Submission to the Electricity Commission on the 2008 Grid Planning Assumptions Consultation: February 2008

From

Contact Energy Limited

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Introduction

Contact Energy ("Contact") welcomes the opportunity to comment on the Electricity Commission's ("EC") Grid Planning Assumptions Consultation.

Contact's comments follow.

For any questions related to this submission, please contact:

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Draft Generation Scenarios Consultation Paper

Contact would like to comment on the five draft generation scenarios that the EC developed following further development of the Government's climate change policy and the release of the finalised New Zealand Energy Strategy.

Previously, the Generation Expansion Model ("GEM") used for its most renewable scenario, a 'renewable energy constraint' which imposed an external requirement of 90% renewable energy by 2025. In the consultation paper, the EC notes that this constraint is no longer used, and that the renewable percentage is brought about by drivers such as CO_2 prices. Contact supports this change as it uses a tangible prescribed driver to bring about the change, rather than an intangible model constraint.

Scenarios

The addition of the "eventual carbon price" column provides a CO_2 price driver for each scenario, and the renewable percentage is derived by ratcheting the CO_2 price up from the low CO_2 cost, high gas delivery scenario to the high CO_2 cost, sustainable path scenario. While this has indicative prices for CO_2 cost, we consider it is important to gauge the sensitivity of the CO_2 process on each scenario. Contact suggests that there should be a +/- $10 band for each scenario, so that sensitivity can be gauged.

For the HVDC, the EC has used different Pole 1 configurations leading up to 2012 for each MDS – this is logical and pragmatic. However, the suitably named "Fate of HVDC Pole 1" column has no variations from the pole being replaced in 2012, with a 1200 MW Bipole rising to 1400 MW with the addition of a fourth cable in 2018. Contact suggests that there needs to be further analysis around the requirements for Pole 1 with the different scenarios, as apart from an unlikely South Island lead hydro and wind generation development scenario, i.e. lower SI, it is unlikely that a Pole 1 replacement would be required in the next ten years given the forecast load growth in the SI.

Moreover, New Zealand Aluminium Smelters Limited ("NZAS") and Meridian Energy Limited have signed an eighteen year electricity price agreement for 572 MW of continuous consumption at the smelter. This agreement takes effect from 1 January 2013 and runs until 31 December 2030, so therefore the closing of the smelter is unlikely before 2030, but we note that the consultation paper has in one scenario, the smelter closing in 2020.

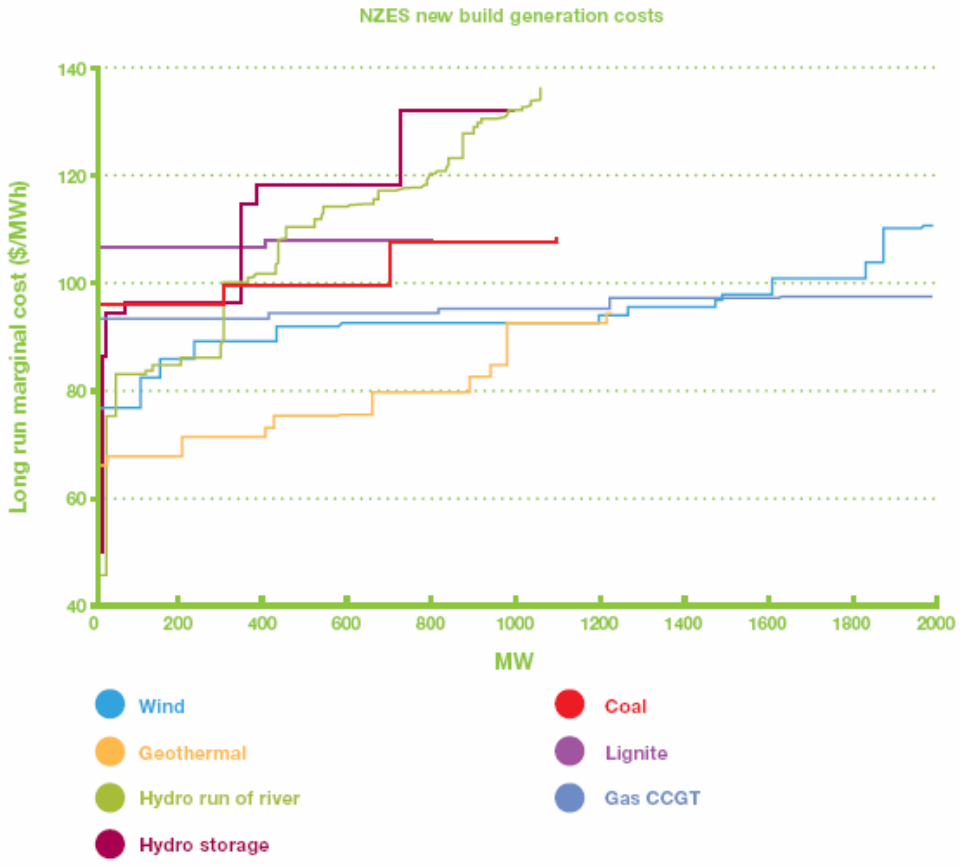
Contact suggests that one of the scenarios considered is a NI lead renewable scenario with extensive NI wind and geothermal developments. We consider this to be a more likely scenario in the medium term, with renewable resources in the North Island having lower relative LRMC than South Island renewable generation. This scenario would also have a follow on benefit of delaying the requirement for the high cost HVDC Pole 1 replacement, as there would be no economic benefit in it for the medium term.

With regard to Table 5 of the consultation document, with its assumed LRMCs for renewable generation sources, we consider that North Island geothermal generation should have a lower LRMC than other renewables and that the megawatt capacity of these lower LRMC geothermals could be somewhat greater than the 250 - 350 MW assumed for Best resources and the ~400 MW assumed in the table for Next resources. For example, Contact alone has 470 MW of new geothermal generation in advanced stages of development[1], so the megawatt capacity levels assumed may be too low.

Further, as can be seen by the following graph (taken from the NZES[2]), showing LRMCs for new build generation, geothermal has a significantly lower LRMC than other renewables, lower costs for it persist out to approximately 650 MW in capacity, and 1000 MW of the first 1300 MW of new capacity comes from geothermal.

[1] The 225 MW Te Mihi project (which after phasing out Wairakei will result in a net addition of 60 MW);
The 225 MW Tauhara project; and
The 20 MW binary project at Centennial Drive, using existing consents.
[2] Source page 38, figure 5.7, New Zealand Energy Strategy to 2050: October 2007.

Figure 5.7: Typical costs for new electricity generation (updated August 2007)[24]



Source: Ministry of Economic Development