# Water Infrastructure and Investment



## Recommendations

## **Headline Recommendation**

Improve the enabling environment for investment in sustainable water-related infrastructure and services in order to at least double current investment levels.

## **Detailed Recommendations (Transboundary Water Governance)**

- Governments are encouraged to improve the enabling environment for investment in sustainable water-related infrastructure, so as to:
  - Create a comprehensive case for water-related investments.
  - Plan and sequence investments to maximize social and economic returns, as well as increase benefits from interlinkages across sectors.
  - Promote the preparation of viable, investment-ready, and high impact projects.
  - More than double available finance by mobilizing domestic finance, blending public and commercial finance.
  - Invest at least one-third of international climate finance in water-related projects that improve climate adaptation and strengthen climate mitigation.
- Multilateral financial institutions to partner with governments and the private sector to achieve the above.
- Financial institutions to improve the disclosure of their investments' exposure to water-related risks and how their investments may contribute to or mitigate water-related these risks.

# Challenges

The human right to water and sanitation has yet to become a reality for one-third of the global population: 2.1 billion people still do not have access to safe drinking water and 4.5 billion people still lack access to sanitation compatible with the SDG6 objectives. Poor sanitation, water, and hygiene lead to about 675,000 premature deaths annually.

The scale of global economic losses related to water insecurity and poor sanitation indicates USD 470 billion per year. (USD 260 billion per year from inadequate water supply and sanitation, USD 120 billion per year from urban property flood damages, and USD 94 billion per year of water insecurity to existing irrigators.<sup>1</sup>). Further, water-related losses in agriculture, health, income, and property could result in a decline by as much as 6% of GDP by 2050 in some regions of the world and spur sustained negative growth.<sup>2</sup>

**Investment needs substantially exceed current financing flows.** Projections of water security investment needs diverge, but they all indicate that the scale of investment ought to increase significantly. Global estimates range from USD 6.7 trillion by 2030 to USD 22.6 trillion by 2050.<sup>3</sup> To achieve the water-sanitation-hygiene component of

<sup>1</sup> Sadoff C. et al. (2015), Securing Water, Sustaining Growth, report on the GWP-OECD Task Force on water security and sustainable growth, University of Oxford, UK.

World Bank (2016), High and Dry: Climate Change, Water and the Economy, World Bank, Washington, DC. License: Creative Commons Attribution CC BY 3.0 IGO

Winpenny, J. (2015), Water: Fit to Finance? Catalyzing National Growth through Investment in Water Security, report of the High Level Panel on Financing Infrastructure for a Water-Secure World.

SDG6 by 2030, it is estimated that capital investment needs to triple (to reach USD 1.7 trillion), and operating and maintenance costs will be commensurately higher. The FAO has projected that an estimated USD 960 billion of capital investment is needed to expand and improve irrigation between 2005/07 and 2050 in 93 developing countries.

Investments are needed not only in new infrastructure but also in the maintenance and operations of the existing stock in order to improve their efficiency and reduce water losses.

So far, a strong economic case for water-related investment has failed to translate into a compelling financial case for investment. Investment in water security faces a number of barriers, including<sup>6</sup>:

- Water is generally an under-valued and under-priced resource, resulting in a poor record of cost recovery for water investments.
- Water infrastructure is typically capital intensive, long-lived with high sunk costs. It calls for a high initial investment followed by a very long pay-back period.
- Improvements in water generate a mix of public and private benefits in terms of valued goods and services, as well as reduced water-related risks. Many of these benefits cannot be easily monetised, or their positive impacts appear outside of the water investment project.
- Lack of appropriate analytical tools and data to assess complex water-related investments, and track record of such investments can deter financiers.
- Water projects sometimes are too small and too specific. This raises transaction costs and makes emerging innovative financing models difficult to scale up.

