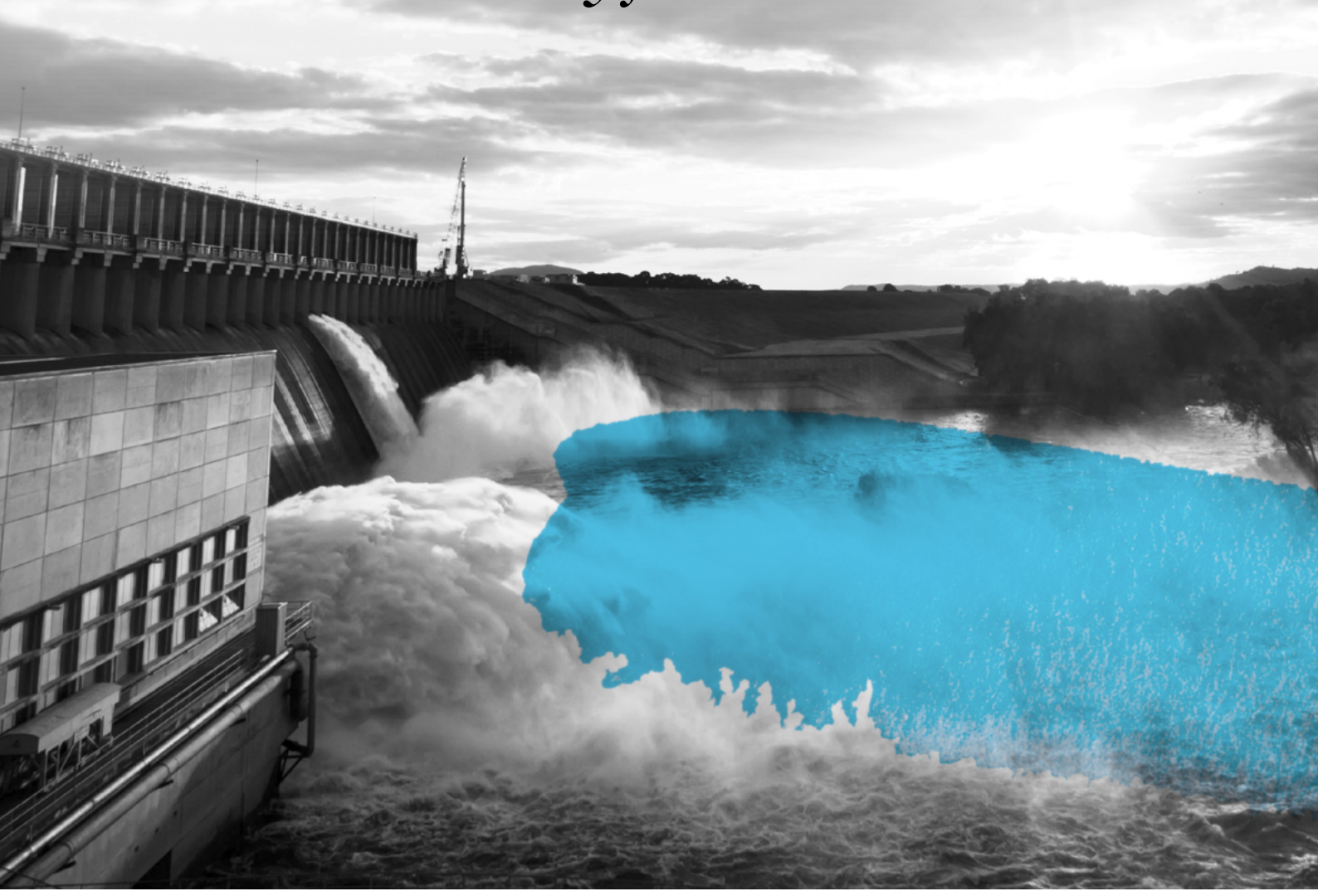
AUSTRALIAN WATER

ASSOCIATION

ALTERNATIVE MODELS FOR FINANCING WATER INFRASTRUCTURE

Water Security for all Australians



DISCUSSION PAPER

Sponsor ANZ

In partnership with Allens › ‹ Linklaters

Contents

Australia is facing unprecedented challenges when it comes to how we plan and manage our water resources. The nation's future prosperity is inextricably linked to how well our water resources will meet the needs of a growing population (expected to reach 30 million by 2031[1]), diversified industries, and protection of the environment. Climate change and rainfall variability are placing increasing pressures on every aspect of the water industry as it grapples with aging infrastructure and increasing urbanisation. The Australian community and its governments cannot afford to be complacent about water security for urban, regional, rural or remote communities.

Due to the burdens on existing infrastructure, utilities have increased their borrowings with consequential impacts on their commercial performance and ability to take on additional debt.

The Australian Infrastructure Investment Report 2015 indicates that investors identify roads as the single most attractive asset type, followed by water, energy transmission and port investments.

This paper explores alternative financing models for water infrastructure including challenges, identification of new opportunities and case studies that demonstrate how these models can work successfully.

With innovation and careful allocation of risk, alternative models have the potential to bring real benefits to the water industry and its customers. New methods of financing infrastructure can provide access to lower cost capital for infrastructure to improve water security.

The descriptions of the types of finance outlined in this paper are designed to explain alternatives that are currently available. The Association thanks ANZ and Allens Linklaters for their assistance in preparing the paper. We trust it will be of practical support to our utility members, local governments, regional councils and our wider audiences.

Jonathan McKeown
CEO, Australian Water Association

Contributing Partners

ANZ Allens › ‹ Linklaters

1. Australian Bureau of Statistics 2015

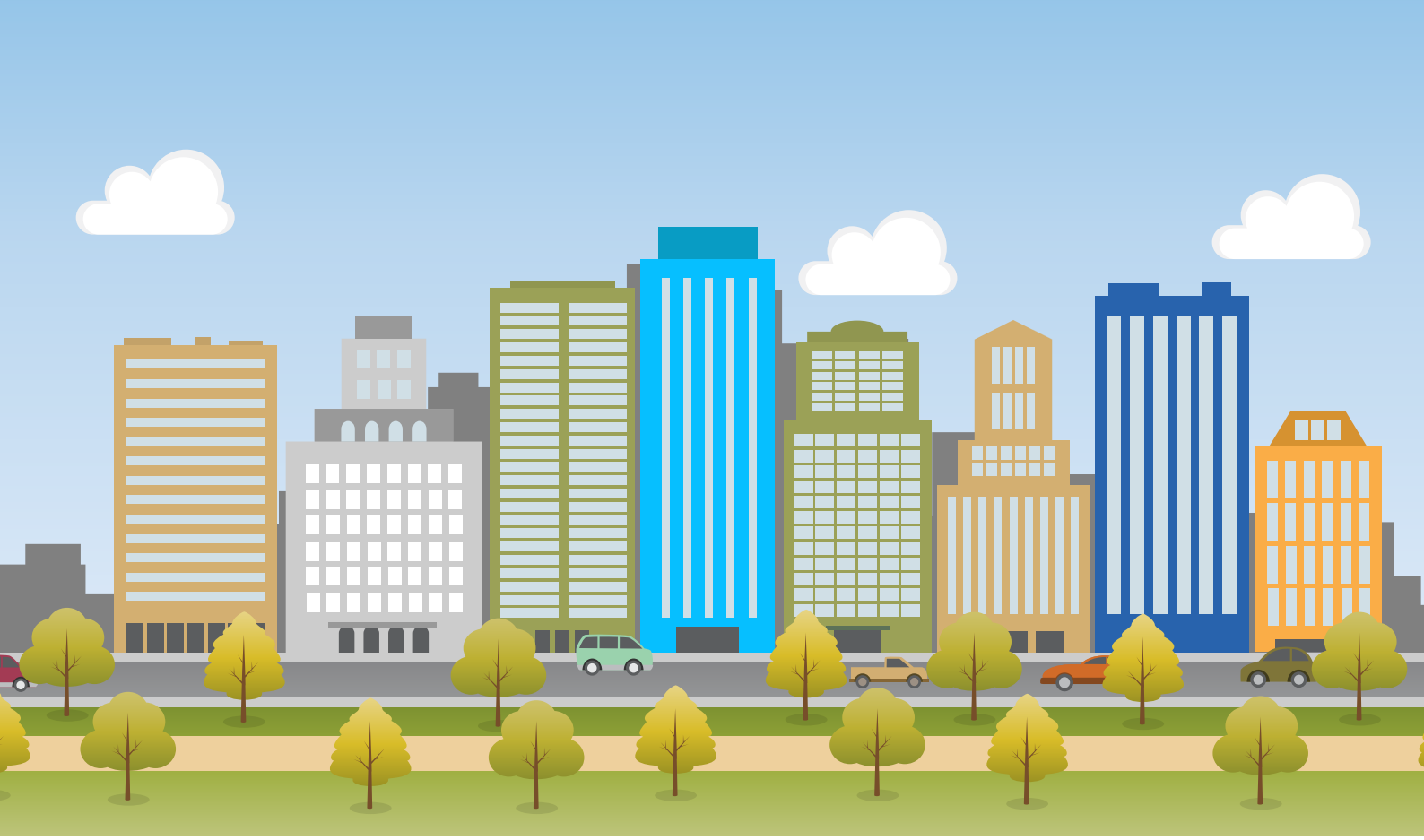
AUSTRALIAN WATER ASSOCIATION

WHO IS THE AUSTRALIAN WATER ASSOCIATION?

