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MEETING THE CHALLENGE OF FINANCING WATER AND SANITATION

Key messages

- Water and sanitation services (WSS) generate substantial benefits for human health, the economy as a whole and the environment. WHO estimates that meeting the water and sanitation MDGs would lead to a benefit to cost ratio of 7 to 1.
- However, the investments needed to deliver sustainable water and sanitation services, including the funds that are needed to operate and maintain the infrastructure, expand their coverage and upgrade service delivery to meet current social and environmental expectations, are huge. A recent OECD study found that the capital required globally to finance investment in key infrastructure will amount to about USD 75 trillion to 2030, with nearly half of it for water and sanitation.
- Yet, most systems are underfunded with dire consequences for water and sanitation users, especially the poorest. Closing the financing gap will require countries to mobilise financing from a variety of sources, which may include reducing costs, increasing the funding from the 3Ts (tariffs, taxes and transfers) and mobilizing repayable finance, including from the market or from public sources.
- Planning for the right balance between all these sources of revenues calls for strategic financial planning, so as to evaluate the potential for mobilising financing from each source of revenues as well as reducing costs.
- To provide support to governments and water and sanitation service providers, the OECD (in conjunction with a number of other international organisations) has developed a series of tools, including financial tools, benchmarking tools and guidelines with a view to improve the performance of utilities. These tools are presented in a new report "[Meeting the challenge of financing water and sanitation – Tools and approaches](#)".

WSS generate substantial benefits for the economy

Water and sanitation services (WSS) generate substantial benefits for human health, the economy as a whole and the environment. Access to clean drinking water and sanitation reduces health risks and frees-up time for education and other productive activities, as well as increases the productivity of the labour force. Safe wastewater disposal helps to improve the quality of surface waters with benefits for the environment (e.g. functioning of ecosystems; biodiversity), as well as for economic sectors that depend on water as a resource (e.g. fishing, agriculture, tourism).

Such benefits usually outstrip the costs of service provision and provide a strong basis for investing in the sector. For example, in developing countries, WHO has estimated that almost ten per cent of the global burden of disease could be prevented through water, sanitation and hygiene interventions. Health benefits are only a small portion of overall benefits, however. WHO estimated that meeting the water and sanitation MDGs could generate about USD 84 billion per year in benefits, with a benefit to cost ratio of 7 to 1 (table 1). Of those benefits, three quarters would stem from time gains, the rest being driven by reductions in water-related diseases.

Table 1. Overall benefits from meeting the MDGs in water and sanitation

Type of benefits	Breakdown	Monetised benefits (in USD)
Time savings from improved water and sanitation services	20 billion working days a year	USD 63 billion a year
Productivity savings	320 million productive days gained in the 15-59 age group 272 million school attendance days a year 1.5 billion healthy days for children under 5	USD 9.9 billion a year
Health-care savings		USD 7 billion a year for health agencies USD 340 million for individuals
Value of deaths averted, based on discounted future earnings		USD 3.6 billion a year
Total benefits		USD 84 billion a year

Source: Prüss-Ürstün et al, 2008, based on an evaluation by Hutton and Haller (2004).

For such benefits to be generated sustainably, investments in a whole range of services alongside the WSS value chain need to be carried out. Providing access to the services is usually considered as a main entry point (as reflected in the definition of the Millennium Development Goals or MDGs) but a whole range of other investments need to be carried out in order for access to be provided in a sustainable manner. These range from protecting freshwater resources to building storage capacity or water transport networks all the way to investments into safe disposal, treatment or re-use of wastewater. Once built, the infrastructure needs to be adequately maintained and operated, with components renewed in a timely manner, so as to provide sustainable, affordable and reliable access to water and sanitation services.

In most countries where the “access gap” is still large, providing access to water services could deliver substantial benefits, particularly if combined with sanitation and hygiene education. The cost-effectiveness of such investments is high, especially for lower-cost investments such as hygiene promotion or on-site sanitation.

In countries where “access” is no longer the most important issue, investments in WSS are also essential in order to ensure that benefits from existing infrastructure continue to be generated as well as to meet a number of environmental objectives. In many EECCA countries, for example, a sharp deterioration in service levels implies that “having a water tap does not necessarily mean having sustainable access to safe drinking water”. Cross-contamination between water and sewerage networks, due to high levels of leakage can have serious effects on public health. In OECD, benefits from generalising wastewater treatment can be substantial, although there is some evidence of diminishing returns beyond a certain point when increasing wastewater treatment standards.

