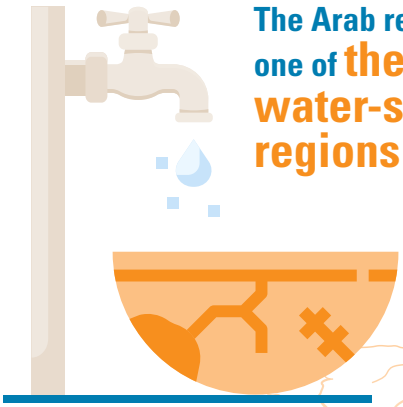
Climate finance for water in the Arab region

E/ESCWA/CL1.CCS/2023/Policy brief.3

Introduction

The Arab region is one of the most water-scarce regions in the world. 19 out of 22 Arab countries fall below the water scarcity line of 1,000 cubic metres per capita per year, and 13 fall below the absolute annual renewable freshwater scarcity threshold of 500 cubic metres per capita.[1] This directly affects drinking water availability, health, sanitation and wastewater treatment, agricultural productivity, industry, cities and the functioning of ecosystems. The Global Commission on the Economics of Water affirms that the hydrological cycle, which is affected by water scarcity, is a global common good and a fundamental global system that is essential for sustainable development, climate resilience and sustained life on earth.



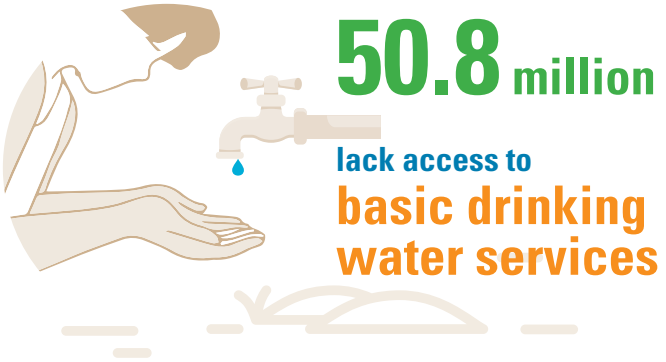
The Arab region is one of the most water-scarce regions in the world

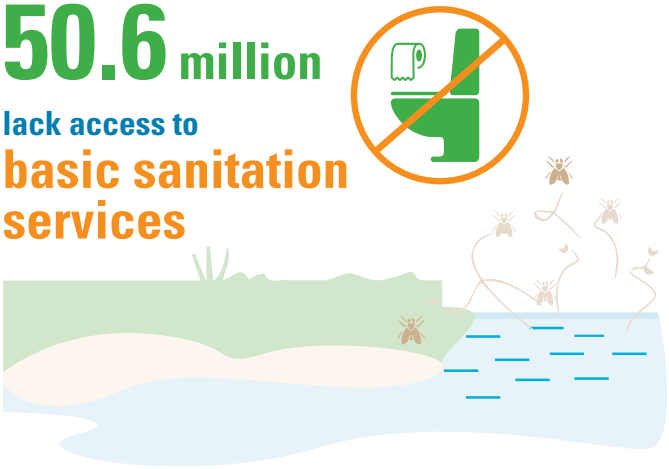
19 out of 22 Arab countries fall below the water scarcity line of 1,000 m3 per capita per year

1 Economic and Social Commission for Western Asia (ESCWA), ESCWA Water Development Report 9: Groundwater in the Arab region, 2022.

Access to water and sanitation is a universal human right and the ability of Arab States to ensure access to those services is constrained by freshwater availability and insufficient investment in the water sector, where 50.8 million people lack access to basic drinking water services and 50.6 million to basic sanitation services in the Arab region.[2]

Climate change aggravates water stress. Rising temperatures and higher evapotranspiration rates impact freshwater availability and increase the risk of extreme climate-related events. Average temperature in the Arab region is projected to increase by 4.8 degrees Celsius by the end of the century, which is higher than the global average. This renders the water sector in the region particularly vulnerable to climate change. Climate change depletes groundwater resources through reduced aquifer recharge and increased extraction of groundwater to offset surface water variability.[3] Transboundary water cooperation is complicated by changes in rainfall patterns, runoff and recharge rates. Intense rainfall events and flash floods have devastated communities across the Arab region, and most recently in eastern Libya, southern Sudan, Algeria, Saudi Arabia and along the coastlines of Lebanon, Oman, the State of Palestine and the United Arab Emirates, causing loss of lives, livelihoods, homes and businesses that could have been attenuated by investing in disaster preparedness and incorporating climate consideration in the design and finance of water infrastructure and national development planning.

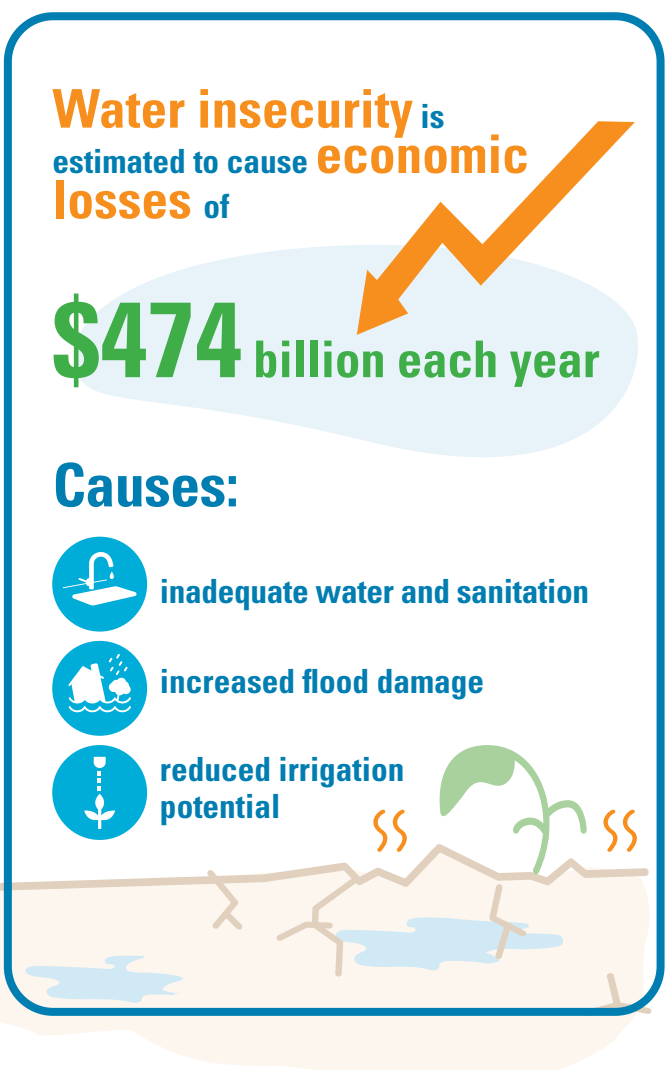




Investing in water

Globally, water insecurity is estimated to cause economic losses of $474 billion each year due to inadequate water and sanitation, reduced irrigation potential, increased flood damage and other factors. Water stress and water-related risks impact industry, manufacturing and power generation by disrupting cooling processes, trade and transport. For the year 2020, the 2,900 businesses reporting to the global Carbon Disclosure Project's survey reported total water-related detrimental business impacts of $16.7 billion.[4]

Financing adaptation and mitigation in the water sector improves water security and provides additional sustainable development



2 World Health Organization and United Nations Children's Fund, WHO/UNICEF Joint Monitoring Programme (JMP), 2023.
3 ESCWA, ESCWA Water Development Report 9: Groundwater in the Arab region, 2022.
4 Organisation for Economic Co-operation and Development (OECD), A new frontier: the financial materiality of water risks, 2023.

co-benefits. Investing in adaptation supports more sustainable water resource management and improves the delivery of water services across water-dependent sectors. Adaptation can also reduce the vulnerability of countries and communities to sea-level rise and extreme water-related events.

