Partnerships 2015

INFRASTRUCTURE & INVESTMENT CONFERENCE

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INFRASTRUCTURE PARTNERSHIPS AUSTRALIA

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CHAIRMAN'S MESSAGE

I am delighted to welcome you to *Partnerships*, the most respected annual gathering of leaders from across the Australian infrastructure market. This year's programme has been carefully constructed to provide delegates with challenging, interesting and relevant contributions on contemporary projects, and future reforms.

Today's discussion commences with a panel of respected and senior policy and business leaders, providing delegates with an honest assessment of the political, economic and practical challenges facing infrastructure in this country.

I am very pleased that we will also enjoy strong contributions from a number of important Australian political leaders, including NSW Premier Mike Baird, WA Treasurer Mike Nahan and the Federal Opposition's Anthony Albanese.

I am delighted that New Zealand's Deputy Prime Minister, the Hon Bill English, will provide today's lunchtime keynote address too – outlining the project opportunities in the NZ market – and continuing to advance the discussion about better linkages between the Australian and NZ infrastructure sectors.

Throughout the day we will also enjoy presentations addressing projects across the major states, Sydney's second airport and contributions of the global and domestic outlook.

Today's discussion will also advance the discussion on complex enabling reforms across infrastructure markets – and broader reforms to public services.

In anticipation, I look forward to sharing today's proceedings with you and I thank you for your ongoing engagement and leadership in Australia's infrastructure market.

Yours faithfully,

Adrian Kloeden
Chairman

THE INFRASTRUCTURE DEVELOPMENT OPPORTUNITY: THE TIME IS NOW FOR GOVERNMENT INVESTMENT

Daniel McArthur Analyst, Macquarie Capital | **Chris Voyce** Co Head of Infrastructure, Utilities & Renewables, Australia & New Zealand, Macquarie Capital

A convergence of factors favourable to long term infrastructure investment provides an unprecedented value opportunity for governments to develop vital new infrastructure.

Australia's need for infrastructure investment over the medium term is well established, driven by population growth and rapid urbanisation. Infrastructure Australia's 2015 national audit predicts that by 2030 Australia's population will expand from 23 to 30 million; container movements through Australia's ports will increase by 165 per cent; and public transport demand in the capital cities will rise by an average of 89 per cent.[1] Infrastructure investment needs to keep pace with this growth in demand.

For governments seeking to make investments in infrastructure for Australia's future prosperity, there's no time like the present. Historically low interest rates, combined with reduced activity in the construction and resources sectors and strong investor appetite for infrastructure assets, allow projects to be developed at a lower cost than ever before. And by taking advantage of current conditions governments can also provide stimulus to an economy that's still in transition.

EXPLOITING A LOW INTEREST RATE ENVIRONMENT

Low long-term interest rates and strong credit market conditions have created a once in a generation opportunity for governments to borrow or utilise PPP arrangements to accelerate Australia's infrastructure development. The RBA has set the official cash rate to a historic low of two per cent in an attempt to drive long-term investment by incentivising both private and public sector borrowing. At current levels of 260-270 basis points (bps), current five year swap rates are 250bps lower than in 2010.[2]

Further, with accommodative monetary policy settings in major developed markets set to continue, investors' search for yield will result in higher demand for well structured non-government credits and a compression in $A corporate spreads.

Low levels of M&A activity and slow credit growth in the overall Australian economy have shifted the debt market dynamic in favour of borrowers. Strong market confidence in Australian banks, demonstrated by a reduction in credit default swap prices, has reduced bank funding costs; while a strong bank desire to deploy capital, combined with limited lending opportunities, has resulted in tightened credit spreads. With quality loans in short supply, banks are competing for business.

Borrowers in the infrastructure sector have already benefited from cheaper margin pricing for several years. The savings for large infrastructure projects can be significant. A borrowing cost saving of one per cent per annum on

Figure 1: Historic lows: Australian 10 year Government Bond Yields 1990-2015

Source: Bloomberg

Figure 2: Economy in transition: Falling commodity prices

Source: Bloomberg

1 Infrastructure Australia, Australian Infrastructure Audit, May 2015
2 IRESS, Australian 5 year swap rate curve, as at July 2015

a $1 billion project, for example, is equivalent to a capital cost reduction of more than 10 per cent and more than $250 million in interest cost savings over the life of the project.

Governments with shovel-ready projects can take advantage of these historically low base rates and margins to access ready funding at low cost on their own account, or secure strong pricing terms when working in partnership with the private sector.

BOLSTERING AN ECONOMY IN TRANSITION

Throughout the last decade, the resources sector has been the key driver of Australian GDP and employment growth. With the current slump in Chinese demand for core exports driving commodity prices and employment prospects down, major Australian miners are correspondingly cautious about capital expenditure plans. Rio Tinto announced a reduction in capex from US$14 billion to US$8 billion, while BHP announced a 25 per cent capex cut in 2014. There's a resulting fall in the value of the private sector engineering construction pipeline for resources projects,[3] with BIS Shrapnel forecasting a decline in activity of 40 per cent from its 2012-13 peak of $130.3 billion to $79.6 billion by 2017-18.[4]

As Australia's economy transitions towards non-resources sectors, this structural change creates the opportunity for governments to take advantage of the sharp decrease in construction workload driven by softening growth in the construction sector. Stimulating employment and growth during this economic transition period will also be politically welcome, though in this regard project selection is important, as construction skills are not wholly transferrable within sub-sectors.

Infrastructure projects may also provide an opportunity to reskill the labour market.

PLENTIFUL CAPITAL DRIVES A REDUCTION IN RETURN REQUIREMENTS

Today, there is more capital and demand for investments in infrastructure than ever before. Globally, more than US$110 billion of equity is available to invest in unlisted infrastructure, with more than US$12+ billion focused on Asia-Pacific. 95 per cent of unlisted infrastructure fund managers plan to increase or maintain their infrastructure allocation over the next year, while 55 per cent plan to increase their direct investments in infrastructure in the next year.[5]

Low bond market yields and the declining Australian dollar have made the domestic market particularly attractive to foreign investors. High liquidity and plentiful capital have placed significant downward pressure on investment returns, further improving the already strong case for private investment in infrastructure. Current projections by ASFA suggest that, based on likely asset allocations, the $45 billion currently invested in infrastructure by Australian superannuation funds could rise to $100 billion in the near term, and $200 billion by 2025.[6]

SEIZING THE OPPORTUNITY

Current market conditions provide a compelling case for making counter-cyclical investments in needed infrastructure, with first mover advantage going to those with shovel-ready projects. These need not be on a grand scale: the Pennsylvanian Rapid Bridges Replacement Project illustrates the effectiveness of bundling smaller scale projects not normally conducive to private financing. In this example, 558 bridges across the State were replaced or improved though a single PPP, delivering cost savings of 20 to 30 per cent through design standardisation and economies of scale in production and transportation.

Partnering with the private sector on infrastructure allows governments to realise cost efficiencies over the long term, where government can take day one risk for Greenfield projects, such as multi-user facilities or new roads, and transfer to the private sector to deliver operational efficiencies once they are delivering stable cash flows.

Infrastructure development is an investment in Australia's future. Governments who are ready and willing to move quickly to seize the current infrastructure procurement opportunity stand to benefit significantly over the long term from investment decisions made today.

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MACQUARIE

3 BMI Research, 'Industry Trend Analysis – Recovery Intact Despite Growth Moderation' 2015
4 Chris Pash, 'Dwindling government infrastructure work is accelerating the collapse of Australia's construction industry', Business Insider, 4 May 2015
5 Prequin, Unlisted Infrastructure Funds data, as at July 2015
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WHAT'S IN A NAME? PARTNERSHIPS THE KEY TO UNLOCKING INFRASTRUCTURE

Brendan Lyon Chief Executive Officer, Infrastructure Partnerships Australia

Australia would solve most of its major infrastructure challenges within a decade if we could properly reform three areas.

Partnerships is our signature infrastructure policy event each year, but it is far more than just a conference title.

Partnerships speaks to the core purpose of Infrastructure Partnerships Australia – and also describes the approach needed move Australia's infrastructure and broader debate from incremental patches to fundamental fixes.

Australia would solve most of its major infrastructure challenges within a decade if we could properly reform three areas, by:

- overhauling road user charging and investment models;
- properly regulating consumer water markets; and
- modernising delivery models of public sector services.

We know that effective transport, water and public services markets would offer substantially better economic and social outcomes and benefit consumers.

But we also know that these are complex changes that lend themselves to scare campaigns. Think '*Stop the great big new tax on every kilometre you drive*' or '*The Americanisation of public health: you will pay more!*'

This is why solid partnerships are fundamental.

Winning community trust and political will is much easier, if we can first win over key user groups to help to lead and explain the case for change.

THE MOTORING CLUBS HAVE CHANGED THE TRANSPORT DEBATE

The transport debate is a good example of where support from user groups is advancing progress.

Back in 2010, IPA released its first paper on road pricing, finding that reform is unavoidable because of a broken revenue model. The paper outlined a fairer direct charging system based on user impact and consumption.

Judging by the many angry letters we received from the community, it would be fair to say that road user charging reform was still 'edgy' at that point; and not well accepted by policymakers, motorists or stakeholder groups.

But this first paper was important, because it outlined principles and created a basis for us to work over several years with the motoring clubs to consider the transport problem and develop meaningful solutions.

Last year, IPA and Australia's motoring clubs released a major joint paper calling for a national process to reform road charging and restore the capacity to invest in the network.

This paper was co-authored and co-released with the motoring bodies, and outlined a sophisticated model to resolve pricing and investment, including congestion-based charging.

The standing joke in transport used to be that each new transport minister says: *"Road pricing is a great concept and fixes all our problems – I look forward to seeing my successor implement it."*

Recently, the Federal Infrastructure Minister used a major address to endorse the need to consider road user charging and the South Australian Labor Premier offered up his state for a trial.

In March, Transurban Chief Executive Officer Scott Charlton used his IPA Oration to announce that Transurban will fund a real-world study of how users react to pricing signals; a study actively supported by state and Federal agencies and the RACV.

Much of this was unthinkable in 2010 – and it is of enduring credit that the motoring clubs are leading the debate on this complex issue.

As the CEO of the Australian Automobile Association said at the launch of the joint paper last year: *"To the Government, we say we want to be part of the process; we won't be running a scare campaign."*

This is exactly why road user charging now seems set to advance to detailed national consideration. The support of the motoring clubs has changed the discussion and allowed political and other leaders to move this issue forward.

PUBLIC WATER UTILITIES ARE ALSO REFORM PARTNERS

Like roads, Australia's consumer water markets are relatively unreconstructed and there is a substantial degree of reform needed. Water lacks even basic reforms, like independent economic and quality regulation, and efficient pricing and investment models.