The Australian Water Association (AWA) is the national peak water organisation delivering information, expertise and collaboration for sustainable water management. Our 5,000-strong membership includes professionals and practitioners working in water utilities, engineering, consulting, suppliers, science and research, energy and resources, water resource management, manufacturing and agriculture. We have an active branch network across all Australian States and Territories. We also maintain extensive international links, across Asia, Europe and America with peak water organisations. AWA is advocating for *Water Security for All Australians,* and does not believe that the current approach to economic regulation is sufficiently consistent to best promote investment in the water services sector across the nation to deliver this security. AWA wants to better engage with the community on the importance of water security and the things that affect it. We want to create a conversation around the current level of water security, community perceptions around this, and what action will be necessary to meet community expectations.

This will raise community awareness of the factors that improve or hinder water security, stimulate informed public debate, encourage new thinking, and promote evidence-based policy. Over the next six months, AWA will be developing a water security scorecard to enable the Australian community to understand the current level of water security.

AWA is also releasing a series of discussion papers on topics that can enhance water security; this is first in the series.



WHAT IS WATER SECURITY

There are many factors that adversely impact water security, notably climate change and growth pressures which require infrastructure resilience. AWA defines water security as: "the certainty the Australian community can have that its water needs will be met into the future on an economically, socially and environmentally sustainable basis," with those needs being:

- safe and affordable drinking water;
- water to support industry and agriculture;
- water management to create liveable communities; and
- water to protect the environment.

THE ROLE OF FINANCE IN SECURING OUR WATER FUTURE

The water industry is extremely capital intensive and highly regulated, with standards varying across each state. In 2015, Australia invested only 8.7% of total national infrastructure investments spend on water and wastewater infrastructure. Australian governments own and operate approximately $100 billion in urban water infrastructure assets (Infrastructure Australia).

To maintain the level of water security expected by the community, these assets must be:

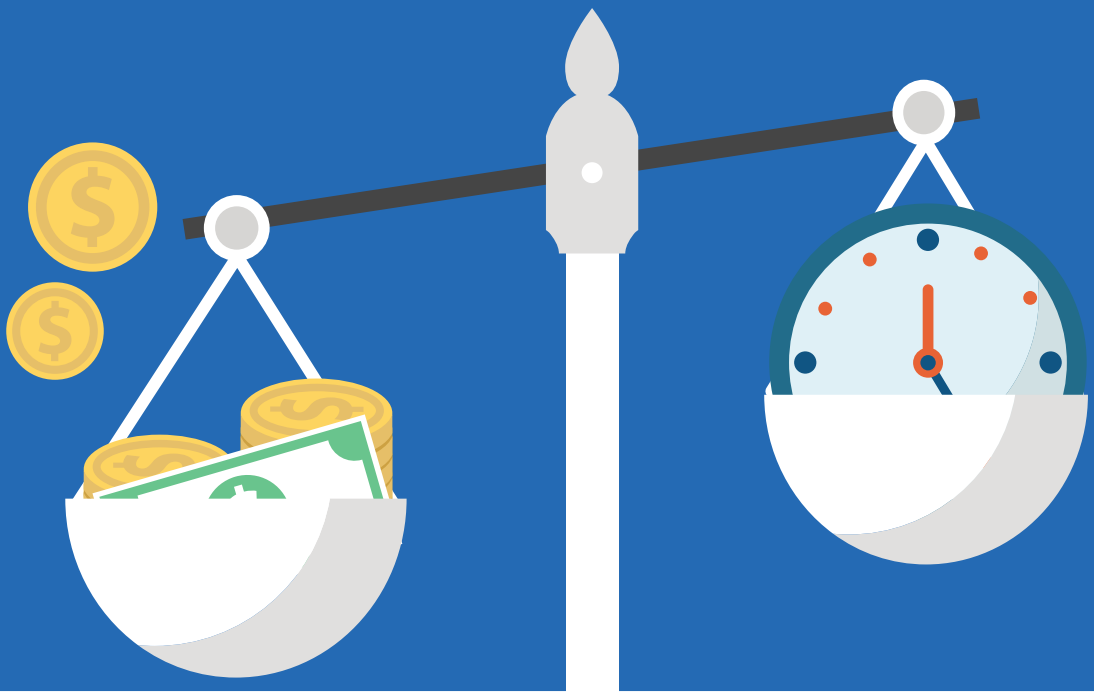
- replaced as they reach the end of their useful lives[2];
- refurbished to extend their lives; and/or
- expanded to meet the needs of a growing demand from increasing population and industry.

Capital expenditure programs are directly influenced by the age of the current infrastructure and the stage of each asset's life. Whilst this discussion paper does not reflect operational expenses and does not cover off each State and Territory regulations, compliance with ISO standards or ability to recover costs or influence pricing, it does provide considerations for planning and investment options for strategic asset investment.

Whilst to date there has not been a comprehensive stocktake of future investment needs across the sector in aggregate, the level of investment required to address all of these areas will be substantial.

Most water utilities are owned by State and Territory Governments, whose balance sheets and credit ratings are under pressure as they seek to fund infrastructure in other important areas such as transport, education and health. Initiatives that increase the availability and affordability of capital will likely alleviate this pressure and could have positive consumer impacts by improving the affordability and security of water.

2. Whole of life costings and Integrated Asset Management now take this into consideration. Whilst not directly applicable to water, the Australian Government has funding specifically to focus on asset recycling.



ALTERNATIVE MODELS FOR FINANCING WATER INFRASTRUCTURE

There are a range of alternative financing options available for water infrastructure projects from a variety of investment sources.

Each model is tailored to the specific needs of the companies and assets involved. Key to considering the most appropriate model is ensuring that the structure allocates and assesses the risk in the most efficient manner possible. This typically involves allocating risk to the parties most able to manage and mitigate, or otherwise deal with that risk. Some of the key risks to consider include construction and commissioning, supply, offtake, operations, environmental, reputational, management and economic. Whether the project could be structured a particular way may be determined by the type of project (including greenfield versus brownfield), size, age, capital profile, demand profile, integration, operational control, on or off balance sheet treatment, political sensitivities, and other government drivers.

TYPE OF ARRANGEMENT	INVESTMENT SOURCE		
	GOVERNMENT	BANKS	INVESTORS
RAB Model	✓	✓	✓
Green bonds			✓
PPP	✓	✓	✓
Value Capture	✓	✓	✓
Concessional loans	✓		
Grants	✓		
Long Term Lease		✓	✓
Direct Structured Lease		✓	
Indirect Structured Financing		✓	

KEY CONSIDERATIONS FOR CHOOSING AN APPROPRIATE MODEL

	RAB Model	Green Bonds	PPP	Value Capture	Concessional Loans	Grants	Long term lease	Direct Structured Lease	Indirect Structured Financing
Deal size	Medium to Large	Medium	Medium to Large	Medium to Large	Small to medium	Small to medium	Medium to Large	Small to large	Medium
Gearing	High	High	High	Depends on underlying model utilised	n/a	Min equity contribution typically req'd	Moderate to high	High	High
Typical Govt Balance Sheet Treatment	Off	On	On	Depends on underlying model utilised	On	Off but P&L impact	Off	IFRS lease accounting standard changes to occur 2019 after which time all leases are to be accounted for as on-balance sheet	Can be structured to be off balance sheet
Demand risk allocation	Varies depending on structure	Depends on underlying model utilised	Govt	Varies	Varies	n/a	Private	Govt	Govt
Ability to fund construction risk	✓	✗	✓	✓	✓	✓	✗	n/a	n/a
Ability to fund additional capex	✓	✗	✗ unless contemplated at commencement	✗	✗ unless contemplated at commencement	✗ unless contemplated at commencement	✓	✗ unless contemplated at commencement	✗ unless contemplated at commencement
Documentation	Extensive	Depends on underlying model utilised	Extensive	Extensive	Moderate	Minimal	Extensive	Minimal	Moderate
New legislation required	✓	✗	✗	Potentially	✗	✗	✓ if relates to privatisation of existing government owned asset	✗	✗

To assist in ascertaining which alternative financing model is most applicable for purpose and benefit, a detailed financing matrix appears as Attachment 1 depicting asset type, capital cost required and relevance to sector.

1. Regulatory Asset Base (RAB) Model

"Our idea was to create an economically regulated entity that would be attractive to as wide a range of investors as possible, including those who traditionally only buy into the brownfield or operational market. So we had to create a structure that took away or mitigated the types of key construction risks which would have otherwise effectively prevented those investors from bidding."

Charlotte Morgan, *partner at Linklaters (Thames Water Utilities counsel)*

MODEL OUTLINE

A regulatory asset base model is used as a means of regulating network industries where there is a high risk of monopoly pricing (e.g. electricity, railways, natural gas, transport, water supply and treatment).

Under this model, publicly-owned entities and/or private companies own, invest in and operate infrastructure assets.

In exchange for the delivery of services, an economic regulator will agree to 'fund' the costs of the infrastructure through the provision of regulated revenue. This effectively allows the regulator to establish a price cap in the natural monopoly network industry where, in the absence of competition, there is a risk that the company could set exorbitantly high prices for customers.

The benefit of the regulatory asset base model is that it provides pricing certainty to both the investing company and customers, resulting in increased efficiency and fairer consumer prices. The premise of the model ensures that costs of the infrastructure are borne over time, which avoids current customers subsidising the prices of future customers as well as the deferral of current costs to future consumers.

