AUSTRALIA'S PUBLIC INFRASTRUCTURE

Part of the Answer to Removing the Infrastructure Deficit

Infrastructure Australia

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Australian Government
Infrastructure Australia

COVER IMAGE: The New South Wales Government has commenced on plans to lease Port Kembla, south of Sydney, to the private sector under a 99 year arrangement. Image courtesy of Port Kembla Corporation.

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EXECUTIVE SUMMARY

There are various estimates of the infrastructure deficit in Australia, but one thing is consistently concluded, the gap is very large.

Governments around Australia recognise that, given budgetary constraints, they will not be capable of bridging the gap. Governments require new methods to develop the infrastructure needed to improve national productivity if we are to sustain and improve living standards.

Further, such a transfer can often result in more efficient management of the infrastructure, remove conflicts of interest where the government is both owner and regulator and transfer responsibility for future investment in upgrades and expansions to the private sector.

This paper outlines the potential benefits of transferring assets, provides a sector-by-sector analysis of the asset classes that have the most potential to access those benefits, and outlines what needs to be done in each of the asset classes to facilitate transfers.

Infrastructure Australia recognises that some members of the community have genuine concerns about the private sector owning or controlling infrastructure that has long been in public hands. There is evidence that those concerns can be addressed through appropriate regulatory structures that maintain service levels, provide pricing protection to consumers and preserve environmental standards. In addition, social objectives can be more effectively and transparently provided through community service obligations.

This paper seeks to stimulate and inform the debate on one of these potential methods – the transfer of commercially viable, publicly owned assets to the private sector. This has the potential to make a significant contribution to bridging the infrastructure gap.

Where the proceeds to the government from such a transfer are greater than retention value, the transfer of assets can reduce the pressure on governments' balance sheets, providing additional capacity to fund more of the infrastructure deficit.

In addition to effective regulatory arrangements, the growth of Australia's superannuation system provides a real opportunity to achieve all the potential benefits of a transfer to the private sector while still being owned by a broad cross-section of Australians. When a superannuation fund buys public assets, its Australian members still own the asset. The only thing that changes from an ownership perspective is that the assets are in superannuation funds' control rather than in government control – with more defined objectives and separation of other Government roles. Based on recent national and international experience, it is likely that Australian superannuation funds will be keen bidders for public assets.

This paper demonstrates that there is considerable scope to fund critically required new infrastructure in Australia by transferring publicly owned infrastructure assets to the private sector. A significant proportion of these assets could be transferred to the private sector broadly within current policy frameworks. There is further potential in the sectors where some regulatory and preparatory work is needed.

In the sectors where structural and regulatory changes are required, these changes should be implemented as soon as possible.

While governments may be concerned at the potential political issues in transferring assets to the private sector, the evidence is that the public will accept well managed and effectively communicated transfers. A number of examples demonstrate that public acceptance of asset transfers is more successful when members of the public are informed of the rationale for the transfer, that the proceeds from the transfer will be used to fund specific new infrastructure, and where the regulatory regime protects social objectives. This paper provides some case studies of successful, recent transfers.

Many assets in the energy, ports, airports and freight rail sectors could be transferred relatively quickly. Some other sectors require structural and regulatory change before this would be recommended.

A conservative estimate is that there is over $100 billion of commercial infrastructure assets held by Australian governments.

Regardless of asset ownership structure, such changes would ensure more efficiently functioning infrastructure markets, more transparent community service obligations and appropriate economic incentives. Such structural and regulatory changes are likely to deliver ongoing economic efficiency improvements which are important for the nation's productivity and international competitiveness.

1 Background

1.1 Why are some Infrastructure Assets still Publicly Owned?

Australian governments have historically been responsible for much of the infrastructure funding task. As a result, governments have built up a substantial infrastructure asset base.

Many publicly owned infrastructure assets now serve limited or no public policy objectives. Where there are ongoing policy objectives, these objectives can often be achieved more effectively through alternative means, such as a community service obligation contract with a privately owned and operated entity.

The emergence of specialist companies managing outsourced services, and delivering such services efficiently, has made the benefits of private sector ownership and operation of infrastructure assets more compelling. It is now difficult to justify, for example, why a government needs to own a bulk coal port in the midst of a private sector coal supply chain.

1.2 Why should we consider Transferring Publicly Owned Assets?

Australian superannuation funds, pension funds from other countries, and sovereign wealth funds have all demonstrated a strong appetite for privatised Australian infrastructure assets. The long-term and stable nature of returns of infrastructure assets match the requirements of these investors and can offset the volatility of listed equity returns.

Australian governments are facing increasing pressure on their budgets. Long term fiscal projection reports have demonstrated that demographic changes will increase net expenditure pressures on governments in future years. Given this outlook, governments are seeking to avoid increase their borrowings to protect their financial position and credit rating and minimise borrowing costs.

State governments in particular, have had limited capacity on their balance sheets to fund a growing infrastructure task. Infrastructure ownership, particularly energy assets, has been seen by credit rating agencies as adding to balance sheet risk and often requires longer-term capital spending requirements. Infrastructure, therefore, can place particular pressures on balance sheets and the maintenance of credit ratings.

These constraints on the public sector mean that there is a need for new sources of funding to bridge the infrastructure deficit. The recent Infrastructure Finance Working Group report recommended that governments review existing assets to identify those that have the potential to be transferred to private sector ownership.[1] The proceeds from such transfers above retention value, and the additional capacity provided on the government's balance sheet, can be used to support new investment in infrastructure.

Given that many of these infrastructure assets are controlled by state or local governments, any strategy of transferring these assets to the private sector can only be achieved with the cooperation of all levels of government.

[1] *Infrastructure Finance Working Group, Infrastructure Finance and Funding Reform: Report prepared by the Infrastructure Finance Working Group*, April 2012

2 Protecting Community Benefits

2.1 Methods of Protecting Community Benefits

When transferring infrastructure assets to the private sector, governments need to be mindful of protecting the community on a range of issues.

Many publicly owned infrastructure assets are monopolies or have monopoly characteristics. Historically, governments may have argued that they need to retain ownership because of concerns that private owners of such assets would increase prices and earn monopoly profits. However, appropriate regulation can prevent abuse of monopoly power.

There are now a number of examples of natural monopolies which are operated by the private sector with regulation in place to ensure they do not achieve monopoly returns.

For example, regulators can monitor price increases periodically or they can set fixed five-year price paths for assets based on a return comparable to the level of risk in the business. Further discussion of the importance of effective regulation is included in Attachment A.

As well as these pricing issues, communities also have a range of non-price issues they need addressed or preserved in any transfer. These issues may include:

- maintenance of service quality standards and commitments to expand the asset appropriately to service demand increases;
- requirements to provide a range of non-commercial services which may have been undertaken under public sector ownership; and
- a range of broader operational standards including environmental protection, public safety and noise management.

Australian governments have now developed a range of tools to ensure these community benefits are protected when transferring assets to the private sector.

Private sector owners of infrastructure are required to comply with industry regulatory compliance for their asset class. This includes areas such as service quality, planning requirements and environmental restrictions.

However, in any transfer of assets to the private sector, Governments often include a range of additional, asset-specific requirements with which the new owner must comply. These requirements may be applied through specifying certain licence requirements and management plans for a range of quality standards and community requirements.

Publicly owned infrastructure operations may also undertake a range of non-commercial activities, either because a customary practice has developed over time or under direction from government. In any process of transfer to the private sector, governments can move such operations back to the relevant department or they can seek to have these operations continue through an explicit community service obligation contract, which compensates the private sector owner for undertaking these activities. Creating such a transparent payment regime ensures governments continually review such activities to ensure they benefit the community and provide value for money.

2.2 Case Studies: Protecting Community Benefits

An example of regulatory requirements that protect community benefits are the master plan requirements imposed on airports under the Airports Act 1996.

These require owners to detail plans for land use, development, ground transport access arrangements, aircraft noise management, and their environmental management plan.