Investing in water also supports mitigation efforts. Delivering water services is energy intensive, with water-related activities accounting for 10 per cent of global greenhouse gas (GHG) emissions.[5] Enhancing the efficiency of water supply, distribution and sanitation services and investing in wastewater treatment and reuse could reduce energy requirements, expand renewable energy use and lower emissions. This is of particular importance in view of growing demand for desalination and groundwater pumping from greater depths. In addition, water-related ecosystems, such as wetlands and peatlands, have an important carbon storage capacity. Investing in their conservation would thus contribute to natural carbon capturing.[6]

Despite the economic case for investing in water and the growing pressures on the hydrological cycle, financing for water falls short of needs. Financing water is difficult and complex. Water infrastructure is generally capital intensive with high sunk costs and a long operating lifetime. Water infrastructure financing thus requires high upfront investments and long pay-back periods (20–30 years),[7] which are hard to secure on conventional market terms. In addition, clearly defining revenue streams for water-related investments can be challenging, particularly when water is perceived as a public good. The benefits of water-related investments are also often shared or difficult to monetize in terms of current and future water-related risks. Even when water as a resource and related goods and services are captured by the market, these tend to be undervalued.

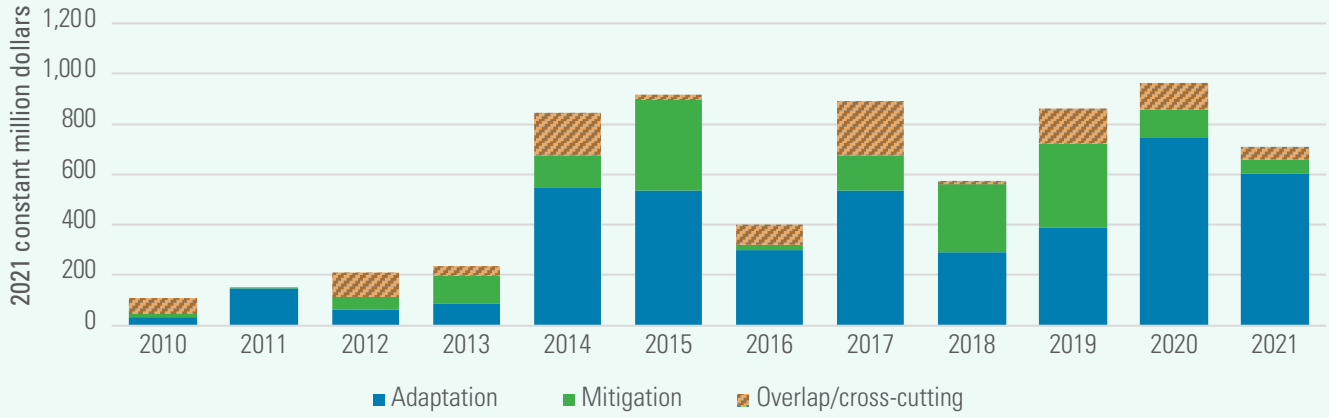
Moreover, inefficient water management and rising operation and maintenance costs contribute to declining revenues. As such, perceived returns in the water sector appear low and risks high, which represents a substantive obstacle to scaled-up investments, particularly by the private sector.[8] Furthermore, existing investments in the water sector are often small in size and fragmented, with high transaction costs, which further limits the creditworthiness of the water sector.[9] Financing for water needs to take these characteristics of the water sector into account. There is thus a general need to strengthen governance of the water sector to make it more attractive for investors, incentivize efficient operations and develop more financially sustainable business models. Climate finance, in particular grant-based and concessional international public climate finance complemented by public and private sector engagement, can act as a catalyst to address and overcome these challenges impeding investment in the water sector.

5 Martin Kerres and others, Stop floating, start swimming: water and climate change – interlinkages and prospects for future action, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), 2020.
6 OECD, Financing a water secure future – Policy highlights, 2022.
7 Ibid.
8 James Leigland, Sophie Trémolet and John Ikeda, Achieving universal access to water and sanitation by 2030: the role of blended finance, World Bank, 2016.
9 OECD, Financing a water secure future – Policy highlights, 2022.

1. Climate finance needs and flows to the water sector in the Arab region

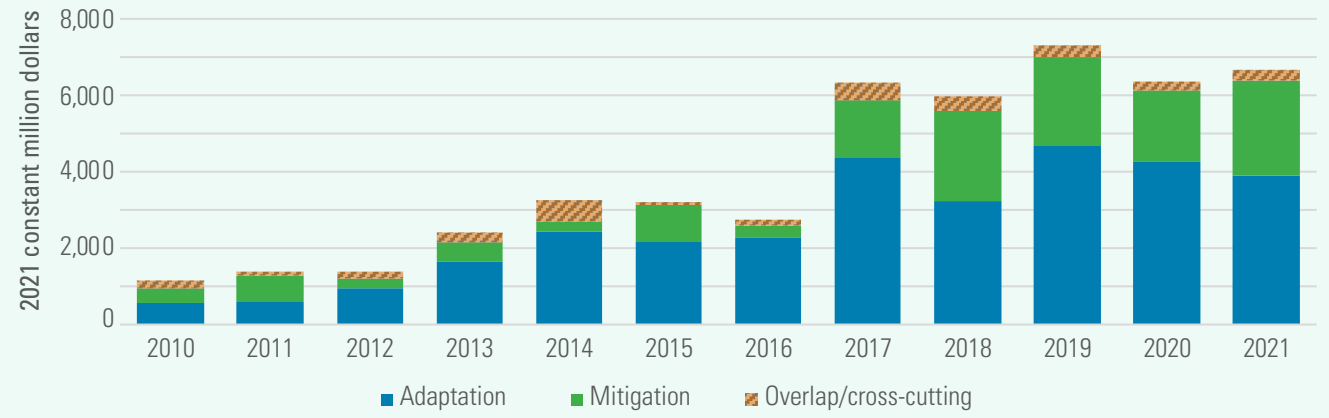
Water-related financing needs in the Arab region are substantial. 18 of 22 Arab States identified water as an adaptation priority. In their nationally determined contributions (NDCs) and other reports submitted to the United Nations Framework Convention on Climate Change (UNFCCC), Arab States specified a total financing need of $127.46 billion for adaptation in the water sector, including for wastewater treatment, desalination, water harvesting and irrigation, early warning systems as well as for reducing climate-induced water shortages for vulnerable communities and agriculture.[10,11]

Figure 1. Climate-related development finance for the water sector and agricultural water resources in the Arab region by purpose



Source: Compiled by ESCWA based on the OECD database entitled "Climate-related development finance at the activity level: Recipient perspective 2021–2000". It includes commitments with climate marked as a principal objective (Rio tag) as well as climate components reported by multilateral development banks. Flows with climate marked as a significant objective are not included. The water sector and agricultural water resources are defined as OECD sector 140: I.4. Water Supply & Sanitation and subsector 31140: Agricultural Water Resources. Numbers are in 2021 constant million dollars.

