



Federal Ministry
for Economic Affairs
and Energy



MITTELSTAND
GLOBAL
ENERGY SOLUTIONS
MADE IN GERMANY

Australian Infrastructure Market Overview

Major Opportunities for Sophisticated Investors

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Facilitator



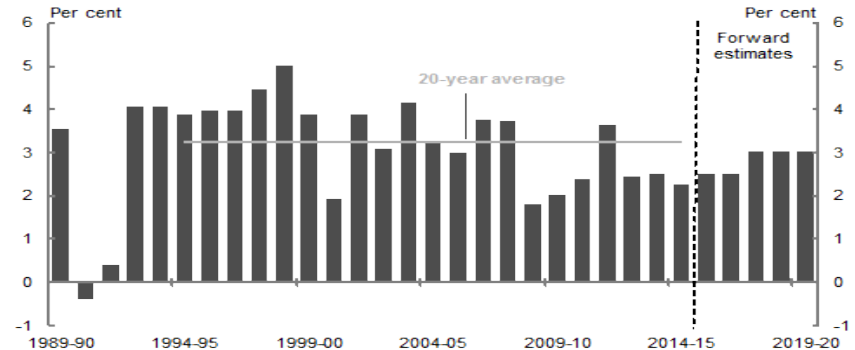
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Australian Economic Fundamentals are Strong

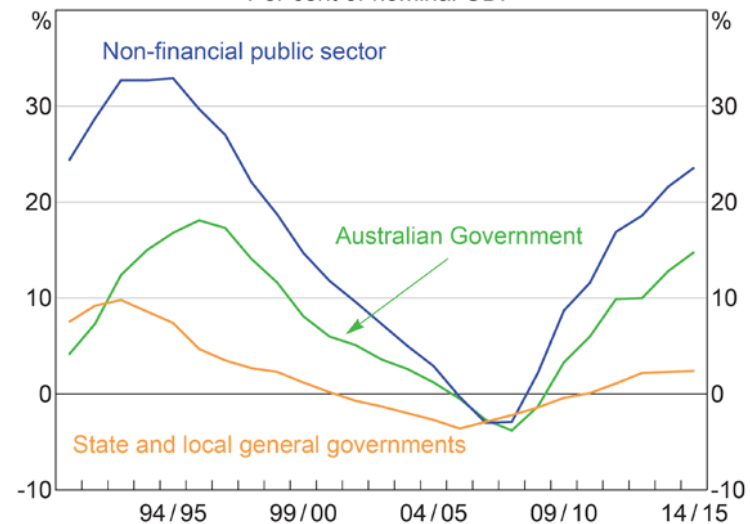
Australian GDP growth is strong and consistent for past 26 years



Australia's public debt is low by international standards and consistent with AAA ratings