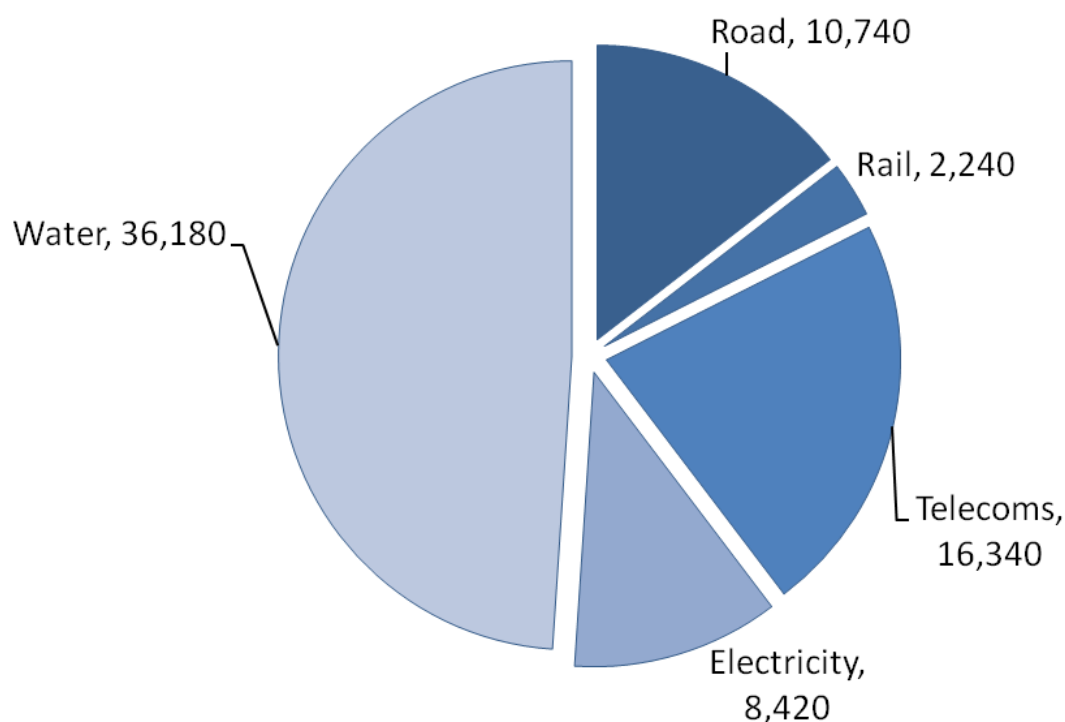
Deriving global estimates of such benefits, although potentially useful from a global policy point of view, is complicated by the fact that the magnitude of these benefits can be highly dependent on local conditions and investment sequencing, amongst other factors. If access to water is provided without corresponding investments in sanitation, for example, this can generate temporary disbenefits, as abundant water supply can create pools of stagnant waters mixing with excreta and other types of waste (such as grey waters). Sanitation without adequate wastewater treatment can also generate disbenefits if it transforms diffuse pollution into point-source pollution.

Investments needed to generate these benefits are large in both OECD and developing economies

Substantial investments are needed in order to deliver expected benefits from WSS. Key challenges include the need to expand access to water and wastewater services (particularly in developing countries but also in some OECD countries), invest in replacing and maintaining ageing infrastructure and address water security and environmental concerns. Throughout the world, the challenges of providing access to safe water and sanitation are further accentuated by increasing demands from other water uses due to a variety of factors, such as population increase, agricultural water needs for food production, rapid urbanisation, degradation of water quality, and increasing uncertainty about water availability, potentially exacerbated due to climate change. Addressing these challenges will require both large capital investments for new infrastructure, ongoing investments in maintenance, repair, upgrading and operation of existing facilities.

Despite a high initial asset base, developed countries confront huge costs of modernizing and upgrading their systems. The global capital costs of maintaining and developing WSS infrastructure in OECD countries plus the BRICs has been estimated at between 0.35 to 1.2% of their GDP. This corresponds to total projected annual needs of around USD 780 billion by 2015 and USD 1 037 billion by 2025, up from a current estimated expenditure on water infrastructure of USD 576 billion annually (figure 1).

Figure 1. Global Investment needs



Source: OECD (2006a)

In transition economies, the need for maintaining and upgrading existing infrastructure is combined with sometimes significant needs to expand coverage and address the challenges of poor governance, institutional inefficiency and the deterioration of the asset base.

In developing countries, extending access should remain a key priority. There is a broad range of estimates for the costs to reach the MDGs, depending on the assumptions used on the types of investment made. According to the GLAAS report (UN-Water, 2010), the global cost estimates for meeting the drinking water and sanitation MDG target range from USD 6.7 billion to USD 75 billion per year, i.e. USD 33.5 billion to USD 375 billion by 2015. Current financing allocations will not be sufficient to meet the MDGs. According to OECD (2009a), roughly a doubling of the annual rate of investment is needed.