Principles applied by the Panel to help financing investments, enhance water services, mitigate water-related risks and contribute to sustainable growth.<sup>7</sup>

## General principles

- The purpose and nature of the water infrastructure investments needs have significantly expanded with the
  ambition of SDG6—to Water Supply and Sanitation, flood protection, drought management, and water quality
  management—and are interlinked with investment needs for food security, health, sustainable consumption and
  production, sustainable urban development and terrestrial ecosystems.
- 2. The infrastructure investment gap, as well as market-, policy- and governance failures occur all over the world; this means the task of readjusting has a global dimension.
- 3. While water-specific investments will be critical, investments in other sectors (land use, urban development, energy and agriculture) can also be beneficial.

# Specific principles

#### 4. Maximise the value of existing assets for water-related investments.

Service providers can reduce overall investment needs and improve capital efficiency through improving the operational efficiency and effectiveness of existing infrastructure. Such improvements would result from good operation and maintenance of infrastructure, creditworthiness of water operators and demand management. Engagement with stakeholders is required to set acceptable levels of service and risk. Tariffs for water services can generate at least a share of the revenues needed. Where tariffs are in place, redistributive consequences and priority water uses should be accounted for, based on affordability studies, equity for vulnerable groups, and assessment of competitiveness impacts.

#### 5. Design investment pathways that maximise water-related benefits over the long term.

The social, environmental, and economic benefits that water-related investments generate depend on how investments are designed and sequenced along strategic and adaptable pathways. This goes beyond cost-benefit analysis of stand-alone projects and requires strategic planning of portfolios of projects, considering how pursuing a specific proj-

<sup>4</sup> Hutton G., Varughese M.C. (2016), The costs of meeting the 2030 sustainable development goal targets on drinking water, sanitation, and hygiene, The World Bank.

<sup>5</sup> Koohafkan, P. et al. (2011), Investments in land and water, SOLAW Background Thematic Report – TR17, FAO.

<sup>6</sup> Based on structured discussion at the OECD – WWC – Netherlands Roundtable on financing water. For more information, please visit http://www.oecd.org/environment/resources/roundtableonfinancingwater.htm

<sup>7</sup> OECD (2016), Policy Perspectives. Water, Growth and Finance, Paris.

ect may foreclose or enable future investment options. Pathways may include modular, scalable investments, which minimise the cost of adjusting to changing conditions and support robust solutions.

### 6. Ensure synergies and complementarities with investments in other sectors.

Policies outside of the water sector can stimulate water-wise investments when they factor in the costs of reduced water risks. Investments that impact water risks, whether via the urban footprint of city landscapes or large water infrastructure projects, impose strong path dependency.

#### 7. Attract more financing by improving the risk-return profile of water investments.

A proper allocation of financial risks and returns from water-related investments enable public and private actors (including water users) to earn returns commensurate to the risks they take. The "3Ts" (tariffs for water services, taxes, and transfers from the international community) as well as raising investments from local financial markets remain the ultimate sources of funding to close the financing gap.

Governments can employ a range of policy instruments to recover the costs of investments from beneficiaries, improve the financial viability of utilities, and provide a revenue stream to improve the risk-return profile of water-related investments. These include: tariffs for water supply and sanitation, abstraction charges, pollution taxes, value capture mechanisms (to extract a portion of the economic rent arising from the increase in property values associated with the expansion of public services), public good charges, and payments for ecosystem services. Innovative approaches to financing are showing potential, but require further analysis to be tailored to the water sector and scale up effectively.

Blended finance – defined as the strategic use of development finance for the mobilisation of additional finance towards the SDGs - has the potential to mobilise private sector financing for specific projects. Blended finance can help borrowers generate efficiency gains, and establish credit track records. It can help lenders have a better understanding of the water sector in the country. Challenges related to blending need to be managed, to ensure that development finance does not crowd out private finance and that the desired development outcomes are realised.

- 8. Identify *permanent* revenue sources for operations and maintenance, preferably from drinking water user charges, wastewater, and irrigation water, when assessing investment projects.
- 9. Also estimate the social and economic costs of not investing in urgently needed water infrastructure.