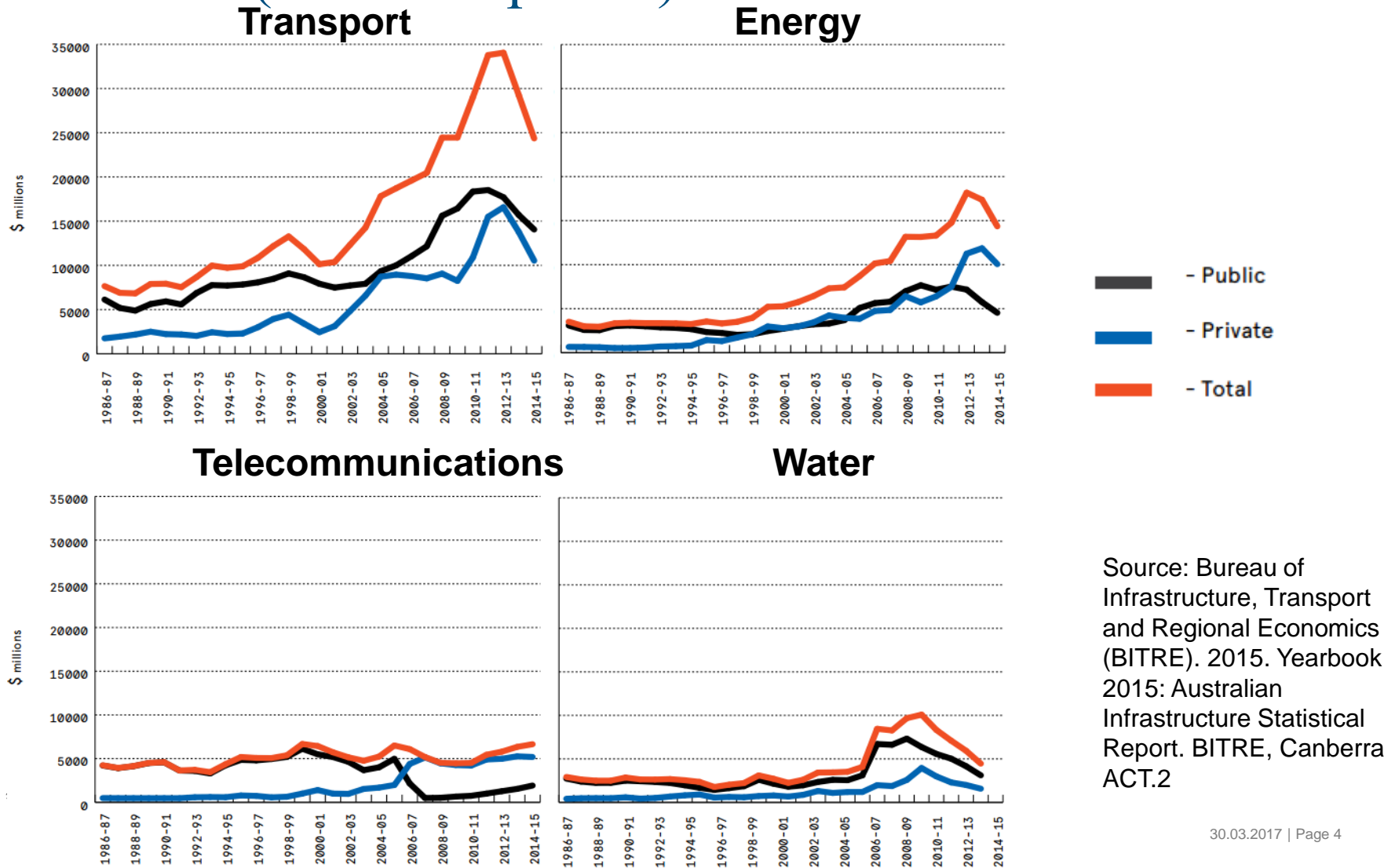
Non-financial Public Sector Net Debt

Per cent of nominal GDP



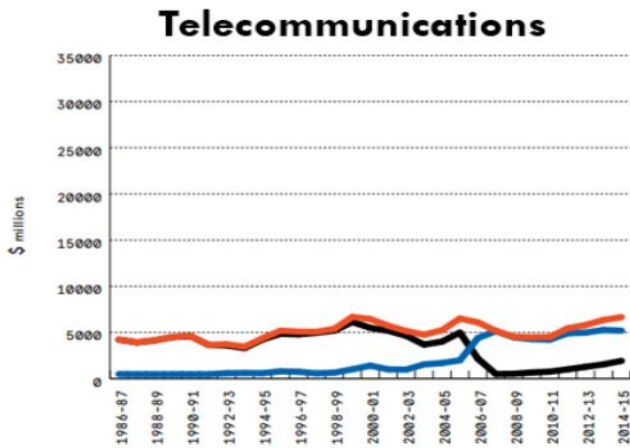
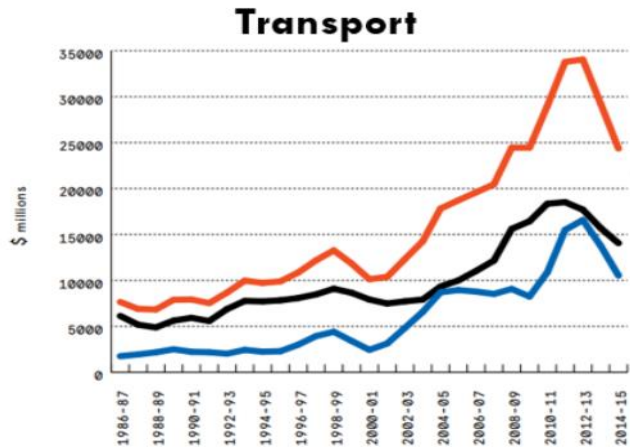
Source: Australian Treasury