Similarly, the Sydney Desalination Plant holds a Network Operators Licence and a Retail Suppliers Licence which require it to submit and comply with Infrastructure Operating Plans and Water Quality Plans. The water from the plant must be treated to meet Australian Drinking Water Guidelines and is regulated by New South Wales Health. The desalination plant is also implementing a range of environmental plans in areas such as marine water quality, operational noise and greenhouse gas emissions.

The Port of Brisbane is operated under a lease, which requires it to undertake a range of activities including maintaining and developing the port and related facilities, operating the multimodal terminal, facilitating the development of excess port land on a commercial basis, operating the visitor's centre and maintaining navigable access to the port. The port implements a range of plans involving land use and environmental protection and operates a consultative committee including a range of stakeholders including community groups.

In 2010, the Queensland Government granted a 99 year lease to a private sector entity to manage the forestry plantations within the government's State Forest estate. The licence included requirements that the area must be used for plantation forestry purposes, that public access continue to be provided for recreational and commercial purposes, that certain areas transfer back to conservation after the next harvest and that forestry management accreditation be maintained.

These examples demonstrate the breadth of issues which can be managed in any transfer of assets through regulation, to ensure the protection of community benefits.

3 Economic Benefits

3.1 Forms of Economic Benefits of Private Sector Ownership

As well as providing additional capacity to fund new infrastructure and bridge the infrastructure gap, transferring assets to the private sector can also generate improved economic efficiency.

There is substantial evidence that economic efficiency can be improved by transferring assets to the private sector – this can arise from:

- productive efficiency gains, which relate to providing infrastructure services at lower cost. Private infrastructure businesses are subject to capital market discipline. Competition for capital can create strong incentives for businesses to reduce their costs in order to be profitable;
- allocative efficiency gains, which relate to ensuring that infrastructure is efficiently utilised. When broader public policy objectives are removed or explicitly defined, this gives private businesses the ability to better respond to market demand and undertake activities that customers value; and
- dynamic efficiency gains, which relate to ensuring sound investment, innovation and efficient service provision over the long term. Private businesses have greater access to capital for expansion and again capital market discipline leads to more efficient investment decisions.

Private ownership provides more clearly defined governance arrangements. This allows for better allocative efficiency through more effective pricing of economic infrastructure and explicit community service obligations.

In Australia, many publicly owned infrastructure assets earn a rate of return well below the risk adjusted weighted cost of capital employed.

This distorts capital allocation decisions and is a more expensive and less transparent way of achieving public policy objectives than targeted assistance by way of direct community service obligation payments to socially disadvantaged members of the community.

Such an approach can also lead to outcomes counter to the public policy objectives being sought. For example, artificially lower prices can act counter to priorities such as environmental objectives, by creating incentives to over-consume scarce resources.

Private sector ownership of commercial assets can remove the conflicts of interest that face governments when they regulate the assets they own and manage. For example, governments can be tempted to make sub-optimal regulatory decisions to protect their dividends from the asset.

This conflict can distort markets, and can discourage new entrants who are concerned about the level of competitive neutrality and political risk. This can further distort efficient resource allocation.

Infrastructure assets often require significant ongoing capital expenditure. As assets age, replacement becomes necessary. In addition, as the economy and population grows, many assets will require expansion.

When governments maintain ownership of these assets they may be reticent to fund such replacement and expansion because of the impact on their budget, even where there are clear benefits to the community. This is particularly the case where the government has not developed an effective user pays framework for the asset.

Private sector owners can be more effective at responding to user demands and finding methods to develop and fund replacement and expansion infrastructure which benefits its consumers.

3.2 Case Studies: Economic Benefits of Asset Transfers to the Private Sector

There are a number of cases which demonstrate the possible benefits of a transfer of infrastructure assets to the private sector.

The electricity industry, where there is currently a mix of private and public operators, has generated a number of studies.

The Pacific Economics Group found that there was an "identifiable, one-time burst" of total factor productivity growth in the Victorian electricity distribution operations in the years between 1995 and 1998 following privatisation.[2] The Productivity Commission found that while labour productivity improved in the electricity industry nationally by 65 per cent during the 1990s, the largest improvement (80 per cent) occurred in Victoria, which was the first state to pursue private sector ownership.[3]

In addition, the Energy Users Association of Australia has argued that the conflicting objectives of governments which continue to own electricity distribution assets and manage the regulatory framework provide incentives to distort efficient investment.[4]

The Energy Users Association compared the average value of the regulated asset base per connection for government-owned and privately-owned distribution networks, and found that the regulated asset base has been higher, and has increased more, for government-owned networks.[5]

The recent New South Wales Commission of Audit also concluded that publicly owned New South Wales electricity businesses are inefficient in comparison with those privately owned.[6]

Consistent with these studies, the Draft Energy White Paper recently concluded that "there is no compelling economic or energy security reason for continuing government ownership in energy markets".[7]

Other examples of where public ownership of otherwise commercial infrastructure results in significant inefficiencies include:

- a recent review of public sector owned ports by Infrastructure Australia found that returns were well below commercial levels – due to lower levels of efficiency and/or uncommercial user charges which have led to implicit subsidisation of this activity by taxpayers. The lack of commercial pricing distorts economic behaviour and in some cases the lack of profitability has constrained the ports from pursuing required expansions;
- the Queensland Rail privatisation was driven in part by the need to fund significant levels of new infrastructure required by the coal industry and the need to improve efficiencies to compete with privatised rail competitors in other states; and
- while Tasmania has undertaken important governance reforms to its water sector over recent years, the Tasmanian Economic Regulator reviewed the State's water and sewerage industry and found an under-recovery of revenue and that its operations were not financially sustainable. Again, this results in implicit subsidies to all users regardless of their need, distorts price signals and economic efficiency and constrains the ability of these entities to reinvest in required new infrastructure.

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[2] Pacific Economics Group, *Submission to Productivity Commission: Electricity Network Regulation Issues Paper*, May 2012, p3

[3] Productivity Commission, *Modelling Impacts of Infrastructure Change over the 1990s: Supplement to Review of National Competition Policy Reforms*, February 2005.

[4] Amcor, Australian Paper, Rio Tinto, Simplot, Wesfarmers, Westfield and Woolworths, *Proposal to Change the National Electricity Rules in Respect of the Calculation of the Return on Debt*, 17 October 2011. Available at: http://www.aemc.gov.au/Media/docs/Energy%20Users%20%20Rule%20Change%20Committee%20Proposal-dc1ca423-cd4e-4aab-89a7-c8d6c15bc663-0.PDF

[5] Ibid page 23.

[6] NSW Commission of Audit, *NSW Commission of Audit Final Report*, 4 May 2012, p185.

[7] Department of Resources, *Energy and Tourism, Draft Energy White Paper*, December 2011, p165.

4 Successful Recent Transfers of Assets to the Private Sector

There are also many successful examples of transferring existing assets to the private sector and using the proceeds to fund new assets. Those transfers where the government clearly explains the rationale for the transfer, indicates that the proceeds will be used to fund new infrastructure, and where the regulatory regime protects social objectives, tend to be the most accepted by the public.

Some successful, recent examples are summarised below.

4.1 Hobart Airport

When the Tasmanian Government announced the sale of Hobart Airport in 2007-08 it stated that a key objective of the sale was "to enable reinvestment of those resources into new infrastructure".[8]

The Treasurer announced three infrastructure projects which would receive this reinvestment:

1. the development of Macquarie Point as a site for the new Royal Hobart Hospital;
2. the Southern Transport Investment Program, which included the Brighton Transport Hub, a road-rail facility and freight distribution hub for the movement of freight between southern and northern Tasmanian ports; and
3. agriculture water storage and irrigation.

In December 2007, the airport was sold to a consortium of Macquarie Bank and the Tasmanian Retirement Benefits Fund for $350.5 million.