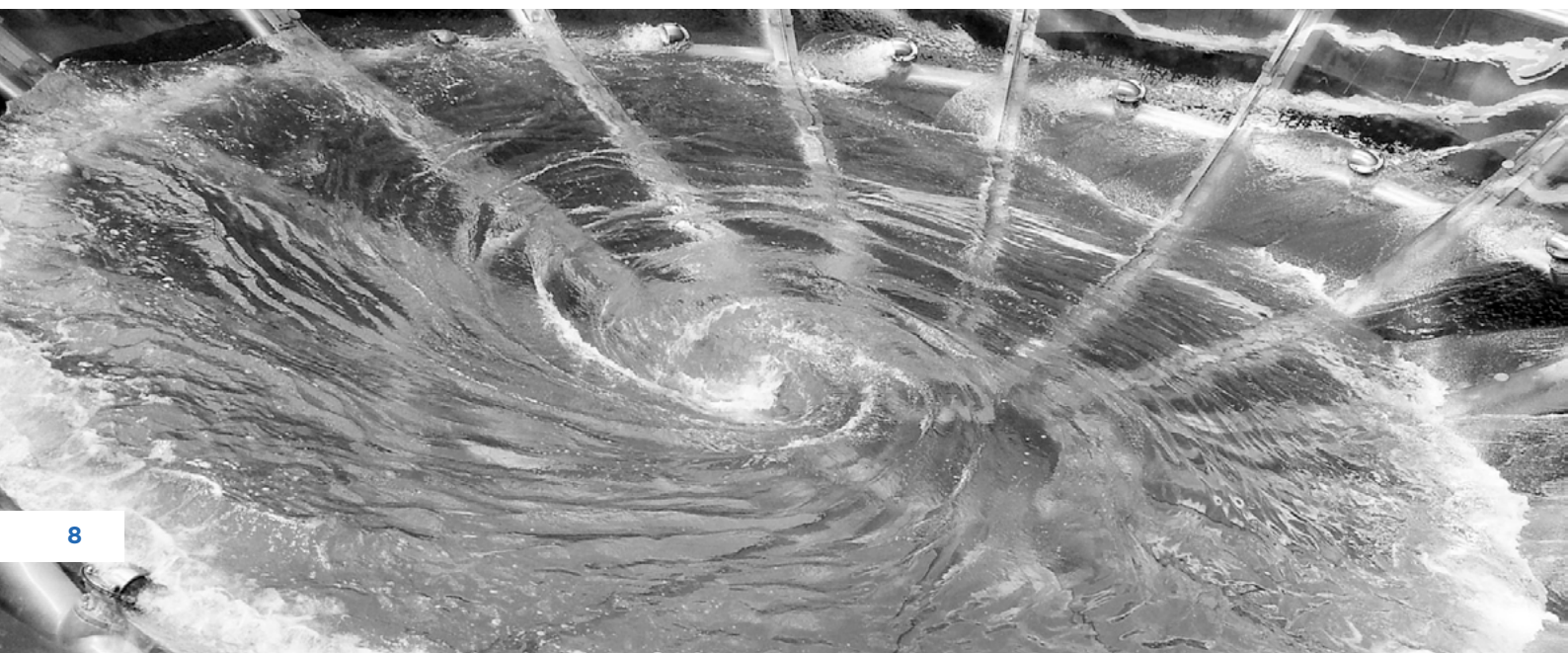
HOW THE MODEL HAS BEEN USED

A regulatory asset based model was developed by Thames Water, the private water utility responsible for operating the overall sewer network in London, for the Thames Tideway Tunnel (TTT) project.

The TTT project involves the construction of a 25 kilometre long sewage interception, storage and transfer tunnel below the Thames River in London to prohibit overflows. With an estimated cost of approximately £4.2 billion over ten years, delivery and funding from Thames Water was not feasible and alternatives were sought.

The TTT financial model was designed with target equity investors, namely the superannuation funds in mind, and with an aim of keeping the cost to customers as low as possible. This was achieved through:

- the use of a regulatory asset base model (as described above);
- the establishment of the company that would provide the infrastructure;
- a bespoke regulatory framework (i.e. legislation and regulations that were designed specifically for the project); and
- a government support package.



HOW THE MODEL HAS BEEN USED

The infrastructure provider

Thames Water established Bazalgette Tunnel Limited (Tideway) to design, construct, finance, test, commission, operate and maintain the TTT project. Tideway was established to look like an operating company prior to the project commencing and Thames Water selling the company to the equity investors. This involved Thames Water:

- establishing the board and appointing key operatives (including the chief executive officer, chief financial officer, project manager and team);
- investing £1.1 billion for development costs, enabling works and interface works;
- securing planning consent;
- acquiring the land;
- procuring the construction contracts; and
- putting insurance in place.

This meant that the equity investors in Tideway were purchasing a company that already had the operational capability and consents required to undertake the project.

Regulatory framework

The regulatory framework and licence granted to Tideway for the TTT project was designed in collaboration with the regulator, Ofwat. The framework included the following key characteristics:

- potential investors were required to bid the weighted average cost of capital (WACC) that would be earned by Tideway on its regulated capital value (RCV) during the construction period, (i.e. it was not determined by Ofwat);
- no amendments to the revenue provisions of the project licence held by Tideway are permitted during the construction period;
- all of Tideway's costs associated with delivering the project are automatically included in and remunerated via the RCV up to a certain threshold, with no ex post review;
- revenue is recovered based on a forward looking (one year) RCV to facilitate the financing of the project;
- revenue is adjusted for the real cost of debt (outside a pre-defined cap and collar) to limit Tideway's exposure to the market cost of debt; and
- there is a fixed incentive mechanism that rewards or penalises the investors depending on Tideway's cost performance versus target costs.

Government support package

The Government support package contained five key limbs, which reduced the risk the investors had to bear, as well as the capital commitment of the investors:

1. **Contingent Equity Support Agreement** specifically addressed the risks associated with tunnelling under London. It requires the Government to invest equity in the project in the event that cost overruns exceed a pre-agreed cap and Tideway is unable or unwilling to source additional private sector capital.
2. **Discontinuation** Government to take over the project where certain significant, prescribed project events occur.
3. **Supplemental Compensation** Government to supplement elements of the commercial insurance package obtained by Tideway and provides elements of continuing insurance cover where the agreed insurance package becomes unavailable.
4. **Market Disruption Facility** Government provided a £500 million facility that may be drawn down by Tideway if Tideway cannot access debt markets.
5. **Special Administration Offer Agreement** Government to make an offer to purchase Tideway or to discontinue the government support package should Tideway go into special administration and remain there for 18 months.

Essentially, the Government would use its financial strength to protect the investors from certain risks but without having to outlay any initial capital commitment.

OUTCOME

Tideway was purchased by a consortium which provided £1.275 billion of shareholder capital.

The consortium members are:

- INPP (IPP Bazalgette Limited) (managed by Amber Infrastructure);
- Dalmore Capital Partners (Dalmore Infrastructure Investments LP);
- Allianz Capital Partners (Allianz Infrastructure Luxembourg);
- DIF (DIF Bid Co); and
- Swiss Life (Bazalgette Investments Ltd) (managed by Amber Infrastructure).

The funds invested by the consortium come, in a large part, from UK pension funds covering 1.7 million UK pensioners (i.e. a quarter of the UKs 25 largest pension funds).

Debt finance is being provided by way of a £1 billion senior revolving credit facility with drawdowns commencing once all equity is drawn. The lenders are the Royal Bank of Canada, Credit Agricole, the Bank of Tokyo-Mitsubishi, Sumitomo Mitsui Banking Corporation, Banco Santander and Lloyds Bank.

"With a very targeted regulatory adjustment and a very clear sense of what infrastructure market investors would bear, we have managed to drive costs of capital down significantly. The competition achieved sizeable overall savings to the project and customer charges by fully leveraging the attractiveness of RAB models."

Charlotte Morgan, *partner at Linklaters (Thames Water Utilities counsel)*

Application to the Australian water industry

The regulatory asset base model is not a commonly used financial model in Australia to fund infrastructure projects.

Instead, its application has been seen in, for example, the electricity industry where the Australian Energy Regulator implements a cap on revenue according to the operational and maintenance expenditure, asset depreciation costs, tax liabilities and return on capital. However, government budgetary constraints, coupled with the need for new water infrastructure in certain states, means that a new delivery model for large water infrastructure is needed.

The TTT project could be adapted and used in Australia on a state by state basis with bespoke legislative and licensing regimes developed for each jurisdiction.

2. Green Bonds

"Strong demand from a diverse spectrum of investors for this transaction highlights the growing number of sustainable and ethical mandates within the institutional investment community. We expect the green bond market will continue to grow, as issuers look to tap the significant liquidity available."

Katharine Tapley, *ANZ's Head of Sustainable Finance*

MODEL OUTLINE

Green bonds are fixed interest debt capital market instruments where the proceeds are exclusively either applied to existing or proposed environmentally friendly assets or expenditure which aims to address key areas of concern such as climate change, water sustainability, biodiversity conservation or pollution.

Still a comparatively young and small class of investment, the green bond market is one of the fastest growing in the world.

The market has grown significantly since its inception in 2008. Issuances in 2016 reached a total of US $81 billion, nearly double the issuance in the prior year.

Momentum is building in the wake of the Paris climate agreement struck in late 2015 and greater investor expectation that the companies and projects they invest in have regard to environmental, social and governance issues. Green labelling of bonds provide issuers access to new pools of capital that they wouldn't otherwise have access to. Greater than 1,500 investors who manage over USD 45 trillion of assets globally have signed up to the UN Principles for Responsible Investment.

Many investors also have specific green mandates or wish to exhibit green credentials.

Types of green bonds:

1. Classic Bond

Typically issued by an investment grade issuer to fund a portfolio of green assets. The same credit rating applies to the green bond as the issuer's other debt instruments as there is full recourse to the borrower.

2. Project Bond

Ring-fenced for a specific underlying green project. Investors have direct exposure to one or several green projects.

3.Asset-backed Bond

The bond is collateralised by a portfolio of green underlying assets and/or receivables, which can change over time. The value of the assets must stay greater than or equal to the value of the bond.