Broadly speaking, water assets should be early candidates for focus by cash-hungry and infrastructure-committed state governments; not least because a 2012 report estimated that Australia's bulk water, distribution and retail assets would be worth circa $96 billion dollars. But in many cases, regulatory and structural reforms are needed in advance of any serious consideration of the best ownership model.

As with transport, IPA has partnered with the Water Services Association of Australia (WSAA) – an organisation representing the large public water utilities – to develop a joint view of the structures needed for urban water market reform.

Water assets should be early candidates for focus by cash-hungry and infrastructure-committed state governments

This approach will benefit consumers through improved transparency under public operation and a solid regulatory structure if future governments choose to liberate their money for transport and other priorities.

IN SOCIAL INFRASTRUCTURE SERVICES, TRUST WILL BE THE KEY TO CHANGE

While asset recycling programmes offer temporary relief, long-term and growing fiscal pressures mean ongoing changes in who, how and what public services are delivered to the community.

This is particularly relevant to the infrastructure sector, with the social infrastructure programme already being used to introduce new providers and modern approaches to the delivery of public health and correctional services, as well as major transport PPPs that introduce non-Government mass transit providers.

Modern contracting provides better services for users at substantially better value to the taxpayer. Victoria's Ravenhall Prison is a solid example, where contractor payments are directly linked to reducing the recidivism rate after release.

While private operation of transport and correctional services is relatively well established, reforms in sensitive areas like public healthcare and public housing are much less developed. The engagement of user and stakeholder groups will be fundamental to sustained community support.

In this area, IPA is delighted with our long-term partnership with NCOSS, who will be speaking today at *Partnerships*.

With NCOSS, we will shortly deliver a substantial joint policy, outlining material changes to sustain, modernise and grow social housing, answering the joint Memorandum of Understanding with the NSW Government in March.

IPA's partnership with NCOSS recognises the ultimate alignment of interest in high-quality, efficient public services that can be found through sound partnership and good policy.

NCOSS is an important partner because they have the standing and community trust to lead the discussion about how social services, like social housing, can be sustained and improved through change.

With NCOSS, we will shortly deliver a substantial joint policy, outlining material changes to sustain, modernise and grow social housing

CHAMPIONS OF REFORM

In this way, today's proceedings, programme and delegates directly reflect the title – and speak to the approach that's needed to drive substantial change.

Achieving better infrastructure will require evermore complex and contentious reforms led by political champions.

Those champions have a much easier job ahead of them if we are able to engage user groups and potential opponents in an honest assessment of the problem, and a real-world analysis of the available solutions.

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LEASING THE PORT OF MELBOURNE

Nick Rizos Director, Port Transaction Unit, Victorian Department of Treasury and Finance

The Victorian Government is committed to leasing the Port of Melbourne. Proceeds from the lease will go towards a State-shaping infrastructure programme including the removal of 50 of our worst level crossings and vital projects such as Melbourne Metro and the West Gate Distributor. Proceeds will also support major projects throughout Victoria to relieve traffic congestion and improve agricultural supply chains and access to the Port.

The Port of Melbourne is the last and largest Australian east coast capital city GDP-linked asset available. Similar to recent east coast port transactions, the transaction will be in the form of a Lease. The State has settled on a 50 year lease term as this will afford the winning bidder a sufficient investment cycle, while at the same time, providing the State with flexibility on the use of the Port lands beyond the lease term.

As Australia's largest container port visited by more than 3,000 ships each year, the lease of the Port of Melbourne presents a compelling investment opportunity. The Port is a centrally located trade hub for south-eastern Australia and possesses a reliable and predictable cash-flow profile. The Port is currently undergoing a $1.6 billion Port Capacity Project, which will redevelop Webb Dock, adding a third container terminal and expanded automotive terminal.

The EBITDA for the Port of Melbourne Corporation in 2013-14 was $204 million. The completion of the Port Capacity Project is expected to significantly increase profitability.

A private sector leaseholder will have the capacity to bring a range of benefits to the Port, including privately funded capital investment in port infrastructure as well as specialist infrastructure management.

In return, the lease holder will be expected to deliver efficiencies and boost competitiveness to ensure future development of the Port is not compromised and reinforces Victoria's position as the freight and logistics capital of Australia.

Only the Port's commercial operations will be leased. The Victorian and Commonwealth Governments will retain responsibility for regulating the Port's safety, security and environmental functions including waterside emergency management, marine pollution response and towage regulation.

Victoria's independent economic regulator, the Essential Services Commission, will oversee the pricing structure for port users. Importantly, price certainty will be provided as annual tariff increases will be capped at CPI for at least 15 years to protect Victorian producers, manufacturers, other exporters and importers, and consumers.

Around the world and across Australia, successful port leases have seen benefits flowing to the community, exporters, port users, industry and the state. The Port of Melbourne lease transaction has been designed to maximise benefits for all Victorians. It will make Victoria eligible for a 15 per cent payment from the Commonwealth Governments' Asset Recycling Initiative to be invested in infrastructure projects.

Investment secured through the lease transaction will maximise the life and capacity of the Port of Melbourne. This is good news for prospective bidders, producers and manufacturers who export all over the world, and consumers who want affordable products.

Further information is available at www.portofmelbournelease.vic.gov.au

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VICTORIA State Government

PARTNERING TO DELIVER TOMORROW'S NEW SOUTH WALES

The Hon Gladys Berejiklian MP NSW Treasurer and Minister for Industrial Relations

In June 2015, the NSW Government passed critical legislation bringing it one step closer to unlocking its $20 billion Rebuilding NSW programme. This was made possible by the Government's success in communicating a shared vision for the future of NSW throughout the 2015 state election campaign.

Hard hats on. An exciting new array of opportunities and challenges to deliver tomorrow's NSW now lie ahead for the industry, businesses and people of NSW. More than ever, the NSW Government's partnership with the private sector is vital to ensure both the release of capital through the electricity network transactions and the successful delivery of new projects.

Over the past year alone, the NSW Government entered into contracts for the private design, construction, financing and operation of Sydney Metro Northwest, the Northern Beaches Hospital, Sydney Light Rail and the NorthConnex project. These projects represent the ability of partnerships to deliver world class, service-enabling infrastructure in our State.

Since commencing the asset recycling strategy in 2013, the NSW Government has commenced the delivery of more than $29 billion in infrastructure across NSW. This is only the start. We now face the most ambitious forward infrastructure programme in our State's history.

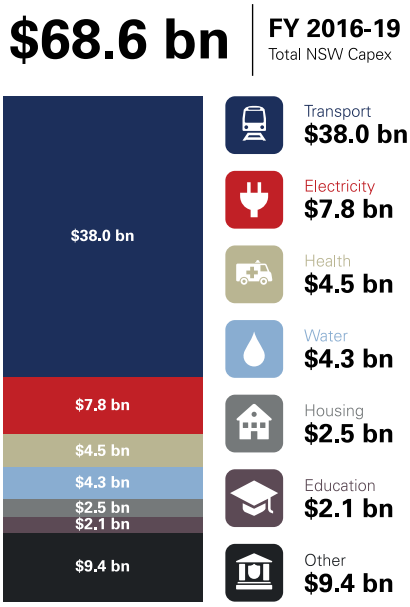
In the next four years the NSW Government will spend over $68.6 billion on infrastructure including Sydney Metro City and Southwest, WestConnex M4 East, M5 East and M4-M5 Link.

With the simultaneous procurement and delivery of so many projects, we are acutely aware that effective project governance and management of interface risk will remain critical. We have implemented a new Infrastructure Investor Assurance Framework and Committee within the independent statutory agency, Infrastructure NSW. This framework supports the State's existing Major Projects Assurance Framework and PPP guidelines to ensure consistent engagement with the private sector and the timely delivery of projects.

In the next four years the NSW Government will spend over $68.6 billion on infrastructure

Further, we are minimising costs and increasing efficiency throughout the bid process. We are working to implement a standard project deed for social PPP projects to streamline risk allocation and negotiation between the State and its partners. We have also engaged in an unprecedented consultation exercise with private operators, designers, constructors, financiers and legal advisers to understand key bid cost drivers.

The NSW Government is determined to deliver the services and infrastructure that the people of NSW deserve. I am confident that with the support of our private partners, we will continue to succeed in delivering the State's next generation infrastructure.



The NSW Government is determined to deliver the services and infrastructure that the people of NSW deserve.

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NSW GOVERNMENT | The Treasury

EMERGING TECHNOLOGIES IN THE AUSTRALIAN POWER SECTOR

Lachlan Jacobson Associate Director, Utilities and Infrastructure, ANZ

There has been increasing media focus on emerging and potentially disruptive technologies in the energy sector. We look behind the headlines to sort fact from fiction in terms of what these developments mean for the local industry.

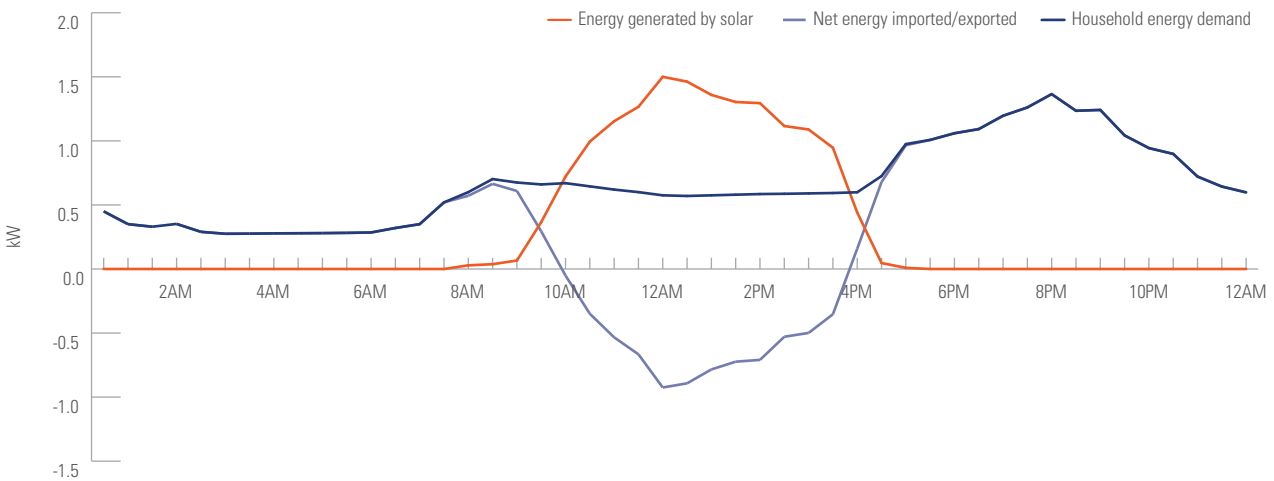
Many see the electricity sector as being ripe for disruption given the relative lack of technological change over time. From an operational perspective the industry functions in largely the same way as it did 100 years ago – generating electricity at a centralised point using fossil fuelled steam turbines and dispatching to end users via the grid. Recently, however, the pace of change has been accelerating with distributed generation and distributed storage becoming increasingly affordable.