Press reports suggest the price was above expectations. The high sale price was reportedly due in part to the potential of the large parcel of 570 hectares of land attached to the airport. It is expected that this could be redeveloped, including retail projects to bring additional revenue. The state government indicated it was unlikely that it could have become involved in such a retail development if the airport remained in government hands.

4.2 QR National

Following the privatisation of other publicly owned freight rail assets, Queensland Rail's freight rail operation was the last remaining Government owned entity. The business faced increasing competitive pressure from other privatised businesses, particularly Asciano (which owns the former Commonwealth and New South Wales freight rail businesses). Further, the Queensland business faced a substantial capital expenditure task to meet the demands of coal users in the state.

In November 2010, the Queensland Government privatised QR National through an Initial Public Offering. QR National includes the heavy haul rail tasks of Queensland Rail such as the transportation of coal, iron ore, other minerals, agricultural products and general freight. It also operates and manages the Central Queensland Coal Network under 99 year lease arrangements with the state.

The Queensland Government sold 66 per cent of its interest in QR National during the Initial Public Offering for $4 billion. It also received an $86 million dividend prior to listing on the ASX and $471 million of debt previously held with Queensland Treasury Corporation was refinanced and included in the Initial Public Offering vehicle, bringing total proceeds to $4.6 billion. On 8 October 2012, the Queensland Government sold more than half its residual stake through a buy back and selective placement raising an additional $1.5 billion.

[8] Tasmanian Government, *Tasmanian Budget Speech 2007-08*, 7 June 2007, p11.

The Queensland Government stated that the sale would free the Government from having to contribute an estimated $7 billion in future capital expenditure on QR infrastructure. New investments in coal infrastructure are now the responsibility of negotiations between the users and QR National, rather than the state.

4.3 Golden Casket

In 2007, the Queensland Government announced that it was awarding a sub-licence and management contract for its lottery operation Golden Casket to Tatts Group. Golden Casket is the exclusive lottery operator in Queensland and was fully owned by the state government.

The government announced that the proceeds of $530 million from the awarding of the sub-licence and management contract would assist in funding a new 400 bed Children's Hospital.

Both Golden Casket and NSW Lotteries, which was transferred to the private sector by the NSW government, were both sold at above 10 times their earnings before interest taxes, depreciation, and amortisation (EBITDA), significantly higher than the trading multiples of similar listed companies. This may reflect the synergies and cost reduction opportunities which private sector owners can realise for these businesses.

4.4 Sydney Desalination Plant

In May 2012, the New South Wales Government announced the refinancing of the Sydney Desalination Plant from a consortium of Ontario Teachers Pension Plan and a Hastings-managed infrastructure fund.

Sydney Water entered into a 50 year water supply agreement with the plant, with prices regulated by the Independent Pricing and Regulatory Tribunal (IPART).

The refinancing raised $2.3 billion, $300 million more than the cost of constructing the plant. After repaying the debt incurred in building the plant, the increment was provided to Restart NSW for new infrastructure projects. The government stated that these proceeds would be used for roads, hospitals and schools across the state.

The New South Wales Government has also committed that funds from the planned privatisation of Port Botany and Port Kembla and the sale of electricity generators would also be directed to Restart NSW.

5 Identifying Infrastructure Asset Classes for Transfer to the Private Sector

5.1 Classifying Infrastructure Asset Classes

This paper identifies a number of asset classes appropriate for transfer to the private sector. In identifying these asset classes, Infrastructure Australia has been mindful of the following criteria:

- the asset class includes infrastructure or infrastructure like assets;
- the asset classes are energy, water, transport sectors and plantation forestry – while forestry is not usually covered by Infrastructure Australia, the sector has many of the characteristics of infrastructure assets;
- assets in the class must be owned, or part-owned, by federal, state or local governments;
- assets in the class must be applying or have the potential to apply a user-pays framework, or already have a non-government earnings stream with the potential to cover operating costs; and
- assets in the class have limited or defined public policy benefits which can be obtained by way of regulation, sale conditions or community service obligations.

The suitability of assets in these classes for transfer to the private sector varies between different states, given different regulatory and governance regimes and commitment to user-pays principles. Obviously transfer should also only occur where the proceeds from sale exceed the retention value of the asset.

Many economic infrastructure asset classes have monopoly characteristics. As discussed earlier, this is not an impediment to a transfer to the private sector, as long as an appropriate regulatory regime is in place to protect customers and to avoid inefficient economic outcomes. Therefore, in assessing suitability of a sector for private sector ownership, the regulatory environment needs to be reviewed to ensure it is appropriate.

Infrastructure Australia has identified a number of asset classes that meet the criteria outlined above, and has designated them into the following categories:

- those which have competitive markets and where the remaining publicly owned assets are suitable candidates for transfer to the private sector;
- those which are not competitive or have significant non competitive segments, but in which appropriate regulatory structures currently apply, making them suitable candidates for transfer to the private sector;
- those which are not competitive or have significant non-competitive segments and where the regulatory framework is not yet suitably developed to allow privatisation, but where this can be achieved with structural and/or regulatory changes; and
- those which are unsuitable for transfer to the private sector, either because of significant structural or regulatory impediments, or sectors which are unlikely to yield upfront revenue from privatisation because they do not have sufficient non-Government earnings and/or they carry a very large community service obligation component.

Transfer to private sector ownership is appropriate in sectors which have competitive markets or which have well established regulatory frameworks.

In other asset classes, further structural and regulatory changes are required before transfers to the private sector should be considered. A first step would be to consider an appropriate regulatory framework. This might include commercial pricing which achieves cost recovery and an appropriate return on capital. It may also require separating the roles of Government as owner and regulator and ensuring transparent community service obligation payments.

These reforms are likely to improve the operation of the sector, regardless of whether assets are transferred to the private sector. However once the reforms are implemented, a transfer to the private sector would likely obtain the benefits outlined earlier in this paper.

A final category of assets may not be suitable for transfer to the private sector because of public policy issues which may be difficult to document or manage with private sector ownership. Alternatively they may be able to be transferred to the private sector but will not yield sufficient revenue from a sale to fund new infrastructure.

For these categories there may still be significant benefits in greater involvement of the private sector to improve efficiencies and other benefits, for example under a franchise model.

In the following sections classes of assets currently owned and operated in the public sector are identified, which might be suitable for transfer to the private sector.

5.2 Electricity

The Australian electricity industry broadly comprises three components:

- the National Electricity Market (NEM) which operates in the eastern states;
- the South West Interconnected System (SWIS) which operates separately in south western Western Australia; and
- other regional networks, particularly in Western Australia and the Northern Territory.

The NEM has developed over the past two decades and now operates on a largely competitive basis, with separation of major generation, transmission and retailing assets in each state.

The market features standard regulations, open access and little direct government intervention. There are a large number of privatised entities operating at each stage in this market.

The SWIS developed from the disaggregation of the Western Australian government-owned Western Power Corporation.[9] Since disaggregation, there has been some progress towards the development of competition in generation and retail.[10] This has been assisted by a range of mechanisms including the establishment of a wholesale electricity market, restrictions on the major generation business, building more generation plant and restrictions on vertical integration.

[9] Previously a vertically-integrated business with a monopoly, or near-monopoly, in electricity generation, transmission, distribution and retailing, Western Power was then disaggregated into four separate entities: Verve Energy, the generation business, Western Power, the transmission and distribution business, Synergy, and the retail business, Horizon Power, which supplies electricity to regional areas.

[10] An overview of the progress of the market is provided in the Economic Regulation Authority's annual reports to the Minister on the Wholesale Electricity Market. Available at: http://www.erawa.com.au/2/532/42/annual_wholesale_electricity_market_report_to_the_.pm

However, the SWIS remains less competitive and less transparent than the NEM:

- the Western Australian Government remains significantly involved in the industry, and there is evidence of ad-hoc determinations on prices rather than relying on independent tariff-setting regimes;
- retail tariffs in Western Australia remain below cost reflective levels; and
- there remains little competition in the market – single players dominate the generation and retail sectors[11] and full retail contestability has not yet been introduced.

