

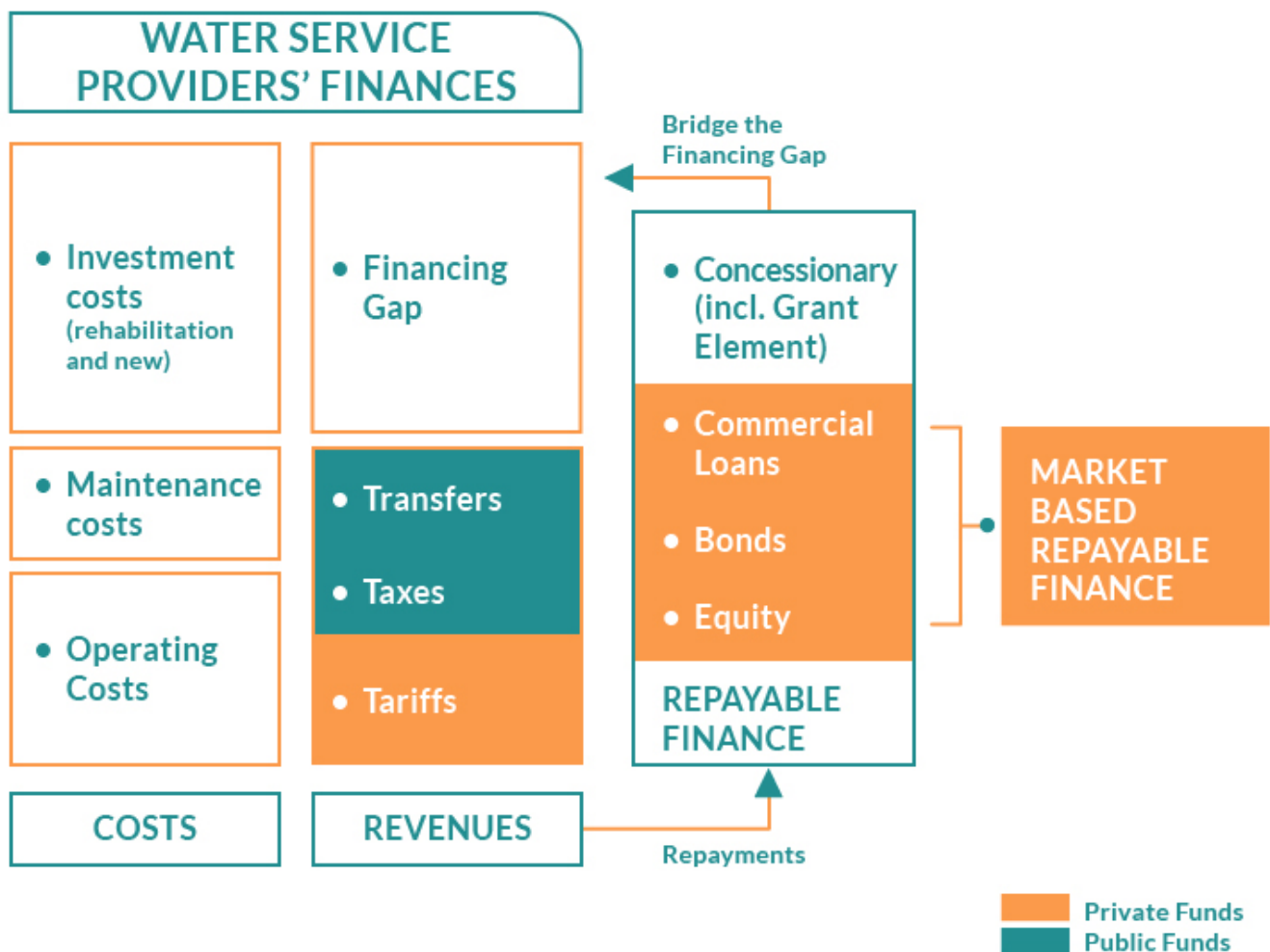


# Repayable sources of finance for water

**According to the “3Ts” model (tariffs, taxes, and transfers), a country should enhance and consolidate its stream of basic revenues and use them to leverage repayable financing sources for water projects with high upfront investments. These resources, which are not alternatives to the 3Ts, are used to close the financial gap that cannot be covered in the short term by these funding instruments. This Tool describes how financing works from the perspective of different types of service providers, details and differentiates between loans, bonds, vs equity, discusses key risk management strategies and the use of guarantees for credit enhancement, and provides key reflections and lessons on the use of repayable sources of finance in the water sector.**

