1 Insights from blended finance in the water and sanitation sector

Scaling up investments in water and sanitation is a prerequisite to deliver the Sustainable Development Goals (SDGs), in particular SDG 6, which aims to ensure the availability and sustainable management of water and sanitation for all. Blended finance can be an effective tool to mobilise additional commercial finance and contribute to strengthening financing systems upon which sustainable service delivery and water resource management rely. This chapter provides insights into the state of blended finance for water-related investments drawing on analysis from three subsectors: (1) water and sanitation utilities; (2) small-scale off-grid sanitation services; and (3) multi-purpose water infrastructure and landscape-based approaches. The chapter documents insights drawn from experience with blended finance for water and sanitation to date and further explores the potential for scaling up.

1.1. Financing water to achieve the SDGs

1.1.1. Rationale

Water-related investments are key for sustainable development and inclusive growth. Sustainable Development Goal (SDG) 6, "ensure availability and sustainable management of water and sanitation for all" has spill over effects on a variety of further development challenges, including food security, healthy lives, energy, sustainable cities, sustainable consumption and production, and marine and terrestrial ecosystems (UN, 2015[1]). As of 2015, 2.1 billion people lack access to safely managed drinking water services and 4.5 billion people lack access to sanitation compatible with the SDG 6 objectives (WHO/UNICEF, 2017[2]). The economic benefits of investing in water security could exceed hundreds of billions of dollars annually (Sadoff et al., 2015[3]).

Projections of global financing needs for water infrastructure range from USD 6.7 trillion by 2030 to USD 22.6 trillion by 2050 (OECD, 2015[4]). In order to meet water, sanitation and hygiene (WASH) needs, USD 114 billion annual capital investment is needed to achieve SDG 6.1 and 6.2 alone by 2030, which can be up to three times the current level of investment (WHO/UNICEF, 2017[2]).

Water and sanitation has historically been financed by the public sector, with concessional finance playing an important role in developing countries. Official development finance1 contributes to financing water and sanitation in developing countries with USD 13.3 billion on average in 2016-17 (OECD, 2018[5]). While development finance, particularly concessional finance, continues to have an important role to play in the sector, these flows are not sufficient to address total financing needs and achieve the 2030 Agenda for Sustainable Development ("2030 Agenda"). Recently, the international development community has put the private sector at centre stage as a source for additional investments in sustainable development. However, private finance for the water sector has not reached the scale commensurate with the challenge2. Risk-return considerations and structural issues related to profitability of operating business models often undermine commercial investment.

Blended finance can be an effective instrument in mobilising commercial finance and strengthening the financing systems on which water-related investments rely.[3] Blended finance is the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries[4] (OECD, 2018[6]). By deploying development finance in a way that addresses investment barriers preventing commercial actors from providing capital in SDG-relevant sectors such as water and sanitation, blended finance operates as a market building instrument that provides a bridge from reliance on grant and other donor financing towards commercial finance. Development finance can include official and private finance, e.g. from foundations, with a development purpose. Commercial finance can include public finance, e.g. from sovereign wealth funds or public pension funds, and private finance, which is seeking market rate returns.

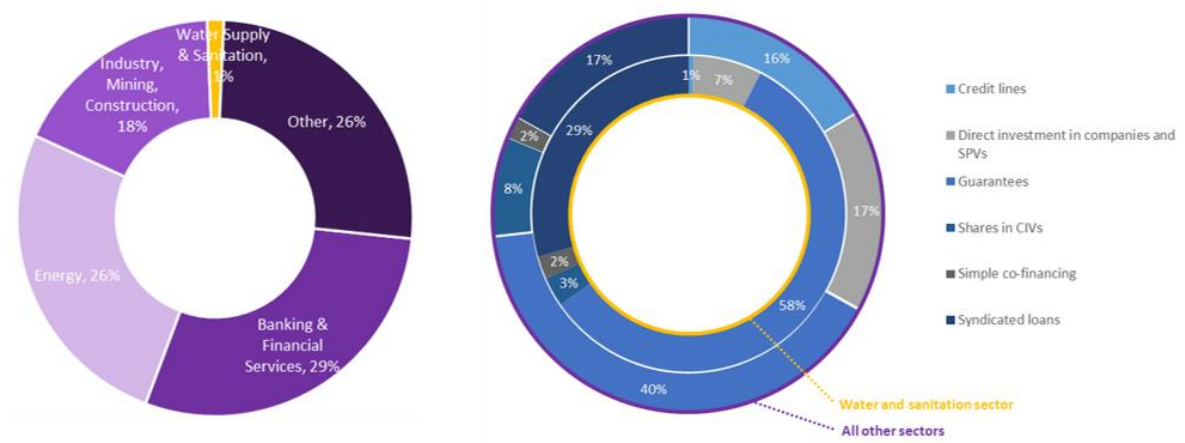
Blended finance can add value first and foremost by shifting funds that are currently not directed to sustainable development to countries and sectors that have significant investment needs in order to deliver on the SDGs. In doing so, blended finance enables commercial investors to develop a track record of operating in the sector by altering the risk-return balance in a way that the commercial sector is willing to invest. Due to their transitory nature, blended finance models should mobilise more commercial finance over time. In parallel, a larger role for commercial actors can enable stronger financial systems by encouraging accountability and transparency, as well as new ways of addressing existing social and environmental challenges. Social enterprises are, for instance, rethinking sanitation as a mode of service delivery rather than as conventional on-grid infrastructure.

Development finance actors, commercial investors and domestic actors, such as utility operators, have gained some experience with the use of blended finance approaches in the sector. However, thus far the role of blended finance in mobilising commercial finance for the sector is limited compared to other sectors.

Preliminary data on the amounts mobilised from the private sector by official development finance shows that USD 2.1 billion have been mobilised in the water and sanitation sector from 2012-17 (Figure 1.1) out of the total of USD 157.2 billion mobilised across sectors (OECD, n.d.[7]). This 1.36% share of private finance mobilised compared to the overall sample underlines the aforementioned challenges to mobilise private sector investment in the sector.[5] The banking and financial services, energy, industry, mining and construction sectors mobilised over 18 times the amount mobilised in the water and sanitation sector from 2012-17; mobilisation in agriculture was over twice as much.

In terms of blended finance instruments, guarantees mobilised 58% or USD 1.24 billion in the water and sanitation sector, followed by syndicated loans at 29% or approximately USD 0.6 billion. Comparatively, guarantees mobilised a smaller percentage of total private finance in all other sectors (40%), with direct investments representing a higher percentage of private finance mobilised in other sectors at 17% comparative to 7% of private finance mobilised in the water and sanitation sector.

Figure 1.1. Private finance mobilised by official development finance interventions by sector and instrument 2012-17



Source: (OECD, n.d.[7]), Statistics on amounts mobilised from the private sector by official development finance interventions as of July 2019, http://www.oecd.org/development/stats/mobilisation.htm

1.1.2. Approach and methods

A stronger evidence base is needed to better understand the current and potential role of commercial finance and specifically blended finance models for water-related investments. The relevance of the sector for multiple SDGs shows that water and sanitation investments can take a variety of forms and address a multitude of different needs. This publication therefore takes a broad approach to water-related investment and covers blended finance models that contribute to the achievement of the SDGs, including, but not limited to, SDG 6.