Electricity utilities elsewhere in Australia, outside these two systems, usually operate in a vertically integrated nature, with limited or no competition and significant government involvement – including direct Government price setting.

The following boxes describe each of the component electricity sub-sectors operating in the NEM and SWIS.

GENERATION

Description of Assets: Generators including coal and hydro electricity supplying electricity into the grid.

Nature of Market: Generators do not have as stable revenue stream characteristics as other traditional infrastructure assets – they have fixed costs and volatile earnings and therefore are exposed to market risk (although this can be managed through long term contracts and hedging where appropriate). Electricity generator's prices in the NEM are generally determined in a competitive market.

Current Ownership Arrangements: Generation assets remaining in public ownership in the NEM include: New South Wales; Queensland; and the hydro assets of Snowy and Hydro Tasmania. Verve Energy in the SWIS is Western Australian Government owned.

Future Capital Requirements: Although varying from state to state, overall there is significant additional investment required in this asset class. The Australian Energy Market Operator's (AEMO) 2010 National Transmission Network Development Plan (NTNDP) estimated that between $49bn and $60bn of new investment in generation capacity will be required by 2030, although a significant proportion of this is expected to be in renewable generation which is largely provided by the private sector.[12] Since then, AEMO has recently significantly lowered their forecasts of electricity demand which is likely to reduce this estimate.[13]

[11] Independent Market Operator. Available at: http://www.imowa.com.au/rc-capacity-in-the-swis

[12] Investment Reference Group, *A Report to the Commonwealth Minister for Resources and Energy*, April 2011, http://www.ret.gov.au/energy/energy_security/review/Pages/irg.aspx p16.

[13] Australia Energy Market Operator, *National Electricity Forecasting Report*, 2012.

TRANSMISSION AND DISTRIBUTION

Description of Assets: The higher voltage transmission network assets in the NEM and SWIS and the shorter-distance lower voltage distribution networks in suburban areas servicing users.

Nature of Market: Usually a monopoly asset – difficult to replicate – limited opportunities for new entrants except in developing new suburbs or estates. A number of players covering different, exclusive geographical areas operate in some states. Entities are regulated closely, with prices usually set by determining a five year revenue cap based on their regulated asset base. The Australian Energy Regulator and Economic Regulatory Authority in Western Australia have roles in monitoring market outcomes in the NEM and SWIS respectively.

Current Ownership Arrangements: Assets remain in public ownership in the NEM in NSW, Queensland and Tasmania. Western Power in Western Australia also remains in government ownership.

Future Capital Requirements: The Australian Energy Regulator has stated that there is a significant capital expenditure program in this sector to replace equipment and cater for expansion. This is a significant driver of higher prices in this sector.[14] The recent draft Energy White Paper has stated that the capital expenditure task is an estimated $24 billion in transmission network investment and up to $120 billion in distribution network investment required by 2030.[15]

[14] Australian Energy Regulator, *Finding The Balance – The Rules, Prices and Network Investment*, speech by AER Chairman Andrew Reeves June 2011. See also AER submission to Australian Energy Market Commission (AEMC) rule change process regarding required process, http://www.aemc.gov.au/Electricity/Rule-changes/Open/Economic-Regulation-of-Network-Service-Providers-.html

[15] Department of Resources, *Energy and Tourism, Energy White Paper,* December 2011, p141.

RETAILING

Description of Service: Manage customers and sell electricity from the distribution network.

Nature of Market: These businesses are operating in increasingly competitive markets as retailing becomes deregulated. Often sign hedging contracts with generators or are becoming vertically integrated with generators to manage market price risk. Other than in Victoria, retailers in each state face price regulation.

Current Ownership Arrangements: Most electricity retailers have already been privatised with some residual ownership in Tasmania, the Australian Capital Territory, and Western Australia along with Snowy Hydro. The Queensland Government retains ownership of Ergon Energy which retails electricity in regional Queensland. In transferring retailing assets to the private sector, Governments need to be mindful of the natural hedge between retailing and generating assets.

Past electricity market reforms mean NEM generators and retailers can now be considered to operate in a largely competitive market where there is minimal need for regulatory reforms in advance of any asset privatisations. Distribution assets are well regulated and subject to regular review.

While there has been significant progress, reforms in the SWIS to fully separate the role of government and to achieve competition and market pricing are yet to be completed. Once this is achieved, there should be no impediment to transfer of assets to the private sector.

Electricity generators, distributors and retailers connected to other regional grid networks including in the Northern Territory and regional Western Australia have the following characteristics which makes them unsuitable for transfer to the private sector at this time:

- the businesses have significant community service obligation payments to maintain their operation rather than earning revenue based on user pays, and do not earn significant profits;
- they are vertically integrated, and operate in sectors without prospect of competitive pressures; and
- there is substantial operational control by governments, including in pricing.

5.3 Water

The water industry has not undergone the same level of structural reform and vertical separation as in the energy sector. The level of reform varies more significantly across jurisdictions.

However, over the last two decades, there have been significant governance reforms and a move to more commercial operations in the Australian water industry. This has been driven by the Council of Australian Governments which, in 1994, proposed reforms to pricing regimes (and in particular a move toward full-cost recovery), the specification of water property rights and the development of water trading arrangements.

In 2004, the National Water Initiative was signed by governments across Australia. It refreshed the 1994 Council of Australian Governments' agreement and included further pricing principles.

It also required states to develop independent bodies to set or review prices, or price setting processes, for government water service providers – although progress on this has varied across jurisdictions.

As a result of these reform processes, metropolitan urban water authorities have undergone significant governance reforms over the past decade and are generally moving to a more commercial cost recovery framework. Attachment B summarises the current governance arrangements of the major capital city urban water businesses.

In the rural water sector, there are already a number of private businesses in New South Wales and South Australia supplying water to irrigators.[16] These businesses are owned by users and are subject to pricing oversight by the Australian Competition and Consumer Commission under the Commonwealth Water Act (2007). However, in the other states rural water businesses remain government owned and are typically subject to the same governance and regulatory arrangements that apply to urban water businesses.

The following boxes summarise the major components of urban water and wastewater operations.

BULK WATER SUPPLY AND TREATMENT

Description of Assets: Bulk water assets include dams and reservoir storages for water supply, desalination plants and water recycling plants.

Nature of Market: In Queensland, New South Wales and Victoria, the activities of bulk water supply have been separated from water retailing and distribution. In South Australia, Tasmania, Western Australia and the Northern Territory, vertically integrated water supply businesses provide all the services in the supply chain. Bulk water supply is potentially contestable although the geographic scope of the market may be limited.

Corporate and regulatory structures vary between states. Some states have implemented corporatised structures and have independent, state based, regulation of their bulk water businesses (i.e. Victoria and New South Wales). While in other states, state based regulators only make pricing recommendations to government.

Current Ownership Arrangements: Some outsourcing and private sector ownership of desalination and water treatment plants has occurred including in New South Wales through the recent sale of its desalination plant and the earlier sale of the water treatment plants in the mid 1990s.

Future Capital Requirements: The major investments in water supply security in recent years, in response to drought conditions from 2002-09, has deferred the need for further major investment in capacity in most major urban areas for the medium term.

[16] This includes Murray Irrigation Limited, Murrumbidgee Irrigation and Coleambally Irrigation Co-operative Limited in New South Wales, and Barossa Irrigation Limited and the various private trusts managed by Central Irrigation Trust in South Australia.

WATER DISTRIBUTION AND RETAILING

Description of Assets: The water pipeline networks and retailing services provided to end users.

Nature of the Market: The activities of water distribution and retailing are typically provided by an integrated business (which may or may not extend to bulk water supply).
Water distribution networks can be considered a monopoly asset as they are difficult to replicate. Retail competition is potentially feasible (along the lines of electricity) but has not been implemented to date.

