Discussion with the RCM Working Group

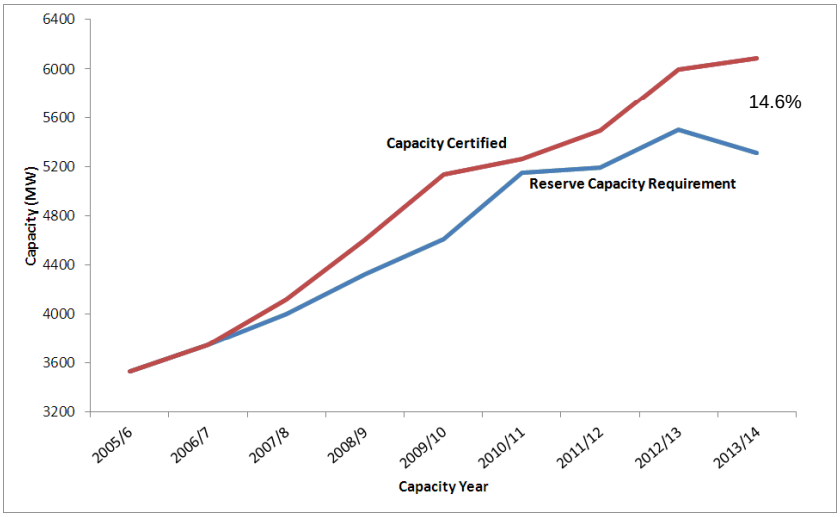
17 April

THE LANTAU GROUP
strategy & economic consulting

Discussion outline

- CAUSATION
  - THE RCM AND OTHER DRIVERS
  - LOAD FORECAST UNCERTAINTY
- HOW THE RCM INFLUENCES CAPACITY INVESTMENT CHOICES
  - THE VALUE OF PURE CAPACITY
  - THE MRCP REVIEW IN PERSPECTIVE
- FURTHER DISCUSSION
  - COMPLEXITY OF FULL MARKET-BASED APPROACH
  - RCP FORMULA-BASED APPROACH
    - The current RCP formulation and the option of a steeper "slope"
    - The relationship between the RCP and the MRCP
    - Picking values
  - Other Related Issues

Trend in excess reserve capacity

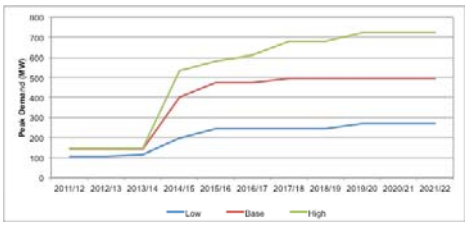


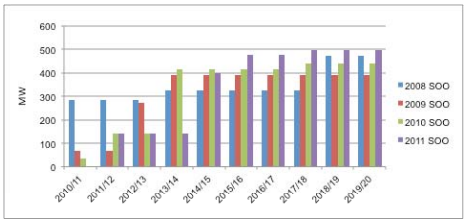
Many “reasons”, but the RCM is always a factor

	Capacity Year						
Attributed Factor	2008	2009	2010	2011	2012	2013	Total
Schedule 7	536						536
Displacement tender		256					256
MRET		1	1	90	5	19	116
Government policies					220		220
Market outcomes		331	109	10	112		562
Demand-side resources	47	0	71	87	181	45	431
Total Capacity Addition	583	587	181	187	518	64	2120
Excess Reserve Capacity	278	527	113	302	495	775	

The specifics are interesting, but the general point that the RCM is a s factor attracting or supporting investment remains

Demand uncertainty (1 of 2)

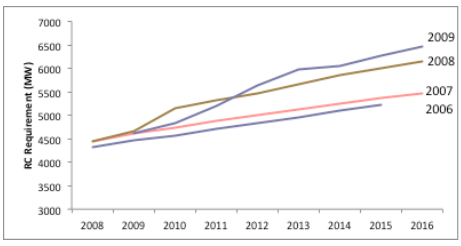




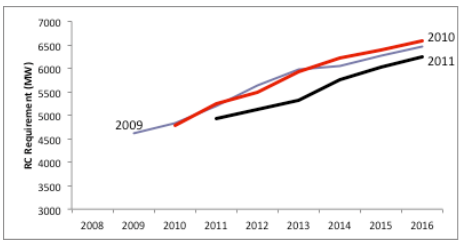
Just SIX "lumpy" loads – represent very significant uncertainty – what commitment should be expected of loads to be commensurate with other resources?

