Supplementary Information for Scarcity Pricing Consultation

Response to request for further information #4

Response to query re difference between analysis presented to the SPDBTG in October and CBA in Scarcity Pricing consultation paper

A paper on "Price Effects of Scarcity Pricing" was presented by the Electricity Commission to the Scarcity Pricing and Default Buyback Technical Group (SPDBTG) in October 2010. Figure 1 (below) reproduces a chart from this paper.

Figure 1   Chart which appears in paper to SPDBTG in October 2010
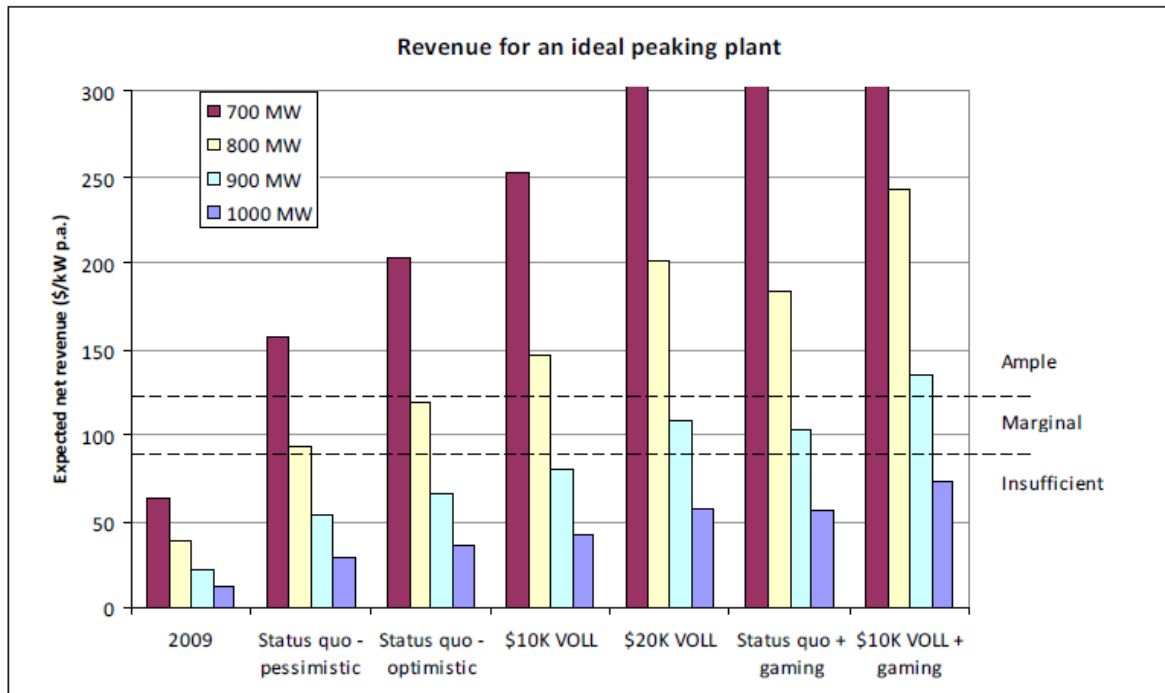
This chart indicates that the "status quo" may provide adequate revenue for a peaking plant. This conclusion is inconsistent with the view expressed in the Consultation Paper on scarcity pricing – why is there a difference?

The difference appears to arise from the following two main sources.

1.   Different assumptions for last resort peaker revenue requirements

The October 2010 paper stated an assumption that a peaker plant would require "in the ballpark of $125/kW p.a." to meet its fixed costs. The paper also noted that this assumption "should be considered to be a lower bound, because (a) in current conditions the underlying capex figure is probably an underestimate, and (b) a merchant peaker is a risky investment and a generator could be expected to seek a high rate of return to compensate"[1].

The Consultation Paper assumes that a last resort peaker will have a fixed cost of $145/kW/yr based on a capital cost of $1,155/kW, a 10.6% capital recovery factor and a

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[1]   See footnote 6 of October 2010 paper.

$15/kW fixed operating and maintenance cost[2]. The paper notes that this figure reflects current estimates, and is higher than the value used in some earlier analyses.

Had the revised peaker cost estimate of $145/kW/yr been applied to the October analysis, revenue adequacy would not be achieved for the "Status quo – pessimistic" case, and would only just be adequate for the "Status quo – optimistic" case.

2. Different assumptions about spot prices and revenues

The two papers make different assumptions about expected spot prices (and hence revenue contributions) in various market states. The key difference appears to arise in relation to 'near miss' states (i.e. states other than IR shortfall or forced load shedding).

The assumptions in the October 2010 paper implicitly provide around $38.5/kW/yr for a last resort peaker[3]. Of this, $20/kW/yr appears to be from dry year revenues[4].

In contrast, the Consultation Paper assumes these states provide $20/kW/yr, all of it in dry year revenues.

Accordingly, there are differences in the revenue attributable to a last resort peaker when capacity is tight, but adequate to meet demand without IR shortfalls or load shedding.

As discussed in the Consultation Paper, the analysis focuses on revenue that a peaker can reliably expect to earn. While revenue earning potential in these conditions cannot be ruled out, the paper takes the view that it would be imprudent to treat this source as firm, particularly as the analysis focuses on revenue for the very last provider[5]. The paper noted that this approach appears to be consistent with the stance adopted in Australia's National Electricity Market.

Lastly, a question arises as to why the two papers adopted different assumptions. In this respect, it is important to note the October 2010 paper was prepared in response to a request for an indication about the possible price effects of scarcity pricing. The paper noted that it was an indicative analysis, prepared "on a 'back of envelope' basis".

The Consultation Paper uses a more detailed framework, although as with the earlier paper, it is important to acknowledge that the results remain sensitive to key assumptions.

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[2] See footnote 129 of Consultation Paper.

[3] See 'near miss' column in Table below paragraph 2.4.2 of October 2010 paper.

[4] See paragraph 2.4.9 of October 2010 paper.

[5] This was also the assumption adopted for earlier analysis presented to the Scarcity Pricing and Default Buyback Technical Group.