Part IIIA of the Competition and Consumer Act 2010 (Commonwealth), which provides a national access regime for significant pieces of monopoly infrastructure, would likely apply to metropolitan water networks which could enable retail competition. New South Wales has developed its own water specific access regime and other states have been considering this.
Corporate and regulatory structures vary between states. Some states have corporatised these businesses and have implemented independent retail price regulation. Others retain price direction by Governments.

Current Ownership Arrangements: Most assets are publicly owned although there are some private providers that own and operate networks in new housing estates or that provide rural water services (i.e. to irrigators). In some states, including Victoria, there are a number of government owned businesses covering different, exclusive geographical areas.

Future Capital Requirements: Significant capital expenditure is likely to be required for renewing ageing distribution networks, to expand the existing networks and to maintain water quality standards.

WASTEWATER

Description of Assets: Assets associated with collecting, treating and disposing of wastewater in urban areas. This would include wastewater pipeline networks and associated treatment plants.

Nature of Market: Wastewater collection, treatment and disposal services are typically provided by vertically integrated businesses that also provide water distribution services. The wastewater collection networks are usually monopoly assets.
In some states these businesses are corporatised and subject to independent retail price regulation. The retail and wastewater treatment and disposal segments of the supply chain are potentially contestable (although, the geographic scope of the market may be limited). Part IIIA of the Competition and Consumer Act 2010 provides a national access regime which has previously been used to facilitate third party access to Sydney's wastewater collection networks. In addition, New South Wales has developed its own water and wastewater specific access regime and other states have been considering following New South Wales' lead.

Current Ownership Arrangements: Most wastewater assets are publicly owned, although there are some private providers that own and operate networks in new housing estates. In addition, some outsourcing of wastewater treatment plants has occurred through Build Own and Operate (BOO), Build Own Operate and Transfer (BOOT) and Public Private Partnership (PPP) arrangements.

Future Capital Requirements: Significant capital expenditure is likely to be required for renewing ageing distribution wastewater collection networks and to expand the network as populations grow. There may also need to be new investment to maintain environmental standards.

Past reforms in the water industry mean there is some prospect for more assets to be owned by the private sector. However, the regulatory framework requires further development in most states in advance of this.

Both the Productivity Commission and National Water Commission in their recent reviews of the urban water sector have highlighted the need for clearer delineation between government roles as owner and as general policymaker for the industry. The Productivity Commission recommended that each state and territory develop governance reform plans to further move their water authorities to a more commercial footing.[17] The National Water Commission went further and recommended that independent economic regulation be expanded across all urban water systems[18].

An example of the continuing conflicting roles of government is the institutional impediments and policy constraints that prevent trade between rural water users and urban water suppliers. These include specific rules such as the Victorian Government's four per cent annual limit on entitlement trading out of irrigation districts and formal government policy positions constraining trade. These artificial constraints contribute to inefficient investment in bulk water supply as urban water providers have to seek other, potentially more expensive, sources.

The Australian Government is expected to respond to the Productivity Commission's recommendations over the coming months. The Commonwealth of Australian Governments' Standing Council on Environment and Water is considering the progress of the national water reform program in light of the National Water Commission review.

While some states have progressed significantly, others have significant regulatory, legislative and even constitutional barriers which would need to be overcome before transfer to the private sector.

[17] Productivity Commission (2011) "The Commission recommends that State and Territory Governments undertake a comprehensive review of the cost and benefits of pursuing structural reform…it is vital that this work considers the full range of costs and benefits of structural reform and in particular gives explicit regard to the competition-related efficiency benefits of structural reform". *Australia's Urban Water Sector*, October 2011, Chapter 12

[18] National Water Commission, *Urban Water in Australia: Future Directions*, 2011, Canberra

Just as in electricity, eventual private ownership is likely to improve efficiency, and act to address some of the governance issues associated with conflicting commercial and public policy objectives of water entities under government ownership.

5.4 Airports

Over the past two decades there has been significant transfer of public airport assets to the private sector. The box at right summarises the current structure of the sector.

Successful airports involve building commercial operations including retailing and property development, which may be better undertaken in the private sector. There appears no significant impediments to the further transfer of residual public sector airport assets to the private sector.

Nature of the Market: While large airports have some monopoly characteristics, regional airports are commonly accepted as having less market power.
There is an accepted light-handed regulatory model for some larger airports in private ownership (Adelaide, Brisbane, Melbourne, Perth and Sydney). This involves periodic monitoring by the Australian Competition and Consumer Commission of the prices charged by these airports' for aeronautical services (such as landing fees, hangar, ground handling and airport security charges). Non-aeronautical service revenues (such as revenue from retail and other ancillary services) are left unregulated. The Productivity Commission reviewed this regulatory structure recently and found in its draft report that airports aeronautical charges, revenues, costs, profits and investment look reasonable compared with outcomes at overseas airports.[19]

Current Ownership Arrangements: All capital city airports are now privately owned. A number of smaller regional airports remain in public ownership.

Future Capital Requirements: Airports have required substantial ongoing capital expenditure since private ownership. A number of capital city airports have invested in new terminals and runway assets.

[19] Productivity Commission, *Economic Regulation of Airport Services*, August 2011

5.5 Ports

Historically all Australian container ports have been publicly owned, as well as many major bulk ports. Container ports usually lease facilities to private sector stevedores. Recently a number of these port assets have been transferred, or plans have been announced for them to be transferred, to private sector ownership, with strong interest from private sector infrastructure investors. The boxes at right summarise the major characteristics of these assets.

CAPITAL CITY PORTS

Description of Assets/Services: Key capital city ports largely include container activity. The public port authorities act as a landlord – leasing facilities to stevedores. The business activities of the port authorities include organising pilotage, navigation and berthing of ships, managing shipping channels, managing and developing property, providing precinct land for shipside and landside port businesses activities

Nature of Market: Port authorities usually lease space to a number of competing stevedoring operations. While container ports also have some element of monopoly, their pricing power is constrained by potential alternatives for shippers.
Most Australian ports are subject to a successful light handed, state-based, regulatory framework. The Australian Competition and Consumer Commission also monitors prices, costs and profits of container stevedoring operators located in the ports of Adelaide, Brisbane, Burnie, Fremantle, Melbourne and Sydney.

Current Ownership Arrangements: Ports in Brisbane and Adelaide have now been leased to private sector parties. The New South Wales Government is currently proceeding with the lease of Port Botany and Port Kembla. Other capital city ports remain in Government ownership.

Future Capital Requirements: There can be significant capital expenditure requirements. Port of Melbourne capital expenditure has totalled $687m over the past three years – including its channel deepening project. There is significant future growth projected for Australian capital city ports.

BULK PORTS

Description of Assets/Services: Large bulk commodity ports – particularly minerals or grain. Usually used by a particular industry – for example coal ports in Queensland or as part of a container port in a regional centre for various commodities.

Nature of Market: Depending on transport options and the bulk commodity, these ports can operate with a degree of market power. Light handed regulatory frameworks, with regular reviews and the option of declaration have worked successfully in this sector. Many ports operate on long term "take or pay" basis with users.

Current Ownership Arrangements: A number of bulk ports remain in public ownership in NSW, Queensland and WA.

Future Capital Requirements: There are significant bulk port capital expenditure requirements over the coming years, particularly for export related resource ports.

A number of port assets have now been transferred to the private sector. Regulatory frameworks have been well accepted by all parties. Where ports are potentially commercially viable, and Government restrictions and charging regimes are settled, there appears no significant impediment for their transfer to the private sector. A clear regulatory framework including management of landside traffic congestion is likely to be an important component of any sale process. Private sector management of port assets may enhance efficiency of operations and facilitate commercial expansions where required.

However, a recent review BY Infrastructure Australia of Port Balance Sheet Capacity found that some State Government owned Australian ports were generating uncommercially low returns. This could be the result of contracts and charges which do not fully reflect commercial principles and requirements to provide community services without adequate payment.

This analysis suggests that, for some port assets, there may need to be work undertaken to review the commercial framework and to separate the role of Government ahead of a sale. Community service obligations may need to be separately defined and funded, and user agreements transitioned to commercial terms to ensure market-related returns.