Analysis of blended finance in the water sector to date has focused mainly on water supply and sanitation services delivered by utilities.[6] This report builds on previous work to extend the analysis to examine the potential of blended finance for a broader range of water-related investments. As a basis for this research, a scoping study was developed to provide a typology of subsectors in the water and sanitation investment landscape to better understand the different risk and return characteristics and project attributes by subsector (OECD, 2018[8]). Based on a broad consultation process with donors, official development finance providers and commercial investors,[7] three fairly diverse subsectors were selected in order to provide distinct perspectives based on experience with blended finance to date, requirements for blended

finance to successfully emerge, and potential for the use of different blended finance instruments and mechanisms. The selected subsectors[8] are:

1. Water and sanitation utilities: Water and sanitation utilities include public and private enterprises whose main purpose is the production, transmission, and distribution of water and sanitation services, including through water supply, wastewater collection and treatment, and the operation and maintenance of associated infrastructure (e.g. pumps, storage, pipelines, sewers etc.). The benefits of improved water and sanitation are social (e.g. improved human health and well-being), economic (e.g. improved productivity), and environmental (e.g. ecosystems and biodiversity) (OECD, 2011[9]).
2. Small-scale, off-grid sanitation: A range of technologies and service delivery models in this subsector can be used to deliver services for the safe disposal of human urine and faeces in settings where centralised, large-scale infrastructure is not cost-effective or is absent. Small-scale off-grid approaches are emerging in the absence of centralised sewerage systems particularly in large urban areas in developing countries, and are ideally complementary to the development of sewerage systems. In this subsector, innovative service delivery models have been developed and implemented by predominantly early stage enterprises.
3. Multi-purpose water infrastructure and landscape-based approaches: Multipurpose water infrastructure (MPWI) projects and landscape-based approaches (integrated projects within a given spatial area) deliver multiple water-related benefits across several sectors, for example to agriculture, energy production, fisheries, recreation and tourism. Projects incorporating landscape-based approaches are increasingly being developed to address SDG-related challenges.

Based on findings from case studies,[9] interviews, workshops and extensive desk research,[10] this publication seeks to build an understanding on how blended finance can play a role in attracting commercial finance to each of the subsectors, provide examples of current good practices and trends, and distil lessons learned and emerging guidance to scale and exploit the full potential of blended finance to deliver the SDGs.

The publication is structured as follows: Chapter 1 is a synthesis chapter of the lessons learned and insights from the analysis of the three subsectors. Chapters 2, 3 and 4 lay out the underlying detailed analysis for each subsector. This includes an introduction into each subsector, a commercial investor perspective on risk, revenues and project attributes, blended finance models and insights into the impact on sustainable development, as well as subsector specific insights.

1.2. The state of the blended finance market in water and sanitation

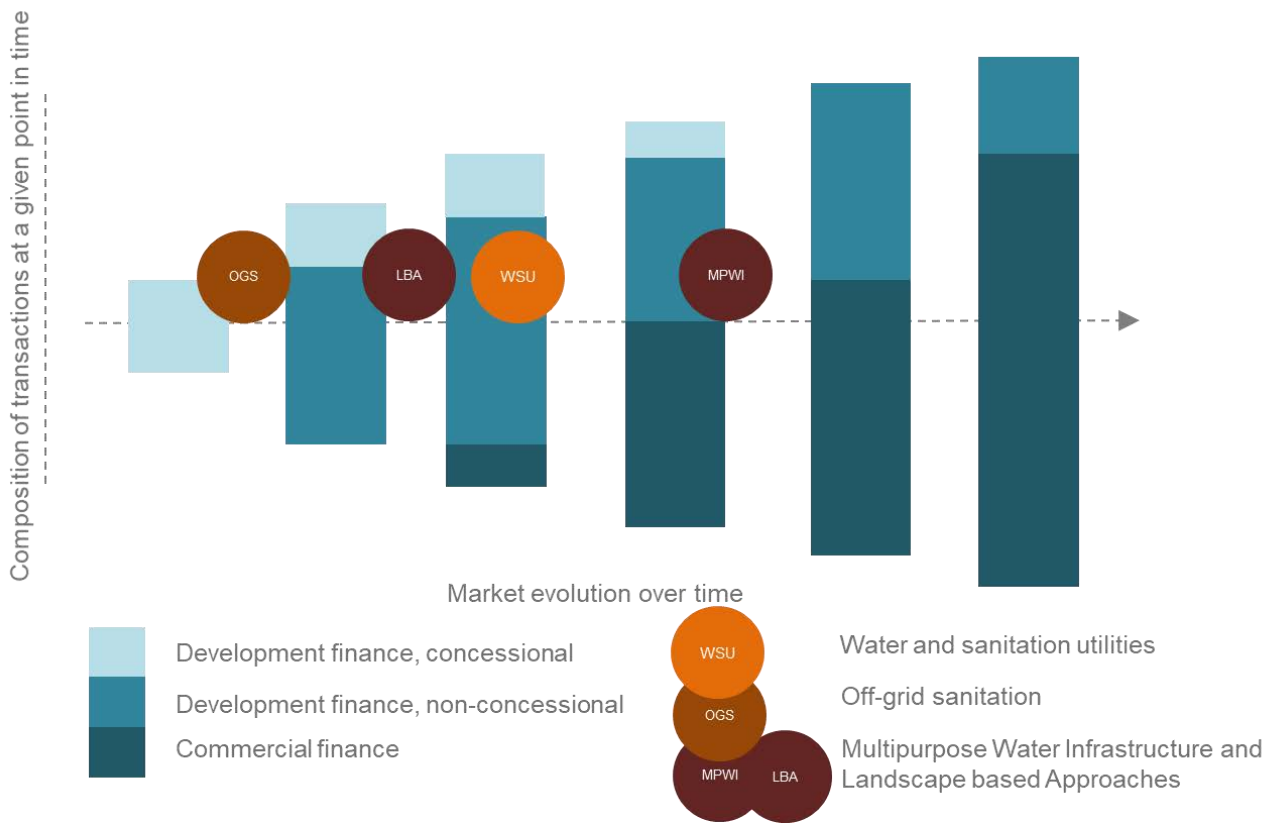
1.2.1. Blended finance models are emerging but have not reached scale

Blended finance models to mobilise additional commercial finance for water-related investments are emerging but have not reached scale. The analysis of water and sanitation utilities, off-grid sanitation, multipurpose water infrastructure and landscape-based approaches shows that this assessment varies by subsector given the heterogeneity of the operating models in each of them. In general, blended finance should aim to have a transitory nature over the long-run that works towards scaling the total financing available by crowding in the commercial finance at a transaction level. By doing so, it enables a capital market building process. Within this process, there are several stages, which characterise the interaction of development and commercial finance. Over time, there should be a shift from purely concessional development finance, to blending concessional development finance with non-concessional development finance (e.g. the blending of a donor grant facility with a development finance from public and private actors), to crowding in commercial finance (Figure 1.2) (OECD, 2018[6]). For water and sanitation-related investments, the public sector will likely continue to play a significant role in financing due to the public

good dimensions of the sector, in addition to the governments' role in infrastructure more broadly.[11] Shifting towards an increasing share of commercial finance in the sector can not only increase the total amount of financing available, but also strengthen the financing systems[12] on which these investments rely and put the sector on a more sustainable footing.

Within this spectrum of blended financing, the three subsectors are characterised by transactions that reflect different stages of financial market building. Blended models to finance utilities are emerging as an appropriate tool for creditworthy[13] or near creditworthy utilities to move away from purely concessional donor finance towards market financing. For the off-grid sanitation subsector and technologies, however, grants and concessional financing are predominant, whereas blended finance models that mobilise commercial financing are largely absent. In contrast, MPWI is a subsector where blended finance models are an established financing instrument mobilising commercial finance at scale. For landscape-based approaches, blended finance can potentially operate as a fit-for-purpose financing instrument as it brings together different stakeholders responding to their individual investment preferences, but developments remain at a very early stage.

Figure 1.2. Stylised representation of the current state of transaction level mobilisation and market evolution over time



Source: Authors based on (OECD, 2018[6])

1.2.2. Specific investment attributes are limiting the engagement of commercial finance

In order to increase the mobilisation of commercial finance, the root causes of the current low level have to be assessed from a commercial perspective. A commercial financial actor such as a bank or asset manager defines an attractive investment opportunity by its project characteristics such as risk, returns

and other attributes, including longevity or its potential to scale.[14] A variety of features undermines commercial investment at greater scale for water-related investments. These vary significantly by subsector, resulting in the need to identify tailored blended financing solutions by subsector and context linking particular investments and investor needs (Table 1.1).

A lack of sustainable revenue streams is holding back commercial investments

While the expansion of water and sanitation services is fundamental to achieve SDG 6, affordability constraints (perceived or real), particularly in lower income countries, often undercut a clear investment case. Revenues, however, are the main driver of financial sustainability and hence the potential return for commercial financiers and investors. Sustainable revenue generating business opportunities are in particular lacking for utilities and off-grid sanitation services.