Figure 2. Global climate-related development finance for the water sector and agricultural water resources by purpose



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10 The following analyses focus on financial needs and flows to the water sector that are related to climate action (mitigation and/or adaptation). Total financing needs and flows to the water sector, including those not related to climate action, are higher as they would incorporate other forms of finance including green finance, sustainability finance and development finance.

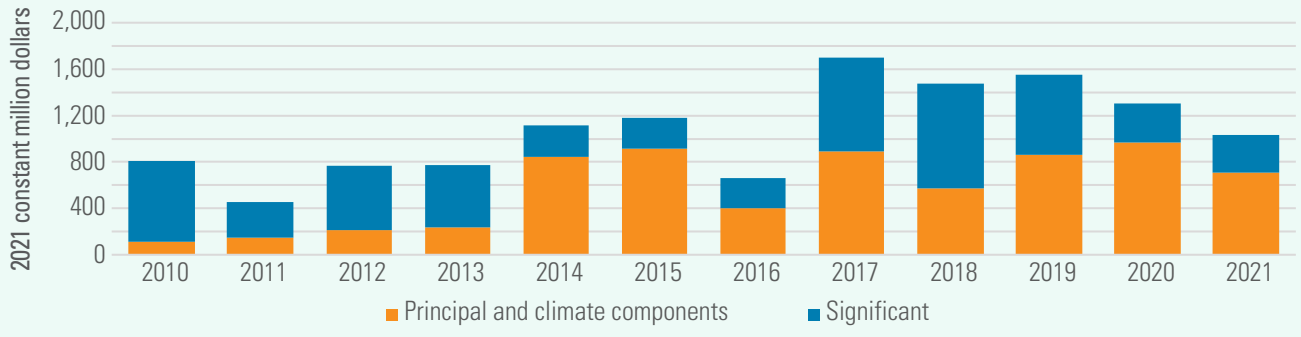
11 UNFCCC, ESCWA and League of Arab States. Technical assessment of climate finance in the Arab States: Annex to the Arab States climate finance access and mobilization strategy. 2022.

Current international public climate finance for the water sector and water-related activities[12] going to the Arab region falls far short of these identified needs. According to the OECD definition of water sector[13] and agricultural water resource[14] flows, over the period 2010–2021, Arab States received a total of $6.9 billion in water-related international public climate finance, with climate marked as the principal objective (figure 1). However, this value is sensitive to the categorization of water-related financial flows.[15] This represents 14.2 per cent of the global water-related financing over the same period (figure 2). As part of the climate adaptation envelope, Arab States were relatively successful in accessing water-related climate finance in 2014 and 2015, as they received around one-quarter of global water-related commitments driven by several large-scale projects.[16] However, this share declined from 15 per cent in 2020 to 11 per cent in 2021.

Climate finance can be classified according to the Rio marker framework to make reported numbers comparable and coherent. These Rio markers differentiate between flows that meet "principal" climate objectives and those that meet "significant" climate objectives. Projects with a significant climate objective are those that have prime objectives other than climate but have been formulated or adjusted to help meet these goals. In other words, these projects would have been funded even without a climate component. For projects with a principal climate objective, on the other hand, climate or environmental considerations are the primary driver and motivation. These would not have been undertaken without the climate objective. The subsequent analyses only consider financing with climate as a principal objective. However, even when financing commitments with climate as a significant objective are accounted for, existing water financing is still not commensurate with needs. Over the period 2010–2021, financing with a significant or principal climate objective for the water sector and agricultural water resources amounted to a combined $14.3 billion (figure 3). While water financing with climate as a significant objective initially exceeded financing with a principal climate objective by a factor of more than 2, the share of water-related financial commitments with a principal objective increased importantly in recent years, reaching 74 per cent in 2020 and 69 per cent in 2021 of all water-related climate financing in the region.

One of the reasons for low water financing might be linked to difficulties in costing climate finance needs, particularly for water projects, and in developing investable projects in the water sector. Indeed, 20 of the 22 Arab States submitted NDCs or intended nationally determined contributions (INDCs) through 2022.[17] Of these commitments, 17 include a dedicated section focused on water. However, only seven Arab States (Egypt, Jordan, Mauritania, State of Palestine, Somalia, Sudan and Tunisia) cost their water-related finance needs in their NDCs. Based on these commitments, the articulated water finance needs of Arab States totals $35.5 billion, representing 6.7 per cent of the total financing needs specified for NDC implementation by 2030. The long operating time horizon and the challenges in demonstrating clear revenue streams for water projects often make them more difficult to cost.

Figure 3. Principal and significant climate-related development finance for the water sector and agricultural water resources in the Arab region



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12 In the following analyses, water-related financing includes all financial flows tagged as supporting the water and sanitation sector as well as financing for agricultural water resources. The water sector and agricultural water resources are defined as OECD sector 140: I.4. Water Supply & Sanitation and subsector 31140: Agricultural Water Resources. Financing for water-based transportation or hydroelectric power plants are not included. All figures on received climate finance for the water sector presented in the policy brief are ESCWA calculations based on the OECD database entitled Climate-related development finance at the activity level: Recipient perspective 2021–2000.

13 The water sector refers to OECD sector 140: I.4. Water Supply & Sanitation.

14 The agricultural water resources refer to the OECD subsector 31140: Agricultural Water Resources.

15 For example, in Iraq in 2008, one project titled "Master Plan for Water Resources Management" was categorized in the IV.1. General Environment Protection sector. This project could be viewed equally as a water project. Conversely, in the State of Palestine in 2009, one project that aims to improve solid waste collection in southern West Bank by supplying steel containers, was categorized in the I.4. Water Supply & Sanitation sector. This project could be viewed as a solid waste management project and unrelated to water.

16 OECD, Climate-related development finance at the activity level: Recipient perspective, 2023.

17 Libya has not yet submitted its NDC. Algeria's INDC does not mention any water-specific activities or priorities.

Over the period 2010–2021, 62 per cent of all climate finance for the water sector and agricultural water resources supported adaptation projects. Recent developments suggest that the proportion of adaptation compared to mitigation and overlap/cross-cutting in climate finance for the water sector and agricultural water resources is rising again, amounting to 78 per cent in 2020 and 85 per cent in 2021. Furthermore, 14.5 per cent of all financing supported projects with a combined adaptation and mitigation objective (compared to just 5.8 per cent for cross-cutting projects in total climate finance). This demonstrates that water-related projects often produce multiple benefits and serve multiple purposes.

Despite growing debt burdens in the Arab region, with gross public debt reaching a historic high of $1.4 trillion in 2020,[18] water financing remains primarily debt based. Summed over the period 2010–2021, 81 per cent of all international public climate finance for the water sector and agricultural water resources was debt financing, with this share slightly decreasing to 70 per cent in 2021 (figure 4). Furthermore, the type of debt changed over the past decade, indicating a trend away from concessional financing. As such, while debt was exclusively concessional between 2010 and 2012, the share of non-concessional debt rose dramatically, with the share of concessional debt in total debt financing remaining below 50 per cent for the past four years.