5.6 Rail

Publicly owned freight rail assets have been separated into "below" and "above" rail assets in most jurisdictions and open access regimes have been introduced. However, some residual freight rate assets remain in public ownership, including the Australian Rail Track Corporation as summarised in the box at right.

The other major rail sector is urban passenger rail. These systems are vertically integrated – the train operator owns the track. Also they receive substantial payments from governments for example to offset community service obligations. However, there may be commercial opportunities in land and air space rights near stations.

Residual government owned rail assets are often linked to commodity supply chains or operate in the freight industry, competing with trucks. They are likely to be operated more efficiently by the private sector. Further private sector ownership is likely to enhance competitive neutrality in these sectors. However many of these operations are not profitable, including for example the North-South freight corridor. Only those assets that are profitable are likely to realise material funds from such a transfer for investment in new infrastructure.

FREIGHT RAIL

Nature of Market: The industry can be considered as 'above rail' (locomotives and wagons) and 'below rail' (track). Above rail activities are conducted in competitive markets with access regimes in place in most jurisdictions. In particular, the Australian Competition and Consumer Commission assesses the Australian Rail Track Corporation access undertakings for the national interstate rail network and for the Hunter Valley rail network in New South Wales. The Queensland Competition Authority also has a role in approving the access undertakings of below-rail operators in Queensland.

Current Ownership Arrangements: Most above rail activities are conducted by the private sector. However, there remains some government equity in QR National - the new Queensland Government has recently divested more than half this residual stake.

Governments retain ownership and control of most below rail assets. Most are unprofitable. However a few assets may have the potential to be transferred to the private sector including:

- Australian Rail Track Corporation track in the Hunter Valley coal industry;
- Australian Rail Track Corporation freight lines carrying container traffic between major capital cities. Rail is more competitive with road on longer distances and the potential for commercial charging is currently higher on the east west corridor (Melbourne/Sydney-Perth) than on the north south corridor (Melbourne-Sydney-Brisbane). None of the container freight corridors earn commercial returns;
- the Queensland Government's residual holding in QR National;
- Queensland Rail's Mt Isa-Townsville line; and
- other residual assets including terminals and short lines to major container terminals.

Future Capital Requirements: There are commercial and/or community pressures for substantial investments in these systems in the future.

5.7 Plantation Forests

Many state governments developed substantial plantation forest estates post World War II. A number have now been successfully transferred to the private sector in a number of States. Note that native forests, which involve significant additional public policy issues, are not included in this analysis. The sector is summarised in the box at right.

Given the commercial nature of their activities, and evidence that residual public policy issues can be successfully negotiated, there is no significant impediment to the transfer of remaining assets to the private sector.

5.8 Roads

Except for a small number of roads with tolls in major Australian cities, almost all roads in Australia remain under public ownership. The sector is detailed in the box at bottom.

Significant work, including improved technology, a congestion charging regime and achieving broad public acceptance will be needed to achieve an efficient road pricing strategy. Road pricing could generate significant additional revenues to fund new road infrastructure and maximise the efficient use of existing infrastructure. For example, the recent New South Wales Financial Audit suggested that efficient congestion pricing could raise up to $5 billion in gross revenue per annum.[21]

In the absence of such network-wide reforms, transfer of individual roads to private sector ownership and imposition of tolls may have negative network impacts and the resulting long-term concessions may impede achieving overall network-wide reforms.

5.9 Conclusion

Infrastructure Australia's analysis suggests there are many asset classes where publicly owned assets could be transferred to the private sector with little structural or regulatory changes required. The proceeds from such transfers could fund substantial new infrastructure in each jurisdiction. Should regulatory and governance changes be made, further assets could be transferred.

PLANTATION FORESTS

Nature of Market: Timber output is sold utilising long term commercial contracts with mills. Given transport costs, mills are usually located close to the plantation estate.

Current Ownership Arrangements: Many of the publicly owned plantation assets have now been transferred to the private sector under long term leases. These processes have successfully resolved regulatory issues including fire management, commitments to replanting and public access to the estate. South Australia is currently completing a process for private sector equity in its estate. Only New South Wales and Western Australia will then remain in full public ownership.

Future Capital Requirements: Public plantation operators have had little capital to expand their estates in recent years.

ROADS

Nature of Market: The sector has limited use of user pays, with revenue collected indirectly through registration and fuel taxes, and investments in most road assets funded directly from public sector budgets. Australia's Future Tax System Review made a number of recommendations relating to user pays for urban roads to better reflect market demand. These include network wide pricing regimes, congestion and peak period charging.[20]

Heavy vehicle (freight) charging arrangements are currently being reviewed through the Council of Australian Governments' Road Reform Plan. New technology is making location based tolling regimes more viable.

Future Capital Requirements: Over recent years Infrastructure Australia has received submissions relating to urban motorways and highways which have involved significant capital expenditure, for example, proposals relating to Sydney's urban motorways alone have amounted to over $20 billion.

[20] Australia's Future Tax System, *Australian Government Treasury*, 2010, Recommendations 61 and 62.

[21] *NSW Financial Audit*, September 2011, p13-15.

6 Categorising Infrastructure Sectors

Table 1 shows the asset classes categorised according to their current suitability for transfer to the private sector.

Table 1: Categorising economic infrastructure sectors

Competitive sectors	
National Electricity Market (NEM) Generators	Operating in competitive markets.
NEM Retailers	Also operating in competitive markets – could possibly be transferred with corresponding generators or with hedging arrangements.
Some Level of Monopoly Characteristics, but with Suitable Regulation	
NEM Distribution and Transmission	Monopoly characteristics, but already subject to price regulation within a well established regulatory framework.
Airports	Regional airports have less monopoly characteristics than major airports. Accepted regulatory framework in place.
Capital City Ports	A number of ports have been transferred to private sector ownership with a successful regulatory framework.
Bulk Ports	A number of ports have commercial operations, full user-pays charging regimes and a light handed regulatory approach. Some ports have significant embedded subsidies, no transparent community service obligations and do not apply full user pays pricing. For these ports governance and regulatory arrangements should be worked through as part of the privatisation process.
Bulk commodity rail	Queensland interests and ARTC Hunter Valley interests in coal to be separated from other business lines. Monopoly characteristics, however, subject to suitable and accepted regulatory framework.
Australian Rail Track Corporation (ARTC)	Includes any remaining government owned terminals. Accepted pricing and access regime currently operating.
Some Level of Monopoly Characteristics, but Regulatory Framework needs Further Work	
South West Interconnected System (SWIS) Electricity Assets	Issues with pricing, contestability and consistency with NEM may need to be addressed before introduction of further private sector capital.
Metropolitan water and wastewater and rural water assets	In most cases, further price and regulatory reform is required before any possible transition to private sector ownership. However some Sydney and Melbourne metropolitan assets now operate in a suitable regulatory environment and could be elevated to the second section of this table.

Sectors Unsuitable for Privatisation at this Time or Requiring Further Application of User Pays Framework	
Other Intermodal Rail Freight	Broad and narrow gauge urban rail freight and branch lines. Do not generate profits and some are unlikely to generate significant proceeds from sale and build. May need community service obligation regime if in private ownership.
Non-NEM or SWIS Electricity	Most utilities are currently vertically integrated, have significant community service obligations and are not profitable.
Urban water and wastewater assets in regional towns	Generally not commercial and would not yield significant privatisation proceeds. Infrastructure Australia has recommended reforms to institutional arrangements, particularly in Queensland and New South Wales to better ensure drinking water quality. There may however be greater scope for private sector participation through franchising and other group concession arrangements.
Urban Passenger Rail	Significant Community Service Obligation component (greater than 70 per cent of average costs) means that there is little scope to realise capital for sell and build with the exception of air space rights over large station developments. There is, however, greater scope for private sector participation through franchising and other arrangements.[22] May be scope to go beyond this and privatise assets but will need to be explored in more depth because of the network spillover issues.
Roads	**Opportunity for greater application of user pays framework taking into account network implications. Privatisation could occur once network issues and heavy vehicle charging arrangements.**

6.1 Types of Regulatory Frameworks

In the table above, a number of sectors have been identified as having publicly owned assets with monopoly characteristics, but subject to largely suitable regulatory frameworks. Assets in these sectors could be privatised either immediately or with only minor regulatory reforms.