Water utilities often fail to generate a sufficient revenue stream to cover operational and maintenance costs due to low rates of cost recovery and persistent operational inefficiencies. In addition, subsidies received by utilities typically benefit households that are already connected to the network, rather than those lacking access to services.[15] Pricing water and sanitation services generates revenues that can be used to maintain, renew and extend water infrastructure. If tariffs for water supply and sanitation (WSS) services are designed well, the revenues can be used to improve operational inefficiencies and to increase access to services among low-income households. In reality, however, many utilities do not fully recover operational and maintenance costs (OPEX),[16] let alone capital expenditure (CAPEX) via tariffs.

Affordability concerns (perceived or real) often lead political decision makers to keep tariffs artificially low, which contributes to the vicious cycle of decaying infrastructure and deteriorating services. Poor households are often willing and able to pay for WSS services, and water supply from a utility is often less costly than buying from private vendors. Despite willingness to pay by customers, political decision makers can be reluctant to allow utilities to raise tariffs to cost-reflective levels as they perceive this to be politically unpopular. Thus, a key barrier to expanding access to services is usually not the ability to pay for tariffs based on usage, but rather the ability to pay for connection fees (Leflaive and Horit, Forthcoming[10])(). Better targeting subsidies to extend the network to unserved customers or allowing customers to pay for connection fees over time, rather than in a lump sum can address this barrier.

In the off-grid sanitation subsector, currently, revenue streams are often insufficient to support private sector sanitation service provision. The current market structure is predominated by small, often nascent and financially unsustainable business models. Typically, social businesses provide off-grid sanitation services across the supply chain with a variety of different approaches resulting in a different revenue stream sources (see Figure 1.3). These include the sale of products like toilets, holding or septic tanks, vacuum trucks and faecal sludge treatment or reuse facilities, as well as revenue from products sold after processing of waste (compost, fertiliser etc.). Other revenue streams involve the provision of services and include user fees for toilets, the collection fees generated from off-grid waste treatment and waste treatment disposal or reuse. The pricing of the provision of off-grid sanitation services is limited by affordability. As a result, business models are not financially sustainable. For these businesses, break-even is often limited to OPEX. On the other hand, the complementary faecal sludge collection and treatment service ("waste-to-energy") constitutes a more profitable business opportunity that can become financially sustainable if a sufficient scale is reached, though this may be unachievable in smaller settlements where the number of end users is limited. In general, an observed pathway to sustainable revenues is to collaborate with local and national governments and water utilities. An example of this is the collaboration between Loowatt, a container based sanitation enterprise and the utility Laguna Water in Manila.[17] Loowatt successfully demonstrated its product and received a procurement request for toilets from the Laguna, thereby contributing to more stable and predictable revenues.

Figure 1.3. Potential revenues along the off-grid sanitation value chain

Source: Authors.

Blended finance models mobilise commercial investments in MPWI projects. As opposed to utilities and off-grid sanitation services, MPWI projects that include an energy element such as hydropower generate clear, stable and quantifiable revenue streams. This is for instance the case with tariffs and power purchase agreements (PPAs) for electricity produced or wastewater treated. The case of the expansion of the As-Samra Wastewater treatment plant in Jordan provides such an example. On the other hand, in some instances commercial investors may be reluctant to invest in multisector infrastructure as it is hard to value a project when the revenue is coming from different sources or diluted by business dimensions with less clear revenue generating opportunities.

Other project attributes are preventing commercial finance at scale

Beyond revenue-specific features that pose a challenge to commercial investment, attributes relating to risk and size include the attractiveness of water-related investments. For water and sanitation utilities, lack of creditworthiness constrains their ability to obtain commercial financing and they are often perceived as high-risk borrowers. In addition, commercial financiers have limited experience with and understanding of the sector. To palliate the risk of lending to utilities, commercial investors often offer shorter tenors (5 to 7 years) than the sector needs (at least 15 to 25 years),[18] together with high interest rates and collateral requirements.[19] Additionally, given the track record of heavy reliance on public and concessional finance, water service providers also often lack the skills necessary to support their funding applications with adequate documentation, including cost-benefit analyses and financial statements to demonstrate the level of profitability of the project. All of these elements limit utilities' ability to access commercial finance.

Off-grid sanitation businesses face challenges to generate demand for services, which is often also a reason for a lack of revenues at scale, in combination with affordability issues. For example, social enterprises providing container based sanitation (CBS) solutions in developing countries often face a dual challenge of creating the demand and building a market, and at the same time growing the business. As such, substantial resources need to be devoted to awareness raising and advocacy for this service. Public and development finance can also advance innovative faecal sludge management technologies to meet needs of communities unable to deploy conventional systems – such as in the case with Udaipur in India. The absence of a track record and knowledge base constitutes additional risks for the commercial investor. Finally, commercial investors are typically interested in large-scale investments in order to off-set transaction costs. Social sanitation entrepreneurs, however, have a limited capital absorption capacity and hence require investment at smaller scale.

In contrast, MPWI projects are typically large-scale projects that appeal to commercial investors. In addition, MPWI bring multiple actors together that contribute specific expertise in developing, financing, building and/or operating the infrastructure. In order to address the specific needs and roles, typically specialised enterprises are established (so-called Special Purpose Vehicles [SPVs]). SPVs constitute a well-known structure to commercial investors. At the same time, despite often predictable revenue streams, structural issues of large scale infrastructure projects are also prevalent in the MPWI space, including long and costly preparation, long-term financing tenors, as well as political risks which increases MPWI projects' vulnerability with respect to changing circumstances. For example, the large-scale Nam Theun 2 hydropower plant project and related environmental and social programme took over 30 years from inception to completion with numerous delays.

At the same time, a trend towards developing landscape-based approaches is emerging. MPWI projects are an established approach to deliver water-related services, typically with conventional "grey" infrastructure (conventional, built infrastructure). However, there has been an increased focus on the use of landscape-based approaches, which consider the impacts of investments within a given spatial area, e.g. catchment or basin, and often incorporate nature-based solutions. Increasingly, development actors are integrating landscape-based approaches such as integrated watershed management into their project development efforts. These efforts can provide opportunities for commercial participation, which previously did not exist. Stakeholders, such as water users (e.g. corporates with water-intensive activities in a basin) can be mobilised to finance such water-related projects. An example is Water Funds, collective investment vehicles, developed by The Nature Conservancy (TNC) and the Inter-American Development Bank's (IADB) Latin American Water Funds Partnership. Over 24 Water Funds have been set up in the region to date. The funds pool together grant funding from donors, water users, local communities and corporate entities within the spatial area or basin, to fund activities that improve water resources management, including reforestation, restoration and soil management to improve water infiltration. To date, however, these funds have not mobilised commercial finance.

Table 1.1. Summary of investment attributes across the three subsectors

Feature	Water and Sanitation Utilities	Off-grid sanitation	MPWI and Landscape-based Approaches
		Risk	
Macroeconomic and business risks	Currency risk (due to mismatch revenue and debt servicing currency), operating risk (weak performance of utilities), credit risk (inability of counterparty to honour contractual arrangements)	Currency risk (due to mismatch revenue and debt servicing currency), market risk (demand for service), operating risk (weak performance of sanitation service providers), liquidity risk (inability to exit/sell)	Currency risk (due to mismatch revenue and debt servicing currency), credit/off-taker risk (if applicable), operating risk (due to a variety of different technologies in MPWI), termination risk (risk of early termination of long-term contracts), market risk (demand for service), construction risk (if applicable)
Regulatory and political risks	Regulatory and political risk (sensitivities around water and sanitation tariffs and potential for political interference in the tariff setting process); economic regulation may be weak or absent (further, regulatory regimes may preclude the possibility of including debt service in the costs that can be covered by the tariff)	Regulatory risk (e.g. in many developing country contexts there is no regulatory environment for off-grid sanitation, political risk (in the case of government procurement contracts) and utilities may not have mandate to engage in non-sewered sanitation)	Regulatory risk (e.g. change in tariffs if any; private participation in infrastructure)

