

INFRASTRUCTURE ASSET RECYCLING

Insights for governments and investors



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KEY TAKEAWAYS

- 1 Infrastructure asset recycling involves the monetization of existing public assets through sale or lease to the private sector, with all funds received being reinvested in new infrastructure. Asset recycling offers the opportunity to provide newly needed infrastructure without adding to public debt, all while maintaining or potentially improving existing infrastructure service delivery.
- 2 Experience shows that asset recycling is not always a straightforward process. This can be seen in the case of Australia, the most recent champion of asset recycling. Australia's asset recycling scheme may not have reached initial government investment targets, but it is broadly considered to have been a success.
- 3 Australia's experience has provided a number of valuable lessons for other governments and private investors to learn from. A key takeaway is that asset recycling is not always a suitable solution to a country's infrastructure needs. The decision-making process must take account of future infrastructure needs and the government's ability to fund those needs.
- 4 Having enough public assets to potentially monetize is a key pre-requisite for an asset recycling scheme, but equally important is the willingness of the general public to accept private investment and management of infrastructure. Previous negative experiences with privatization in a country may cause lasting damage to public perception of asset recycling.
- 5 Regular public-private engagement is required before launching an asset recycling scheme. From a governmental perspective, this dialogue is important for building strong public support as well as providing comfort that there will be enough private sector interest to generate a competitive bid. For private investors, the value is in early sight of what assets will be included in any scheme, and what the likely contractual clauses will be.
- 6 For foreign investors, national security concerns expressed by government officials and other stakeholders must be taken into consideration. This concern may be more apparent with the growing wave of populism moving across the world. Governments such as in Australia and the EU have provided a better playing field for investors by setting clear rules which guide investors regarding what asset types are options for foreign investors.
- 7 Transferring an asset from public to private ownership will generate significant risks for the new operator. The challenge for an investor is knowing when and how to undertake commercial risk transfer, when to push back to the government, and when to retain the risk. This will apply both in terms of operating the asset and in terms of working within a potentially shifting regulatory environment.
- 8 Challenges associated with privatizing a workforce should not be underestimated. It is likely that a review of organization structure and executive team composition will be required, along with a broader review of the approach to rewarding the workforce and ensuring that the transition is as smooth as possible.

INTRODUCTION

According to the Global Infrastructure Hub, the global infrastructure investment needs across 50 countries and seven sectors from 2016 to 2040 will reach \$94 trillion.¹ In Asia alone, infrastructure investment needs from 2016 to 2030 are estimated at \$26 trillion, or \$1.7 trillion per year, for the region to maintain its pace of development according to a recent report from the Asian Development Bank (ADB).²

While governments must take the lead to meet this massive infrastructure need, they cannot fund this level of infrastructure investment alone. Therefore, increased private participation is required to close the financing gap and many governments have increasingly tried to position their countries as favorable destinations for private infrastructure investment.³

One mechanism to achieve this has been for governments to attempt to increase the number of Public-Private Partnership (PPP) agreements, but this process is not without its challenges. Where a government has a limited budget to direct towards infrastructure investment, one potential option that has been pursued is infrastructure asset recycling. The concept of asset recycling consists of two main components:

- A. The monetization of existing assets through sale or lease to the private sector, followed by
- B. Reinvestment in new infrastructure using the proceeds received in the asset monetization

These components can prove to be beneficial from the point of view of private entities and the government, as it can align investor preferences and risk appetites with a government's infrastructure development plan. Private investors seek to avoid the risks associated with the construction phase of greenfield projects and indicate their preference for brownfield assets, where they can focus their energy and expertise in immediately operating the assets as efficiently as possible.

In this paper, we explore how the asset recycling concept has been practically implemented in the context of Australia. From the Australian experience, we discuss the key takeaways for governments that are considering implementing asset recycling schemes. In particular, we highlight the importance of accounting for public perception in a successful asset recycling program. Private investors and operators considering bidding on recycling assets should also note critical issues around risk management, human capital transition as well as the wider regulatory environment.

¹ The World Bank, 2017

² Asia Development Bank, 2017

³ Asia Pacific Risk Center, 2017



ASSET RECYCLING IN PRACTICE

One country that has explored the concept of asset recycling and widely implemented it is Australia. In this section, we take a close look at how the asset recycling concept has been applied in Australia's Asset Recycling Initiative (ARI).

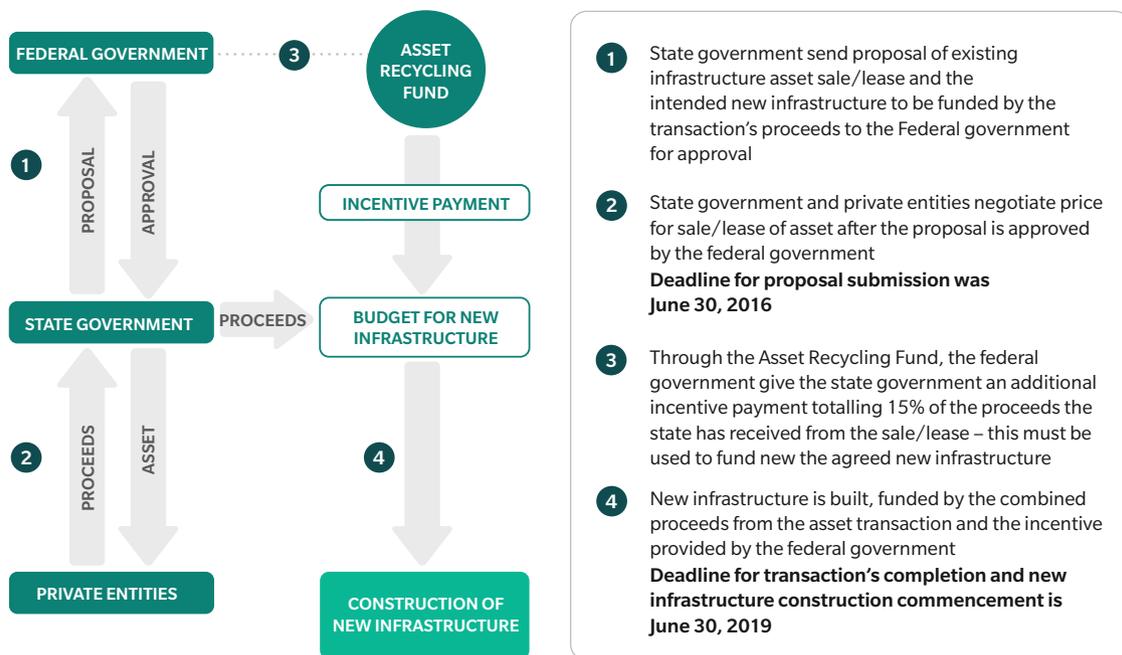
AUSTRALIA'S ASSET RECYCLING INITIATIVE

The ARI was one of the key elements of the federal government's Infrastructure Growth Package (IGP).⁴ The initiative provides monetary incentive for states to engage in asset recycling to boost infrastructure development. When a state monetizes an asset (through sale or lease), and uses the proceeds to reinvest in new infrastructure, it receives an additional 15 percent of the estimated proceeds from the federal government.⁵ The ARI was designed as a five-year program from 2014-2019, and the funding was allocated to specific proposals on a first-come, first-served basis.

States were required to agree with the federal government on which specific assets would be monetized, and on the additional infrastructure that money will be recycled into by June 30, 2016. The sale of the asset must be completed and the construction of the additional infrastructure must commence on or before June 30, 2019 (Exhibit 1).

