

Roundtable on Financing Water

OECD-WWC-Netherlands Roundtable on Financing Water Inaugural meeting 12-13 April 2017, Paris

Discussion Highlights and Roadmap for Future Work

The inaugural meeting of the Roundtable on Financing Water gathered around 70 participants including private investors, development finance institutions, bilateral donor agencies, government officials, NGOs and research institutions. A wide range of issues were discussed, with participants offering diverse perspectives on how to scale up investment for water security. A brief summary of the highlights that emerged is provided below as well as a roadmap for related future work. The agenda and background papers for the inaugural meeting are available on the Roundtable [webpage](#).

A dedicated session on the Roundtable will be held at the **Stockholm World Water Week on Monday 28 August 2017** to discuss key issues and share early findings from ongoing work related to the Roundtable.

The second meeting of the Roundtable will take place at **WATEC in Tel Aviv 12-14 September 2017**. The generous support of the Government of Israel in hosting this meeting is greatly appreciated.

Key messages

- Water is often an under-valued and under-priced resource, creating investment opportunities when it can be allocated to higher value uses.
- Policy interventions can improve the risk-return profile of water security investments and increase the scope for shifting water resources to higher value uses.
- Innovation in technologies (e.g. membranes, energy recovery, digitisation, etc.) and in business models (e.g. converting benefits into revenue streams) can make water more attractive for investors and need to be scaled up.
- Blended finance¹ is a promising way to leverage contributions from different sources of finance with different risk appetites to make projects more bankable.
- While project finance seeks direct revenue flows from investments for a certain level of risk, other types of financiers, particularly institutional investors, seek investments that satisfy fiduciary requirements while allowing them to invest capital at scale.
- Investments in water security can maximise net benefits when portfolios of projects at the level of river basins are considered as part of a long term, strategic investment pathway.

¹ Blended finance is the strategic use of public or private funds, including concessional tools, to mobilise additional capital flows (public and/or private) to emerging and frontier markets and represents one approach that has the potential to attract new sources of funding to the biggest global challenges. See <http://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/blended-finance.htm>.

Session 1. The gap between the economic case for investment in water security and the financial case

Investing in water security reduces the risks² faced by society and economic sectors from water insecurity and can have a positive effect on economic growth and inclusiveness. Water security affects both developed and developing countries, with the greatest threats from water-related risks falling mainly on developing countries. Although for developed countries, higher value assets may translate into higher value at risks in these countries.

While investment in water security makes economic sense, the economic argument does not necessarily translate into a compelling financial case for investment. It is well recognised (despite incomplete data on current investment flows) that current levels of investments are sub-optimal relative to the economic, social and environmental benefits from further reductions of water risks. Higher levels of future investment will be needed if the ambition of the Sustainable Development Goals (SDGs) is to be fulfilled. The forthcoming Principles on Valuing Water, being developed under the aegis of the UN High Level Panel on Water, are a positive step towards better reflecting the value that water provides to the economy, society and the environment.

The marginal value of water per unit across different uses spans a very wide range. Similar to land, water can have very different values depending on the type and location of use and changes in policy and regulation can affect these values considerably. There is also a long time lag between the incremental deterioration of the resource (and related infrastructure) that can mask the broader macro-economic implications of the negative externalities related to water use, such as aquifer depletion. Further, the vast majority of future global economic growth is expected to come from water stressed areas (e.g. Asia and Africa), which will also be heavily affected by climate change. Where economic and demographic shifts are most pronounced, much of the needed water infrastructure has yet to be constructed.

While water risks are one of the more fashionable policy topics to talk about at the moment, these considerations still often do not feature in company balance sheets. Water risks are increasing, but not yet at a level of financial cost to attract the attention of private investors. From the financial community perspective, there are abundant opportunities to reap gains from shifting water towards higher value uses. Dedicated water investments can seek to capture the financial value related to mitigating these risks.

