energy by 2020 Target: 60% share of renewable energy in electricity generation by 2020	Orientation and Organization of Transport Routes Etude de la stratégie multimodale des transports	National Environment Plan (2012–2016) National Sanitation Development Plan (2012–2020) National Strategy for Environment and Sustainable Development and Action Plan (2017–2021)	–
Morocco	Climate Change Policy 2014 Integration of climate change requirements into public policies National Strategy for Sustainable Development (2017–2030)	Target: 1.2 GWth solar water heating by 2020 Target: 42% share of renewable energy in electricity generation by 2020; 52% by 2030; 100% by 2050*	Strategic Plan (2017–2021) Action Plan for the Sustainable Development of the Transport Sector (in National Sustainable Development Action Plan)	National Water Strategy (2010–2030)	Morocco Green Plan 2008 National Forestry Plan National Irrigation Water Saving Program

Table 1 (continued)
Overview of national climate-related policies by key sector

	Overarching climate policies	Energy	Transport	Water	Agriculture/land use, land-use change and forestry ^a
Oman	Oman Vision 2040	Oman Energy Master Plan 2040 Target: 10% share of renewable energy in electricity generation by 2020	–	National Water Resource Management Master Plan (2001–2020)	–
Qatar	Qatar National Vision 2030 Second National Development Strategy (2018–2022)	Target: 25% share of renewable energy in final energy by 2030 Target: 2% share of renewable energy in electricity generation by 2020; 20% by 2030*	Target: 10% of renewable transport in total energy supply by 2020 National Road Safety Strategy (2013–2022)	–	–
Saudi Arabia	Vision 2030 strategic goals and vision realization programmes The implementation plan for the National Transformation Program (2018–2020)	Target: 30% share of renewable energy in electricity generation by 2030*	National Transportation Strategy 2011	National Water Strategy 2030	The Sustainable Agricultural Development Strategy of Saudi Arabia up to 2020
Somalia	National Development Plan (2017–2019) Draft Environmental Policy	–	–	–	–
State of Palestine	Sectoral Strategy for the Development of the National Economy (2017–2022) Cross-Sectoral Environment Strategy (2017–2022)	Target: 20% share of renewable energy in primary energy by 2020; 25% in final energy by 2020 (4.4% in 2018) Target: 10% share of renewable energy in electricity generation by 2020; 100% by 2050*	Road and Transport Master Plan	National Water Sector Strategic Plan and Action Plan (2017–2022) National Water Sanitation and Hygiene Contingency Plan 2016 National Water and Wastewater Strategy	National Agricultural Sector Strategy (2017–2022): “resilience and development” Food Safety Strategic Plan (2016–2021) National Strategy for Food Security 2005 National Strategy for Agricultural Research (2017–2021) Action plan for the management of agricultural land 2017
Sudan	25-year Strategy (2002–2027)	Target: 20% share of renewable energy in primary energy by 2020 Target: 11% share of renewable energy in electricity generation by 2031; 100% by 2050*	–	Water, Sanitation and Hygiene Sector National Strategic Plan (2012–2016) Water Supply and Environmental Sanitation Policy 2010 Integrated Water Resource Management Policy 2005	Plan of Action Resilient Livelihoods for Sustainable Agriculture, Food Security and Nutrition (2015–2019): National Comprehensive Food and Nutrition Security Policies (2015–2019)

Table 1 (continued)
Overview of national climate-related policies by key sector

	Overarching climate policies	Energy	Transport	Water	Agriculture/land use, land-use change and forestry ^a
Syrian Arab Republic	–	Target: 4.3% share of renewable energy in electricity generation by 2030* Standards: Energy efficiency labelling and performance codes in buildings	Syrian Transportation Plan 1980 and post-assessment report 2010	–	–
Tunisia	National Climate Change Strategy 2012 Tunisian Solar Plan Development Plan (2016–2020), Volume I: General Content Development Plan (2016–2020), Volume III: Sectorial Content Five-Year Development Plan (2016–2020)	Target: 30% share of renewable energy in electricity generation by 2030; 100% by 2050*	Sector strategy note on urban transport 2019	Water Vision and Strategy 2050 (not yet published)	Establishing a national forest monitoring system in Tunisia: needs assessment and road map proposal
UAE	UAE Vision 2021 National Climate Change Plan of the United Arab Emirates (2017–2050) UAE Green Agenda (2015–2030)	UAE Energy Plan 2050 Dubai Clean Energy Strategy 2050 Target: 44% share of renewable energy in final energy by 2050 Target: 44% share of renewable energy in electricity generation by 2050 (0.6% in 2017) Standards: energy efficiency labelling and performance codes for buildings and appliances	–	Water Security Strategy 2036 National Strategy to Combat Desertification (2014–2021) UAE Water Conservation Strategy	–
Yemen	Yemen Strategic Vision 2025	National Strategy for Renewable Energy and Energy Efficiency 2009 Target: 15% share of renewable energy in electricity generation by 2025; 100% by 2050*	–	National Water Sector Strategy and Investment Program 2004 National Environment Strategy (2012–2025) National Biodiversity Strategy and Action Plan II: “Achieving a resilient, productive and sustainable socio-ecosystem by 2050”	Aden Agenda 2000 National Nutrition Strategy 2010 National Food Security Strategy 2010

^a Based on ESCWA, 2017, which reviews policies in Egypt, Iraq, Jordan, Lebanon, Morocco, the State of Palestine, the Sudan and Yemen.

* Denotes a policy that includes technology-specific renewable energy generation or installed capacity targets.

D. Financial context

1. Government

44. The nature of government finances differs significantly across countries in the region. Oil-rich countries rely on oil revenues for the most part, in addition to limited tax revenues, which range from 1% of total revenues in Bahrain to 4.6% in Qatar. Algeria and UAE tax hydrocarbon industries directly and so have relatively high levels of tax revenue from this resource, although tax revenues are more volatile and sensitive to international markets as a result.⁵⁰ Oil-poor and middle-income countries depend more on tax revenue but have low mobilization of taxes, with tax-to-GDP ratios of around 15%, compared with 25% in Europe. Taxation is generally regressive, consisting mainly of indirect taxes and/or taxes on rents.⁵¹

45. The main challenge facing the Arab region is its delicate fiscal situation. Social expenditure in the Arab region is low as a share of GDP, averaging just 12% in oil-exporting countries and 11% in other Arab States, compared with 21% in OECD countries.⁵² In particular, the energy subsidy system has placed a considerable burden on government revenues in recent decades for both exporters and importers of oil.⁵³

46. Both exporters and importers of oil are exposed to fluctuations in oil prices. While government revenues for oil exporters are vulnerable to drops in global fuel prices, countries characterized by a significant dependence on oil imports remain highly vulnerable to rises in global fuel prices, which can drive debt and squeeze social spending. Indeed, oil-poor countries in the region are relatively indebted, with the government debt-to-GDP ratio averaging 91% for middle-income countries and 26% for oil-rich countries, rising to an average of 180% for the region's LDCs. The COVID-19 pandemic is expected to increase the gross debt-to-GDP ratio of most Arab States.⁵⁴ The cumulative regional fiscal stimulus for offsetting the socioeconomic impacts of COVID-19 currently amounts to USD 102 billion, equivalent to nearly 4% of the region's GDP, which is significantly lower than the global average of 11%.⁵⁵ This begs the question as to where the financial resources needed to support climate action can be found in the public purse.

2. Central banks and regulators

47. Central banks and regulators taking an active role in sustainable finance policy development in the region are limited to Egypt, Lebanon, Morocco and the UAE. In 2010 Banque du Liban, Lebanon's central bank, issued a policy that allowed commercial banks to exempt loans to green sectors from reserve requirements to the value of 100%–150% of the loan, reducing the costs associated with lending to such projects.⁵⁶ This support was broadened in 2013. In 2016 the Moroccan Capital Market Authority issued green bond guidelines to support the development of a local green bond market.⁵⁷ Similar guidelines were published by the Egyptian Financial Markets Authority in 2018,⁵⁸ which led to a USD 750 million five-year green bond being issued in October 2020. In 2017 Bank Al-Maghrib, Morocco's central bank, published a road map for aligning the country's financial sector with sustainable development pathways,⁵⁹ including through measures across the banking and insurance sectors and capital markets. In the UAE, the central bank and regulatory authorities signed up to the Abu Dhabi Sustainable Finance Declaration and Abu Dhabi Sustainable Finance Agenda in 2019, announcing a green bond accelerator initiative in 2020.⁶⁰

48. Bank Al-Maghrib became one of the first participants in the Network for Greening the Financial System in 2017. The Network has three workstreams for developing best practice: microprudential and supervision, macrofinancial and scaling up green finance. Of the Network's 66 members, 4 are from the Arab region: Abu Dhabi Financial Services Regulatory Authority, Bank Al-Maghrib, the Central Bank of Tunisia and the Dubai Financial Services Authority. Central banks and regulators from Egypt, Iraq, Jordan, Morocco and Tunisia are also members of the Sustainable Banking Network.

⁵⁰ ESCWA. 2019. Fiscal Policy Review of Arab States 2019. Available at https://www.unescwa.org/sites/default/files/pubs/pdf/fiscal-policy-review-arab-states-2019-english_0.pdf.

⁵¹ See footnote 14.

⁵² See footnote 14.

⁵³ ESCWA. 2019c. Survey of Economic and Social Developments in the Arab Region 2018–2019. ESCWA/EDID/2019/1.

⁵⁴ United Nations. 2020. Policy Brief. The impact of COVID-19 on the Arab region - an opportunity to build back better.

⁵⁵ See footnote 54.

⁵⁶ See <https://greenfinanceplatform.org/financial-measures-database/lebanon-incentivised-investments-eco-friendly-projects-circular-no-313>.

⁵⁷ Climate Bonds Initiative policy database.

⁵⁸ See <https://www.greenfinanceplatform.org/policies-and-regulations/egypt%E2%80%99s-financial-regulatory-authority-green-bond-guidelines>.

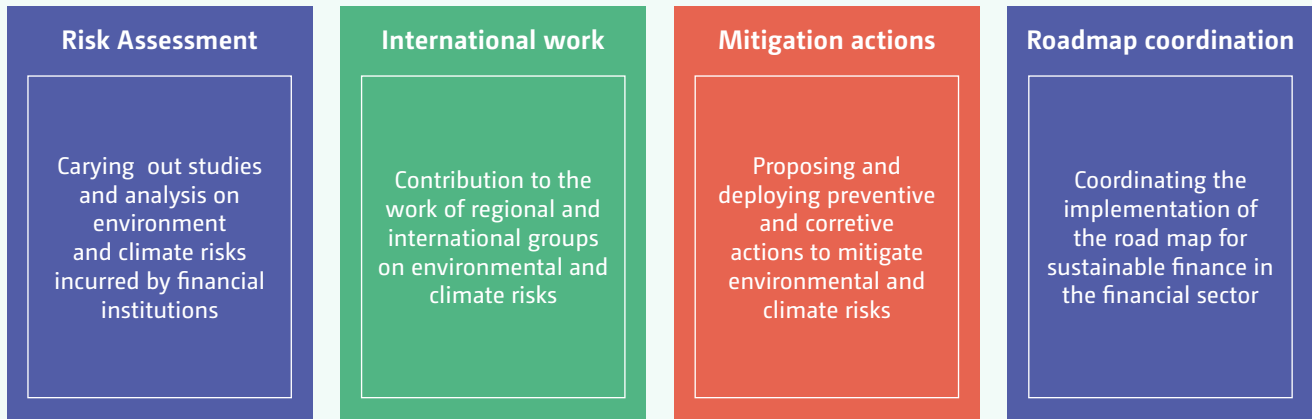
⁵⁹ See <https://greenfinanceplatform.org/financial-measures-database/roadmap-aligning-moroccan-financial-sector-sustainable-development>.

⁶⁰ For more information, see <https://www.adgm.com/financial-services-regulatory-authority/sustainable-finance> and <https://wam.ae/en/details/1395302816528>.

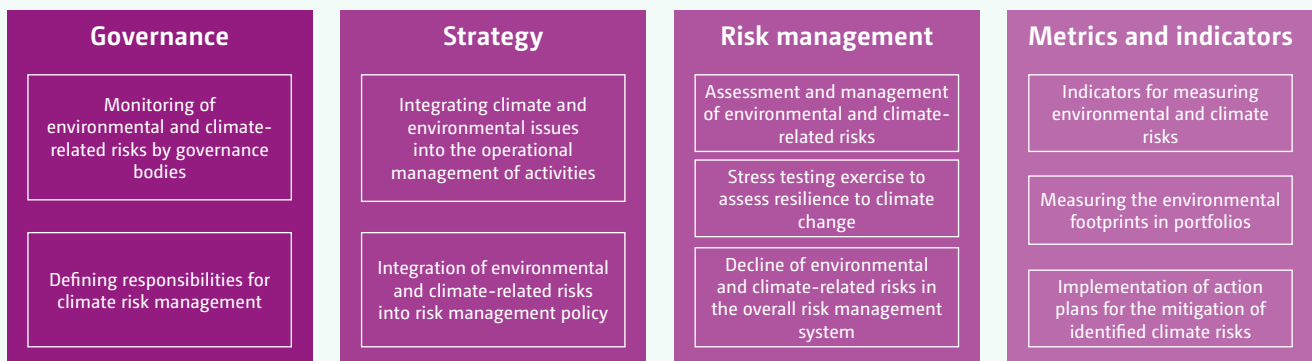
Box 1**Case study: Bank Al-Maghrib Green Finance Unit**

In March 2019, Bank Al-Maghrib established the Green Finance Unit, with four aims in the areas of climate risk assessment for financial stability, international networking, mitigation actions, and implementing a domestic road map for a sustainable financial system.

The functions of the Green Finance Unit are as follows:



As part of its efforts to enhance transparency, Bank Al-Maghrib developed a framework for managing environmental risks and disclosure, which is a regulatory text on managing financial risks related to climate change and the environment. Drawing on international standards developed by the Task Force on Climate-related Financial Disclosures, the framework covers four areas (governance, strategy, risk management, and metrics and indicators) and considers the following elements:

Framework for managing environmental risks and disclosure by Bank Al-Maghrib**3. Banking**

49. The Arab region has the world's largest gap in credit access. Despite accounting for some 96% of registered companies and providing about half of employment, small and medium-sized enterprises only receive 7% of total bank lending, the lowest level in the world,⁶¹ although the percentage is higher in countries such as Lebanon, Morocco and Tunisia. Less than 16% of small-scale industries in the region have access to a loan or credit. Access to fintech and equity finance is also limited, and at

the household level, only 8% of the population have loans from formal financial institutions, while roughly two thirds of the population is unbanked.⁶²

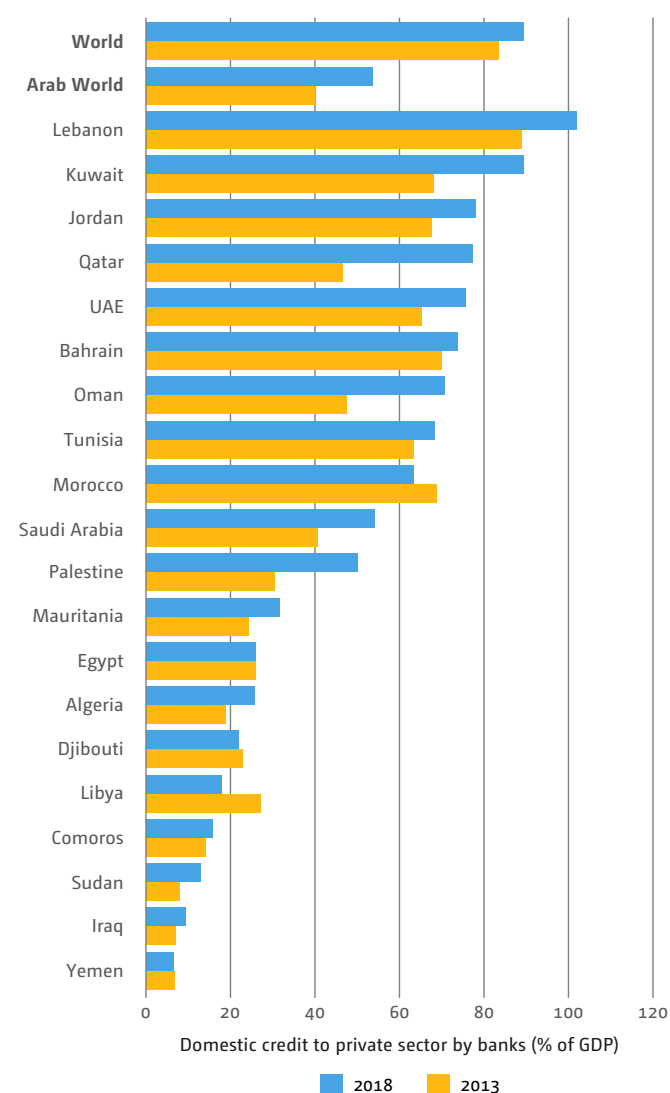
50. Domestic credit provided to the private sector by banks as a percentage of GDP has approached the global average for several countries in the region (see figure 8). The expansion of banking since 2013 has been particularly significant for Algeria, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the State of Palestine and the Sudan.

⁶¹ Azour, Jihad. 2019. Poor Access to Finance Is Holding Back Businesses in MENA. World Economic Forum. www.weforum.org/agenda/2019/03/scaling-up-sme-access-finance-mena-region/ in: ESCWA. 2020. Arab Sustainable Development Report 2020. E/ESCWA/SDD/2019/2.

⁶² See footnote 14.

51. Islamic banking has been an important driver of banking system growth in the Arab region over the last decade, growing almost twice as fast year-on-year compared with conventional banks in GCC countries.⁶³ However, loans for clean energy and microfinance are limited.⁶⁴ In July 2018, the Union of Arab Banks Forum adopted recommendations for shifting towards green banking, developing regulatory frameworks and supporting renewable energy and energy efficiency

Figure 7
Emission profiles of League of Arab States member States in 2016



lending.⁶⁵ Although the Union of Arab Banks consists of 330 banking and financial institutions, only one banking association in the region is a member of the Sustainable Banking Network. Six banks from Bahrain, Egypt and Kuwait have joined 166 other banks in signing the Principles for Responsible Banking, but none have joined the Collective Commitment to Climate Action.

4. Development finance institutions

52. State banks run a significant proportion of financial service outlets in several countries, including Algeria, Egypt, Iraq, the Syrian Arab Republic and Tunisia. In Iraq, around 70% of the total national bank branch network is owned by two large state banks, Rafidain Bank and Rasheed Bank. The scale of state banking networks indicates that they will have an important role to play in financing climate adaptation and a distributed clean energy build-out across the Arab region.

53. MDBs such as EBRD; members of the WB Group, including IFC; AfDB and the European Investment Bank are active in the region, with a range of concessional and non-concessional financial instruments for boosting growth in sustainable markets. The scope of activities financed by development banks is largely dependent on agreements negotiated with the client country, such as the WB Group's Country Partnership Framework and the AfDB Country Strategy Papers. Therefore, the emphasis placed on climate by a country and the banks during discussions can inform the extent to which climate finance and climate-aligned finance is incorporated in support. IFAD, a United Nations agency with agricultural sector expertise, manages a large investment portfolio similar to those of MDBs and has a strong presence in Arab countries.

⁶³ International Monetary Fund. 2018. Gulf Cooperation Council. How Developed and Inclusive are Financial Systems in the GCC? IMF Policy Paper. December 2018.

⁶⁴ See United Nations Environment Programme Finance Initiative 2020 Knowledge platform: Financing the climate transition in the MENA at <https://www.unepfi.org/financing-the-energy-transition/breakdown-of-how-the-arab-region-financial-system-can-finance-the-mitigation-of-climate-change/>.

⁶⁵ Saab, N. and Sadik, A-K. (Eds). 2018 Report of the Arab Forum for Environment and Development: Financing Sustainable Development in Arab Countries. Arab Forum for Environment and Development.

54. IsDB, a large provider of multilateral development assistance, has served Arab States for more than 50 years. The bank's Climate Change Policy, published in 2019, mainstreams climate action across its operations, focusing on sectors such as energy, transport, water, urban development and agriculture.⁶⁶ The policy is aimed at promoting climate change resilience, green growth and the transition to a green economy. At the national level, the policy's areas of focus are guided by a Member Country Partnership Strategy. Moreover, a key pillar of the IsDB approach to climate action is leveraging resources to act as a catalyst. IsDB is also advancing innovative finance instruments including green sukuk, zakat funds, and remittances, in addition to supporting climate action through the NDC Partnership. The bank is a member of the Joint MDB Group on Climate Finance, and the International Development Finance Club, along with CDG Capital of Morocco.

55. The Arab Petroleum Investments Corporation, an MDB established in 1975 with the aim of developing the Arab energy sector, is wholly owned by 10 Arab countries: Algeria, Bahrain, Egypt, Iraq, Kuwait, Libya, Saudi Arabia, Syrian Arab Republic, Qatar and UAE. It has invested in some of the largest solar photovoltaic and concentrated solar power projects in the region, as well as in the oil and gas sector. Priority areas identified for continued support include renewable energy, storage and the gas sector.⁶⁷

56. Established in 1976 by OPEC member States, the OPEC Fund for International Development has invested a total of USD 22 billion to date. It currently has 12 member countries, including six Arab States (Algeria, Iraq, Kuwait, Libya, Saudi Arabia and UAE). Developing countries that are not members of OPEC or the fund are eligible for assistance. The OPEC Fund for International Development finances both public and private projects, with a focus on south–south solidarity, including support for basic needs such as food, energy, and clean water and sanitation. The fund has provided nearly USD 1 billion in finance to renewable energy projects in Asia and Africa, including in many Arab States.