While each sector has its own individual regulatory requirements and issues, these can be divided into two broad categories:

- sectors with substantial monopoly characteristics which operate under significant regulatory direction, usually involving the calculation of a regulatory asset base and a periodic price path based on a return on that base. This includes NEM Distribution and Transmission assets and access undertakings; and
- sectors which operate within a commercial environment but with elements of monopoly power. For these industries more light handed regulation, such as price monitoring, is more suitable to ensure that the entities are not seeking to exploit market power. This includes airports and some port assets.

For both these categories, there has already been significant transfer of existing assets to the private sector. Regulatory frameworks have been well developed and refined over time and are generally accepted. While ongoing monitoring and refinement is required for all regulatory models, substantial work is not necessary ahead of further transfers to the private sector.

[22] See Tourism and Transport Forum, *Public Transport Private Operations*, 2012.

7 Value of Identified Infrastructure Assets

Infrastructure Australia has undertaken a preliminary and high level estimate of the potential proceeds from the transfer of assets to the private sector in each sector, using generally accepted valuation metrics.

The resulting valuations are preliminary, and obviously the final sale proceeds for each asset would depend on the final structure of the asset, the regulatory framework under privatisation and the level of buyer interest.

The objective is to understand the likely funds available for new infrastructure projects rather than to achieve exact valuation estimates for each sector.

Table 2 summarises the conclusions, as well as briefly summarising the methodology. It should be noted that the equity valuations take account of the need to repay debt of these businesses with any sales proceeds.

Table 2: Preliminary Asset Class Valuations (rounded to $bn)[1]

Asset Class	Enterprise value range	Equity value range[2]	Valuation Approach
Electricity Generation	$21 – 26bn	$16 – 21bn	Valuation is based on a multiple range of $650k to $850k per MW of generator capacity, reflecting market valuation of selected Australian listed generation assets. Hydro assets based on a multiple of earnings – range of 12.0 to 14.0 times latest reported Earnings before Interest, Tax, Depreciation and Amortisation (EBITDA). This is below multiples recorded for sales in this sector.
Electricity Transmission	$20 – 22bn	$10 – 12bn	Based on 1.10 to 1.20 times the opening regulatory asset base at 1 July 2012 as determined by the relevant regulator, reflecting market valuations of comparable Australian listed assets.
Electricity Distribution	$53 – 59bn	$25 – 31bn	Based on 1.10 to 1.20 times the opening regulatory asset base at 1 July 2012 as determined by the relevant regulator, reflecting market valuations of comparable Australian listed assets.[3]
Electricity Retailers	$1 – 2bn	$1 – 2bn	Based on a multiple range of 9.5 to 11.5 times latest reported EBITDA, reflecting market valuations of comparable Australian listed assets.
Water Bulk	$54 – 61bn	$33 – 39bn[4]	Based on 1.10 to 1.20 times the opening regulatory asset base at 1 July 2012 as determined by the relevant regulator.[5]
Water Distribution and Retailers	$32 – 35bn	$18 – 21bn	Based on 1.10 to 1.20 times the opening regulatory asset base at 1 July 2012 as determined by the relevant regulator.
Airports	<$1bn	<$1bn	Based on a multiple range of 12.0 to 14.0 times latest reported EBITDA.
Capital City Ports	$3 – 4bn	$2 – 3bn	Based on a multiple range of 17.0 to 19.0 times latest reported EBITDA, reflecting recent transaction multiples for comparable container port assets.
Bulk Ports	$6 – 7bn	$5 – 6bn	Based on a multiple range of 13.0 to 15.0 times latest reported EBITDA, reflecting recent transaction multiples for comparable bulk port assets.
Freight Rail (ARTC and residual QR National holding)	$3 – 4bn	$3 – 4bn	ARTC valuations based on discounted cash flow estimates in their annual accounts. QR National holding based on share market valuation as at close of 11 October 2012.
Plantation Forestry	$1bn	$1bn	Publicly owned entities undertake discounted cash flow valuations in their annual accounts. These valuations have been utilised.
Total[6]	**$195 – 219bn**	**$116 – 140bn**	

Notes:
(1) Incorporates 2011-12 financial accounts where available as at 3 October 2012.
(2) Represents enterprise value less net debt, where net debt estimates are not available assets have been excluded from the calculation.
(3) Except Ergon Energy, which was based on earnings multiple range of 7.5 to 9.5 times latest reported EBITDA.
(4) Excludes desalination plants.
(5) Except for the Water Corporation (Western Australia), which was based on earnings multiple range of 9.5 to 11.5 times latest reported EBITDA.
(6) Discrepancies between totals and sums of components are due to rounding.

Attachment A

Importance of Effective Regulation

Where a privatised business operates in a competitive market, efficiency and financing benefits are likely to come without the need for heavy regulatory intervention. The discipline of competition will tend to reinforce the incentive to operate efficiently and to pass on the benefits of this to end customers.

However, many economic infrastructure assets have monopoly characteristics which could potentially enable their owners to misuse their market power and earn monopoly profits. Concerns about a private monopoly's incentives to increase prices and/or lower service quality were most likely a key rationale in the past for keeping such assets in public hands.

This would include reforms that separate the monopoly and potentially competitive segments, establish competitive markets in the contestable segments and facilitate open access by third parties to the services provided by monopolistic segments of the supply chain.

In order for regulation to continue to drive efficient outcomes in these sectors it is important for the regulatory framework to evolve over time. Through the process of regulation important lessons are learned about what makes for an effective regulatory regime. It is important to ensure that these lessons are incorporated into the regulatory regime so that efficient outcomes can continue to be achieved.

In monopoly segments, effective regulation will remain important. The development of regulation over the last 20 years demonstrates that regulation can drive efficiency. However, regulation of monopoly businesses is necessarily a challenging process.

Experience has shown that regulatory regimes can provide protection against the misuse of market power. In particular, independent regulators setting price/revenue paths based on efficient costs and market returns, and setting controls on the quality of service, provide these businesses with similar incentives to deliver the sorts of outcomes achieved in competitive markets.

In some cases a business may not be a monopoly in all the market segments in which it is active – there may be some segments of the supply chain in which it faces competition. In these areas, pro-competitive structural and regulatory reforms can help to facilitate this competition.

Electricity

This process of evolution is clear in the development of the regulatory regime for Australia's electricity networks – as is the need for continuing evaluation of its effectiveness.

From 2008, the regulatory responsibility for electricity networks in a number of Australian states was transferred to the Australia Energy Regulator. This created a consistent approach to regulating Australia's electricity networks across the NEM. Following four years of network regulation, the regulatory framework is now under review by the Australian Energy Market Commission.

The Australian Energy Market Commission's review is relatively broad ranging, considering the framework for assessing capital and operating expenditure, expenditure incentive arrangements, the cost of capital and the efficiency of the regulatory process.[23] It is expected to respond directly to current concerns over price rises driven by significant investment in distribution infrastructure.

Water

Improvements and developments over time are also evident for the regulatory regime governing the England and Wales water and wastewater sector.

At the time of privatisation there was a need for substantial investment in the sector, given a history of insufficient funding and the need to meet higher environmental standards. As a result, investment was encouraged and prices were allowed to initially increase above the consumer price index for the period 1990-1994.[24]

However, over time the regulatory regime has tightened and placed more of a focus on driving efficiency and preventing inefficient investment.