Current macroeconomic conditions of relatively low interest rates decrease the opportunity cost of diverting capital to water-related investments. However, the fact that one of the largest political constituencies in many countries, the agricultural sector, is also one of the most inefficient users of water remains a major policy challenge.

Session 2. Financiers' expectations and the water security investment environment

There is a diverse range of financiers with different mandates, constraints and investment objectives, which gives rise to various approaches to financing water security. Financial engineering can be used to enable greater capital flows to water security investments. Some commercial banks are interested in accelerating companies' efforts to future-proof their business, including with regard to water risks. Bankable projects are already being financed, so the main question is how to finance economically, socially and environmentally desirable projects that are not currently fit to be financed, for whatever reason. One key issue is to bridge the gap between actual risk and perceived risk, which requires finding new ways to satisfy investor requirements.

² Risks of shortage, flooding, poor quality, undermining resilience of ecosystems and lack of access to water supply and sanitation.

Blended finance is a promising way to leverage contributions from different sources of finance with different risk appetites to make projects more bankable. Development co-operation is undergoing a paradigm shift to reach aims of the 2030 Development Agenda, with blended finance gaining increased prominence. While official development assistance (ODA) is important, it is a small fraction of total investment flows to water. The new focus is on the catalytic role of ODA, not only to leverage other sources of finance, but also to steer investments in alignment with the SDGs. The aim is to use development finance to attract private finance, especially during project preparation and development, de-risking investments, and reducing the high initial costs of projects to make them more attractive.

Many investors, particularly institutional investors, seek appropriate investment vehicles that satisfy fiduciary requirements and provide investment opportunities at scale. Specialised investment vehicles, such as green bonds, have grown in prominence over recent years, with green bonds issuance reaching USD 97 billion in 2016, still a small drop in the global bond market ocean. Often green bonds are steered toward the low carbon, climate resilient market, with water management accounting for only a fraction (estimated at 7%) of green bonds issuance.

Innovation in both water infrastructure and technology can be attractive for venture capital and private equity firms. There has been significant innovation in the water sector over the past decades, for example with decentralised systems, new technology for desalination, smart meters, etc. Regulation has been an important driver of innovation by generating new markets for products and services. Insurance markets for mitigating water risk are also promising.

Mainstreaming water security into company sustainability efforts is seen as a growing topic of interest. Many corporations are motivated to engage in investments that reduce water risks for their own productive activities, reduce supply chain disruption and minimise reputational risk. Some investors see water security as a highly material risk as well as an opportunity. Systematically adjusting future cash flow expectations and valuations of companies for environmental, social and governance (ESG) factors, of which water is one, is one way for investors to identify how these water risks may affect company valuations. The recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures are an important development in this regard.³ There is also a potential role for credit rating agencies, which could include information about water risk exposure that is potentially material in notes accompanying ratings.

There are a number of salient lessons from analysis of trends in low carbon, climate resilient investment that can provide insight in the context of water security. Recent empirical analysis of the key policy drivers and barriers to investment and innovation in renewable power in OECD and G20 countries provides new evidence for the need for stronger and coherent climate mitigation policies, a conducive investment environment (e.g. the ease of doing business, investment policy, investment facilitation, trade policy and financial market policy), financial instruments to facilitate lower cost financing and de-risking interventions⁴. However, water security has a number of specific characteristics that need to be addressed when considering applying these lessons. Generally, water has a poor track record of cost recovery compared to energy. While energy pricing may not be at efficient levels in many cases, water pricing can be completely absent. The lack of revenue streams and performance metrics are problematic. Water

³ Financial Stability Board Task Force on Climate-Related Financial Disclosures (2016), "Recommendations of the Task Force on Climate-related Financial Disclosures", https://www.fsb-tcfd.org/wp-content/uploads/2016/12/16_1221_TCFD_Report_Letter.pdf.