Australia: Investment in infrastructure, \$million (2012–13 prices)



Source: Bureau of Infrastructure, Transport and Regional Economics (BITRE). 2015. Yearbook 2015: Australian Infrastructure Statistical Report. BITRE, Canberra ACT.2

Contrasting lessons of translating investment into benefits



- Investment peaked at \$35b pa, very volatile profile, undisciplined process
- Morning peak speeds in five biggest cities declined from 39km/h to 35km/h
- Persistent congestion and hyper congestion emerging
- Low incidence of direct user charging
- Very low take-up of new technologies (ramp metering, intelligent road)

- Investment profile basically unchanged, @ \$5b annually
- Deregulation powerful in championing competition, esp. mobiles
- Most important benefit is take up of capital saving, customer focused technology
- Massive productivity, via data compression technology, to enable, explosion in customers (3.6m on 1996 to 30m now); mobile call costs fell by half (1997-2012); data usage up 453% two years to 2013. Land line international calls plummeted (eg \$3.69 per min to UK in 1989 cf about 21 cents now)

Land transport does not have well functioning markets. Investment decisions are either political or administrative based, rather than based on expanding capacity in response to customer demand. Similar situation exists for energy too.

Trade With China Dominates Australian Exports But Underpins Strong Growth Outlook



Iron ore loading at Dampier, Western Australia

Rank	Country	2013-14	2014-15	2015-16	% share of total	growth	5 year trend
1	China	151,825	143,570	150,089	22.7	4.5	5.5
2	United States	58,465	64,790	69,281	10.5	6.9	5.8
3	Japan	72,103	67,588	60,345	9.1	-10.7	-2.6
4	Republic of Korea	35,146	35,475	33,914	5.1	-4.4	1.9
5	United Kingdom	20,687	21,749	26,971	4.1	24	1.7
6	New Zealand	22,646	23,649	24,460	3.7	3.4	3.2
7	Singapore	29,063	28,007	22,892	3.5	-18.3	-0.3
8	Thailand	18,779	20,009	21,081	3.2	5.4	2.5
9	Germany	17,755	17,559	19,723	3	12.3	4.3
10	India	14,716	17,910	19,377	2.9	8.2	-2.3

Source: Dept of Foreign Affairs and Trade, Australia, 2016

Commonwealth, State and Local Governments Control Different Infrastructure Sectors

Level of Government	Economic infrastructure	Social infrastructure
Commonwealth	Aviation services Telecommunications Postal services Roads (shared) Railways (shared) Energy	Tertiary education Education (shared) Housing (shared) Health (shared)
State	Roads (shared) Railways (shared) Ports Regional Airports Energy Dams, water and sewerage systems Public transport	Education Childcare Health (shared) Public housing (shared) Sport, recreation and cultural facilities Libraries Justice-Courts, Police
Local	Roads (local) Sewerage treatment,	Childcare centres Libraries



Federal Tension- States Control Assets, Commonwealth Controls Money

Commonwealth Government

- Direct controls over a limited number of infrastructure asset classes such as telecommunications and aviation from which it has largely exited from direct ownership.
- Has national taxing power needed to fund large scale infrastructure investment

State Government

- Has constitutional responsibility for the planning, delivery and administration of a broad range of sectors such as electricity, transport, healthcare and education;
- States have limited direct taxation powers and are reliant upon financial grants from national income and taxes collected by the Commonwealth Government.