5. Capital markets

57. In total, 18 of the 22 LAS member States have stock exchanges,⁶⁸ and 10 of those have partnered with the Sustainable Stock Exchanges Initiative to promote sustainable finance and management of environmental, social and governance risk.⁶⁹ The Saudi stock market accounts for about 50% of total market capitalization and has the highest turnover ratio. At the country level, Qatar and Kuwait have the largest stock market capitalization relative to GDP.

6. Investors

58. The Arab region is a net exporter of both capital and primary income; according to ESCWA, “for every USD 1 of FDI the region generated, a corresponding USD 1.8 left the region.” Furthermore, “for every USD 1 dollar of debt inflows the region received, a corresponding USD 1.50 was paid back in arrears on outstanding debt stocks.”⁷⁰

59. SWFs play an integral role in the health of the financial ecosystem in the Arab region. GCC countries host some of the world's largest SWFs, but over USD 3 trillion in capital has been invested outside of the region by SWFs from oil-rich Arab States.⁷¹ Economies that rely on fossil fuels use SWFs to diversify their income streams and drive progress towards achieving the SDGs. For example, Saudi Arabia's Vision 2030 economic plan is aimed at dramatically transforming the country's Public Investment Fund, currently the eleventh-largest SWF in the world, into an investment vehicle that will diversify Saudi Arabia's economy and reduce its reliance on oil revenues. It follows that this would have positive outcomes in terms of the SDGs, particularly SDG 8 to encourage sustained economic growth, by increasing productivity and through technological innovation. The Abu Dhabi Investment Authority, the Kuwait Investment Authority, Saudi Arabia's Public Investment Fund, and the Qatar Investment Authority are all members of the One Planet Sovereign Wealth Fund Working Group, which aims to promote the integration of climate change analysis in the management of large, long-term and diversified asset pools.⁷²

⁶⁶ IsDB. 2019. Climate Change Policy. Available at <https://www.isdb.org/sites/default/files/media/documents/2022-02/IsDB%20Climate%20Change%20Policy.pdf>.

⁶⁷ See https://unfccc.int/sites/default/files/resource/NBFArabStates_Sessions5_Benali.pdf.

⁶⁸ The Comoros, Djibouti, Mauritania and Yemen do not have stock exchanges.

⁶⁹ Stock exchanges in Amman, Jordan; Bahrain; Casablanca, Morocco; Doha, Qatar; Dubai, UAE; Egypt; Kuwait; Saudi Arabia; Somalia; and Tunisia are partners.

⁷⁰ ESCWA. 2018. The State of Financing Development in the Arab Region. E/ESCWA/EDID/2018/TP.2. p. 10–11.

⁷¹ See footnote 70.

⁷² More information on the working group can be found at <https://www.ifswf.org/general-news/one-planet-swf-working-group-publish-framework-climate-change>.

60. Other investors include pension funds and insurance companies. All countries in the Arab region except Lebanon have a pension programme for public and private sector employees. The insurance sector remains limited, while investment companies and mutual funds are most active in the wealthiest countries, primarily in Kuwait and Saudi Arabia.⁷³

61. Saudi Arabia has the largest pool of pension assets in the Arab region. These are split between the Public Pension Agency, for public sector workers, and the General Organization for Social Insurance, for private sector workers. The two funds often co-invest in companies and work alongside the Public Investment Fund, the country's SWF. In addition to holding stakes in dozens of major listed companies, the funds invest in private companies. Saudi Arabia's co-investment model and use of blended finance vehicles could set a valuable example for regional partners looking to boost SDG-aligned investment across a number of sectors.



⁷³ See <https://www.unepfi.org/financing-the-energy-transition/breakdown-of-how-the-arab-region-financial-system-can-finance-the-mitigation-of-climate-change/>.



III. Climate finance needs and priorities

62. This section outlines priority sectors and the estimated finance needs by sector and subsector according to information sources such as official documents and communications released by Arab States and country programmes of climate funds and MDBs, before setting out priority technology and capacity-building needs across the region. Although based on bottom-up country-level data collection, needs are presented in an aggregated manner on a regional basis to show where most commonalities exist. The mapping does not exclude any identified needs. As countries have specific needs and their capacity to respond varies across the region, different implementation paths can be followed to address national needs.

63. Enhancing access to climate finance, which is the primary objective of this annex in support of the strategy, is part of a larger framework. For the Arab States, accessing climate finance for climate action is viewed in the context of sustainable development, particularly in terms of achieving the SDG on economic diversification, balancing adaptation and mitigation efforts and pursuing co-benefits. Within this framework, this section summarizes the status of existing needs and provides a brief explanation of how needs are communicated.

A. Methodological approach for determining needs

64. In order to produce a description of climate finance needs for the region, all public communications from countries to the UNFCCC were assessed, and consideration was given to needs expressed by countries in their national visions and national development and sectoral plans, along with information from the country programmes of the GCF and MDBs operating in the region, where available. Needs are presented by thematic area and are expressed as needs for adaptation and adaptation with mitigation co-benefits and economic diversification with mitigation co-benefits; needs by sector and subsector; and needs by time frame, where that information is available. Needs for technology development and transfer and capacity-building needs are also presented.



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65. Table 2 summarizes the sources considered for the analysis of needs and priorities. The assessment also incorporated data presented during the NBF project inception workshop in November 2019⁷⁴ and the Technical Workshop on Climate Finance for Finance Experts in the Arab region held in February 2020.⁷⁵

66. These sources provide ample information and offer insight into the needs communicated by the Arab States. The needs identified fall under the overarching framework of sustainable development and efforts to reduce vulnerability and risk. However, it is important to acknowledge that the information has its limitations. For example, as noted in paragraph 12 above, the data sets contain several gaps, primarily because the reports in question serve different purposes. Moreover, the sources use different time frames, identifying needs up to 2015, 2020, 2030 or 2040.

67. The sources contain different information on needs expressed by the Arab States. While most countries identified their needs in relation to adaptation and mitigation (qualitative or costed needs), some estimated the costs associated with the identified needs (quantitative needs). When costing their needs, some countries specified how much of their quantified needs can be covered by domestic sources and how much is many required from international sources of climate finance. Furthermore, needs were reported by thematic area (i.e. adaptation, mitigation or cross-cutting), sector (e.g. agriculture, coastal zones, health, energy, transport and water), means of implementation (e.g. finance, technology or capacity-building) and time frame.

⁷⁴ See <https://unfccc.int/event/technical-workshop-on-climate-finance-in-the-arab-region>.

⁷⁵ See <https://unfccc.int/event/technical-workshop-on-climate-finance-for-finance-experts-in-the-arab-region>.

68. In terms of time frames, needs are classified as immediate term (less than five years), short term (5–10 years), medium term (11–20 years) or long term (21–30 years). Immediate-term needs are more likely to be based on identified capacity or development projects that are in the pipeline, and longer-term needs generally reflecting vision or strategy documents. The time frame also varies according to the type of UNFCCC report used to communicate the needs (see figure 8):

(a) BURs are submitted by developing countries every two years, with the small island developing States and the LDCs awarded the flexibility to submit BURs at their discretion. BURs are aimed at providing updates on GHG inventories and mitigation and adaptation actions undertaken, as well as on gaps and related financial, technical and capacity-building needs, mostly over a time frame of 5–10 years.⁷⁶ As of October 2020, 10 LAS member States had submitted BURs, namely Egypt, Jordan, Kuwait, Lebanon, Mauritania, Morocco, Oman, Saudi Arabia, Tunisia and Yemen.

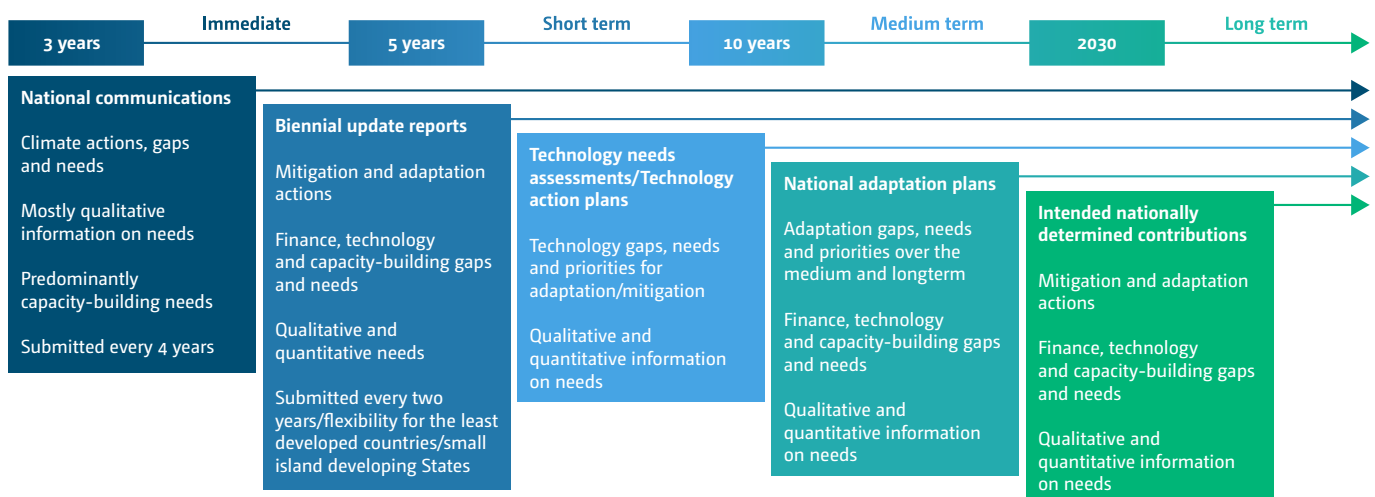
(b) Established under the Cancun Adaptation Framework, NAPs are part of a country-led process aimed at enabling Parties to address their medium- and long-term adaptation needs by developing the strategies to address them progressively, iteratively and as part of a gender-sensitive, participatory and transparent approach.⁷⁷

The NAP process itself is aimed at coherently integrating adaptation into national policies, programmes and activities, meaning that needs identified by most NAPs are over the short-to-medium term (up to 20 years). Of the LAS member States, only Kuwait, the State of Palestine and the Sudan have submitted NAPs, although others are preparing a submission.

(c) NCs, which are generally submitted every four years, provide an update on GHG inventories, climate change vulnerabilities, adaptation actions undertaken and needs. NCs are more likely to contain qualified rather than quantified information on needs, particularly in relation to capacity-building over the immediate and short term. All 22 LAS member States have submitted at least one NC with the exception of Libya.⁷⁸

(d) In NDCs countries set out their contributions to taking climate action and describe the means of implementation (i.e. finance, technology or capacity-building) required. Most countries identify contributions up to 2030. Within the broader context of sustainable development, NDCs address both mitigation and adaptation and therefore take into consideration Parties' circumstances and capabilities. Of the LAS member States, only Libya has not submitted its first NDC.⁷⁹

Figure 8
Overview of national reports submitted to the UNFCCC



⁷⁶ For more information on BURs, see <https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/biennial-update-reports-and-international-consultation-and-analysis-non-annex-i-parties/biennial-update-reports>.

⁷⁷ For more information on NAPs, see <https://unfccc.int/topics/adaptation-and-resilience/workstreams/national-adaptation-plans> and <https://unfccc.int/topics/resilience/workstreams/national-adaptation-plans/overview>.

⁷⁸ NC submissions can be found at <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-update-reports-non-annex-i-parties/national-communication-submissions-from-non-annex-i-parties>.

⁷⁹ NDC submissions can be found at <https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx>.

69. TNAs are aimed at determining climate technology needs and priorities for facilitating climate action and building national capacity.⁸⁰ TNAs include a TAP, a succinct action plan aimed at promoting priority technology 'uptake and diffusion' for mitigating and adapting to climate change.⁸¹ Needs are identified over a period of up to 20 years, with the time frame depending on the type

of technologies and activities involved (e.g. scale-up and replication of existing technologies or use of new ones). Of the LAS member States, five have submitted TNAs and TAPs, namely Jordan, Lebanon, Mauritania, the Sudan and Tunisia. As countries identify and cost their needs across different reports, ranges for needs provided in costs were used to derive an overall estimate.

Table 2
Submission of official country communications by year up to March 2020

	Submissions to the UNFCCC												Submissions to climate funds	Submissions to MDBs			
	BUR ¹	BUR ²	BUR ³	NDC/INDC	NAP	NAPA	NC ¹	NC ²	NC ³	NC ⁴	TNA	TAP	GCF ³	AfDB ^b	EBRD ^c	IsDB ^d	WB ^e
Algeria	–	–	–	2016	–	–	2001	2010	–	–	–	–	–	2016	–	–	–
Bahrain	–	–	–	2016	–	–	2005	2012	–	–	–	–	–	–	–	–	–
Comoros	–	–	–	2016	–	2006	2003	2013	–	–	–	–	–	2016	–	–	–
Djibouti	–	–	–	2016	–	2006	2001	2014	–	–	–	–	–	2016	–	–	2016
Egypt	2019	–	–	2017	–	–	1999	2010	2016	–	–	–	–	2016	2017	2019–2021	–
Iraq	–	–	–	2015	–	–	2017	–	–	–	–	–	–	–	–	–	–
Jordan	2017	–	–	2016	–	–	1997	2009	2014	–	2016	2017	–	–	2014	–	2021
Kuwait	2019	–	–	2018	2019	–	1997	2009	2014	–	–	–	–	–	–	2012–2015	–
Lebanon	2015	2017	2019	2020	–	–	–	–	–	–	2016	2017	–	–	–	–	2017
Libya	–	–	–	–	–	–	–	–	–	–	–	–	–	2014	–	–	–
Mauritania	2016	–	–	2017	–	2004	2002	2008	2014	2019	2017	2017	2019	2017	–	2011–2015	2018
Morocco	2016	2019	–	2016	–	–	2001	2010	2016	–	–	–	–	2017	2015	2013–2017	2019
Oman	2019	–	–	2019	–	–	2013	–	–	–	–	–	2019	–	–	–	–
Qatar	–	–	–	2017	–	–	2011	–	–	–	–	–	–	–	–	–	–
Saudi Arabia	2018	–	–	2016	–	–	2005	2011	2016	–	–	–	–	–	–	–	–
Somalia	–	–	–	2016	–	2013	2019	–	–	–	–	–	–	2017	–	–	2019–2022
State of Palestine	–	–	–	2017	2016	–	2016	–	–	–	–	–	–	–	–	–	–
Sudan	–	–	–	2017	2016	2007	2003	2013	–	–	2013	–	–	2017	–	–	2014–2015
Syrian Arab Republic	–	–	–	2018	–	–	2010	–	–	–	–	–	–	–	–	–	–
Tunisia	2014	2016	–	2017	–	–	2001	2014	2019	–	2016	2017	–	2017	2019	2013–2016	2018–2020
UAE	–	–	–	2016	–	–	2007	2010	2013	2019	–	–	–	–	–	–	–
Yemen	2018	–	–	2015	–	2009	2001	2013	2018	–	–	–	–	–	–	–	–

Notes: Grey-shaded cells denote documents that were included in the analysis. In the case of BURs, NCs, TNAs and TAPs, the most recent submission was assessed.

^a Dates in this column relate to the submission of country programmes.

^b Dates in this column relate to the submission of Country Strategy Papers.

^c Dates in this column relate to the submission of Country Strategies.

^d Dates in this column relate to the submission of Member Country Partnership Strategies.

^e Dates in this column relate to the submission of Country Partnership Framework Strategies.

⁸⁰ More information is available at <https://unfccc.int/ttclear/tna>.

⁸¹ See <https://unfccc.int/ttclear/projects>.

B. Overall needs and priorities of Arab States

1. Overview

70. All 21 Arab States⁸² that submitted national reports to the UNFCCC identified needs and priorities in a qualitative manner, and 13 also costed their needs in quantitative terms. Figure 9 provides an overview of the information on needs provided by countries in qualitative and quantitative terms.

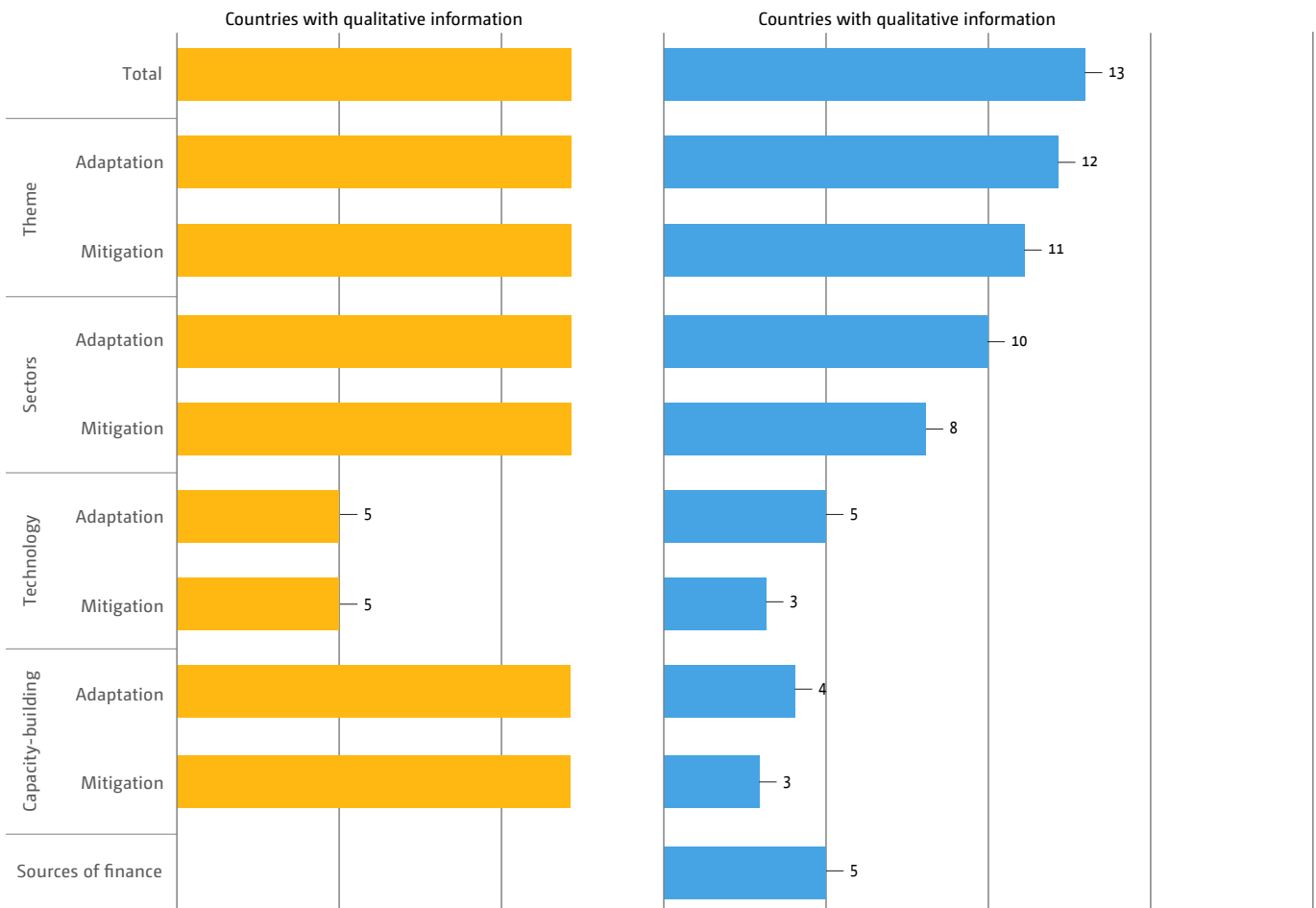
71. Regarding thematic areas, 18 States identified needs for adaptation and adaptation with mitigation co-benefits, of which 12 provided cost estimates for those needs. All States identified needs for mitigation and economic diversification with mitigation co-benefits, with 11 reporting cost estimates for those needs.

72. In terms of sector-level information, 18 States expressed needs qualitatively for adaptation and adaptation with mitigation co-benefits by sector, with 10 of those States reporting quantitative adaptation needs

by sector. Meanwhile, all States expressed sector-specific needs for mitigation and economic diversification with mitigation co-benefits in a qualitative manner and eight did so in a quantitative manner.

73. Five States identified and costed technology needs in their TAPs and TNAs. While all five States included qualitative and quantitative information on their technology needs for adaptation and adaptation with mitigation co-benefits, three countries only reported their technology needs for mitigation and economic diversification in a quantitative manner. All States identified capacity-building needs, with four providing cost estimates for capacity-building needs in adaptation areas and three doing so in mitigation areas. With regard to sources of climate finance, five countries specified whether funding needed should come from national or international sources.

Figure 9
Overview of information provided by Arab States in their national reports



⁸² Libya has not submitted a report to the UNFCCC.