Technology is already having an impact on demand for wholesale electricity, which has been falling since 2010 after a century of steady growth in Australia. A recent study (IPA 2013) identified improved energy efficiency as the most significant factor weighing on demand for electricity in Australia – driven by a combination of increasingly strict regulatory standards and the emergence of less energy intensive technologies such as LED lights, more efficient whitegoods and modern heating/cooling systems.

More recently battery storage has been grabbing the headlines on the back of Tesla Chief Executive Officer Elon Musk's announcement of the Powerwall – an attractively packaged home energy storage system based on the same Lithium Ion batteries used in Electric Vehicles (EV's). Tesla intends to launch the product in Australia from late 2015, and based on announced US pricing the installed cost of a 7kWh system is expected to be less than $10,000. The announcement confirmed a new price point for home energy storage and generated a great deal of market interest in battery technology.

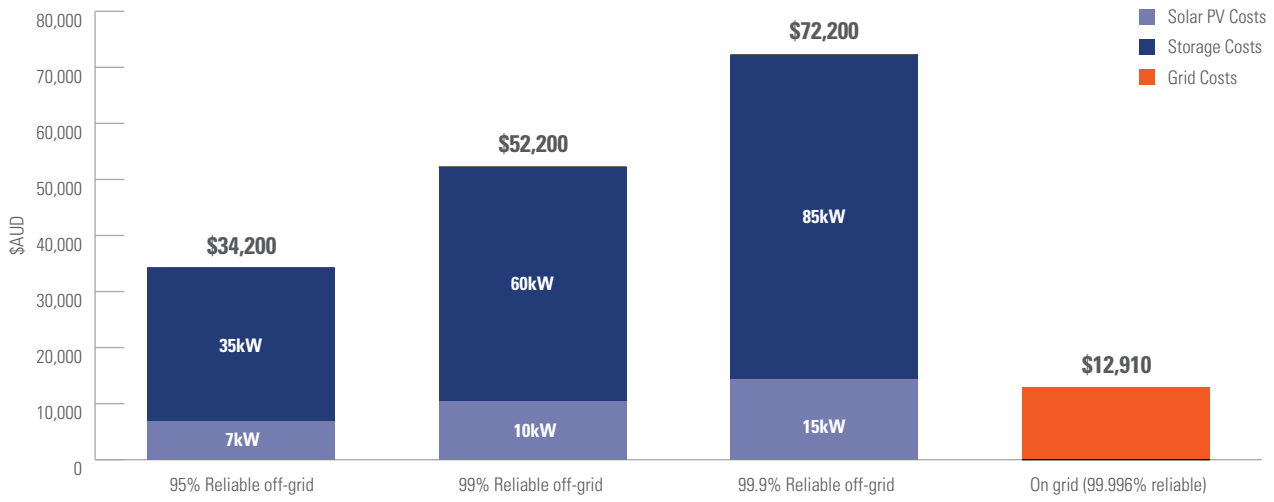
Many believe that the battery storage market will be dominated by 'behind the meter' applications – which essentially means that consumers and businesses will install storage as part of their local energy systems. There are a number of value propositions for batteries such as backup applications for uninterrupted power in the event of a grid failure, pricing arbitrage for customers who have peak and off peak electricity tariffs or integration with solar PV to increase self-consumption of solar power. Australia is already a global leader in decentralised generation with over 4GW of installed solar PV capacity. Demand for solar PV systems has been supported by an excellent solar resource; generous state 'Feed in Tariffs' (FiT's) and significant falls in the cost of solar panels since 2008. When the (initially) generous FiT's were in place, solar PV systems were designed to maximise the amount of electricity that was exported to the grid – because the FiT's were much higher than the retail rate that

Figure 1: Generation and Demand Profile for a Sydney Household with 3kW Solar PV



Source: Ausgrid Solar Home Electricity Data. Daily energy demand data has been averaged to reflect a 'typical' demand profile.

Figure 2: Cost and Reliability of Off-Grid Solar PV plus Storage System



Source: Grattan Institute

would be offset if the electricity was otherwise consumed onsite. As a result about 50 per cent of Australian solar PV output is exported to the grid. Now that the FiT's have been reduced to a fraction of a typical retail electricity rate, the greatest economic value is created by consuming solar PV output onsite rather than exporting to the grid. This is problematic because solar PV generation peaks during midday when many homes are unoccupied and demand for electricity is lower (See Figure 1). Battery storage can solve this problem by charging with excess solar power during the day and discharging in the evenings when residential energy demand is high. While solar PV with storage systems can also add value to commercial premises, the economics are typically stronger for residential applications due to their higher retail electricity price being offset.

Battery storage can solve this problem by charging with excess solar power during the day and discharging in the evenings when residential energy demand is high.

Although batteries can potentially reduce the costs of providing electricity to remote communities, they are not expected to make it economic to leave the grid for urban or suburban energy users. Building a standalone energy system based on Solar PV and battery storage means that you are reliant on a variable source of energy – accordingly the system needs to be sized so that it can generate enough electricity to meet your requirements in the middle of winter when sunlight hours are minimal. The Grattan Institute recently conducted analysis to determine the costs and size of system required to leave the grid for a typical Sydney household (See Figure 2). Costs range from $34k - $72k depending on the reliability levels required, noting that the most expensive system would still be less reliable than remaining grid connected – in other words the off-grid system would have longer annual outages. Beyond the cost impact – the sheer size of the $72k / 99.9 per cent reliable system would not be feasible for many households, with a 15kW solar system requiring close to 100 square meters of unshaded space (rooftop or otherwise). Such a system would also be wasteful in the middle of summer, with a 15kW system capable of producing 100kWh of electricity per day in December which is about five times the daily energy requirements of a typical Sydney household. This excess electricity cannot be exported to other users if the house is disconnected from the grid.

While the pace of technological change in the energy sector is perhaps as great as it has ever been, the electricity transmission and distribution network remains as important as ever to efficiently integrate emerging technologies into the Australian energy system. While the emergence of distributed generation and storage technologies are expected to weigh on wholesale electricity demand, they also represent an opportunity for new business models based on 'behind the meter' energy systems.

The electricity transmission and distribution network remains as important as ever to facilitate new business models based on distributed generation and storage

Emerging technologies are enabling consumers to invest in infrastructure that can change the way they use energy and interact with the grid, highlighting the increasing importance of customer preferences to the entire electricity supply chain.

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ROAD PRICING: MOVING BEYOND THE THEORY

Michele Huey Group General Manager – Strategy, Transurban

Only major policy reform will create the efficient, flexible and integrated transport networks needed to support Australia's growing cities.

Australia's current model for funding the construction, maintenance and operation of road infrastructure is reaching breaking point. The model, which is largely based on collecting revenue from petrol excise, vehicle registrations and licence fees, does not generate sufficient revenue to meet current expenditure requirements let alone address Australia's infrastructure backlog.

Current congestion levels in Sydney, Melbourne and Brisbane now rival those of the largest cities in North America and Europe[1] and are estimated to cost the economy $15 billion per year.[2] With massive population growth forecasted over the next 20 years, congestion will increasingly impact the liveability, productivity and competitiveness of Australia's major cities and cost an estimated $53 billion to the economy and living standards by 2031.[3] Constructing new roads and public transport systems alone will not solve Australia's issues. In fact, with half of public road budgets being spent on the maintenance and renewal of existing roads,[4] increasing the number of new projects would only increase the pressure on the funding model.

THE ROAD PRICING SOLUTION

Road pricing or user pays has been presented by many experts and policy makers as the most viable solution to address the shortfalls of the current system. Through this approach drivers pay a usage charge for their share of the cost of building, maintaining and operating the roads they drive on. The funding models for other infrastructure assets, which are mainly utilities, have previously undergone similar reform to better meet the demands of users and drive efficiency.

Road pricing provides a direct link between the entity responsible for delivering roads and where the funding comes from. Developed to its full potential, a road price could also target congestion through price signalling, enabling optimisation of the transport networks. It could also include coordinated pricing with other modes of transport, such as public transport.

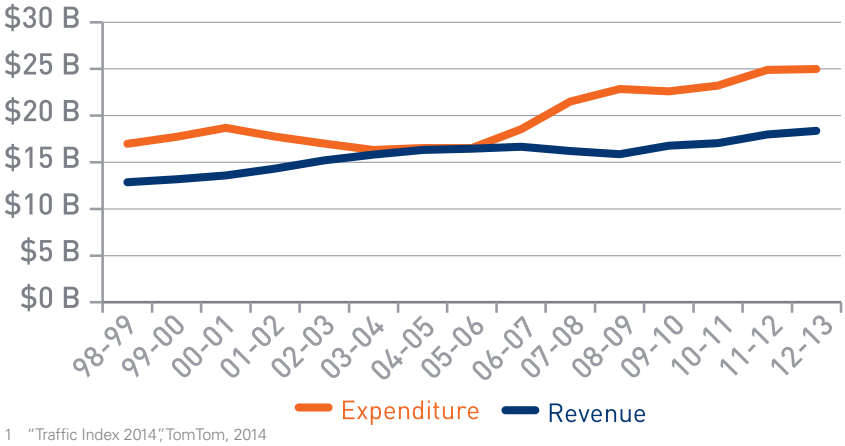
Advancements in technology have made the implementation of road-pricing systems feasible. In particular, the growing availability and falling costs of mobile data, machine-to-machine communication and GPS-enabled devices have created the possibility of replacing inequitable and inefficient proxies for consumption, such as fuel excise and vehicle registration, with actual consumption.

Today, there are a number of road pricing models being trialled or in use overseas. The design of these solutions is unique to each region, fitting their particular social, economic and political landscape. However, despite extensive research, road pricing in Australia has remained theoretical.

ROAD TO REFORM

Community acceptance is critical to the implementation of any major reform. Independent research commissioned by Transurban indicated that 98 per cent of respondents were concerned about traffic congestion and ranked this issue to be their second highest priority behind the quality and cost of health care.[5] Interestingly, the research also showed that twice as many Australians favoured a user-pay system for funding road infrastructure over a flat-fee arrangement.[6]

Figure 1: The funding gap

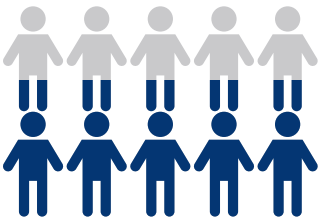


1 "Traffic Index 2014", TomTom, 2014
2 "Trends: Infrastructure and Transport to 2030", Department of Infrastructure and Regional Development, 2014
3 "Australian Infrastructure Audit", Commonwealth of Australia, April 2015
4 "Road Maintenance: Options for Reform", Infrastructure Partnerships Australia, September 2011
5 "User pays is Australia ready", EY Sweeney, December 2014
6 As above

Figure 2: EY Sweeney, December 2014

User pays vs flat fee

How should major road infrastructure projects be funded?