Local Government

- Administers local service delivery for roads, waste services
- Limited taxing powers for property rates and charges. Highly dependent on state and federal funding for capital works.

Appetite for Privatization and Private Sector Infrastructure Investment Varies from State to State

Commonwealth

- Has divested ownership of assets in the airports, aviation and telecommunications sectors
- Residual ownership of Snowy Mountain Hydro (joint with states), Australian Rail Track Corporation.

New South Wales & Victoria:

- Major population and economic centers with strong pro-privatization and private sector infrastructure policies
- Over \$50B of completed asset sales and announced private sector deals in last two years

WA, SA & Queensland

- Regional economies with large mining and agricultural sectors;
- Port of Brisbane and Queensland Rail recently sold by Qld Govt but all states have anti-privatization energy policies in force at present.

NT & Tasmania

- Small population regional states with the majority of infrastructure assets in public ownership.



Australia has Mature Private Infrastructure Markets



Airports

- All major capital city airports privatized in 1990s and early 2000s
- Sydney's second airport to be developed in 2020
- Some regional airports left to be sold mainly owned by Local Government



Electricity and Gas

- All gas and electricity generation, distribution and retailers in SA & Vic sold in 1990s
- NSW industry fully privatized with one pending sale
- WA, Qld, Tas and national (Snowy Mountain Scheme) public owned



Roads & Rail

- Major road concessions operated by the private sector in NSW, Qld and Vic since the 1990s. Rest of intrastate and interstate network is state owned and managed
- Rail sector is publicly owned and operated in most states but private sector operating concessions exist in NSW and Victoria



Ports

All major gateway ports in eastern Australia capital cities have been privatized
Fremantle, WA and regional Qld servicing the mining industry state owned



Social Infrastructure

Healthcare, hospitals, justice facilities and schools provided through a mix of both public and private PPP systems.

Australian Infrastructure Institutions are World Leaders



Australian Infrastructure Transactions are Large by International Standards

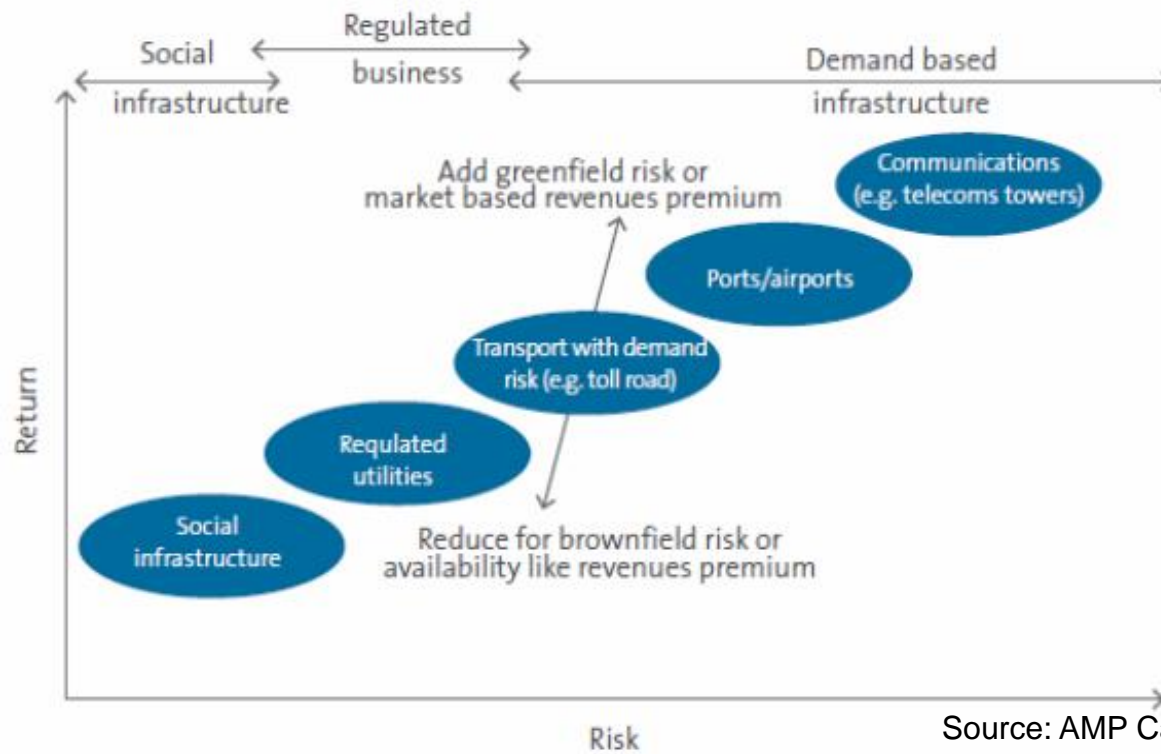
World's Largest Infrastructure Transactions 2016