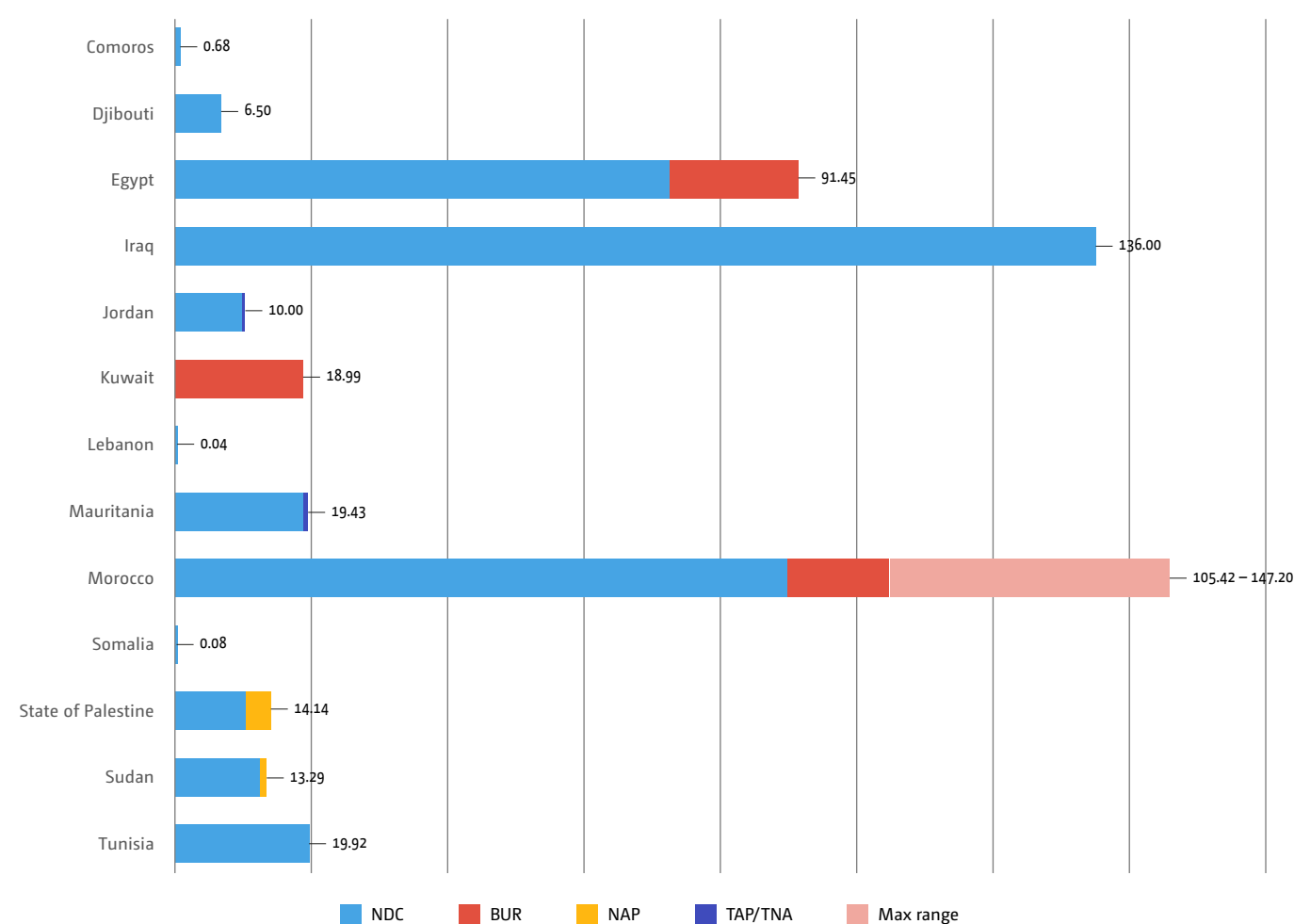
74. A total of 13 Arab States provided quantitative information on costed needs, which amount to between USD 436 billion and USD 478 billion (see figure 10). The remaining eight countries (Algeria, Bahrain, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, UAE and Yemen) did not include costed information on their identified needs. A large share of the total (approximately 76%) was identified by three States – Egypt, Iraq and Morocco – with gaps in the information provided by other States, particularly the LDCs. Most of the quantified needs are derived from 11 States' NDCs, with information reported in BURs complementing the data from three States. Information from NAPs, TAPs and TNAs made up 1% of the total.⁸³

75. Figure 11 illustrates the costs of needs identified by source, thematic area and time frame. The lion's share is expected to come from international multilateral and bilateral sources, while only USD 30 billion is expected to come from domestic sources. In terms of thematic area, adaptation needs represented the largest cost at

USD 200 billion, with Iraq accounting for USD 136 billion of that total. Morocco accounted for 40% of the total costed mitigation needs, which amounted to USD 163 billion. Of the total needs identified, some USD 205 billion was needed for projects to be implemented over the next 11–20 years. This is predominantly because most costed needs are reported in NDCs, where countries usually report their national contributions to taking climate action until 2030 and the required means of implementation, including finance. Of the costed needs, some USD 202 billion was required for the short term (5–10 years); most of this sum was identified in BURs and NDCs, which accounts for the shorter time frame. Some USD 10 billion was required for the immediate term (up to five years); most of this figure was related to capacity-building needs.

76. The information reported by sector clearly reveals that most needs in the Arab region are related to adaptation in the water sector (see figure 12).

Figure 10
Costs of needs identified by country
(USD billion)



⁸³ The adaptation needs reported by the State of Palestine in its NAP was also reported in its NDC.

Figure 11
Costs of needs identified by source, thematic area and time frame
(USD billion)

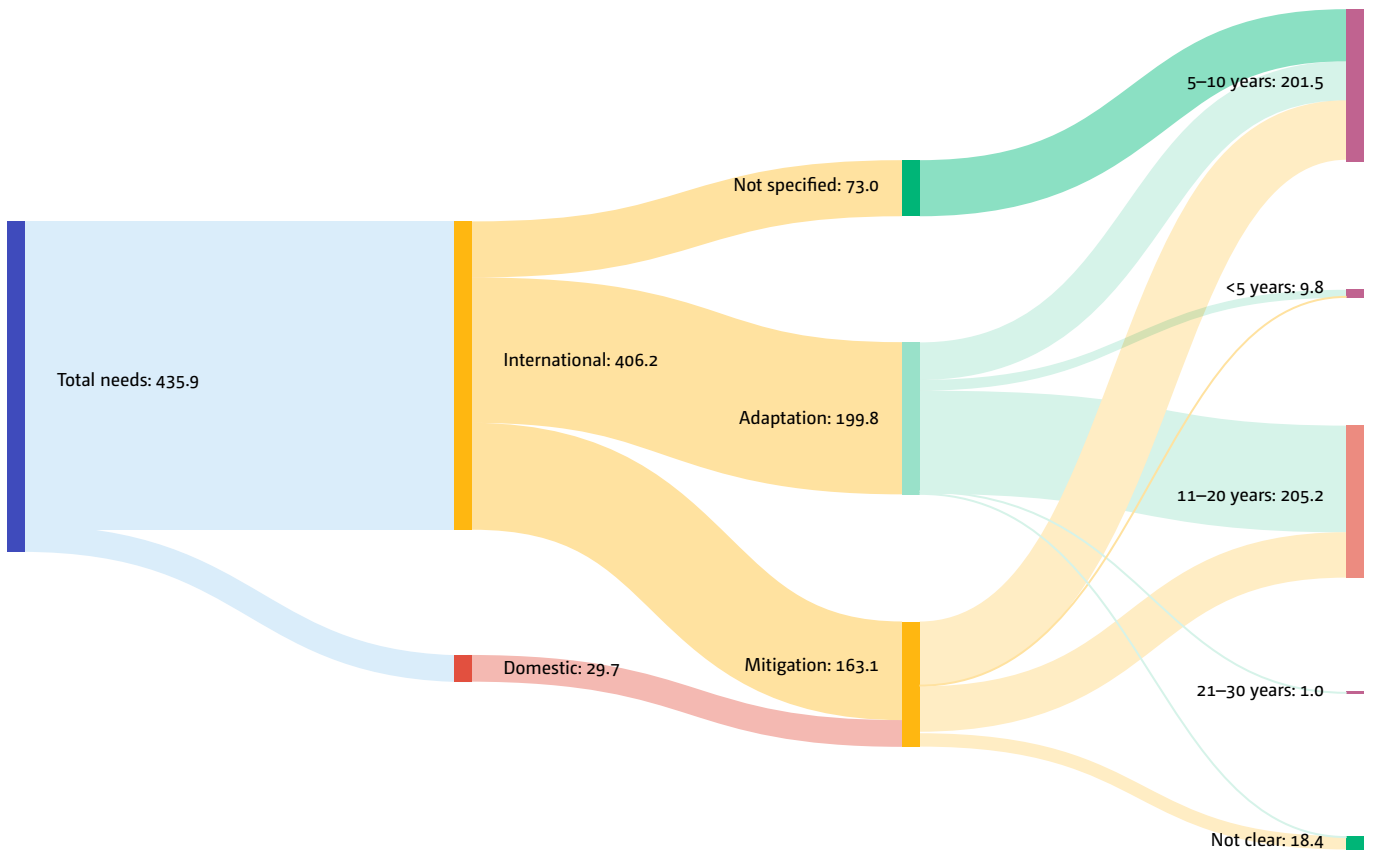
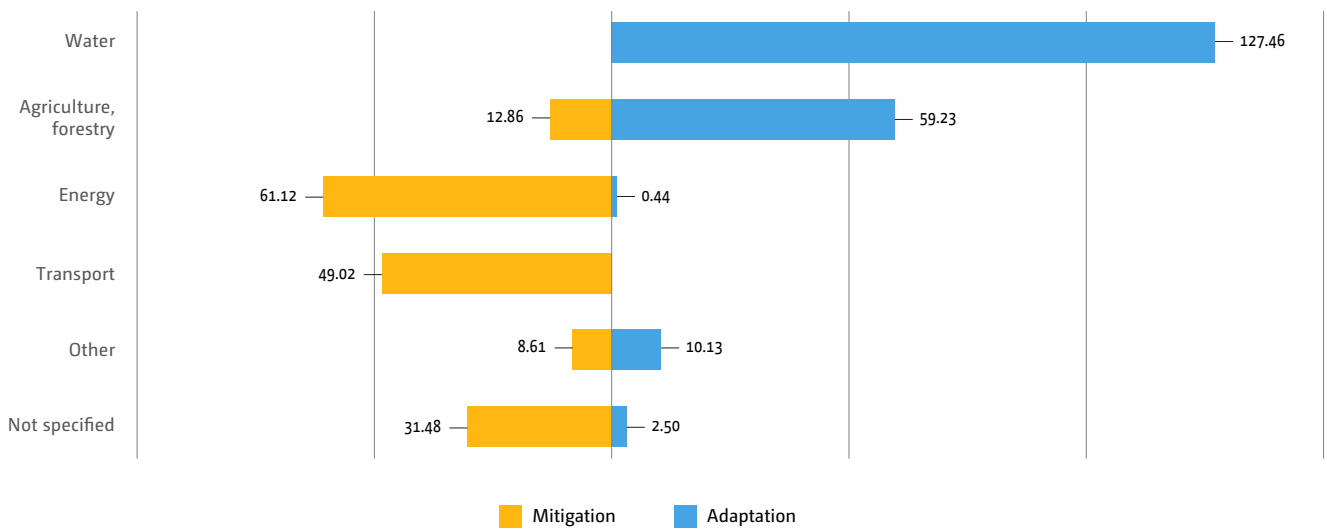


Figure 12
Needs costed by thematic area and sector
(USD billion)



2. Needs for adaptation and adaptation with mitigation co-benefits by sector and subsector

77. The priority areas identified for adaptation and adaptation with mitigation co-benefits are the water sector (identified by 18 States), the agriculture sector (12 States), coastal zones (12 States) and the health sector (8 States). The costs estimated by the States for these sectors amount to USD 127.46 billion for water, USD 59.93 billion for agriculture and food security, USD 2.35 billion for coastal zones and USD 0.3 billion for health.

(a) Water

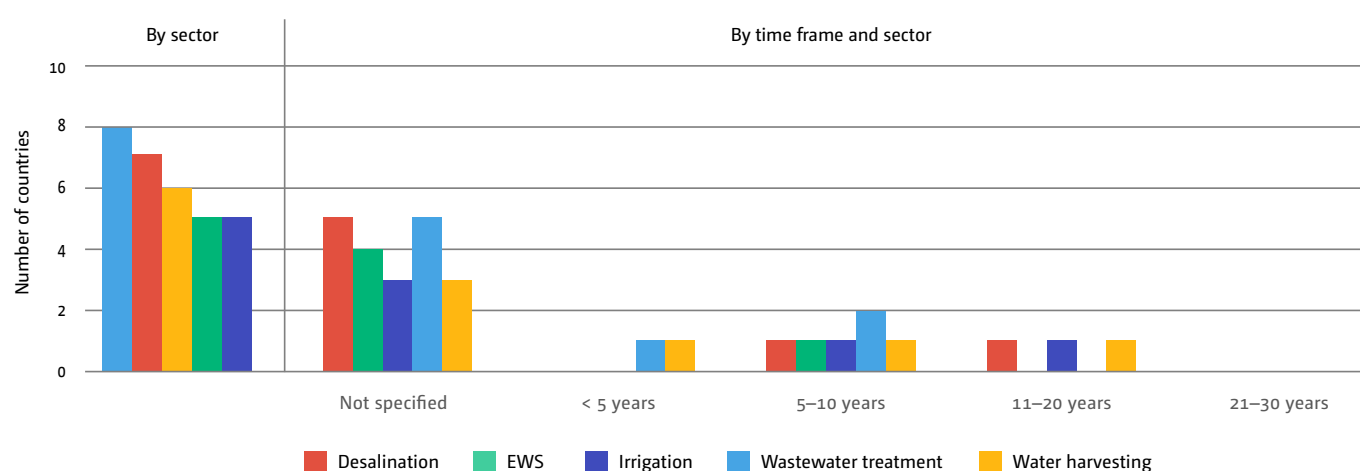
78. A total of 18 countries identified needs and priorities at the subsectoral level for the water sector (see figure 13). From most frequently to least frequently mentioned, the identified needs relate to wastewater treatment, desalination, water harvesting, irrigation, and EWS, and most needs relate to reducing climate-induced water shortages for vulnerable communities, livestock and agriculture. Eight States identified needs related to wastewater treatment. Seven countries identified a need for desalination projects that involve, *inter alia*, establishing, expanding or maintaining desalination plants to meet drinking water needs, and a need for research and development in relation to new technologies. Six States mentioned the need for water-harvesting technologies, including dams and terraces to increase water supply, predominantly for drinking purposes, to support vulnerable communities. Five States identified the need for EWS to improve drought prediction and mitigation systems. Another five countries identified the need to design and rehabilitate irrigation canals.

79. While the majority of States that identified needs in the water sector did not specify a time frame for associated actions, three States identified a need for the diffusion of technologies for irrigation, desalination and water-harvesting projects within five years. Three States identified needs for 5–10 years' time and one State identified medium-term water needs (i.e. for 11–20 years' time) in line with national strategies and visions.

80. The above findings on the needs and priorities identified in national reports are reflected in MDB country strategies, where identified needs in the water sector include:

- (a) Financing water preservation and efficiency solutions, including modernizing water infrastructure for agribusiness, sanitation and power;
- (b) Supporting water-saving irrigation techniques;
- (c) Supporting the use of non-conventional water through water treatments such as seawater and brackish water desalination; and
- (d) Treating industrial and domestic wastewater.

Figure 13
Water needs by subsector and time frame



(b) Agriculture

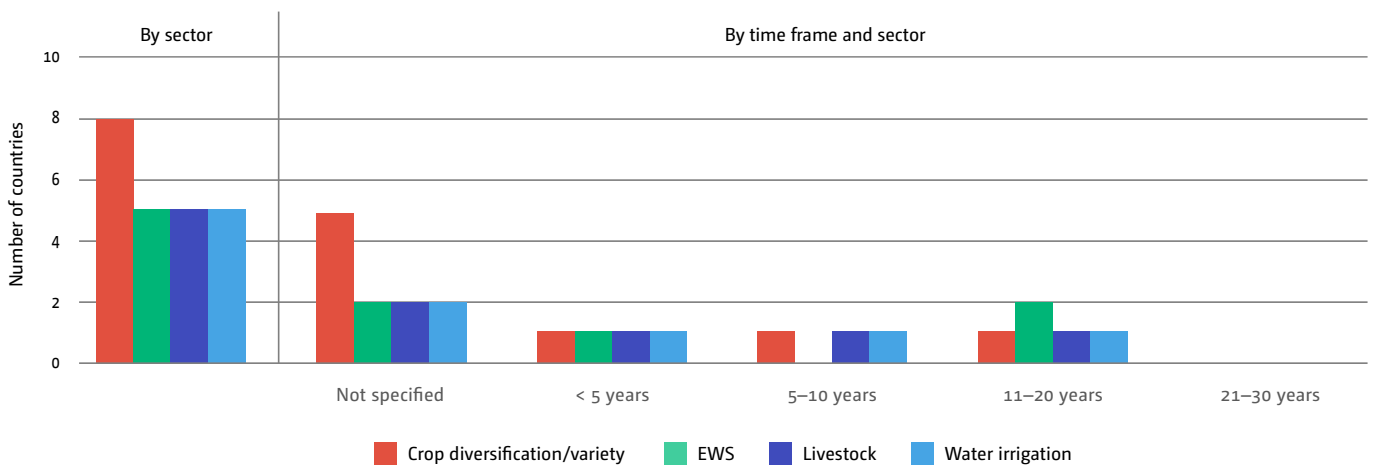
81. A total of 12 States identified needs related to agriculture, including needs to increase crop diversity/variety, improve water irrigation, strengthen EWS and protect livestock (see figure 14). Eight States identified needs for crop diversification/variety, including for research into the development of new crop varieties and for a shift towards cultivating more drought-tolerant crops or crops that need less water. Five States identified water irrigation needs such as rehabilitating irrigation canals, designing a new policy programme for more efficient water use in irrigation, and supporting organic agriculture. Five States identified needs related to EWS, including needs to develop such a system for agricultural pests and climatic conditions and update meteorological networks to enhance EWS activities. Finally, another five States identified needs related to livestock, including needs to introduce new techniques for producing non-traditional animal feeds with greater nutritional value through the recycling of agricultural residue, improve cattle breeds through an artificial insemination programme developed for smallholders, and carry out regular surveillance of animal diseases through improvements to monitoring or to veterinary services, including by providing vaccines through mobile clinics.

82. With respect to time frames, six States did not specify a period for their identified agriculture needs. However, one State identified agriculture-related needs for the immediate term (i.e. within five years), which mostly relate to scaling up and replicating water irrigation technologies; one State identified needs over the short term (5–10 years); and two States identified needs over the medium term (11–20 years), reflecting the need to research and introduce diversified, drought-resistance crops and to develop and implement EWS.

83. Needs identified in MDB country strategies align with the needs expressed in UNFCCC national reports, and include:

- (a) Supporting water-saving irrigation techniques;
- (b) Introducing tariff and subsidy reforms to increase access to climate-resilient crop seeds;
- (c) Rehabilitating infrastructure that is essential to livelihoods in rural communities, such as water supply and storage, roads and ports; and
- (d) Reducing the impact of floods and droughts through water and soil conservation and by building dunes and windbreaks.

Figure 14
Agriculture needs by subsector and time frame



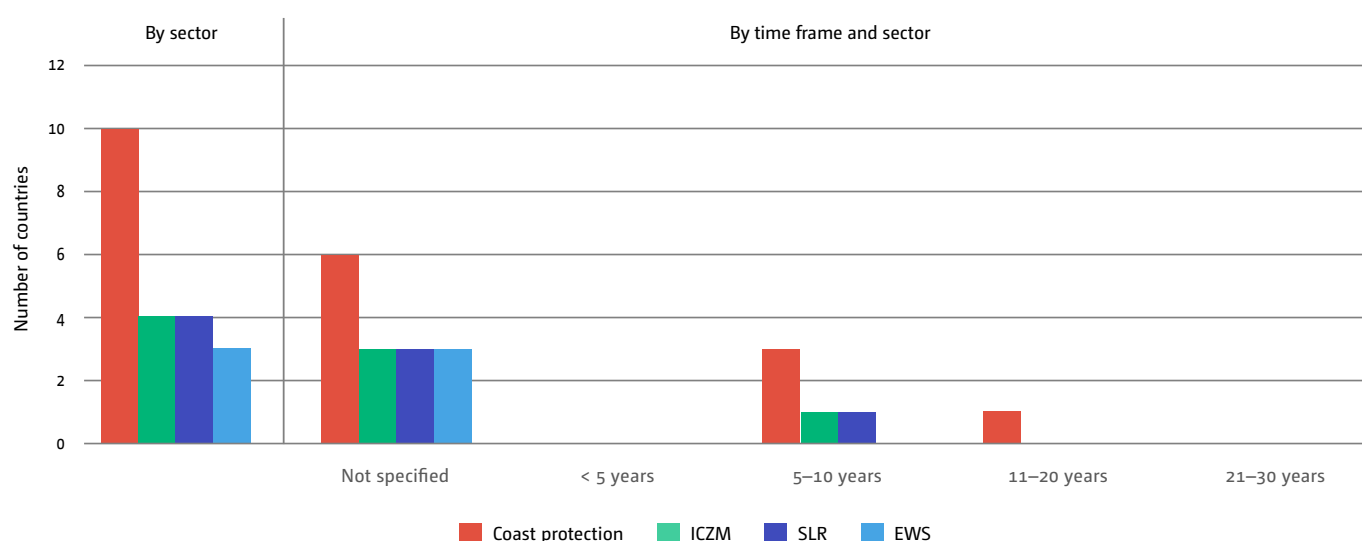
(c) Coastal zones

84. Of the 18 States that expressed needs at the subsector level, 12 identified needs related to coastal zones, including in relation to coastal protection, ICZM, SLR and EWS (see figure 15). Needs related to coastal protection, which were identified by 10 States, included protecting natural sand dunes; building break walls by major cities; rehabilitating mangroves, including through ecosystem-based approaches; and establishing or enhancing conservation zones for coral reefs. Four States identified the need to develop and implement integrated coastal zone management. Three States identified measures to address SLR, which included researching trends and the impacts of SLR. A further three States identified a need for EWS, which would help to reduce vulnerability to extreme weather events such as rainstorms, floods and dust storms by making infrastructure more resilient.

85. Eight States did not give a time frame for their identified needs. Two States identified needs over the immediate term and three over the short term, mostly in relation to implementing projects aimed at enhancing conservation zones for coral reefs, applying ecosystem-based approaches for coastal protection, building protective walls and developing ICZM plans. One State identified medium-term needs, including the need to implement measures for halting SLR.

86. Needs identified in MDB country strategies generally reinforce the needs identified in national reports to the UNFCCC, which include the need for measures to halt and reverse soil and coastal degradation, including through policy measures and construction work.