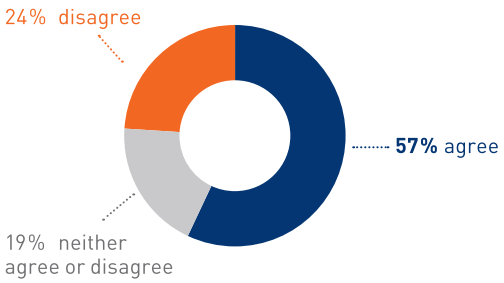


60% of respondents favoured charging motorists for usage

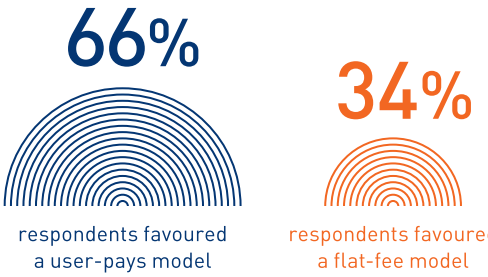
15% — favoured increasing licence and registration fees or petrol taxes to cover the full cost

25% — preferred projects were not built

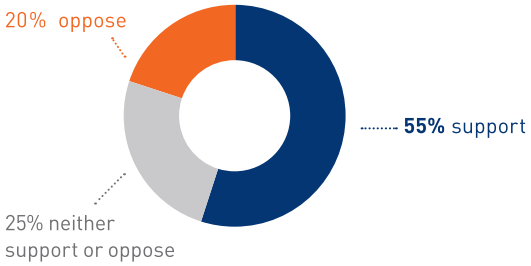
Is it fairer for motorists to be charged based on their level of road usage?



Given a blank canvas, how should the model for funding road infrastructure be set up?



Should the government seek private investment to help fund road infrastructure?



Going by the survey results, it appears the majority of drivers are willing to pay their fair share. However, while the community may understand the need for action, winning acceptance for the best solution will be challenging and communicating in ways that resonate with the public will be essential to pave the way for understanding and reform.

98 per cent of respondents were concerned about traffic congestion and ranked this issue to be their second highest priority behind the quality and cost of health care[6]

To be successful, the proposed system must address concerns around transparency, privacy, reliability and fairness. For genuine reform to occur there are also a number of critical components that need to be addressed, including:

- upgrading infrastructure to ensure road and public transport systems are integrated;
- developing a user-pays system that spans all modes of transport and encourages more efficient use of the networks through such things as carpooling and staggered work times by employers; and
- establishing an appropriate operating model that sees government as the regulator and policy setter and the private sector as operator and owner, which is the structure of most of the utility industries.

Reform of this magnitude will take many years but Australia must start taking practical steps towards implementation for any progress to be made.

In 2015 Transurban announced it was undertaking real-world testing of possible usage charge options in its Road Usage Study. The study will test driver attitudes, preferences and behavioural responses to basic pricing constructs with the aim of evaluating alternative pricing systems and testing supporting technologies. We will use three user-pays models in our study. These include a distance-based per kilometre charge, a one-off charge based on anticipated kilometres and a price per trip or access charge. The study does not impact on the current funding arrangements for existing roads. It is simply designed to collect tangible data to inform the debate and equip policy-makers with information to work towards real solutions.

As the challenges of funding shortfalls, traffic congestion and social perception of pricing inequity grow so will the impetus for change. Australia must now take practical steps towards a more sustainable, efficient and fair transport funding solution to ensure the ongoing productivity and liveability of our cities.

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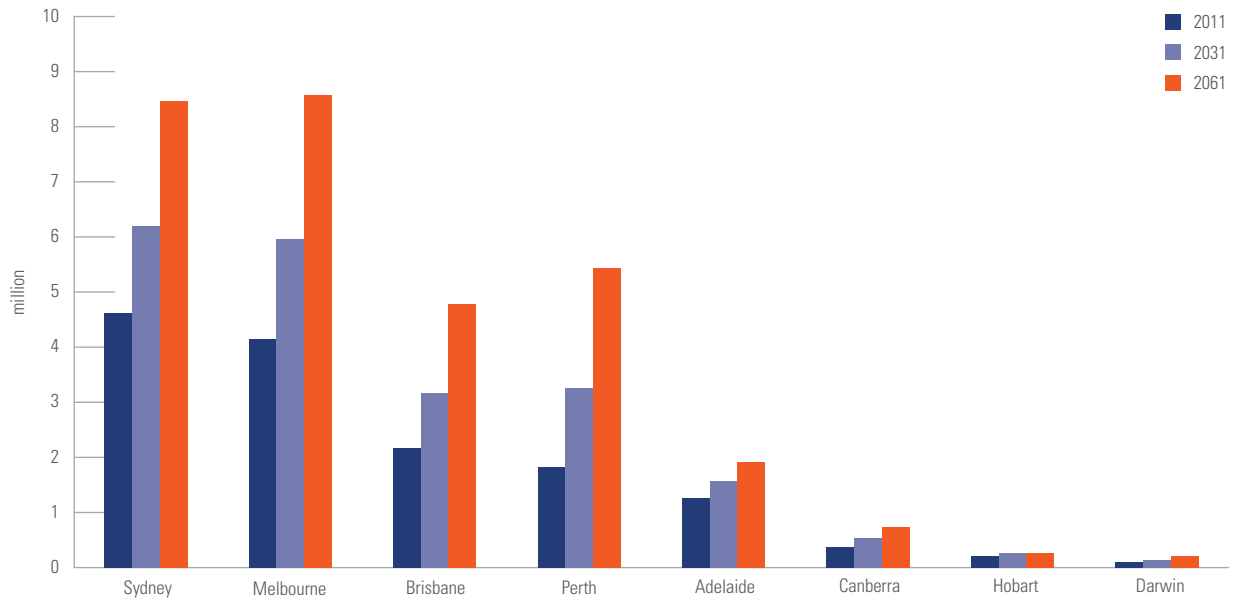
transurban

SECURING PRIVATE INVESTMENT TO MEET AUSTRALIA'S FUTURE WATER NEEDS

Francois Gouws Managing Director, TRILITY

Australia remains the driest inhabited continent on earth and our population will continue to grow, as depicted by the Infrastructure Australia forecast graph below.

Figure 1: Projected population of Australian capital cities – 2011 to 2061 (million)



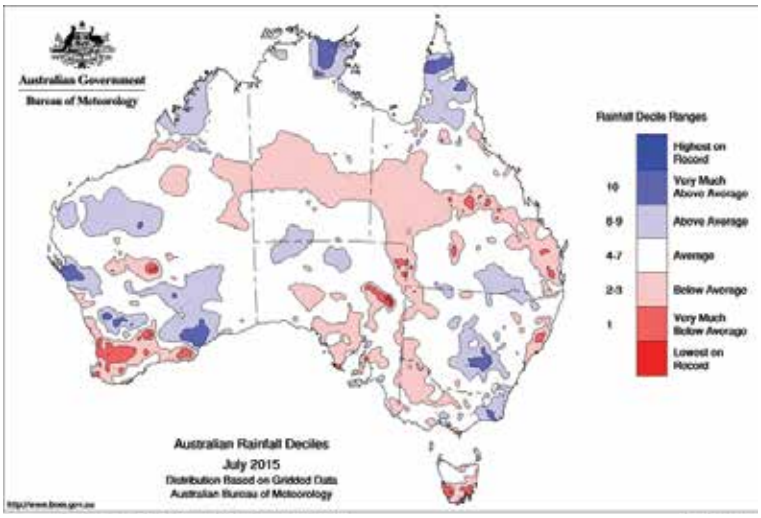
Source: Infrastructure Australia analysis of Australian Bureau of Statistics (2013c)data[1]

Our country is adapting to a post-manufacturing economy with the Services industry as well as Agribusiness being seen as growth industries that will most benefit from the Asian century. This is further supported by the various free trade agreements entered into between Australia and major Asian partners. The Resources industry will continue to be a major export industry in Australia and, just like Services and Agribusiness, will directly or indirectly require water and water-related services in order to succeed. Water and water-related services such as sewerage collection and recycling will therefore remain vital to our economy and will require a vigorous water industry.

The water industry is capital intensive, with assets that have life spans of between 50 and 100 years. As a result the industry requires long term capital, and this inevitably results in capital being tied up in assets that may not be fully utilised from day one due to the cyclical nature of rainfall and usage. The industry is further complicated because operating expenses are not linear and also require long term planning. This, together with the dependence on highly skilled professionals who take years to gain the essential knowledge and experience, makes for a long-term industry that requires patient shareholders and stakeholders.

During the Millennium Drought (2002-2009), the Australian water industry experienced almost emergency-type capital spend due to the ever increasing drought, which left several capital cities with rapidly depleting water reserves. Rains have since returned to Australia's east coast, resulting in severe criticism because large infrastructure, such as desalination and re-use plants, are being underutilised. Memories are short lived, with the Bureau of Meteorology indicating that weather patterns continue to change and inevitably drought conditions will return to Australia's east coast. It's also worthwhile noting that in Western Australia drought conditions still prevail and the city of Perth makes good use of its desalination plants and other

Figure 2: Australian Rainfall Deciles July 2015



Source: Australian Bureau of Meteorology

drought-proofing investments. The large scale investment into the water industry during the Millennium drought inevitably resulted in the deferment of spending on other infrastructure and, as a result, the water industry is currently experiencing a drought of its own by way of capital investment. This is having an effect, for not only is the industry losing skilled people that will be difficult to replace, but a maintenance debt is also building up, specifically in ageing networks.

Water and water-related services such as sewerage collection and recycling will therefore remain vital to our economy

It is imperative that we learn from past experiences and in particular from the Millennium Drought, for timely future investments will be required to sustain the Australian economy. There are two major considerations to be made that can potentially overcome the peaks and troughs of capital requirements in the water sector – the attraction of private funds and the freeing up of invested funds. Both these models are being used extensively in other Australian industries and in the water industry abroad.

England and Wales have a fully privatised water sector with Australian super funds among the many shareholders. Much debate has been had as to why this is not the case in Australia and further debate is required. The UK model encourages private investment and attracts investors seeking long term returns. The Australian Water Association (AWA) took the initiative and invited the Chief Executive Officer of the UK Regulator to speak at the recent Ozwater conference and it was evident that independent regulation and the regulator creating the right incentives are key elements for the success of the UK water industry.

The CEO of the UK's South West Water also spoke at Ozwater, as well as at an industry event organised by the Water Services Association of Australia (WSAA), and he too emphasised the importance of independent regulation as well as customer engagement. It's important to recognise that Australia faces its own and unique challenges in this field. This is due to the constitutional ownership of water and, as a result, some form of harmonisation will be required between our multiple regulators that operate according to different levels of independence and practices between states.