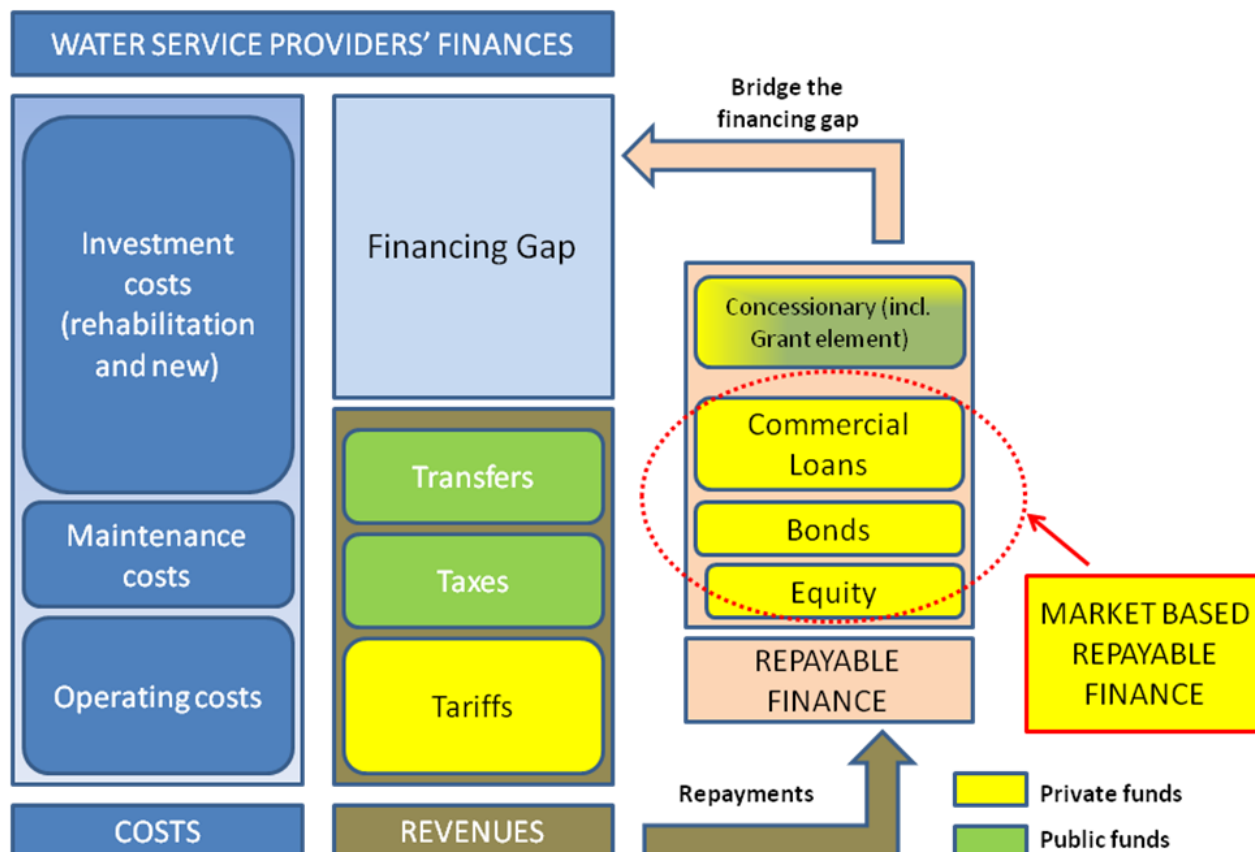
Tariffs are a preferred funding source, but public budgets and ODA will have a role to play, too

Closing the financing gap will require countries to mobilise financing from a variety of sources, which may include reducing costs (via efficiency gains or the choice of cheaper service options), increasing the basic sources of finance that can fill the financing gap, i.e. tariffs, taxes and transfers (commonly referred to as the “3Ts”) and mobilizing repayable finance (including loans, bonds and equity either from the market or from public sources) in order to bridge the financing gap (figure 2).

Defining how these various sources of finance can be combined should be done based on Sustainable Cost Recovery (SCR) principles. SCR entails securing future cash flows from a combination of the 3Ts, and using this revenue stream as the basis for attracting repayable sources of finance – loans, bonds and equity,

depending on the local situation. This is a key departure from earlier concepts of Full Cost Recovery (FCR) which implied that tariffs alone should be sufficient to cover all costs. In practice, particularly in poor countries where affordability is a significant constraint, SCR implies that public spending will often be required to complement revenues from tariffs, at least for a transition period.

