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Clean Energy Council

Vicki Buchbach
Director
Public Accounts Committee,
Parliament House,
SYDNEY NSW 2000

18th May 2012

Dear Ms Buchbach

Inquiry into the Economics of Energy Generation: Questions Taken on Notice

With apologies for the delay in my reply please find below my answers to the questions taken on notice during my evidence session on Monday 26th March 2012.

1. *What do you think the impact of the carbon tax will be on the electricity market?*

Analysis for the CEC has found that:

Wholesale electricity prices are found to constitute around 20-30% of residential electricity bills. Wholesale electricity prices are likely to increase when the carbon price enters, in proportion to the size of the carbon price.

Carbon pricing impacts are included in the wholesale electricity price (generators are expected to pass on their higher costs through the wholesale pool). Although wholesale electricity prices increase by a relatively large amount when carbon pricing is introduced, wholesale electricity costs constitute a relatively small proportion of total retail costs. Therefore the percentage increase in total retail costs due to carbon pricing is relatively small.

According to data provided to the CEC, a low carbon price scenario (-5% by 2020) will result in an increase of wholesale energy prices of approximately 40-70% by 2020 (depending on the state).

CEC analysis shows that by far the biggest driver of retail electricity price rises is the need for significant investment in the electricity network infrastructure.

2. *In your submission you say that attracting a greater share of federal funding for renewable energy projects should be a priority for New South Wales. Do you know what proportion of such funds is currently invested in NSW? How could NSW attract more federal investment?*

Our estimation is that to date the federal Renewable Energy Target (RET) has resulted in around $300 million of investment in NSW.

The future deployment of approved and proposed wind energy projects in NSW, as a result of the RET could deliver over $11.9 billion of investment in NSW. This investment is at risk as a result of the new planning guidelines for wind farms being developed by the NSW government. These guidelines

will, in our view, impose unnecessary restrictions on the deployment of wind farms in NSW. The guidelines could therefore lead to developers looking to other States to develop wind farms. This would result in less investment in NSW.

3. *Can you provide details of the costs of wind and solar energy in comparison with coal-fired generation? Can you provide both trend information and the most recent official figures available?*

It is important to note that the costs of most renewable energy technologies are falling rapidly, and many official figures used in government and stakeholder modelling often utilises outdated figures. For example the cost of solar PV modules has fallen around 75% over the last three years, so even using cost data that is a year old can generate misleading results. Equally the costs of fossil fuel generation is generally rising, as fuel stocks like black coal and natural gas are increasingly exposed to export markets with higher prices than the domestic market.

The most recent analysis for the Clean Energy Council[1] estimated the Levelised Cost of Energy (LCOE) for different generation based on Australian and international studies:

Technology	**Cost $/MWh**
Fossil fuel – pulverised black coal	78 - 84
Fossil fuel – combined cycle gas turbine	45 - 135
Wind	65 - 80
Photovoltaics	225 - 404
Concentrating solar thermal	200 - 290

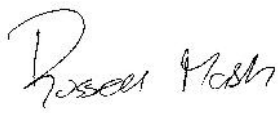
Wind is still the most competitive of the renewable technologies. However, the rate of cost reduction for other renewables, particularly solar technologies, is noted to be more rapid than the comparatively established wind industry.

It should be noted that the current retail price of electricity in NSW is around $200 - $250/MWh. This means that the cost of Solar PV is close to being at so-called 'grid parity' (in the sense that rooftop solar essentially competes against the retail price of electricity, not the wholesale costs).

The Federal Bureau of Resources and Energy Economics (BREE) is currently undertaking analysis of the LCOEs of a range of generation technologies. These should be published in the coming months alongside the government's Energy White Paper.

I hope that these answers are useful to the committee and please do not hesitate to get in touch to discuss further

Yours sincerely



Russell Marsh
Policy Director

[1] GL Garrad Hassan, 2011 "Review of the Australian wind industry 2011"