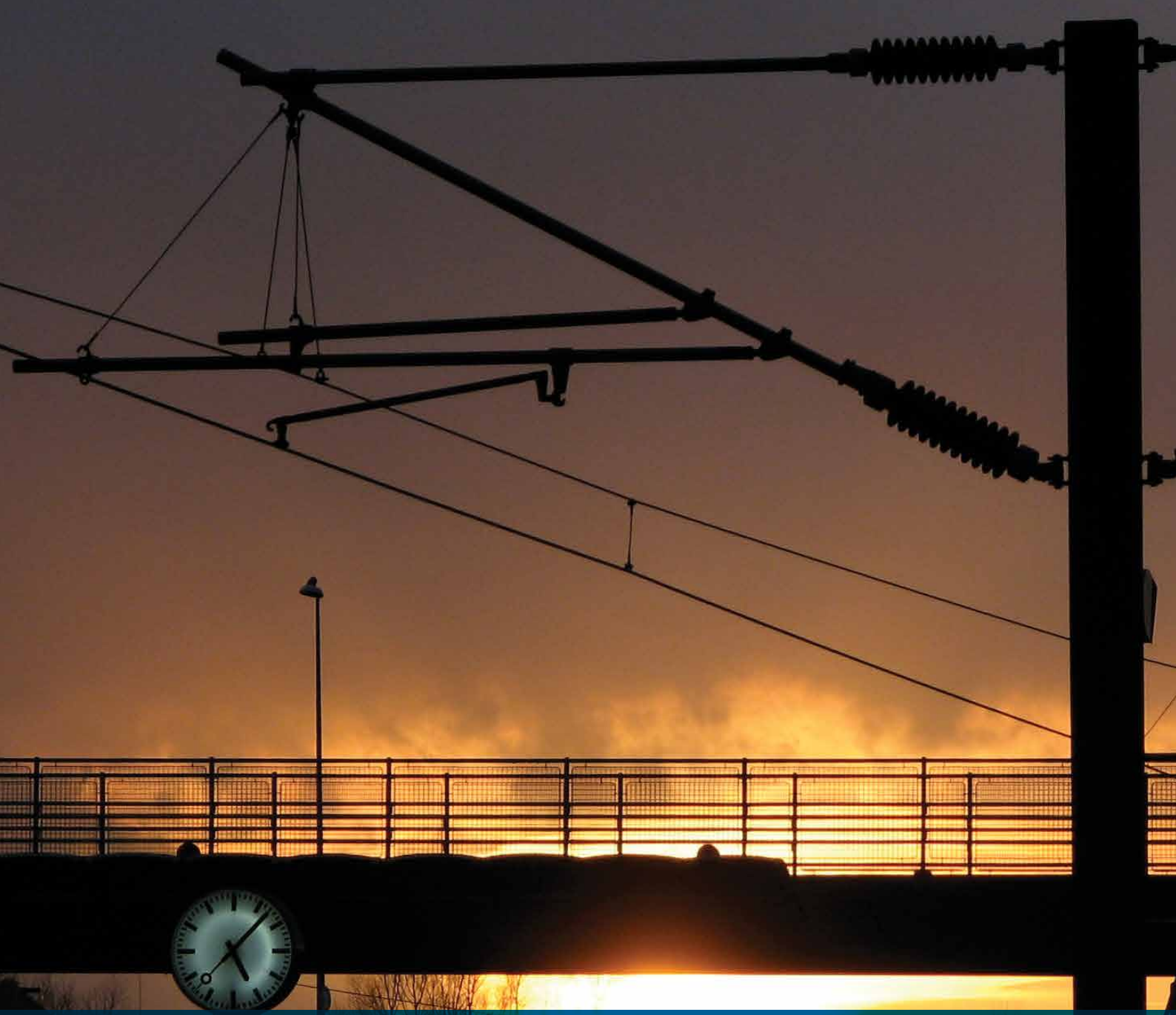
- in 1999, the original mechanism for passing through efficiency savings to customers was redrawn. This meant companies could only keep past efficiency savings for a five-year rather than ten-year period;
- significant focus is now placed on benchmarking companies' relative efficiency;
- successive reviews have led to closer scrutiny of companies' investment proposals and the regulator recently introduced an incentive mechanism to encourage businesses to submit transparent plans; and
- effort has been devoted to better regulating quality of service to ensure the ongoing serviceability of assets.

Over time the regulatory regime has also evolved to encourage competition to emerge in segments of the supply chain. Private businesses can now seek 'inset appointments' enabling them to supply segments of the network or very large customers.

The government has also signalled that retail competition will be enabled for some customers. The regulator is currently exploring options for reforming its regulatory approach including in relation to determining accesses prices (paid by new entrants) and improving regulatory accounting approaches to facilitate this outcome.

[23] See Rule Change Proposal on Economic Regulation of Network Service Providers. Available at: http://www.aemc.gov.au/Electricity/Rule-changes/Open/economic-regulation-of-network-service-providers-.html

[24] Bailey, P. *"Regulation of the UK Water Industry, CRI Industry Brief"*, 2002, available at http://www.bath.ac.uk/management/cri/pubpdf/Industry_Briefs/Water_Peter_Bailey.pdf



Attachment B

Key Characteristics of Capital City Water Businesses

Capital Cites	
Sydney	Vertical separation into Sydney Catchment Authority, Sydney Desalination Plant, and Sydney Water providing distribution and retailing. Water treatment plants are generally privately owned under build, own, operate and transfer (BOOT) contracts. Independent Pricing and Regulatory Tribunal (IPART)sets prices and publishes final determination on a full commercial cost recovery basis for new investments. Water Industry Competition Act provides for access to certain monopoly infrastructure services including water and wastewater networks.
Melbourne	Vertical separation of bulk water and wastewater into Melbourne Water. Three retailer-distributors in specific geographic areas. Essential Services Commission sets prices based on water plans submitted by utilities and publishes final price determinations. Minister issues Statement of Obligations to regulate and impose obligations on utilities performance.
South East Queensland	Significant restructuring of service providers in recent years. Seqwater provides bulk supply and water treatment. Two local-government distributors servicing different geographic areas – however the third distributor Allconnex will now separate into three council services. The state government sets prices. For bulk water a 10 year price path was set in 2008, which was adjusted downwards in December 2010. Urban retail water prices are subject to price monitoring by the Queensland Competition Authority (QCA) under an interim regime. The state government is considering the preferred longer term role for the QCA in regulating retail prices.
Adelaide	SA Water is a vertically-integrated utility covering most of the state. Provision of water and wastewater in Adelaide is contracted to two private entities, Allwater (operations and maintenance) and KBR (project management and procurement) with SA Water continuing to receive the revenue from water users. The South Australian Cabinet currently sets prices - based on a Public Transparency Statement prepared by Treasury. Under recent legislative reforms, the Essential Services Commission of South Australia will be responsible for setting retail water and wastewater prices.
Perth	Water Corporation is vertically-integrated and covers most of the state. Some outsourcing to private sector of operations and maintenance activities. Economic Review Authority provides an annual review of Water Corporation prices and recommends prices but final decision is made by Minister for Water.

Capital Cites	
Tasmania	Following amalgamations in 2009, there are three vertically-integrated Local Government owned water corporations, Southern Water, Ben Lomond Water and Cradle Mountain Water – covering exclusive geographic areas. A common service provider owned by the three provides back office support. From July 2012, the Office of the Tasmanian Economic Regulator will determine prices, based on Price and Service Plans submitted by the corporations. Interim nominal revenue caps currently apply.
Darwin	Power and Water Corporation is a vertically-integrated utility in Darwin and much of the Northern Territory. The Treasurer sets prices based on advice from the Utilities Commission, which monitors licence and pricing compliance.
Australian Capital Territory	The Australian Capital Territory Energy and Water Corporation (ACTEW) is a vertically integrated utility providing water and wastewater services. ACTEWAGL, a joint venture, operates and maintains the water and sewerage network. The Independent Competition and Regulatory Commission sets water prices, licences utilities and ensures compliance.

Australian Government

Infrastructure Australia