

Energy in
action.®

ASX statement

20 October 2009

Attached is a presentation to be made today by Paul Simshauser, Chief Economist & Group Head of Corporate Affairs, at the Citi Australian Investment conference.

This presentation focuses on the Australian electricity generation market and does not contain any information specific to AGL Energy Limited.



Paul McWilliams
Company Secretary



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Australia's Energy Challenge

Citi Australia

Australian Investment Conference

20 October 2009



Paul Simshauser, Corporate Affairs

October 2009

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The information in this presentation:

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Challenges – Capacity and Capital



Structure of the NEM supply-side in 2008

- › The NEM Reserve Plant Margin has fallen from 33% in 1998 to 18.9% on system aggregate demand of 35,700MW
- › Plant stock valued at \$52.9 billion
- › In 2008, the NEM was oversupplied by just 2400MW
 - » equivalent to the annual growth in load that year

Operating Duty	Optimal (MW)	Actual (MW)	Imbalance (MW)	Weighting
Base Load Plant	25,000	26,700	1,700	overweight
Intermediate Plant	3,600	5,900	2,300	overweight
Peak Load Plant	11,600	9,900	-1,700	underweight
Renewables	1,700	1,700	0	-
Embedded Generation	1,000	1,000	0	-
Aggregate Supply	42,900	45,300	2,400	oversupplied

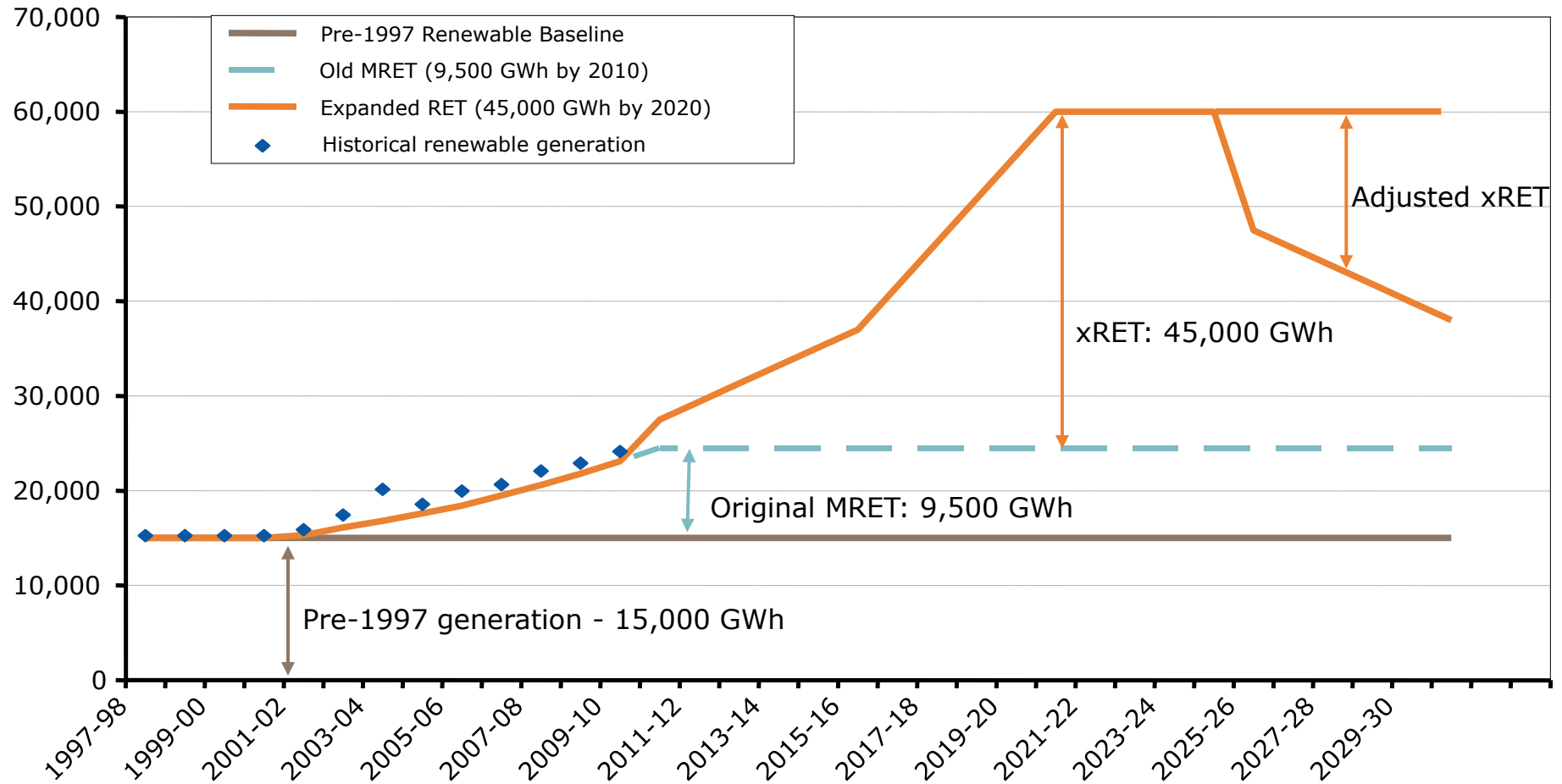
Source: AGL Corporate Affairs

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The expanded Renewable Energy Target...