The federal government's financial contribution is managed through the Asset Recycling Fund (ARF), which is used to make payments to states under the IGP. At the time of its proposal in 2014, the ARF was allocated A\$5.9 billion, which was then reduced to A\$4.2 billion in the 2015 budget.⁶

Exhibit 1: Overview of Australia's Asset Recycling Initiative



- 1 State government send proposal of existing infrastructure asset sale/lease and the intended new infrastructure to be funded by the transaction's proceeds to the Federal government for approval
- 2 State government and private entities negotiate price for sale/lease of asset after the proposal is approved by the federal government
Deadline for proposal submission was June 30, 2016
- 3 Through the Asset Recycling Fund, the federal government give the state government an additional incentive payment totalling 15% of the proceeds the state has received from the sale/lease – this must be used to fund new the agreed new infrastructure
- 4 New infrastructure is built, funded by the combined proceeds from the asset transaction and the incentive provided by the federal government
Deadline for transaction's completion and new infrastructure construction commencement is June 30, 2019

4 IGP was established in 2014 with the initial funding of \$11.6 billion to fast-track investment in critical infrastructure across the country. The IGP is made up of three measures, the Asset Recycling Initiative, New Investments, and the Western Sydney Infrastructure Plan. See Parliament of Australia, 2018

5 If not all the proceeds are re-invested into infrastructure, only the re-invested amount is eligible to get the Commonwealth 15 percent reward

6 Financial Review, "Turnbull government pockets left-over asset recycling funds in federal budget", May 3, 2016

THE STORY SO FAR

As of May 2018, twelve major public assets (Table 1) have been revealed under ARI across NSW, Victoria, the Northern Territory, South Australia and the Australian Capital Territory (ACT).

Of the A\$4.2 billion available for the ARF, A\$3.3 billion has been allocated to the participating

states. The Australian treasury closed the ARI first round before the June 30, 2016 deadline and retained the remaining A\$850 million as one of the major savings for the 2016-2017 budget. The A\$3.3 billion already distributed by the ARF is expected to incentivize A\$23 billion in infrastructure investment.⁶

Table 1: Major public assets under Asset Recycling Initiatives

STATE	YEAR	GOVERNMENT ENTERPRISE SOLD	TERMS	PROCEEDS (A\$ MILLION)	TOTAL COMMONWEALTH CONTRIBUTION TO STATES (A \$ MILLION)
NEW SOUTH WALES (NSW)	2015	Transgrid	100% lease for 99 years	10,273	2,190 ¹
	2016	Ausgrid	50.4% lease for 99 years	16,200	
	2017	Endeavour Energy	50.4% lease for 99 years	7,624	
	2017	Titling and registry business of Land and Property Information	35-year lease	2,600	
VICTORIA	2016	Port of Melbourne	50-year lease	9,700	877.5 ²
	2018	Land Titles Registry (final bids due September 30, 2018)	40-year concession	Est. 2,000 ³	
NORTHERN TERRITORY	2014	Territory Insurance Office (TIO)	Sale	411	40.4
	2015	Port of Darwin	99-year lease	506	
AUSTRALIAN CAPITAL TERRITORY (ACT)	2014	ACTTAB	Sale	106	67.1
	-	Public housing	To be sold	Est. 300 ⁴	
	-	Commercial property	To be sold		
SOUTH AUSTRALIA	2018	Land Titles Office	40-year lease	1,605	36.6 ⁵

1 Australian government, Infrastructure budget media release, May 2017

2 Australian government, Infrastructure budget media release, May 2016. The 2017 infrastructure budget media release noted more than A\$1 billion was allocated for new and upgrade infrastructure for Victoria, utilizing funds previously allocated to ARI

3 The Australian, "Super funds eye land titles office", April 3, 2018

4 Australian Government, The Treasury, February 19, 2015.

5 Australian government, National Partnership on Asset Recycling — Energy Infrastructure, Budget paper 2017-2018 No.3 6 Financial Review, "Turnbull government pockets left-over asset recycling funds in federal budget", May 3, 2016

6 Financial Review, "Turnbull government pockets left-over asset recycling funds in federal budget", May 3, 2016

There are also other major projects earmarked for recycling which are outside the last round of ARI's scope, and illustrate how the asset recycling concept can be innovatively applied. The WestConnex project in NSW, a 33-kilometer motorway expected to be completed in 2023, is a notable example. The project is divided into three phases with a A\$16.8 billion price tag, with the first phase currently underway and expected to open to traffic by 2019. While the funding for the earlier phases comprised a combination of government funding and concession loans, the last phase of the project, which will cost more than A\$7 billion, is expected to be funded by proceeds from the sale of the entire WestConnex project.⁷ This was

announced in May 2017, and short-listed parties have received letters on the timetable for final offers for a 50.1 percent stake.⁸

Investors that participated in the last round of ARI are generally government-owned investment companies, pension funds and fund management firms, the majority of which are Australian-headquartered companies (Exhibit 2). Consortiums investing in Australian infrastructure are typically led by domestic infrastructure and pension funds with foreign infrastructure and pension funds co-sponsoring to obtain a significant stake while being compliant with the infrastructure investment regulatory framework.

Exhibit 2: Notable investors participating in Australia's Asset Recycling Initiative

INVESTORS PARTICIPATING IN THE ARI

GOVERNMENT OWNED INVESTMENT COMPANY

Abu Dhabi Investment Authority
Wren House, part of the Kuwait investment Authority
Queensland Investment Corporation

SUPERANNUATION AND PENSION FUND

Canada's Caisse de Depot et Placement du Québec
Australian Super
First State Super
Ontario Municipal Employees Retirement System (OMERS)

GENERAL FUND MANAGEMENT

IFM Investors
AMP Capital
Hasting Funds Management
Global Infrastructure Partners

⁷ The Sydney Morning Herald, "Sale of entire WestConnex motorway on table for government", May 24th, 2017

⁸ The Australian, "State issues WestConnex hopefuls its deadline for bids". April 3rd, 2018

GROWING OPTIMISM FOR THE FUTURE

As an incentive scheme to encourage Asset Recycling, the Australian ARI has not been able to attract every state to participate. Apart from NSW and Victoria, which are the two main recipients of ARI funding, other states have either not taken up the offer (such as Queensland and Western Australia), or only participate in a limited capacity. The fact that an uncommitted A\$850 million from ARF was reallocated to other priorities shows how ARI is still currently under-utilized.

Concerns over national security have been one reason why state governments may be reluctant to privatize state assets. In the bid of the 99-year lease of Ausgrid in 2016, Federal Treasurer Scott Morrison chose to block the Ausgrid sale to Chinese and Hong Kong bidders citing national security considerations.⁹ The Ausgrid deal has also been the subject of negative public perception due to job cuts, and as a result was contested by unions as well as opposition parties (Exhibit 3). Other concerns such as the risk of private information leaks, errors and fraud have similarly been raised regarding other public asset's transfers to the private sector.

Where it has been taken up the strongest, however, the ARI has played an important role in providing additional infrastructure funding as well as spurring further infrastructure investments. This is the case in NSW, where the state government set up the Restart NSW fund in 2011 as the vehicle for the state government's plan to invest an additional A\$20 billion in infrastructure. As of June 30, 2018, the total inflow to Restart NSW is projected at A\$32.9 billion, A\$25.9 billion of which came from asset recycling proceeds and

incentives provided by the federal government. Currently, a total of A\$22.4 billion has been committed to new infrastructure development in the 2017-2018 budget, mostly for transportation infrastructure. Specifically, through the ARI, the federal government is providing a A\$1.7 billion to the Sydney Metro project, as well as smaller sums for the regional road freight corridors, among other projects. This represents a steady increase in the state's budget for infrastructure in general, and a significant increase in funds dedicated to the development of local infrastructure.¹⁰

Furthermore, despite some reservation from state government, the enthusiasm of private companies (both domestic and foreign entities) investing in public infrastructure projects remains high, and asset recycling retains its appeal as an efficient pathway for asset privatization. The Property Council and Consult Australia, two infrastructure lobby groups, have already suggested in the pre-budget submissions for 2018-2019 that the federal government should begin a second round of the ARI. The groups have also suggested that this round of ARI can be implemented in tandem with tax incentives to support future asset sales.¹¹

The positive results from the ARI model application in Australia have prompted US government officials to explore this option, with Australian experts meeting US federal and state officials to discuss how asset recycling can be implemented.¹² Indonesia is another nation investigating asset recycling to aid in funding the delivery of \$224 billion investment needed for development of infrastructure projects, of which the government can only fund about 40 percent.¹³