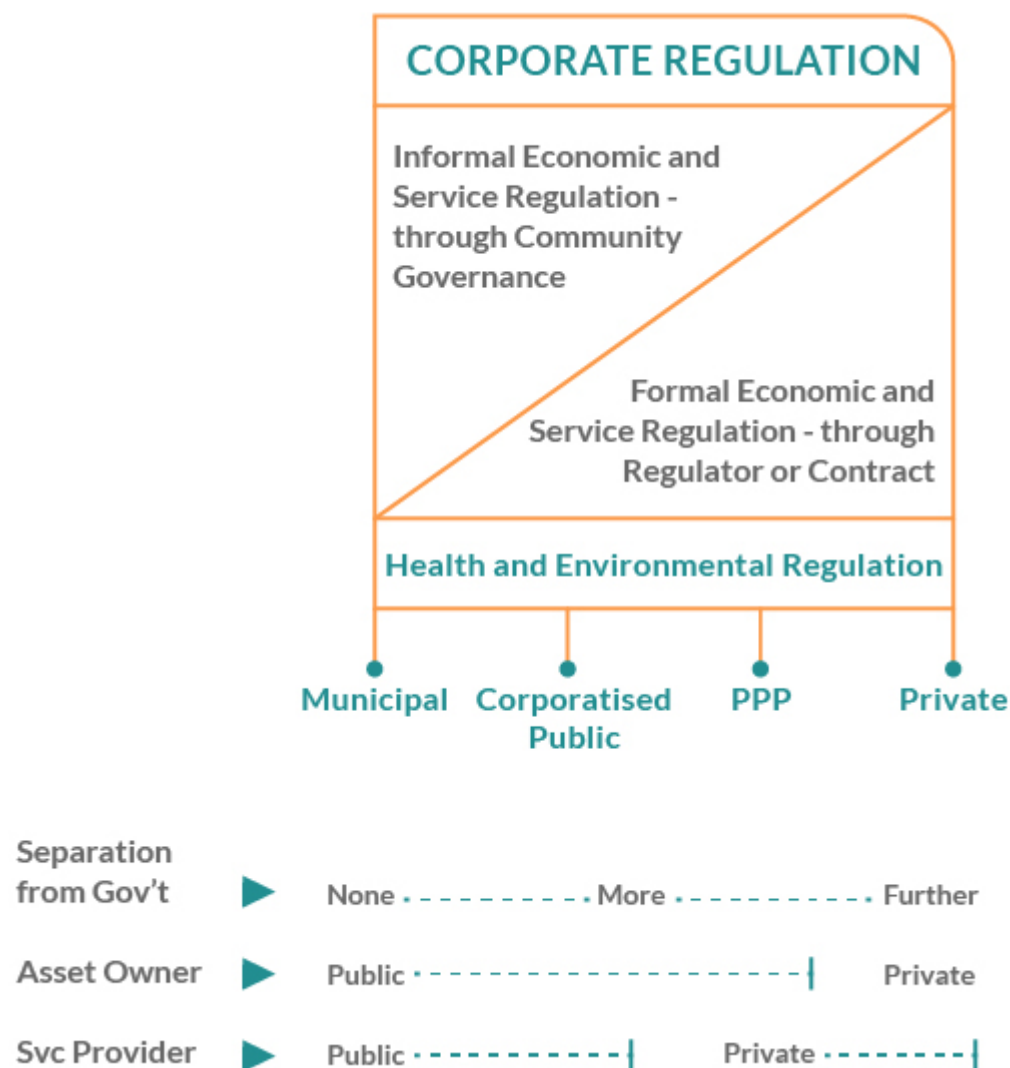
## **How Financing Works for Different Water Services Providers**

Private or public water and sanitation service providers need financial resources to make infrastructure investments with high upfront costs and to operate and maintain them. This means utilities need to leverage investment capital and working capital through loans, bonds, and/or equity, known as repayable finance mechanisms (Figure 1). The main source of capital are development banks (national or international), financial institutions (such as commercial banks), and institutional investors (sovereign wealth funds, insurers, pension funds, private equity funds, endowment funds, among others). International development banks, such as World Bank, Interamerican Development Bank, African Development Bank, Asian Development Bank, and European Bank for Reconstruction and Development played a key role in promoting private participation in water provision.