Renewable Target
(GWh)



Source: Roam, AGL.

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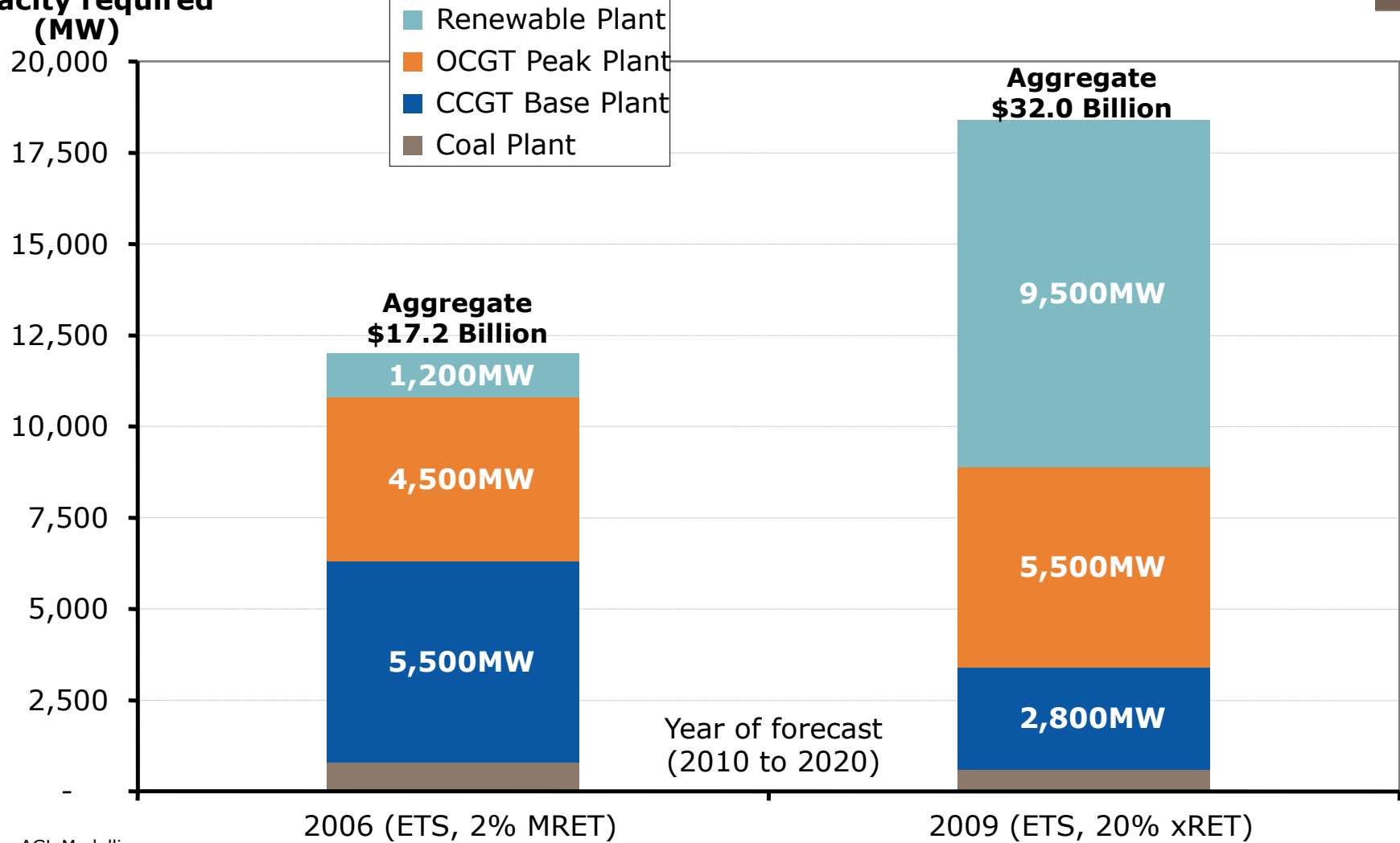


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Aggregate investment required... \$32 billion

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Capacity required (MW)