Figure 15
Coastal zone needs by subsector and time frame



(d) Health

87. A total of eight States identified needs related to health at the subsectoral level, including improved health service provision, general health measures for enhancing the resilience of women and vulnerable groups to climate change, and measures for monitoring the outbreak or spread of infectious diseases (see figure 12). Three States identified the need to enhance existing health services, including by introducing programmes and policy reforms and setting up and supporting hospitals and clinics in rural areas in order to provide access to medical care. Another three States identified measures for increasing the adaptive capacities of women and vulnerable groups in relation to health, including through awareness-raising programmes aimed at preventing major diseases related to water, sanitation and food, and by providing potable water. Two States identified a need for measures for monitoring the outbreak and spread of infectious diseases, including by developing climate-informed disease control programmes and surveillance systems that use meteorological services to target vector control in time and space; sharing electronic surveillance data more effectively and rapidly to enable swift intervention; and using effective approaches and tools such as geospatial information system analysis and World Health Mapper to link environmental and climatic factors to health outcomes.

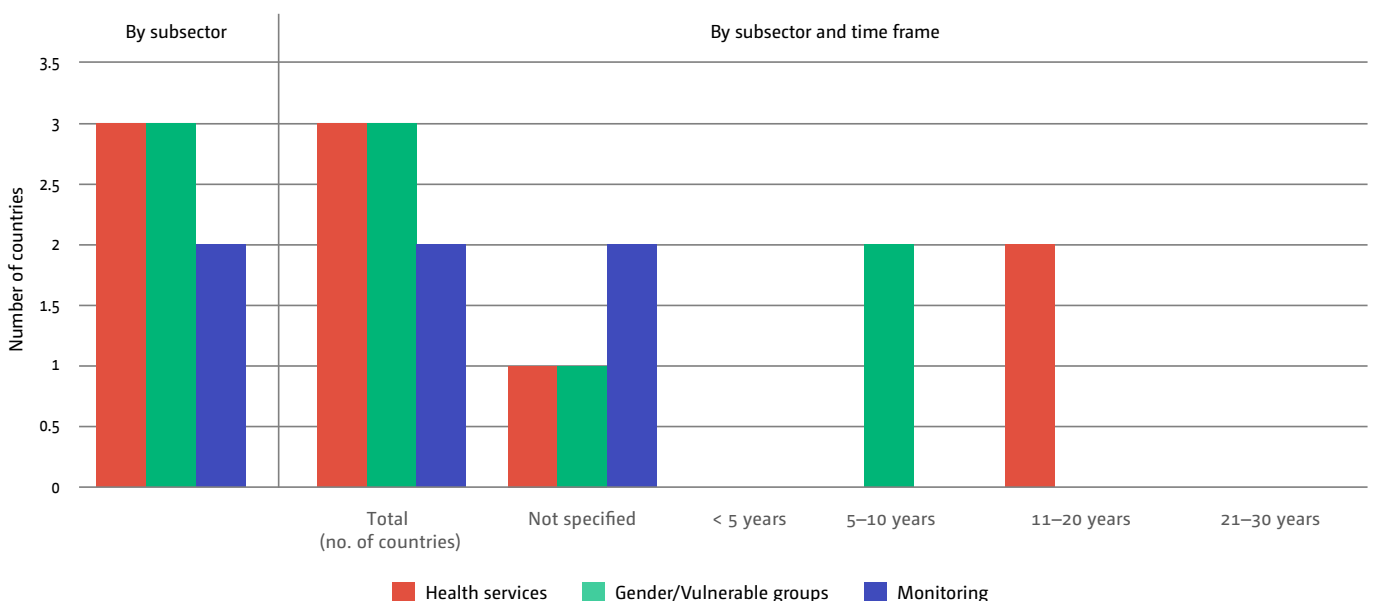
88. Four States did not specify a time frame for their identified needs; two States identified health-related needs for the short term, including for awareness-raising and capacity-building programmes to prevent the outbreak and spread of diseases; and two States identified needs for the medium term, including for policy reforms aimed at establishing and enhancing health-care facilities, particularly in rural areas.

89. Health-related needs identified in MDB country strategies reinforce the needs identified in national reports to the UNFCCC, particularly in terms of strengthening existing health services by increasing health-care coverage, access and affordability for vulnerable communities, but also in relation to preventative measures such as upgrading community sanitation networks to prevent the outbreak of infectious diseases.

3. Economic diversification and mitigation with adaptation co-benefits

90. Priority sectors for economic diversification and mitigation with adaptation co-benefits include energy (identified by 21 States), waste (identified by 14 States) and transport (identified by 13 States). The estimated costs identified by the States in these sectors amount to USD 61.12 billion for energy needs, of which USD 31.57 billion is for renewable energy. Needs related to transport and waste were costed at USD 49.02 billion and USD 4.62 billion, respectively (see figure 12).

Figure 16
Health needs by subsector and time frame



(a) Energy

91 Of the 21 States that provided information at the subsectoral level, 15 identified renewable energy as a priority subsector, 13 identified needs related to energy efficiency, three identified carbon capture and storage as priority subsector and three identified buildings as a priority subsector (see figure 17). Of the 15 States that identified renewable energy needs, 10 specified the energy technologies needed: solar was identified by all 10 States, hydro and biomass by 4, gas and wind by 3 and geothermal and thermal by 2 (see figure 18).

92. Five States did not specify a time frame in relation to their energy needs. Three States identified needs for the immediate term, predominantly in relation to maintaining existing infrastructure and carrying out research and capacity-building. Three States identified needs for the short term related to upscaling and replicating existing projects, particularly in rural areas. Four States identified needs for the medium term, highlighting the needs for policy reforms and measures aimed at diversifying the energy mix in line with existing national strategies and visions.

Figure 17
Energy needs by subsector and time frame

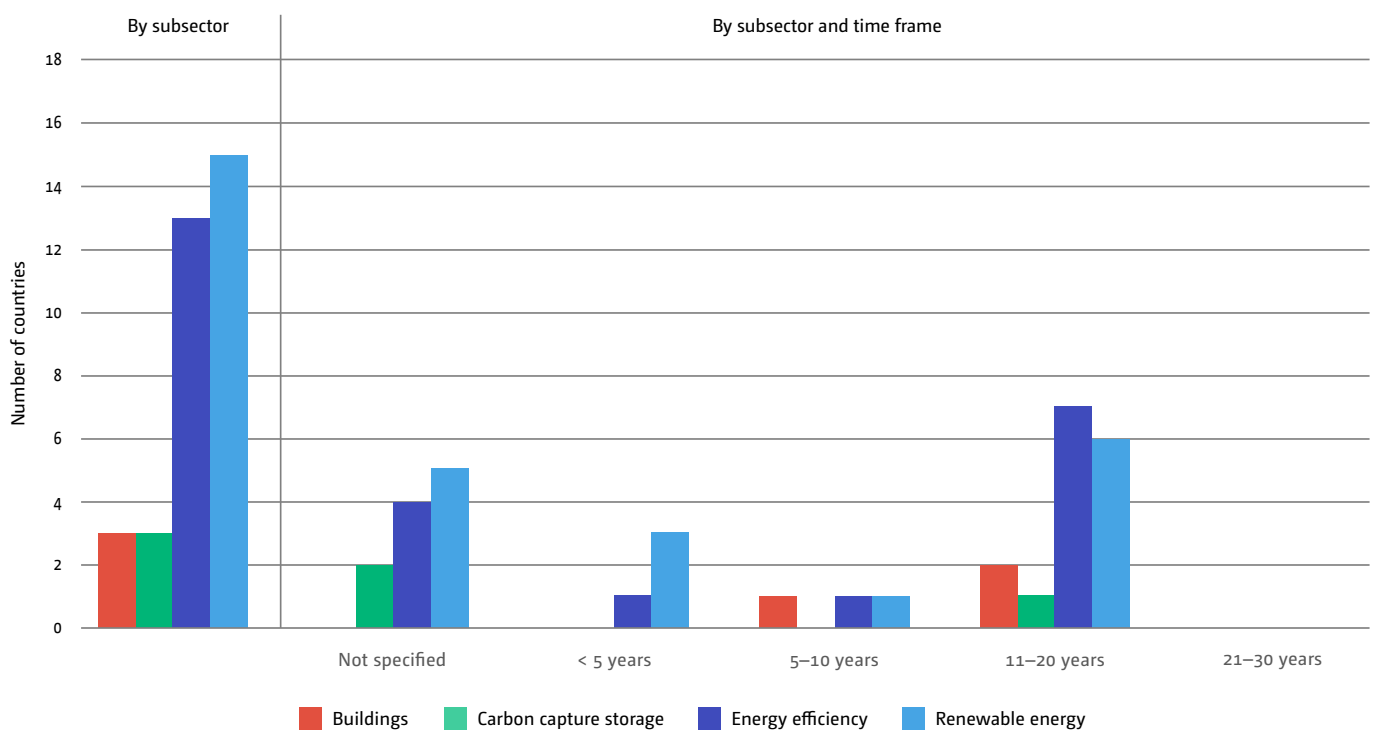
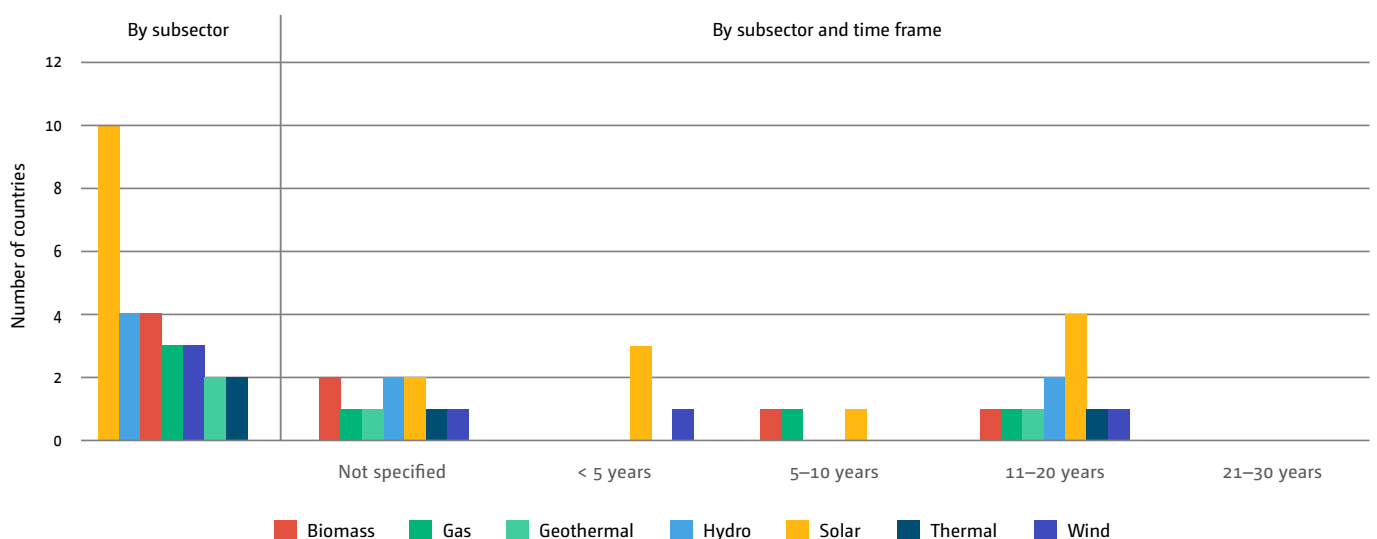


Figure 18
Types of energy technology identified



93. Energy needs communicated in MDB country programmes correspond to the needs identified in national reports submitted to the UNFCCC, including:

- (a) Upgrading the network to enable the integration of renewable energy (smart metering or smart grid systems, regional interconnection and storage capacity);
- (b) Increasing accessibility to electricity in rural and peri-urban areas by financing hybrid renewable energy solutions for rural mini networks;
- (c) Reducing dependence on energy imports by increasing investment in renewable energies and integrating renewable energy solutions into the generation network;
- (d) Diversifying energy sources by increasing reliance on renewable sources and implementing energy efficiency measures; and
- (e) Increasing access to modern energy for lighting and heating in poorer communities and internally displaced populations with a view to replacing charcoal.

(b) Waste

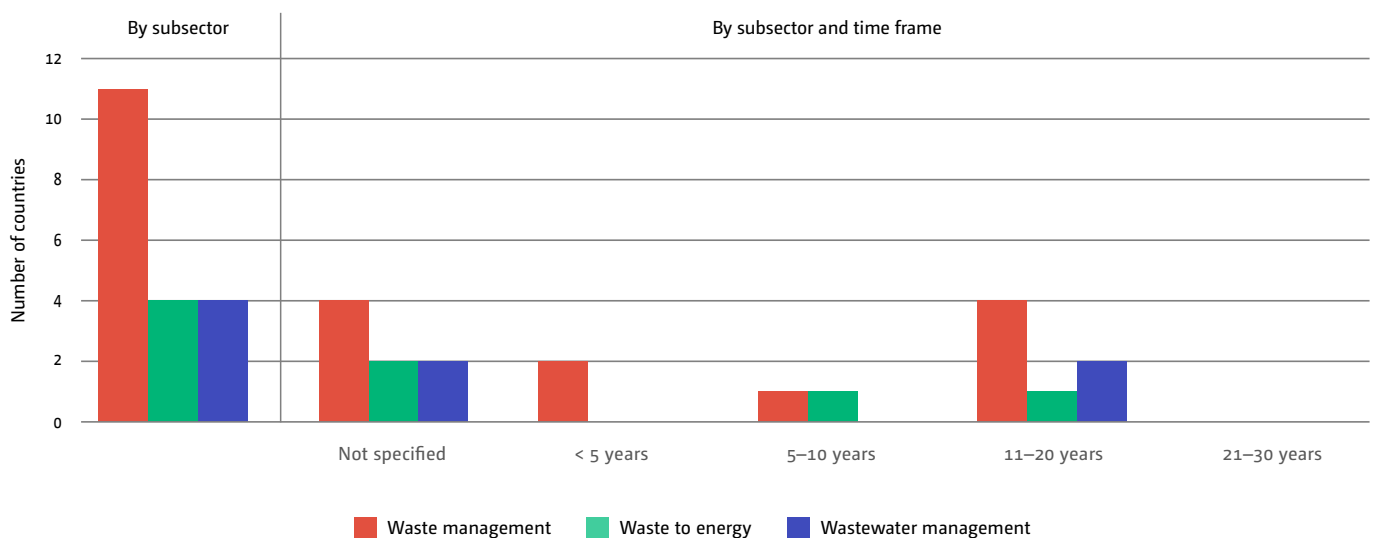
94. A total of 13 States detailed their needs related to waste at the subsectoral level (see figure 19). In total, 11 States identified needs for general waste management practices, such as regulating the recycling industry and

developing standards for the required facilities and equipment, creating a road map for integrated waste management and developing a database for collecting and storing information on waste. Four States identified needs related to waste-to-energy and four identified needs related to wastewater treatment, such as the need to install wastewater treatment plants.

95. Of the 13 States that identified waste-related needs at the subsectoral level, four did not specify a time frame for their needs. Two States identified waste-related needs for the immediate term in relation to general waste management practices, such as defining a road map for integrated waste management and developing a database on waste. Two States identified needs over the short term, including the need to introduce waste-to-energy technologies, and five States identified needs over the medium term, including the need to regulate the recycling industry, introduce standards for waste management facilitates and encourage behavioural change.

96. Needs identified in MDB country strategies also relate to general waste management, particularly around sustainable and participatory solid waste management plans for both domestic and industrial waste.

Figure 19
Waste needs by subsector and time frame



(c) Transport

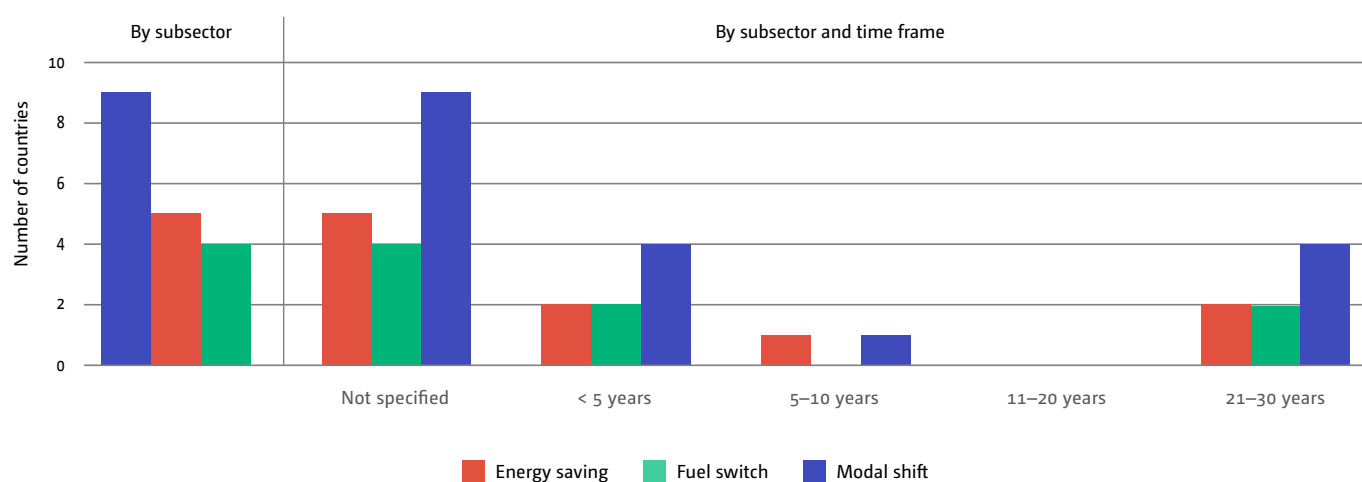
97. Regarding transport, 13 States provided information at the subsectoral level, identifying shifts to more sustainable transport modes, saving energy, and fuel switching as key areas of needs (see figure 20). Nine States identified measures aimed at increasing the use of mass transit systems such as trams, minibuses, railways and river transport, including measures for rehabilitating existing systems and developing new ones, standardizing public service contracts, simplifying fare systems and improving passenger information. Five States identified the need for energy-saving measures, including in relation to upgrading outdated vehicle fleets to reduce their fuel consumption, ceasing the import of outdated vehicles, and updating or introducing technical inspection procedures to ensure compliance with requirements for gas emission levels for vehicle exhausts. Finally, four States identified needs related to fuel switching, such as upgrading outdated utility vehicles to lower their fuel consumption.

98. While six States did not state specific time frames for their transport-related needs, two States identified needs over the immediate term, mostly related to the diffusion of technologies, and five specified needs over the medium term, predominantly in relation to longer-term measures involving areas such as facilitating a modal shift to a mass transit system, enacting policy reform and encouraging behavioural change in line with national strategies.

99. Similar to the needs identified in national reports submitted to the UNFCCC, needs identified in MDB country strategies include:

- (a) Supporting the development of green transport solutions (such as railway, ports, logistics zones and intermodal terminals) and associated energy storage facilities;
- (b) Rehabilitating major roads and ports to serve as emergency transit hubs during humanitarian crises; and
- (c) Supporting municipal-level investments in financing green city initiatives.

Figure 20
Transport needs by subsector and time frame



4. Means of implementation

100. Needs for means of implementation – that is, finance, technology development and transfer and capacity-building – are communicated through national reports to the UNFCCC, the country programmes and strategies of climate funds and MDBs, and national visions and strategies. In many cases, a combination of finance and/or technology and capacity-building support is required in order to develop a response to the identified needs, meaning that different publications often contain overlapping information on means of implementation. Table 3 provides a sector-level summary of both technology and capacity-building needs identified in the mapping of needs.

(a) Finance needs

101. Finance needs for mitigation and adaptation action identified in national reports to the UNFCCC cover estimates of cost for climate action and technologies, in addition to structural measures, institutional arrangements and policy reforms aimed at mobilizing financial resources, setting up climate funds and attracting private investment. These needs include:

- (a) Increasing grant and concessional finance at the bilateral and multilateral level with a view to supporting climate actions based on nationally defined needs;
- (b) Strengthening capacity to provide a scientific basis for defining targeted climate finance projects, including by using climate modelling to inform priority setting;
- (c) Developing appropriate financial risk management tools and approaches for addressing short- and long-term financial instability, focusing on the implications of a carbon tax for a number of countries;
- (d) Attracting low-cost loans to cover high upfront costs, including for renewable energy projects;
- (e) Developing a national finance mobilization plan for addressing climate change in both mitigation and adaptation activities and pursuing international and domestic funding possibilities;
- (f) Introducing revolving microcredit funds to support small-scale farmers and the implementation of small water-harvesting projects;
- (g) Using climate finance mechanisms to leverage private sector capital; and
- (h) Introducing insurance mechanisms against climatic hazards.

(b) Technology needs

102. Since technologies can play a key role in terms of both economic diversification and economic growth, identifying relevant technologies is critical. While technologies for adaptation actions are a priority for the region, technology innovation and transfer tend to be implemented more quickly for mitigation actions. This highlights the need to promote technology innovation and transfer in adaptation actions, including through south-south cooperation.

103. Five States – Jordan, Lebanon, Mauritania, Sudan and Tunisia – identified technology needs that amounted to USD 1.074 billion in their TAPs and TNAs. Of that sum, 87% (USD 934 million) was identified for adaptation technologies by all five States, mostly in the agriculture sector, with mitigation technologies accounting for USD 140 million, mostly in the transport sector. Three States estimated costs for mitigation technologies amounting to USD 4.16 billion.

(c) Capacity-building needs

104. Capacity-building remains a key need identified by Arab States in taking climate action, as highlighted by LAS member States in their national reports to the UNFCCC and country strategies and during engagement with national counterparts and key stakeholders from the region. Capacity-building activities include awareness-raising, training programmes and enhancing research systems.

105. While all States provided qualitative information on identified needs for capacity-building, quantitative information on costs required to address the needs were provided in a number of NAPs, TAPs and TNAs. Four States' TAPs and TNAs included costed capacity-building activities totalling USD 1 billion, and capacity-building activities included in the Sudan's NAP amounted to USD 0.3 billion. Tunisia costed capacity-building needs for mitigation action in its NDC at USD 0.523 billion.