Rank	Transaction	Location	Value	Sponsor	Completed
1	National Grid Gas Network	UK	GBP 13.8B	Macquarie, CIC, Allianz & Others	Dec 2016
2	Ausgrid	AUS	AUD 16B	IFM Investors & AustSuper	Nov-2016
3	ITC	USA	USD 11.3	Fortis, GIP	Feb-2016
4	Port of Melbourne	AUS	AUD 9.7B	Future Fund, GIP, OMERS, QIC	Nov-2016
5	Red Compartida	MEX	USD 7B	IFC, Morgan Stanley	Feb 2016

Source Preqin (2016)

Transactions have been drawn from a wide range of sectors and risk profiles

Illustration of indicative risk and return profile by infrastructure sector



Source: AMP Capital 2014

Recently Announced and Completed Infrastructure Transactions Are Substantial

Project	State	Sector	Amount AUD	Sponsor	Completion Date
TransGrid	NSW	Electricity	10.3B	Hastings, CDPQ, KIA, ADIA & Spark Infrastructure	Nov-2016
AusGrid	NSW	Electricity	16B	IFM, AustSuper	Nov-2016
Port of Melbourne	VIC	Transport	9.7B	Future Fund, QIC, GIP, OMERS	Sep-2016
Port of Newcastle	NSW	Transport	1.75B	Hastings, China Merchants	Apr-2014
Port Botany & Kembla (Sydney)	NSW	Transport	5B	IFM, AustSuper, Q Super, ADIA	Apr-2013
Asciano	NAT	Transport	9.07B	Qube, Brookfield, GIP, CIC, GIC, CPP	Jul-2016
Alinta Energy	WA	Energy	4B	CTFE (Hong Kong)	TBC
Duet	NAT	Energy	7.4B	Cheung Kong Infrastructure (Hong Kong)	TBC
QGC Pipeline	QLD	Energy	6B	APA	Dec-2014
Endeavour Energy	NSW	Energy	4B	TBA	TBC

Government Announced Transactions with Private Sector Delivery or Ownership is Significant

Project	State	Sector	Proponent	Value AUD	Comp
National Broadband Network	NAT	Telecom	NBN Co (Govt)	50B	2021
Western Sydney Airport	NSW	Airports	(TBC)	5B	2026
WestConnex, Sydney	NSW	Tollroad	Sydney Motorways (NSW)	16.8B	2021
Sydney Metro North-West	NSW	Rail	MTR, United, Plenary	8.5B	2018
Sydney Metro City South	NSW	Rail	TfNSW	12B	2024
Sydney CBD South East Light Rail	NSW	Rail	Acciona	2.1B	2019
NorthConnex, Sydney	NSW	Tollroad	Transurban, QIC, CPP	3B	2018
Western Distributor, Melbourne	VIC	Tollroad	Transurban	5.5B	2022
Martin Place Station Redevelopment Sydney	NSW	Rail	Macquarie Group	2B	2024
Wynyard Place Station Redevelopment, Sydney	NSW	Rail	Brookfield	1B	2019