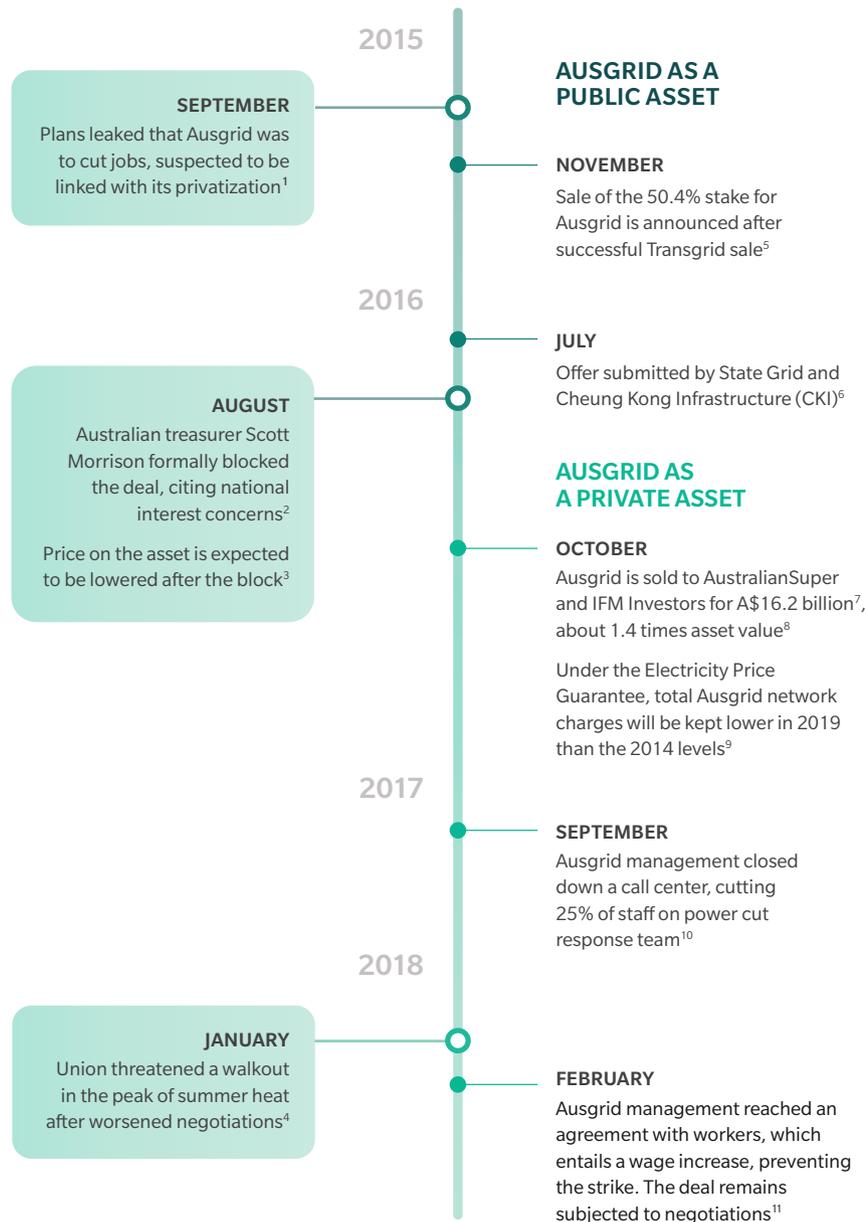
9 ABC News, "Ausgrid: Scott Morrison stands by move to block sale to Chinese, Hong Kong investors", August 19, 2016

10 Chapter 2: Restart NSW, NSW 2018-2019 Budget Paper No.2

11 Financial Review, "Turnbull government urged to launch new asset recycling plan", January 2, 2018

12 Financial Review, "Mike Baird to pitch asset recycling to US states ahead of infrastructure binge", June 26, 2017

13 The Jakarta Post, "Recognizing the benefit of asset recycling", February 6, 2017

Exhibit 3: Barriers to privatization – the case of Ausgrid**OPPOSITION TO PRIVATIZATION AND FOREIGN OWNERSHIP**

1 ABC News, "NSW election 2015: Government slams 'racist' campaign against Chinese electricity network investment", March 24, 2015

2 South China Morning Post, "Australia formally rejects bids by State Grid and Cheung Kong Infrastructure for Ausgrid", August 19, 2016

3 Financial Review, "Rerun Ausgrid auction may yield lower price as CKI, State Grid mull", August 21, 2016

4 Newcastle Herald, "Ausgrid power system workers threaten 'hot summer' strikes in fight for pay rise", January 10, 2018

5 The Sydney Morning Herald, "Transgrid deal: NSW power network asset sale proceeds set to top \$20b", November 25, 2015

6 Reuters, "China's State Grid, Hong Kong's CKI bid for Australian electricity network: source", July 25, 2016

7 Reuters, "Australian funds snap up Ausgrid for \$12.5 billion after China, HK bids blocked", October 20, 2016

8 The Sydney Morning Herald, "Australia discovers cost of blocking China in Ausgrid sale", October 21, 2016

9 New South Wales Government, 2016

10 The Australian, "Union fury at new job cuts by industry super funds", September 25, 2017

11 Newcastle Herald, "Ausgrid, Electrical Trades Union move closer to deal over wages and protection for staff", January 10, 2018



ASSET RECYCLING CONSIDERATIONS FOR GOVERNMENTS

In theory, infrastructure asset recycling clearly holds some attraction for governments. In a perfect world asset recycling provides funding for newly needed infrastructure, without adding to public debt, all while maintaining or potentially improving existing infrastructure service delivery.

The Australian example shows that the reality is more complex. As such, before initiating an asset recycling strategy, governments need to

consider the circumstances in which pursuing such a strategy is the most appropriate for their unique circumstances.

In this section, we outline a high-level framework that can be used to identify the situations in which asset recycling might be a viable strategy for a government. We highlight some of the key steps that need to be taken to successfully implement such a scheme.

A STRUCTURED APPROACH TO INFRASTRUCTURE DEVELOPMENT

On a practical level, an infrastructure related decision-making process typically does not begin with a consideration of whether asset recycling is an appropriate strategy. Rather, once a government has determined there is a need for new infrastructure, the initial key questions would focus on the funding of the project, that is, where the money will come from. The theoretical answer to this question is from one of three areas: Public financing, private financing, or a mixture of both.

The government will next decide on the practical feasibility of each option. While this involves a number of considerations, there are three key questions concerning private participation in infrastructure development that the government will have to answer:

- Firstly, does the potential private partner possess the necessary capital and expertise to deliver the required infrastructure program?
- Secondly, what is the public sentiment towards private financing, delivery or potential ownership of the required infrastructure program?
- Thirdly, what form should the private partner's participation take, in light of the shape and demands of the project itself, and the public sentiment surrounding it?

At the initial stage of review, the purpose of these questions is to identify the impossibilities rather than the possibilities. For example, if a government cannot fund the totality of a defined infrastructure program, it will either stagnate (be left incomplete) or some private sector involvement in financing will be required to push the program forward. It is equally clear that if the public is strongly set against any private sector involvement in infrastructure financing and delivery, the government's available options will also be restricted, or at least a proactive and effective engagement exercise will be required at the outset to try and sway public opinion and/ or rethink of the way private participation is structured.