Source: AGL Modelling

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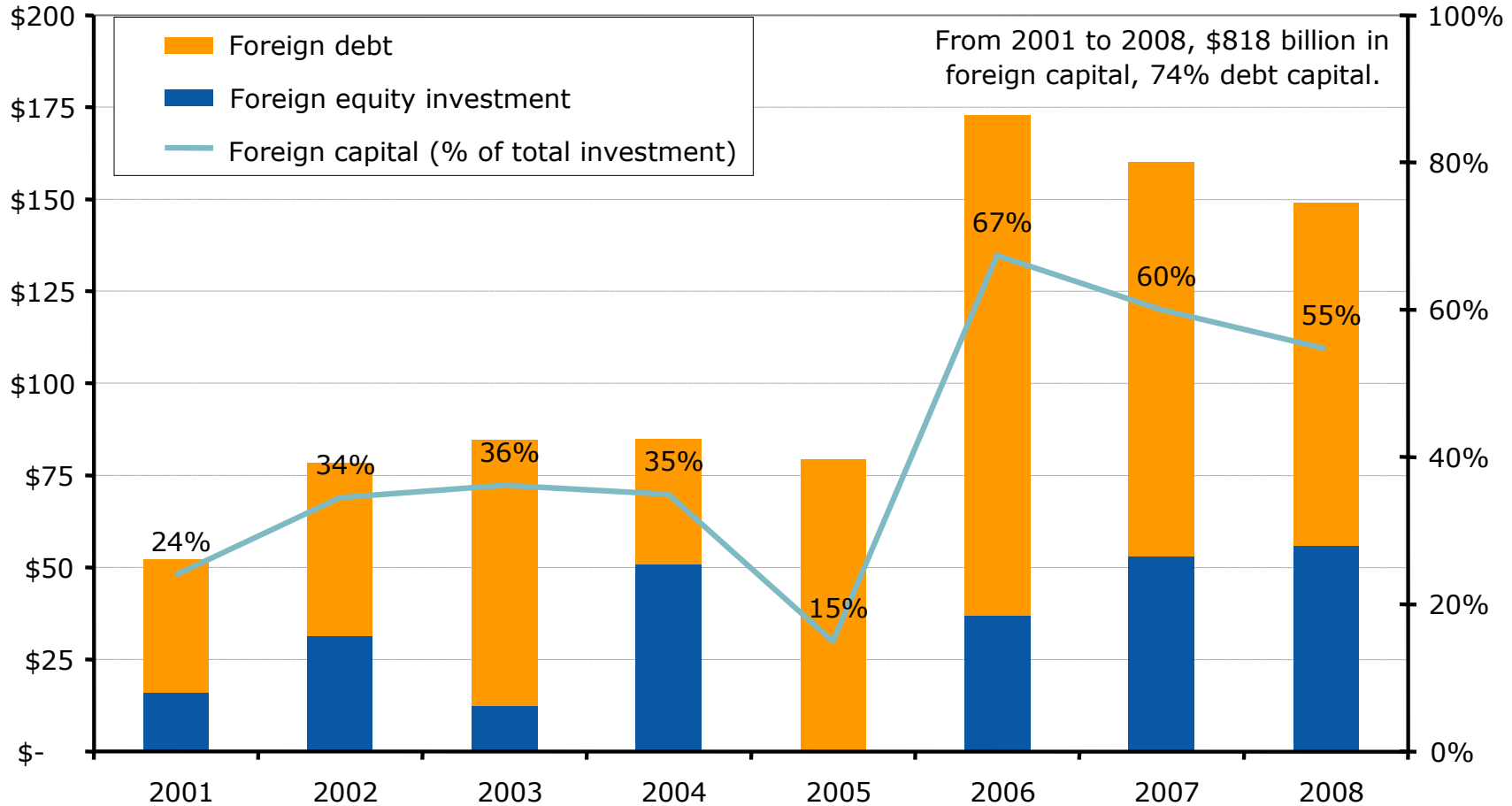
Capital Markets...

- One of the intriguing sub-plots of the 2008 financial crisis was the failure of the c.13,000 economists in the US to predict it.
- Capital markets occupies only a peripheral position in mainstream economics. The same can be said in energy economics.
- Yet the energy industry is world's largest industry and is also the most capital intensive industry by a considerable margin
- The utilities sector is also the third largest user of debt behind Govt's and the Banking industry itself. Ignoring the capital markets is, therefore, very problematic.
 - Debt markets: fundamentally changed conditions
 - Equity markets: used to deal with tight debt conditions, but lifting the bar as a result.

A structural reliance on foreign capital...

Foreign Capital
(A\$ Billion)