WHAT QUALIFIES AS GREEN?

In order to maintain the integrity of green bonds, external verification is available for assets and projects that meet certain green principles. The International Capital Markets Association and Climate Bonds Initiative have both published criteria and reporting standards for assets or expenditure that qualifies for green bond issuance. The depth of applicability of green bonds is quite broad and can be applied to a range of corporate initiatives and expenditure.

www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-bonds

www.climatebonds.net

3. Climate Bonds Initiative

HOW THE MODEL HAS BEEN USED

Green bonds are the most common and comprehensive term for labelled bonds where proceeds are applied toward projects and assets with environmental benefit.

The "environment" may refer to a specific locality, such as a particular river or wetland, or to a more generalized benefit, such as lowering greenhouse gas emissions or improvements or upgrades to critical water infrastructure.

Australia and New Zealand Banking Group Limited	In 2015 ANZ raised $600 million to finance a portfolio of existing loans comprising wind and solar power projects as well as green star commercial property buildings in Australia, New Zealand and parts of Asia. For example, the portfolio includes Collins Square in Melbourne, Australia's second largest commercial mixed use development; comprising six commercial towers and the Southern Goods Shed. The development boasts the highest concentration of environmentally sustainable buildings in the Southern Hemisphere. The Goods Shed South, formerly a railway freight shed in the old Spencer Street rail yards, reflects the Collins Square commitment to innovation and sustainability. Through insulation, double glazing and rainwater harvesting, it is one of the oldest heritage buildings in Australia to achieve a 5 Green Star rating. The ANZ green bond issuance was the largest AUD climate related bond by an Australian issuer and received strong demand from a diverse spectrum of investors, many new to ANZ.
Treasury Corporation of Victoria	AAA rated $300 million issuance to finance a range of new and existing state investments in energy efficiency, renewable energy generation, low carbon public transport and water treatment. Projects include LED traffic lights, mini-hydro power stations, new trains and the development of a large-scale renewable energy power station. Victoria is the first Government in Australia to issue Green Bonds and is also the first state or Commonwealth Government anywhere in the world to receive international Climate Bond Certification. Water projects in the Victorian 2016-2017 budget which could benefit from green bond capital include: ◗ A Sustainable Irrigation Future; and ◗ Regional Water Infrastructure – South Gippsland Water – South Gippsland Water Security Project.

Application to the Australian water industry

The Green Bond market in Australia to date has largely been dominated by financial institutions. However, as the recent Victorian State Government and Monash University issuances demonstrate, there is interest from other sectors such as councils, governments, universities, utilities and private enterprise, as well as across asset classes, such as energy efficiency, transport, low carbon buildings and water.

Water-related investments account for a large portion of the capital assets of developed countries and investment in developing economies. Substantial climate adaption infrastructure will be required to ensure future clean and secure water supplies. For example, in the United States, there is a growing trend toward municipalities using green bonds as a mechanism for raising funding for long term water infrastructure upgrades. In response to these market demands, the Climate Bonds Initiative, a not-for-profit organisation dedicated to creating standards for Green Bond issuance, is currently developing criteria to clarify the sorts of investments that are consistent with improving the climate resilience of water assets.

This is expected to assist bond investors to quickly determine the environmental credentials of water-related Green and Climate Bonds and therefore support water project expenditure through increased water-related Green Bond issuance.

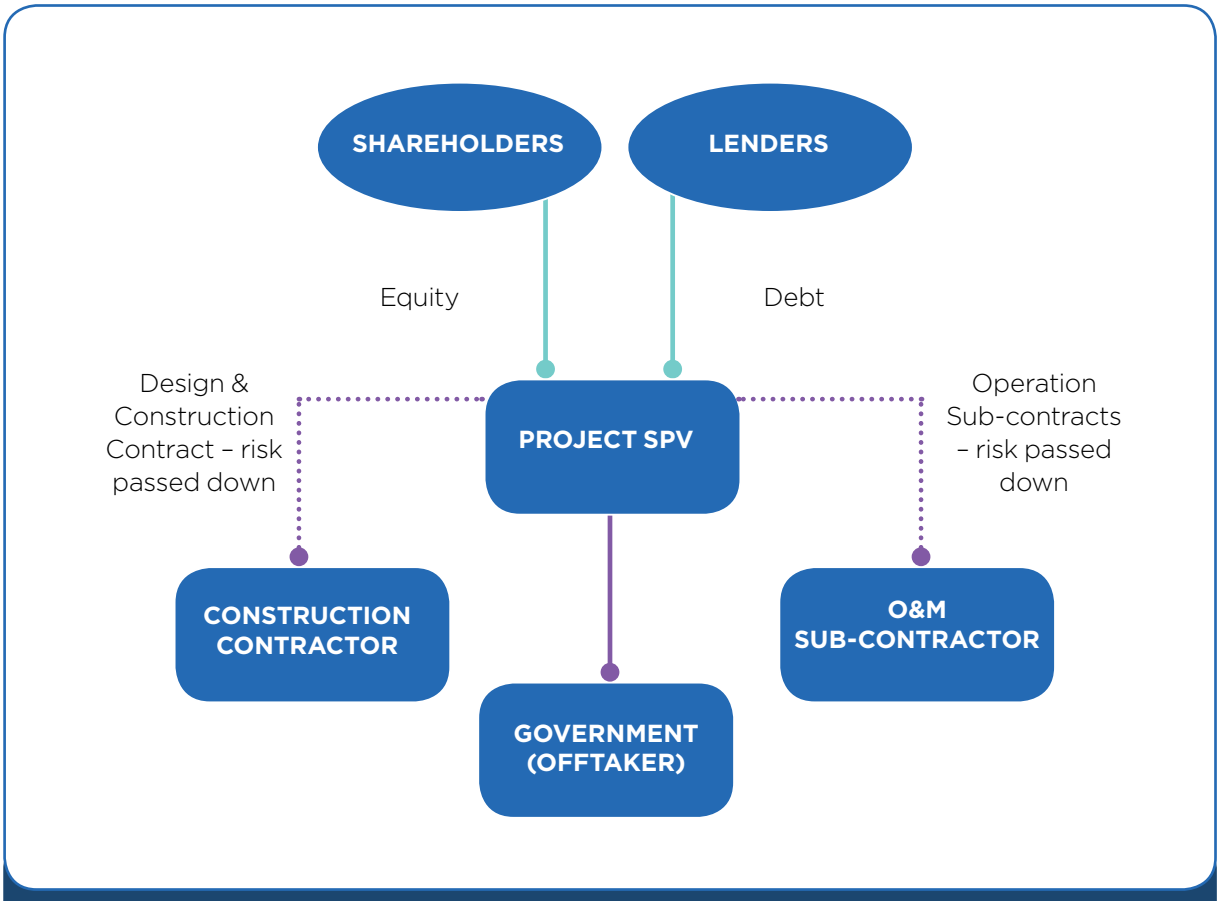
MODEL OUTLINE

A Public Private Partnership (PPP) has many definitions but for the purpose of this paper it is a long term service contract between the public and private sectors where the State, Territory or Commonwealth Government pays the private sector (typically a consortium) to deliver infrastructure and related services.

PPPs provide for efficient risk transfer and innovation through the provision of design, construction, financing, operation or maintenance of public infrastructure and related ancillary services by the private sector. Depending on the type of asset, the Government generally retains responsibility for delivery of the core service e.g. nursing or education in the case of hospital or school projects.

Private sector costs are recouped over time through availability payments made by the Government or in the case of some economic infrastructure assets either partially or wholly from users. Service payments are payable once operations commence and typically comprise a capital component and an ongoing service delivery component. Payments are often subject to abatement based on the private sector's performance in supplying the services to specified standards e.g. meeting certain minimum water volume, water quality and reporting standards.

Essentially, PPPs provide a delivery model that joins the need of public infrastructure with the capital, risk transfer, life-cycle asset management, optimisation of life-cycle costs and flexibility provided by private investors.



Transaction framework

RISK ALLOCATION

Government

- Land procurement
- Native title
- Emergencies
- Change in law
- Force Majeure (shared)
- Environmental (may be shared)

Project/SPV (risk passed down)

- Design & Construction (subject to certain carve outs e.g. outside the boundary works)
- Operations & Maintenance – water quality and volume shortages, filtration technology, plant efficiency, power procurement risk
- Force Majeure (shared)
- Environmental (may be shared)

HOW THE MODEL HAS BEEN USED

Victorian Desalination Plant	In July 2009, the State of Victoria awarded the Victorian Desalination Project to the AquaSure Consortium comprising Suez Environnement, Cimic and Macquarie Capital Group. The $3.5 Billion project was procured as a PPP to finance, design, build, operate and maintain a 150GL Desalination Plant, 84 km transfer pipeline and 87 km underground power transmission line, to create a drought proof water supply to the cities of Melbourne and interconnector to Geelong. The project was fully funded by the private sector, with more than 30 financial institutions from Australia, Europe and Asia providing debt funding in addition to equity contributions from AquaSure's shareholders. The State of Victoria pays a monthly service payment to AquaSure under a concession agreement which expires in September 2039. The monthly service payment contains a fixed capital component and a variable component for recovery of variable costs associated with water production. An abatement regime applies if the project fails to deliver the required volume of water, or delivers water outside of quality specifications. At the end of the 30-year contract period the desalination plant will be handed back to the government, debt free and in full working order. The project has received numerous water industry awards and for the initial financing which was achieved at the height of the global financial crisis. While the key benefit of the desalination plant is a rainfall independent water supply, the project also resulted in a number of local and state-wide social and economic benefits: ◗ The project created 10,500 jobs (4,500 at the peak of construction) and increased spending in local areas by the construction workforce; ◗ Economic boost during construction with over $900 million of contracts going to Victorian and Australian companies; ◗ South Gippsland water customers now have access to Melbourne water storages for the first time; ◗ The Victorian government committed $12 million to upgrade roads and associated infrastructure in the local area; and ◗ A major ecological restoration project regenerated farm land and the coastal environment surrounding the plant.
Prospect Filtration Water Plant	In 1992 Sydney Water Corporation entered into a PPP with a consortium comprising Suez Environnement, UniSuper, Lend Lease and Macquarie Group to build, own and operate one of the world's largest filtration plants. The $240 million plant was commissioned in November 1996, six months ahead of schedule, followed by a $20 million augmentation in 2002. The project is designed to filter 3000ML per day and can provide drinking water to approximately 80 per cent of Sydney's population. Sydney Water Corporation initially entered into a 25 year agreement, which was recently extended for an additional 15 years to 2035 due to the success of the partnership to date.