Table 3
Technology and capacity-building needs for adaptation and mitigation action

Sector	Subsector	Technology needs	Capacity-building needs
Adaptation and adaptation with mitigation co-benefits			
Water	Desalinization	Desalinization technology	<p>Capacity-building:</p> <ul style="list-style-type: none"> • Introducing tariff and sector reforms • Designing early monitoring and warning systems, which must be developed to avoid consequences for recharge, run-off, soils and plants • Developing and implementing a comprehensive capacity development plan that targets all water stakeholders (e.g. relevant institutions, researchers, contractors and consultants) • Enhancing coordination with relevant stakeholders and partners to align with other sectors <p>Research:</p> <ul style="list-style-type: none"> • Assessing the impact of water-use stress on natural vegetation • Using more detailed data and regional hydrological information to investigate the impact of climate change on the level of surface rainfall run-off, which may have decreased, in different areas • Carrying out studies to estimate the impacts of hydrological disasters such as flash floods and thunderstorms <p>Training:</p> <ul style="list-style-type: none"> • Training people of different ages from a range of backgrounds on water-saving and sanitation methods • Training water user associations
	EWS	Climate change monitoring and EWS EWS technology	
	Wastewater treatment	Increasing 'grey water' use Desalination, brackish water treatment	
	Water harvesting	Rainwater harvesting Greenhouse rainwater harvesting	
Agriculture	Crop diversification	Introducing and multiplying new adapted varieties	<p>Capacity-building:</p> <ul style="list-style-type: none"> • Providing support for producer organizations and the agricultural water users' association • Monitoring and managing inland fisheries • Supporting sectoral reforms and natural resource management • Modernizing the management and organizational structures and strategic planning • Modernizing information systems <p>Research:</p> <ul style="list-style-type: none"> • Conducting a study on possible pests and insect diseases associated with climate change impacts • Investing in agricultural research to develop new crop varieties for environments with high salinity <p>Awareness-raising:</p> <ul style="list-style-type: none"> • Raising farmers' awareness of the importance of the proper use of water resources and good agricultural practices
		Drought- or flood-resistant crop varieties (biotechnology)	
	Irrigation	Sprinkler and drip irrigation	
	Water harvesting	Stormwater collection technology	
	Livestock	Sustainable pasture management	
Rangeland improvement and livestock production Selective breeding via controlled mating			
Climate-resistant productive livestock breeding Genetic improvement			
EWS	Climate change monitoring and EWS EWS technology Risk coping production system		

Table 3 (continued)
Technology and capacity-building needs for adaptation and mitigation action

Sector	Subsector	Technology needs	Capacity-building needs
Adaptation and adaptation with mitigation co-benefits (continued)			
Coastal zone	Coastal protection	Floodgates, tidal barriers Saltwater intrusion barriers Mangroves Tree planting Dune restoration Analysis of vulnerability to climate change and capacity for adaptation	<p>Capacity-building:</p> <ul style="list-style-type: none"> Strengthening capacity (institutional and otherwise) to cope with natural disasters and emergency post-disaster interventions Developing EWS for emergencies involving natural or technological disasters For integrated coastal zones and marine resource management <p>Awareness-raising:</p> <ul style="list-style-type: none"> Raising awareness among policymakers and the public of the importance of the impacts of SLR and its implications for future socioeconomic development Raising awareness of coastal developers through national and international activities, technical assistance and capacity-building
	Information services	Mapping and surveying Satellite remote sensing Monitoring coastal zones Strengthening the Information and Decision Support System	
Health		Geographic information system mapping and analytical tools	<p>Capacity-building</p> <ul style="list-style-type: none"> Conducting health vulnerability assessments Training health professionals and raising awareness in water-poor areas, particularly among women, of measures that individuals can take to help to prevent major diseases related to water, sanitation and food Monitoring epidemics of the principal vector-borne diseases Launching a network to monitor epidemics of the principal vector-borne diseases Launching a programme for adapting the health system to climate change, especially by protecting against water-borne diseases <p>Research:</p> <ul style="list-style-type: none"> A strategic partnership with universities and research centres for conducting research in the field of climate change and health at undergraduate and graduate level <p>Awareness-raising:</p> <ul style="list-style-type: none"> Raising awareness of climate change related diseases in communities in vulnerable areas in order to increase their adaptive capacities
Economic diversification and mitigation with adaptation co-benefits			
Energy	Renewable energy (wind)	Wind turbines (onshore, offshore)	<p>Capacity-building:</p> <ul style="list-style-type: none"> Institutional capacity-building and improved governance for a comprehensive renewable energy programme Institutional and individual capacity-building for hybrid mini network operations in rural areas, including ones aimed at women Increasing private sector investment in medium-voltage renewable energy and establishing an independent regulator <p>Awareness-raising:</p> <ul style="list-style-type: none"> Programmes for reducing energy consumption of devices and for energy-efficient building structures through thermal insulation systems
	Renewable energy (solar)	Solar thermal technology Solar photovoltaic (grid-connected, stand-alone)	
	Renewable energy (hydro)	Solar photovoltaic pumps	
	Energy efficiency	Small-scale hydro energy Compact fluorescent lamps Energy-efficient household appliances	

Table 3 (continued)
Technology and capacity-building needs for adaptation and mitigation action

Sector	Subsector	Technology needs	Capacity-building needs
Economic diversification and mitigation with adaptation co-benefits (continued)			
Transport	Modal shift	Mass rapid transit systems (road- or rail-based)	<p>Capacity-building:</p> <ul style="list-style-type: none"> • Strengthening institutional and technical capacities through information and knowledge management • Institutional capacity-building for sectoral and regulatory reforms in the urban and national transport sectors • Strengthening urban planning capacity • Developing a federal database for collecting and storing information on transport <p>Awareness-raising:</p> <ul style="list-style-type: none"> • Building awareness of climate change among individuals and policymakers • Promoting the involvement of local media in building awareness of climate change impacts and risks
		Integration of public transport systems	
	Non-motorized transport infrastructure		
Energy saving	Hybrid technology (cars, buses)		
	Vehicle add-on technologies (low-friction oil, fuel-efficient tyres)		
Fuel switch	Battery electric vehicles		
	Electric plug-in technology		
Waste	Waste management	Municipal solid waste combustion for district heating or electricity	<p>Capacity-building:</p> <ul style="list-style-type: none"> • Developing initiatives, preventing industrial pollution and building environmental and social capacity to adopt the best international standards • Developing a federal database for collecting and storing information on waste
	Waste-to-energy	Landfill methane recovery and use for heat and power Municipal solid waste combustion for district heating or electricity	
	Wastewater treatment		





IV. Climate finance flows

106. Understanding how current climate finance flows are targeted at the specific needs and priorities of the Arab region, the sources of such flows and how they are channelled can support the development of a strategy for needs-based climate finance. Data on existing flows can reveal where gaps remain and indicate which types of finance actor and instrument should be targeted as part of the strategy. This section provides an overview of the trends of climate finance in the Arab region up to the end of 2018 and presents available data on finance flows by financial instrument, sector and objective (whether climate mitigation or adaptation objectives are targeted).



107. Flows are treated separately according to different sources and channels, namely:

- (a) International public climate finance flows from bilateral agencies, MDBs and climate funds;
- (b) International private climate finance flows focusing on cross-border investment in renewable energy projects; and
- (c) Domestic public or private climate finance flows from within LAS member States.

A. International public finance

108. International public finance can consist of ODA from bilateral aid agencies or other official flows from bilateral and multilateral development finance institutions. Six of the countries in the region – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE – are no longer considered eligible

for ODA finance, although they are eligible for climate finance flows from the financial mechanism of the UNFCCC. These countries may also be a source of ODA. For the six LDCs in the region, nearly 25% of ODA in 2018 was sourced from Arab donors (Kuwait and UAE).⁸⁴ Intraregional ODA accounts for 83% of all non-OECD DAC ODA in the region.⁸⁵

109. To make it possible to determine whether existing climate-related finance meets the region's needs and is delivered to priority areas, information on bilateral and multilateral public climate-related finance flows is derived from the OECD DAC climate-related development finance database owing to the availability of standardized activity-level data, which gives insight into detailed sector and subsector applications of climate finance flows. Data is considered over the period 2013–2018 owing to the consistency of available data from different sources of flows into the OECD DAC system over that period.

⁸⁴ See footnote 14, p.216.

⁸⁵ See footnote 70.

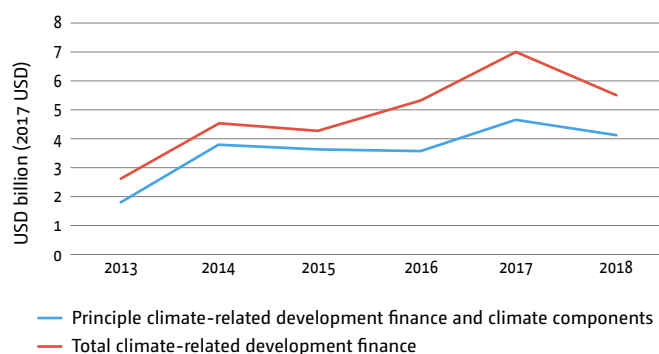
110. International public climate finance from bilateral agencies, MDBs and climate funds into projects in the region where climate mitigation or adaptation is a principal objective averaged USD 3.6 billion a year between 2013 and 2018.⁸⁶ Other climate-related development finance flows include flows to projects where climate mitigation or adaptation is one of the objectives. When the full cost of these projects is included, some USD 4.9 billion per year flows into the region on average (see figure 21). Almost two thirds of the flows into climate mitigation and adaptation projects were sourced from MDBs such as the WB, EBRD and the European Investment Bank (see figure 22). Around a third was derived from bilateral sources such as aid agencies and bilateral development finance institutions, particularly from France and Germany, while 4% was derived from climate funds, in particular the Clean Technology Fund, IFAD and the GEF.

Table 4
Climate fund financing in the Middle East and North Africa, 2003–2018

Fund	Amount approved (USD million)	Number of projects approved
Clean Technology Fund	864.80	10
GCF	287.80	6
GEF	108.60	47
AF	48.70	10
SCCF	43.60	8
LDCF	35.10	8
Adaptation for Smallholder Agriculture Programme	23.00	4
Global Energy Efficiency and Renewable Energy Fund	16.60	1
Partnerships for Market Readiness	11.00	6
MDG Achievement Fund	7.60	2
Global Climate Change Alliance	3.40	1

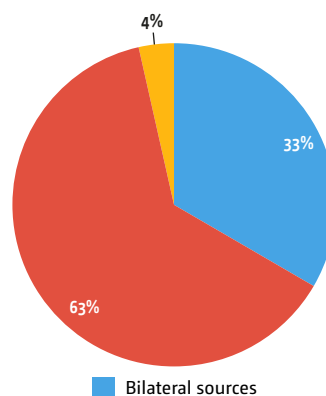
Source: Watson and Schalatek. 2019. Climate Finance Regional Briefing, Middle East and North Africa. Overseas Development Institute and Heinrich Boll Stiftung, in ESCWA (2019): Climate Finance in the Arab Region. Technical Report. E/ESCWA/SDPD/2019/TP.10.

Figure 21
Climate-related development finance flows from international public climate finance sources, 2013–2018



Source: Authors' analysis of OECD-DAC climate-related development finance database

Figure 22
Sources of international public climate finance flows, 2013–2018



Source: Authors' analysis of OECD-DAC climate-related development finance database

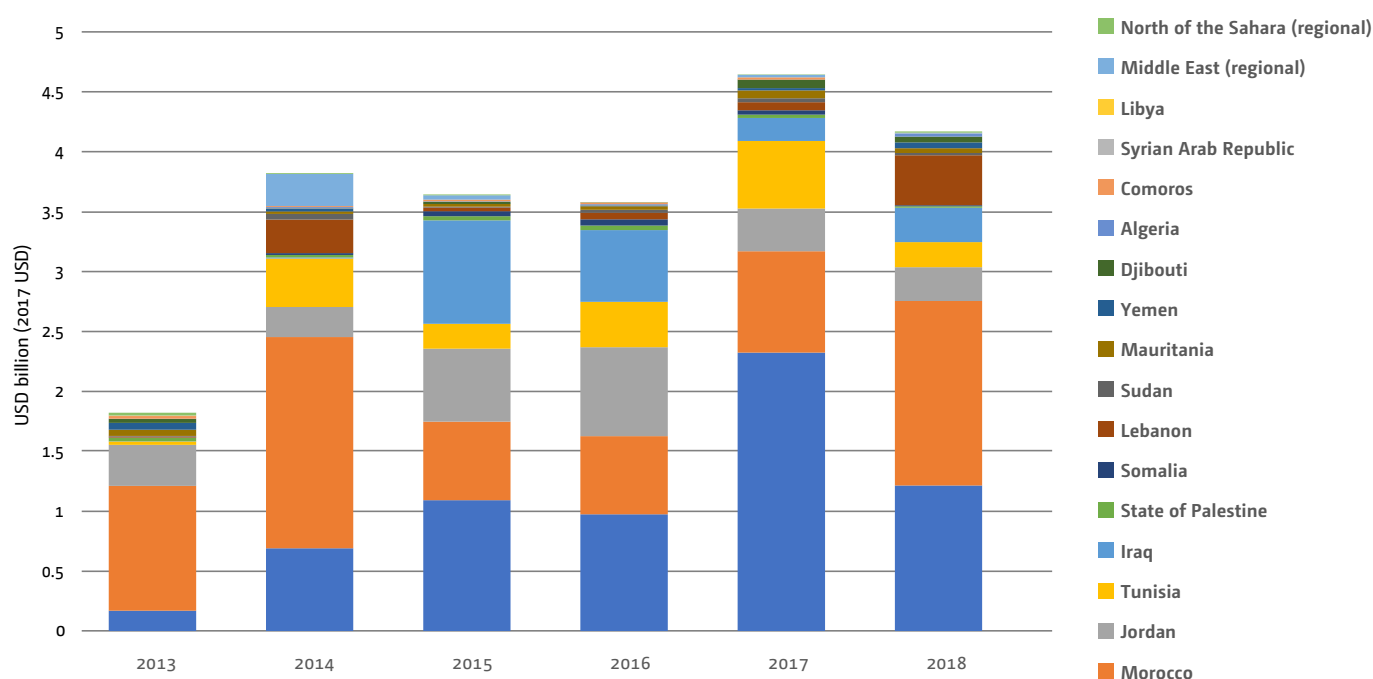
Note: Principal climate-related development finance and climate components finance only

111. Within the region, the majority of the flows went to climate finance projects located in Morocco and Egypt (60%), with other significant destinations including Jordan (12%), Iraq (9%) and Tunisia (8%) (see figure 23). The relative size of these economies compared with other LAS member States and the role of MDBs in financing activities are likely factors.⁸⁷ Flows to specific countries far outweighed flows to regional projects despite the transboundary nature of climate change impacts and response measures.

⁸⁶ All data is in 2017 USD. Climate-related development finance in the OECD DAC system is tagged by applying the Rio markers for climate mitigation and climate adaptation. Full project costs are reported for projects marked as having climate mitigation or adaptation as a principal or significant objective. MDBs apply a climate component methodology in reporting to the OECD DAC, where only the climate-related financial commitment is reported. Analysis of climate finance flows in this document focuses on activities marked as principal and climate component projects, unless otherwise stated.

⁸⁷ Only 16 of the 22 LAS member States are featured in the data set, which excludes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE.

Figure 23
Destination of international public climate finance, 2013–2018



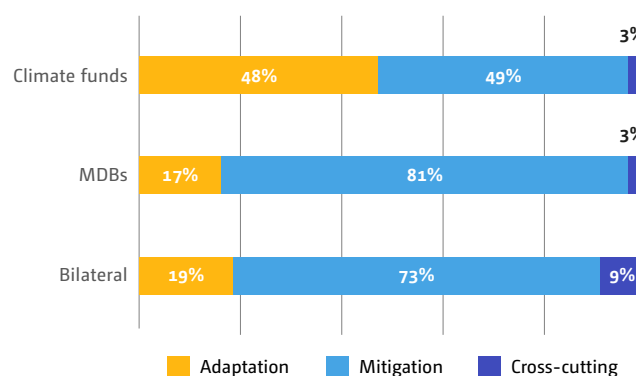
Source: Authors' analysis of OECD-DAC climate-related development finance database

Note: Principal climate-related development finance and climate components finance only

112. Overall, flows into the region in 2013–2018 mostly targeted climate mitigation activities (77%), followed by adaptation (18%) and cross-cutting projects (5%). The prevalence of flows from MDBs in the region, particularly for infrastructure projects, resulted in a high number of mitigation projects compared with adaptation projects where only the project component targeting the adaptation activity is quantified. Bilateral sources also focused on mitigation rather than adaptation, although the share of adaptation-marked projects ranged from 8% to 28% depending on the year.

113. Climate funds, despite involving smaller amounts, achieved greater balance between mitigation-focused and adaptation-focused flows over the same period. Adaptation featured more strongly where climate adaptation was one of the co-benefits or objectives of a project, rather than the principal objective. For projects where climate is not a principal objective, adaptation is a co-benefit for 46% of flows over the period, ahead of mitigation objectives at 35% and cross-cutting at 19%.

Figure 24
Breakdown of climate themes by source of climate finance, 2013–2018



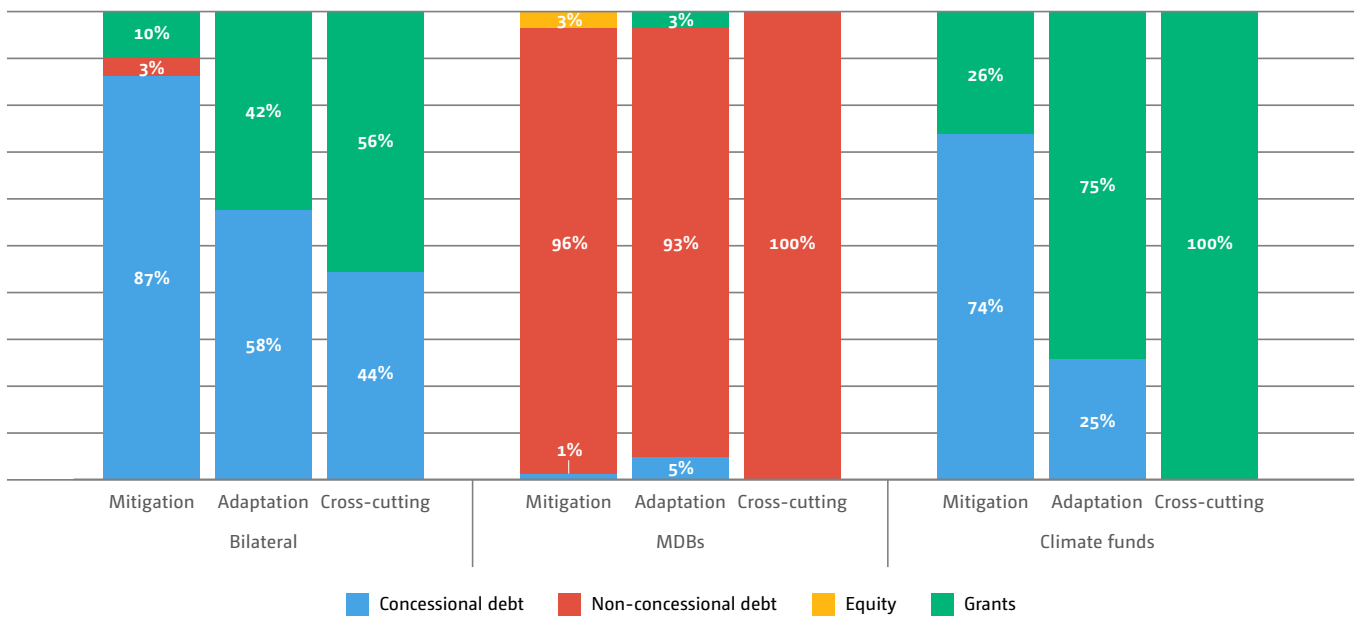
Source: Authors' analysis of OECD-DAC climate-related development finance database

Note: Principal climate-related development finance and climate components finance only

114. There were marked differences in the types of financial instrument applied in the region depending on the type of actor representing the source of climate finance (see figure 25). MDBs provided most of their financing in non-concessional debt instruments, with limited grant funding flowing to adaptation projects (3%). Bilateral sources of climate finance focused more on concessional debt, with more grant funding allocated to adaptation projects proportionately compared to mitigation. Climate funds were a significant source of grant funding, particularly for adaptation and cross-cutting projects, and of concessional debt for mitigation projects.

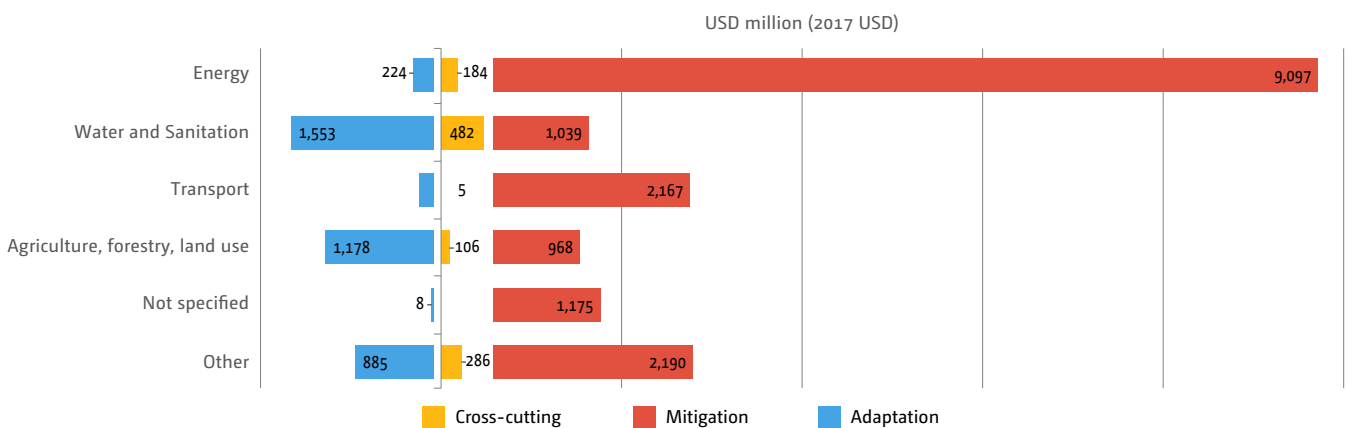
115. In terms of priority sectors attracting climate finance, energy and transport projects received most mitigation-related finance, and adaptation projects featured most prominently in the water and sanitation sector, followed by the agriculture sector (see figure 26). Water and sanitation projects also received almost half of finance flows for projects with both climate mitigation and adaptation objectives.