The answer to the first two questions must be considered simultaneously to determine the potential for asset recycling in any given country, as shown in Table 2 below. There is also a clear assumption that for asset recycling to be a possibility, the government must own assets that can be sold or leased (See '*Sizing the Potential Prize*').

| C A S E S T U D Y |

SIZING THE POTENTIAL PRIZE: IDENTIFYING ASSETS FOR RECYCLING

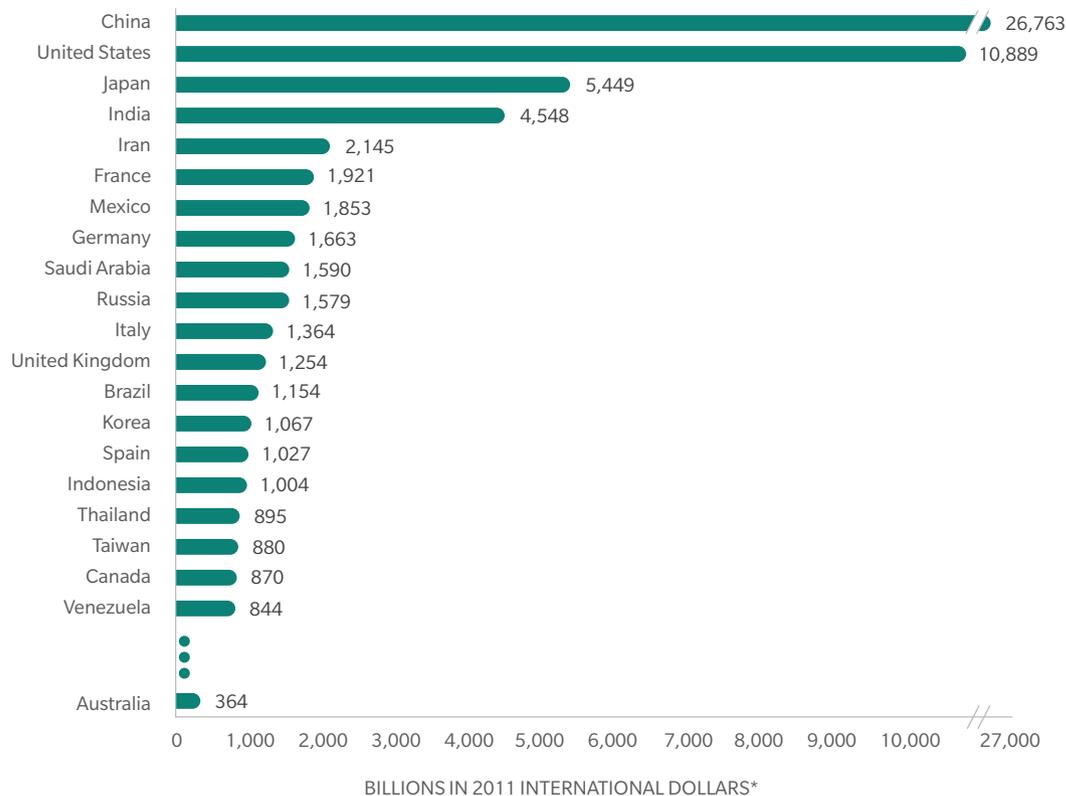
To conduct an asset recycling scheme, a government must have already identified that it owns a suitable quantity of assets that could potentially be monetized.

While an index of public asset stock by country is not available, public capital stock can be used as a proxy to assess the viability of asset recycling in a country. According to the International Monetary Fund (IMF), public capital stock is the accumulated value of public investment over time, adjusted for depreciation (which varies by income group and over time), and is the principal input into the production of public infrastructure.¹⁴ An examination of the general government capital stock data provided by the IMF in 2015 shows

that the governments of major emerging markets such as China, India, Mexico, Brazil, Indonesia and Thailand possess sizable capital stock (Exhibit 4).

In contrast, the Australian government only recorded capital stock totaling \$364 billion, significantly lower than the top 20 countries by government capital stock. Despite this relatively smaller capital stock, however, Australia has been able to leverage asset recycling to help push forward its infrastructure agenda. There are two implications for asset recycling from this observation. Firstly, there is room for other asset rich countries to consider asset recycling as an option. Secondly, it is important to remember that being asset rich is but one necessary condition. The successful implementation of an asset recycling scheme is also predicated on other sufficient conditions discussed further in this paper.

Exhibit 4: General government capital stock, International Monetary Fund 2015



* An international dollar would buy in the cited country a comparable amount of goods and services as a U.S. dollar would buy in the United States

14 International Monetary Fund, 2015. "Making Public Investment More Efficient"

HOW MUCH CAN WE AFFORD AND WHAT CAN WE PRIVATIZE?

Determining the government’s ability to fund a new infrastructure program is not an exact science, but it is easier to discuss in objective, numerical terms, than public perception. There will usually be a projected government budget for infrastructure investment (investment can comprise many factors) and this can be compared to the expected high-level cost of the new infrastructure program.

In contrast, it is decidedly harder to gauge public perception and how it may evolve. A recent negative experience with privatization will likely heighten the public’s skepticism for such projects. For example, despite the long history of privatization in Chile, the 2017 water shortage in Santiago has highlighted private utility providers’ failure to make adequate investment in climate change-proof infrastructure. This, together with the high tariffs on fresh water,

has prompted the demand from water justice groups to end privatization.¹⁵

The Chilean experience also highlights varying perceptions on privatization by sector. For example, there is potentially greater acceptance of private sector involvement in operations of airports than in power generation or water. Outside the traditional concerns over rising price and job losses, more recent issues on data privacy can also play a role. For instance, the recent Victoria Land Title Registry concession in Australia has been met with backlash from industry and legal groups over fears that Victorians’ data will be under the monopolistic control of a private entity. Due to these nuances, a comprehensive public engagement process should be conducted prior to any asset recycling strategy decision being taken.¹⁶

Table 2: Implications for infrastructure funding options

		GOVERNMENT'S ABILITY TO FUND NEW INFRASTRUCTURE PROGRAM		
		YES, FULLY	PARTIAL	NOT AT ALL
GENERAL PUBLIC ACCEPTANCE OF PRIVATE INFRASTRUCTURE INVESTMENT	OPEN TO ALL	Broad range of public, private, and mixed options	More limited range of public, private, and mixed options	PPPs or private funding of program
	OPEN TO SOME	Private or PPP to fund where perception allows, government to fund remainder	Attempt to match public acceptance with private sector interest, but there might be gaps	Private or PPP to fund where perception allows, likely stagnation of remainder of program
	CLOSED TO ALL	Government to fund program	Government prioritizes program and funds what it can	Likely stagnation of program

Potential for asset recycling scheme: Low (lightest green), Medium (medium green), High (darkest green)

¹⁵ The Guardian, “A group of Canadian teachers could decide the future of Chile’s water supply”, June 12, 2017

¹⁶ The Age, “Victorians’ property database to be sold for an estimated \$2 billion”, March 6, 2018

DEFINING CRITICAL INFRASTRUCTURE BOUNDARIES

Beyond the public perception of what assets are acceptable for private sector investment, a government must also set out a clear definition of the assets, if any, where it will not entertain private sector investment, or at least put in place certain restrictions relating to it. The EU and the Australian government are among the government bodies which have put in place guidelines for 'critical infrastructure', although there is no single definition for this term.

Each government can then put in place their own specific regulations. Beyond clearly de-scoping assets which a government wants to maintain complete control over, this process also sets out a clear message to private investors and should provide a degree of comfort over the investment decision process.

CREATING WIN-WINS THROUGH CLOSE PRIVATE SECTOR ENGAGEMENT

A successful asset recycling scheme is predicated on sufficient private sector interest in the assets which are earmarked for recycling to ensure that the sale or lease returns at least fair market value. If the returns do not justify the agreement then the government or state will be restricted in the reinvestment process and public sentiment is likely to turn against the sale or lease. The reality is that if a deal is structured correctly (Exhibit 5) then it is possible to achieve a win-win scenario, or even a win-win-win scenario with respect to the government, the investor and the general public.

