



31 August 2016

Mr Scott Hamilton
Executive Director – Renewable Energy
Department of Environment, Land, Water and Planning
PO Box 500
Melbourne VIC 8002

By email: Renewable.Energy@delwp.vic.gov.au

Dear Sir,

Re: Submission to the Victorian Renewable Energy Auction Scheme Consultation Process

ABB is a global power and automation company which has operated in Australia for over fifty years. ABB products are relied upon by conventional power generators, electricity networks, industrial, and resource companies to provide a stable, reliable energy supply.

ABB invests over USD 1.5 Billion annually in research and development, and its strategic acquisitions over the past five years in solar inverters, power stabilization solutions and microgrids, (the global centre for which is based in Australia), have positioned the company at the forefront of the energy revolution. ABB is a leading electrical supplier to the Renewable Energy (RE) sector with technology innovations enabling the decoupling of economic growth and increased energy consumption so facilitating the transition to a less carbon intensive economy.

ABB welcomes this opportunity to make a submission to the Victorian state government regarding the department's proposed Renewable Energy Auction Scheme. The format of ABB's response will follow the structure of the consultation paper that the department has issued.

1. Scheme Structure

The government is targeting 25% renewable energy by 2020, corresponding to a minimum 1,500 MW incremental capacity by 2020, and up to 5,400MW additional RE capacity by 2025 based on projected demand growth. The state government should be commended for its initiative in setting firm targets to encourage further development of the Renewable Energy sector, and to drive employment growth in Victoria.

Notwithstanding clarity regarding the Federal governments' commitment to a Large Scale Renewable Energy Target (LRET) of 33,000 GWH by 2020, equivalent to 23.5% of Australian energy derived from renewable energy sources, uncertainty remains on several fronts.

Firstly there is uncertainty about whether the 2020 target is achievable, in part due to delays in project development during the RET review process. Increasing prices for Large Scale Generation Certificates (LGCs) indicate that the market, albeit relatively illiquid in comparison to other tradeable instruments, is factoring in a supply deficit for liable entities. High LGC prices should reduce the extent of funding required from the state government to make up the shortfall between the strike price under the proposed Contract for Difference (Cfd) approach, and the market reference price.

Secondly, it is uncertain what the future is for the LRET or LGCs beyond 2020 as the federal government has yet to provide details on the policy mechanisms which it will rely on to achieve its Paris commitment of a 26% - 28% reduction in Greenhouse Gas emissions by 2030. The road map post 2020 is unlikely to become clearer until the federal government has completed its next Energy Review in 2017.

Thirdly, the cost competitiveness of large scale renewable energy technologies and energy storage media continues to improve vis-a-vis conventional power generation, therefore it is difficult to be definitive at this time as to the level of government subsidies that may be required to encourage industry development beyond 2021.

These factors make it advisable for the Victorian government to refrain from making definitive commitments at this time on the mechanisms that will apply for the period beyond 2020 to achieve its policy objectives.



Auction Process Design

Experience to date with the ARENA supported utility scale solar round indicates that it can take a minimum of 9 months from the initial expressions of interest to the award of grants to projects that meet the qualifying criteria. The modelling required to gain development approval for large scale wind is more onerous, contributing to a longer period for these projects to achieve financial close. This process may be extended further if technology changes such as improved turbine efficiency, greater tower height and/or network connection considerations necessitate further regulatory review.

Given the lengthy development cycle for utility scale projects, it is imperative that the Victorian state government seizes this opportunity to get first mover advantage in the implementation of its RE policy, and provide certainty as to its approach up to 2020. This allows the state to achieve its commitments to greater RE in the short term, to start to deliver on its employment growth target, and to establish the foundations of a vibrant Renewable Energy sector.

Moreover by delaying design of the post 2020 scheme for a couple of years, it preserves the state's flexibility to adjust these mechanisms in the light of experience, and so ensure that any RE initiatives are complementary to the federal LRET framework that exist beyond 2020. The state can factor in technology developments and improvements in cost competitiveness, as well as take account of the structural changes required in the heartland of Victoria's conventional power generation in the Latrobe valley before finalising its programme.

Notice Period & Auction Schedule

Allowing for the consultation process, amendments to the RE auction scheme, parliamentary passage and creation of the supervisory administrative structures, the state's first Cfd auction is unlikely to occur before April 2017. It would be prudent to allow 18 months between auctions so that there is sufficient time for consideration of the bids, contract negotiation, and construction to commence. This also provides scope to refine and further improve the process. Taking this into account, a second auction is unlikely before the second half of 2018 therefore it is prudent to increase the minimum level of the auction tranches to 500 MW and permit aggregation of projects by developers so that they can defray project risk and deliver a lower cost outcome.

Technology Diversification

ABB supports the proposal to "reserve" a minimum 20% of each auction for solar to ensure a more diverse energy generation mix. A further benefit of this approach is that it broadens the regional development benefits of the RE auctions as those locations which are most suited to wind are not necessarily the optimal locations for large scale solar. The imperative of achieving 25% RE by 2020, is likely to result in a higher proportion of new solar capacity and hybrid projects in the second auction as it will be difficult for greenfield wind projects to achieve operations within 18 months. This may require a trade-off between the cost of RE and speed of development unless there is a step change improvement in the cost competitiveness of large scale solar utility, and/or there is increased adoption of energy storage to improve capacity factor, and increase revenue through supply of ancillary services by improved grid stability, voltage and frequency control.