Figure 2. Sources of Finance for WSS

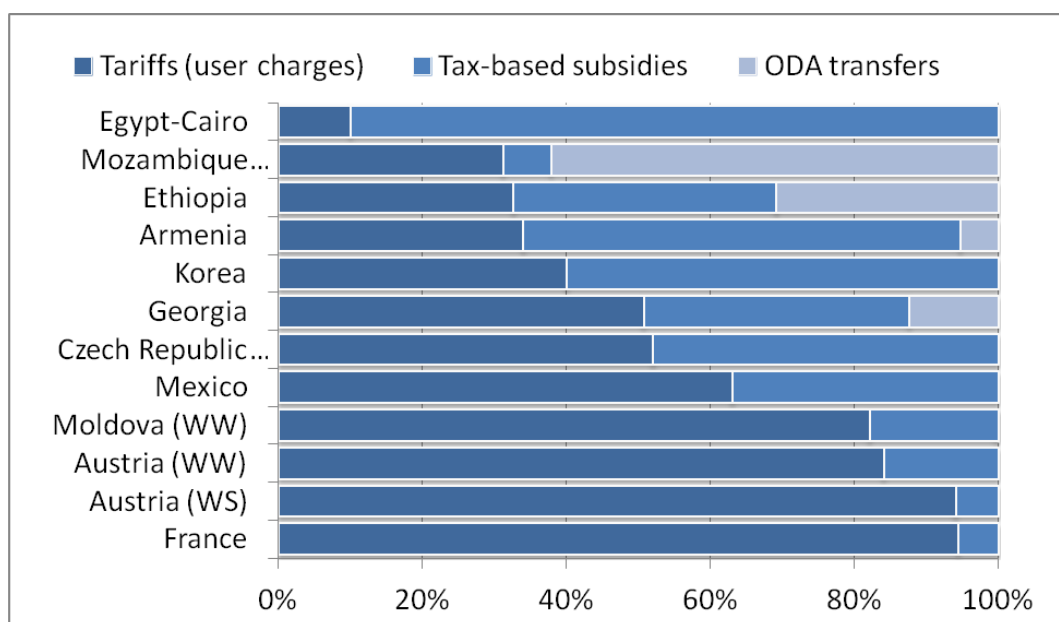


Source: OECD (2010b)

Each country is likely to adopt a different mix of the 3Ts to meet WSS’s financing needs. Most countries have used public transfers (either from their own government or from external sources) to fund the development of WSS, particularly for capital expenditure (figure 3). As countries develop and WSS systems become more mature, there tends to be a shift towards more use of commercial finance, reimbursed by growing cash flows from user charges (i.e. tariffs). For example, whereas tariffs represent 90% of direct financial flows to the sector in France, they only account for about 40% in Korea, 30% in Mozambique or as little as 10% in Egypt (OECD, 2009d).

The mix of the 3Ts that is adopted by each government can have a substantial impact on the efficiency of the services. For example, in the US, switching from grant financing for capital investment (as used in the 1980s) to reliance on subsidised loans with long tenures and low interest rates (from the 1990s) brought significantly improved capital investment efficiency. This underlines the importance of strategic financial planning to find the right mix of the 3Ts for achieving water and sanitation targets and leveraging repayable sources of finance (OECD, 2009a).

Figure 3. Share of tariffs, taxes and transfers in funding water systems in various countries



Source: OECD (2009a)

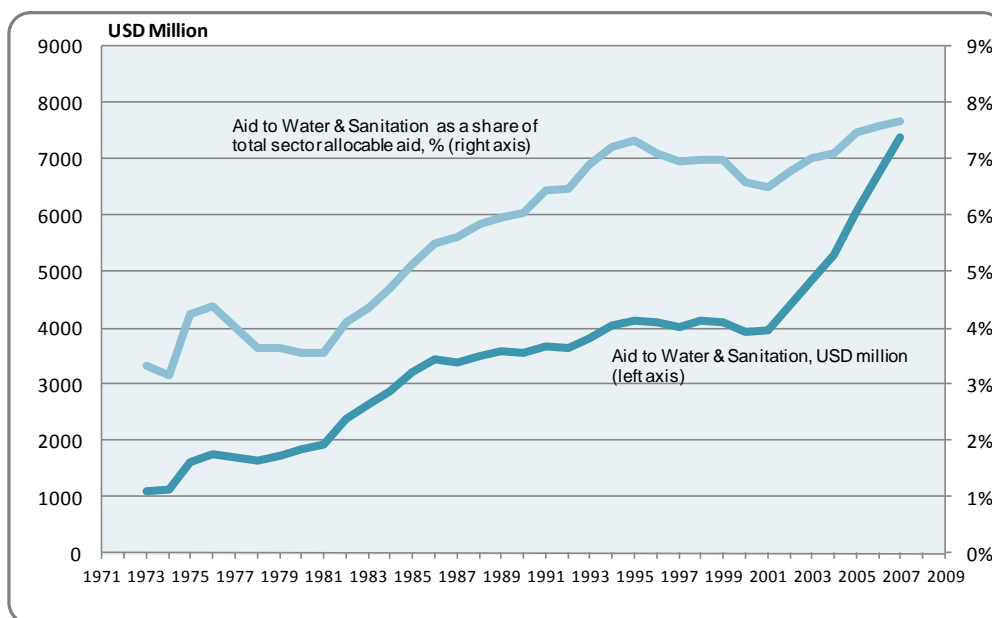
Any strategic financial planning (SFP) exercise should start with evaluating the potential for generating financial resources via reducing the costs and improving the efficiency of existing water systems, as inefficiencies are often responsible for important losses within the sector. The scope for making such gains is particularly high in developing countries. Choice of hardware and technologies can also make big differences to costs. For example, the per capita cost of household connections is over three times higher than the costs of a stand post in Africa and Latin America.

