

Roundtable on Financing Water

OECD-WWC-Netherlands Roundtable on Financing Water

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

Background paper

This note is a discussion paper for Roundtable participants prepared by Alex Money, Programme Director, University of Oxford. Feedback from this Roundtable will drive the context, framing and structure of a new research initiative on financing water security.

What is the problem?

There is a large and growing body of evidence¹ that underlines the strong causal relationship between water security and economic growth. Achieving water security requires appropriate investment in infrastructure, capacity building and project development. However, there is a big gap between current investment in these key areas, and the amount that is required if the UN Sustainable Development Goals are to be met by 2030. Efforts to quantify this difference are more of an art than a science, but there is some consensus² that the overall ‘infrastructure gap’ approximates US\$ 1 trillion per annum, of which water accounts for 15-30% (compared to a historic investment share of just 6%³). A precise forecast is anyway unnecessary: what matters is whether the gap is being closed. Here, the indicators⁴ are discouraging. As things stand, the infrastructure that is necessary to make the SDG’s achievable will not be financed; and what is more, changes to the status quo do not appear to be imminent.

Aim

Developers and financiers insist that there is a scarcity of bankable water infrastructure projects for them to work on. Meanwhile, hundreds of millions of people lack daily access to clean drinking water and basic sanitation. At the same time, a glut of capital has pushed down the cost of financing infrastructure to amongst the lowest recorded levels in history. Intuitively, when it comes to getting sustainable water infrastructure financed and built at the scale necessary to meet the SDG challenge, the system ‘feels broken’. The aim of this report is to identify key factors responsible for the asymmetries between the supply of and demand for bankable water infrastructure projects; and to highlight approaches that could contribute to bridging the gap. It distinguishes between financing the investment phase (i.e. bankability, including capacity building) and the implementation phase (i.e. scaling up projects to improve water security) of water infrastructure.

The report is not searching for a silver bullet. The challenges are complex, and the proposed approaches will be integrative, variously involving private, public and development finance.

Context

¹ For example, see *Securing Water, Sustaining Growth*. OECD/ GWP, April 2015

² Shaped by forecasts from the [World Economic Forum](#) and [McKinsey Global Institute](#), amongst others

³ Rao-Monari, U. Global Water Development Partners. Economist Sustainability Summit 2017, London

⁴ For example, see *Bridging Local Infrastructure Gaps*. MGI, July 2016

The problem is not, of course, a new one. Nearly 15 years have elapsed since the World Panel on Financing Water Infrastructure, chaired by Michel Camdessus, articulated the challenge⁵. A task force was subsequently established, chaired by OECD Secretary General Angel Gurría, which published recommendations⁶ in 2006 that emphasised the need for innovative mechanisms that enhance local government access to financial resources. Then in 2015, a report was published⁷ by the High Level Panel on Financing Infrastructure for a Water-Secure World; an initiative of the World Water Council and the OECD. It focused, amongst other things, on multi-purpose infrastructure, an enabling environment, competition, innovation and efficiency. And last year the World Bank produced a paper⁸ for the High Level Panel on Water that called for a new ‘sector financing paradigm’ based on greater collaboration between stakeholders.

While these reports have been well received – and indeed have catalysed several other initiatives – the fact remains that the original challenges identified by the Camdessus panel have still not been materially resolved. It is therefore understandable why some healthy scepticism might exist regarding the value of yet another report on financing water infrastructure. However, there remains a pressing need for more work in this area, for the following reasons.

First, the **problem is a big one**. This requires little amplification. For SDG 6 to be achieved, over two billion additional souls need to be provided with access to clean drinking water and basic sanitation.

Second, the **problem isn’t going away**. While erstwhile progress on financing water infrastructure has been disappointing, it cannot be cause for depression, far less resignation. There is a social and economic imperative to keep trying.

Third, there is **appetite to engage**. The stakeholders that are key to finding solutions to the infrastructure financing conundrum remain highly engaged with the issue. This is reflected in the number and calibre of participants attending this inaugural Roundtable.

Fourth, **conditions are dynamic**. The constraints and opportunities that drive capital flows in and out of infrastructure assets are in flux. Incremental changes are breaching important tipping points, unlocking latent capacity for disruptive finance models.

Approach

Previous reports have often emphasised relationships between infrastructure and water security – an essential condition for economic growth and development - with a focus on optimising policy and process. This initiative takes more of an empirical approach, with typological outputs substantiated by operational examples and case studies where possible. The aim is to be informative rather than exhortative, and to synthesise broader perspectives around infrastructure, finance and investment with the specific challenges and opportunities that characterise the water sector.