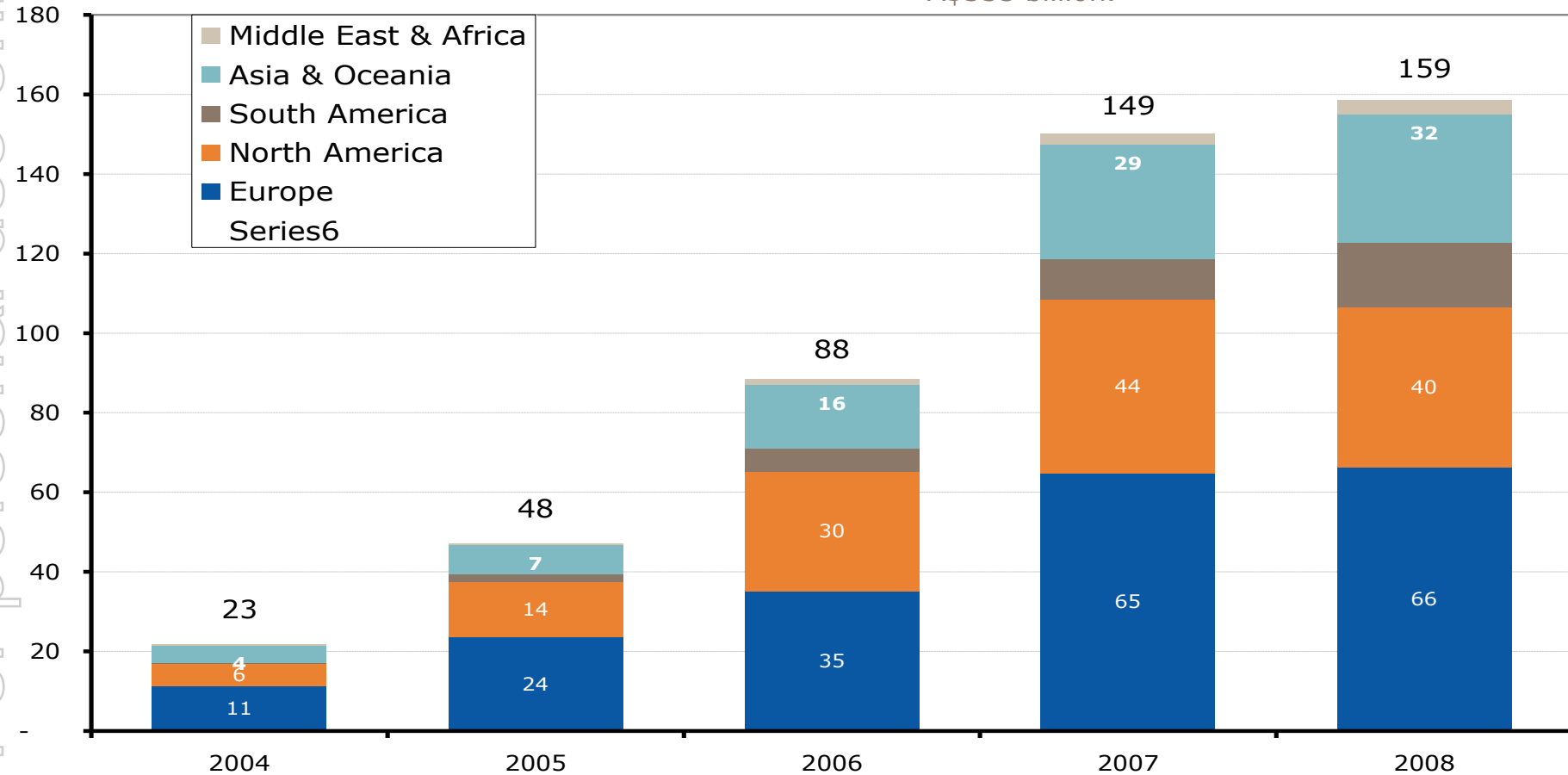
Foreign Capital
(%)



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And competing globally...

Global Investment in Renewable Energy (A\$ billion)



Source: New Energy Finance

In 2008, global investment in conventional hydro and thermal generating applications was A\$175 billion. Aggregate investment in conventional and renewable capacity totalled A\$333 billion.

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NEM non-renewable financing requirements

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Energy sector capital requirement: next five years	
Refinancing – Power Generation	\$19 billion
Refinancing – Energy Networks	\$29 billion
Capital expenditure on existing & new generation assets	\$18 billion
Capital expenditure on existing & new network assets	\$31 billion
Initial Capital required to purchase emission permits	\$10 billion
	\$107 billion