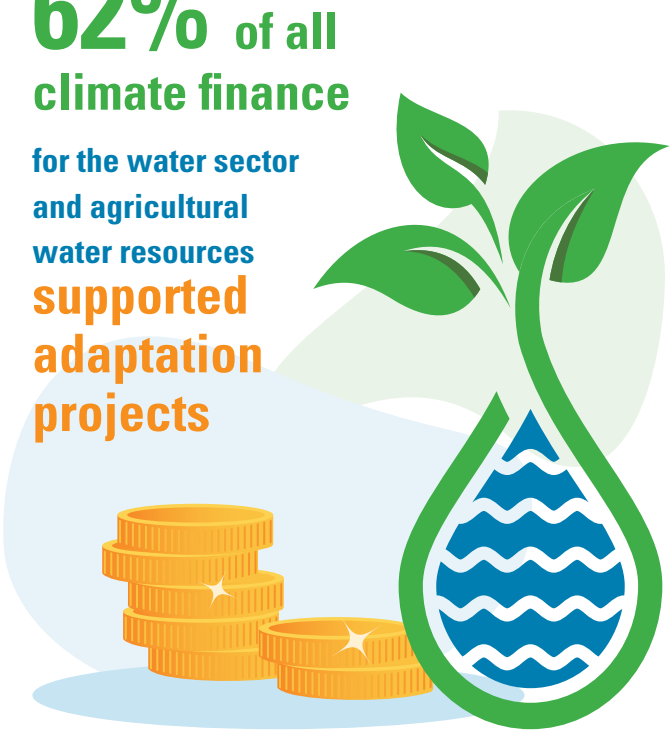
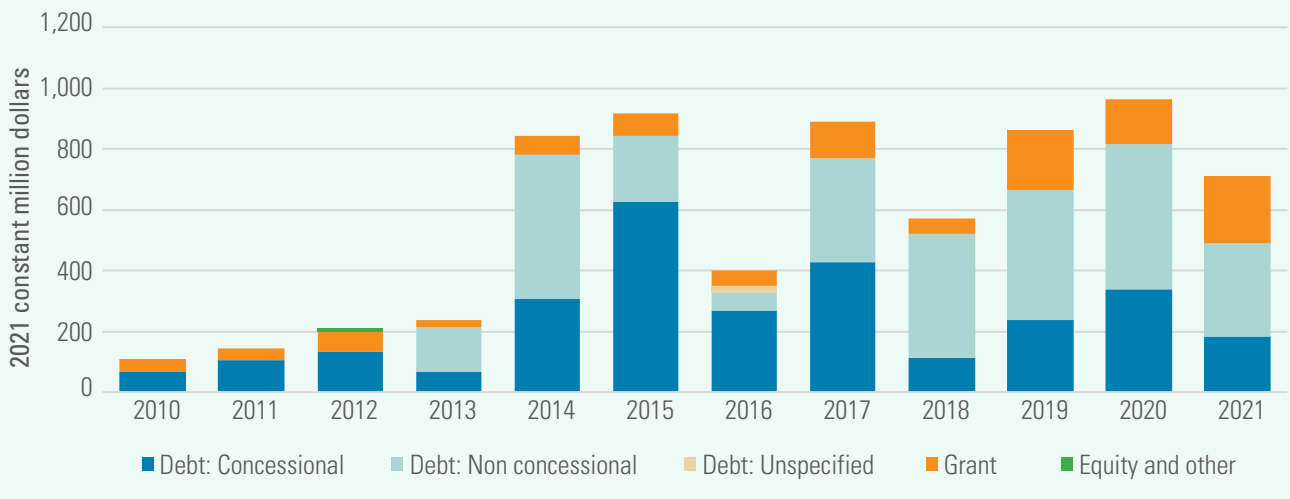


Figure 4. Climate-related development finance for the water sector and agricultural water resources by type of financing



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18 ESCWA, Liquidity shortage and debt: Obstacles to recovery in the Arab region, 2021.

Similarly, primary providers of water-related climate finance have been changing over time (figure 5). While less than 30 per cent of water financing was provided by members of the Development Assistance Committee (DAC) members in 2018, this share has been increasing in recent years, reaching parity with financing provided by multilateral development banks in 2021. Summed over the period 2010–2021, 53 per cent of all international public climate finance for the water sector came from DAC members. This is much higher than the DAC member financing share in total climate finance across all sectors, which stands at 34 per cent over the same period.

In terms of regional financial institutions, the Kuwait Fund dedicated 18 per cent of its total loans to water and wastewater projects across 16 Arab States (as of April 2023), the Abu Dhabi Fund for Development provided $361 million in water sector finance for Bahrain, Jordan and Morocco, and the Saudi Fund for Development signed $1.8 billion in loan agreements for water sector projects in the Arab region. A portion of the $1 billion green sukuk, a Shariah-compliant bond-like instrument, issued by the Islamic Development Bank (IsDB) in 2019, also focused on sustainable water and wastewater management projects.[19]

Mirroring global water finance patterns, the largest share (60 per cent) of all water-related climate financing coming to the Arab region over the period 2010–2021 was directed to large (and often centralized) systems in water supply and sanitation (figure 6). An additional 4 per cent of water-related climate finance over the period 2010–2021 financed local basic drinking water supply and sanitation activities, primarily in rural areas. Flows to other subsectors were much smaller. Support for agricultural water resources amounted to 14 per cent of all water-related financing; 6 per cent was directed to waste management and disposal,[20] and 3 per cent to river basin development.

Figure 5. Climate-related development finance for the water sector and agricultural water resources by provider

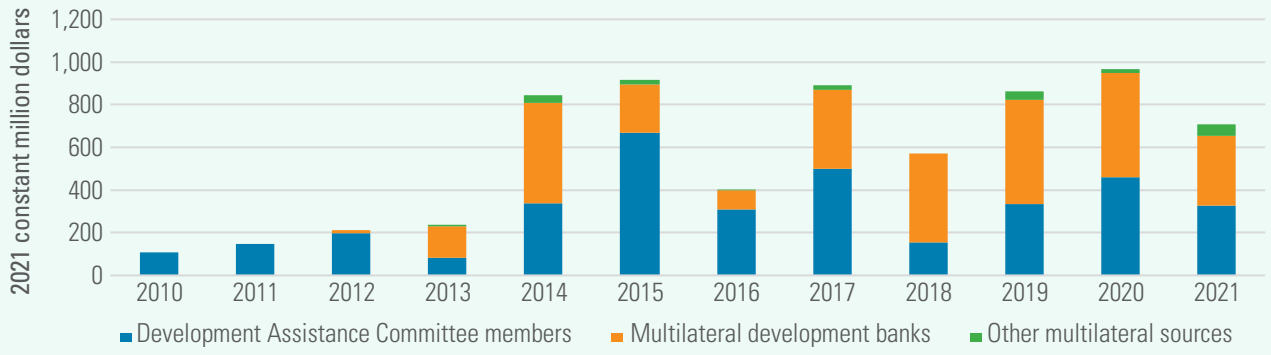

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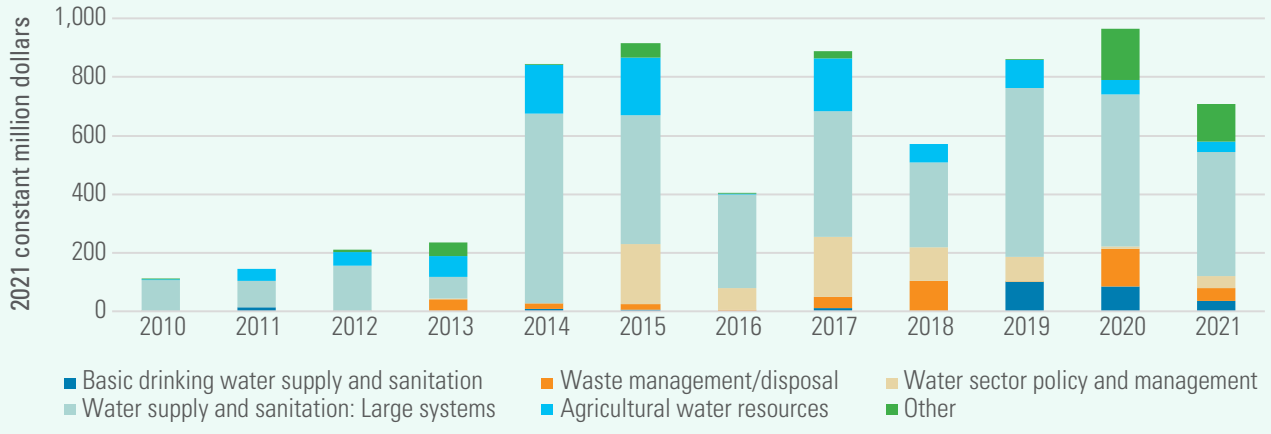
Figure 6. Climate-related development finance for the water sector and agricultural water resources by subsector