Complementarity / Additionality

An extension/expansion of the Federal RET would improve the investment climate and therefore make it more likely that the state government can achieve its RE targets at lowest cost. The state does not own generation or electricity distribution assets limiting the state government's influence on closure of older generation facilities, or its ability to direct investment towards strengthening networks in regional areas which may be the most appropriate locations for RE. However the state government can facilitate RE growth in Victoria by simplifying development conditions, by reviewing whether land access restrictions remain valid, and taking steps to encourage the network regulator and distribution network service providers to expedite the connection approval process. Moreover by providing training allowances, and regional investment allowances/grants, the government can facilitate an orderly transition in the energy sector, and ensure that there is a local workforce capable of supporting these projects beyond construction into the operational phase.

2. Payment Structure

ABB supports the adoption of a Cfd based mechanism based on the monthly average National Electricity Market (NEM) reference price to avoid the volatility of half-hourly pricing and so provide greater certainty for RE developers. However the government needs to consider whether the proposal to recompense RE operators based on quantity supplied adjusted by the distribution loss factor could create a further disincentive to construct RE plants in areas where there are spin-off benefits in job creation and greater economic diversity in



regional Victoria. The responsibility for network losses sits properly with the network service provider rather than the developer; the latter often funds augmentation costs deemed necessary to stabilize the network and therefore should not be penalized further.

ABB's understanding is that the proposal to add a floor price is intended to avoid a situation where the government could be faced with a higher strike price if wholesale electricity prices become negative. Ultimately this reflects a situation of excess energy supply, and should lead to lower prices provided the energy retailer passes on the benefit to energy consumers. It results from an unwillingness or inability of generators to reduce supply despite price signals and corresponding lower unit margins. It is advisable for the government to consider the frequency of such an event, who is best placed to manage that eventuality given Victoria has interconnections with three states, and the corresponding impact on the Cfd price if the developer is subject to that liability. It may well be that the costs of implementing such a system significantly outweigh the benefits.

3. Contracting Elements

Certainty of Outcomes

Investors and financiers require confidence in policy settings, as well as certainty about key contractual terms. This necessitates bi-partisan support for the government's RE targets, and consensus about the mechanisms that will be established to deliver this commitment given the next state election is due towards the end of 2018. Prudence as well as statutory obligations to a company's shareholders mean that it is unlikely any commercial party will accept cancellation for convenience provisions, or penalties for events which are outside the scope of that party to manage.

Contract Duration

The minimum duration should be 15 years, with the government prepared to consider 20 year Cfd contracts for larger projects which are likely to have greater absolute up-front development costs, regardless of RE source.

Termination for delay

The rigours of the due diligence process should reduce the risk of the state government allocating funds to projects which are less likely to proceed. Debt is likely to be the prime source of finance, and this is usually contingent on a developer having access to land, securing a Power Purchase Agreement and receiving network connection approval. These criteria can be included as Conditions Precedent insofar there is some residual uncertainty at the time that a Cfd agreement is struck.

Technology risk is relatively low given experience in building and operating commercial, industrial and large scale utility projects over the past 10 years. The most plausible reason for delay is an unforeseen development, such as economic shock affecting financial markets, new regulatory standards impacting on connection approvals, or deterioration in the financial standing of a selected RE developer. These could be trigger conditions for determination of a contract, otherwise notice of termination could be given if there is a delay of 18 months during which time there is little progress in project development. It is important that the government recognizes that suppliers to these cancelled projects are likely to have incurred costs in the development phase which are not recoverable in these circumstances.

Maximum/Minimum supply

The variable costs of RE generation are comparatively low creating an incentive for a RE operator to maximize supply to counterbalance those times where generation and supply is lower than planned. This is managed to some extent by thirty minute price periods in the NEM to ensure that the marginal cost of supply matches the price that the last user is prepared to pay. It would be difficult for the state government to design and introduce a separate mechanism which does not distort the operation of the NEM clearing system, particularly given Victoria cannot be totally separated from activities elsewhere in the NEM.

Similarly it is difficult to enforce meaningful minimum supply quantities given the intermittency of RE generation and the ability of the network operator to ask an operator to restrict supply. This could lead to a complex process to try and determine the extent to which the RE project is at fault. Ultimately establishing upper or lower limits introduce a risk which translates into a price premium, or steps to decouple RE generation from supply through investment in energy storage. If this is a concern, then it would be appropriate for the government to commit to a minimum percentage of hybrid investments coupling wind or solar with energy storage to provide this supply flexibility.



4. Scheme Administration and Cost recovery

The administrative ease and transparency are strong arguments in favour of recovering the cost of the RE scheme through one of the five distribution service providers. Given the importance of protecting the competitiveness of Victoria's manufacturing base, and employment in this sector, the government needs to consider how its RE policy will impact on Energy Intensive Trade Exposed businesses which are unable to recover higher energy costs from their customers. Many of these companies have previously taken advantage of the government's incentives to improve energy efficiency, and factor in productivity. As a minimum it would be prudent for the government to exempt all operating sites in Victoria which are liable to report under the National Greenhouse and Energy Reporting Safeguard Baseline Mechanism and to establish a process whereby other large industrial facilities can apply for exemption.

Conclusion

ABB is supportive of the Victorian Government's initiative to further develop the Renewable Energy sector in the state and would welcome the opportunity for further consultation as the government refines its approach on the practicalities of implementing this policy over the next five years.

If you have any further questions or wish to explore how technology can facilitate the transition to a lower carbon economy, please contact Simon de Bell, email : _____ or phone (_____)

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'S de Bell', is written over a horizontal line.

Simon de Bell
Country Head of Business Development and Account Management
ABB Australia Pty Ltd.