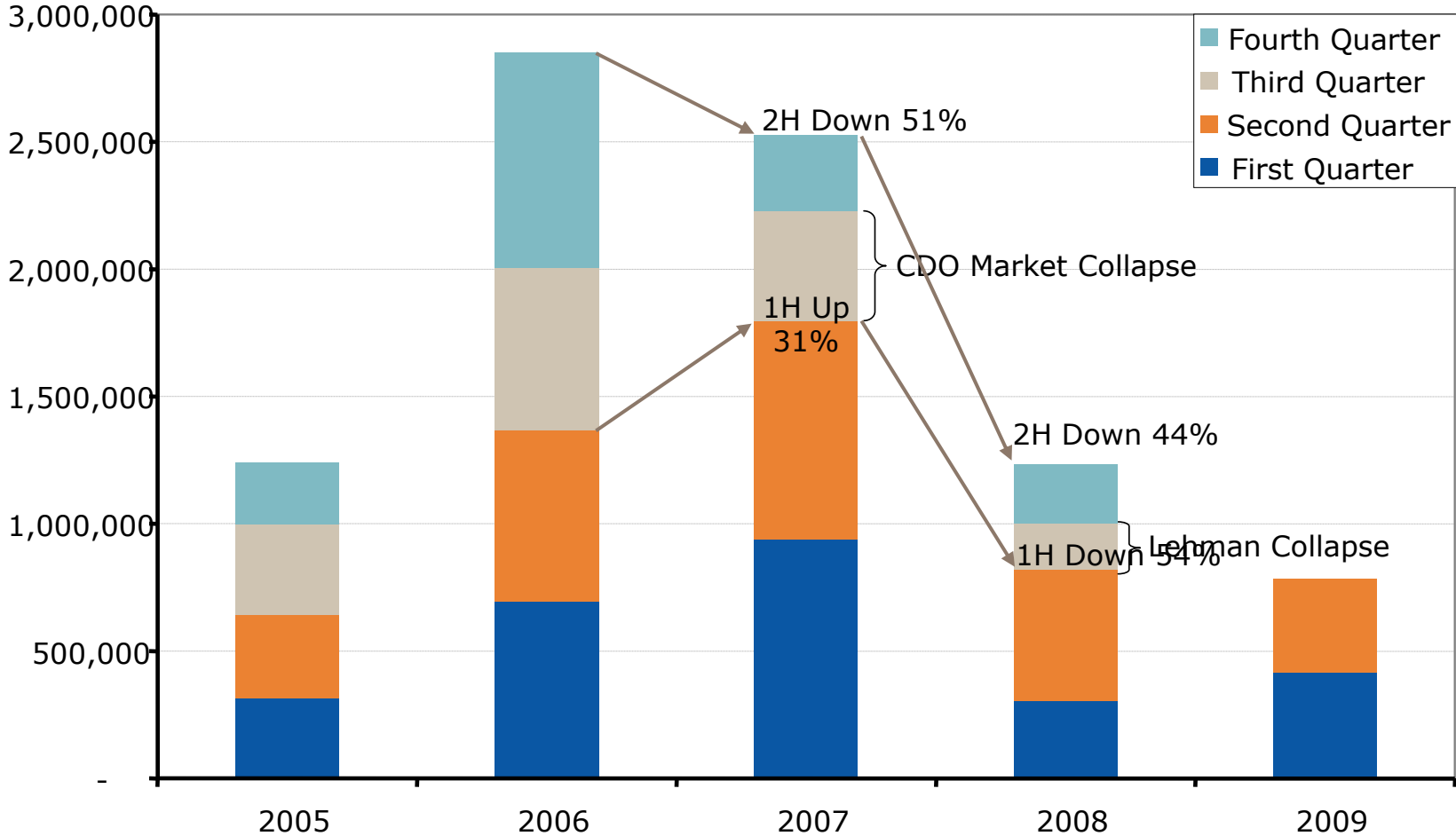
Source: esaa, 2009.

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Debt Capital Markets: freezing-up

Debt issuance
(A\$ million)



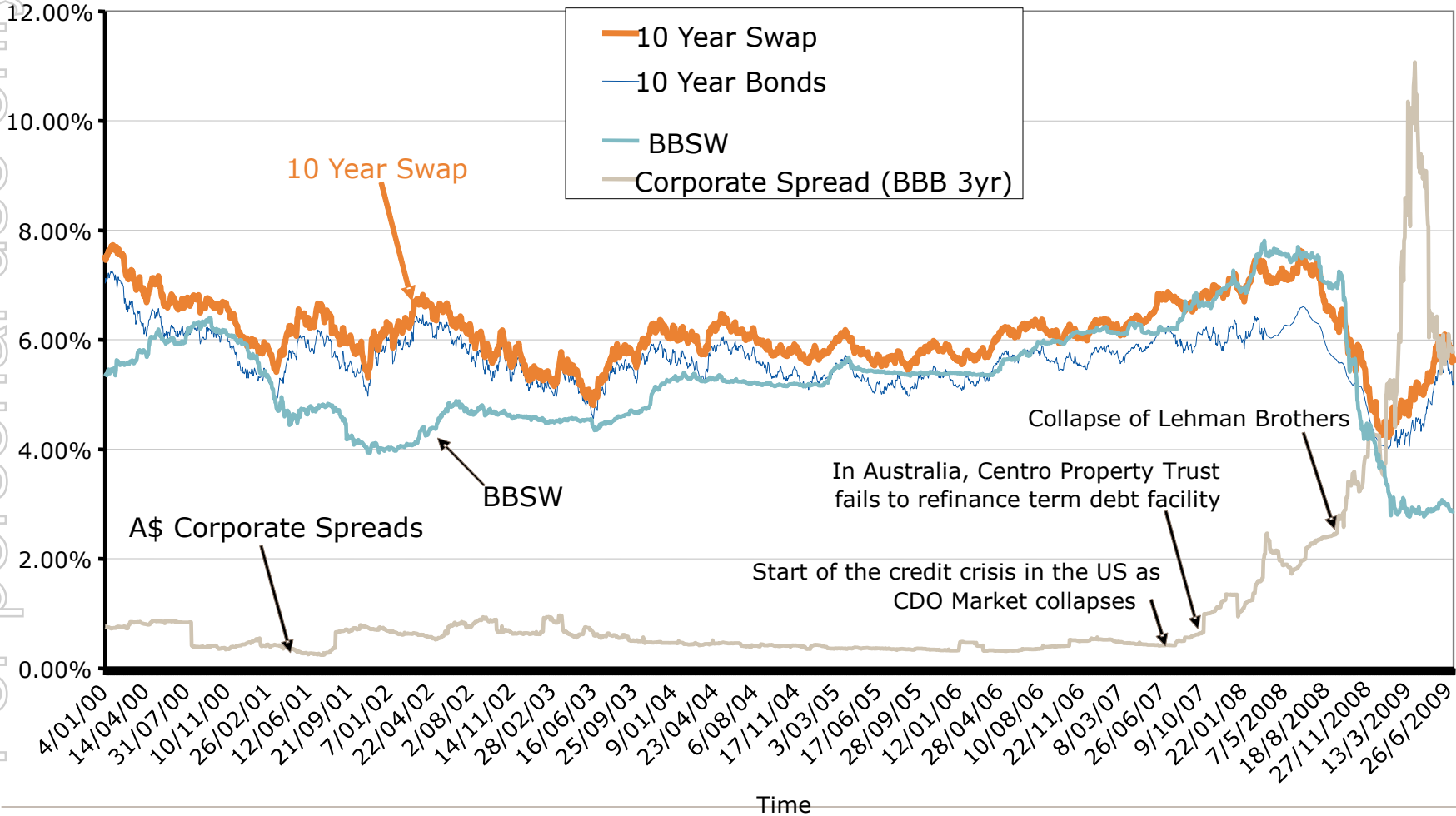
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Debt Markets: Dramatic re-pricing of risk