Figure 25
Financial instruments by source and theme in international public climate finance, 2013–2018



Source: Authors' analysis of OECD-DAC climate-related development finance database
 Note: Principal climate-related development finance and climate components finance only

Figure 26
Breakdown of international public climate finance by sector and theme, 2013–2018



Source: Authors' analysis of OECD-DAC climate-related development finance database
 Note: Principal climate-related development finance and climate components finance only

116. The nature of projects varies across sectors, with approximately 14% of finance identified for capacity-building activities such as policy or regulatory development, institutional support and training; 64% for infrastructure or construction projects; and the remainder focused on delivery of services, particularly in the health, education or social sectors where climate objectives feature.

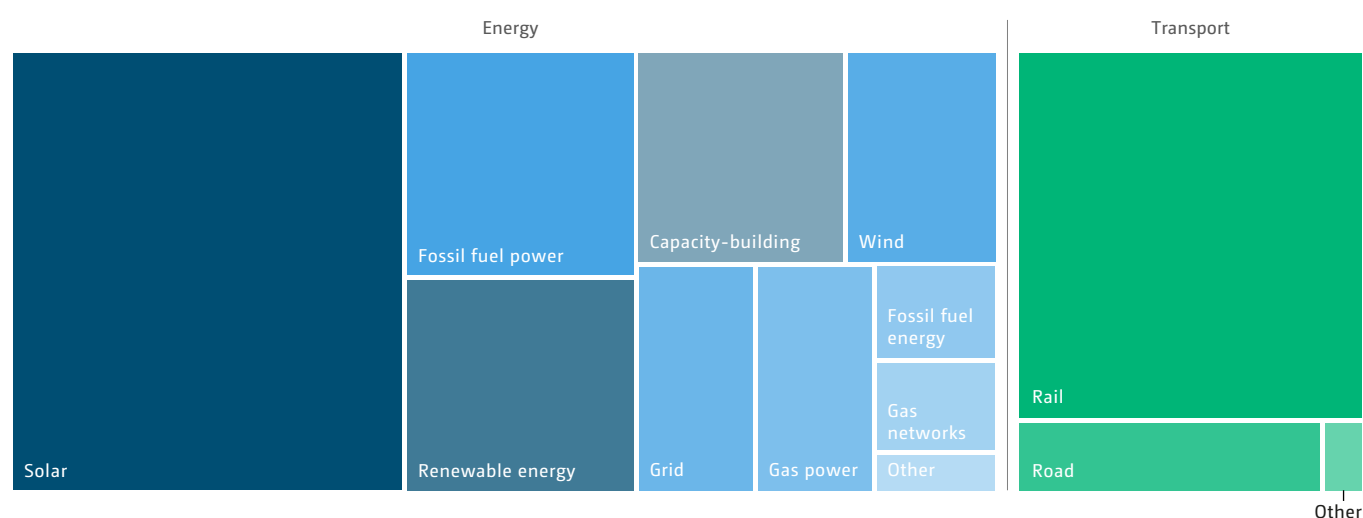
117. Within the energy sector, solar projects were the most dominant type of project financed in 2013–2018, accounting for 43% of flows. Other forms of renewable energy project took 20% of flows, capacity-building activities 11%, and fossil fuel energy or power projects 19% (see figure 27). In the transport sector, rail projects that enable lower-carbon mobility, such as those involving metro lines, represented 84% of flows, with road projects for municipal transport services representing 14%. Shipping projects, including those aimed at making ports more climate resilient, account for the remainder.

118. Within the water and sanitation sector, 65% of flows in 2013–2018 were directed to water supply and sanitation infrastructure and wastewater treatment (see figure 28). The mitigation objectives of these projects often focus on energy efficiency, while the adaptation or resilience aspects primarily relate to water resource management. A further 17% of flows were directed to capacity-building activities and 7% to waste management infrastructure. Other projects included river basin development and conservation activities. Water and sanitation projects also accounted for the most flows from projects that listed climate mitigation or adaptation as a co-benefit rather than a principal objective. Projects in this category included desalination activities and dam or reservoir maintenance.

119. The importance of water security to the region is also evident in the types of project funded in the AFOLU sector. Projects designed to help secure agricultural water resources and ensure that they are used more efficiently, such as irrigation schemes, accounted for 26% of flows in 2013–2018. Other activities within this sector focused on land-use change within the urban environment (34%), capacity-building activities for agricultural and forestry policy and administration (16%), rural development schemes (6%), food security (5%) and other activities related to fisheries, agro-industries and land development, livestock management and research (10%).

120. On the adaptation side, projects in the water and sanitation and AFOLU sectors focused on infrastructure projects for water supply and sanitation and for water resource management, and on urban development, respectively; projects in these areas received the majority of flows in each sector in 2013–2018. In the water and sanitation sector, the largest proportion of flows (73%) went to infrastructure for water supply and sanitation, followed by capacity-building (19%), while wastewater management, water conservation and river basin development received 9%. In the AFOLU sector, 79% of financial flows went to infrastructure, with water resources and urban development accounting for the majority of flows, followed by food crop production (11%) and capacity-building activities (10%).

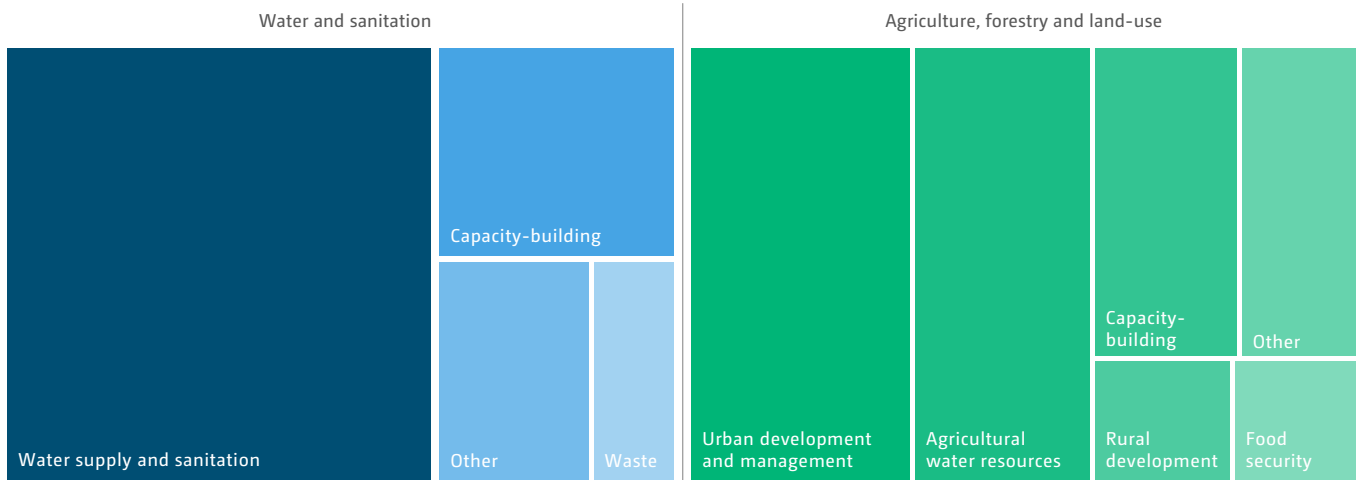
Figure 27
Proportion of flows to subsector projects in the energy and transport sectors, 2013–2018



Source: Authors' analysis of OECD-DAC climate-related development finance database

Note: Principal climate-related development finance and climate components finance only

Figure 28
Proportion of flows to subsector projects in the water and sanitation sector and the agriculture, forestry and land-use sector, 2013–2018



Source: Authors' analysis of OECD-DAC climate-related development finance database

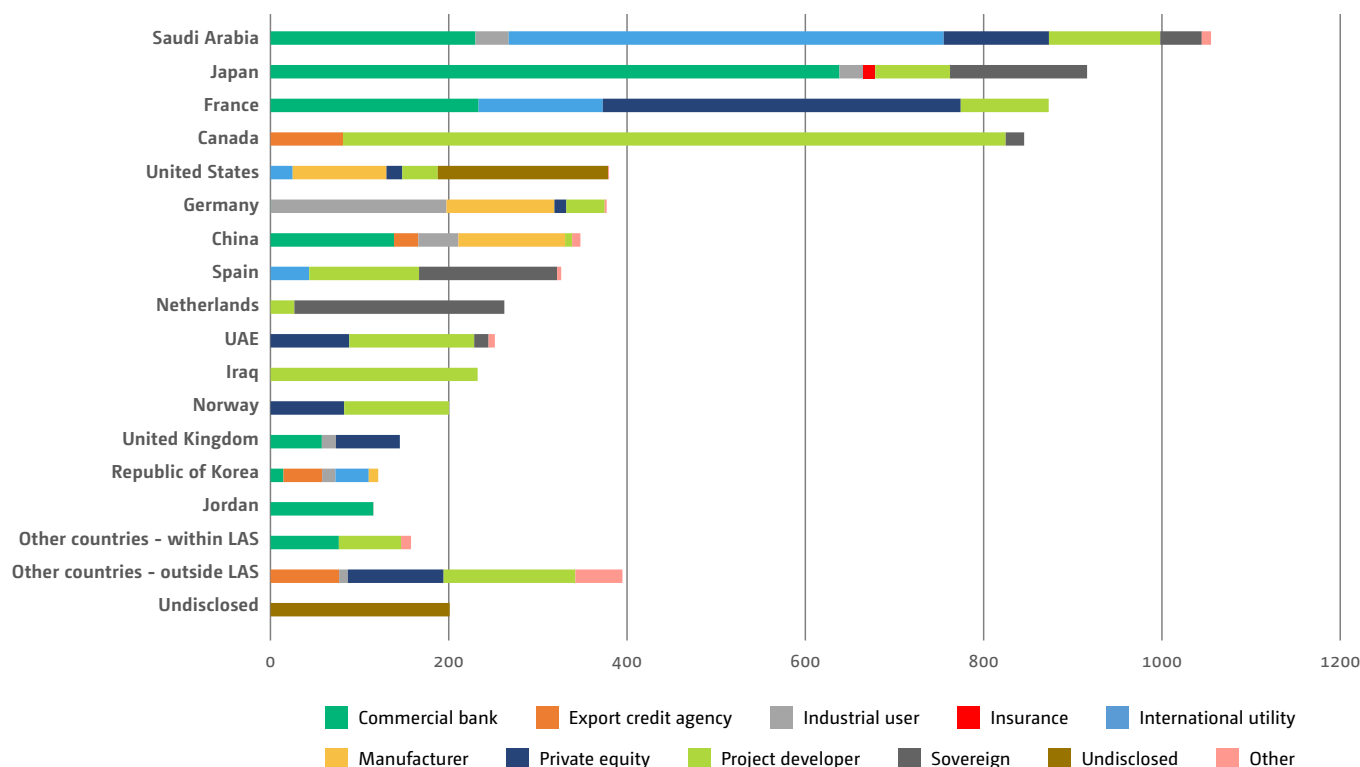
Note: Principal climate-related development finance and climate components finance only

B. International private finance

121. Data on climate finance flows from private sector sources is not widely available across all sectors and activities. Where data exists, it mostly relates to renewable energy projects. The Climatescope report from BloombergNEF provides data on cross-border flows into renewable energy projects. Cross-border flows totalled USD 14 billion in 2013–2018, with 84% in solar power projects and 15% in wind. 2017 and 2018 – the final two years in the period – saw 65% of total investment, with USD 5 billion and USD 4 billion in flows, respectively. As noted in paragraph 111 above, development banks play a significant role, with 49% of the flows derived from either multilateral (31%) or bilateral (18%) development banks, notably from France and Germany.

122. When these development bank sources are excluded from the data, private finance flows amounted to USD 7.2 billion. The main sources of international private finance for renewable energy projects from within and outside the region included project developers from Canada (10%), Japanese commercial banks, utilities from Saudi Arabia and private equity funds from France, in that order (see figure 29). Sources from outside the Arab region accounted for approximately 75% of cross-border flows.

Figure 29
Sources of international private finance in renewable energy projects, 2013–2018
(USD million)



Source: Authors' analysis of BNEF Climatescope 2020.

C. Domestic finance

123. Data on climate-related finance flows from domestic or local sources in the region is not widely available at the aggregate level. Among the LAS member States, Morocco is exploring the development of a national tracking system for domestic public expenditure, and Lebanon, Egypt and Jordan plan to establish a domestic and international finance tracking mechanism as part of their climate measurement, reporting and verification systems, as reported in their BURs. National public funds dedicated to climate-related action, such as the Tunisian Energy Transition Fund and the Jordanian Renewable Energy and Energy Efficiency Fund, are active in the region.

124. The emergence of the green bond market has resulted in a new source of information for assessing finance flows into climate projects, particularly for financial actors whose data is difficult to access, such as commercial banks, and in sectors where climate finance data is limited, such as real estate. Over USD 4 billion in green bonds has been issued in the region since 2016 (see figure 30).

125. The financial characteristics and risk profiles of green bonds are similar to those of ordinary bonds from the same issuing entity, but the proceeds of the bond are applied to eligible green projects. Issuers of green

bonds – such as governments, banks, corporations or projects – typically provide a description of the project or activity linked to the bond or a list of eligible green projects and activities that the bond may be linked to in the future. Features of the market include verification of the necessary reporting and activity allocation procedures by third party verifiers at the time of bond issuance, and regular reporting by issuers on the use of proceeds over the term of the bond. References and guidelines exist for establishing eligible green projects and are adhered to by many issuers. As with any bond, the type of activities linked to green bonds may be existing projects that are already operational and are re-financed, or new projects, policies or other activities yet to be identified, making it difficult to assess to what degree the finance related to the bond issuance may contribute to climate mitigation or adaptation. Investors in green bonds may range from domestic institutional and retail investors to the international market, but their details are often not disclosed.

126. A significant number of green bonds have recently been issued in the Arab region, and include:

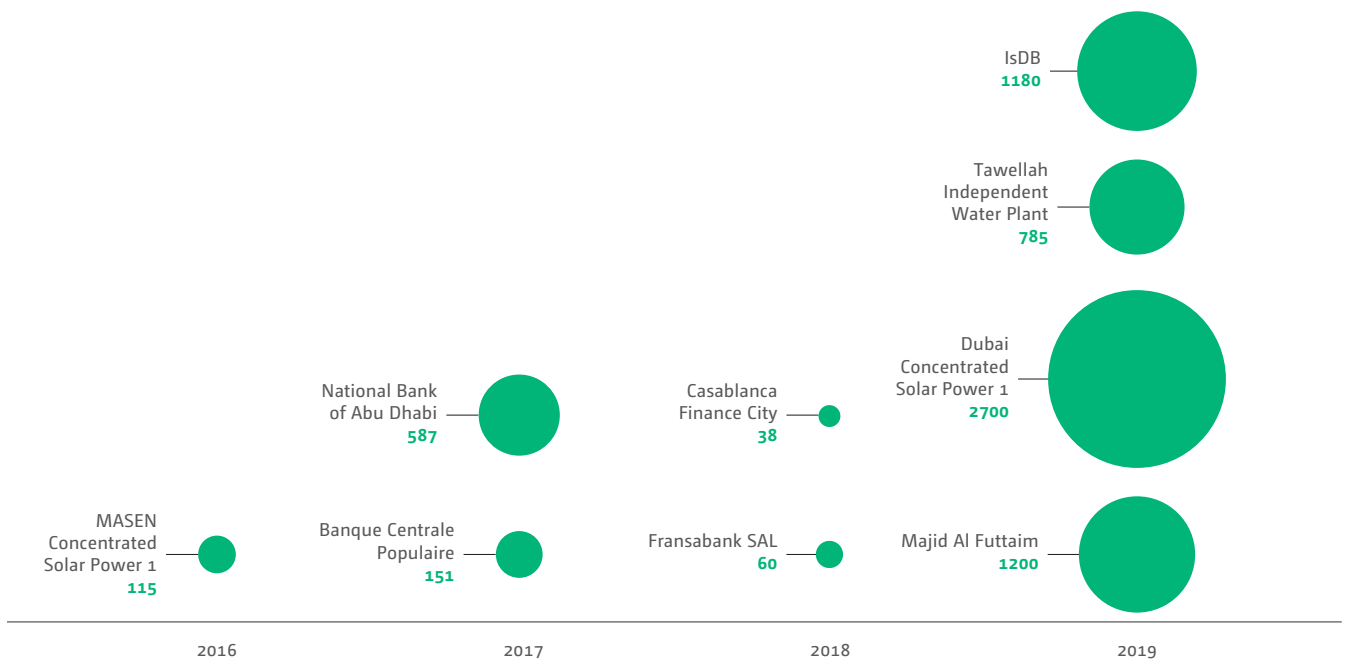
- (a) November 2016 – Moroccan Agency for Sustainable Energy: USD 115 million for Noor Phase 1 Country Strategy Papers project;
- (b) March 2017 – National Bank of Abu Dhabi: USD 587 million bond for renewable energy, energy efficiency, green transport and wastewater treatment;
- (c) June 2017 – Banque Centrale Populaire, one of Morocco’s largest banking groups: USD 151 million bond issued to IFC and Proparco;
- (d) April 2018 –Fransabank Société Anonyme Libanaise, of Lebanon: USD 60 million private placement to IFC and EBRD to raise funds for lending on renewable energy, energy efficiency and green buildings;
- (e) September 2018 – Casablanca Finance City: raised USD 38 million via a green bond to finance its environmentally friendly real estate programme; the issuance was completed through a private placement with Morocco’s largest institutional investors;

(f) May and October 2019 – Majid Al Futtaim Properties: USD 600 million on green buildings, renewable energy and water management in the UAE issued in May 2019 and a further USD 600 million issued in October 2019;

(g) October 2019 – green loan: USD 2.7 billion project finance credit facility for Noor Phase 1 Country Strategy Papers plant in Dubai, through a collaboration between ACWA Power, Silk Road Fund (China), and Dubai Electricity and Water Authority. The financing of the project involves a consortium of banks that includes Bank of China, Industrial and Commercial Bank of China, and Agricultural Bank of China, as well as Standard Chartered, Natixis and Union National Bank; and

(h) November 2019 – IsDB: USD 1.18 billion debut of the first green sukuk bond issuance with proceeds going towards renewable energy, clean transportation, energy efficiency, pollution prevention and control, environmentally sustainable management of natural living resources and land, and sustainable water and wastewater management projects in its 57 member countries.

Figure 30
Green bonds issued in the Arab region, 2016–2019
(USD million)



V. Challenges and opportunities to address needs

A. Climate finance gaps

127. A comprehensive estimate of climate finance needs does not yet exist for the Arab region, but various estimates of the region's SDG financing needs place the need in the order of USD 1.5 trillion to USD 6 trillion. ESCWA estimated in 2015 that the Arab region requires USD 3.6 trillion in gross fixed capital formation to achieve the SDGs.⁸⁸ Subsequent research by ESCWA increased this estimate to USD 5.9 trillion after accounting for financial losses to illicit flows.⁸⁹

128. The WB identified needs of USD 125 billion a year for infrastructure investment out to 2030 in the Middle East and North Africa region, with 58% required for the transport sector, 21% for energy, 16% for water supply, 3% for flood prevention and 2% for irrigation.⁹⁰

129. The bottom-up country-level analysis has revealed more specific needs for certain areas. In adaptation, water resources is a priority theme for the water supply and agriculture sectors and coastal zones. Desalination, irrigation, water harvesting, wastewater treatment, EWS for climate-induced droughts, shifting to drought-resistant crops and addressing SLR all relate to efficient management of water resources, shortages and floods. In mitigation, efficient energy use and development of renewable sources, public transport systems and waste management are key themes.

130. Current finance flows are targeting these needs, but not in the volumes needed and geographic coverage is weak. Combining a rough aggregate of international public flows of between USD 3.6 billion and USD 4.9 billion a year with international private sector investment flows of USD 1.5 billion to USD 2.5 billion a year indicates that existing flows stand at approximately USD 5 billion to USD 7.5 billion a year, which is far below the stated needs.



131. In terms of themes, 77% of flows over the period 2013–2018 target mitigation themes, while 37% of the costed needs are in mitigation sectors. Within mitigation, the energy sector accounts for 42% of flows and 14% of costed needs, and transport accounts for 10% of flows and 11% of needs. Adaptation accounts for 18% of flows (30% when including projects with co-benefits) but represents 46% of costed needs. Water receives 14% of flows but represents 29% of costed needs.

132. Geographically, flows are concentrated in four or five countries, although needs have been identified across the region. Furthermore, owing to the dominance of MDBs, non-concessional loan instruments dominate flows, whereas more concessional instruments and grants are typically required to assist in meeting adaptation needs. Improvements in access to concessional sources of climate finance can help, as can identifying effective ways to scale up private sources of finance from domestic and international sources, including intraregional sources.

⁸⁸ ESCWA. 2015. Sustainable development. Financing gap in the Arab region. E/ESCWA/EDID/2015/IG.1/5.