Asset Recycling by Government is Funding New Development



TransGrid



WestConnex



Ausgrid



Endeavour Energy



sydneyMETRO

International Investors Have Been Active in All Sectors



*Texas Pacific Group
Global Infrastructure
Partners*



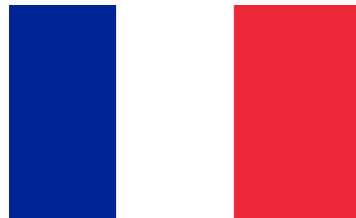
*CIMIC
Ferrovial*



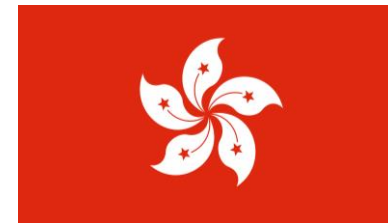
CITIC, CIC Capital



*Canada Pension Plan
Borealis/OMERS
Ontario Teachers
CDPQ*



*Keolis
Veolia*

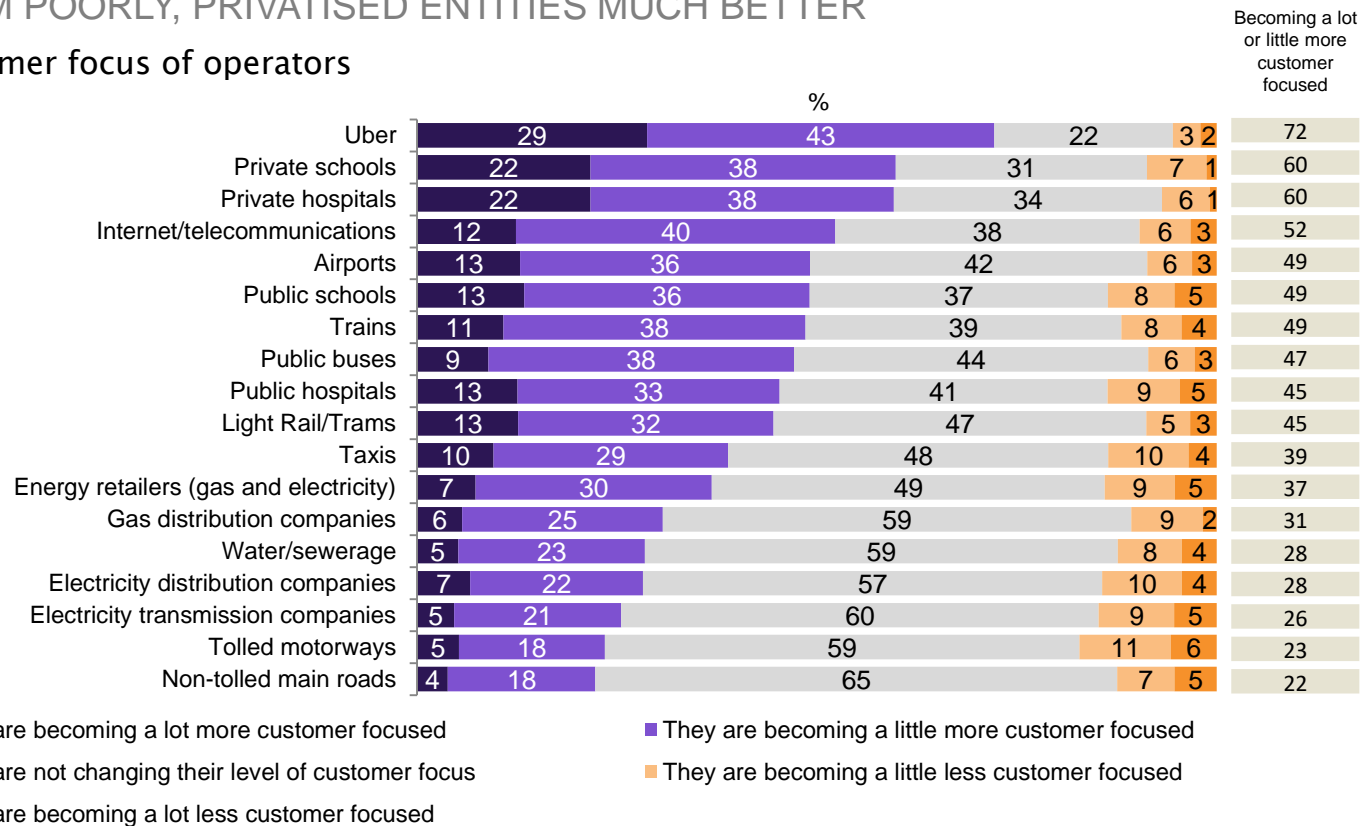


*Cheung Kong Infrastructure
MTR Corp*

Are Australian infrastructure customers 'satisfied' ?

- BIG SCALE INFRASTRUCTURE RATES POORLY FOR CUSTOMER SATISFACTION*
- PPP PERFORM POORLY, PRIVATISED ENTITIES MUCH BETTER

Change in customer focus of operators



* Newgate Australia was commissioned by John Grill Centre, University of Sydney in August 2016 to undertake a national survey on community perceptions to customer service in Australia. Further details available upon

Energy Market: Regulatory and Political Crisis



Snowtown Windfarm, South Australia



LNG Export Terminal, Gladstone, Qld

A transition to large scale renewable generation in Australia has been encouraged by government over the past 15 years but no national policy consensus currently exists.