Interest rates (%)



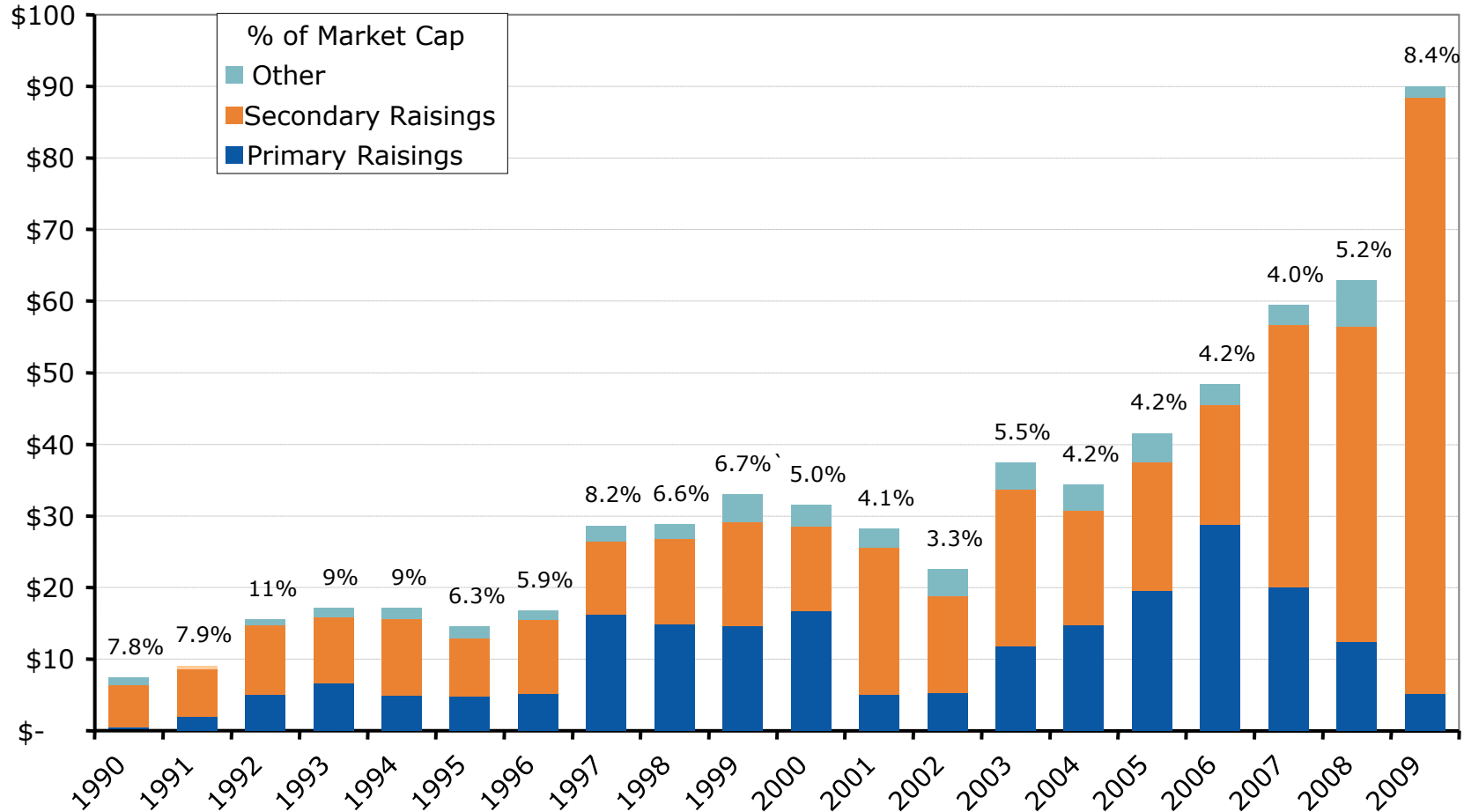
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ECM's are being tapped harder than ever...