Demand uncertainty is inherent in the WEM (2 of 2)

UPWARD REVISIONS



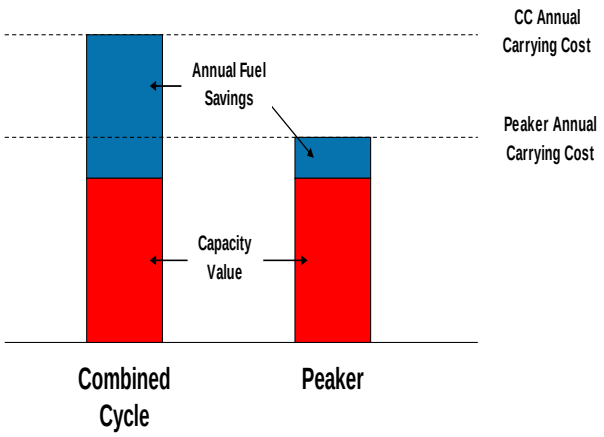
DOWNWARD REVISIONS



Probably any forecast can be made "better", but you cannot eliminate fundamental uncertainty in a small, lumpy market – the RCM has to be sufficiently responsive so as not to ADD TO the problem

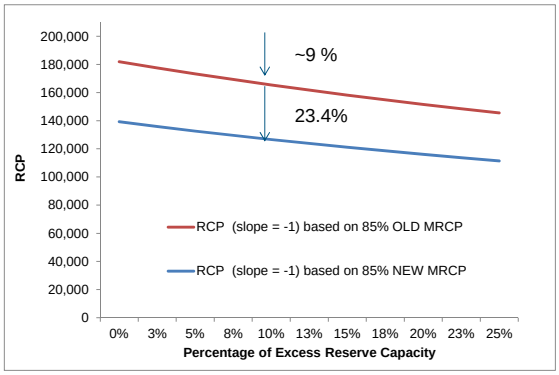
A capacity credit value is the value of “pure capacity”

- Consider the choice between investing in an incremental MW of a pure peaking resource or an incremental MW from a unit with a lower marginal dispatch cost.
- Both units would provide exactly the same reliability benefit.
- In addition, the unit with the lower dispatch cost could displace higher-cost resources.
- Accordingly, the unit with the lower dispatch cost has a ***second*** source of value.



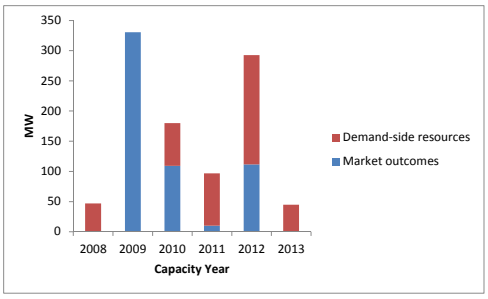
It is the role of the RCM to produce the “red” portion, which is the same “value” no matter what technology or side of the equation (demand or supply)

Before MRCP methodological and definitional adjustments, and after



The MRCP has changed, but the RCP is no more sensitive to market conditions than before, and the lower MRCP has implications for longer-term investment incentives

Reduced investment in the WEM has already (apparently) begun



This is to be expected, and is good, given the current level of excess reserve capacity…but