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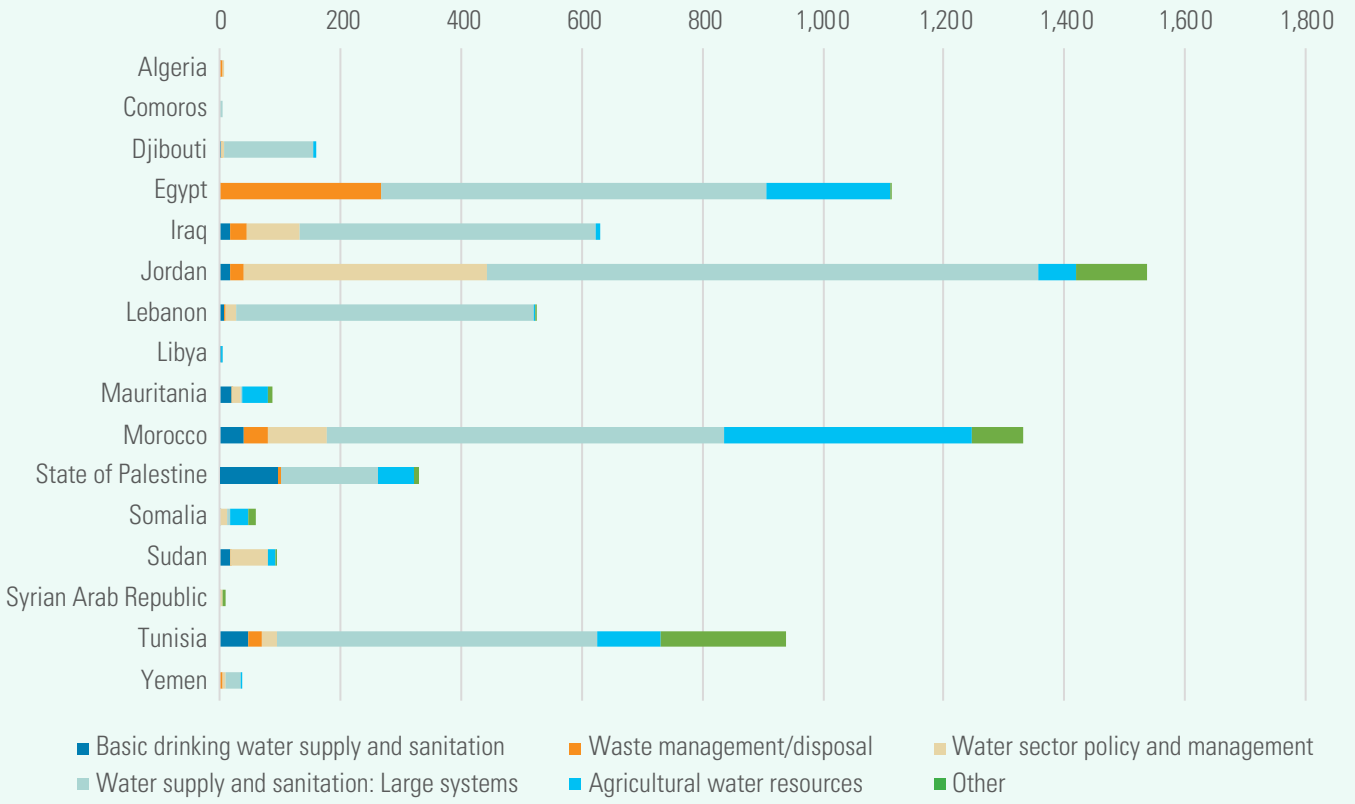
19 ESCWA, Water sector finance report prepared for the 15th session of the Committee on Water Resources that was held in Beirut on 19 and 20 June 2023.
20 In the data analysed, wastewater treatment activities were classified either as water supply and sanitation projects or as waste management and disposal projects.

Figure 7. Climate-related development finance for the water sector and agricultural water resources by country, 2010–2021



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Finally, there have been national disparities in the distribution of water-related climate finance across Arab States. Egypt, Jordan, Morocco and Tunisia have been most successful in accessing international public climate finance, receiving a combined 72 per cent of all financing for the water sector and agricultural water resources over the period 2010–2021 (figure 7). Countries most in need of support have been less successful in accessing water-related financing. The six least developed countries (LDCs) in the Arab region (Comoros, Djibouti, Mauritania, Somalia, Sudan and Yemen) received only 6.5 per cent of all climate finance for the water sector going to the Arab region over the same period, mirroring trends in the distribution of overall climate finance to LDCs in the region.[21] Similarly, very little financing was directed to conflict-affected States.[22] When considering only support for basic drinking water supply and sanitation services, the share received by Arab LDCs stood at 14.2 per cent and was thus higher than the share in total water financing received by Arab LDCs.


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21 The LDC financing share in total climate finance coming to the Arab region stood at 6.6 per cent over the period 2020–2010. See ESCWA, Climate finance needs and flows in the Arab region, 2022.

22 The picture is similar when considering international public climate finance received per capita. With the exception of Djibouti, the Arab LDCs and conflict-affected States also received very little financing in per capita terms.

2. Climate finance for water

A. Classifying water projects: Water taxonomy

Water-related activities span a broad range of assets and services, connecting different sectors and policy agendas. As such, the delivery of water and sanitation services, including investments in different infrastructure types, such as conventional grey infrastructure or nature-based solutions, the management of water resources or water-related risks, such as droughts, floods or pollution, would all represent a water project. Water-related investments could also include activities with a prime purpose other than water, such as urban development, agriculture, energy biodiversity or public health, but which contribute to water management.[23]

The challenge of establishing a clear and comprehensive water taxonomy is evident in how water-related projects are categorized. One notable example is the Mediterranean Initiative for the Ramsar Convention on Wetlands. Active from 2007 to 2010, this initiative involved nine Arab countries and allocated $467,909 towards adaptation and mitigation strategies in the region. Yet, because its primary focus was biodiversity, the OECD classified it within the biodiversity subsector rather than the core water-related subsectors. This classification underscores the intricacies involved in defining water-related projects.

Questions on water quality and availability, water-related risks, and water-related ecosystem services are intrinsically linked to climate change. Water has been identified as an entry point and enabler of successful and sustainable climate action.[24] Yet, not all water projects automatically contribute to climate change mitigation or adaptation. For water projects to qualify for climate finance, they need a clear climate rationale, a clear demonstration grounded in the best available climate data and science that they contribute to climate action, to address current and/or future climate change impacts, including by identifying the systems at risk and the specific climate hazard affecting them.[25] Emphasizing the link between water and climate using a science-based approach can help to scale up and align development and climate financing goals. While water is not specifically referenced in the Paris Agreement, the sector is referenced and prioritized in the Sharm el-Sheikh Declaration resulting from the 27th session of the Conference of the Parties to the UNFCCC (COP27). Existing sustainable finance taxonomies and climate bond eligibility lists can provide benchmarks and technical screening criteria that help to identify water projects classified as climate relevant.