ASX Equity
Capital Raisings
(A\$ billion)

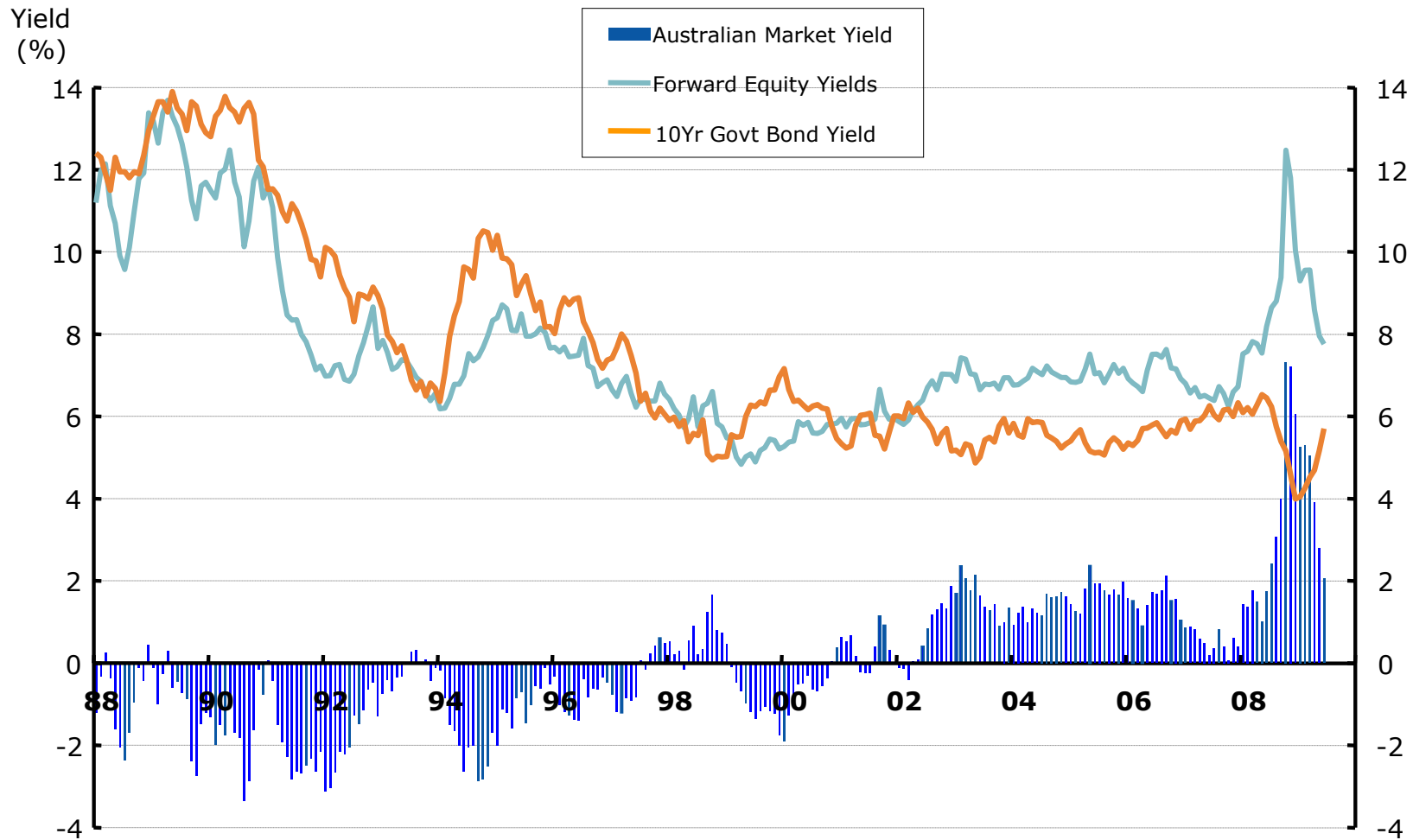


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ECM: P/E & EBITDA multiples re-priced...



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Cost of Capital...

- > The weighted average cost of capital for a merchant plant in the NEM was declining throughout most of the “noughties”.
- > But by late 2007 following the collapse of the CDO Market, the cost of capital began to climb
- > By 2009 it had reached 12%...