⁸⁹ See footnote 70.

⁹⁰ Rozenberg, Julie and Fay, Marianne. 2019. Beyond the Gap. How Countries Can Afford the Infrastructure They Need while Protecting the Planet. Sustainable Infrastructure. Washington, DC: World Bank.

B. Climate finance access

1. Project approvals from the region

133. Climate funds provide concessional or grant finance that serves the purpose of leveraging and scaling up overall climate finance flows from both public and private sources, as well as from international and domestic sources. Arab States have so far had varied levels of success in accessing climate finance from UNFCCC funds. Many Arab States have reported that they face challenges in achieving accreditation with climate funds serving the Paris Agreement, and also find the length of subsequent project pipelines challenging, given the long and complex nature of the accreditation and project preparation and approval processes.

134. There remains an opportunity to increase access to UNFCCC climate funds by addressing some of the barriers experienced in the region (see also figure 32), which include:

(a) *Limited financial resources for developing funding proposals:* In order to enable the development of funding proposals, investment is required in the preparation of proposals, including feasibility and pre-feasibility studies;

(b) *Insufficient technical and institutional capacities to prepare project proposals:* Public institutions need to improve their ability to access and benefit from new and appropriate technologies, including digital technologies, to inform priority setting and the formulation of climate actions. Access to updated knowledge resources and strengthened human capacity within the country in the areas of assessment and project preparation are required in order to enhance national engagement and ownership in the pursuit of climate initiatives and reduce dependence on external experts and third parties;

(c) *Insufficient institutional coordination at the national and regional level:* Cross-cutting climate projects can achieve multiple goals through coordinated planning across sectors in the areas of adaptation, mitigation and co-benefits. Integrated projects can also result in mutual gains and reduce overhead costs related to project management when roles are clearly defined. There are clearly opportunities to secure grant financing for cross-cutting projects from international climate funds, although their share in total financial flows remains limited (see figures 31 and 32). Such cross-cutting projects could support both intersectoral and interstate coordinated action;

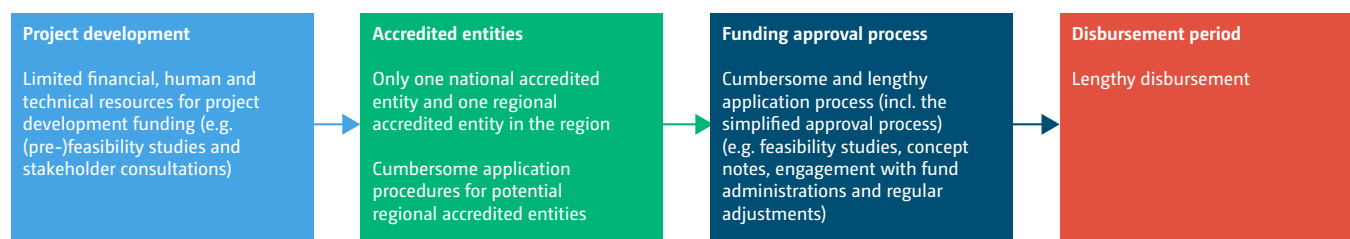
(d) *Limited opportunities to access climate funds, especially the GCF:* Of the entities accredited to the GCF, only two national and two regional direct access entities are accredited to the GCF. Potential accredited entities that could expand and diversify the choice of accredited entities in the region face additional challenges in meeting the requirements of the GCF. The prospect of submitting the required documentation and complying with GCF standards discourages eligible national and regional entities from submitting accreditation proposals since many lack the dedicated staff that would be required.

(e) *Cumbersome application procedures:* Accessing financial resources, particularly from the GCF, is associated with cumbersome application procedures, which involve conducting feasibility studies, drafting concept notes, engaging with fund administrations and making regular adjustments. There are options for reducing funding requirements, such as the simplified approval process, which was designed to simplify and accelerate funding proposals for microscale projects with limited to no risks, but these continue to involve lengthy procedures.

(f) *Long disbursement period:* Management and capacity constraints continue on the donor and recipient sides. Of the eight Arab State projects, worth USD 353 million, approved by the GCF Board to date, seven projects, worth USD 327 million, are under implementation. Of that sum, USD 108 million has been disbursed, with the remaining USD 219 million awaiting disbursement.

(g) *The geopolitical situation:* In some Arab States, factors such as economic sanctions, risk of conflict and institutional instability present difficulties for LAS member States in terms of accessing bilateral finance or seeking approval from climate funds, as well as disincentivizing private investment.

Figure 31
Illustrative examples of challenges encountered by the Arab States in accessing climate finance



135. The following sections elaborate on the challenges identified above by providing greater insight into the state of play of Arab States' access to climate funds and climate finance through the various funding windows, access modalities and disbursement periods.

(a) The Green Climate Fund

(i) Project approval process

136. The GCF was established in 2010 at COP 16 in Cancun, Mexico, as an operating entity under the UNFCCC. The GCF aims to achieve a balanced allocation of resources between mitigation and adaptation activities over time. It also aims for a floor of 50% of the adaptation allocation for particularly vulnerable countries, including the LDCs, small island developing States and African States. Furthermore, the GCF has established a direct access modality enabling national and subnational organizations to receive funding directly, rather than only via international intermediaries.

137. Following the approval of the first projects in 2015, the GCF portfolio includes 13 approved projects in Arab States worth USD 1.455 billion, which can be broken down into five multi-country projects worth USD 1.1 billion and eight country projects worth USD 355 million in total,

one of which was approved under the simplified approval process.⁹¹ The 13 approved projects have a range of focus areas: 5 are focused on adaptation; 3 countries focus solely on mitigation; and 5 projects cut across mitigation and adaptation focus areas. The overwhelming majority of projects also feature an international access modality, with 12 of the 13 projects being implemented by multilateral entities, and just one implemented by a direct access entity. Furthermore, eight projects target the public sector, while five target the private sector. Days until project approval average almost 400 across the 8 country projects, ranging from 106 to 720 days. On average, another 438 days were needed from approval until disbursement of the funds, or 161 days on average once the funding agreements were signed.

138. Table 5 provides an overview of the projects and programmes approved by the GCF in the region.

⁹¹ The simplified approval process allows for accelerated approval of smaller-scale projects or programmes submitted to the GCF thanks to simplifications to the approval process and documentation.

Table 5
Overview of Green Climate Fund-approved projects in the Arab States
(USD million)

Theme	Sector	Access modality	Total GCF funding	Total co-financing	Amount disbursed	Instrument	
Individual country projects			355.22	1 239.55	108.84		
Bahrain	Adaptation	Public	International	2.32	–	0.91	Grants
Comoros	Adaptation	Public	International	41.92	18.83	2.95	Grants
Egypt	Mitigation	Private	International	154.70	852.30	69.80	Senior loans, grants, equity
Egypt	Adaptation	Public	International	31.38	73.81	3.07	Grants
Morocco	Adaptation	Public	International	22.62	63.35	2.00	Grants, senior loans
Morocco	Cross-cutting	Public	Direct	39.29	9.90	10.16	Grants
Morocco	Adaptation	Public	International	36.17	197.60	19.95	Grants, senior loans
State of Palestine	Cross-cutting	Public	International	26.82	23.76	–	Grants
Multi-country projects/programmes^a							
Egypt, Jordan, Morocco Tunisia	Cross-cutting	Private	International	378.00	1 007.00	–	Senior loans, grants
Egypt, Morocco	Cross-cutting	Private	International	271.49	467.19	–	Senior loans, grants
Comoros, Jordan, Morocco	Mitigation	Private	International	265.00	500.00	–	Equity, grants
Djibouti, Morocco	Mitigation	Private	International	100.00	721.50	21.49	Reimbursable grants, equity
Jordan, Tunisia	Cross-cutting	Public	International	98.41	194.12	5.50	Senior loans, grants

^a Multi-country projects include countries that are not LAS member States.

(ii) *Readiness support programme*

139. The GCF readiness programme is a funding scheme aimed at enhancing country ownership and access to the GCF. The main objective of the readiness programme is to strengthen the institutional capacities of NDAs or focal points and direct access entities. Each developing country is able to access up to USD 1 million per year, up to USD 300,000 of which can be requested for establishing or strengthening the NDA or focal point to deliver on the GCF requirements. Additionally, up to USD 3 million can be requested by countries for the formulation of NAPs and/or other adaptation planning processes. Table 6 provides an overview of the readiness support requests approved in the Arab States.

140. Thirteen countries have used readiness funds to strengthen the NDAs or focal points and country programming, three countries doing so over consecutive years for sustained improvement. For adaptation, only three countries have availed themselves of funds to develop NAPs. As the first readiness requests were submitted in January 2015, in theory, Arab States could have accessed a total of USD 110 million of readiness support for NDA strengthening, developing strategic frameworks and supporting direct access, in addition to USD 66 million for adaptation planning. However, only USD 16.8 million had been accessed as at June 2020, including for adaptation planning. Therefore, a significant amount of readiness funding remains available to LAS member States.

Table 6
Overview of approved Green Climate Fund readiness support requests from Arab States
(USD million)

	Activity	Amount approved	Amount disbursed
Algeria	NDA strengthening, including country programming	0.30	0.06
Comoros	NDA strengthening, including country programming	0.43	0.12
Djibouti	NDA strengthening, including country programming	0.30	0.12
Egypt	NDA strengthening, including country programming	0.30	0.12
Iraq	NDA strengthening, including country programming	0.67	0.56
	Adaptation planning, including the NAP process	2.63	–
	Strategic framework	0.37	–
Jordan	NDA strengthening, including country programming	0.30	0.15
	Strategic framework	0.66	0.19
Lebanon	NDA strengthening, including country programming	0.83	0.41
Libya	NDA strengthening, including country programming	0.30	0.25
Mauritania	NDA strengthening, including country programming	0.30	0.25
	Adaptation planning, including the NAP process	2.67	0.74
Morocco	Support for direct access entities	0.30	0.23
	NDA strengthening, including country programming	0.30	0.25
	Strategic framework	0.40	0.15
Oman	NDA strengthening, including country programming	0.30	0.25
Somalia	Adaptation planning, including the NAP process	2.96	–
State of Palestine	Strategic framework	0.25	0.25
	NDA strengthening, including country programming	0.32	0.32
Sudan	NDA strengthening, including country programming	0.40	0.40
Syrian Arab Republic	NDA strengthening, including country programming	0.48	0.25
	Strategic framework	0.40	–
Tunisia	NDA strengthening, including country programming	0.30	0.25
	NDA strengthening, including country programming	0.33	0.25
	Support for direct access entities	0.03	0.03
Total		16.83	5.60

(b) The Global Environment Facility

(i) Global Environment Facility Trust Fund

141. The GEF was established in 1992 as a pilot programme in the WB to assist in protecting the global environment and to promote environmentally sustainable development. It administers several trust funds, with the main ones being the GEF Trust Fund, the LDCF, the SCCF and the Capacity-Building Initiative for Transparency.

142. The GEF Trust Fund supports the implementation of multilateral environmental agreements and serves as a financial mechanism of the UNFCCC. It is also the oldest public climate change fund and has seen seven rounds of funding replenishment to date. In addition to climate change, the GEF Trust Fund also supports the following focal areas: biodiversity, international waters, land degradation, sustainable forest management, ozone layer depletion and persistent organic pollutants.

143. Under the Trust Fund's climate change focal area, the GEF finances projects for mitigation and adaptation and for the preparation of NCs by Parties not included in Annex I to the Convention, in addition to financing other enabling activities through its implementing agencies: UNDP, UNEP and the WB. The Trust Fund is replenished every four years on the basis of donor pledges.

144. In addition, the GEF finances multifocal projects which benefit several focal areas. Some of these projects have a climate change component and are listed separately from the projects in the climate change focal area.

145. Of the 22 Arab States, all but Qatar, Somalia, State of Palestine and the UAE have accessed climate finance from the GEF Trust Fund for individual country projects. Funds amounting to USD 277.35 million have been accessed by 18 States for a total of 100 individual country projects. Arab States have accessed climate finance amounting to USD 239.65 million through 24 multi-country projects. Table 7 shows the funding allocated to climate change related projects submitted by Arab States to the GEF and summarizes their status of funding.

Table 7
Funding awarded by the Global Environment Facility to projects in Arab States
(USD million)

	Project status				Total funding	Number of projects
	Cancelled	Completed	Concept approved	Project approved		
Individual country projects						
Algeria	6.81	0.20	4.42	9.19	20.62	7
Bahrain	–	0.34	–	–	0.34	1
Comoros	–	0.10	5.91	0.03	6.04	3
Djibouti	–	0.03	–	6.90	6.93	3
Egypt	6.19	50.95	–	31.99	89.13	14
Iraq	–	–	3.09	2.23	5.32	2
Jordan	–	10.71	–	4.03	14.73	10
Kuwait	–	–	–	0.85	0.85	1
Lebanon	–	4.01	3.55	2.75	10.31	8
Libya	–	–	–	0.28	0.28	1
Mauritania	2.70	0.45	–	2.12	5.27	6
Morocco	–	49.96	2.73	8.08	60.77	13
Oman	–	–	–	1.15	1.15	2
Saudi Arabia	–	0.35	–	0.35	0.70	2
Sudan	–	1.01	–	13.67	14.68	8
Syrian Arab Republic	3.21	4.07	–	–	7.28	3
Tunisia	2.41	16.14	–	6.36	24.91	9
Yemen	1.90	5.19	–	0.95	8.04	7
Total	23.22	143.50	19.70	90.93	277.35	100.00
Multi-country projects	38.35	33.25	56.63	111.42	239.65	24.00

146. Funding from the GEF Trust Fund is allocated through the System for Transparent Allocation of Resources. The system is aimed at allocating resources to countries in a transparent and consistent manner according to global environmental priorities and country capacity, policies and practices relevant to successful implementation of GEF projects and programmes. Figure 32 summarizes the country allocation over the seventh

replenishment period and the amounts allocated for the climate change focal area. USD 31.73 million is allocated to Arab States, USD 9.18 million of which is allocated to the six LDC countries. Of the 22 LAS member States, Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, the State of Palestine and the UAE have no allocation through the System for Transparent Allocation of Resources in the seventh replenishment.⁹²

Figure 32
Indicative allocations in the Global Environment Facility Trust Fund's seventh replenishment for the climate change focal area



(ii) Least Developed Countries Fund

147. The LDCF was established under COP 7 in 2001 with the aim of supporting the world's most vulnerable countries in their efforts to adapt to the effects of climate change and assisting the LDCs in developing and implementing NAPAs – country-driven strategies that identify their most immediate needs in terms of adapting to climate change. Presently, the LDCF is also assisting the LDCs in developing their NAPAs.

148. As the name of the fund suggests, eligibility for accessing the LDCF is restricted to the LDCs. Therefore, of the Arab States, only Comoros, Djibouti, Mauritania, Somalia, Sudan and Yemen have access to the LDCF. Since the third replenishment of the GEF, all Arab LDCs have accessed finance from the LDCF amounting to some USD 150 million for individual country projects and received finance for two multi-country projects worth USD 7.29 million (see table 8).

⁹² See Global Environment Facility document GEF/C.55/Inf.03, available at <https://www.thegef.org/sites/default/files/publications/GEF-C.55-Inf.03-GEF-7-STAR.pdf>.

Table 8
Least Developed Countries Fund awarded to projects in Arab States
(USD million)

	Project status				Total funding	Number of projects
	Cancelled	Completed	Concept approved	Project approved		
Individual country projects						
Comoros	–	0.20	–	27.36	27.56	5
Djibouti	–	0.20	10.00	9.63	19.83	5
Mauritania	–	0.20	9.34	14.30	23.84	6
Somalia	–	–	–	27.21	27.21	4
Sudan	–	3.50	2.43	25.05	30.98	7
Yemen	4.50	0.20	–	15.08	19.78	4
Total	4.50	4.30	21.77	118.63	149.20	31
Multi-country projects			7.08	0.21	7.29	2

Table 9
Funding awarded to Special Climate Change Fund projects in Arab States
(USD million)

	Completed	Project approved	Total funding	Number of projects
Individual country projects				
Egypt	–	11.81	11.81	2
Jordan	2.00	–	2.00	1
Lebanon	–	7.15	7.15	1
Morocco	4.35	12.70	17.05	3
Tunisia	–	5.50	5.50	1
Total	6.35	37.16	43.51	8
Multi-country projects	4.50	5.90	10.40	3

(iii) Special Climate Change Fund

149. The SCCF, which was established under COP 7 in 2001, complements the LDCF and is open to all vulnerable developing countries (Parties not included in Annex I to the Convention). Compared with the LDCF, the SCCF funds a wider range of activities related to climate change. The SCCF prioritizes funding of climate change adaptation but also finances technology transfer, climate change mitigation in selected sectors and economic diversification.

150. Of the 22 Arab States, 5 have accessed the SCCF in eight individual country projects worth USD 43.51 million and 6 have accessed multiple-country projects worth USD 10.4 million. Table 9 provides an overview of the funding awarded to projects submitted to the SCCF by Arab States by project status.

(c) Adaptation Fund

151. The AF was established in 2001 and launched in 2007 to finance concrete adaptation projects and programmes in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change. In December 2018, Parties decided during COP 24 that the AF would also serve the Paris Agreement.⁹³ Of the 22 Arab States, 7 – Djibouti, Egypt, Iraq, Jordan, Lebanon, Mauritania and Morocco – have projects funded by the AF (see table 10).

152. The amount of AF funding that individual countries are able to access is currently capped at USD 10 million. Iraq and Morocco have almost reached this cap, but most Arab States have not accessed funding from the AF.

Table 10
Overview of funding for projects in the Arab States from Adaptation Fund
(USD million)

	Amount granted	Amount disbursed	Type of accredited entity	Project status
Iraq	9.99	1.30	MIE	Under implementation
Jordan	9.23	4.71	NIE	Under implementation
Lebanon	7.86	1.59	MIE	Under implementation
Mauritania	7.80	7.80	MIE	Under implementation
Morocco	9.97	9.12	NIE	Under implementation
Morocco	0.25	–	NIE	Readiness grant

Abbreviations: MIE – multilateral implementing entities; NIE – national implementing entities

2. Accreditation for entities from the region, including direct access

153. To access the climate funds, countries must use entities that are accredited to the funds. These entities are required to meet the legal and fiduciary standards adopted by the boards of the funds.

154. The GEF uses implementing entities that develop project proposals and support governments in implementing and managing the projects on the ground. Unlike the GCF and the AF, the GEF only uses multilateral agencies as implementing entities. As of June 2020, 18 agencies were acting as implementing entities for the GEF, 11 of which operate in Arab States.

155. The GCF mobilizes climate finance and channels it to countries by working through a wide range of organizations known as accredited entities. Any organization – private, public, non-governmental, subnational, etc. – can apply to be an accredited entity of the GCF. Organizations are assessed to ensure that they meet the standards of the GCF in terms of their fiduciary capacity, environmental and social safeguards and gender. Accredited entities play an important role in channelling GCF funding as they are responsible for developing proposals to be considered by the Fund and, after proposals are approved, are responsible for the oversight, supervision, management and monitoring of the relevant projects.

156. As of June 2020, the GCF had 97 accredited regional, national and international entities. In the Arab region, two national entities – both from Morocco – and two regional entities are accredited to the GCF and can access funds through the direct access modality.

157. Similar to the GCF, access to AF funding is via accredited entities. There are three types of entity: national, regional and multilateral implementing entities. As at April 2020, the Fund had 50 accredited implementing entities; 32 national, 6 regional and 12 multilateral. Of the eight projects that are currently funded by the AF in Arab States, three are implemented by national implementing entities, and the remainder are implemented by multilateral implementing entities. Of the Arab States implementing entities, two are national, one is regional and ten are multilateral.

158. Table 11 provides an overview of national, regional and multilateral entities that operate in the region and implement projects under the AF, GCF and GEF. Of the 40 implementing entities, 3 are national, 2 are regional and 35 are international.

Table 11
List of national, regional and multilateral implementing entities of the Adaptation Fund, Global Environment Facility and Green Climate Fund operating in the Arab States

Name	Website	Accredited to the AF	Accredited to the GCF	Implementing entity of the GEF
National entities				
Jordan	Ministry of Planning and International Cooperation	www.mop.gov.jo/Default/En	✓	
Morocco	Agricultural Development Agency	www.ada.gov.ma/en	✓	✓
	CDG Capital	https://www.cdgcapital.ma/fr		✓
Regional entities				
Morocco	Attijariwafa Bank	https://www.attijariwafabank.com/en		✓
Tunisia	Sahara and Sahel Observatory	www.oss-online.org	✓	✓
Multilateral entities				
	AfDB	www.afdb.org	✓	✓
	Africa Finance Corporation	https://www.africafc.org		✓
	Austrian Development Agency ^a	https://www.entwicklung.at/en		✓
	BNP Paribas	https://group.bnpparibas/en		✓
	Cassa Depositi e Prestiti	https://www.cdp.it/sitointernet/en/homepage.page		✓
	CGIAR	https://www.cgiar.org		✓
	Compañía Española de Financiación del Desarrollo	https://www.cofides.es/en		✓
	Conservation International ^b	https://www.conservation.org		✓
	Crédit Agricole Corporate and Investment Bank	https://www.ca-cib.com		✓
	Deutsche Bank	https://www.db.com/company/index.htm		✓
	EBRD	www.ebrd.com	✓	✓
	Belgian Development Agency	https://www.enabel.be		✓
	European Investment Bank	https://www.eib.org/en/index.htm		✓
	Food and Agriculture Organization of the United Nations	http://www.fao.org/home/en		✓
	French Development Agency	https://www.afd.fr/en		✓

Table 11 (continued)
List of national, regional and multilateral implementing entities of the Adaptation Fund, Global Environment Facility and Green Climate Fund operating in the Arab States

Name	Website	Accredited to the AF	Accredited to the GCF	Implementing entity of the GEF
Multilateral entities (continued)				
German Agency for International Cooperation	https://www.giz.de/en/html/index.html			
HSBC Holdings	https://www.hsbc.com		✓	
IFC	https://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/home		✓	
IFAD	www.ifad.org	✓	✓	✓
International Union for Conservation of Nature	https://www.iucn.org/de		✓	✓
Japan International Cooperation Agency	https://www.jica.go.jp/english		✓	
Kreditanstalt für Wiederaufbau	https://www.kfw.de/kfw.de-2.html		✓	
MUFG Bank	https://www.bk.mufg.jp/global		✓	
Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden N.V.	https://www.fmo.nl		✓	
Nordic Environment Finance Corporation	https://www.nefco.org		✓	
Save the Children Australia	https://www.savethechildren.org.au		✓	
United Nations Human Settlements Programme	https://unhabitat.org	✓		
UNDP	www.undp.org	✓	✓	✓
United Nations Industrial Development Organization	https://www.unido.org			✓
World Food Programme	www.wfp.org	✓	✓	
WB (International Bank for Reconstruction and Development)	www.worldbank.org	✓	✓	✓
World Meteorological Organization	www.wmo.int	✓	✓	✓
World Wide Fund for Nature	https://www.worldwildlife.org		✓	

^a Operates in the State of Palestine only.