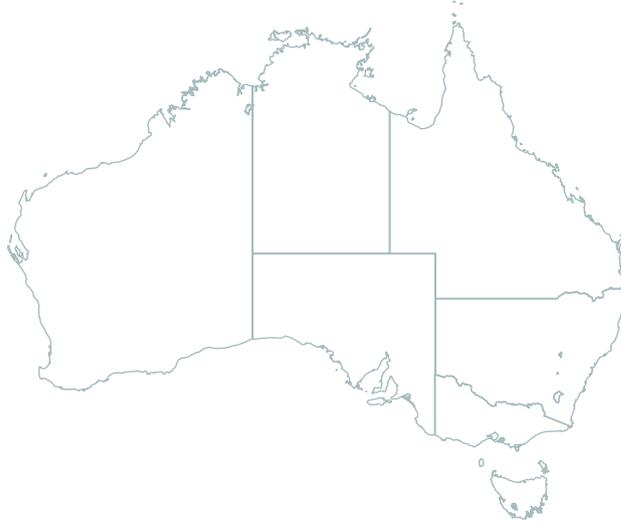
A successful example of the benefits of stimulating a variety of competitive bids can be seen in the tender process to run the Rio de Janeiro's international airport, Galeão in 2013. The winning consortium – a joint venture between Odebrecht engineering group and Changi Airport Group – offered R\$19 billion for the deal, nearly four times the minimum bid of R\$4.8 billion, and 31 percent higher than the runner-up offer.¹⁷ The bid for the management contract for Belo Horizonte's

Tancredo Neves International Airport was also highly successful, with the winning consortium (CCR, Zurich Airport and Munich Airport) offering R\$1.8 billion, an amount 66 percent higher than the government's minimum price of R\$1.1 billion.¹⁸ In both cases, the government received investment far beyond original expectations, creating a story that the general public viewed positively and all at a price that the private sector investors were still confident of making a fair return on.

It's equally important that a government truly understands the assets in which the private sector is interested in investing. A government, often through a designated infrastructure agency, can maintain regular dialogue with national and global investors to ensure an up to date understanding of investor preferences and expectations. Mismatched expectations regarding the assets available to the private investors would have the potential to undermine the success of a recycling program.

¹⁷ The Wall Street Journal, "Odebrecht, Changi Win Right to Run Rio de Janeiro's Airport", November 22, 2013

¹⁸ Brazilian Government website on the 2014 FIFA World Cup, 2013



AUSTRALIA'S SECURITY OF INFRASTRUCTURE BILL 2017

On October 10, 2017, the Australian Attorney-General's (AG) Department released the new Security of Infrastructure Bill, detailing major new measures to manage risks pertaining to foreign investment on critical infrastructure. The two notable new measures are:

1. A "last resort power" that allows the Minister to issue direction to the owner/operator of a critical infrastructure asset to mitigate national security risks; and
2. A register for critical infrastructure assets, which will not be publicized, to enable better oversight from the government over these assets, especially those at risk from hostile foreign actions.

The newly established Critical Infrastructure Centre has been tasked with delivering a more streamlined assessment of the country's current infrastructure assets to inform future foreign investment decisions.

The exposure draft outlined the definitions of what constitute "critical". An asset can be prescribed by the Minister to be "critical" if it is crucial to the social/economic stability of Australia, its defense, or its national security, and there are risks to this

asset which would have security implications. The draft listed three key areas of critical infrastructure, namely electricity assets, ports (a list of 20), and water assets.¹⁹ Telecommunication has also been identified as a high-risk sector that needs protection.²⁰

Owners or operators of the designated critical assets are required to give authorities information on "notifiable events", covering changes in operational information, as well as interest and control information on the asset and its stakeholders, with failure to report resulting in a civil penalty.

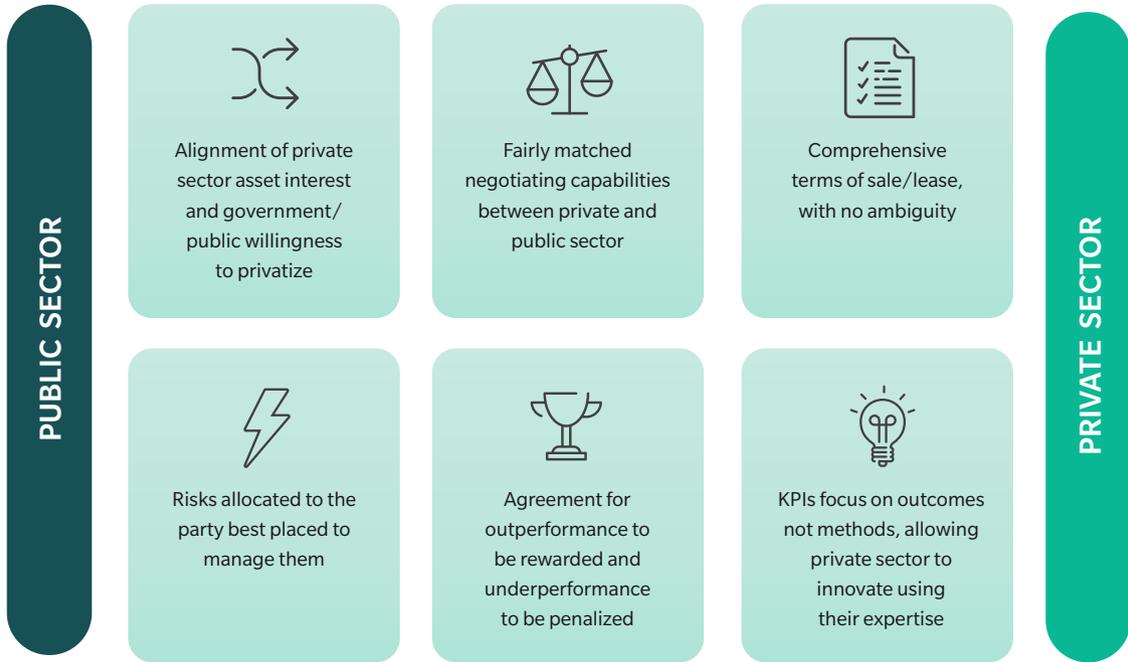
The introduction of the bill may be a response to the rejection of a bid by the Hong Kong-listed Cheung Kong Infrastructure for Ausgrid in August 2017. It can be considered a step forward to provide more clarity and predictability for foreign businesses looking to invest in Australian asset. At the same time, the implementation of the bill may complicate approval processes for firms and introduces new risks of the procedure being politicized.²¹

¹⁹ Security of Infrastructure Bill 2017, Exposure Draft

²⁰ Security of Infrastructure Bill 2017, Explanatory Document

²¹ The Conversation, "Government's new critical infrastructure list raises more questions than it answers for investors", January 23, 2017

Exhibit 5: Set of key criteria for a win-win outcome in public-private negotiations



PROACTIVELY ACCOUNTING FOR PUBLIC PERCEPTION IS ESSENTIAL

Any form of privatization, including asset recycling schemes, will likely stir significant political debate. Counterparties can cite a broad range of concerns, particularly ones regarding job losses and tariff increases. If these concerns are not proactively addressed it can lead to situations where public opinion is already firmly entrenched against a potential program, before any debate has really begun.

One way to manage public perception is to be firm and transparent in the clauses that a prospective private investor must abide by if successful in a bid. These can be set out at the time the asset is identified publicly as a potential asset for recycling and should include clear protection for government employees and end users. In Australia, some of the final bid winners had to agree to a series of contractual stipulations which would protect the public (some examples are provided in Table 3).

Table 3: Examples of contractual stipulations from Australia's Asset Recycling Initiative

CONTRACTUAL STIPULATIONS	AUSTRALIAN EXAMPLE
<p>Composition of board members/stake holding by foreign companies: Percentage of foreign ownership is controlled, especially for critical infrastructure assets.</p>	<p>In Transgrid's 99-year lease, half of the board must be Australian citizens and residents. For the Port of Darwin 99-year lease, the successful bidder Landbridge, a Chinese company, was required to find an Australian company to take a 20% stake in the port within five years. The Northern Territory government ultimately determined to retain the 20% stake.</p>
<p>Employment guarantee: To appease the public's worry about large-scale lay-offs during transition, the new private owner has to keep the original eligible staff for certain durations post transaction close.</p>	<p>A two-year employment guarantee for permanent non-executive employees is required in the Port of Melbourne lease.</p>
<p>Pricing limitation: Utility prices and toll rates are commonly controlled by the regulator, and price caps are stipulated.</p>	<p>In both the Transgrid and Ausgrid leases, an Electricity Price Guarantee was signed as part of the contracts. In the Port of Melbourne lease, annual tariff increases are capped at Consumer Price Index.</p> <p>In the sale of Victoria Territory Insurance Office, premium increases are required to be staggered over three years. However, after the expiry date, price can be adjusted to respond to the market.</p>
<p>Other clauses: Government typically retains certain critical parts of the asset related to safety or national security.</p>	<p>In the Port of Darwin lease, the government keeps a number of regulatory and operational functions such as maritime safety, pilotage and port access.</p> <p>In the sale of Victoria's Land Titles Registry, the government insisted on retaining ownership of the data, subjecting the successful bidder under data and privacy laws, and keeping the data in Australia.</p>



KEY CHALLENGES FACING PRIVATE INVESTORS

This section addresses some of the key challenges that private investors face when considering bidding on assets as part of an asset recycling program. We conducted a series of interviews with experts with deep experience in Australia and

private investment in public assets around the globe. The takeaways are relevant to organizations considering bidding to take ownership of infrastructure assets in any other geography as well.