Feature	Water and Sanitation Utilities	Off-grid sanitation	MPWI and Landscape-based Approaches
Technical risks	Due to the long-lived and capital-intensive nature of water and sanitation infrastructure as well as under-investment in maintenance, performance risks may arise due to aging infrastructures, leakage and obsolesce of technologies. As water distribution infrastructure is underground and services can continue despite high levels of leakage, such degradation can go undetected for years, as rehabilitation and maintenance needs climb significantly.	Performance risk and obsolesce of utilised technology as off-grid sanitation approaches are as container based solutions (CBS) and faecal sludge management (FSM) technologies are relatively new	Obsolesce of utilised technology given the long-term nature of contracts and multitude of technologies applied.
Environmental/ social risk	Environmental risk (e.g. increasing water scarcity can lead to increase of cost of bulk water supply as a result from variability of rainfall and increasing uncertainty about future conditions). Social risks (e.g. particularly for low-income households, relative to tariff increases as a result of major new capital investments)	Environmental risk (e.g. chances of spillages of excreta of CBS and onsite sanitation)	Environmental risk (e.g. complex and costly assessment of MPWIs adherence to environmental standards; variability of availability of water resources due to climate change can reduce performance of MPWI, for example hydropower production). Potential negative environmental impacts of large MPWI, disrupting natural flow regimes that support ecosystem services. Social risk (e.g. the resettlement of households that will be flooded down stream of dams).
Return			
Cash-flow generation	Utilities collect tariffs and other payments (e.g. connection fees) from customers. Tariffs can, but in practice often do not, fully cover operational and maintenance costs and rarely cover capital expenditure. Improvements in operational efficiency can create more cash flow to invest in service expansion and increase the customer base and revenues.	Depending on off-grid sanitation model, cash flows are generated through the sale of toilets (usually paid monthly), collection fees for waste, from products sold after processing of waste, user fees for toilets and concession contracts from local governments	MPWI projects often have quite predictable revenue streams, for example in case of electricity generation tariffs or power purchase agreements (PPAs) and large scale waste treatment plants. Cash-flows generated by landscape approaches to delivering water-related services often generate cash flows within actors operating in the spatial area, including by increasing turnover, efficiencies or reducing cost and expenditures of e.g. bulk water supply.

Feature	Water and Sanitation Utilities	Off-grid sanitation	MPWI and Landscape-based Approaches
Developmental return	Improved access to water and sanitation services produce a range of valuable benefits for individuals, communities and the environment, including a reduction in adverse health outcomes, increased educational attainment (especially for girls) and enhanced labour productivity.	Can reduce levels of open defecation and improve hygiene of households leading to reduced illness. Sanitation services also improve menstrual hygiene management (which, in turn, can reduce drop-out rates of girls in school). Properly managed waste reduces the environmental impact of poorly managed sanitation.	Projects can have potentially significant economic effect on areas. Landscape-based approaches can improved water management and quality for downstream users
Project Attributes			
Greenfield vs. brownfield	Greenfield projects face additional business or technical risk due to the construction.	Not applicable given the service nature of the subsector.	Greenfield projects face additional business or technical risk due to the construction.
Scalability	Some projects and financing structures could be scaled and replicated, with adaptation to local contexts and institutional structures. Other models present limitations to replication due to specific contextual circumstances.	Off-grid sanitation models can be scaled in particular if they are seen complementary to sewered systems and as such can access a stable revenue source, e.g. a public off-taker. Any replication of project hence depends on the underlying jurisdiction and context.	MPWI and landscape-based approaches are significantly dependent on the spatial area where they are located, including the actors located in the areas. At the same time, in particular landscape-based approaches such as Water Funds have proven to be scalable and replicable when adapted to the local context.
Size	Depends on whether the water provider serves an urban or rural area. The population density of service area is a critical factor.	Small scale direct investment in enterprises.	MPWI are typically large scale projects run as Special Purpose Vehicles (SPVs). Landscape infrastructure projects tend to be smaller focusing on spatial area.
Transaction costs	High given weak capacity of service providers to maintain an asset registry and sufficient financial and accounting record keeping.	High given the opacity of small business typically low level of expertise in financing this sector.	Adapting projects to the local context comes with high project development cost.
Tenor/ Longevity	Minimum average of 15 years of debt financing for a sustainable debt service.	Varies, with the need for long term patient capital to develop and scale business models.	Long tenor of in particular MPWI public private partnerships (PPPs), e.g. 20-25 years.

Source: Authors.

1.2.3. A variety of blended finance instruments and mechanisms are already applied

Despite barriers related to the risk-return profile and project attributes of water-related investments, a variety of blended finance instruments and mechanisms are already being applied in the sector. For water and sanitation utilities, blended finance takes multiple forms in a variety of contexts. The research conducted for this report reveals varied blending experiences with different instruments (credit lines, guarantees, grants, etc.) and contexts (urban and rural; large and smaller operators). They also reveal that blending can happen at multiple entry points in the financing chain, such as upstream at the level of the lender or utility (technical assistance, loans, credit lines, guarantees), or downstream to customers (utility-based pro-poor financing schemes; access to microfinance loans). Critically, blended finance is often accompanied by technical assistance at all stages of the project.

For off-grid sanitation, grant funding appears to be the major source of finance. Philanthropic actors as the Bill & Melinda Gates Foundation (BMGF) or the Stone Family Foundation (SFF) contribute significantly in providing grant funding.[20] In addition, development agencies such as USAID or the Swiss SDC provide

grant funding for backing innovative business models in the sanitation sector. A few social impact investors provide patient capital in this sector such as FINCA Ventures and Acumen, in addition to development finance institutions. At the same time, the bulk of grant funding appears to go to a handful of well-known social enterprises. The good practice examples of innovative business models examined in this publication have often received grant funding from multiple international actors. Blended finance models to unlock commercial investment for off-grid sanitation have not yet emerged, and commercial finance from banks or investments from asset managers is largely absent from the subsector at present. An exception is the financing further downstream to customers, where microfinance plays a role in financing access to sanitation assets.

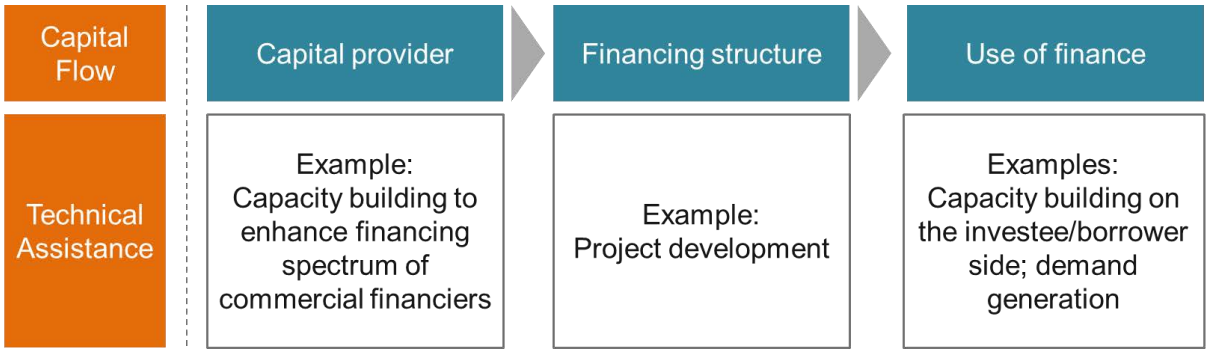
For MPWI, blended finance models are an established financing instrument for typically large scale special purpose companies directed to delivering multiple water-related benefits. Development actors engage in providing equity and debt to such companies, underwrite guarantees to mitigate risk for commercial investors, provide viability gap grant funding, or engage in project development with the ambition to mobilise commercial financing. A range of commercial actors such as Standard Chartered, BNP Paribas and ING, for example, are involved in financing the Nam Theun 2 power plant. For landscape-based approaches, blended finance can potentially operate as a fit-for-purpose financing instrument as it brings together different stakeholders responding to their individual investment preferences. Technical assistance and pooling mechanisms are prevalent blending instruments; models that mobilise commercial financing are at a very early stage.

In terms of instruments, the use of guarantees is particularly effective in mobilising commercial finance across sectors through the mitigation of financial risk resulting in lower cost of capital. As noted above, guarantees account for 41% of private finance mobilised across all sectors (Figure 1.2), which holds for the water and sanitation sector, where guarantees are also the dominant instrument with 59% of private finance mobilised. This is mirrored in the case studies included in this publication.