**Figure 1.** How Repayable Finance Works (Adapted from [OECD, 2010](#)).

Water service providers can be either public or private companies depending on institutional arrangement society has agreed on and the values it has decided to pursue to achieve a desired social outcome. Rouse (2013) identifies four business models: municipal, corporatised public, private-public partnerships (PPP), and private. They differ in terms of “the degree of separation from government, asset ownership, and whether the [provider] is public or private” (Rouse, 2013; see Figure 2). This classification is not broad enough to include community-based organisations, that is, when communities organise to provide water themselves without the intervention of government (Bakker, 2010). Under Rouse’s parameters of classification, the latter are fully private, however, ownership is collective.



**Figure 2.** Main Business Models for Water Service Providers (Adapted from [Rouse, 2013](#)).

Each of these business models has specific features that make them more or less attractive for investors. For example, the public and corporatised models are more suitable for indirect investments such as loans or bonds. Governments may take credits directly from development banks or commercial banks on behalf of the public agency in charge of supplying WASH. Corporatised public utilities may also issue bonds and back them with a “sovereign guarantee” (a financial clause by which the national government assumes the service of debt in the case of default). On the other hand, PPPs and private utilities are more interesting for private financiers. The former is a hybrid in which assets ownership is retained by the state (local, regional, or national governments) while management is transferred to a private provider that has as a main driver is to profit from operating water infrastructure ([Marin, 2015](#)). Both PPP and private utilities may also be recipients of loans and bonds and, in some cases, they might also issue equity through a public offering, in the local stock exchange, or privately, for specific investors.

A key aspect to attract financing sources for any of these types of service provider is “creditworthiness”. This is a measure of a borrower’s ability and willingness to service its debt obligations. To be creditworthy, a utility must demonstrate a reliable stream of positive cash flow from operations as well as sufficient cash reserves in the case that future cash flows are not sufficient. The degree of creditworthiness is judged through a valuation performed by lenders or independent parties to determine the borrower’s potential for

defaulting on its debt obligations. There are various tools available for assessing credit, from creditworthiness indexing to shadow ratings to credit ratings ([World Bank, 2017](#)).

### Types of Financing Instruments: Loans, Bonds, vs Equity

Aside from the 3Ts (tariffs, taxes, and transfers ([Tool D2.03](#)), water service providers can also tap into loan, bond and equities to finance their activities (Table 1). The categorization of the financing instrument depends based on a variety of features including: (i) interest rates (the price paid from borrowing money), (ii) the repayment period or date (tenor), (iii) whether there is a grace period before repayment starts, (iv) the security (collateral) required, and (v) its conditionality (actions to be undertaken by the borrower as a condition for getting the funding) ([WWC & OECD, 2015](#)).

**Table 1.** Categories and Sources for Water Investments. Source: [WWC-OECD \(2015\)](#).

| <b>3Ts &amp; Other contributions to recurrent finance</b> | <b>Loan &amp; bond finance</b>          | <b>Equity finance</b>                |
|-----------------------------------------------------------|-----------------------------------------|--------------------------------------|
| Tariffs & user charges                                    | Public development banks                | Institutional investors              |
| Taxes (national budgets)                                  | Commercial banks (inc. project finance) | Sovereign Wealth Funds               |
| ODA                                                       | Institutional investors                 | Specialised water funds              |
| Philanthropic funds                                       | Sovereign Wealth funds                  | International Financial Institutions |
| Property taxes & other levies & contributions             | Public bond issue                       | Private equity funds                 |
| Self finance by users                                     | International Financial Institutions    | Venture capital                      |
|                                                           | Project Bonds                           | Public-Private partnerships          |
|                                                           | Microfinance                            | Individual shareholders              |
|                                                           | Climate finance                         |                                      |
|                                                           | Export credits                          |                                      |
|                                                           | Individual bondholders                  |                                      |

A loan takes the legal form of a traditional lending product where a private or public borrower obtains credit from a bank in return of a financial commitment (interest rate) to use the proceeds to finance projects or assets. Loans exist in various kinds:

- **Short-term loans:** to cover working capital requirements and to cushion irregularities in cash flow are normally available from local banks, although these are usually of commercial character (e.g., a high interest rate).