Application to the Australian water industry

PPPs are a proven infrastructure procurement method for economic and social infrastructure assets with a total capital value in excess of $50 million. PPPs have been successfully used for a variety of water related assets in Australia, including water and waste treatment plants, desalination plants and irrigation schemes.

4. Value Capture

MODEL OUTLINE

Value capture funding methods refer to private sector contribution to the cost of public sector infrastructure based on the value uplift that the infrastructure provides to the community. Value capture methods are typically used in conjunction with other financing mechanisms (e.g. PPP, Project Finance, Grants, etc.) to help fund infrastructure projects.

Value uplift may consist of:

- increased land values;
- environment and safety improvements;
- improved access to other infrastructure; or
- economic development and population growth.

The funding method typically applies to sharing the benefits of increased land values and densities that are driven by infrastructure projects. A tax, levy or charge is applied over a specified period of time for properties, people ro communities that specifically benefit from the infrastructure.

This is not a new tax, or a broad based levy as it only applies to the direct beneficiaries of a project and the amount payable represents a portion of the benefit that they would not otherwise receive.

APPLICATION TO THE AUSTRALIAN WATER INDUSTRY

Value capture is a viable funding method and best suited where clear direct benefits can be quantified, for example this could be considered or applied to water infrastructure projects as follows:

- Improving dam heights, which may reduce insurance costs or increase land values;
- Increased crop volume and quality due to irrigation systems, leading to increased production and land value;
- New water source connections, which may increase land values; and
- Higher quality and secure water sources, which may save treatment costs downstream.

Consideration needs to be given to the form of the tax / charge / levy, how it is applied and calculated, to whom it applies, under what mechanism, timing and tenor.

5. Concessional Loans

MODEL OUTLINE

A concessional loan is the provision of funds to a borrower where the lender charges the borrower a low or concessionary rate of interest below the market rate. Concessional loans are typically provided to a borrower by a government entity (federal or state/territory). Typically the interest rate is reflective of the government entity's own funding costs, versus the rate otherwise available to the borrower in the market. Interest payment schedules may vary through the term, but principal is generally repayable at the end of the term.

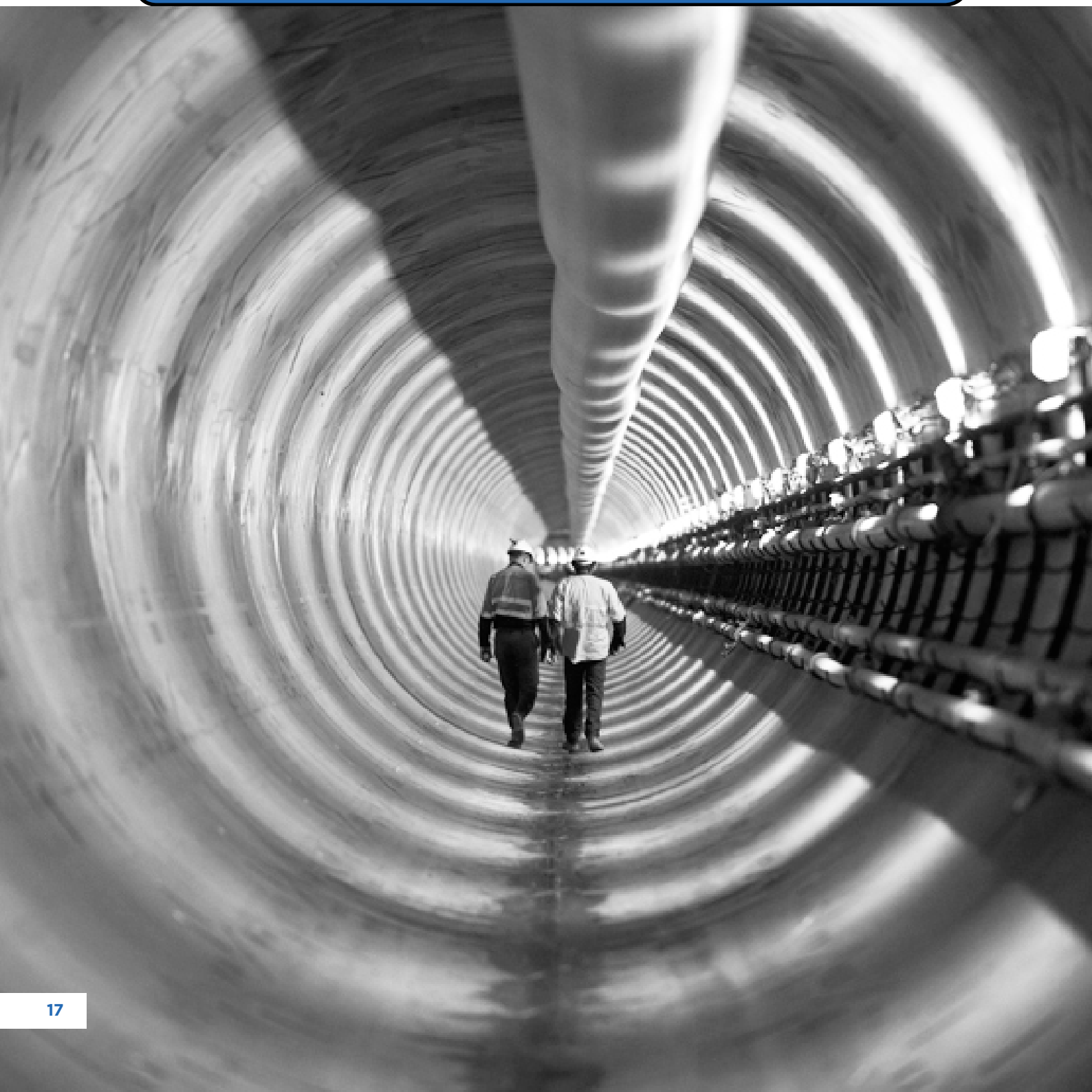
HOW THE MODEL HAS BEEN USED	
WestConnex Project	The WestConnex Project is a $17 billion project for the construction of a 33km road to complete Sydney's Orbital Road Network. The project will be delivered in three stages over ten years and is due to be completed in 2023. In 2015, the Commonwealth Government provided a $2 billion concessional loan to the Sydney Motorway Corporation to support the second stage of the project. The concessional loan was designed to accelerate the delivery of stage two of the project and enable this stage to be constructed at a reduced capital cost. The loan is available for drawdown during the stage two construction period, being 1 July 2015 until 31 December 2018. The interest rate will be equivalent to the Commonwealth Government 10-year bond rate. Repayment will occur when the project becomes operational and generates revenue, with the full repayment of the loan expected by 2029.
Remediation of Asbestos	In 2014, the Federal Government provided the Australian Capital Territory (ACT) Government with a 10-year concessional loan of up to $1 billion to deliver a program that will see the ACT Government buy back and demolish asbestos affected houses in the ACT. The ACT Government will use the proceeds of the sale of the vacant blocks to cover up to 70% of the loan. The remaining portion of the loan will be paid for by the ACT Government. The interest rate on the loan is the Commonwealth Government 10-year bond rate with repayment due by 30 June 2024.
International Water Infrastructure	Concessional loans also comprise a large portion of overseas development assistance to the water sector. For example, the World Bank's International Development Association uses concessional loans to support the development of new water infrastructure in various countries including Argentina, Chile and Kenya.
Drought Concessional Loans Program	In the agriculture sector, drought and farm finance concessional loans have been provided as debt relief by the Commonwealth Government. The maximum loan amount available was $1 million or up to 50 per cent of the farm business' eligible debt – whichever was lower. Loans could be used to restructure existing debt or provide new debt for productivity enhancements (Farm Finance Concessional Loans Program), or operating expenses and/or drought recovery and preparedness activities.

Application to the Australian water industry

Concessional loans will soon be used in the Australian water industry with the Commonwealth Government announcing $2 billion over a ten year period for the National Water Infrastructure Loan Facility.

From 1 July 2016 State and Territory Governments have been eligible to apply for a concessional loan to co-fund the construction of water infrastructure projects, such as dams, irrigation adaptation, pipelines and aquifer recharge projects. Although private companies will not be eligible for the loans, consortiums of state governments and the public sector will be considered. The state and territory governments will be required to co-fund 50% of the project costs.

The Commonwealth Government will assess applications on cost-effectiveness and financial viability. The loan period will be for a maximum of 15 years, and may be structured so that loan recipients are only required to make interest-only payments for the first five years of the loan period.



6. Grants

MODEL OUTLINE

Grants involve the provision of funds by a grantor (commonly Federal, State, Territory or Local Governments) to be eligible recipients to be used for a specified purpose. Grant money is generally distributed following an application process by recipients. Although grants are not repayable, they are often provided subject to a number of conditions, for example specified use, maintenance of certain standards, proportional contribution by the recipient, educational and social obligations and regular project progress reports. Further, grants are often deemed to be taxable income in the year the entity receives the grant. Accordingly, entities may be required to pay tax on grants they receive.