Guarantees are most commonly used in blended financing for water and sanitation utilities. One example is the Philippine Water Revolving Fund (PWRF), which was set up with both primary and secondary guarantees provided a combination of public and private actors. The Local Government Unit Guarantee Corporation, a private entity, provided banks with a credit risk guarantee, which is backed by a co-guarantee from the USAID-Development Credit Authority (DCA). Additionally, JICA's concessional loan to the Development Bank of the Philippines is backed by a sovereign guarantee from the Government of the Philippines Department of Finance. Guarantees have also played an important role in MPWI projects. For example, GuarantCo provides a joint partial credit risk guarantee with USAID's DCA of USD 1.8 million to Nedbank as part of the financing for the Kalangala Infrastructure project, covering the non-payment of debt service. In addition, MIGA provided USD 91 million in political risk insurance for Nam Theun 2 Power Project (MIGA, 2006[11]).

Beyond guarantees, technical assistance (TA), provided in-kind or through grants, is an integral component of blended finance arrangements across the three subsectors. Technical assistance can boost investor confidence at the capital provider level or at the investee level. It is also critical at the project development stage (see Figure 1.4 for an overview of technical assistance models for water-related investments[21]). Technical assistance is therefore an effective tool to improve the investment-readiness of water and sanitation utilities by tackling both financier and investees confidence and shortcomings and is also applied in the MPWI sector to develop large-scale projects.[22]

Figure 1.4. Technical assistance models for water and sanitation



Source: Authors.

Capacity building can enhance the creditworthiness of utilities by improving their technical and financial performance.[23] Improvements in the quality of the service provided by the utility, such as achieving water supply continuity and improved water quality standards, can lead to demand generation, improved willingness to pay from customers due to service improvements and a larger paying customer base. This, in turn, leads to increases in revenues that, if well managed, contribute to the financial sustainability of the utility. The implementation of financing schemes adapted to the needs of the poor can further enlarge the utility's customer base.

Capacity building can also change the behaviour of commercial financiers and facilitate access to commercial finance for utilities. Water and sanitation utilities have specific needs when it comes to accessing finance, in part because they require long tenors in order to service debt while maintaining affordability. In addition, they often do not have sufficient levels of operational efficiency to guarantee rapid returns on the investment. Technical assistance can play a role in helping commercial financiers adjust their lending practices by creating financial products specifically targeting the needs of the sector, including longer tenors with an adequate grace period, and reduced collateral requirements. In Cambodia, the AFD-led project was instrumental in halving collateral requirements and doubling tenors from 5 to 10 years inclusive of a 12 months grace period. In doing so, commercial financiers diversify their portfolios of projects, thus reducing the risk of their overall investment portfolio risk.

TA is crucial to develop and fund large-scale MPWI projects that can attract commercial finance, particularly in the project development phase. For example, the Private Infrastructure Development Group's (PIDG) Technical Assistance Facility supported the development of the Kalangala Infrastructure Services (KIS) projects, a project that updated the water and transport infrastructure of Kalangala and which mobilised over USD 6 million commercial finance from the Nedbank Group. In addition, technical assistance from The Nature Conservancy (TNC) and the IADB has played a critical role in the creation and project investments of Water Funds, which are landscape-based approaches to mobilise local actors to finance watershed improvements across Latin America. Grant funding is also used for project development in the off-grid sanitation sector. Innovative financing models such as development impact bonds are increasingly explored to attract additional finance, for instance by Social Finance UK for the scaling up of faecal sludge management (FSM) services.

1.3. The potential of blended finance for water-related investments

1.3.1. Addressing operational bottlenecks can spur the uptake of blended finance instruments and mechanisms

Harness the opportunity to mobilise local commercial actors

Blended finance for water-related investments reinforces the need for, and benefits from, tailoring blended finance to the local context. In general, blended finance should aim to build local capital markets by working with and mobilising local financiers, as highlighted in the OECD DAC Blended Finance Principles.[24] Simultaneously, this approach addresses issues related to currency mismatches, when debt and revenues are generated in different currencies. Water and sanitation services and water resources are, by definition, locally sourced and provided.[25] These characteristics emphasise the need to work closely with local actors and align with local development needs. The local grounding of blended finance models spurs the opportunity to mobilise local actors.

Leveraging local commercial stakeholders with a stake in improved water resources management (e.g. agricultural producers, food and beverage companies, mining companies and other water-intensive industries) can be effective in financing landscape-based approaches. Landscape-based approaches to finance water resources management integrate and leverage the local perspective by definition. Local actors benefit from improved quality and reliability of water resources upon which local commercial players rely and these actors are well positioned to participate in financing infrastructure projects that integrate landscape-based approaches. Improved water resources management, better sanitation services or cheaper electricity could benefit those corporates operating in the area. For example, food and beverage companies, breweries or utilities operating within the river basin and relying on water resources may not have to finance their own water treatment plants if the quality of the resources improves. Hence, it is possible to demonstrate the business case for and direct financial impact of improving water resources management. This is also reflected in the observation that, in current financing models, grants are often sourced from commercial actors who are water users in the basin. Heineken, for example, invests in the Monterrey Metropolitan Water Fund (FAMM) in Mexico, where it operates a brewery.

Understand business models and revenue streams across the supply chain and develop matching blended finance approaches

The water and sanitation service value chain offers a variety of entry points where revenues can be generated and which can be targeted by blended financing approaches (see Figure 1.4).

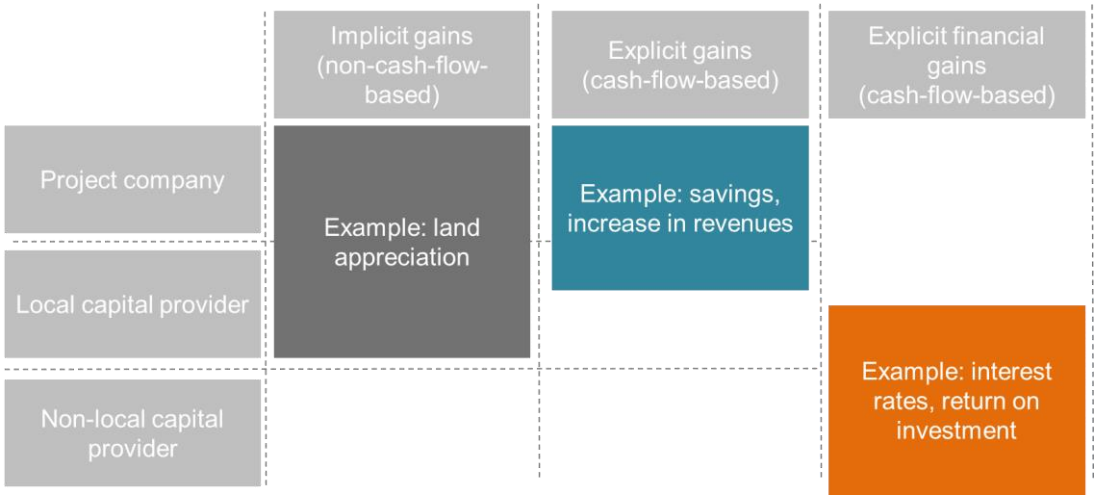
In the off-grid sanitation subsector, the provision of sanitation services in developing countries is crucial for sustainable development but financially unattractive at this stage due to unstable and limited revenue generating capacity. The complementary “treatment” business, including faecal sludge collection and treatment service (“waste-to-energy”) constitutes a more profitable business opportunity if a minimum scale is reached. However, the two services are often valued separately, even if not delivered from two different enterprises and therefore it may be appropriate to combine them. For example, the enterprise Sanergy operates across the supply chain, but with two distinct entities for each market segment; e.g. it provides sanitation services with its non-profit arm as well as faecal sludge treatment services as a for-profit business. Currently, philanthropic actors provide grant funding to the not-for-profit sanitation business pillar (usually the provision of toilets), and development finance institutions (DFIs) provide loans to the faecal sludge treatment and processing business. While the sale of reuse may still not cover a substantial portion of the operating sanitation budget (World Bank, 2019[12]), blended concessional finance models may play a role in scaling integrated business models that link the provision of sanitation to the treatment dimension by valuing them across the supply chain. Blended financing models could bring the two sides together by working towards scale by leveraging clearer revenue proposals to attract commercial finance, while using

concessional development finance to back the underlying sanitation business. The concessional element may work towards building the market and to help enterprises achieve scale and ultimately attract commercial finance. That is, government or philanthropic grant facilities could be blended with development or commercial actors' resources to generate investment opportunities in the long run.

