



Electricity Demand and Generation Scenarios

Eric Pyle, CEO

May 2015

Introduction

NZWEA welcomes the opportunity to comment on the “EDGS”.

Q3 Uncertainty

The scenarios approach is useful. The “disruptive” scenario, as discussed at the workshop, will be a useful addition. We also suggest an additional scenario where the Tiwai Point smelter remains at a high production level and another industry is established in New Zealand that uses a significant amount of electricity. Examples of possible industries include: production of carbon fibre and the production of hydrogen.

Q4 Costs and the PB report

The PB report (2011) is now well out of date for wind generation costs and in any case over estimated the cost of wind generation at the time it was published. Costs for new wind projects have reduced over time – this is a global trend. In the US the long run marginal cost of wind generation in some sites can be as low as US\$45/MWh true costs, i.e. ignoring all subsidies (data from the National Renewable Energy Laboratory). A recent windfarm development in New Zealand has a long run marginal cost of around NZ\$70/MWh.

The main reason the LRMC for wind generation is declining is improvements in technology and reductions in manufacturing costs. All the major turbine manufacturers are reporting significant gains in output from wind turbines due mainly to improvements in blades and control systems.

The cost estimates of wind in the PB report in 2011 were significantly higher than industry estimates. A 10% reduction in costs from the PB report does not appear to accurately reflect the current cost of wind generation, nor does it reflect likely ongoing cost reductions in wind generation that can be expected over the next few years. We would be happy to work through accurate costs for wind generation with MBIE staff.

Q5 Key assumptions and scenarios

Because the cost estimate of wind is too high the scenarios don't accurately reflect wind generation in the merit order. The global low carbon emissions scenario has a lower price of wind. But the price of wind generation is reducing as a consequence of technological and manufacturing developments not as a consequence exclusively of a price on carbon.

Q6 Low demand scenarios

MBIE needs to better understand the drivers of low/flat demand growth over the past few years. If the flat demand is due to energy efficiency and technology advances, such as LED lights, then that should be able to be modelled and MBIE should be doing this work. It is essential that MBIE understand this aspect and it is surprising that the EDGS document does not have a robust narrative around this trend.

In addition to a low scenario there should be a scenario that looks at higher growth, such as energy intensive industrial enterprises establishing in New Zealand.

Q7 Electric vehicles and solar panels

We assume that the proposed “disruptive technologies” scenario will cover this. As outlined above, we suggest a further scenario involving the establishment of new industrial enterprises that result in a significant increase in demand. Examples are carbon fibre production and the production of hydrogen.

Q8 Low gas availability

Irrespective of oil price New Zealand may not find significant amounts of gas. This possibility needs to be included in a scenario.

Q10 Overall comments

As discussed above the cost estimates of wind are too high. The PB report over-estimated these back in 2011 and a 10% reduction on the costs in the PB report do not accurately reflect the cost of wind generation today. We are happy to meet with MBIE and work through the details of more accurate costs of wind generation.