Infrastructure Partnerships Australia (IPA) is another key industry body taking the initiative in opening the debate as to how to reform Australia's water sector, not only to improve the performance of regulation and attract private sector funding, but also in order to attract funding to regional water infrastructure.

The water industry also has invested capital that could be freed up and invested into new water infrastructure and this has proven to be a politically sensitive area, even though the principle is being used within other Australian infrastructure assets. IPA questioned how to make this happen at their 2015 water symposium, and even though more debate is required, it was clear from the panellists and speakers that local and international investors are available and very willing to invest in Australian water assets. Independent and harmonised regulation is once again key to this, for assets need to be taken off the state or council's balance sheet in order to truly alleviate capital for reinvestment.

Further debate is required to ensure a model is adopted in Australia that is acceptable to all stakeholders, including consumers and voters. The initiative taken by leading industry representative bodies such as IPA, WSAA and AWA signifies the true Australian spirit of cooperation as they are actively coordinating their efforts.

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EVOLVING OPPORTUNITIES IN INFRASTRUCTURE INVESTMENT: MOVING ALONG THE RISK SPECTRUM

Bede Schubert Analyst, Macquarie Capital | **John Pickhaver** Co-Head of Infrastructure, Utilities & Renewables, Australia & New Zealand, Macquarie Capital

Around the world, competition to invest in core infrastructure assets continues to increase. Attractive opportunities to deploy private capital in infrastructure investments still do exist, for those who are willing to reassess the mechanisms for allocating risk and returns, and to reconsider what constitutes an infrastructure asset.

For potential investors, including infrastructure, superannuation and sovereign wealth funds, the definition of what is and is not infrastructure is evolving. With intensifying competition in the investment marketplace for core infrastructure assets such as toll roads, ports, and airports, investors are increasingly exploring opportunities further along the risk spectrum. Simultaneously, asset developers and owners are reassessing the risks and rewards of infrastructure ownership.

Infrastructure assets are traditionally defined by high barriers to entry and stable long-term cash flows. The source of this stability can generally be attributed to some form of regulation, revenue contract, or correlation with economic or GDP drivers. The boundaries of this definition have recently expanded to include assets with varying degrees of merchant, volume, price and patronage risk. Figures 1 and 2 below illustrate the growing appetite for infrastructure-like assets among private investors, with investments in non-core sectors representing 50 per cent of total infrastructure investment in 2011-2015, compared to 34 per cent in the preceding decade. This progression has been made possible by the development of appropriate risk allocation frameworks for the management of these risk elements, as well as an increased appetite by investors for higher risk assets.

EXPANSION INTO THE RESOURCES AND TELECOMMUNICATIONS SECTORS

There have been several recent examples where investors, advisers, and vendors have found comfort with risk allocations between parties, allowing traditional infrastructure buyers to deploy capital in industries outside of core infrastructure. The energy resources sector in particular has made extensive progress in effective de-risking, illustrated by the recent sale of the QCLNG pipeline. During the sale process, the vendor BG Group effectively monetised the midstream portion of their QCLNG project by putting in place a take-or-pay contract over volumes for a 20 year term.

De-risking non-traditional infrastructure assets has also been successful in the telecommunications sector, as recently demonstrated in the acquisition of Crown Castle Australia (CCA), Australia's leading independent owner of shared mobile communications towers. CCA's

Figure 1: Composition of Australian Infrastructure Acquisitions and Financings as a percentage of Value (2001 – 2010)

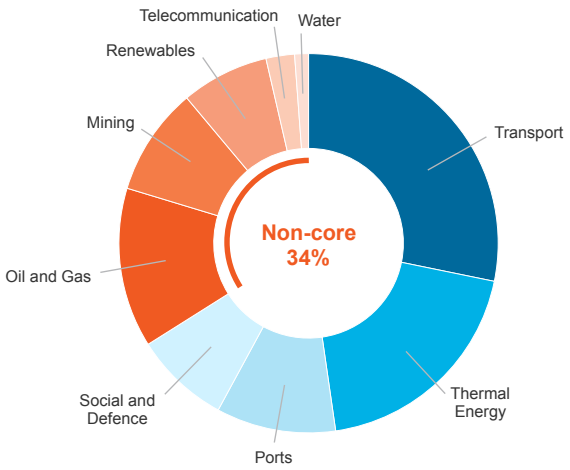
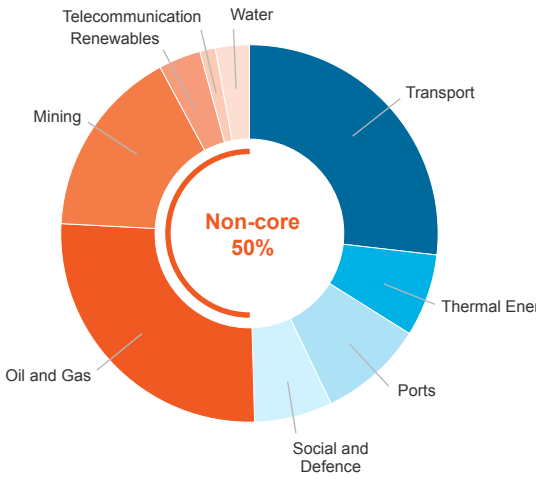


Figure 2: Composition of Australian Infrastructure Acquisitions and Financings as a percentage of Value (2011 – 2015)



Source: IJGlobal

assets were attractive to infrastructure investors due to long-term revenue contracts with high-quality mobile network operators that allowed volume and price risk to be effectively managed.

FINDING PATHWAYS TO INVESTMENT OPPORTUNITIES

Such precedents open up new opportunities, prompting the question of whether other assets can be structured with a risk allocation to attract investors in a similar way. When viewed from this perspective, daily life involves multiple touch points with assets and situations from which low-risk, infrastructure-style investments could potentially be created. Car parking and waste management provide two interesting examples.

Like infrastructure, car parking has a long asset life and can exhibit monopolistic characteristics, for example hospital car parking. Conversely, individual car park facilities face patronage risk and may not suit the infrastructure investment risk profile. Diversification is one way to reduce this risk, for example by bundling geographically dispersed parking facilities into a holding vehicle to reduce volatility of revenues over time. While a single car park may not be considered infrastructure, aggregation of assets may produce steady long-term revenues, creating an infrastructure-like asset.

Landfill assets also have a number of infrastructure-like qualities: they provide an essential service, are long life assets, have an effective monopoly in their jurisdictions, and a difficult approvals process provides high barriers to entry. However, when considering associated waste collection businesses, the risk return equation is markedly different. Waste collection is a highly competitive market that is subject to short term contracts. Despite these challenges, such assets have proven attractive to infrastructure investors, with Cheung Kong Infrastructure recently acquiring EnviroWaste, a New Zealand waste collection and landfill business. This investment provided an appropriate risk return trade-off for investors by leveraging scale and geographic diversification to minimise volatility in collection revenue, and integrating landfill assets to ensure a base level of stable cash flows.

CREATING OPPORTUNITIES FOR ALL PARTICIPANTS

The continued evolution in risk allocation mechanisms and effective implementation of asset risk/return frameworks will ultimately deliver benefits to investors, owners and users alike. Industrial or government owners now have a greater ability to monetise appropriate non-core infrastructure assets and transfer ownership of capital-intensive supply chain elements to third party investors. This in turn provides owners and developers with the opportunity to consider recycling capital while maintaining the exclusive use of assets, facilitating a greater focus on their core activities.

Well-defined risk sharing regimes and a willingness to investigate higher risk assets are likely to provide investors with promising new opportunities and encourage greater private capital investment into greenfield developments. This should deliver benefits typically associated with specialisation, including increased output, greater productivity and higher returns on capital deployed. Exploring the risk spectrum is therefore likely to result in greater opportunities not only for infrastructure investors and owners, but also industrial and economic expansion that will benefit all market participants whether infrastructure-aligned or not.

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MACQUARIE

AUSTRALIA'S INFRASTRUCTURE THE 15-YEAR PLAN

Philip Davies Chief Executive Officer, Infrastructure Australia

Australia's ability to deliver the infrastructure we need—and aspire to—is being severely tested. Our growing population levels, which are high by developed world standards, will have a profound effect on our productivity and liveability. This growth in our population and economy will make us richer as a country, but it will also create unprecedented infrastructure challenges. The key for us as a nation is managing our success so that infrastructure delivers the economic benefits and quality of life Australians expect. If we are going to protect our future quality of life, we must focus on the long game. That's why the new mandate of Infrastructure Australia is so important.

A NEW INFRASTRUCTURE AUSTRALIA

Infrastructure Australia (IA) is committed to realising our nation's infrastructure potential.

Our focus is to provide independent research and expert advice to all levels of government, as well as investors and owners of infrastructure, and to publicly advocate for the reforms Australia needs to fill the infrastructure gap.

In mid-2014, with bipartisan support, the *Infrastructure Australia Act* was amended to give IA new powers, and to create an independent board, with the right to appoint its own Chief Executive Officer. The new IA Board was formed in September 2014, led by Chairman Mark Birrell, with a mandate to prioritise and progress nationally significant infrastructure.

Our focus is to provide independent research and expert advice to all levels of government

In May this year, we completed one of our principal tasks under the Act, releasing both the *Northern Australia Audit* and the *Australian Infrastructure Audit*.

The *Northern Australia Audit* is the first of its kind, identifying key challenges and opportunities to support the region's projected growth over the next 15 years and beyond.

Our landmark *Australian Infrastructure Audit* (the Audit), is the nation's first-ever independent review of Australia's infrastructure and our future needs across transport, water, energy and telecommunications.

It takes a comprehensive and strategic view of what Australia will look like in 2031, and where the pressures on our infrastructure networks will be felt hardest.

The Audit provides the robust and accessible evidence base our governments, the private sector, and the wider community need to understand where the major challenges lie. And it provides IA with the evidence base for the development of our first 15-year *Australian Infrastructure Plan* (the Plan).

AUSTRALIA'S 10 KEY CHALLENGES

Among the 81 findings in our Audit, we found that our growing population levels will have a profound effect on Australia's productivity and liveability.

The challenge we face is managing our success so that infrastructure delivers the economic benefits and quality of life Australians expect.

So, our Audit highlights 10 key challenges that we as a country will need to deal with in the near future.

First, **population** growth will be a critical factor in the increasing demand for new and renewed infrastructure. Australia's population is expected to grow from 22.3 million in 2011 to 30.5 million in 2031.

We must address our national **productivity** levels, through regular strategic investment in economic infrastructure. Infrastructure decision making must place a high priority on productivity growth.

Improving the **connectivity** of Australia's key infrastructure assets and corridors will be vital to link businesses, boost trade and improve access.