Landscape-based approaches can capture additional revenues and returns across the value chain to raise further types of financing. That is, successful landscape-based blended finance approaches can unlock commercial investment by applying an integrated approach across the value chain of water-related investments. Explicitly valuing the benefits of water-related investments and related beneficiaries can create more opportunities to profitable investments by monetising often implicit returns in addition to more explicit returns.

Explicit gains can occur directly in the project company/investee but also indirectly, within actors operating in the spatial areas e.g. a higher turnover or lower expenditures because of better watershed management in the area. These explicit returns can be accompanied by more implicit benefits, e.g. land and other asset appreciation for actors operating in the spatial area. By strategically linking these returns to an investment, local actors may be mobilised into providing capital in improvements in water resources management that spur such operational benefits. An example is the Water Funds endowment model, where commercial actors provide non-repayable capital and do not get any return on investment. Potential reflows and returns are reinvested in watershed management activities that benefit downstream water users. The profitability of such capital provision does not necessarily emerge from the revenues generated and profit accrued by the project itself, but by its impact on actors in the spatial area reliant on water resources. Development finance remains crucial in setting up such complex structures that take into account the needs of different commercial actors as well as the different sources and expectations regarding returns (see Figure 1.5).

Figure 1.5. An investor perspective on return sources in landscape-based approaches



Source: Authors.

While models that mobilise funding from local stakeholders have emerged, stronger efforts are needed to better understand how commercial finance from local as well as non-local financial actors can be raised for such projects. For instance, financial institutions, local or international, are not accruing any implicit benefits of improved water-related services in the spatial area. However, external financing would be needed to scale and replicate successful models. That is, they need to realise explicit financial returns, for instance in the form of interest rates, which can put an additional burden on the project or company. Guarantees on debt service coverage or partial credit risk coverage by official actors could, for instance, play a role in mobilising commercial lending from local and international financial actors to project

companies realising projects that result in water-related benefits, which in turn can strengthen their balance sheets.

Alternatively, equity instruments can be a successful instrument to mobilise commercial investment for landscape-based approaches. By definition, loans are fixed income instruments meaning that the interest rate does not mirror the underlying performance of the investee but is set *ex ante*. Consequently, the investor's participation in the performance of the investee is limited, which at the same time holds for the investor's exposure to losses. Implicit returns such as land appreciation, however, are not reflected in the return on debt financing. Blended models that introduce a shareholding perspective to the provision of financing can make a profitable business opportunity. In New Zealand, the Waikato River Authority introduced hybrid bond financing mechanisms that exhibit debt characteristics with a stable – and officially guaranteed - interest payment and at the same time equity characteristics by sharing the gains in land value with the investor. This OECD country example's replicability in developing countries has to be assessed. It spurs innovative thinking around overcoming the structural issues around landscape-based approaches.

Explore the development of a portfolio of projects to address selected unfavourable project attributes

Providing commercial investors access to a variety of different transactions in the water and sanitation sector can mitigate concerns around small ticket size, risk exposure, limited sector or regional knowledge as well as high transaction cost. Pooling mechanisms such as blended finance funds tailor different risk and return profiles for individual investors, with development financiers often taking first loss and junior traches buffering the risk for commercial investors in the senior tranches. Guarantees can moreover strategically mitigate portfolio risk. WaterEquity, for example, is a dedicated fund manager providing loans to a portfolio of microfinance institutions (MFIs) that on-lend microfinance loans for the purchase of water supply and sanitation assets. The set-up of a blended funds should be further explored in the sanitation space. Private equity fund models providing early stage, patient capital, or expansion financing could address a seemingly missing middle between grant funding and concessional debt financing. In financing landscape-based approaches, Water Funds are an established pooling model to mobilise grant funding from corporates. Finally, equity investing pooling mechanisms could be further explored to mobilise commercial investment into landscape-based approaches, which is currently absent.

Design blended finance to build markets - and incorporate its subsequent exit

Blended finance is not about fixing particular issues in underlying business models, nor is it only about filling a financing gap. It is a transitory market building tool that is designed to enable stand-alone commercial investment in the long-run, by providing confidence, capacities and track record in markets where commercial investors are not yet investing. Water and sanitation utilities that are moving towards creditworthiness can benefit from the elaboration of well-targeted blended financing strategies, for instance in support of improving their operational efficiency and financial sustainability. The experience of Water.org with Indonesia's Batang District utility suggests that not every water provider will be ready to immediately harness blended finance; a more phased approach may often be needed to ensure that the target institution is ready to manage commercial or blended solutions and their associated levels of complexity. In this context, the use of blended finance can facilitate market building because these utilities lack sufficient cost-recovery capacities to independently be financially sustainable, as well as the creditworthiness required to obtain commercial financing.[26]

At the same time, excessive reliance on concessional finance can inadvertently crowd out commercial finance. This can create market distortions that impede greater accountability and financial sustainability of the sector. For example, water and sanitation utilities with easy access to concessional finance have

weak incentives to undertake the strengthening of their financial position required to access commercial finance.

The transitory nature of blended finance should be reflected in the phasing out of the concessional element, if any, followed by a phasing out of any development actor participation. A discussion on an exit strategy should be integrated in any programme design. For instance, in the case of Cambodia, AFD will soon initiate the phasing out of concessional finance from the Facilitating Access to Finance project as all funds available have been disbursed. Technical assistance has been key to risk reduction and to lowering borrowing costs for water service providers. Exit thus comes with specific challenges, to diffuse the technical assistance costs between the lender and the borrower without significantly raising the cost of the loan.

Co-ordinate stakeholders for the success of blended finance models

A lack of co-operation among the various stakeholders in blended finance transactions and programmes can constitute a barriers for the broader uptake of blended finance. Due to differing interests and mandates in blended arrangements, it is important that commercial actors, including private entities and private financing institutions, are involved from the project preparation phase of the project, together with all other stakeholders. This can ensure that all stakeholders have had a chance to participate in the negotiation regarding the options of viable instruments suitable to the different types of finance providers, that all agreements are concluded at the earliest stages, and that all information about the project is well communicated among all parties. Several blended finance arrangements suffer from significant delays at the onset of the project because of a lack of co-ordination and shared vision between stakeholders. The Jamaica Credit Enhancement Facility was delayed by two years because of lingering foreign exchange negotiations and procurement issues. The Kigali Bulk Water Supply also incurred delays due to disagreements over the currency of the loans as well as a late notice from regulators that they did not support the impact on water and sanitation tariffs. By contrast, in the case of the PWRF the effective donor co-ordination (between JICA and USAID) was instrumental in achieving complementary partnerships and defining innovative project concepts. Participating development agencies capitalised on their respective expertise and identified synergies to optimise the implementation of the project. This effective co-ordination built on a longstanding partnership between the two agencies, and was facilitated by frequent communications efforts. Co-ordination is thus essential to minimise delays in the implementation of the projects and ultimately avoid a rise in transaction costs.

1.3.2. Policy level considerations to make blended finance work for SDG 6

Design blended finance in conjunction with efforts to improve the enabling environment

Blended finance instruments and approaches cannot replace efforts to establish a robust policy and regulatory framework that water-related investments require. Due to the public good dimension of services provided and the monopolistic characteristics of service provision, the sector requires a strong regulatory and policy framework to function well. Moreover, water resources are a common pool resource, which requires robust allocation arrangements as well as policies and regulations to manage water quantity and quality (OECD, 2015[4]). A weak enabling environment characterised by poorly designed or absent regulation, policy settings (e.g. water prices and tariffs), and institutional arrangements constrains commercial investment (Pories, Fonseca and Delmon, 2019[13]). Blended finance cannot compensate for an unfavourable enabling environment, but rather needs to be accompanied by efforts to promote a stable and conducive policy environment.