HOW THE MODEL HAS BEEN USED

Public goods

Grants are frequently used by governments of all levels where the grantor seeks a non-financial return on their investment. Typical goals include the increase of social and public benefits, the reduction of future public expenditure (i.e. grants for research into curing disease) and increasing economic outcomes in the community (i.e. creating jobs through training and small business development).

Accordingly, governments provide grants as a means of achieving government policy objectives by administering financial assistance to Australian industries, business and individuals annually to encourage projects that will provide significant benefits to the Australian public.

Application to the Australian water industry

Grants are a common way of funding water infrastructure in Australia. For example, the Victorian Government contributed grant money towards the construction of a pumping station and associated infrastructure at Hattah Lakes to allow a more natural water regime to be delivered to the wetlands. The Commonwealth Government has also established the National Water Infrastructure Development Fund that will provide grants for the construction of new water infrastructure or the improvement of existing water infrastructure.

The Cities and Towns Commonwealth funding provided election commitments and cofunded projects of $254.8 million providing funding to cities and towns with fewer than 50,000 people to upgrade older water systems, install new infrastructure and support practical projects that save water or reduce water losses. The $509.5 million fund is split into two components: a $450 million capital component that will go towards building water infrastructure in partnership with the private sector and state and territory governments (which includes a $170 million component for northern Australia); and a $59.5 million feasibility component that will be used to conduct feasibility studies for future water infrastructure projects. Funding for the capital component will be available from 2017-18 and no projects have been announced so far. However, some projects have been identified as being eligible to receive funding from the feasibility component of the fund, including a $15 million grant for CSIRO to undertake water resource assessments to determine best placement for water infrastructure in regions in Queensland, Western Australia and the Northern Territory.

An example of grant based funding of water infrastructure at the state level is the NSW government's Sustaining the Basin Irrigated Farm Modernisation program. This program allows eligible irrigators in the NSW Border Rivers, Lower Namoi and Barwon Darling catchments to apply for a share of the $111 million of funding to upgrade on-farm water infrastructure.

7. Long Term Leases

MODEL OUTLINE

A long term lease is a contractual arrangement between two parties, in which the lessor (typically a government entity) grants the lessee exclusive use over an asset or a piece of land for an agreed sum and time period.

As suggested by the name, the term of the lease is for an extended period of time and typically has the following characteristics:

- The lease is normally over assets which have already been built (the investment and financing of the infrastructure assets are the responsibility of the public partner prior to commencement of the lease).
- The private entity pays an upfront right to lease the asset as it sees fit.
- The private entity is solely responsible for the operation and maintenance of the infrastructure assets for the life of the lease.

HOW THE MODEL HAS BEEN USED

Long term leases have been used as a means for government agencies to raise significant funds by contracting with the private sector for use of government-owned assets and infrastructure. The arrangement allows the government to maintain ownership of public facilities and control over the public services, while at the same time entrusting operational and maintenance responsibilities to the private-sector operator at its own risk.

Depending on the nature of the assets, enabling legislation can be required to authorise the lease and confer appropriate powers on the private entity to operate the services and effect any required business structuring.

HOW THE MODEL HAS BEEN USED	
TransGrid, Ausgrid and Endeavour Energy	In December 2015, the NSW Government entered into a 99-year long term lease with the NSW Electricity Networks consortium for the state's electricity transmission company, TransGrid. The lease is worth $10.26 billion. Proceeds from the transaction are expected to go towards new roads, hospitals, schools and water infrastructure. A similar 99-year long term lease has been entered into between the NSW Government and a partnership comprised of a 50.4% privately-owned interest (owned by IFM Investors and AustralianSuper) and 49.6% State-owned interest for the lease of Ausgrid. Ausgrid operates the electricity distribution network for the Sydney, Central Coast and Hunter regions. The lease delivered $16.189 billion to the NSW Government and will help fund critical infrastructure projects. The NSW Government has also commenced the process seeking bidders for a long term lease arrangement for Endeavour Energy, the operator of the electricity distribution networks for western Sydney and the Illawarra. Similar to Ausgrid, the lease will be a partnership comprised of a 50.4% privately-owned interest and 49.6% state-owned interest.
Port Botany and Port Kembla	In 2013, the NSW Government entered into a 99-year lease worth $5.07 billion with the NSW Ports consortium for Port Botany in Sydney and Port Kembla in Wollongong. More than 80 per cent of the ownership rests with Australian superannuation funds, with the NSW Ports consortium, which consists of Industry Funds Management, AustralianSuper, Cbus, HESTA, HOSTPLUS and Tawreed Investments Limited (a wholly owned subsidiary of the Abu Dhabi Investment Authority). Sale proceeds were put towards infrastructure such as the WestConnex motorway in Sydney and upgrades to the Pacific Highway.
Port of Melbourne	In September 2016, the Victorian Government leased the Port of Melbourne to the Lonsdale Consortium (comprising the Queensland Investment Corporation, Future Fund, Global Infrastructure Partners and OMERS) for 50 years. The $9.7 billion the Victorian Government received from the lease will go towards future transport projects and building key infrastructure initiatives.

Application to the Australian water industry

As long term leases to the private sector are an effective means of generating funding for further infrastructure, this funding model has been used in the Australian water industry on a number of occasions.

An example of such an application is the 50-year lease of the Sydney Desalination Plant to Hastings Fund Management and Ontario Teachers' Pension Plan in June 2012. The New South Wales Government announced its intention to put the $2.32 billion generated from the lease agreement towards retiring debt to enable freeing up for capital investment in new infrastructure, held against the asset and Restart NSW (the State's infrastructure fund). As part of the transaction, Sydney Water Corporation also entered into a 50-year water supply agreement with the Sydney Desalination Plant. The plant has the potential to produce up to 15 percent of New South Wales' water needs.

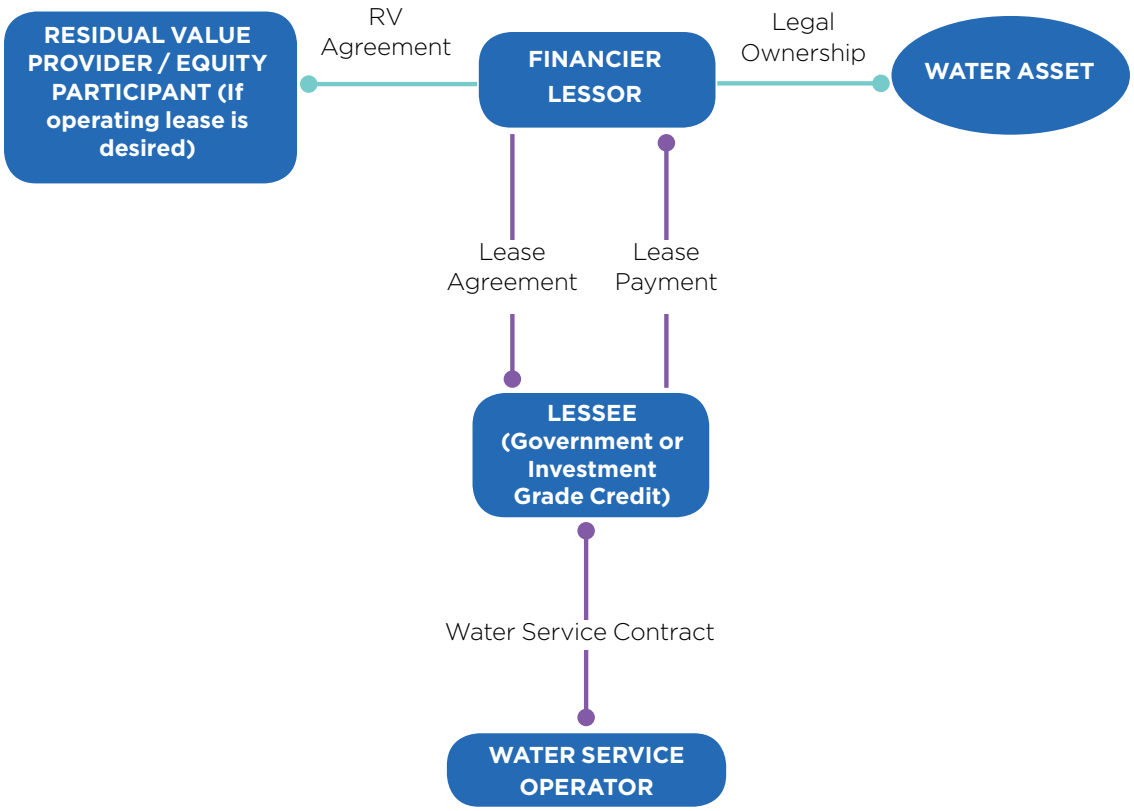
8. Direct Structured Lease

MODEL OUTLINE

Direct structured leases are a very popular and a price-effective financing solution. These solutions finance up to 100% of the asset value and, if structured as an operating lease, can deliver off-balance sheet accounting treatment.

Typically, the transaction steps are:

1. Lessor will purchase the water assets from a water services operator or asset manufacturer.
2. Lessor will lease the water assets to lessee. Lessee will be the end customer of water services operator and there will be an implicit water services contract between the two parties.
3. The lessee will be obliged to make contractual periodic lease payments, which are determined by taking into account the credit strength of the lessee (e.g. Government or investment grade credits will be particularly attractively priced).