Ineffective and inconsistent regulation has had adverse outcomes for infrastructure users and the Australian community, so ensuring we have **competitive infrastructure markets** is essential.

We also have a real issue with a **funding** shortfall, and all at a time of increasing infrastructure demand. Reforms are essential to increase the total pool of funds made available for infrastructure.

The planning and decision-making processes across Australia's infrastructure sectors generally lack transparency, leadership and integration. Our **governance** must improve.

Sydney briefing event

CEO Philip Davies addressing the Sydney briefing event

Phil Davies leads the discussion at the Melbourne briefing event

We need to find ways to cut environmental impacts and improve **resilience**, using new technology to run our existing infrastructure better.

Infrastructure improvements in **regional** Australia are required to enhance local service standards and facilitate rural and regional growth.

Poor levels of essential service provision to remote communities undermine efforts to improve the health, education and employment outcomes of **Indigenous** Australians – we must do better.

Finally, a uniting theme is the need to pursue **best practice** principles for infrastructure procurement and delivery, and encourage whole-of-life asset management.

These 10 challenges will be addressed in our 15-year Plan, offering a strategic response to the issues identified in the Audit.

AUSTRALIA MUST LIFT ITS GAME

The public discussion on infrastructure is often dominated by debates about single projects rather than strategy or long term policy.

With this in mind, IA is focusing heavily on engaging with our colleagues in the infrastructure agencies and organisations across Australia, along with governments and industry bodies about setting a long term agenda.

In recent months, and with the help of stakeholder partners such as Infrastructure Partnerships Australia, the Committee for Economic Development of Australia and Engineers Australia, we have held briefing events in every capital city across Australia to discuss the Audit findings and inform the development of our Plan. We have also been engaging with representatives from all levels of government, business, industry, peak bodies and the wider community, encouraging feedback.

IA is focusing heavily on engaging with our colleagues in the infrastructure agencies and organisations across Australia along with governments and industry bodies

It has been a busy but valuable consultation process for the whole team, as we work to deliver our first 15-year Plan.

We're confident that our work on the Audit and the 15-year Plan, along with the support of key stakeholders, will set a foundation for major changes in the way that infrastructure is planned, funded and delivered in Australia. We all have a role to play in this and I am proud to be IA's inaugural CEO as we help drive this change.

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Australian Government
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ELECTRICITY MARKET REFORM: THE NEXT PHASE

Fiona Orton Manager Energy Policy and Research, AGL | **Tim Nelson** Head of Policy and Sustainability, AGL

The key challenges for the electricity sector over the coming decades are the integration of climate change and energy policy, and meeting the needs of energy users in an increasingly decentralised and consumer-driven system. AGL is at the forefront of a changing energy sector with the establishment of a *New Energy* business unit and the release of a new Greenhouse Gas Policy in April 2015.

The establishment of the National Electricity Market (NEM) is widely considered to be a key success of the 1990s Hilmer microeconomic reforms. By 2002 this reform was estimated to have increased Australia's annual Gross Domestic Product by $1.5 billion. However, in recent years, productivity improvements in the electricity sector have stalled and reversed. Retail electricity prices have doubled between 2008 and 2015, largely driven by a sharp increase in spending on distribution networks. At the same time, some jurisdictions have been slow to complete market reforms that could help ease pressure on energy costs for consumers by improving infrastructure utilisation, innovation and competition - such as retail price deregulation, cost-reflective pricing and asset privatisation.

Australia's electricity generation asset mix is old and emissions-intensive by global standards, with around 75 per cent of the power stations already operating beyond their original design life. While it would seem that plant retirement and renewal is imminent, barriers to exit appear to exist for ageing coal-fired power stations – including significant site remediation costs and ongoing policy uncertainty. In the short term it is preferable to pay the low marginal maintenance and fuel costs to keep old power stations running (or mothball them), than to outlay billions of dollars to build new, cleaner, modern ones.

Electricity demand in the NEM has declined by around five per cent in recent years, as large industrial manufacturing operations have closed, and residential and commercial customers have reduced their energy usage and installed rooftop solar in response to high energy prices and generous government subsidies. A number of government policies introduced since 2000 have also incentivised the development of significant new lower-emissions power generation capacity. As a result, the NEM has become significantly oversupplied, with the Australian Energy Market Operator (AEMO) estimating that around 20 per cent of the capacity installed in the market is now surplus to requirement. Wholesale energy prices are well below the level required to support new entrants, including new renewables.

A number of government policies introduced since 2000 have also incentivised the development of significant new lower-emissions power generation capacity

Importantly, the policies that have been introduced to limit greenhouse gas emissions and promote renewable energy in Australia have had neither longevity nor stability. The trading price of renewable energy certificates (relied on by the renewables sector to bridge the gap between the low wholesale energy prices and the high cost of developing renewable energy projects) has been volatile, reflecting political ups and downs rather than the marginal project cost as originally designed. The way energy consumers interact with the market is also changing.

In some networks, one in four households generates their own power with rooftop solar, with Australian markets now having some of the highest rates of solar penetration globally. For many, solar is now an attractive proposition without subsidies, delivering a positive return on investment over the life of the panels. Continued growth in solar is expected, and by 2040 some analysts estimate as much as one fifth of electricity generation will come from 'behind the meter' systems.

In some networks, one in four households generates their own power with rooftop solar

As well as giving customers greater choice and control over their energy usage, new technologies like smart meters, distributed generation and battery storage have the potential to deliver productivity improvements in the NEM, reducing customers' energy bills, increasing energy efficiency, and driving more efficient use of existing energy infrastructure. Regulatory frameworks should reflect changing customer expectations and new technologies, be flexible and adaptable to market changes, and should provide competitive neutrality so that existing and emerging business models can compete on their merits. The reform of network tariffs to transition to cost-reflective structures is also required to ensure that in this changing landscape, all energy users contribute equitably to the costs of providing shared energy networks, and to incentivise consumers to use energy at non-peak times where possible.

To avoid dangerous climate change, the Intergovernmental Panel on Climate Change predicts that global economies will need to reduce greenhouse gas emissions by up to 70 per cent by mid-century. Decarbonisation and modernisation of the Australian electricity sector alone will require tens of billions of dollars of investment in renewable and zero-emission power generation over this period. Given the current outlook, it is unclear how this investment can be made. To be sustainable in the long term, market design and broader energy and climate change policies need to be better integrated so that investors can jointly pursue these objectives. Targeted policies for the electricity sector should be considered that drive the progressive closure of older, emissions-intensive power stations. When stapled to policy that encourages their replacement with new zero-emissions technologies, a clear pathway to decarbonisation and modernisation can be established – providing renewed investor confidence.

New innovative funding models will need to be developed to support new investment even with a more certain policy environment. Traditional methods of financing whereby credit-rated counterparties assume most of the market risk are unlikely to be suitable given the disruption to demand and technology currently underway. Markets have a good history of responding but it is important that this happens quickly to facilitate the investment required.

New innovative funding models will need to be developed to support new investment

When modern electricity markets were established, their design focused on delivering energy security at least cost, without taking into account environmental externalities including greenhouse gas emissions. Communities now expect electricity markets to be reliable, affordable and consistent with climate change targets, as well as being adaptable to changing technologies and consumer preferences.

Further information about AGL can be found at www.aglblog.com.au

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EVOLVING ASSET MANAGEMENT: A BUSINESS-DRIVEN APPROACH

Paul Foxlee National Head of Transport and Infrastructure, KPMG

Asset management has been rocketing up the agenda of infrastructure owners, managers and investors.

This is not surprising. For the public sector it delivers the best long-term value for public fund investment in assets such as roads, hospitals and schools and for asset-intensive corporates such as oil and gas producers, good asset management will improve plant availability which drives long-run efficiency and profitability.

The publication of the International Asset Management Standard series ISO5500/1-3 in 2014 brought the discipline to the world stage and captured the attention of asset owners and operators that had not previously encountered it.

THE DRIVERS OF CHANGE

There are trends and pressures that are driving the rise of asset management up the strategic agenda. These include:

Improved technology and innovation: Recent developments in data and system technologies has enabled infrastructure owners and operators to achieve much more valuable insights about the health and condition of their assets which, in turn, allows better-informed base maintenance and investment decisions.

New stakeholder interests: As pension funds and other institutional investors increasingly invest in infrastructure, long term (25 to 40 year) strategic asset plans have become an essential and integral part of investment planning in privatised infrastructure.

Increased regulatory requirements: Facing an increasing regulatory burden on infrastructure businesses, asset owners are now responsible for a more stringent set of outputs which, in turn, demand better asset management tools.

Rising demand and funding challenges: With demand for more capacity and improved reliability continuously increasing, owners are adopting asset management principles to extend the life of their assets through optimised operations, improved maintenance and targeted investments.

Heightened customer expectations: With competitive advantage increasingly defined by customer experience, the strong interdependency between asset reliability and availability, and customer service, is being realised.

FIVE KEY CHALLENGES

Asset managers in Australia – and around the world – often struggle with five key challenges as they strive to improve their asset management capabilities and maturity.

Improving asset data management and data quality: Virtually every asset management activity relies on good quality data supported by the right systems to properly acquire, store and analyse it, however many organisations struggle to secure or develop the internal capability to properly define the need and specify the outcome.

Planning and prioritising asset investment: As recognition of the value of smart investment planning grows, many are rethinking their medium and long-term investment plans in order to maximise corporate financial health – identifying, understanding and promoting good discipline in this activity is often a challenge.

Building a corporate-level integrated asset management strategy: Many asset managers and owners are seeking strategies and plans to promote corporate level strategy development aimed at reducing ongoing costs and optimising asset performance.

Improving risk assessment and management: While asset failure risks are typically the largest items on infrastructure corporate risk registers, today's asset owners and managers need to better understand both their known and unknown risks in order to develop a resilient and robust asset management strategy.

Implementing new regulations and standards: Asset managers and executives will need to focus on improving their methods for translating the requirements of regulation and standards into internal plans both today and in the future.

The bottom line is that asset management will soon become a key competitive advantage for infrastructure owners and operators. Those able to continuously improve and adapt their approach to asset management will ultimately reap the benefits of improved value, profitability and efficiency from their assets. Those that ignore the discipline do so at their peril.

FOR MORE INFORMATION PLEASE CONTACT:

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SPEAKER PROFILES

ADRIAN KLOEDEN

Chairman
Infrastructure
Partnerships Australia

Adrian Kloeden is the Asia Pacific Chairman of the FTSE international service company Serco and was its Chief Executive Officer from 2002–2007. He is also Chairman of Aquasure, Hancock Victorian Plantations and Infrastructure Partnerships Australia.

Mr Kloeden's management experience covers a wide variety of industries, including forestry, agribusiness, manufacturing, distribution, retail, research and development, brand management, technology, e-commerce, defence, and tourism and transport. He has held leadership positions in large and small public and private companies and government-related organisations, and has operated in many regions of the world.