Tariffs can provide an important source of revenues, although the potential for raising tariffs depends on affordability constraints. Apart from a few exceptions, in OECD countries, operating costs are by and large covered by tariffs but the coverage of capital costs varies substantially. WSS tariffs represent only a small share of average household incomes in OECD countries (ranging from 0.2% in Korea to 1.2% in Poland) although these average figures hide substantial variations, with areas of significant “water poverty”. In developing countries, cost covering tariffs are much less prevalent, despite the fact that there are many cases where consumers could afford to pay much more. For example, in Egypt the average user charges for WSS represent less than 1% in household expenditure. However, there are also many places where serious household affordability issues prevent further increases, unless social protection measures are being introduced (OECD, 2009).

Public budgets still represent an important share of revenue for the WSS sector and are likely to play a significant role for the foreseeable future. This is especially true, where household affordability is an important constraint. In order to be efficient and effective, however, subsidies should be predictable, transparent, targeted and ideally taper off over time. Whilst public funds are limited by budgetary constraints and multiple demands from other sectors, there is scope for increasing public budget spending. In particular, several developing countries only allocate a small portion of their GDP to the water and sanitation sector. Amongst the countries that had responded, Burkina Faso was the country that spent most on water and sanitation combined as a percentage of its GDP (with an estimated 3% of GDP), whilst countries with the lowest expenditure on the sector as a percentage of their GDP included South Soudan, Côte d’Ivoire but also the Philippines. . In the context of the economic crisis, tax transfers are only likely to surge where stimulus packages target the water sector.

Official Development Assistance in the form of grants may be able to play a role in *closing* the financing gap in transition and developing countries, while concessional loans are a potential substitute or complement for market-based repayable finance that helps to *bridge* the financing gap. The share of ODA to water and sanitation varies across recipient countries. In some countries ODA subsidises most investments, while in others it plays a more marginal role. ODA has an important role to play both as a source of finance and of capacity development for the provision and financing of water services. It can also have a catalyzing effect by reducing bottlenecks (particularly capacity constraints), ensuring access to the poor, and harmonizing and aligning assistance with national strategies. After a temporary decline in the 1990's, aid to water and sanitation has risen sharply since 2001 (figure 4). In 2007-08, total annual average aid commitments to water and sanitation amounted to USD 7.4 billion. As noted in OECD/WWC (2008), bilateral aid to water increased at an average annual rate of 24% over the period 2002-2006 and multilateral aid also rose by 21% annually.

Figure 4. Volume and share of aid to water and sanitation



Source: OECD-DAC (2010)

There are, however, issues with the way ODA is currently being allocated, with some countries receiving a disproportionate share when compared to their needs, and imbalances between urban and rural areas within a particular country, for example. In times of economic crisis, ODA is likely to be increasingly needed to fill the gap and a number of international organisations have indeed seen a growing demand for their services. Given rising pressures on public finances in donor countries, however, total ODA resources for the sector are unlikely to grow significantly which means that these scarce resources will need to be spent strategically, so as to maximise their leveraging capacity and effectiveness. Areas where ODA can have a catalysing effect include supporting the financial planning process, ensuring access to services by the poor and supporting the development and use of risk-management mechanisms that can help attract private funding.

Market-based repayable finance can help to cover high up-front capital investment costs

Private funding, referred to as “market-based repayable finance”, can come in the form of debt finance (including loans from commercial banks or microfinance institutions, bonds issued through capital markets, project finance) and equity finance (from private businesses, capital markets or private equity funds). Debt financing has been the backbone of most infrastructure investment in developed countries. In developing countries, water companies traditionally rely on bank loans to finance capital investments (especially concessional loans from development finance institutions) but other forms of finance, such as bond finance, project finance or equity finance (table 2) are gradually emerging with some isolated examples, usually in countries where capital markets are comparatively developed, such as in India, Brazil, the Philippines or South Africa.

Financial innovation can play a major role to increase the attractiveness of the WSS sector for market-based repayable finance, and ODA can play a catalytic role in this area. Examples of such innovation can include the blending of public and private finance or the use of public guarantees (to reduce the costs of borrowing). Given that most WSS operators tend to operate at the local level, they may face difficulties due to the lack of financing opportunities at sub-sovereign level. Such constraints can be overcome in a number of ways, including through the issuance of municipal bonds, the establishment of pooled funds or mechanisms to increase lending at the sub-sovereign level (such as guarantee funds). Other types of initiatives, such as the development of credit rating systems or the establishment of project preparation facilities, can help with increasing transparency and improving the quality of projects seeking financing, given that the “lack of good projects” is often cited as a major constraint.