For utilities, providing the financing needed to upgrade and expand their services is necessary, but it is not sufficient to make a blended finance arrangement work. Improving the enabling environment is equally important. Supportive policy reforms can increase water service providers' credit worthiness. For example,

the government of the Philippines implemented policy reforms in the water and sanitation sector, including Republic Act 9275 in support of the implementation of the Clean Water Act and Executive Order 279, which shifts financing of creditworthy utilities to market and cost-based lending from banks. These regulations were instrumental in transferring utilities' demand for financing away from public sources. This not only avoided the crowding out effect, but also encouraged commercial financiers to extend their portfolio, diversifying their risk profiles and strengthening their capacity. While the PWRF stimulated private sector lending, continuing this innovative financing scheme depends on efficient implementation of policy reforms and market conditions.[27] Likewise, Jamaica's existing water and wastewater tariffs and the creation of the K-Factor system are evidence of the government's commitment to supporting the expansion and upgrading of its wastewater sector and of efficient communication and cooperation between government agencies, the National Water Commission, and the National Environment and Planning Agency. The Jamaican government also showed a strong will to reduce environmental degradation from untreated effluents through the 2013 wastewater and sludge reform, the 2015 ratification of the Cartagena Convention and associated technical agreement, and the alignment between its ambitions and the Caribbean Regional fund for Wastewater management (CReW) fund mandate. Under the second phase of the project, *Reforms for Wastewater Management*, additional tools were developed to further assist the government in improving the supporting environment.

In order to scale water-related investments, policy-related bottlenecks have to be addressed. In the case of MPWI, the Millennium Challenge Cooperation (MCC) designs its compacts , for instance in the case of Jordan, in conjunction with the governments to make MPWI most beneficial for the population but also vis-à-vis private investors. In the sanitation sector, a conducive policy and regulatory framework in developing countries could help container based sanitation (CBS) providers in moves towards reaching scale and provide greater clarity for investors. For example, CBS sanitation company X-runner, which operates in Peru, is unable to sell the compost it produces after treating faecal sludge on the open market as the legal framework does not exist – there are currently not faecal sludge treatment facilities in Lima and Peruvian law does not cover the reuse of faecal sludge produce (World Bank, 2019[14]).

Increase transparency to make a valid business case for commercial investment

Commercial investors are cautious about uncertainty regarding any of the risks related to an investment opportunity. With adequate contractual arrangement or blended instruments and mechanisms, it is possible to mitigate a variety of risks, share the remainder with the public sector or commercial co-investors, or take a certain level of risk on the financier's own book. However, in order to make such an informed assessment, risks associated with an investment should be transparent and hence quantifiable. For example, social and environmental risk assessments are inevitable to better understand the potentially negative social and environmental impact of large-scale MPWI projects. At the same time, such assessments are rather costly and lengthy. Development actors could engage in bringing their expertise to the table in conducting and financing such assessments, e.g. as in the case of Nam Theun 2 where the World Bank played a key role in developing and monitoring the environmental and social programme alongside the provision of financing.

In general, there is a need for more rigorous measurement, monitoring and evaluation of the development impacts of blended finance investments beyond the measurement of financial performances in order to prevent "impact" washing (OECD, 2019[15]). The development impact of water and sanitation projects with their public good nature is often complex to assess, in particular in large-scale multi-purpose water infrastructure projects. There is not coherent and common approach to measure incremental, causal and attributed impacts of specific investments. As this is not only the case in the water and sanitation space, efforts are ongoing that aim to establish common impact measurement and management frameworks.[28]

Transparency comes into play also in the project-tendering phase, when development actors need to understand with whom to work on the commercial actor side and vice versa. It is important for the commercial actor to understand the variety of blended models available.

Establish policy-level co-ordination and co-operation processes for blended finance

Co-ordination among development finance actors to co-operate on their blended finance engagements is a key success factor for the market building aspect of blended finance, in particular when a concessional element is involved. Development financiers should co-ordinate more structurally beyond single transactions. While there is general agreement about the need for improved co-operation, actions on the ground may remain fragmented. Blended finance should be part of the development of sector financing strategies and national investment plans related to SDG 6. Dedicated fora to discuss blended finance as an element of an explicit financing policy as well as issues around concessionality and crowding-in commercial finance are needed. Co-ordination on blended finance in water and sanitation will complement and link with several on-going international policy discussions related financing water. The Roundtable on Financing Water - a joint initiative of the OECD, the World Water Council, the Government of the Netherlands and the World Bank launched in 2017 - provides a global public-private platform with the aim to accelerate and scale up financing for water investments that contribute to sustainable growth. The Roundtable benefits from a strong engagement of several development finance institutions, a range of private financers and their institutional partners. Links to geographical efforts as the joint Arab Co-ordination Group (ACG) - OECD Development Assistance Committee (DAC) ACG-DAC Task Force on water and sanitation to achieve greater effectiveness and sustainable impacts in this sector should be explored.

Table 1.2. Blended finance for water and sanitation case studies undertaken

Case	Description	Country	Financing Sources	Financing Structure and Instruments used	Potential impact
Water and sanitation utilities					
Kigali Bulk Water Supply	Construction of a water treatment plant.	Rwanda.	Private Infrastructure Development Group (PIDG): Technical Assistance Facility (TAF), Emerging Africa Infrastructure Fund (EAIF), DevCo; African Development Bank (AfDB).	Grants, Technical Assistance (TA), Debt, Equity.	Clean water supply to 500 000 inhabitants of Kigali.
Water.org	Scaling up microfinance loans in water and sanitation.	Indonesia, Philippines.	Water.org through philanthropic donations; local micro-finance institutions (MFIs).	TA.	Access to financing through WaterCredit loans for water and sanitation investments, Increased access to water and sanitation.
Jamaica Credit Enhancement Facility	Pilot of a credit enhancement facility.	Jamaica.	Global Environment Facility (GEF) Caribbean Regional fund for Wastewater management (CReW); K-Factor revenue reserve account.	Guarantee.	Pilot of a credit enhancement facility; Construction or rehabilitation of 8 wastewater treatment plants.

Case	Description	Country	Financing Sources	Financing Structure and Instruments used	Potential impact
Philippine Water Revolving Fund	Expand the loan portfolio of local banks to water and sanitation utilities.	Philippines.	Japan International Cooperation Agency (JICA), Development Bank of the Philippines, Private Finance Institutions, USAID-Development Credit Authority, Local Government Unit Guarantee Corporation.	Primary and Secondary Guarantees, Debt, Credit Line, Collective Investment Vehicle (CIV).	Expansion of utility services.
Access to Finance Project	Increase access to commercial finance of small-scale private water and electricity providers.	Cambodia.	Agence Française de Développement / French Development Agency (AFD), European Union, World Bank Water and Sanitation Program, Foreign Trade Bank (FTB).	Grants, TA, Credit Line, Guarantee.	Expansion and upgrading of rural utilities.
Blue Credit Line	Setting up of a credit line for water and sanitation projects	Morocco	European Investment Bank, AFD, BMCE Bank of Africa	Credit Line, TA	Increased operational efficiency of utilities
Water Operators Partnership	Cross-border technical assistance provision	Globally		TA	Increased operational efficiency of utilities
Cotonou Storm Water Management Project	Upgrading of the drainage, water and wastewater infrastructure in Cotonou	Benin	European Investment Bank	Debt	Reduced flood risk and impact on public health
Small-scale off-grid sanitation, wastewater collection and treatment					
Watercredit/WaterEquity	Scaling up microfinance water and sanitation loans.	Various		Debt	Increasing household access to water and sanitation.
Wai and Sinnar, two towns in India	Pilot of scheduled desludging and integrated waste treatment.	India	CEPT University, Bill & Melinda Gates Foundation, Municipal government and State Government of Masharawarta	Grant, TA	Demonstration of an approach for small and medium towns in India to achieve universal sanitation
Udaipur	Facilitating investments in waste treatment plants.	India	Bill & Melinda Gates Foundation, Centre for Policy Research India, Verdata	Grant, TA	Improving city level service coverage of safe waste disposal and reuse.
Multipurpose water infrastructure and landscape-based approaches					
Songwe River Basin	Development of integrated industrial irrigation, water supply, and hydropower projects.	Tanzania/Malawi	SIWI, Government of Tanzania, Government of Malawi, African Development Bank, private investors	Grants, TA, Debt	Enhanced food and energy security for the basin communities.
Nam Theun 2	Construction of a large scale hydropower plant as part of economic growth and poverty reduction plans.	Lao People's Democratic Republic	Government, World Bank, EIB, Thai Banks, Nam Theun 2 (SPV)	Debt, Equity, Guarantees	Funding for poverty reduction programmes from revenues and increased economic growth in the region.
MCC Jordan Compact	Expansion of As-Samra Waste Treatment plant and watershed management projects.	Jordan	Government of Jordan, MCC, Suez, Arab Bank	Grant, Debt, Equity	Increasing access to clean water and improving sludge management and