- **Longer-term bank loans:** (several years in duration) are less common for water and typically involve guarantees and other kinds of public comfort. Lending from International Financial Institutions (IFIs) is an attractive option, since the terms and length of the credits are more appropriate to the cash flow of the underlying water assets, though they typically entail forex risk. Some agencies lend in certain local currencies, usually where they can raise bonds in the same currency.
- **Concessional loans:** are provided to central governments at a discounted interest rate, higher grace periods, and longer repayment terms than those available on the private market. Non-OECD countries, such as China, India, and Brazil, (for instance, under the New Development Bank), offer loans on concessional terms.
- **Microfinance:** is another source of funding more suitable for local and community projects, especially for small-scale water schemes with short payback periods.

Bonds are debt instruments issued by either public or private organisations to raise capital in the domestic and international capital markets (public offering) or placed privately with a limited number of investors (not listed on a public exchange). Bonds issued by municipalities and other sub-sovereign bodies often depend on credit enhancement of various kinds (guarantees). Investors receive full repayment of the bond issuance amount (the principal) in addition to interest payments on outstanding principal amounts (the coupon payments) (Deutz et al., 2020). Some of the most important types of bonds used in the water sector are:

- **Municipal bonds:** issued by local governments to access capital from private sources; they can be tax-exempt, providing an implicit subsidy to the local government, e.g., United States).
- **Corporate bonds:** are designed to finance the balance sheets of large corporatised public or private utilities, that is, instead of bearing the risks of an individual project, corporate bonds bear the risk of the issuing corporate entity. Thus, creditworthiness is determined by an issuer's general ability to service the debt, making them less risky than project bonds.
- **Project bonds:** are issued solely to finance stand-alone, specific project projects, fitting the needs of project finance structures. They are riskier because the probability of loss to credit holders is higher for any one specific project versus a diversified portfolio of projects (OECD, 2015).

Finally, equity is a financing instrument through which utilities raise capital through public equity markets by selling shares to investors through organised stock exchanges. Shares are considered to be perpetuities and confer ownership rights to shareholders (prospective capital gains and dividends) and might be a form of long-term investment finance for water infrastructure (OECD, 2015). Equity capital can be provided both by private and public partners. Although equity is the most flexible form of capital, in the long term it needs to earn rates of return conforming to market expectations. The following are examples of the use of equity to finance water projects:

- Acquisition of full or partial ownership of assets (e.g., water utility).
- Partial divestiture of a publicly owned water utility undertaking by sale of equity to private investors to finance growth.
- Debt-equity swaps – conversion of debt into equity to relieve the borrower's financial difficulties, and improve its balance sheet.
- Purchase of an equity stake in a WWS provider (e.g., by an IFI such as IFC) in order to improve its equity-debt ratio and thereby its credit standing in preparation for raising more loan capital.

Private investors also use different vehicles to access equity in water utilities such as specialised water funds (dedicated to acquiring securities pertaining to water), private equity funds (typically buying ownership through equity in companies with good prospects of profit) or venture capital (equity invested in startup or small on-going companies related to untested water technologies), and Public-Private Partnerships (if the company that gets the contract is organised as a Special Purpose Vehicle).), Special Purpose Vehicles (i.e., a subsidiary company that is created as a separate legal entity which is intended for a specific purpose) have yet to become a popular financing instrument for the water sector, although there is now a few good examples emerging (e.g., [OECD, 2019](#)).

## Managing Financial Risks and Credit Enhancement Guarantees

Water sector actors and projects need to manage different types of risks:

- **Commercial risks:** are those inherent in the project itself or the market in which it operates which affect revenues.
- **Construction risks:** including site-specific water infrastructure problems that can arise from machinery, equipment and installations failing, or not performing in the local conditions.
- **Input risks:** The supply of key inputs is another source of risk (e.g., energy outages, labour shortages, etc.)
- **Macroeconomic risks:** comprise external economic effects (GDP growth, inflation, interest, and foreign exchange rates).
- **Political and regulatory risks:** can arise from changes in Government actions.