Table 2. Examples of innovative financial mechanisms in the water sector

<i>Critical mismatch</i>	<i>Examples of innovative financial mechanisms</i>
Affordability constraints at household level	<ul style="list-style-type: none"> • Blending grants and repayable financing • Micro-finance • Output-based aid
Limited availability of funds for domestic operators and SSWSPs	<ul style="list-style-type: none"> • Micro-finance • Output-based aid and innovative contract
Risk profile and difficulties in managing certain risks (e.g. political risk, foreign exchange risk)	<ul style="list-style-type: none"> • Blending grants and repayable financing • Guarantees and risk insurance • Devaluation backstopping facility • Local-currency financing • Revenue agreements in lieu of guarantees
Lack of funds at decentralised level	<ul style="list-style-type: none"> • Municipal bonds • Pooled funds, revolving funds and bond banks • Instruments to increase sub-sovereign lending
Short tenor of available financing	<ul style="list-style-type: none"> • Guarantees • Equity contributions
Under-capitalized balance sheets	<ul style="list-style-type: none"> • Raising equity to strengthen the balance sheet, convertible loans, debt-equity swaps, “asset-light” expansion models
Lack of understanding by external lenders and investors	<ul style="list-style-type: none"> • Blending grants and repayable financing • Credit ratings • Project preparation facilities
Lack of “bankable” projects	<ul style="list-style-type: none"> • Project preparation facilities

Source: OECD (2010b)

The private sector, as such, is unlikely to bring significant financing without an adequate business environment, in particular an adequate institutional and regulatory framework, as well as sustainable cost-recovery. Earlier expectations that introducing private sector participation into the management of WSS companies in developing countries would help attract financial resources to the sector have materialised in some countries but not everywhere. On the other hand, there is strong evidence that the private sector is effective at controlling costs and achieving efficiency gains, which can be a major source of savings for the sector and an important step towards financial sustainability and creditworthiness, so as to strengthen the sector’s ability to mobilise repayable finance.

Strategic Financial Planning and other OECD tools can help Governments move forward

The extent to which each source of finance can generate additional funds will be highly location-specific and depend on the overall environment and on the willingness of governments to set realistic objectives and to adopt reforms so as to improve the efficiency and creditworthiness of existing service providers.

Governments have to set realistic objectives for the development of the WSS sector, checked against available resources, and agreed in a multi-stakeholder policy dialogue (a process termed “strategic financial planning, or SFP”). Strategic financial planning must be carried out in the context of broader sector planning that address roles and responsibilities of government agencies, policy priorities and related legislative and regulatory reforms in order to ensure that a package of measures that can realistically be financed is being put forward.

Countries where most benefits are to be reaped, i.e. where the access gap is the largest, are also the ones where the financing gap is the most glaring and will be most difficult to fill/bridge. Where the financing gap remains substantial, public funding (in the form of domestic government funding or ODA) could potentially play a critical role in terms of leveraging other forms of finance and in providing protection for the poor. This would be where reforms to improve the effectiveness of service delivery and lowering of capital costs would be most needed.

Box 1. Evaluating the financing gap in Sub-Saharan Africa: the Africa Infrastructure Country Diagnostic

A recent comprehensive review on the state of infrastructure in Sub-Saharan Africa was carried out by the Africa Infrastructure Country Diagnostic project, a multi-donor initiative led by the World Bank. For the water and sanitation sector, the study evaluated the financing gap to reach the MDG target and how such gap could be filled from existing or future sources.

Estimating current spending. The report found that existing spending on water supply and sanitation in Sub-Saharan Africa is USD 7.9 billion. The report found that household contribution to on-site sanitation facilities was higher than public spending either from public budget or ODA sources (0.3% of GDP spent by households on building latrines every year as opposed to 0.2% allocated by governments and 0.2% coming from ODA respectively). As such, they found that households contributed to almost half of total capital investments in the sector. Contributions from private sector operators were found to be negligible, with local capital markets contributing next to nothing to the WSS sector in Sub-Saharan Africa and little prospect for doing more.

The cost of reaching the MDGs. The report estimated that the price tag for reaching the MDGs for both water and sanitation in Sub-Saharan Africa would reach USD 22.6bn per year, or 3.5% of these countries GDP. For improved water alone, it would be USD 17 billion a year (roughly 2.7% of SSA's GDP). Given the substantial access gap remaining in SSA, AICD (2010) estimated that capital investment needs for new infrastructure and rehabilitation of existing ones would account for over two thirds of total investment needs in some countries.

Where will the money come from?

The report then sought to estimate how the financing gap could be reduced, from a variety of sources, including the elimination of inefficiencies. Table 3. (p. 12) shows the results of this evaluation.

For example, the report estimated that losses associated with tariffs set below cost-recovery levels amounted to USD 2.7 billion a year in Sub-Saharan Africa and impeded service expansion. Improving cost recovery of water utilities could reduce the gap by USD 1.4 billion a year, and addressing operating inefficiencies would bring an additional USD 1.2 billion a year.

