IES
Intelligent Energy Systems

Mr Scott Hamilton
Executive Director, Renewable Energy
Department of Environment, Land, Water and Planning
State Government of Victoria

By email: renewable.energy@delwp.vic.gov.au

Dear Mr Hamilton

Re: Submission to Consultation paper on Victoria's renewable energy targets:

Intelligent Energy Systems (IES) is a leading provider of software and data solutions in the Australian electricity and gas markets. Our applications and systems are licensed to a range of energy market participants including generators, retailers, and network businesses.

IES appreciates the opportunity to provide our perspectives on the consultation paper "*Victorian Renewable Energy Auction Scheme*". IES has a number of comments in relation to the paper and these are presented below.

Technology Split

The current proposal is that 20% of the renewable energy contracted through the auction scheme will be from large-scale solar. IES acknowledges that PV may provide a more consistent source of electricity generation than wind turbines across the whole NEM, which may be important for very high levels of renewable penetration. However, it is likely that greater flexibility will be required if the scheme's generation mix is to be implemented on the basis of least cost. The costs of generation technologies are subject to continual change and this will almost certainly occur over the period to 2025. Greater flexibility in the scheme design will enable new, but currently unproven technologies to be included in the scheme if they satisfy the reverse auction criteria. For example, battery storage is currently not an economically viable option but this may change in the next decade. It may also be the case that integration of renewables within the electricity network will require existing technologies to be built in proportions that differ to initial expectations. IES considers that a technology neutral approach to the reverse auctions will ensure that projects will be selected more on a needs basis and consumer cost impacts will be minimised. Consideration of these factors will help minimise network congestion and provide a better balance between supply and demand.

Proposed Payment Structure

The consultation paper proposes a Contract for Difference (CfD) where projects receive the difference between a strike price and the prevailing wholesale price. The paper proposes that if a half-hourly wholesale price were used, a price floor should be introduced to "*not distort the NEM significantly by incentivising generators to dispatch electricity even where NEM prices are negative in a given time period*". We note that existing wind generators already place negative bids into central dispatch and a zero price floor in the CfD mechanism is unlikely to change that

behaviour. If the Victorian scheme has a zero price floor renewable generators will still have an incentive to place bids below zero to ensure that their generated energy is dispatched. However, the zero price floor is useful as it effectively caps the maximum dollar per MWh amount an eligible project can receive for each half-hour of generated energy, and reduces the costs recovery from consumers.

In situations where the wholesale price is greater than the reverse auction strike price, the eligible project should pay the difference back to scheme administrator. This will also contribute to reducing the scheme costs recovered from consumers.
It is entirely feasible that wholesale prices are greater than the strike price. In July 2016 the average monthly wholesale price in South Australia was $229 per MWh, while a recent ACT reverse auction was awarded to Hornsdale Stage 3 (SA) at a price of $73 per MWh.

Interaction with Federal Policies
The consultation paper proposes that up until 2020 the Victorian scheme will be complementary with the Federal Large-scale Renewable Energy Target. In addition, the LGCs generated from eligible Victorian projects during this period will still form part of the Federal target. We take the view that the LGC prices received by eligible projects should not be guaranteed by the scheme administrator. The fixed price offered should only represent the CfD component (the difference between the strike price and the prevailing wholesale price). The LGCs are part of a separate scheme and Victorian electricity consumers should not be asked to make up the shortfall if these certificate price fall in future. We also note that if the LGCs were set as a fixed rate in a reverse auction, the amount of the reverse auction CfD is likely to be below zero.

Scheme Administration and Cost Recovery
The consultation paper indicates that the scheme costs are likely to be recovered from consumers via transmission or distribution network charges. If this occurs, then it is important that the design of the scheme includes a consideration of network charging structures. Recovery of scheme costs through fixed or variable network charges can make significant differences across consumer types. If the allocation is made to a fixed (cents per day) rate, the amount recovered from each customer will be the same. If the charges are recovered via variable energy or demand charges, then the amount recovered will vary according to the electricity consumer's usage. Network charging price structures vary across each of the five Victorian distribution business. If the scheme cost recovery is to be made via these distributors, then it should be carried out consistently across these businesses. We note that this price setting is the responsibility of the Australian Energy Regulator.

Auction Evaluation Principles
The consultation paper provides several evaluation principles for conducting the reverse auctions. A further principle should be the extent that the project proponent has assessed the likelihood of its generated energy being curtailed. IES has modelled the impacts on the National

Electricity Market of a large deployment of renewables under a reverse auction scheme[1]. One of the main findings is that in the absence major generator retirements, intermittent generation sources such as wind and large PV generate energy that at times must be "spilled" or curtailed due to excess supply. This finding has implications for the design of the Victorian scheme. Reverse auction participants should make it clear whether their reverse auction offer prices take into account energy curtailment. This is because participants who have taken this into account will have higher offer prices those who have not. Furthermore, the terms and conditions of the CfD must be clear on whether the project will be compensated for energy that is available but not dispatched (ie. curtailed). The consultation paper suggests that the CfD only be awarded on dispatched energy and IES supports this proposal.

Other Matters

A large take up of additional renewable capacity is expected to subdue wholesale electricity prices (as the scheme cost recovery is likely to be within network charges). This will put operating pressures on existing coal fired electricity generators and may have the effect of triggering early retirements of these plants. This outcome is likely to be desirable for the broader objectives of the 40% renewable energy target. However, it is important to have planning and contingencies in place to ensure a continued reliable supply of electricity for Victorian consumers in the event that one or more large thermal generator is decommissioned.

One of the key objectives of Victoria's energy policy is to ensure consumers, especially low-income earners, can access energy at affordable prices[2]. Achieving 40% renewables by 2025 will involve significant cost recovery across Victorian energy consumers. The exact amount of costs is unknown as they depend on future wholesale market outcomes. A high priority should be given to establishing a scheme design that keeps consumer cost impacts to a minimum.

Please do not hesitate to contact me should you require any clarifications or further information regarding this submission.

Yours sincerely

Hugh Bannister
Chairman and CEO
Intelligent Energy Systems Pty Ltd

[1] IES Insiders 24 "*Can the National Electricity Market achieve 50% renewables*?

[2] http://www.energyandresources.vic.gov.au/energy/about/policy-and-strategy/key-objective