There are three major areas to be considered by private companies as they look to take part in asset recycling schemes, all of which concern elements relating to taking over and managing an existing public asset.

1. Risk allocation following public to private asset transfer
2. Managing people and culture through privatization
3. Understanding and navigating potential regulatory pitfalls

The takeaways focus on the different types of risks that a company may take on when it assumes ownership/ operation of the public asset. This is followed by a discussion on the human capital and culture aspects of the asset’s transition from public to private ownership. Lastly, we explore the options for investors in situations where there is significant regulatory uncertainty.

The key general takeaways from these interviews are summarized in the following table.

Table 4: Key takeaways for the private sector for asset recycling from MMC experts

RISK ALLOCATION FOLLOWING PUBLIC TO PRIVATE ASSET TRANSFER	MANAGING PEOPLE AND CULTURE THROUGH THE TRANSITION	UNDERSTANDING AND NAVIGATING POTENTIAL REGULATORY PITFALLS
1. Carefully examine the relevant risks when taking over public assets as they will not receive the same protection once they become private assets	1. Don’t underestimate the complexity of cultural change	1. Review precedents in target country’s regulatory decision making. Potentially either set directly to target efficiency, or in an incentive-inducing manner
2. Find a balance between commercial risk transfer, retaining risk, or pushing back risks on to the government	2. Ensure you understand the new operating model and the implications it has for organizational design	2. Account for uncertainties in regulations as well as the application for these regulations to private entities
3. Adopt a rigorous approach in determining insurable and uninsurable risks	3. Reward structure will also need to be changed to reflect the change in ownership	3. Actively invest time and resources to avoid high-stakes legal gambles on controversial issues such as pricing
Antony Butcher <i>Infrastructure Practice Leader, Marsh Australia</i>	Chris Perritt <i>Principal, Mercer</i>	Jeff D. Makholm <i>Managing Director, NERA Economic Consulting</i>

RISK ALLOCATION FOLLOWING PUBLIC TO PRIVATE ASSET TRANSFERS

A change in ownership necessitates a review of how asset risks are addressed. It is thus useful here to differentiate between risks and risk mitigation channels associated with public assets and those of private assets.

Traditionally, government-owned assets have the ability to obtain considerable indemnification in the event of claim or loss arising from almost any cause by tapping into statutory insurance bodies (Australian examples include the Victoria Managed Insurance Authority, the NSW Self Insurance Corporation and SAicorp in South Australia), and obtaining specific ministerial indemnification (for example, terrorism coverage provided where the Terrorism Insurance Act 2003 does not apply to government interests).

Privately owned assets, in general, cannot access the government indemnifications. Consequently, risks need to be assessed, with corresponding solutions carefully designed and applied to protect assets, revenue streams, liabilities, and employees to align with the key stakeholder's risk appetite and tolerance, as well as to be in compliance with the applicable privatization lease regime. Additionally, while some PPP projects receive the certainty of an availability payment from a government agency (should they adhere to contractual performance standards), this is rarely the case for privately owned assets.

OPTIONS FOR TRANSFERRING RISK BETWEEN PARTIES

The regulatory framework applied in key transaction agreements, including the long-term lease (we have seen 40-year and up to 99-year terms), are often prescriptively applied to the

private investor. A challenge for the private investor is maintaining a balance between commercial risk transfer, push back onto government, or retaining the risk (Exhibit 6); that is, the appropriate balance between:

- Push back risk onto the government for unviable items that are uneconomical or deal destroying to risk manage, or uninsurable in the commercial market
 - For example, pre-privatization liabilities related to bushfire liabilities, provision of incorrect zoning information, employee injuries (mental and physical), terrorism, or pollution issues that may manifest during privatization may be “pushed back” onto the government
- Government retains risk via assurance funds
 - The interplay between government assurance funds and commercial insurance arrangements and associated contractual mechanisms as to “control” of a loss or liability manifesting during the lease period and ensuring rectification of the business to normal operations
- Transfer risk previously indemnified via statutory insurance bodies to the commercial insurance market
 - Key risk transfer from insurance statutory authorities (often under “all risks, unlimited, minimal self-insured provisions, minimal premium cost allocation” coverage arrangements) into the commercial insurance market, with the latter imposing parameters such as self-insured contributions to loss, coverage restrictions by way of limits and exclusionary conditions.

Virtually all privatized infrastructure projects put the risk of revenue viability into the hands of private investors and their advisors

Antony Butcher
Infrastructure Practice Leader Marsh Australia

Exhibit 6: Three scenarios of risk allocation during public to private asset transfer

IMPLICATIONS ARISING FROM EMERGING INFRASTRUCTURE

Many assets considered for asset recycling schemes, particularly in the power sector, have associated emerging infrastructure. For example, in relation to typical power generation, transmission and distribution operations, there is the emergence of smart power infrastructure including behind the meter generation, distributed renewable generation, energy efficiency, energy storage, smart grids and meters, and monetizing power data.

On the one hand, these emerging technologies have opened up new possibilities for firms. As TransGrid CEO Paul Italiano commented immediately post privatization in 2016: "...This is the phenomenon of disruption: emerging technology is giving different players along the supply chain the opportunity to perform functions or do things that traditionally they weren't able to do..."²²

On the other hand, new technologies also pose their own risk management challenges. For instance, with the emergence of smart grids and meters and monetizing power data there is the compounded risk of influence by "bad actors" via cyber-attacks over vulnerable networks and resultant disruption of supply or data breach. In response, there has been a developing market for solutions utilizing insurance capital to dovetail with the asset's existing protections, and also includes response plans in the event of an attack or breach.

Investors and operators will also have to deal with power production risks. Here, firms can make use of "generator forced outage" solutions or specific weather event derivatives for "lack of sun", "lack of wind" impacting renewable energy generation, or for rain events impacting hydro generation.

INSURABLE VS UNINSURABLE RISKS

A key goal for investors and/ or operators is often to position themselves in a way that will achieve an outcome that promotes efficiency, appropriate downside protection and ensures compliance with the long-term lease.

Investors and operators should therefore adopt a rigorous approach in determining what risks are insurable and those that are not. For insurable risks, replicating prior government indemnifications is not applicable. Hence, there is the balance between risk appetite and tolerance, and provisioning for the expected uplift in cost as well as for coverage limitations to minimize the downside impact during the stewardship of the asset.

Uninsurable risks need to be addressed by allocation to the government for specific liabilities at issue before signing the lease, or by implementing risk management protocols/ protections and contemplating self-insurance or captive type arrangements after signing the lease.

22 The Sydney Morning Herald, "TransGrid to develop new businesses in shifting power market", May 3, 2016

MANAGING PEOPLE AND CULTURE THROUGH PRIVATIZATION

It can be instructive to consider the parallels that can be drawn to certain aspects within an M&A environment, when thinking about asset recycling. At the highest level, one organization taking 'ownership' of another requires an assessment of a range of considerations and determination of whether the opportunity presents value for money, the capacity to generate synergies, and increased returns.

Simply securing the asset doesn't necessarily pave the way to achieving this, however, as there are a number of people related risks that can impact the asset's ongoing operational effectiveness. Risks can crystallize at various points in the transaction depending on the speed at which it progresses and the strategic, tactical and operational decisions that have been taken within the asset historically. These decisions are best demonstrated through the organization's purpose and the structures, systems and processes that have been put in place to achieve it.