However, the report concluded that even if major sources of inefficiencies were eliminated, the remaining funding gap would still be large, particularly in low-income countries. The report estimated that there was limited scope for increasing existing sources of finance, particularly domestic public finance and self-financing by households, which were both likely to be affected by the ongoing economic and financial crisis. They concluded that two realistic options to meet the targets would be to either defer the attainment of the infrastructure targets or to try and achieve them by using lower-cost technologies.

The AICD report shows a wide range of fiscal efforts on water supply and sanitation throughout Africa. If the average is close to 0.9% of GDP, several countries find possible to reach more than 2% of GDP spend on the sector. This leaves room for potential improvement in the other countries.

Source: Ghosh Banerjee and Morella (2010). See also www.infrastructureafrica.org/aicd/ for more information on the overall Africa Infrastructure Country Diagnostic (AICD) project.

Table 3. Funding gap (US\$ million per year)

	Total needs	Spending traced to needs	Gain from eliminating inefficiencies	Sources of inefficiency			(Funding gap) or surplus
				Under-execution of budget	Operating inefficiencies	Under-pricing	
Sub-Saharan Africa	-22,640	7,890	2,877	168	1,259	1,450	-11,873
Low-income, fragile	-4,531	441	471	6	106	358	-3,620
Low-income, nonfragile	-7,810	1,840	685	39	265	381	-5,285
Middle-income	-3,987	2,637	1,037	8	492	537	-312
Resource-rich	-6,364	1,753	522	137	172	214	-4,089

Source: Ghosh Banerjee and Morella (2010)

The water and sanitation sector must include a full range of financing approaches, making the most of potential efficiency gains, adjusting targets and combining funding from both public and private sources, in order to meet its investment needs and successfully maintain and expand service. To achieve this, policy makers and water service providers need to engage in a process of strategic financial planning so as to identify what needs to be financed, how much additional resources can be generated from existing sources and how the performance of utilities can be improved to generate such efficiency gains and mobilize external financing.

Information on some of these financing sources tends to be patchy, however, which makes it difficult to reliably evaluate the gap between needs and available funding. For example, some financial information is available for central government and external donors spending, but information on subnational and local government expenditures is seldom aggregated at a national level. In addition, because funding for sanitation and hygiene is often spread over several different institutions, budget data are less available for sanitation and hygiene than for drinking water. Data on private sector investments (ranging from large private operators, informal providers, households or remittances) is notoriously difficult to collect, although they potentially represent an important source of funding for the sector.

To provide support to governments and water and sanitation service providers, the OECD (in conjunction with a number of other international organisations) has developed a series of tools, including financial planning tools for national and local governments (such as the FEASIBLE financial model and the Multi-year Investment Planning tool), as well as for water utilities, benchmarking and performance tools (such as IBNET and the Guidelines for Performance-based contracts) and a Checklist for Public Action on private sector participation. These tools have been successfully tested and used in a number of OECD and developing countries (see Table 4). They have proven to provide economics-based analysis and approaches capable of supporting sound policy dialogue and decision-making that moves the reform agenda forward.

Table 4. OECD Water Tools and their use in support of policy dialogues

Tools	Objective	Use
Strategic Financing Planning, (FEASIBLE tool)	Help developing and transition countries that wish to engage in a reform process for the water and sanitation sector with structuring a constructive policy dialogue, by defining realistic infrastructure targets and sustainable sources of funding, while taking into account affordability constraints for households and public budgets.	The methodology was used by the OECD/EAP Task Force , the World Bank, DEPA/DANCEE, the European Commission and the EUWI Finance Working Group in Armenia, Bulgaria, Cambodia, China, Egypt, Georgia, Kazakhstan (at the national level and in one province), Kyrgyzstan, Lesotho, Moldova, Turkey, Russia (in 6 provinces), Ukraine and others (click this link for more information).
Financial Planning Tool for Water Utilities (FPTWU)	Assist water utilities to achieve medium to long-term operational and financial sustainability through thorough investment planning.	The tool was developed and pilot tested in the Kyrgyz Republic for Bishkek water utility in 2005. Two additional pilot projects were carried out in Armenia and in Chisinau (Moldova).
Multi-Year Investment Planning Tool for Municipalities	Provide municipalities with a process and a tool for selecting strategic investment projects in a long-term perspective that achieves the largest possible benefits (financial, social, ecological and others).	The tool has been implemented in a number of local governments in Central and Eastern European countries, including in Russia and Ukraine.
Guidelines for Performance-based contracts	Support governments in designing performance based contracts between municipalities and water utilities and identify good international practices and standards for such contractual arrangements.	The tool has been used in several municipalities/water utilities in Armenia, Kazakhstan and Ukraine.
Checklist for Public Action for Private Sector Participation in Water Infrastructure	Help governments and other stakeholders to assess and manage the implications of private sector participation in the financing, development and management of water and sanitation infrastructure.	The checklist has been used in Egypt, Lebanon and Russia in 2009-2011. Under way in Mexico and Tunisia.