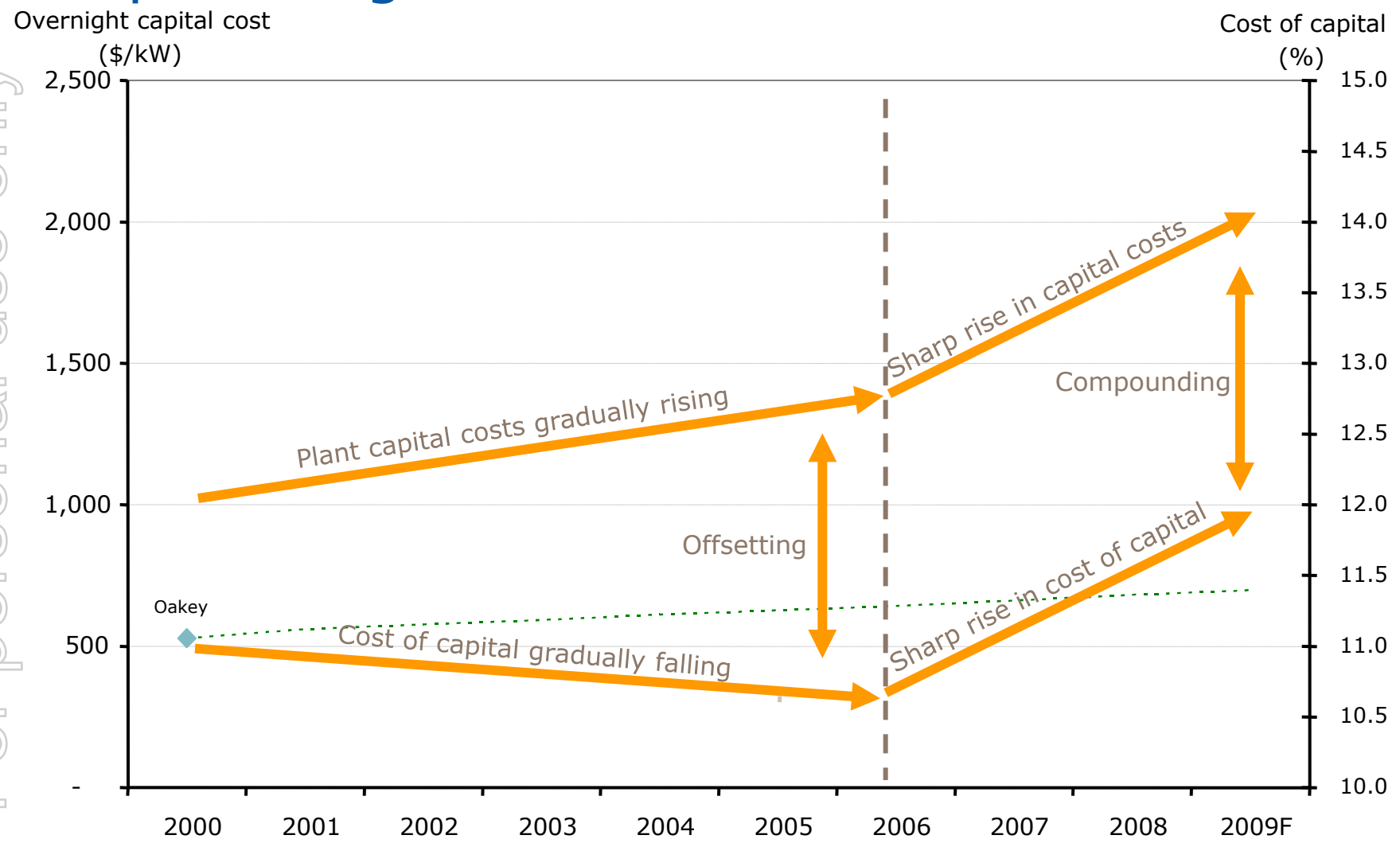
Power station commitment (Yr)	Project Finance Debt Margin (%)	Pre-tax cost of debt capital: 10Yr Swap+Margins (%)	Post-tax cost of equity capital - imputation incl. (%)	Pre-tax weighted average (%)
2000	1.40%	8.06%	13.02%	11.0%
2002	1.40%	7.74%	13.08%	10.8%
2004	1.30%	7.45%	13.15%	10.7%
2006	1.10%	7.31%	13.17%	10.6%
2007	0.90%	7.69%	13.02%	10.8%
2008	1.75%	9.13%	12.90%	11.7%
2009	3.50%	9.42%	13.23%	12.0%

Capital Costs

- > Coinciding with the effects of the droughts was the effects of sharply rising plant costs.
- > S&P 2007 paper noted US plant costs up 50%+
 - > SCpf plant had increased from \$1500/kW to \$2500/kW between 2003 and 2007
 - > Steel up 70%, copper up 50%, cement up 15%, labour shifted from 25% to 40% of component cost
 - > Drive for greater turbine efficiency
- > Australia was no different, but it was not as transparent:
 - > Thin development market following reforms
 - > Entry costs are not formally reported in the NEM
 - > Disclosure is inconsistent (the biggest problem in Aust)

Compounding Effects

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Summary

- > After 10 years of oversupply, Australia's NEM is now balanced. Given demand growth of 2-3% pa, significant investment is required
- > The investment task is very substantial by Australian standards:
 - > \$107 billion in financing and refinancing across the supply chain
 - > \$32 billion in additional power generation, much of this renewable capacity
- > We rely heavily on foreign capital; 61% over the past three years
- > Debt markets are constrained and risk has been materially re-priced
- > ECM's are being tapped hard as corporate Australia lowers its gearing from c.40% to c.30% (as per 1991-1993 cycle)
- > Global power investments in 2008 totalled \$333 billion – we're competing in a big market
- > Australian energy market policy needs to be set in this context