Example Structure Diagram

HOW THE MODEL HAS BEEN USED

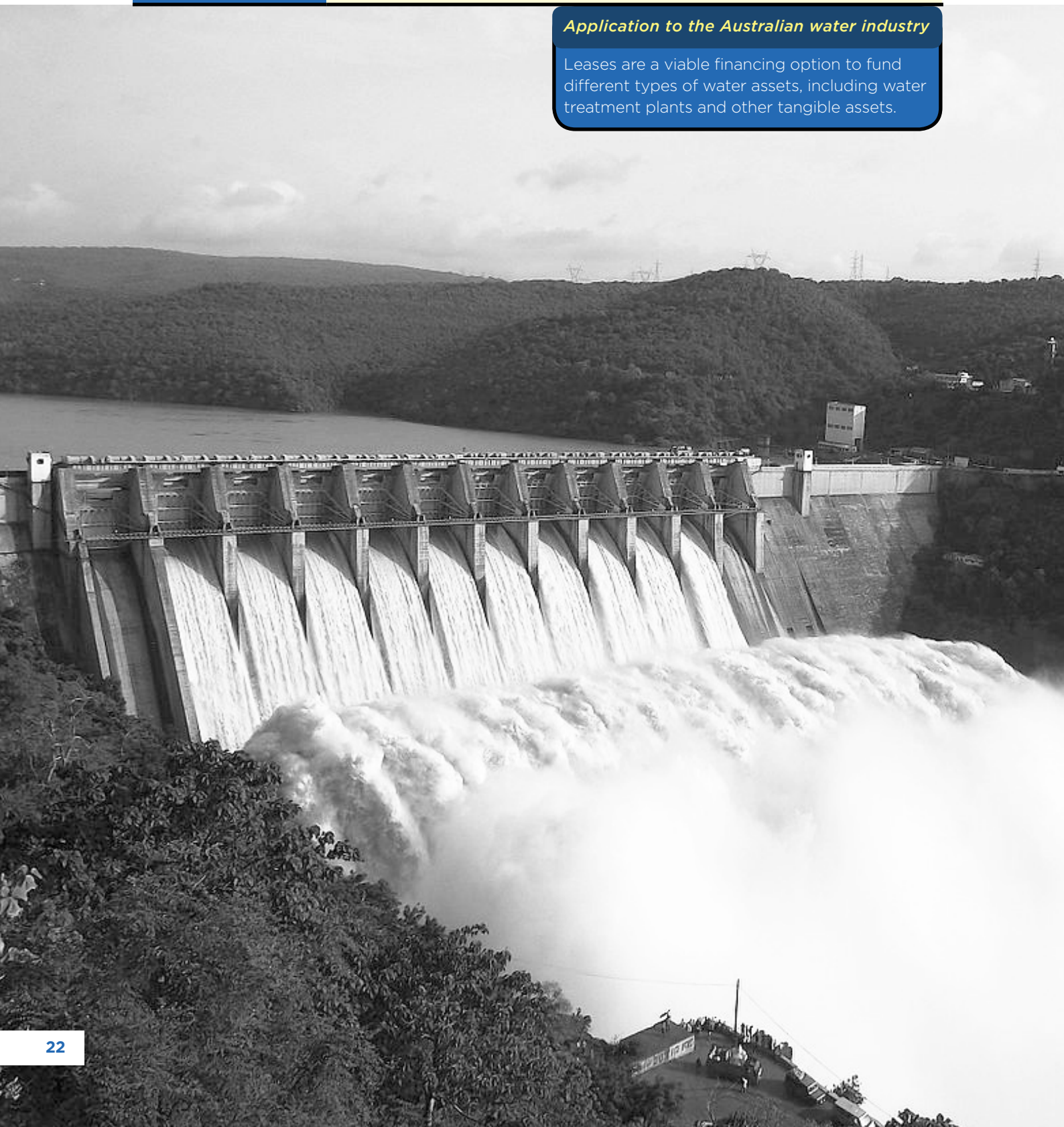
Wide range of tangible assets and capital goods

This solution has been used to finance a variety of asset classes across a wide range of industries, including but not limited to:

- Aircraft
- Rolling stock
- Mobile mining equipment
- IT equipment
- Shipping vessels

Application to the Australian water industry

Leases are a viable financing option to fund different types of water assets, including water treatment plants and other tangible assets.



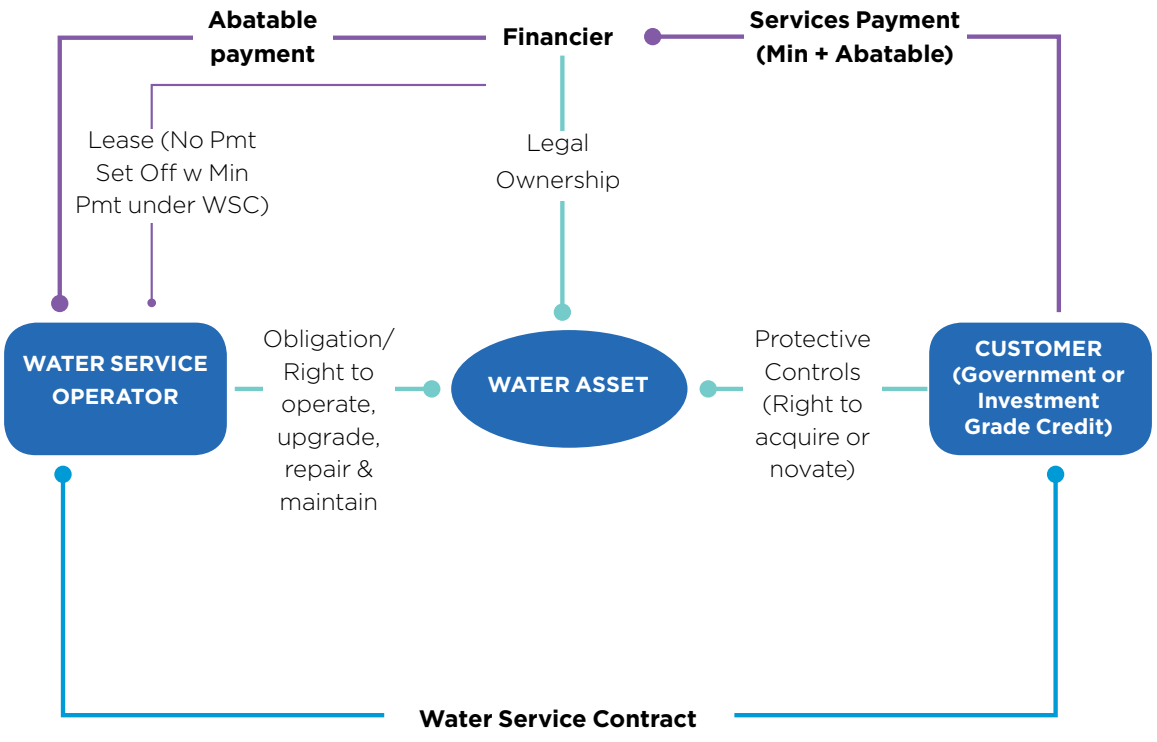
9. Indirect Structured Financing

MODEL OUTLINE

Indirect structured financing solutions are another popular and price effective financing solution which can be tailored to the bespoke requirements of the transaction parties.

Typically, the transaction steps are:

1. Financier will fund the water services operator to purchase the applicable water asset/s required for the water services contract with its customer.
2. Water services operator will enter into a water services contract with its customer.
3. Customer will be then be obliged to make a single 'services' payment directly to the lender. This payment will comprise of two components; being the minimum asset payments due to the lender for provision of financing and covering the cost of the water asset; and the service payments due to the water services operator for the provision of their service, being an abatable payment.
4. The lender is then obliged to pass-on the abatable service payments directly to the water services operator.



Note: The parties also enter into a tripartite.

Example Structure Diagram

HOW THE MODEL HAS BEEN USED

Indirect financing solutions are a popular financing option used for a wide range of tangible asset classes and capital goods across a broad spectrum of industries.

The solution has been particularly popular for funding public transport assets for State Governments.

Application to the Australian water industry

This solution is applicable to the Australian water industry depending on the key objectives of all parties involved, and will be particularly applicable to larger scale transactions.