The work has two phases. In phase one, we will set out the issues that form the scope of this initiative. Our interest is less in reprising well-rehearsed arguments, and more in identifying relatively unexplored areas. In phase two, we apply a more forensic evidence-based analysis to the issues previously identified. Our intention is to complete the first phase by the middle of 2017, and the second phase by early 2018.

Summarised below are 10 scoping issues that have been identified at this stage, and the proposed framework for engaging with them. We would highlight the consultative nature of this exercise: our

⁵ The Camdessus Report: <https://goo.gl/hUKQdf>

⁶ Task Force on Financing Water for All: <https://goo.gl/Bakzig>

⁷ Water: Fit to Finance?: <https://goo.gl/rvnsUS>

⁸ Financing options for the 2030 water agenda: <https://goo.gl/nDLKAp>

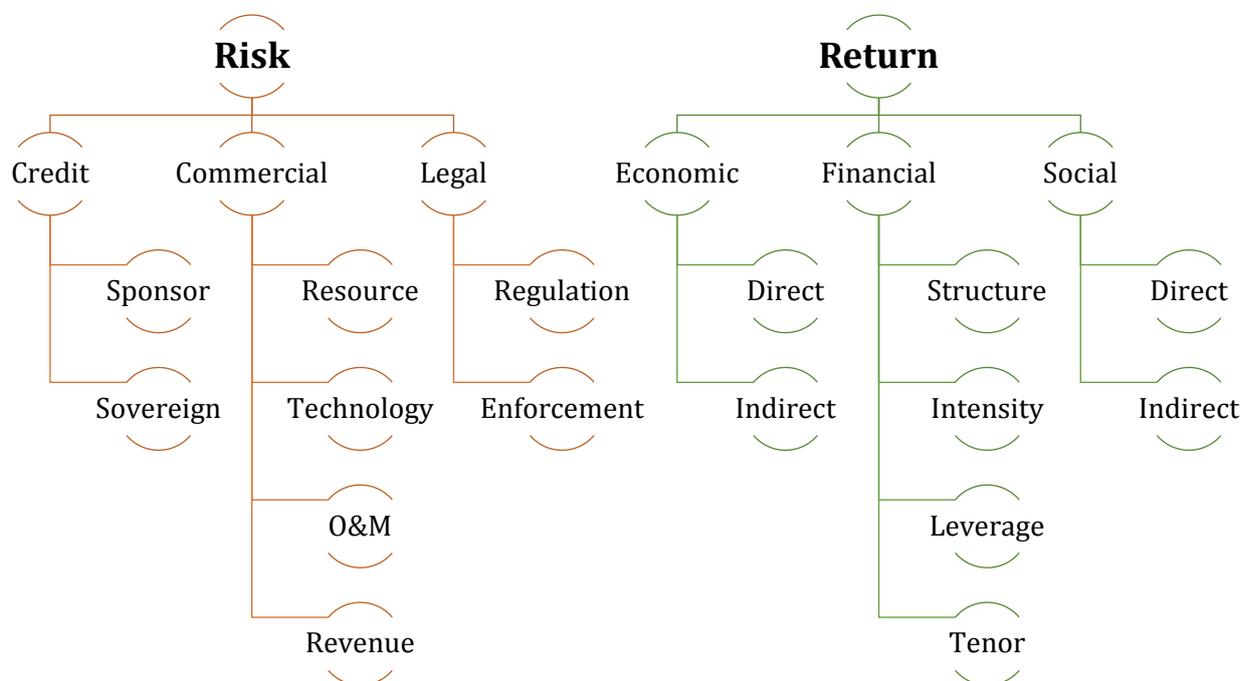
thinking has not yet benefited from the stakeholder engagement that is necessary to ensure clarity and robustness. This Roundtable provides the first opportunity to solicit such feedback, and we warmly welcome any comments.

1. Typology of Risk and Return

At Stockholm Water Week 2016, the OECD convened sessions on infrastructure financing in partnership with the World Water Council, the Dutch Ministry of Infrastructure and the Environment, and the 2030 Water Resources Group. A recurring comment from speakers and audience alike at these was that “a different language is spoken by water people and finance people”. Given that there is already plenty of literature on project financing, to the extent that any knowledge asymmetries do exist, they may reflect the unfortunate potency of long, jargon-heavy reports. Our work starts by identifying some basic attributes of risk and return – which are neither exhaustive nor prescriptive – that determine the ‘bankability’ of projects. We emphasise the following five aspects of the relationship between risk and return:

- i. **Attribution:** Risk and return are sometimes reduced to their purely financial elements, but there are actually multiple attributes that drive the investment decision.
- ii. **Alignment:** Risk and return are usually correlated, so for projects that are perceived to be higher risk, investors will generally require a higher return.
- iii. **Accrual:** Risks and returns associated with a project may accrue to different parties. This need not prevent execution, provided there are effective transfer mechanisms.
- iv. **Allocation:** Where risk-return tradeoffs are irreconcilable, non-market interventions are needed to allocate public investment to projects.
- v. **Application:** Risk and return attributes are dynamic; changing over space and time.