It could be argued that an organization's purpose does not change as a result of a transfer of ownership. After all, the activities the organization undertakes will continue after the transfer has been completed. However, there are important distinctions between the management mandate of a public asset compared to that of a private asset that can give rise to people and culture challenges.

At the most basic level, the purpose of publicly owned assets is to provide an essential service. They need to fund their ongoing operations and, preferably, return a dividend to the public purse; notwithstanding this, the requirement for a dividend is generally second-order to providing the service.

In a commercial environment, however, profit is clearly more than second-order, and the impact on organizational culture as a result of moving definitively and quickly to a for-profit focus can easily be underestimated by the buyer and the seller. Some examples of the cultural change and people related risks associated with a change of this nature include the organization structure selection, decisions on executive team composition and the right approach to rewards.

CHOOSING AN ORGANIZATION STRUCTURE AND AN EXECUTIVE TEAM

While board composition will change to reflect shifting shareholder interests, executive team composition is often less dynamic. The main concern is whether the current executive team is best equipped to effectively maintain ongoing operations. While they may have been effective prior to the transaction, does the group collectively have the experience to take the organization forward? Some key considerations include:

- Has the new operating model impacted the areas of executive responsibility? Have accountabilities changed?
- Are new and/ or different roles and skill-sets required?
- How can gaps in the organization structure be identified and addressed?
- Where will new executives be sourced from?
- Are historical sources of talent likely to provide the experience/ skills required to close the gaps?

Reward strategies can differ significantly between public and privately-owned organizations, and asset recycling programs amplify this contrast through an immediate transition of ownership

Chris Perritt
Principal
Mercer

Exhibit 7: Considerations for changes in reward system in asset transfer**CONSIDERATIONS FOR CHANGES IN REWARD SYSTEM**

PUBLIC ASSETS NOT FOR PROFIT

REMUNERATION

- What is an appropriate peer group for remuneration benchmarking?
- Has (or should) the organization's target position for remuneration changed? Why/ why not?

INCENTIVES

- Are incentives required in the new environment?
- Should they include short term incentives, long term incentives or both?
- Who should participate in the incentive plan?
- Are retention incentives required to retain existing talents whose roles have changed, or who have been displaced as a result of newly created roles?

KEY PERFORMANCE INDICATORS (KPIs)

- Have organizational KPIs changed?
- Are current systems able to accurately measure new KPIs?

PRIVATE ASSETS FOR PROFIT

THE IMPORTANCE OF THE RIGHT REWARDS STRATEGY

Generally speaking, the approach to Rewards (or Reward Strategy) within government-owned organizations is relatively simple, consisting of fixed pay adjusted periodically to account for increases associated with broad market movements or inflation, statutory benefits and (potentially) a traditional career path within the organization. 'Capacity to pay' is limited and frequently there is minimal pay differentiation between average and high performers.

In complete contrast, Reward Strategy within for-profit organizations can involve a number of components over and above fixed pay, including short- and long-term incentives, an array of attractive benefits and access to potential career paths within a variety of sectors. 'Capacity to pay' is in most cases linked to profitability, pay practices are likely to be benchmarked against competitors to ensure that the organization can compete

effectively for talent, and most organizations will differentiate pay between average and high performers.

ASSET RECYCLING AMPLIFIES THE CHALLENGE OF THE TRANSITION

In the context of the asset recycling schemes, organizations effectively move from one end of the spectrum to the other at the point the asset is sold. This presents a series of issues that, if not addressed promptly, can become problematic in a very short period, particularly when combined with other people risks. Key questions are covered in Exhibit 7, covering remuneration, incentive structure, and key performance indicators (KPIs). Defining a new incentive structure, in particular, while not required for all employees automatically post-asset transfer, can be crucial to attract and retain key talent that might have competing offers.

UNDERSTANDING AND NAVIGATING POTENTIAL REGULATORY PITFALLS

All regulators of investor-owned utilities strive to find methods to encourage efficiency in the provision of service by public service monopolies. They generally desire to carry out their regulatory mandates to avoid wasteful expenditure to promote efficiencies in the way that those essential public service monopolies perform. Regulators can aim to achieve these goals in different ways.

Some jurisdictions decide directly and specifically on the usefulness and efficiency of particular utility expenditures at the outset and then do not revisit the issue. Decision-making in this case is informed by specific experience and decisive action.

Historically, this “fast” regulatory decision-making process derives from the actions of the US Supreme Court (and the US Congress) in the 1930s and 1940s to fix longstanding problems in US regulation. Those bodies sought to safeguard the property that investors would devote to public service firms by making the definition of property in those firms a fact in law, rather than the subject of ongoing expert opinion. Some economists have credited those moves with contributing to the fundamental stability and success of US regulation, and the deregulation that depends on clear boundaries on the extent of regulatory control.

In contrast, other jurisdictions rely on incentives and concepts of rational firm behavior to encourage efficiency rather than the specific examination of particular facilities or costs, with regulatory discretion being applied in specific cases.

It is important that decisions with regards to transferred assets are delivered with as much clarity as possible. Challenges arise when there are back-and-forth disputes over regulations, creating significant confusion for the private companies involved. These challenges can be illustrated in the case of Australia.

CHALLENGES IN AUSTRALIAN REGULATIONS

Australia is in the midst of a highly publicized dispute about how to deal with utility efficiency. There has unfortunately been some uncertainty in the application of regulation to its relatively recently privatized enterprises.

One particular challenge the country has faced is in defining the property of regulated enterprises—the “rate base” or “asset base”. Australia’s problem was determining whether there is an independent, intrinsic value of such enterprises or whether value was merely a product of what an enterprise could earn in regulated tariffs. Australia (following New Zealand and the UK) chose the former “independent” method.

However, there is an element of circular reasoning here, as rates are dependent on property values, which in turn are dependent on how high rates can be set. Such reasoning sparked an ongoing litigation over the asset value problem, which lowered investor confidence by creating uncertainty in ratemaking. In the Moomba-Sydney

Investors would much rather profit through innovative market-expanding or cost-saving initiatives, rather than through high-stakes legal gambles with regulators that pivot on esoteric and changing definitions of property or efficiency

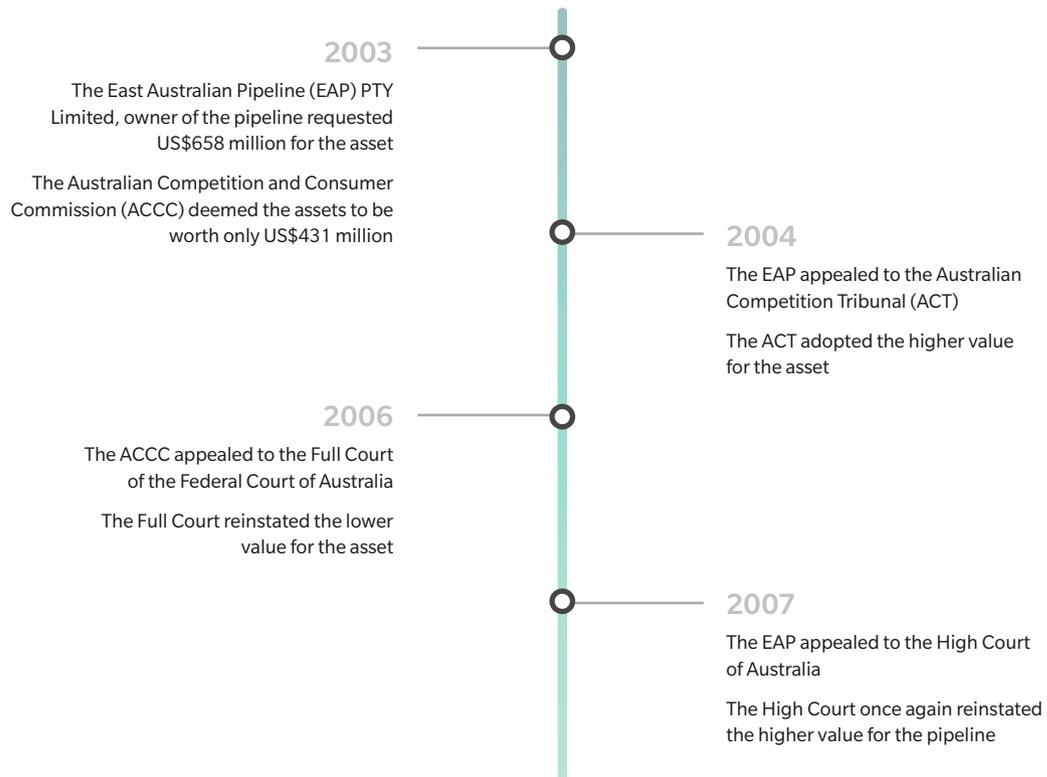
Jeff D. Makholm
Managing Director
NERA Economic Consulting

pipeline privatization case (Exhibit 8), for example, \$228 million was under dispute with no middle ground or appeal to the value of earnings based on regulated tariffs. This is a good example of the type of quixotic uncertainty in ratemaking that companies want to avoid.