The Climate Bonds Initiative, which seeks to identify the assets, activities and projects needed to deliver a low-carbon economy, categorizes the following water-sector activities as compatible with a trajectory to net zero by 2050 and thus eligible for green bond financing: Water monitoring, such as smart networks or early warning systems, as well as flood defences are classified as being automatically two-degree or net zero compliant. Water storage, such as rainwater harvesting or water distribution systems; water treatment, such as drinking water treatment or water recycling systems; water distribution, as well as nature-based solutions for water storage and drought and flood defences are classified as compatible with a net zero trajectory as long as no or negative net GHG emissions are expected from the activity. Finally, water desalination activities classify as two-degree compliant (and thus eligible for climate bond proceeds) if the average carbon intensity of the energy used to power the plant does not exceed 100g CO_2/kWh over the remaining lifetime of the asset and if brine disposal and feedwater intake are adequately addressed.[26] Similarly, the Green Climate Fund (GCF), the world's largest climate fund, defines in its recent

23 OECD, Financing a water secure future, 2022.
24 OECD, Roundtable on Financing Water: The interlinkages between water security and climate action – Background paper, 2021.
25 For more details on establishing the climate rationale for water projects, see GCF Sectoral Guide Series, Annex I: Water Security Sectoral Guide: GCF Water project design guidelines, 2023.
26 https://www.climatebonds.net/files/files/Taxonomy/CBI_Taxonomy_Tables08-A29%281%20%.pdf; https://www.climatebonds.net/01/2021/climate-aligned-desalination-expansion-climate-bonds-water-criteria-certification-now-open.

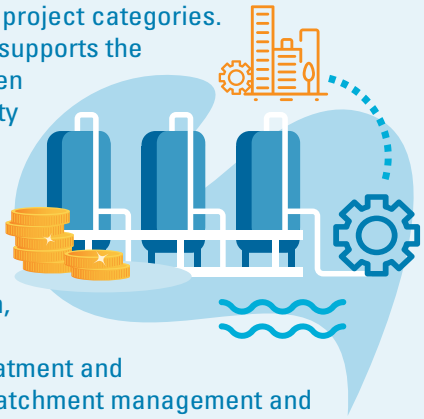
water security sectoral guide[27] criteria for the successful design of water projects to qualify for GCF financing. It also refers specifically to a wide spectrum of water-sector activities, including climate-smart agriculture, ecosystem-based management and low-carbon energy pathways, among others. In particular, projects need a clear climate rationale, including comprehensive risk analysis, to ensure projects respond directly to climate change challenges. Furthermore, projects should follow an integrated approach that considers not only the water system but also the hydrological cycle and climate risks, and display clear country ownership.

In the European Union sustainable finance taxonomy (figure 8), water is explicitly specified as one of its six environmental objectives (*Sustainable use of water and marine resources*). Water-related investments, particularly those linked to nature-based solutions, are also covered under the environmental objective *Protection and restoration of biodiversity and ecosystems*, given the vital role of water in the functioning of ecosystem services. As such, activities that improve water management and efficiency, including those protecting aquatic ecosystems or promoting sustainable water use, as well as activities that reduce water pollution to protect human health and the environment, are classified as taxonomy-compliant.[28]

Furthermore, the European Union sustainable finance taxonomy specifies technical screening criteria according to which water-related projects can be classified as substantially contributing to the taxonomy's climate change mitigation or adaptation objectives. In particular, enhancing energy efficiency or reducing leakage of water collection, treatment and supply systems, as well as wastewater collection and treatment plants, can render their construction, extension, operation or renewal taxonomy-compliant.[29] In terms of substantial contribution to climate change adaptation, water-related activities will be classified as taxonomy-compliant if they provide solutions for climate-related risks, such as floods, sea-level rise, droughts, water stress, changing precipitation patterns, temperature variability or permafrost thawing.[30] Special attention will be paid to activities that favour nature-based solutions. In addition, the construction,

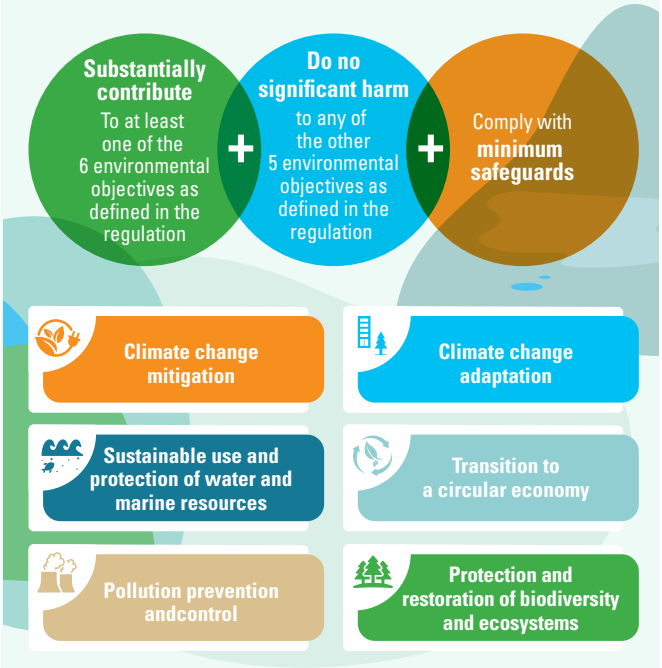
Finance framework to strengthen the climate-water interface

In view of enhancing the climate-water interface and supporting green finance, the IsDB adopted, in 2019, a Sustainable Finance Framework that includes "sustainable water and wastewater management", "environmentally sustainable management of natural living resources and land use", and "pollution prevention and control", within its green project categories. The framework also includes "affordable basic infrastructure" within its social project categories. The framework supports the issuance of green and sustainability sukuk that have the potential to support water-related investments in flood prevention, water and wastewater treatment and management, catchment management and other water-related subsectors.



Source: IsDB, Sustainable Finance Framework, 2019.

Figure 8. European Union sustainable finance taxonomy



Source: OECD, Developing sustainable finance definitions and taxonomies, 2020.

27 GCF Sectoral Guide Series, Annex I: Water Security Sectoral Guide: GCF Water project design guidelines, 2023. For information on how to apply these guidelines in practice, see GCF Sectoral Guide Series, Annex II: Water Security Sectoral Guide: GCF Water project design guidelines, 2023.
28 OECD, Financing a water secure future, 2022.
29 European Union, Commission Delegated Regulation (EU) 2021 ,2139/2021.
30 OECD, Financing a water secure future, 2022.

extension and operation of water collection, treatment and supply systems can be classified as substantially contributing to climate change adaptation if the activity has implemented physical and non-physical measures to reduce climate change impacts and conducted a vulnerability analysis. Adaptation measures are also requested to not adversely affect the level of resilience of people or nature; they should favour nature-based solutions and should be consistent with local strategies.[31]

B. Valuing water

Water as a resource and associated benefits and services are not adequately captured by markets and are thus frequently undervalued.[32] Similarly, the costing of water is often driven by the associated funding model, which might support cost-recovery analyses, but tends to mask the true value-generating potential of water.[33] This creates a barrier to investment in water-related activities, particularly from the private sector. A misrepresentation of the true value and costs of water might also lead to water use inefficiencies or unsustainable groundwater withdrawal. Adequately valuing water and showcasing benefits from water and water-related services are thus imperative for attracting financing.