# Findings and conclusions

#### 1. Value water.

Valuing water means recognizing and considering all the diverse benefits and risks provided by water, and encompassing its economic, social, ecological and security dimensions as well as its diverse cultural and religious meanings. It promotes efficiency and better practices by exposing the short and long-term costs of pollution, waste, and misallocation. When water is scarce, well-designed allocation regimes can encourage shifting water towards higher value uses.

2. Scale-up the diffusion of innovative technologies and business models.

Innovative technologies have the potential to lower the costs of water-related investments. Innovative business models and policies can help monetise the benefits of improved water management and protection against water risks. Water saving technologies will be competitive when water prices reflect the cost of scarcity.

3. Strengthen the enabling environment for water-related investments.

Strengthening the enabling environment requires well-designed regulation (both economic and environmental), competition policy, financial market policy, dedicated investment promotion and facilitation, and improved public governance. International co-operation as well as national and local policies aimed at the broader investment environment need to be supplemented by a dedicated set of policies that promote water investment.

Upon broad consultations with representatives of water sector, multilateral development banks, climate financing institutions, civil society, and working closely with the OECD and World Water Council, the Panel recommends the following findings and conclusions:

 Mobilize additional volumes of public and concessional funds into the sector and target those funds to the most productive uses.

<sup>8</sup> OECD (2009), Managing Water for All: an OECD Perspective on Pricing and Financing, OECD Publishing, Paris.

- Improve performance and governance.
- Facilitate mobilization of domestic finance by (i) developing policies and incentives that improve the efficiency and governance of service providers to make them more creditworthy; (ii) improving the financial enabling environment, including price regulation; and (iii) incentivizing leveraging of public funds with commercial finance.
- Maximize asset value.
- Encourage greater capital efficiency in the sector.
- Advance research and technology penetration to improve the performance of infrastructure projects.
- The global level of water-related investments should be more than doubled within the next five years.
- At least one-third of the international climate finance is suggested to be invested into water-related projects improving climate adaptation and strengthening climate mitigation.
- The global water governance should be reformed to ensure it facilitates investments that reflect the diverse values of water across sectors and jurisdictions.

## In support of the above objectives, central and local governments are encouraged to:

- Raise the importance of water on the political agenda to the level of climate protection.
- Invest in fit for purpose WSS infrastructure and services that will most quickly achieve universal access at least cost.
- Plan and sequence water-related investments along strategic pathways that maximize benefits at the least cost for society; these investments should benefit sectors that affect water demand or supply, or mitigate current and future water-related risks, and can be assessed in a standardized way. Analyses should also include estimates of the social and economic costs of not undertaking urgent water infrastructure investments.
- Develop an inventory of financial needs and options for the water sector, possibly at basin and country level, and in relation to strategic pathways; they should also establish a mechanism to track these needs and map financial flows that contribute to water-related investments at different geographical scales (local, basin, national.)
- Stimulate demand for water-related investments and innovation by promoting the value of water and the "polluter pays" and the "beneficiary pays" principles, and by reducing investment risks within their control.
- Optimize the operational efficiency and effectiveness of existing infrastructure—jointly with service providers and water users—by ensuring proper operation, maintenance, and financial sustainability of existing assets.
- Investment in projects should also include requirements for identification of ongoing revenue sources for operations and maintenance, preferably from water users, sufficient to ensure that infrastructure remains fully functional beyond the commissioning stages.

## In support of the above objectives, **financial institutions** are encouraged to:

- Declare the size and nature of their portfolios of water-related investments as well as related strategic intentions.
- Private financial institutions are encouraged to improve the disclosure of their investments' exposure to water-related risks and how their investments may contribute to water-related risks in the short, medium, and long term.
- Expedite internal decision-making procedures on water investments.
- Invest at least one-third of international climate finance in water-related projects that improve climate adaptation and strengthen climate mitigation, resilience and sustainability.