⁴ Ang, Röttgers and Burli (2017 *forthcoming*), "The Empirics of Enabling Investment and Innovation in Renewable Energy", *OECD Environment Working Papers*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/19970900>.

infrastructure is very long lived, and often the sector lacks transparency. As in the case of energy, governments have an important role in regulation. But in the case of water, governments also typically play an important role in the management of the resource and infrastructure as well, which is less prevalent in the energy sector. Finally, there is no obvious entry point for investors seeking exposure (at scale) to water in the market, while for energy, an index is readily available.

Session 3. Converting the economic benefits of water security investments into financial returns

Improvements in water security generate a range of public and private benefits in terms of valuable goods and services as well as reduced water risks, which can result in significant avoided costs. Generally, the barrier is not the availability of finance, but the availability of bankable projects. There is a diverse range of instruments available to policy makers to recover the costs of investment in water security from those who benefit and provide a revenue stream for investors (e.g. tariffs for water supply and sanitation, abstraction charges, pollution taxes, value capture mechanisms, payments for ecosystem services, etc.). Improving willingness to pay for water security investments requires clear explanation about how revenues collected will be used for stated goals that provided benefits for users.

“Green” (or “nature-based”) infrastructure, such as catchment protection, can result in substantial avoided costs and a wide range of benefits. For example, fostering sustainable agricultural practices and encouraging farmers to convert to organic production through payments for ecosystem services can result in substantial avoided costs of expanding or improving water treatment plants. Such schemes may have modest funding requirements (despite high benefits), but it can be difficult to find ways under a constrained regulatory framework to transfer public funds to farmers. For these schemes, a long term strategy is needed due to the long lag times for benefits related to changes in land use to materialise, so a strong case is needed to pursue this strategy.

Green infrastructure can be used in combination with built infrastructure and should be considered in early stages of designing water investments. Analytical tools (such as IUCN’s WISE-UP to Climate) are needed to identify the trade-offs between green and built infrastructure on the basis of clear performance metrics as well as standards to compare options and understand the revenue streams.

Dedicated finance facilities, such as the EU Natural Capital Finance Facility, can be used to scale up investment in natural capital projects. The Facility has a range of instruments at its disposal and can provide ad-hoc structured finance solutions for projects focussed on protecting public goods. Such a dedicated facility allows for patient investments with longer tenors than otherwise available.

Session 4. Scaling-up financing through an attractive risk-return profile

Investments in water security compete with other sectors for financiers’ attention, driven primarily by the attractiveness of the risk-return profile. This depends on two factors: i) a stable revenue stream; and ii) how the range of risks related to water security investments are shared between public and private actors. Mobilising commercial finance will need to be based on policy reforms of the water sector to promote efficiency gains, cost reduction and cost recovery as well as improving the balance of tariffs and taxes as sources of finance. For projects with a long life, long tenor finance is much less expensive, measured in terms of the cost of annual debt service, than short term financing.⁵ Long tenor finance also avoids roll-over risks related to maturity mismatch between the length of investments and finance periods.

⁵ Baker, M. (2008), “Financing Infrastructure Fairly and Efficiently”, International City Managers Association, Annual Convention, September, 2008.

The US has recently developed an innovative approach for financing large water infrastructure projects. For many years, State Revolving Funds (SRFs) have been used to deliver grants for the water sector. In 2016, these SRFs provided around USD 10 billion in financial assistance in the form of low interest loans. In 2014, the US passed the Water Infrastructure Finance and Innovation Act (WIFIA) establishing a programme focussed on financing for very large infrastructure projects to complement the SRFs. WIFIA can leverage a small amount of budgetary appropriations into billions of dollars in investment. The programme has a number of attractive features including loan rates tied to US Treasury rates for the same maturity, as well as long tenor loans (up to 35 years). Financing is available for a range of different types of projects and the programme is also broad in terms of eligible borrowers.