Market-based approaches, such as cap-and-trade regimes, are one way to improve the valuation of water by trading water on a market and thus inciting market participants to reveal their true use value. In a cap-and-trade regime for groundwater, the government sets the cap, the maximum amount of water that can be withdrawn, which is then split into tradable allocations. To be successful, these cap-and-trade systems need to be carefully designed and managed, including by setting up effective monitoring and enforcement systems, taking into consideration an enabling institutional design, hydrology, political and social sensitivities, as well as potential fluctuations in economic performance or overall price levels.

Similarly, a detailed mapping of water's contribution to key economic sectors, including industrial processes, mining, electricity and tourism, can improve the understanding of the economic value of water.[34] Importantly, such a valuation should include not only the extractive or use value of water, but also the in-situ, non-use value[35] of leaving water untouched in the natural environment, which would benefit future generations or support ecosystems. Using water accounting tools and improving water allocation mechanisms could also play a role in valuing water and enhancing water use efficiency. Furthermore, there is growing interest in treating water as a new asset class to crowd in, enhance and streamline private sector investment in all aspects of the water cycle and thus allow municipalities to scale their water projects, including their water reuse, sanitation

Blended finance for South Africa's Water Reuse Programme

The South Africa's Water Reuse Programme is co-funded by the GCF and contains a dedicated blended finance component to support the scaled implementation of water reuse projects in South Africa. In addition to credit enhancement mechanisms, the programme uses project bonds to establish water reuse infrastructure as a new asset class. To achieve a transformation of the water sector, the project also seeks to further develop the definition of this instrument and the design of the accompanying financial structure. The reliable water supply supported by this project will directly benefit 3.4 million people and could reach an additional 3.9 million people when the water reuse programme is fully implemented and scaled up nationwide.

Source: GCF, Climate change resilience through South Africa's Water Reuse Programme, 2023; Amgad Elmahdi and Lixiang Wang, Water asset transition through treating water as a new asset class for paradigm shift for climate-water resilience, 2022.

31 European Union, Commission Delegated Regulation (EU) 2021 ,2139/2021.
32 OECD, Financing a water secure future – Policy highlights, 2022.
33 OECD, 9th meeting of the Roundtable on Financing Water: Discussion highlights, 2023.
34 ESCWA launched a discussion around the economic value of groundwater. For more information, see ESCWA Water Development Report 9: Groundwater in the Arab region, 2022.
35 Measuring the non-use value of water is challenging. Existing studies rely on the contingent valuation methodology to elicit the willingness to pay for water conservation through a survey.

or desalination projects.[36] However, similar to the idea of setting up a water market, this would need to be carefully designed with an inclusive financial architecture and legal and regulatory frameworks to avoid unintended cascading consequences and ensure nobody is left behind.

Monetizing the economic and social costs of water-related risks can further inform the valuation of water-related investments. For example, global economic losses from droughts and floods amounted to almost $700 billion over the past two decades,[37] with risks and associated losses expected to grow further in the future. Climate-related financial disclosures are one tool that can be used to assess and expose the costs of inaction on water-related risks. Put together, enhancing the valuation of water can contribute to revealing the true co-benefits of water-related investments and thus attract and scale up financing for water projects.

C. Minding the gaps

Climate finance can create new financing opportunities for the water sector and thus make an important contribution to closing the water finance gap. Currently, however, the water sector represents only a minor share in global climate finance and water investments represent only 5 per cent of the total global official development assistance (ODA), with large water and sanitation systems receiving the most support.[38] The Arab region received 18.1 per cent of total ODA for the water and sanitation sector in 2021.[39] Accessing and scaling up climate finance for the water sector requires water projects to demonstrate a clear climate rationale and climate finance instruments and vehicles to account for the specificities of the water sector. As such, water projects need to show that they yield climate adaptation or mitigation benefits in addition to their normal operations, or clearly address climate-related risks and vulnerabilities.[40] Similarly, the climate-proofing of water-related investments to deal with projected growing future climate variability, uncertainty and risks is of particular importance given the long operational lifetimes of water-intensive assets that can span many decades.

Furthermore, the specificities of the water sector, such as high capital intensity projects, large upfront costs, long time horizon for investments, small ticket sizes, difficulties in demonstrating a clearly defined revenue stream, (perceived) low creditworthiness due to political, regulatory or technical risks[41] as well as weak operation and management, render the mobilization of financing challenging. The transboundary nature of water flows, including evapotranspiration and precipitation flows, further complicates financing arrangements and calls for a cooperative approach.

In parallel, limited experience, knowledge and transparency in financing water-related activities represent barriers to investment. Capacity development efforts should, therefore, focus on the design and financial structuring of investable projects, including strengthening capacities to cost financing needs, in addition to capacity-building for demonstrating a clear climate rationale. Explicitly including water in sustainable finance taxonomies represents an important

The Arab region received

18.1%

of total ODA

for the water and sanitation sector in 2021

Including water in sustainable finance taxonomies is an important first step to raising the visibility of information available on water-related investments

36 Amgad Elmahdi and Lixiang Wang, Water asset transition through treating water as a new asset class for paradigm shift for climate-water resilience, 2022.
37 Centre for Research on the Epidemiology of Disasters, The Emergency Events Database (EM-DAT), 2019.
38 OECD, Roundtable on Financing Water: The interlinkages between water security and climate action – Background paper, 2021.
39 ESCWA, Water sector finance report prepared for the 15th session of the Committee on Water Resources that was held in Beirut on 19 and 20 June 2023.
40 OECD, Roundtable on Financing Water: The interlinkages between water security and climate action – Background paper, 2021.
41 OECD, Financing a water secure future – Policy highlights, 2022.

first step to raising the visibility of information available on water-related investments, which can help attract financing.

By standardizing requirements for sustainable finance eligibility, common taxonomies reduce the cost, time and effort required for identifying climate-aligned projects and can thus contribute to enhancing investments in water projects under the taxonomy or through green bonds (or sukuk).[42] Furthermore, mainstreaming water into national climate change planning processes and strategies, such as national adaptation plans, could help in the assessment of data needs and the prioritization of activities and thus support the identification of synergies and co-benefits. Similarly, linking the water and the broader sustainable development agendas, for example, in the area of food security, could further enhance co-benefits and avoid unintended consequences, such as the risk of water overuse when renewable energy pumping becomes increasingly available.

D. Financing water projects with climate finance instruments

Different climate finance vehicles can be used to fund water-related activities. In addition to international public climate and development finance, financing for water projects could come from dedicated climate funds, such as the GCF, but also the private sector, for example, through green bonds, blue bonds, sustainability-linked loans, or carbon credit markets. Unpacking the water value chain could inform the choice of financing instruments to maximize access and mobilization of climate finance for the water sector. Different financing streams with varying risk and return structures could be used for different parts of the water sector as financial markets and market-based instruments, and some financial tools are not optimally suited for all kinds of water-related activities. As such, the water sector accounts so far for only 9 per cent of all green bond investments globally. The very nature of bonds makes them primarily accessible to large-scale and creditworthy issuers, which, as shown above, can be challenging for some water-related activities.[43]

Therefore, public, blended or (grant-based) development finance, including from national development banks, should be used catalytically to de-risk and refinance water-related activities, particularly in the project development phase, to improve access to capital markets and crowd in additional resources. Public-private partnerships could also be used to attract private sector financing as well as technical knowledge and innovative potential, for example, in the case of large water infrastructure or desalination projects.