His early education was in Australia, where he graduated in science from the Australian National University. He followed this a few years later with a master's degree in business from the London Business School. He also has an Honorary Doctorate from Deakin University.

BRENDAN LYON

Chief Executive Officer
Infrastructure
Partnerships Australia

Brendan Lyon is the Chief Executive Officer of Infrastructure Partnerships Australia, a public policy partnership between Australia's federal and state governments and the private sector.

Mr Lyon joined the organisation in 2006 following roles in the public and private sectors, initially serving in the policy team. In early 2008, Brendan was appointed to head the organisation.

Brendan serves on a range of boards and committees, including the Board of Transport for NSW (formerly the NSW Department of Transport); the ACCC's Infrastructure Regulation Advisory Committee and formerly served on the Federal Government's Infrastructure Finance Working Group and the expert reference panel overseeing the study of High Speed Rail.

Brendan is a Member of the Australian Institute of Company Directors and holds a Masters of Business Administration with Distinction, and was appointed an honorary Associate Professor at the Sydney Business School in 2013.

Brendan has authored and contributed to a large number of research and policy papers dealing with infrastructure funding, financing and sectoral reforms.

THE HON ANTHONY ALBANESE MP

Shadow Minister for Infrastructure and Transport, Shadow Minister for Cities and Shadow Minister for Tourism

The Hon Anthony Albanese MP was re-elected the Member for Grayndler at the September 2013 election.

Anthony has been a Member of Parliament since 1996 and believes strongly in the need for government to invest in local communities. This includes Federal Government investment in public transport to address the issue of urban congestion.

Following the election of the Federal Labor Government in November 2007, Anthony became the Minister for Infrastructure and Transport and Leader of the House of Representatives.

Anthony was named Infrastructure Minister of the Year for 2012 by London-based publication *Infrastructure Investor*.

In June 2013, he became Deputy Prime Minister, and also took on additional responsibility as Minister for Broadband, Communications and the Digital Economy.

THE HON MIKE BAIRD MP

Premier of New South Wales

The Hon Mike Baird MP has represented Manly in the NSW Parliament since 2007. Following the election of the NSW Liberal and National Government on 26 March 2011, he was appointed Treasurer and, in September 2012, he gained the Industrial Relations portfolio.

Mike was elected Leader of the NSW Liberal Party at a party-room meeting on 17 April, 2014, and later that day was sworn in as the state's 44th Premier by then Governor Professor Marie Bashir.

The Liberal and National were returned to office under Mike's leadership at the state election held on 28 March 2015.

Mike entered politics following an 18-year banking career, including corporate banking, securitisation, debt capital markets and project finance in Australia, London and Hong Kong. Prior to his election to Parliament, Mike was Head of Institutional Banking for HSBC in Australia and New Zealand.

Under Mike's direction as Treasurer, NSW moved from being the economic laggard of the nation to the leading state economy on the measures of economic and jobs growth. Career highlights during Mike's term as Treasurer include managing a number of successful asset transactions, including the long-term lease of the Sydney desalination plant, Port Botany and Port Kembla, and the Port of Newcastle.

At the 2015 election, Mike secured a mandate for Rebuilding NSW – a $20 billion plan to revitalise the state's infrastructure that will be funded via a 99-year lease of 49 per cent of the state's electricity network.

SPEAKER PROFILES

JIM BETTS

Chief Executive Officer
Infrastructure NSW

Jim Betts is the Chief Executive Officer of Infrastructure NSW, an independent statutory agency that provides specialist advice to the NSW Government on infrastructure investment and prioritisation. Most recently this included making more than 80 recommendations to Government on the next round of critical infrastructure for NSW – set out in the *State Infrastructure Strategy Update 2014*.

Jim joined Infrastructure NSW in June 2013 following five years as the Secretary of the Victorian Department of Transport and four years as the Director of Public Transport at the Victorian Department of Infrastructure. Key personal achievements during this time included the delivery of the $38 billion Victorian Transport Plan and the overhaul of Victoria's legislative framework to integrate the planning of transport and land use.

Jim's 25 years' experience spans strategic transport planning, infrastructure delivery, and transformational structural reform, including privatisation, private finance and regulatory reform, and also includes senior roles in the United Kingdom Government.

GRAHAM BROOKE

Lead Partner, NSW Government
KPMG

Graham Brooke is a Senior Partner in KPMG Corporate Finance's Infrastructure and Projects Group (IPG) and Real Estate Advisory Services (REAS) Group. He is also KPMG's Lead Partner for the NSW Government. He is a specialist in complex infrastructure projects with more than 20 years' experience in the UK, South Africa, Asia and Australia. He is currently working on several significant projects in Australia in the transport, housing, defence and accommodation sectors. He is also President Director of KPMG Infrastructure Advisory (Indonesia).

Graham is currently leading a number of significant projects in Australia including the Immigration Detention Services Project, the WestConnex project, the Barangaroo Redevelopment and the Soekarno-Hatta International Airport Link in Jakarta. Graham's previous projects include the NBN Implementation Study, Chatswood Transport Interchange, the South Australia Police and Courts PPP Project, Single LEAP PPP and the NSW Desalination Plant.

Graham previously worked with the National Health Service (NHS) in the UK, and was closely involved in the UK major public sector reforms in the Thatcher era.

His experience covers the structuring of complex transactions, development of payment mechanisms, determining appropriate risk allocations and advising on alternative sources of finance.

Graham is an Adjunct Professor, Bond University, Department of Sustainability. Previously, Graham was the National Treasurer of the Australian-British Chamber of Commerce (ABCC).

PHILIP DAVIES

Chief Executive Officer
Infrastructure Australia

Philip Davies is the Chief Executive Officer of Infrastructure Australia, with a fresh mandate to provide independent expert advice to all levels of government on infrastructure policy and planning. Infrastructure Australia publicly advocates for reforms on key issues including means of financing, delivering and operating infrastructure and how to better plan and utilise infrastructure networks.

Infrastructure Australia also recently released the Australian Infrastructure Audit, the nation's much-needed, comprehensive independent review of Australia's infrastructure and our future needs across transport, water, energy and telecommunications.

Before joining Infrastructure Australia as Chief Executive Officer, he led AECOM's Infrastructure Advisory business in Asia Pacific providing government and private sector clients with infrastructure policy, strategy, business, program, planning and operations advice.

Whilst Director of Traffic Operations for Transport for London (TfL), Philip developed a long term vision for proactive, long term integrated transport management in London, including the development of the London Transport Command and Control Centre.

He is a Chartered Engineer and a Fellow of Engineers Australia.

BEN DEMPSEY

Project Director
Victorian Department
of Justice and Regulation

Ben Dempsey has over 30 years' experience in infrastructure development, leading Public Private Partnerships across a broad range of industry sectors such as corrections, public transport, water and health.

Ben is a Director of infrastructure advisory firm EIG. In December 2012, the Victorian Department of Justice and Regulation appointed him as Project Director to lead the development and implementation of the Ravenhall Prison Public Private Partnership Project.

Prior to his current role, Ben led the development of earlier Victorian Public Private Partnership correctional projects, including, as a single transaction, the Metropolitan Remand Centre and the Marngoneet Correctional Centre.

Ben has acted for clients in Australia, Germany and Africa and has conducted multilateral negotiations at an international level.

SPEAKER PROFILES

HON BILL ENGLISH

Deputy Prime Minister
of New Zealand

The Hon Bill English is the Deputy Prime Minister, Minister of Finance and the Minister Responsible for Housing New Zealand Corporation.

He was first elected to Parliament in 1990 as MP for the Wallace electorate (later re-named Clutha-Southland) and served as the local MP for 24 years until he stood down as an electorate MP in 2014.

Mr English has held ministerial posts in education, health, revenue and finance and he was leader of the National Party from October 2001 to October 2003.

THE HON MARTIN FERGUSON AM

Non-Executive Director
Seven Group

The Hon Martin Ferguson AM served as the Member for Batman from 1996 to 2013 and held a variety of shadow ministerial portfolios including Resources and Energy. Upon the Rudd Government's election in December 2007, Martin was appointed as the Minister for Resources and Energy, a position which he held until March 2013.

During Martin's time as Minister he oversaw the largest investment in the oil and gas sector and the rapid expansion of the mining sector.

Post politics, Martin holds a number of positions in the oil and gas industry including Group Executive in Natural Resources at Seven Group Holdings, Non-Executive Director of the BG Board and Chairman to the APPEA Advisory Board. Martin joined the C02CRC as their Chairman in September 2014.

Martin holds a Bachelor of Economics (Hons) from the University of Sydney.

LEILANI FREW

Executive Director, Head of
Infrastructure and
Structured Finance
NSW Treasury

Leilani Frew is Executive Director and Head of Infrastructure and Structured Finance at NSW Treasury.

As a senior finance professional who has worked in finance and public administration for over 20 years, Leilani has market-leading expertise in providing strategic, commercial and financial advice to assist in the purchase, sale, procurement and/or financing of significant infrastructure, power and energy assets and businesses throughout Australia, UK, US and Asia. Leilani has previously held senior roles with Queensland Treasury, the Commonwealth Bank of Australia, ABN AMRO/RBS and Moelis.

Leilani was recently awarded the 'Women's Achievement in Infrastructure Award' at the IPA National Infrastructure Awards.

TRACY HOWE

Chief Executive Officer
Council of Social Service of NSW

Tracy Howe is Chief Executive Officer of the Council of Social Service of NSW (NCOSS).

Tracy is a legally-trained advocate with a commitment to human rights, addressing community disadvantage and gender inequality. Previously, Tracy has worked in both government and non-government settings, including with Domestic Violence NSW as Chief Executive Officer and as a senior legal advisor in federal government.

Tracy is a member of the NSW Government's Social Impact Investment Expert Advisory Group, the NSW Domestic and Family Violence Council and the NSW Premier's Council on Homelessness, and was the NSW non-government representative on the National Plan Implementation Panel for the National Plan to Reduce Violence Against Women and their Children.

Tracy is also a Director of Community 21, a community sector-owned bank.

Previously, Tracy was a delegate with the Australian Women Against Violence Alliance (AWAVA) at the Commission on the Status of Women (CSW) at the 57th and 58th sessions held at the United Nations in New York.

In February 2015, Tracy won the Agenda Setter Award at the NAB Women's Agenda Leadership Awards. In May 2015, Tracy was appointed to the Prime Minister's COAG Advisory Panel on Reducing Violence against Women.

Tracy holds degrees in Gender Studies and Law.

SPEAKER PROFILES

ROB KOCZKAR

Chief Executive Officer
Social Ventures Australia

Rob Koczkar joined Social Ventures Australia (SVA) as Chief Executive Officer in October 2014. He has extensive experience in investing and management consulting, along with a deep understanding of the social purpose sector from serving on the boards of Social Ventures Australia, Goodstart Early Learning, and on Mission Australia's Corporate Advisory Council.