Figure 1: Typology of Risk and Return for Financing Water Infrastructure



Source: Author

2. Typology of Water Infrastructure

The generalist literature around infrastructure financing often treats water infrastructure as a single, fungible entity, without providing particular consideration to the specific attributes of different types

of project. In reality, water infrastructure spans a panoply of activity from the scale of the river basin or catchment through ‘buried infrastructure’ to the household tap, covering activities including pumping, diversion, transportation, storage, treatment and distribution. A distinction is sometimes made between water services (provided to specific users) and water functions (such as resource management), particularly when identifying and attributing economic value. However, from a financial investment perspective, other methods of categorisation may be more salient. Water infrastructure is capital intensive, with finance necessary to cover upfront construction costs that are typically repaid over long periods. Projects as diverse as water supply and sanitation, flood protection, irrigation, reservoirs etc. embed different levels of capital intensity and repayment periods. They bear distinct credit, commercial and legal risks; and offer varied economic, financial and social return. Our work plan includes the development of a typology of water infrastructure. It will emphasise the risk and return profile of different types of project, and the implication that this has for likely sources of finance, as well as different models of investment.

3. Typology of Investors

Much has been written about the lack of financial innovation in water infrastructure, including hybrid debt instruments, insurance products, and asset classes for institutional investors. Globally, there are more than US\$ 100 trillion of investable funds under management, of which only around 1% is allocated to infrastructure assets⁹. Of this allocation, a very small share is invested in emerging markets and developing economies (EMDEs). Given the financing gap is acute in EMDEs, increasing these allocations is an alluring proposition, particularly as the long-term liabilities of pensions and insurance plans match the long-term asset profile of infrastructure. That this has not happened partly reflects the heterogeneous attributes of commercial lenders, insurers, institutional investors and others. Commercial banks, pension funds, insurance companies, mutual funds, sovereign wealth funds and others each have different performance objectives, risk tolerances, income preferences, time horizons, information resources, sector knowledge etc. Our work plan includes the development of a typology of investors. It will emphasise their different mandates and the implication that this has for financial innovation, given their varied risk appetites and return expectations.

4. Revisiting the 3Ts

The 3Ts concept was developed by the OECD Horizontal Water Programme¹⁰ to help categorise taxes, tariffs and transfers (mainly development assistance) as a source of finance with different attributes to private capital or concessionary finance, which typically requires a yield and/ or repayment of principal. It remains a useful distinction. In addition to user charges, it has been proposed¹¹ that governments can increase their access to finance by capturing some of the incremental value created on property assets as a result of infrastructure provision. Equally, divestitures by government of non-core assets such as brownfield sites, or sale and leaseback arrangements for revenue generating infrastructure, have also been suggested as sources of capital recycling. Finally, changing the accounting treatment of public infrastructure by depreciating it over its life (rather than expensing the entire cost up front) could provide fiscal flexibility. Our work plan includes a study of examples from the public and private sector where such approaches have been used, and the potential for scalability and replication.

5. Revisiting Productivity

Even assuming more institutional investment is unlocked for financing infrastructure, the majority of spending will likely continue to come from the public sector. It is therefore no surprise that initiatives to improve the efficiency of public spending continue to garner interest. A management consultancy

⁹ World Bank Finance and Markets, PPIAF, 2015

¹⁰ Strategic financial planning for water supply and sanitation, OECD, 2009

¹¹ Bridging Global Infrastructure Gaps, MGI, 2016

report¹² on this subject theorised that over US\$ 1 trillion of annual savings could be unlocked by improving infrastructure productivity through better project selection, improved delivery and better asset management. The arguments are firstly that by being more selective on the projects chosen, emphasising multi-purpose infrastructure, wasteful investment could be reduced. Secondly, through investing more in project planning, and by embedding contractual incentives for time and cost savings, a higher return on new investment could be achieved. Thirdly, through increasing the utilisation of existing infrastructure and developing demand management measures, it is possible to defer or avoid additional spending. Our work plan includes a study of examples from the public and private sector where such approaches have been used, and the potential for scalability and replication.