The As-Samra wastewater treatment plant expansion project in Jordan provides one example of how public-private partnerships can serve to crowd in private investment in water and climate-related projects. Launched in 2011 as a Millennium Challenge Corporation (MCC) project with funding from the United States Government, the expansion of the As-Samra plant was initially financed through $93 million of MCC funding, which attracted another $110 million from the private sector and $20 million from the Government of Jordan.[44] The build-operate-transfer (BOT) project became operational in 2015. It resulted in an expansion of the surrounding sewer networks, leading to 5 million cubic metres per year in additional wastewater flowing to the

42 OECD, Financing a water secure future, 2022.
43 OECD, Roundtable on Financing Water: Aligning and scaling up financing flows for water security and climate action, 2021.
44 Alex Russin, Mobilizing private-sector investment to transform Jordan's water system, Millennium Challenge Corporation, 2017.

treatment plant. Furthermore, an increase in the use of treated wastewater in irrigation allowed for an increase in the freshwater supply to urban areas of Jordan by 4–6 million cubic metres per year as of 2020.[45] Similar projects could be used to address growing water scarcity resulting from climate change in the region.

Financing for smaller projects at a local level, such as solar pumping for drinking water and rural supply, could be secured through community social enterprise models. To be successful, this also requires enhanced cooperation between all actors involved. For example, development banks could help to structure the project finance needed and donors facilitate contacts with capital investors from the respective regions. So far, this catalytic potential of public and development finance does not seem to be fully exploited for the water sector. Over the period 2012–2017, only 1.4 per cent of the total global private finance was mobilized in the water and sanitation sector.[46] Similarly, insurance schemes could also help leverage private funds for water as they inform the pricing of climate-related risks for the water sector and incentivize disaster prevention.[47] In addition, issuing bonds at a subnational level could increase their applicability to the water sector by monetizing the acceptable revenue streams[48] of utilities.[49]

Arab Initiative for Mobilizing Climate Finance for Water

ESCWA and the League of Arab States jointly launched the Arab Initiative for Mobilizing Climate Finance for Water (AIM Climate Finance for Water) at the United Nations 2023 Water Conference held in March 2023, as a Water Action Agenda commitment. Recognizing the close interlinkages between water and climate change as well as the vital role public finance can play in providing essential services and catalysing other sources of finance, the initiative aims to develop regional capacity to mobilize finance for water action under changing climatic conditions.

In order to increase access to climate finance for Arab States, the initiative promotes understanding and awareness on the importance of climate-resilient investments in the water sector and supports capacity development efforts to strengthen the climate rationale for water projects and to develop bankable project pipelines. The initiative supports the Arab Ministerial Water Council's Arab Strategy for Water Security in the Arab Region to Meet the Challenges and Future Needs for Sustainable Development 2010–2030. It also builds upon the knowledge base developed under the collaborative Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR) that is coordinated by ESCWA and the Water Scarcity Initiative coordinated by the Food and Agriculture Organization of the United Nations (FAO), which are both supported by the Government of Sweden.

The core partners of the initiative are the League of Arab States (through the Technical Secretariat of the Arab Ministerial Water Council and the Technical Secretariat of the Council of Arab Ministers Responsible for the Environment), ESCWA, the Islamic Development Bank, the Green Climate Fund, FAO and the Government of Sweden.

The initiative is implemented in collaboration with the Arab Fund for Economic and Social Development and the Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD) of the League of Arab States.

Source: https://sdgs.un.org/partnerships/arab-initiative-mobilizing-climate-finance-water-aim-climate-finance-water.

45 Millennium Challenge Corporation, Evaluation brief: Increasing the supply of available water in Jordan, 2020.
46 OECD, Roundtable on Financing Water: The reform of the international financial architecture: An opportunity for scaling up finance for water? 2023.
47 OECD, Roundtable on Financing Water: Aligning and scaling up financing flows for water security and climate action 2021.
48 Acceptable revenue streams align with environmental, social and governance principles, help meet the targets set in the Paris Agreement and contribute to the Sustainable Development Goals. For more information, see Amgad Elmahdi and Lixiang Wang, Water asset transition through treating water as a new asset class for paradigm shift for climate-water resilience 2022.
49 OECD, 9th meeting of the Roundtable on Financing Water: Discussion highlights, 2023.

3. Policy recommendations

1

Enhancing data availability and access:

Enhancing the understanding of existing water and water financing needs and flows is a prerequisite for mobilizing resources for the water sector. Science-based analyses inform the preparation of project pipelines as well as water-related policies and help to make water projects measurable and monitorable, thus lowering the entry barrier for investments in the water sector, including from the private sector. Similarly, incentivizing disclosures on water-related activities fosters learning from best practices and encourages improvements in water use efficiency. Comprehensive data and science-based assessments, as well as capacity development to strengthen regional knowledge, are also the basis for providing the climate rationale and taxonomy-alignment for water projects, which are needed to access climate finance for water. Public funds could be used to finance technical assistance to support the development of bankable and taxonomy-aligned projects.

2

Improving governance and infrastructure management:

Poor operational and financial management of water projects, particularly water infrastructure, leads to substantive losses in both water and financial resources. There is thus a need to strengthen the governance of the water sector. In particular, a country's institutional framework, including strong monitoring and enforcement systems, can create an enabling environment for investment, incentivize efficient operations, improve the creditworthiness of water operators and other borrowers, and enhance transparency on water finance to mobilize and scale-up water-related investments from different sources, including through innovative financial instruments.

3

Incentivizing water use efficiency through political and regulatory frameworks:

Political climate targets can clarify the level of ambition, which, together with accompanying governance measures and regulatory frameworks, can contribute importantly to incentivizing efficient water use. These climate targets can also inform international financial institutions, donors or banks in water- and climate-proofing their funding lines.

4

Providing capacity-building for all stakeholders:

To enhance access to climate finance for water projects from all sources, capacities for demonstrating a clear climate rationale for projects as well as for designing and developing investable projects, including for costing financing needs, should be strengthened. Furthermore, there is a need to improve institutional capacities to implement water and climate-related policies and regulations.

5 Taking a holistic approach to water management to foster policy coherence:

The cross-sectoral and transboundary nature of water makes water economics and finance complex. Employing a system's perspective on water management that mainstreams water into the broader government decision-making process can foster policy coherence and reduce the risk of adverse impacts on water projects from other policy domains. In particular, linking the water and sustainable development agendas could unlock synergies and streamline financing flows. Similarly, coordinating water finance across sectors and promoting transboundary management can help to maximize co-benefits and the valuing of water.

6 Using public and development finance catalytically to de-risk water-sector investments:

Water projects are often long-term investments with pay-back periods spanning several decades and challenges in demonstrating clearly defined revenue streams. Public and development finance, particularly grant and concessional financing, should be used catalytically to de-risk investments in the water sector and thus mobilize additional resources, particularly from the private sector. Including a broad range of stakeholders in the design of financing mechanisms can help tailor them to their needs.

7 Enhancing regional and international partnerships and cooperation:

The often complex and large-scale projects in the water sector would benefit from better coordination among different actors in project design and planning, finance and operation. Furthermore, facilitating regional exchange between stakeholders, including through online knowledge platforms, could enhance knowledge sharing and mutual learning.

8 Using innovative financial instruments to mobilize additional financing:

Innovative financial instruments, such as debt for water swaps, can further contribute to closing the water finance gap.

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