Transition from Coal/Gas has not been matched by investment in baseload generating capacity to cover the intermittency of renewable energy.

Coal power generators are being retired and not replaced and Gas generation is limited as large quantities of Australia's domestic gas production are now being exported.

South Australia has numerous blackouts over the past year, causing a major political crisis between the state and national governments on energy policy.

Energy Efficiency Key to Managing Demand

Efficiency

- Australia one of the poorest countries in the world when it comes to energy efficiency
- ACEEE 2016 rated Australia 16th of 23 surveyed below Turkey and Russia.

Market Design

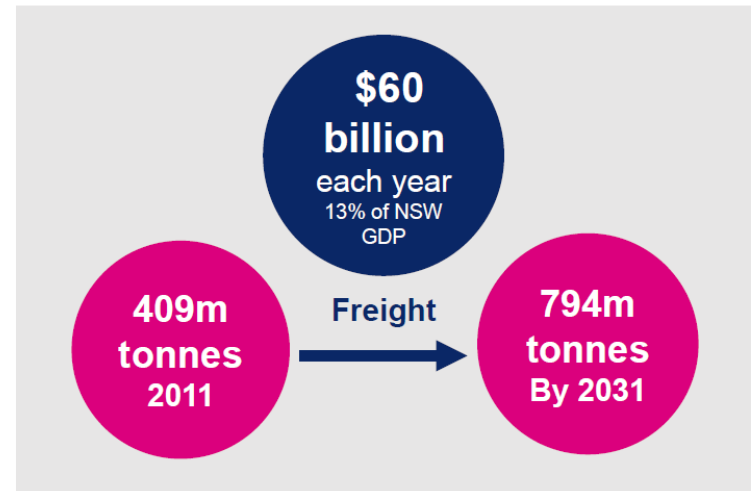
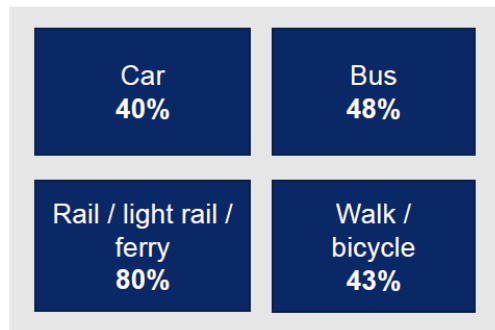
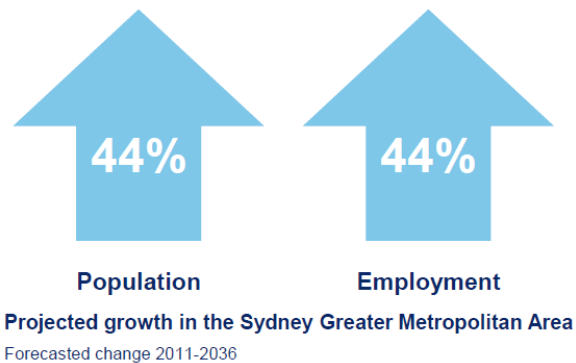
- Prices up 70% to consumers over the past 5 years
- AUD 70B spend on network investment but prices are higher and system security and customer satisfaction at a historic low
- Regulatory process provides incentives to build new capacity but not to reduce demand or improve customer outcomes.