In the case of Israel, long-term government guarantees on water prices and wastewater tariffs have facilitated commercial lending for water investments for bulk water supply and sewage treatment. All water-related regulations have been brought under the auspices of one agency. In addition, water tariffs are ring-fenced, so revenues cannot be used to fund other municipal activities. Greater certainty about cost recovery provides comfort for commercial lenders to engage. However, it has proved more challenging to bring private finance into municipal investments that deal with retail water services, as collection risks can be very high in some cases. Further, investments in small towns lack economies of scale and can entail significant risks.

For development finance institutions, there is increasing focus on using their broad range of financing instruments and expertise to generate a catalytic effect on financing and ensuring alignment with development goals. The World Bank, for example, disposes of a large range of instruments for financing and de-risking water investments. An important area of focus is mobilising domestic private finance to avoid exchange rate risk. It is also important to limit the crowding out of private finance by concessional finance, which requires alignment across development finance institutions.

Many water investments occur in isolation, without taking the whole basin into account. Water investments do not systematically account for water allocation issues or the needs of freshwater ecosystems. Building a portfolio of projects at basin level with a strategic planning approach may be able to attract different types of investors to different aspects of the portfolio.

Roadmap for Future Work

The Roadmap below derives from previous consultations and discussions at the inaugural meeting of the Roundtable. It is designed to reflect the areas of interest of the participants, guide work to support discussions in future Roundtable meetings and develop synergies with the work of other major international initiatives, such as the UN High-Level Panel on Water's work stream on valuing water. The Roadmap will evolve over time in response to these and other influences. Notably, where the potential analytical work is to be undertaken by the OECD, such projects and their outputs will be developed as part of OECD's programme of work and overseen by the Environment Policy Committee.

Analysing policies and conditions that promote or hinder water security investment

- Monitoring and surveillance of core water policies and risks that influence water investment.
- Analysing the role of policies and regulation in stimulating demand for and supply of investment in water security.

Mapping financing flows for investments in water security

- Developing a typology of water infrastructure projects and their risk and return attributes that determine bankability of projects.
- Developing a typology of financiers (investors, lenders).
- Undertaking a preliminary mapping of the flow of finance to water security investments: what are the ultimate sources of capital? What is the level of investment and who are the different players at different stages? What are the different channels and vehicles to access investment in water security (e.g. green bonds, etc.).

Seizing opportunities generated by innovation

- Developing case studies analysing innovative business models to convert economic benefits of water security investment into funding streams that generate financial returns. Drawing lessons from other policy domains: energy (experience with low carbon, climate resilient investment), transport (value capture mechanisms), biodiversity (payments for ecosystem services), commodity finance, insurance (risk transfer), ICT (improving collections). Exploring the role of governments in scaling up these business models.
- Analysing the role of water-related innovation in creating new value propositions for investors based on OECD data on green patents.

The economics of blended financing for water security investments

- Economic analysis of the allocation of public finance, including concessional finance to improve the efficiency of public spending. Where might concessional finance be crowding out private finance? How to use public finance (including ODA) as a catalyst to mobilise private finance?

- Reviewing new concessional finance models, including facilities to improve the project pipeline, emerging hybrid models of financing water infrastructure, the use of guarantees to increase access to capital and lower costs of capital.

The role of information in stimulating demand for investment in water security

- Reviewing efforts to improve the role of information to promote investment, including corporation disclosure on water risks (e.g. water stress tests) and standards for specialised investment vehicles.

Designing investment pathways that maximise water security over the long term

- Examining approaches to long-term strategic planning for water security investments. Beyond the use of cost benefit analysis of stand-alone projects, how to design sequences of investments that maximise water security and economic benefits over the long term? How to value the flexibility that arises from certain types of investments that reduce path dependency in the context of uncertainty? How to reflect the value of flexibility in terms of lower financial risks?
- Drawing lessons from good practice in optimising asset management (e.g. asset management plans, financing O&M) to make the best use of existing infrastructure.

For more information, please visit:

www.oecd.org/water/roundtableonfinancingwater.htm

www.oecd.org/water