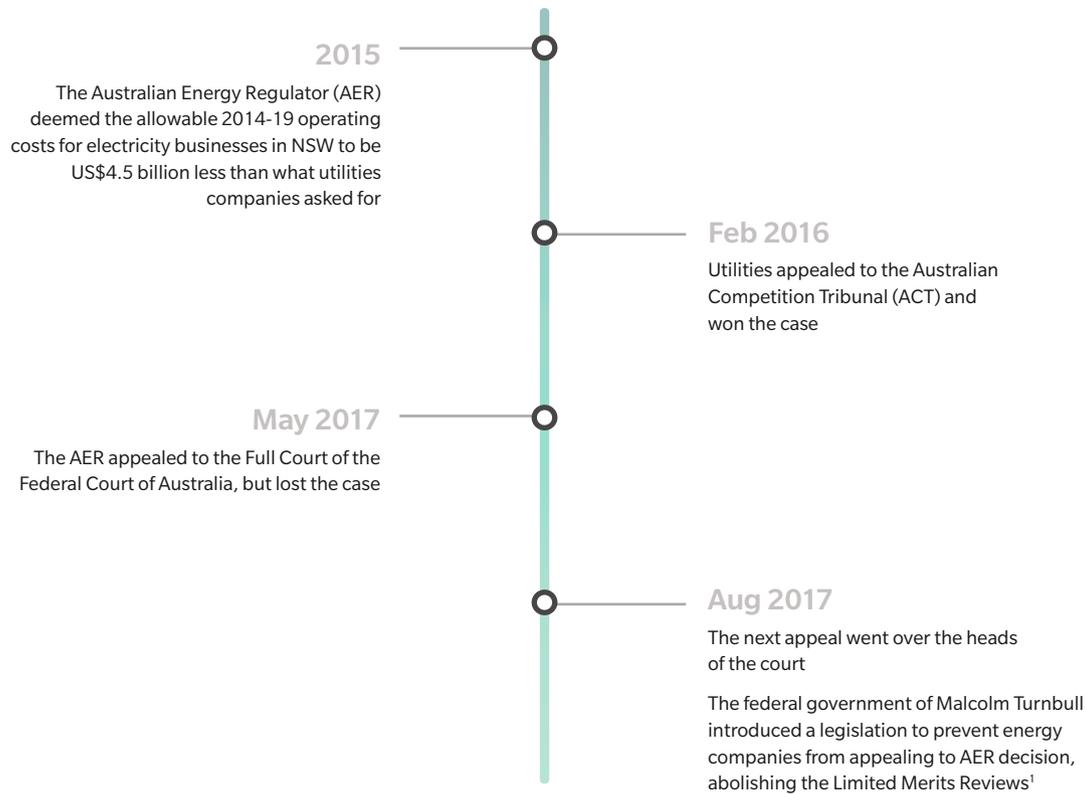
Another example of potential confusion arising from regulatory disputes can be observed in how differing measures for judging cost-saving

efficiency has effectively turned utility property values into a matter of opinion, rather than fact. This created another legal case arising out of regulators' definition of "efficiency" in operating costs. The case of the Australian Energy Regulator (Exhibit 9) exemplifies another veritable game of ping-pong with \$4.5 billion on the line, again with no middle ground or factual legal basis by which to contain such hugely divergent opinions on what efficient levels of operating costs should be.

Exhibit 8: Timeline of the Moomba-Sydney pipeline privatization case



See East Australian Pipeline Pty Limited v. Australian Competition and Consumer Commission [2007] HCA 44 (September 27, 2007).

Exhibit 9: Timeline of the Australian Energy Regulator case

¹ The Sydney Morning Herald, "Power cut to energy networks may lead to lower bills", October 3, 2017

LESSONS FOR INVESTORS

Any uncertainty, particularly relating to regulations, will weigh heavily on investors' minds. The prospect of potentially having to defend their businesses from such essentially quixotic risks through high-stakes, ping-pong-like litigation troubles investors greatly. In such an environment, regulatory strategy takes resources that such firms would otherwise devote to industrial and market strategy—a waste for them and thus for those who consume their services.

In this situation, companies and their investors could devote more resources to the rules and legislation specifically targeted at avoiding what

scholars of regulation have called "shifting and treacherous" controversies regarding regulated prices. Regulating investor-owned public service firms involves deep questions of constitutionality, legal precedent, and legislative action. Advances in the efficient administration of regulatory mandates thus take a lot of time—and often-enough require the push of widespread public pushback. Perhaps the recent problems in Australia, which have affected the pocketbooks of millions of utility customers, will be a catalyst to exposing and remedying problems in privatization, which can be used as a useful case study for privatization in other countries.

CONCLUSION

By definition, an asset recycling scheme involves two broad parties, the government (or state) which is monetizing the asset and the private investor taking on ownership/ management. This paper has outlined the importance of a third player that cannot be overlooked – the general public. While the theory of asset recycling presents a potentially attractive picture of getting more for less, there are considerable requirements of all three parties which must be met in order to successfully roll out an asset recycling scheme.

A responsible government should seek to maximize public value. Developing and maintaining infrastructure of an appropriate quality and quantity is one part of realizing this goal. Asset recycling can be a potential enabler, but there are a series of steps which must be followed to evaluate the potential for an individual country.

- Governments must ensure that they begin any infrastructure investment process by developing a clear understanding of the country's current infrastructure stock and future infrastructure needs
- A matching view of the government's ability and willingness to fund a new infrastructure program is necessary
- Clear communication is required, covering what assets have been deemed as critical infrastructure and will therefore not be offered for private (and/ or potentially foreign) ownership
- Efforts must be made to first understand the current state of public perception towards private infrastructure ownership and then to proactively manage and improve/ maintain perception levels as necessary
- Private investors must be courted as high levels of interest in each asset will ensure a fair valuation and competitive set of bids

Private sector investors, particularly institutional investors, can be attracted to the theoretically stable, long-term cash yields that infrastructure can provide. The prospect of taking on brownfield assets, with no construction risk, can enhance the level of attractiveness even further.

However, there are still risks that need to be considered with an asset recycling scheme and only some of these can be truly mitigated. Investors will look to governments to provide details on available assets and the likely terms that will be associated with any transactions. More important still is that they will look to find countries with a track record of honoring such agreements even as governments have switched from one party leadership to another. Equally, governments will (or at least should) look for private investors that will behave as responsible stewards of what are ultimately public goods, and private investors will need to behave accordingly in order to mitigate the risk of adverse political or regulatory intervention over the longer term.

Given the significant size of the global financing gap for infrastructure, all funding solutions must be considered. Asset recycling is certainly not a silver bullet that can erase the gap entirely, but there are clear situations in which it can benefit all stakeholders if the appropriate due diligence is undertaken.

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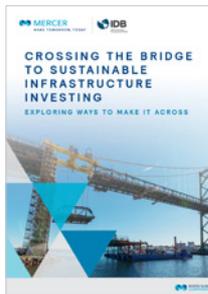
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