6. Knowledge Transfers

Water supply and sanitation is sometimes perceived as the Cinderella of the infrastructure family, applying core technologies that have been in use for decades, if not centuries. It lacks the ‘glamour’ typically associated with investments in ICT or renewable energy, and there is a nagging perception – frequently voiced on the outer fringes of international conferences on water – that key policy-makers aren’t really walking the talk on water as an investment proposition. This raises various questions around the strategic and economic value of water that are outside the scope of our report (and anyway, well-covered elsewhere). But in addition, it offers the provocation as to whether any of the glamour that accrues to other sectors can be transferred to water. For example, payment models pioneered by mobile telephone utilities operating East Africa have since been adapted to enable the provision of an array of services ranging from escrow remittances to solar power. Our work plan includes a brief review of technological innovations in power, telecoms and other utilities, as an indicator of the potential for innovation-led investment in water infrastructure.

7. Concessionary Finance

A World Bank report¹³ identified three major barriers to private investment in infrastructure. First, there is a weak pipeline of viable projects. Second, the risks are perceived to be too high. Third, EMDE infrastructure is not defined as an asset class. In response, the Bank has recently launched a set of initiatives, integrated within a programme that it calls the Global Infrastructure Facility (GIF). Facilities that are currently operational include an ‘upstream project preparation window’, that aims to improve the project pipeline. Facilities under development include a project assessment tool, a ‘downstream finance window’, an asset recycling program and an emerging markets infrastructure debt index. The GIF proposes to work closely with advisory partners that include pension funds, sovereign wealth funds, insurance companies, fund managers, commercial banks and other financial institutions, collectively holding over US\$ 13 trillion in assets under management. Our work plan includes a review of new concessionary finance models, using the GIF as research lens, and informed by key stakeholder interviews.

8. Private Equity

The Blackstone Group is the largest alternative asset management firm in the world. Its private equity (PE) business specialises in leveraged buyout transactions. In 2014, Blackstone established a new water investment company, led by former senior management from the International Finance Corporation. The company’s objective is to provide leverage finance for developing desalination facilities and large scale waste water treatment for industrial customers; and to identify, develop, finance, construct and operate large scale independent water development projects globally. The following year, a deal was announced to develop a facility focused on storage and residual water treatment projects for a large petrochemical company. Our work plan includes a review by case study

¹² Infrastructure productivity: How to save \$1 trillion a year, MGI, 2013

¹³ Making Infrastructure Rewarding, World Bank, 2016

of recent engagement by PE companies in the water infrastructure sector. It will focus on the type of projects that PE companies are involved with, where these projects are, and the scale of their involvement.

9. Mutual Funds

During the commodities boom at the start of this century, there was a surge of interest in investment funds that provided exposure to rising prices of oil, gold and other commodities. More recently, the notion of profiting from the rising price of a scarce resource has underpinned retail and professional investor interest in water funds. The absence of a spot price for water has not proven a deterrent: instead of holding futures contracts, water funds generally invest in the equity of companies that create products or build infrastructure to purify or conserve water, or embrace new technologies within the water industry's wastewater, desalination and potable water sectors. Historically this sector was dominated by specialty mutual fund offerings from 'active' investors such as Calvert, Allianz, Pictet and others, but recent growth has been driven by exchange traded funds that offer 'passive' exposure at lower cost. Our work plan includes a review as to what role mutual funds could potentially play as a source of finance for water infrastructure, and to consider the conditions necessary for this investment to be realised. Our approach will include an analysis of a selection of water-focused mutual funds.

10. Hybrid Models

Industrial services outsourcing is a fast-growing area of water infrastructure, as regulations on waste water discharge become more stringent. Traditionally, such projects would be developed under a Build, Operate and Transfer model, financed by a combination of the operator's balance sheet, and operating leases. However, the growth in recent years of instruments such as non-recourse equity is leading to new models of financing infrastructure for outsourced industrial services. It allows the service provider to co-invest with a fund in a special purpose vehicle, replacing debt with equity. The provider earns revenues from operating and maintenance services that it provides to the industrial client. The capital cost of provision has been shared with the investment fund, placing less debt on the operator's balance sheet, and increasing its return on capital. As an equity investor in the SPV, the fund earns an income from its share of the service provider's profit. Our work plan includes a review, by case study, of emerging hybrid models of financing water infrastructure, based on non-traditional sources of capital.

Outcomes

The proposed outcomes for Phase I are a summary of preliminary findings from our research into each of these 10 areas. This will form the basis for a more extensive empirical study, focused on examples and case studies, and emphasising the operational implications of the findings that are presented.

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Oxford, April 2017

For more information, please visit:

www.oecd.org/water/roundtableonfinancingwater.htm

www.oecd.org/water