Case	Description	Country	Financing Sources	Financing Structure and Instruments used	Potential impact
					disposal processes.
Kalangala	Upgrading water/transport infrastructure and investment in renewables	Uganda	PIDG, local government, Nedbank	TA, Debt, Equity, Guarantee	Increasing access to safe water supply and access to basic infrastructure.
City of Tshwane	Large scale municipal water conservation, water demand management and cost recovery programmes	South Africa	DBSA, Infrastructure Investment Programme of South Africa, Private Investors	Grant, Debt	Reduced water losses in the distribution system, reduction in over consumption and improved billing and cost recovery rates
Latin America Water Fund Partnership	Pooled funding for effective watershed management across Latin America through landscape-based approaches.	Latin America	IADB, TNC, Global Environment Facility (GEF)	Grant, TA, CIV	Increasing water security for towns across Latin America.
Kafue River Basin	Funding water projects within Kafue River Basin including a wastewater treatment plant	Zambia	The World Wide Fund for Nature (WWF), Government of Zambia, FMO and private sector	Grant	Increasing food and water security for basin communities.

Source: Authors.

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Notes

[1] This includes both Official Development Assistance (ODA), i.e. government aid with the main purpose of targeting economic development and the welfare of the developing country that are concessional in character, as well as other official flows (OOF), i.e. flows that do not meet ODA criteria, for instance in respect to concessionality.

[2] Further, in terms of distribution of blended finance across geographies, recent evidence shows that in the period 2012-17 only 6% (or USD 9.3 billion) of private finance was mobilised in Least Developed Countries (LDCs), whereas over 70% went to middle-income countries (OECD/UNCDF, 2019[8]).

[3] Blended finance is only one tool in development actor's toolbox and should be only applied when it leads to the maximum development outcomes, compared to other instruments available (see also (OECD[16])).

[4] See Annex A for further background on blended finance as well as blended finance instruments and mechanisms.

[5] No sector level data was available for the International Finance Corporation (IFC) for the year 2016-17.

[6] See, for example, (Leigland, Trémolet and Ikeda, 2016[20]), *Achieving Universal Access to Water and Sanitation by 2030: The Role of Blended Finance*, the World Bank Global Water Practice.

[7] Phase I of this research included extensive engagement and consultation at several events including: A presentation of a subsector scoping note at Stockholm World Water Week 2018, an OECD investor breakfast in September 2018, a joint conference with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) on "Closing the financing gap for water in line with SDG ambitions: The role of blended finance" from 4-5 October 2018, written consultation with key stakeholders on the subsectors of focus, and a presentation of preliminary findings and plans for Phase II at an OECD/Sida hosted experts' meeting as part of the OECD Private Finance for Sustainable Development Week.

[8] These subsectors are not mutually exclusive. Notably, water and sanitation utilities can play a role in delivery off-grid sanitation; multipurpose water infrastructure can include the delivery of water supply, sanitation and treatment services among other functions.

[9] An overview of case studies included in this publication can be found in Table 1.2.

[10] Phase II of the process and the analysis of this publication included requests for case studies of good practices from key stakeholders in the water and sanitation sector. Where possible these were followed up by interviews with experts and relevant officers, the OECD undertook phone interviews. The provisional findings of the report were presented at an OECD/Sida workshop for feedback and consultation as part of the Sustainable Development Investment Partnership (SDIP) Development Day at the side of the World Bank/International Monetary Fund (IMF) Spring meetings in April 2019.

[11] Blended finance in general is a tool in a toolbox including a whole variety of possibilities to fund projects. That is, public budget funding for instance remains an alternative, which blended finance does not aim to replace. Blended finance should be the financing tool of choice if it maximises development outcomes and impact, compared to other sources.

[12] This includes stronger accountability mechanisms between the lender, borrower and the beneficiaries of service delivery.

[13] Creditworthiness is not an abstract indicator that can be assessed in isolation of lending opportunities. In practice, it is measured against potential debt service payments from a commercial source and thus varies according to specific lending terms.

[14] These features are decisive in addition to investor individual preferences, as for example a geographical or sectoral focus.

[15] For further discussion, see: (Andres et al, 2019[18]) "Doing More with Less: Smarter Subsidies for Water Supply and Sanitation." Washington, DC; World Bank.

[16] Operational expenditure is accounting terminology and refers to business expenses that relate to operations, such as the cost of providing water supply, including salaries or energy. Capital expenditures (capex), on the contrary, refer to purchases of new assets, i.e. expansion or improvement of assets.

[17] Laguna Water is a piped water service provider jointly owned by the Provincial Government of Laguna (30%) and Manila Water Philippine Ventures (70%), owned by Manila Water Company a subsidiary of Ayala Corporation.

[18] Notably, many types of water infrastructure are very long-lived, with an economic life that can extend to 80-100 years or more, longer than most other public utility sectors (Hanemann, 2006).

[19] Collateral may include land titles or other forms of property provided by the borrower (rather than water infrastructure assets *per se*). See, for example, the case study on Cambodia.

[20] While philanthropic actors are very active in funding the sanitation sector, water and sanitation represents a minor share of overall philanthropic funds for sustainable development. OECD data shows that out of USD 6.1 billion provided for sustainable development by 26 foundations in 2017, USD 122 million are provided to water and sanitation, about 2%, see https://www.slideshare.net/OECDdev/private-philanthropy-for-development-2017-oecd-data.

[21] The OECD includes technical assistance in the set of blended finance instruments if related to a specific transaction or project (for more information, please see (OECD, 2018[6]).)

[22] Developing a continuous pipeline of projects remains challenging and requires close collaboration with governments, as well as subnational levels, given the cross-cutting nature of many MPWI projects.

[23] It is important to note that an effective regulatory environment, including cost-reflective tariffs, is a major component of the creditworthiness of utilities.

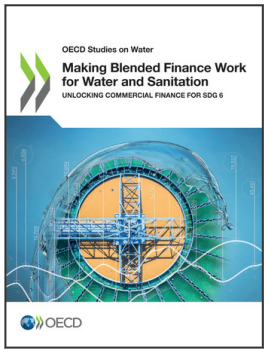
[24] (OECD, 2017[16]), OECD DAC Blended Finance Principles, https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/OECD-Blended-Finance-Principles.pdf

[25] At the same time, due to the public good dimension of water and sanitation services and the common pool nature of water resources, the sector requires a robust regulatory and policy framework to function well. However, in practice in many countries, that framework is weak or absent.

[26] In addition, credit ratings (or viable alternatives) can provide valuable information to potential lenders and investors regarding the creditworthiness of borrowers. For further discussion in the WASH context, see: (Pories, Fonseca and Delmon, 2019[13]).

[27] Building up on lessons learned from the PWRF, the Philippines has been implementing the Unified Financing Framework, its new financing policy with support from the World Bank and USAID. The new policy aims to: (i) align lending and financing policies to crowd in commercial financiers; (ii) rationalise government financing to non-creditworthy utilities; and (iii) establish an independent economic regulator and set pricing policy for wastewater management services.

[28] The OECD is a member of the Impact Management Project (IMP), a multi-stakeholder effort working towards a common framework. Moreover, under the Tri Hita Karana Roadmap (THK) for Blended Finance, which brings together blended finance stakeholders, a working group dedicated to the impact of blended finance is addressing that topic specifically for the blended finance space (see Annex A for further background on the THK Roadmap).



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