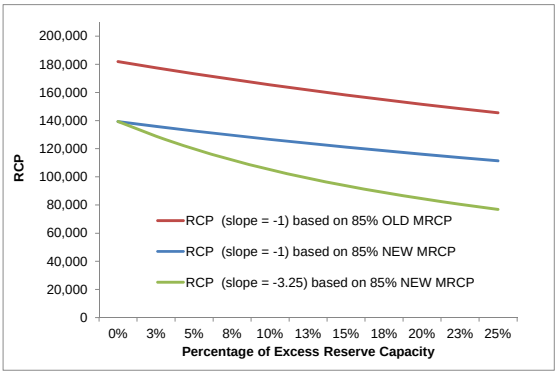
Market-based pricing of capacity credits is not simple

- What is the value horizon (one year, multiple years)?
- What is the reference point (today, next year, three year's hence, longer term)?
- How big is the market (thickness, level of competitive sourcing/dynamics)?
- What is the starting point and how did it get there (transition, fairness, contracting, etc)
- What is the role of forecasting and forecast uncertainty? (who bears?)
- What is the level of accepted exposure to non-market risks?

- The RCM currently bypasses or simplifies most of these, keeping it but imperfect

Changing the formula of the RCP can make a significant "pro-market" improvement, even if it does not address every imperfection immediately

Current approach, varying slope

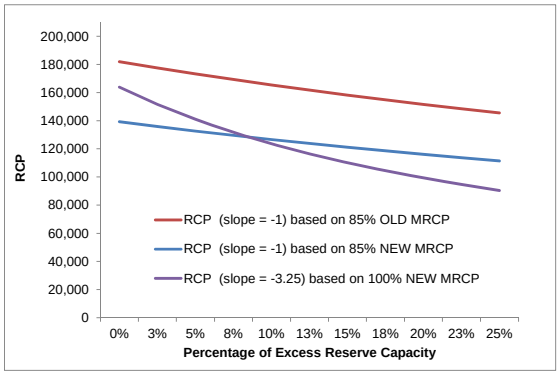


Steeper – more responsive to market conditions

Could be steeper still, as current market value of a single year credit is very very low

The steeper and lower the Credit price can go, the more one has to worry about whether the credit value can go "higher" on the upside to create correct expected values in the longer term

Capped by MRCP



Steeper – more responsive to market conditions

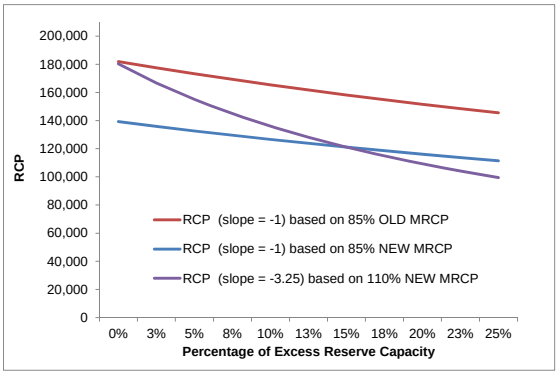
No 85% cap

But still limited to MRCP

What is the MRCP? It is the expected cost of pure peaking capacity provided by a 160MW OCGT

It is not the estimated "maximum" cost of peaking capacity in economics, but a price cap in the WEM

Capped by 110% of MRCP



Steeper – more responsive to market conditions

110% of MRCP – is that enough?

The higher the cap above MRCP, the more incentive to bilaterally contract around this exposure.

An "uncapped" and "unbottomed" RCP would drive stakeholders into more contracting to manage risk

This principle is key to the bilateral contracting incentive in modern capacity markets

Comment

- Currently, the RCP is adjusted downward in proportion to the amount of excess reserve capacity that exists.
- A straightforward change would focus on sharpening the administrative price adjustment mechanism to be more responsive to the amount of excess reserve capacity in the WEM.
- An alternative of "spigot control" would go against market-based provision of capacity by new investors, though it would help protect existing generation investors from further potential reductions in CC value
- Consequently, we favour a price-based adjustment either driven by more use of auctions (complex implementation and more volatile value impacts), or a sharpened RCP price adjustment formula
- The risk to be avoided is one in which the adjustments to the RCP are so sufficiently and consistently downward without any chance of an offsetting upward adjustment that the expected value of a Capacity Credit over the life of a capacity investment is not sufficient to support that investment commercially.