^b Operates in Algeria, Egypt, Libya and the Sudan.

^c Operates in Morocco and the State of Palestine.

C. Domestic market development

1. Addressing knowledge and capacity gaps on needs

159. While the preliminary assessment of the needs of Arab States as reported in their national reports provides a bottom-up snapshot of the needs of the region, those needs assessments vary significantly in depth and coverage:

- (a) Qualitative information on overall needs by sector and by theme and on requirements for capacity-building was provided by 18–21 countries; however, only 5 countries provided information on identifying specific technologies;
- (b) Information on quantitative costing of needs was provided by 13 countries, but only 7 provided sector-level estimates and only 2 provided quantitative costs for capacity-building;
- (c) Adaptation is a priority for the region, yet there are significant knowledge gaps for assessing the costs associated with overcoming climate vulnerabilities; quantifying potential adaptation impacts; and assessing appropriate adaptive solutions and the costs of implementing them.

160. There is a wide variety of capacity-building support programmes in the region, which are used by LAS member States to enhance their capacities at individual and institutional level.

161. NCs under the Convention provide developing countries with a suite of tools, guidelines and approaches for assessing capacity-building needs. Furthermore, the National Adaptation Plan Global Support Programme assists participating countries in costing adaptation needs and building capacities in the context of their NAP processes. The NDC Partnership provides technical assistance to Parties in assessing and addressing their climate finance needs as identified in their NDCs. The Partnership further supported interested Parties in updating their NDCs for submission by 2020. Finally, the Africa NDC Hub established by AfDB offers a resource pool for African countries and support from local and international institutions – public and private – enabling them to deliver on the Paris Agreement commitments in an effective and efficient manner.

162. While it is crucial to recognize the importance of capacity-building in assessing climate finance needs and mobilizing and accessing climate finance, there is an urgent need for a more structured approach to building and retaining capacities. As different institutions use different tools and approaches for assessing and addressing capacity-building needs, an inventory of different tools and approaches for assessing capacity-building needs could be developed. This would also increase consistency among the various tools.

163. Regional and international organizations can help by compiling a suite of existing guidelines, methodologies and approaches and making them available for interested parties. Possible starting points include UNFCCC guidelines, such as those provided for the preparation of NCs, including guidance for cost estimates (see box 1), and regional knowledge resources and geospatial services available through the Arab Centre for Climate Change Policies and the LAS–United Nations Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region.

164. Some of the lessons learned related to needs assessments include:

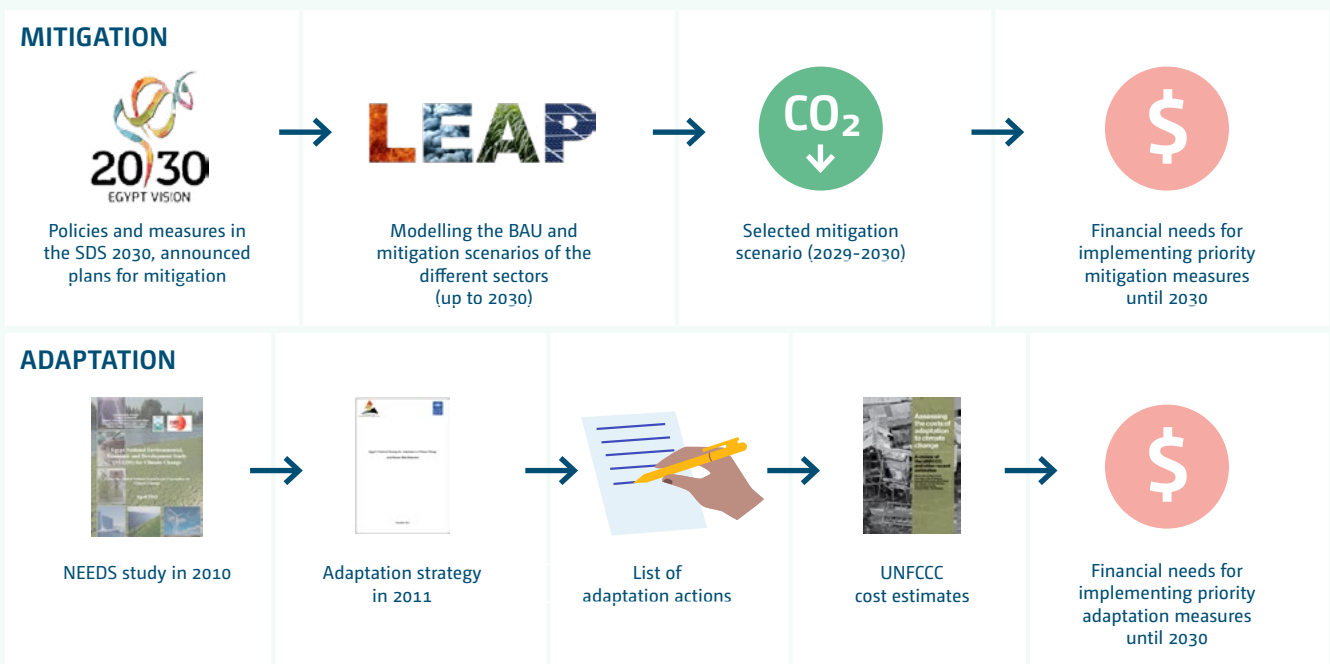
- (a) Fostering stakeholder engagement and partnerships with non-governmental organizations, civil society organizations and the private sector has maximized benefits and paved the way for joint planning;
- (b) Using a bottom-top approach and engaging all relevant stakeholders is important for raising public awareness and for identifying and addressing the needs of a wide range of geographic and demographic communities;
- (c) Drawing on existing policies and strategies facilitates the assessment of needs and helps to gain political buy-in for on-the-ground implementation;
- (d) Integrated approaches, which can be enhanced by strengthening capacity for intersectoral coordination (supported by institutional frameworks), can help to consolidate, mainstream and streamline the implementation of actions for achieving national mitigation and adaptation objectives across a range of sectors by unlocking synergies and co-benefits and avoiding actions that work at cross purposes.

Box 2

Case study: Egypt’s experience in assessing its needs in its nationally determined contributions and biennial update report

When assessing its adaptation and mitigation needs, Egypt underwent different processes for its NDC and BUR. For its NDC, the country took as the starting point for assessing mitigation needs the policies and measures announced in its Sustainable Development Strategy, using as part of its methodology the Long-range Energy Alternatives Planning system model, which enabled it to model the ‘business as usual’ and mitigation scenarios for the different sectors up to 2030. The modelling enabled Egypt to select mitigation scenarios and subsequently determine the financial needs associated with each scenario. The National Economic, Environment and Development Study conducted in 2010 and the country’s 2011 Adaptation Strategy served as the starting point for assessing adaptation needs. These two documents enabled practitioners to identify a list of priority adaptation actions. In order to determine costs for the identified adaptation actions, the country used the UNFCCC cost estimate study for guidance.

Steps taken to identify Egypt’s needs for its NDC



In assessing mitigation needs for its BUR, Egypt used as the starting point consultations with climate-relevant ministries. This enabled the country to create an initial list of programmes and projects needing financial support. For adaptation needs, the national adaptation strategy, which identifies adaptation measures, served as a starting point. During steering committee meetings and stakeholder consultation workshops, a list of priority projects for adaptation and mitigation was compiled, including associated costs and milestones.

Steps taken to identify Egypt’s needs for its biennial update report



2. Economic diversification

165. Owing to the importance of oil production activities in many Arab States and of agriculture in many of the middle-income LAS member States and LDCs, the need for economic diversification is a common element. For example, to diversify its economy, Saudi Arabia established a national centre for addressing the impacts of climate change. The centre is tasked with negotiating and implementing climate change agreements at the national level; conducting analyses of the socioeconomic impacts

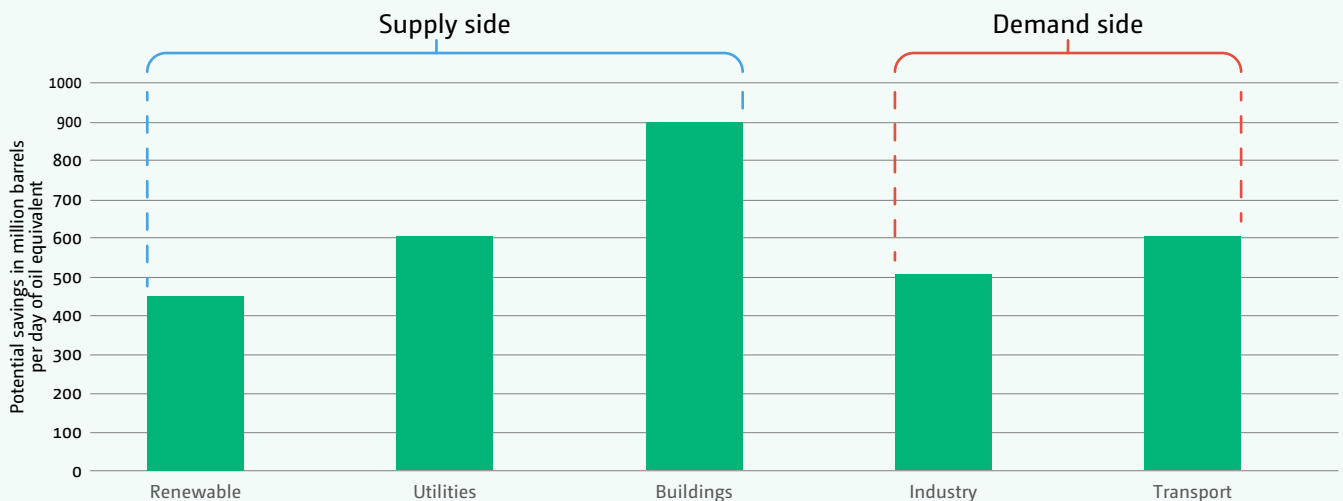
of response measures; updating, communicating and annually reviewing the implementation of the country's NDCs; and preparing and updating other national reports to the UNFCCC. In addition, Saudi Arabia is integrating climate change action within its national strategies and programme while pursuing energy-saving efforts. Pursuing energy efficiency makes a significant contribution to shifting economic activities. In Saudi Arabia, energy efficiency programmes could deliver substantial savings by 2030 (see box 2).

Box 3

Case study: Energy efficiency programmes could deliver substantial savings by 2030 in Kingdom of Saudi Arabia

On the demand side, buildings, transport and industry provide the most viable opportunities for promoting economic diversification. In transport, actions such as increasing the use of diesel, improving public transport and replacing old vehicles with new, more efficient models may provide up to 600-barrel oil equivalent/day in savings in 2030. Within the industry sector, adopting more efficient practices such as combined heat and power and heat recovery, replacing inefficient equipment, and improving system control may provide up to 500-barrel oil equivalent/day in savings. In the building sector, energy use is where the greatest opportunities lie, with actions in building design, construction and operation providing potential savings of 900-barrel oil equivalent/day. Much of these savings derive from more efficient use of energy for providing heating, cooling and ventilation, lighting and hot water.

On the supply side, the focus would be on utilities and renewable energies. There are abundant potential supply-side savings, which can be made by building new efficient power generation and water desalination facilities, upgrading existing inefficient power and water plants, and extending the power systems network infrastructure for effective connectivity, dispatch and control. These actions may provide savings of up to 600-barrel oil equivalent/day, while savings of up to 350-barrel oil equivalent/day could be delivered through the use of renewable energy such as solar photovoltaic, solar thermal and wind power.



166. Representatives from ministries of finance and central banks can play an important role in mobilizing and accessing climate finance. For one of the countries in the region, enhanced engagement in international networks for information exchange has helped to broaden the knowledge base and skill sets of finance experts with regard to supervising the domestic financial system. This peer-to-peer learning and exchange strengthens the confidence of financial sector actors and authorities in terms of how to respond to climate risks and help meet domestic climate-related policy goals.

167. Examples of domestic financial regulatory actions include:

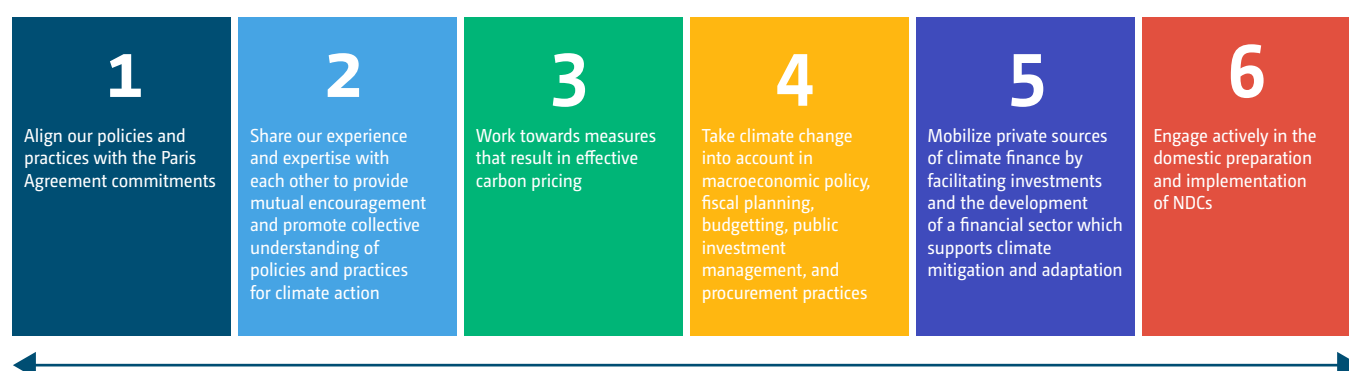
- (a) Setting up institutional arrangements to facilitate green and climate finance;
- (b) Adopting measures for the assessment, management and coverage of climate- and environment-related risks;
- (c) Requiring public disclosure and transparency of compliance with regulatory requirements for public and private sector actors; and
- (d) Enhancing collaboration between ministries of environment/climate change and ministries responsible for other climate-sensitive sectors to facilitate data exchange for coordinated needs assessments, integrated planning and the alignment of positions and priorities in international forums.

168. Several international initiatives enable ministries of finance and central banks to engage with others on climate change:

(a) Coalition of Finance Ministers for Climate Action:

The Coalition is a global initiative enabling finance ministers to take collective action to address climate change. Members of the initiative endorse the Helsinki Principles (see figure 33), which cover fiscal policy, public financial management, finance, and economic policy, and share good practices from their own experience. Currently, there are no Arab State members of the Coalition, and there is an opportunity to explore the participation of Arab States.

Figure 33
Helsinki Principles of the Coalition of Finance Ministers for Climate Action



(b) Network for Greening the Financial System:

The Network was established in December 2017 as a response to regulatory and financial pressures arising from climate change. As of December 2019, the network consisted of 54 members and 12 observers across the five continents, including Bank Al-Maghrib of Morocco. Bank Al-Maghrib joined the Network in April 2018, reflecting its commitment to engage with international central banks and supervisors to scale up climate finance and to ensure that the financial system is resilient to climate-related risks. The Network has three workstreams: microprudential and supervision, macrofinancial, and scaling up green finance (see figure 34).

(c) African Financial Alliance on Climate Change: AfDB

launched the Alliance, an African initiative that is aimed at linking all stock exchanges, pension funds and SWFs, and central banks, in addition to other African financial institutions, with a view to mobilizing and incentivizing them to shift their portfolios towards low-emission and climate-resilient investments. The Alliance primarily intends to foster climate action by promoting knowledge-sharing, climate risk mitigating financial instruments, climate risk disclosure and climate finance flows. Members of the Alliance adopt its five principles (see figure 35).

Figure 34**Workstreams of the Network for Greening the Financial System****Microprudential and supervision**

- Mapping current supervisor practices
- Encouraging climate-related risks disclosure
- Considering the extent to which a financial risk differential exists between ‘green’ and ‘brown’ assets

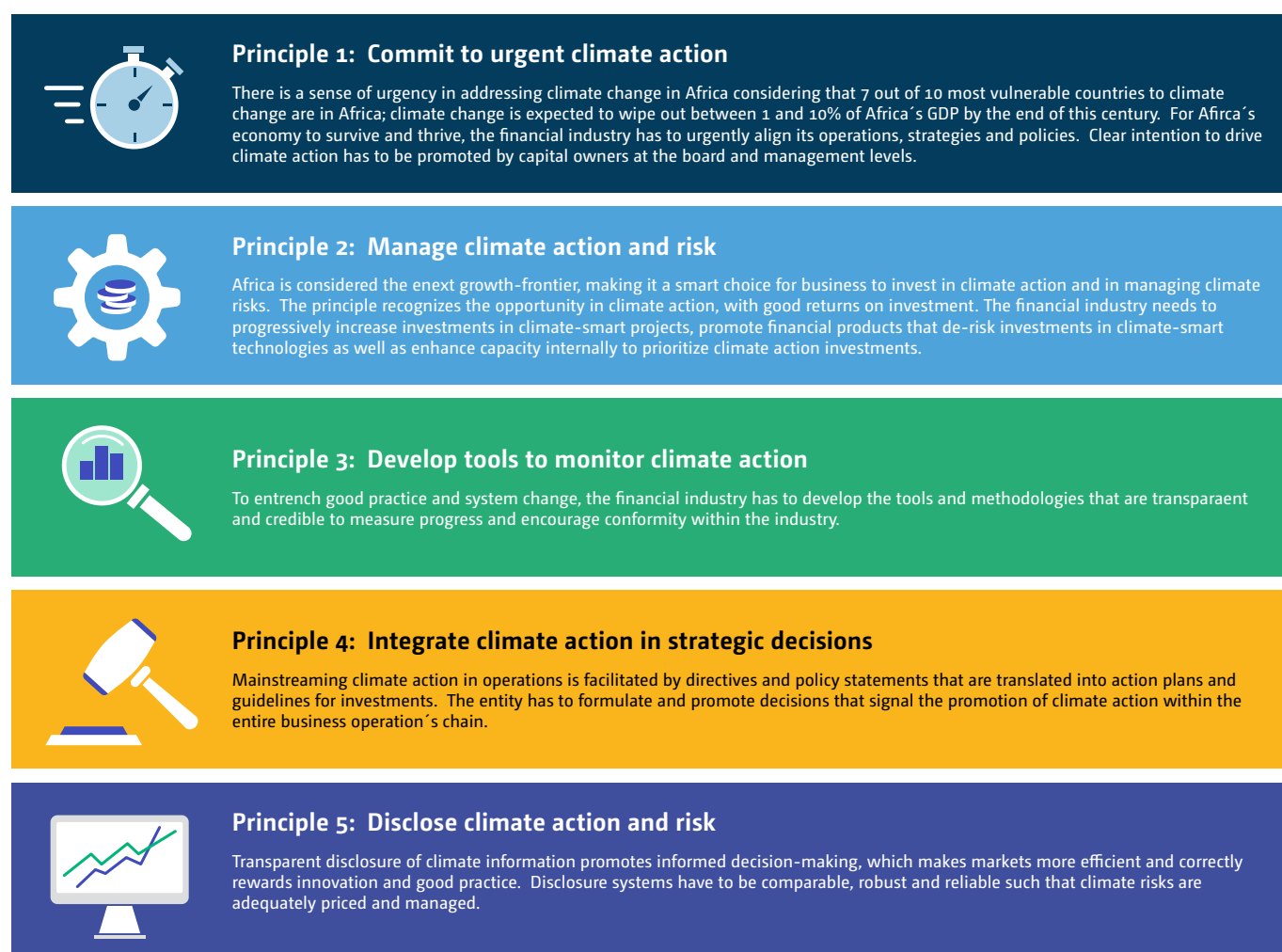
Macrofinancial

- Sizing the impact of climate-related risks on the economy both in the central case and in the event of tail scenarios
- Assess transmission channels of climate-related risks to the economy and the financial system
- Identify areas where further research is needed.

Scaling up green finance

- Leading by example and greening the activities of central banks and supervisors
- Understanding and monitoring the market dynamics of green finance
- Being catalysts for a sound scaling up of green finance

Figure 35
Five principles of the African Financial Alliance on Climate Change



D. Multi-country and subregional collaboration

169. While a country-level bottom-up approach is most compatible with the diverse needs across the region, in assessing the needs of Arab States, transboundary/regional considerations such as water, energy, economic diversification and trade could be taken into consideration. Multi-country and subregional approaches can help to improve access to finance for smaller states and attract

scaled-up sources of finance. Key areas for multi-country approaches are renewable energy scale-up, energy efficiency and methane reductions in the fossil fuel sector, water resources and desalination, coastal zone management, and agriculture for food security. In particular, pooling resources to address knowledge and data gaps, particularly for responses to adaptation and climate resilience, may be explored at subregional levels among neighbouring countries.



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Further information, related to the NBF Project
is available on the UNFCCC webpage

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