HOW TO GET INVOLVED

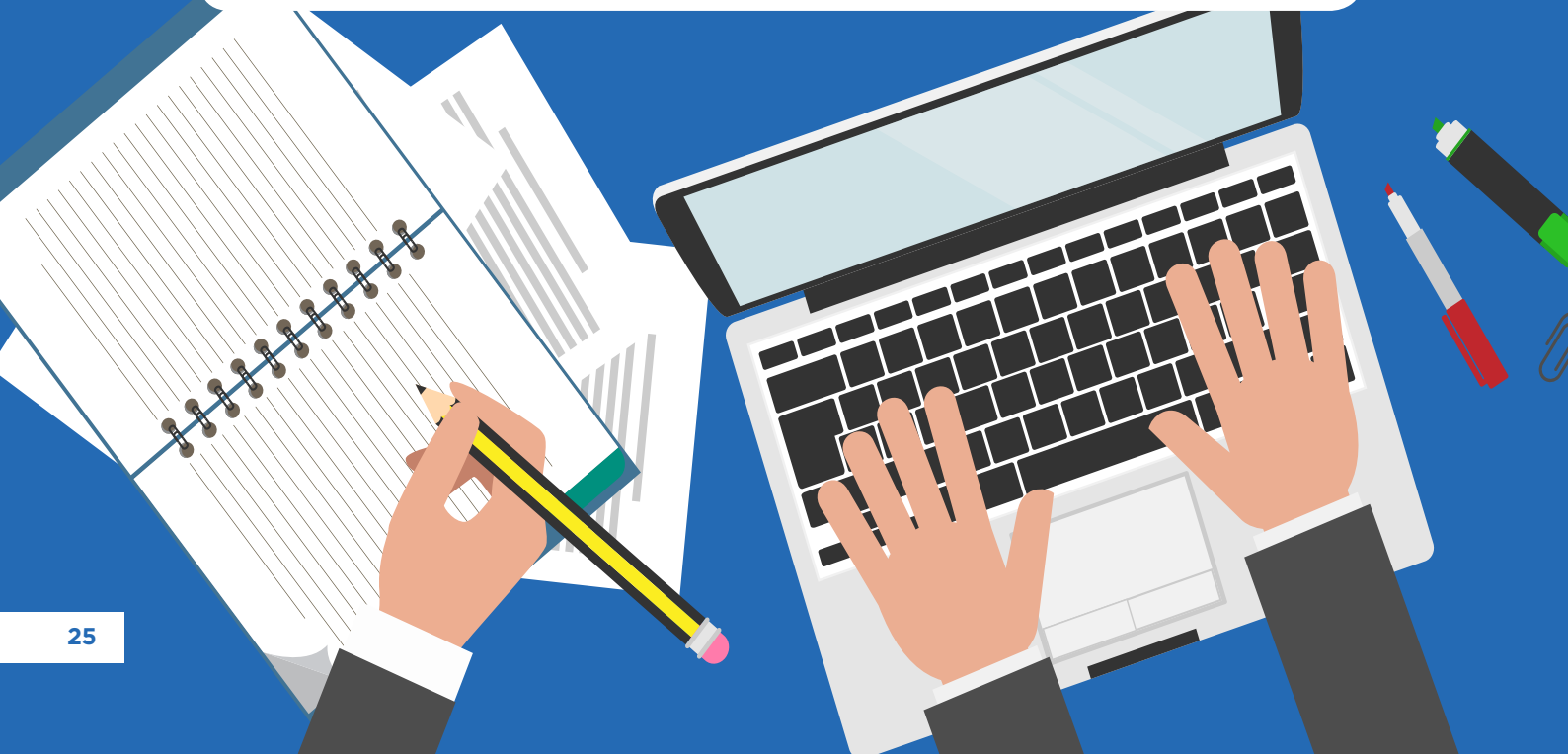
If you would like to get involved in the discussion around innovative ways to finance water infrastructure to help meet Australia's water security needs, send examples of your use of the models, or any other alternative sources of funding and register your water infrastructure needs or projects on the AWA website.

In Australia as we have such a wide ranging delivery of water suppliers and capacity, as many scalable examples are welcomed.

AWA is advocating and advising governments and the community how to improve water security in the best interests of the country. To strengthen its expertise and capacity, AWA invites support from industry and community associations, utilities and corporations who wish to be national leaders in advancing Australia's water security.

Under the banner of *Water Security for All Australians*, AWA and its partners will:

- conduct briefings to government and the media;
- prepare discussion papers designed to introduce concepts and ideas that advance the understanding of, and opportunities to improve water security;
- launch the *Water Security for All Australians* scorecard at Ozwater'17 on 16-18 May 2017; and
- based on feedback from its members, government and the community, continue to improve the scorecard and the quality of debate.



WHO DO I CONTACT AT AWA ABOUT ITS ADVOCACY PLATFORM?

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ATTACHMENT 1 – FINANCING MATRIX

Efficient risk allocation and access to low cost capital through appropriate utilisation of alternative financing models has the potential to bring real benefits to the water industry and consumers.

The summary below provides an overview of key considerations in determining an appropriate model.

	COUNTERPARTY	TYPES OF ASSETS	TERM	MINIMUM CAPITAL COST	RISK ALLOCATION	AWA NETWORK APPLICATION			
						GOVERNMENT	UTILITY	TECHNICAL SERVICE PROVIDER	CONSULTANTS
Regulatory Asset Based Model – TTT example	Private companies and publically owned entities in collaboration with the economic regulator and government bodies.	Capital assets in regulated industries (e.g. water supply and treatment, electricity, railways, natural gas and transport.)	Long term projects where return on investment occurs over the life of the asset.	Suitable for medium to large scale transactions.	Private companies/ investors take standard risks associated with infrastructure projects Government takes highly contingent (but significant) risks.	✓ May provide a government support package, to mitigate certain risks.	✓ Beneficiary of new infrastructure for customers at a lower cost of capital.	✓ Potential provider of services e.g. construction or operation and maintenance of project.	✓ Due diligence. Advice on project structure.
Green Bonds	Investment grade rated council, state, commonwealth governments, private enterprise or projects.	New and existing green assets or expenses that meet the criteria established by the International Capital Markets Association and Climate Bonds Initiative. Operating assets are favoured. Examples include wastewater, storm water, treatment plants, sewer systems, water efficiency, water reclamation, clean water and drinking projects.	Up to 10 years. Longer tenor could be achieved depending on the structure.	Public placement: >$100million Private Placement: >$50million	Classic bond – full recourse to the borrower. Project/portfolio bond – recourse to underlying assets only.	✓ Issuer of green bond	✓ Possible beneficiary of capital for new projects.	✓ Provider of water infrastructure assets Potential to access for working capital.	✓ Verification of green assets Due diligence

ATTACHMENT 1 – FINANCING MATRIX

	COUNTERPARTY	TYPES OF ASSETS	TERM	MINIMUM CAPITAL COST	RISK ALLOCATION	AWA NETWORK APPLICATION			
						GOVERNMENT	UTILITY	TECHNICAL SERVICE PROVIDER	CONSULTANTS
Concessional Loans	Commonwealth or State Government as Lender and private or public entities as the borrower.	Capital assets.	Variable.	Small to medium transactions.	Borrower takes risk. Lender takes security over assets.	✓ Provides funds.	✓ Potential borrower.	✓ Potential provider of services.	✓ Due diligence Advice on loan documents.
Grants	Government bodies as grantors and public or private entities or individuals as recipients.	Capital assets or other services that are for the public good.	Numerous	Small to medium scale projects.	Government will usually have a clawback mechanism if funds are misspent or underspent. Private enterprise retains project risk.	✓ Provides grant funds. Determines recipients of funds.	✓ Receives and applies funds in accordance with the grant conditions.	✓ Potential provider of services e.g. construction.	
Public Private Partnerships	Available to State and Commonwealth Governments and wholly owned Government utilities. Private sector responsible for own financing.	Water and waste treatment plants, desalination plants, irrigation schemes.	> 25 years	> $50 million	Efficient allocation between Government and private enterprise with established KPI and abatement regime. Government retains water usage risk.	✓ Commissions the project from the private sector Ownership of the water asset returns to the government at the end of the concession.	✓ Purchases the water or service from the private sector through periodic payments. Can be responsible for the provision of the service depending on the risk allocation e.g. water treatment.	✓ Contracted to perform services e.g. construction or operation and maintenance of project.	✓ Mandated to conduct due diligence on the project and advise relevant parties.

ATTACHMENT 1 – FINANCING MATRIX

	COUNTERPARTY	TYPES OF ASSETS	TERM	MINIMUM CAPITAL COST	RISK ALLOCATION	AWA NETWORK APPLICATION			
						GOVERNMENT	UTILITY	TECHNICAL SERVICE PROVIDER	CONSULTANTS
Value Capture	Available to State and Commonwealth Governments and wholly owned Government utilities. Potentially the private sector depending on the risk profile of the payment stream.	Needs to have an identifiable and quantifiable value based benefit, ideally covering a high impact area.	The levy. or charge generally applies over a fixed return period (e.g. 20-30 years), but can take other forms (e.g. stamp duty).	>$100 million Can contribute up to 10-20% of project value.	Depends on the asset and type of levy / charge. Appropriately allocated to the government, private sector or community that receives the benefit.	As per the underlying model utilised			✓ Mandated to conduct due diligence on the project and advise relevant parties. Advises on appropriate recovery mechanism.
Long Term Leases	Government entity as lessor. Private entity as lessee.	Capital assets.	>10 years.	Suitable for medium to large scale transactions.	Lessee takes customer payment risk.	✓ Grants the lease over the asset. Retains ownership of the asset.	✓ Potential beneficiary from capital raised from the lease of the asset.	✓ Potential beneficiary from capital raised from the lease of the asset.	✓ Due diligence. Advice on project structure and documentation.
Direct Structured Leases	Lessee to include Commonwealth and State Governments or other credit worthy entity.	Capital goods including but not limited to water treatment plants and other tangible assets.	Up to 10 years, depending on the credit profile of the lessee.	Suitable for both small and large scale transactions.	Financier will take clean lessee payment risk. Water services operator to take performance risk in accordance with agreed water services contract.	✓ Commissions capital goods from the private sector, which are purchased by the financier. Makes periodic lease payments to the lessor financier.	✓ Water Service Operator to be responsible for managing and providing the essential Water Services with respect to the water assets.		✓ Mandated to provide independent valuations and/ or inspections of the water assets.
Indirect Structured Financing	End customers to include Commonwealth and State Governments or other credit worthy entity. Water services operator to be reputable industry contractor.	Capital Goods including but not limited to water treatment plants and other tangible assets.	Up to 10 years, depending on the credit strength of the end customer.	Suitable for larger scale transaction of >$30 million.	Financier will take clean end customer payment risk. Water services operator to take performance risk in accordance with water services contract.	✓ Commissions capital goods from the private sector, which are purchased by the technical service provider, assisted by financier. Government to enter into a services agreement with technical service provider Makes periodic single 'services' payments to financier.	✓ Enter into a services agreement with government Assisted by the financier to purchase water assets. To be responsible for managing and providing the essential water services with respect to the water assets.		✓ Mandated to provide independent valuations and/ or inspections of the water assets.