All those risks can affect the profitability of a water business and thus can be ultimately translated as a financial risk for lenders, investors, sponsors, bond holders and all others exposed to water projects, business models, service providers etc. These are the risks of them losing their money through their involvement in water infrastructure and services. The leverage of a given flow of basic revenues (“3Ts”) for attracting repayable finance can be enhanced by using various kinds of risk-sharing and risk-mitigation instruments. Guarantees work either by mitigating specific risks that would otherwise hamper financing, or by packaging the finance in a form that is more attractive to potential financiers. For credit enhancement, which describes any form of public intervention to increase the likelihood of debt repayment, the most common financial guarantees are (a complete taxonomy of guarantees for mitigating risks in infrastructure projects is provided in Table 2):

- **Loan guarantee:** A legally binding agreement under which the guarantor agrees to pay any or the entire amount due on a loan instrument in the event of non-payment by the borrower.
- **Partial credit guarantee:** Guaranteeing payments for the principal and interest on debt issuance up to a certain percentage.
- **Revenue guarantee:** Guaranteeing certain cash flows for a project.

**Table 2:** Financial Risk Mitigants and Incentives for Infrastructure Finance. Source: [OECD \(2015\)](#).

| Type of Measure                                                                                                                                                                    | Instrument                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1. Guarantees, realised directly by Government or by its own controlled agency or development bank                                                                                 | 1. Minimum payment, paid by contracting authority                                             |
|                                                                                                                                                                                    | 2. Guarantee in case of default                                                               |
|                                                                                                                                                                                    | 3. Guarantee in case of refinancing                                                           |
|                                                                                                                                                                                    | 4. Exchange rate guarantees                                                                   |
| 2. Insurance (private sector)                                                                                                                                                      | 1. Wrap insurance, technology guarantees, warranties, commercial and political risk insurance |
| 3. Hedging (private sector)                                                                                                                                                        | 1. Derivatives contracts such as swaps, forwards, options etc.                                |
| 4. Contract design, paid by contracting authority                                                                                                                                  | 1. Availability payment mechanisms                                                            |
|                                                                                                                                                                                    | 2. Offtake contracts                                                                          |
| 5. Provision of capital, realised directly by Government or by its own controlled agency or development bank                                                                       | 1. Subordinated (junior) debt                                                                 |
|                                                                                                                                                                                    | 2. Debt:                                                                                      |
|                                                                                                                                                                                    | 2.1 at market condition                                                                       |
|                                                                                                                                                                                    | 2.2 at lower interest rate                                                                    |
|                                                                                                                                                                                    | 3. Equity:                                                                                    |
| 6. Grants, generally delivered by contracting authority, even if some dedicated fund at national level may exist. Tax incentives can be delivered by national or local authorities | 3.1 at market conditions                                                                      |
|                                                                                                                                                                                    | 3.2 at more advantageous conditions                                                           |
|                                                                                                                                                                                    | 1. Lump sum capital grant                                                                     |
|                                                                                                                                                                                    | 2. Revenue grant:                                                                             |
|                                                                                                                                                                                    | 2.1 Periodic fixed amount (mitigating the demand risk)                                        |
|                                                                                                                                                                                    | 2.2 Revenue integration (it leaves the demand risk on the private player)                     |
|                                                                                                                                                                                    | 3. Grant on debt interests                                                                    |
|                                                                                                                                                                                    | 4. Favourable taxation schemes for SPV                                                        |
|                                                                                                                                                                                    | 5. Favourable taxation schemes for equity investors                                           |

## Lessons Learned on Financing Water Projects

Here are some key lessons in terms of finding sustainable financing solutions for water projects:

- Attracting commercial repayable finance for water projects depends on good prospects for the future flows of basic revenues from the 3Ts. Commercial finance cannot substitute for the absence of these basic revenues, which are needed for future debt and equity service payments.
- The capacity to repay loans and bonds heavily depends on the political and economic stability of the country and the region. Steep inflation and currency devaluation are associated with more difficulties in making debt payments.
- Loans from the IFIs are particularly appropriate for water infrastructure because of their terms and maturities. However, the due diligence procedures and conditionality of the IFIs can be onerous to borrowers.
- Several high-profile water concessions have failed due to the mismatch between revenues arising in local currency and financial liabilities incurred in foreign exchange. Funds raised from local capital markets avoid such risks, even though they may be on less attractive terms.
- Most major water projects are funded from several diverse sources, often with credit enhancement from guarantees and other risk-sharing products. Blending of grant and loan finance is typical ([Tool D2.05](#)).
- For stand-alone projects, such as treatment works or desalination plants, PPPs are quite common. “Off balance sheet” options, such as project finance or SPV, may be attractive to national treasuries in the short-term but their long-term costs tend to be overlooked.

## Featured Image





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