Prior to joining SVA Rob was a Managing Director of Pacific Equity Partners from 2004-2014, and a Principal with Texas Pacific Group. He led investments in a number of companies including Energy Developments, Spotless and Collins Foods. Rob also spent seven years with Bain & Company, advising clients on issues relating to strategy, mergers, and operating improvements in a wide range of industries.

Rob received a BEng (Hons) in Mechanical and Manufacturing Engineering from the University of Melbourne.

He currently serves on the boards of Social Ventures Australia, Goodstart Early Learning Limited, Energy Developments Limited and Spotless Group Holdings Limited.

ROGER MASSY-GREENE

Chairman
Networks NSW

Roger Massy-Greene is Chairman of Networks NSW, the joint venture entity that manages the three electricity distribution networks in NSW. He also chairs each of the three state-owned distribution companies, Ausgrid, Endeavour Energy and Essential Energy.

He is the principal shareholder and Chairman of Eureka Capital Partners, a private investment company.

Mr Massy-Greene co-founded the ASX 200 company Excel Coal in 2002 and was its Chairman until its acquisition by Peabody Energy in 2006. He founded and served as the Managing Director of Excel's predecessor Resource Finance Corporation from 1984 to 2002.

Previously, he worked for Bank of America in project and corporate finance, and as an underground mining engineer for Rio Tinto. He is a director of OneVentures, a technology venture capital company.

Mr Massy-Greene is Chairman of the Salvation Army's Sydney Advisory Board and Chairman of Eureka Benevolent Foundation, a family foundation focused on overcoming social disadvantage.

He is the Vice President of Cranbrook School and is a director of The Hunger Project Australia.

KERRIE MATHER

Managing Director and
Chief Executive Officer
Sydney Airport

Kerrie Mather was appointed Managing Director and Chief Executive Officer of Sydney Airport in June 2011, bringing with her more than 18 years of international aviation sector experience. She is focussed on growing aviation in Sydney, NSW and Australia through strong and positive relationships with airlines, governments, tourism, business, industry and the broader Sydney community.

Airports are significant drivers of economic activity and Kerrie is deeply committed to promoting Sydney as a key destination for international visitors. This supports growth in the business, visiting friends and relatives, and tourism traveller segments, and helps to attract major events, conventions and conferences to Sydney.

Sydney Airport is Australia's gateway airport and a key piece of transport infrastructure, welcoming 38.5 million passengers in 2014, with a network of around 90 destinations served by 36 international, six domestic and five regional airlines and 10 dedicated freight carriers.

Kerrie draws on her broad international and national experience, having worked in a number of international jurisdictions, delivering major airport initiatives whilst serving previously on the boards of Brussels, Copenhagen, Rome, Bristol and Birmingham Airports.

STEVE MCCANN

Group Chief Executive Officer
and Managing Director
Lendlease

Steve McCann was appointed Group Chief Executive Officer and Managing Director in December 2008, and joined the Board in March 2009.

Prior to his current role, Steve was Group Finance Director, appointed in March 2007, and Chief Executive Officer for Lendlease's Investment Management business from September 2005 to December 2007.

Steve has more than 15 years' experience in funds management and capital markets transactions. Prior to joining Lendlease in 2005, he spent six years at ABN AMRO, where his roles included Head of Property, Head of Industrial Mergers & Acquisitions and for the last three years, Head of Equity Capital Markets for Australia and New Zealand.

Previous roles also include Head of Property at Bankers' Trust, four years as a mergers and acquisitions lawyer at Freehills, Melbourne and four years in taxation accounting at Deloitte, Melbourne.

Steve holds a Bachelor of Economics (Finance major) and a Bachelor of Laws from Monash University in Melbourne.

SPEAKER PROFILES

MAX MOORE-WILTON AC

Director
Infrastructure NSW

Mr Moore-Wilton was Chairman of Sydney Airport from April 2006 until his retirement on 15 May 2015. Prior to this appointment he was Chief Executive Officer of Sydney Airport Corporation Limited (SACL) from January 2003 to April 2006 and was Chairman of Southern Cross Airports Corporation Holdings (SCACH) from January 2003. He was also the Chairman of ASX-listed Southern Cross Austereo Media Group from 2007 to 2015.

Previously, he was Secretary to the Department of the Prime Minister and Cabinet, a position he held from 1996 to 2003 and the former Chairman of Airports Council International.

Mr Moore-Wilton has held a number of key executive roles within the public and private sectors, and has extensive experience in the transport sector. He was appointed a Companion in the General Division of the Order of Australia in the Australia Day Honours List in 2001.

THE HON DR MIKE NAHAN MLA

Treasurer of Western Australia, Minister for Energy; Citizenship and Multicultural Interests

Dr Mike Nahan is the Western Australian Treasurer; Minister for Energy; Citizenship and Multicultural Interests.

Dr Nahan was initially appointed to Cabinet as Minister for Energy; Finance; Citizenship and Multicultural Interests following the Liberal National Government's electoral win in March 2013. He was then elevated to the position of Treasurer in March 2014.

He was first elected as the Member for Riverton in the 2008 State Election and in 2012 was appointed to the position of Parliamentary Secretary to the Minister for Education, Energy and Indigenous Affairs.

Dr Nahan chaired the Economics and Industry Standing Committee and has undertaken important inquiries into big issues affecting the state, including domestic gas prices.

The Minister migrated to Australia in 1978 from the United States and arrived in Western Australia in 1982. Prior to becoming a state politician he was Executive Director of the Institute of Public Affairs.

Mike holds a PhD in Economics from the Australian National University and was awarded a Centenary Medal by the Australian Government in 2000 for his contribution to public policy.

JOHN PICKHAVER

Executive Director, Co-Head of Infrastructure, Utilities and Renewables ANZ Macquarie Capital.

John Pickhaver has 16 years of experience in the infrastructure sector both as a civil engineer and in infrastructure finance.

While at Macquarie, John has advised on corporate and project financings, mergers and acquisitions, and arranging debt and equity for transactions including power stations, electricity transmission, gas pipelines, wind farms, energy storage, rail, light rail and road infrastructure, including Public Private Partnership transactions. John has also provided strategic financial advice to corporates in relation to capital structure reviews, and governments in relation to energy and transport infrastructure assets and financing.

Previously, John worked for a number of years as a civil engineer in Australia on infrastructure projects, before completing his Doctorate at Oxford University in civil engineering, and subsequently his Master of Applied Finance.

DAVID QUINN

Chief Executive Officer
Projects Queensland

David Quinn has more than 20 years' experience across a range of sectors including transport, utilities, heavy manufacturing, FMCG and mining. His diverse industry experience has been gained through roles with Asciano (both Patricks Ports and Pacific National Rail), the APA Group, BHP Billiton and Kraft Foods. He has also worked as a Major Projects lawyer for Herbert Smith Freehills financing and delivering infrastructure projects both nationally and internationally.

Most recently, David led the Queensland Government's commercial advisory and procurement arm, Projects Queensland. Prior this appointment, David was undertaking operational and strategic consulting for Tasmanian Railways.

Qualified in both Law and Economics, David's experience extends widely from senior human resources, operational and general management roles through to negotiating and delivering major projects across both the private and public sectors.

SPEAKER PROFILES

TONY SHEPHERD AO

Chairman
WestConnex Delivery Authority

Tony Shepherd AO was President of the Business Council of Australia from November 2011 to March 2014 and Chairman of the National Commission of Audit from 22 October 2013 to 2 May 2014.

Tony was appointed Chairman of the WestConnex Delivery Authority in NSW in October 2013.

On 10 September 2014 Tony was appointed Chairman of Macquarie Specialised Asset Management.

Tony was Chairman of listed company Transfield Services from 2005-2013. Tony's career in Transfield began in 1979.

Tony's early career was as a Federal Public Servant working in defence procurement and research and development, including a three year posting to Washington DC.

Tony oversaw the public listing of Transfield Services and the listings of Transurban and the ConnectEast Group. He was Chairman of ConnectEast.

He has a portfolio of roles and projects that includes NASA tracking stations, the Moomba to Sydney Gas Pipeline, the Anzac Warships, the Sydney Harbour Tunnel, the CityLink and EastLink tollways in Victoria, the Walsh Bay Redevelopment in Sydney and a range of water treatment plants, power stations, roads, railways and tramways.

He is a Director of Virgin Australia International Holdings, Chairman of the Sydney Cricket Ground Trust, Chairman of the AFL GWS Giants, Chairman of ASTRA and an adviser to Bank of Tokyo-Mitsubishi UFJ.

ROD SIMS

Chairman
Australian Competition and Consumer Commission

Rod Sims was appointed Chairman of the Australian Competition and Consumer Commission (ACCC) in August 2011 for a five year term.

Immediately prior to his appointment to the ACCC, he was the Chairman of the Independent Pricing and Regulatory Tribunal of New South Wales, Commissioner on the National Competition Council, Chairman of InfraCo Asia, Director of Ingeus Limited, and member of the Research and Policy Council of the Committee for Economic Development of Australia. Rod was also a Director of Port Jackson Partners Limited where he advised the Chief Executives and Boards of some of Australia's top 50 companies on commercial corporate strategy over many years. Rod relinquished all of these roles on becoming Chairman of the ACCC.

Rod is also a past Chairman of the NSW Rail Infrastructure Corporation and the State Rail Authority and has been a Director of a number of private sector companies. During the late 1980s and early 1990s, Rod worked as the Deputy Secretary in the Commonwealth Department of Prime Minister and Cabinet responsible for economic, infrastructure and social policy and the Cabinet Office. He also worked as Deputy Secretary in the Department of Transport and Communications.

Rod Sims holds a first class honours degree in Commerce from the University of Melbourne and a Master of Economics from the Australian National University.

DAVID WEBSTER

Deputy Secretary, Commercial
Victorian Department of Treasury and Finance

David Webster is Deputy Secretary, Victorian Department of Treasury and Finance where he is responsible for providing strategic commercial, financial and risk management advice to the Victorian Government.

Activities include managing the State's balance sheet, prudential supervision of the public financial corporations, Public Private Partnerships (PPPs), infrastructure investment, commercial and property transactions and the monitoring and governance of the State's major Government Business Enterprises.

Prior to joining government, David had 20 years' experience in equity, advisory and debt transactions in economic and social infrastructure and transport (including airports, rail, road, hospitals, schools, water and wastewater), and project finance (oil and gas).

Prior to joining the Department of Treasury and Finance, David worked for RBS Funds Management in Sydney as Executive Director running the RBS Australia Social Infrastructure Fund. Previously David was Investment Director at EISER Global Infrastructure Fund in London, Head of Infrastructure Advisory at RBS London before which he held a number of senior structured finance positions in banking also in London. David qualified as an Australian Chartered Accountant in 1987 and has an MBA from London Business School.

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