For further information on OECD work on financing water and sanitation: see: www.oecd.org/water, and to access the full report “[Meeting the challenge of financing water and sanitation – Tools and approaches](#)” (OECD, 2011).

Relevant OECD reports

- OECD (2003), *Social Issues in the Provision and Pricing of Water Services*, OECD, Paris.
- OECD (2006a), *Infrastructure to 2030: Telecom, Land, Transport, Water and Electricity*, OECD, Paris.
- OECD (2006b), *Keeping Water Safe to Drink*, OECD Policy Brief, March 2006, OECD, Paris.
- OECD (2007), *Infrastructure to 2030, volume 2, Mapping policy for water, electricity and transport*, Paris.
- OECD (2008), *Private Sector Participation in Water and Sanitation Infrastructure*, Draft Paper for the Global Forum on International Investment, 27-28 March 2008.
- OECD (2009a), *Managing Water for All: An OECD Perspective on Pricing and Financing*, OECD, Paris.
- OECD (2009b), *Strategic Financial Planning for Water Supply and Sanitation, A Report from the OECD Task Team on Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation*, OECD, Paris.
- OECD (2009c), *Private Sector Participation in Water Infrastructure, OECD Checklist for Public Action*, OECD, Paris. Specific country policy dialogues on private sector participation are available at www.oecd.org/daf/investment/water.
- OECD (2010a), *Pricing water resources and water and sanitation services*, OECD, Paris.
- OECD (2010b), *Innovative Finance Mechanisms for the Water Sector*, OECD, Paris.
- OECD (2011a), *Benefits of Investing in Water and Sanitation: an OECD Perspective*, OECD, Paris.
- OECD (2011 forthcoming), *Financing Water Resources Management*, OECD, Paris.
- OECD-DAC (2009), *Measuring aid to water and sanitation*, December 2009, OECD, Paris.
- OECD-DAC (2010), *Financing Water and Sanitation in Developing Countries: the Contribution of External Aid*, OECD, Paris.
- OECD/EAP Task Force, Ministry of Finance and Economy of the Republic of Armenia, (2004), *Financial Strategy for Urban Wastewater Collection and Treatment Infrastructure in the Republic of Armenia* (in English and Russian) prepared by COWI Moscow.
- OECD/EAP Task Force (2006), *Financing Water Supply and Sanitation in Eastern Europe, Caucasus and Central Asia*, OECD.
- OECD/EAP Task Force (2007), *Implementation of a National Finance Strategy for the Water Supply and Sanitation Sector in Armenia, Assisting the Armenian Water Authorities to Make the Best Use of Available Resources*, OECD, Paris.
- OECD/EAP Task Force in co-operation with the European Commission (2008), *National Policy Dialogue on Financing Rural Water Supply and Sanitation in Armenia*.
- OECD/EAP Task Force (2007), *Financing Water Supply and Sanitation Sector in Moldova: Executive Report*.

OECD/EAP Task Force (2008), *Facilitating policy dialogue, and developing a National Financing Strategy for Urban and Rural Water Supply and Sanitation in Moldova*, Presentation Report, 2008.

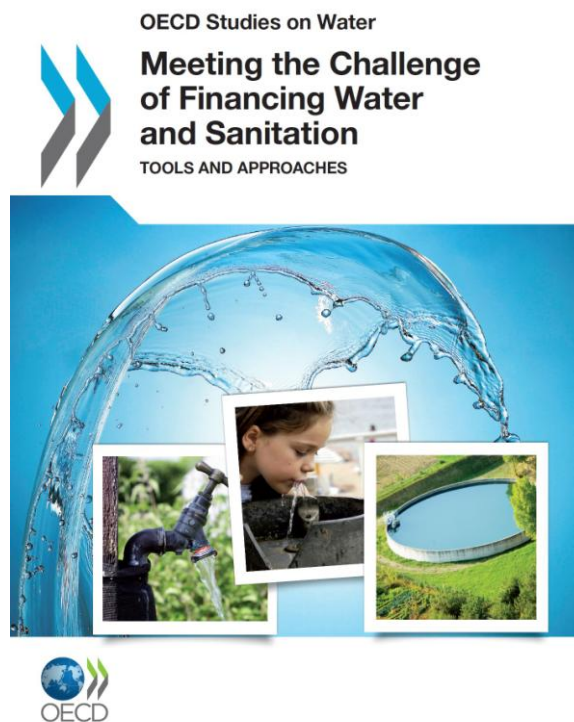
OECD/World Water Council (2008), *Creditor Reporting System on Aid Activities 2008: Aid Activities in Support of Water Supply and Sanitation*.

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