Technology

- Demand management requires more customer centric services that permits entrenched demand management. Smart-meters are not used widely.
- Current systemic demand management policies are more about managing load rather than creating permanent efficiencies

New South Wales is Responding to Strong Population Growth and Decades of Underinvestment in its Transport Network

Growing NSW, Growing Demand



Rail and Light Rail journeys are expected to grow significantly by **2036**, reflecting:

- Major expansions to the public transport networks including Sydney Metro and CBD and South East Light Rail.
- Strong growth in population along major transport corridors.
- Continued employment growth in Strategic Centres across the metropolitan area.



High Priority Projects Require Development Not Just Investment

Responding to growth

Major transport projects in NSW

The population of NSW is expected to increase from 7.7 million in 2016 to 9.9 million in 2036



Sydney Metro	New Intercity Fleet
Sydney Metro West	Intelligent Congestion Management Project
Western Sydney Rail Needs	Clearways
Light Rail	SCATS
More Trains, More Services	Pinch Points
WestConnex	Countdown Timers
More Trains, More Services	Smart Motorways
Northern Beaches B-Line	Digital Train Radio Systems
Regional Transport Services	Automatic Train Control

Governments are Using a Broad Range of Tools to Finance Development

Funding options for transport in NSW

Conventional government funding

- Tax payers (everybody) pay
- Government budget allocation: public transport in NSW has largely been funded this way

User pays

- Public transport fares and user charges can help fund a service, once built
- Road user charges/tolls
- New road pricing models for entire road network under consideration.

Value sharing

- Investment in new infrastructure leads to higher economic productivity and land values (higher transit amenity)
- Considers how projects deliver to beneficiaries, a value to be realised as revenue streams
- Generally applied to public transport projects.

Value creation

- A subset of the value sharing concept is when the Government is the beneficiary through land holdings
- Development of land above or adjacent to interchanges
- Precinct redevelopment unlocks development value that can help fund improved infrastructure

Funding refers to the revenue raising sources to pay for infrastructure over its life

Unsolicited Proposals Provide an Avenue for Innovation and Expedited Development



- Bidding Process for privatized assets or open-market PPPs are extremely competitive, expensive and problematic for some foreign investors due to national security and domestic national ownership considerations.
- the sale or lease/PPP concession of government mandated projects does not drive innovation in design
- Unsolicited proposals allow proponents to develop projects with their design innovation in tact.

Macquarie Group's unsolicited proposal to redevelop Martin Place Station in Sydney as part of the NSW Government's Sydney Metro expansion

Key Take outs

1. Australia is a mature and highly contested market for design, development and management of infrastructure.
2. Traditional procurement channels like 'request for tender' will be competitive and with smaller margins.
3. Contestants that bring unique skills, technologies and innovation may get better returns via unsolicited bids.
4. Investment + development skills key in transport (ie. place making).
5. Significant differences in approach & culture across states and between sectors.



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Thank you for your attention!

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