

Kevin Dawson

Director, Market Design, Alberta Electric System Operator (AESO)

Transmitted electronically to: capacitymarket@aeso.ca

26 February, 2018

Dear Mr Dawson,

RE: CanSIA Response to the Comprehensive Market Design (CMD) #1

The Canadian Solar Industries Association (CanSIA) is the national trade association that represents the solar energy industry throughout Canada. This letter presents our feedback in response to the posting of the initial Comprehensive Market Design (CMD1) by the AESO under the following headings:

- I. Role of Solar Facilities in the Capacity Market;
- II. Maintaining value in the Energy Market & Cost Allocation; and
- III. Risk reduction considerations for Solar Participants.

I. Role of Solar Facilities in the Capacity Market:

- *General Comment.* As of January 2018, while there was only one solar electricity generation facility (17 MW) in operation in Alberta, there were seventy-five facilities in the AESO Connection Queue (3,800 MW). As the province's "summer months (May to September) tend to have the highest incidence of tight supply cushion hours"¹, these solar facilities currently in development, represent a viable option to ensuring continued supply adequacy and mitigating system stress and reliability issues as the province phases-out coal-fired electricity generation. Furthermore, the co-location of storage with a solar facility increases their ability and suitability to doing so.

¹ Alberta Electric System Operator (February 15, 2018) "Capacity Market Technical Workgroup Meeting"

- *Duration of Capacity Obligations:* The proposal in CMD1 to proceed with only annual capacity obligations (and no option for seasonal capacity commitments) will significantly hinder the ability of solar facilities to provide capacity in the Capacity Market during the tight supply cushion hours when capacity is needed. This direction (i.e. annual not seasonal) runs counter to the Government of Alberta's stated goals of ensuring a level playing-field across resources.
- *UCAP Supply Cushion Hours:* The Capacity Market should be efficient in that capacity is procured only when it is needed most from a supply adequacy perspective. For this reason and in the scenario of annual capacity obligations, CanSIA recommends that the calculation period for the UCAP is less than or equal to the proposed 100 hours. As noted in the February Technical Working Group meeting presentation (slide 19), the incidence of low supply cushion hours smooths out temporally as sample size increases. When the sample size is 100 hours or less, the majority (>50%) of low supply cushion hours occur in months April, June and July. It is on these low supply cushion hours that the design of the Capacity Market should be primarily focused.

II. Maintaining Value in the Energy Market & Cost Allocation:

- *Over-Procurement:* The Energy and Capacity Markets will function most efficiently when the majority of the value is passed from consumers to generators through the Energy Market. For this reason, it is important that the demand curve be designed to avoid over-procurement of capacity. Over-procurement of capacity will have the direct result of suppressing Energy Market prices. To that end, CanSIA would like to ensure that, in setting the demand curve, the inflection point for the demand curve be positioned at the intersection of the reliability target and 1.0 X Net-CONE and that the forecast process for the estimation of Energy and Ancillary Services market does not bias the results to a higher Net-CONE value.
- *Cost Allocation:* Electricity consumers who use less grid electricity (i.e. due to low-income, efficiency measures or on-site generation) should pay less per unit of grid-electricity consumed than others in their rate class that consume more to be consistent

with cost causation principles and to ensure that there are price signals for consumers to be efficient or to adopt innovative technologies. The allocation of the cost of procuring capacity in the Capacity Market as a standard fixed-charge across rate classes would work counter to this end.

- *On-Site Generation:* Behind-the-fence solar electricity generation enables consumers to reduce their consumption during peak hours in more than half of the months of the year thus reducing their transmission tariff and capacity costs. In many cases, this generation will not be eligible to participate in the Capacity Market on the supply-side due to the minimum size requirements. CanSIA recommends that the cost allocation methodology is designed in a manner to not prohibit the profitability of future investments in behind-the-fence solar electricity generation.

III. Risk reduction Considerations for Solar Participants in Capacity Market:

- *Performance Risk:* It is currently proposed that facilities “must-offer” at the facility specific UCAP. CanSIA proposes that each solar facility be permitted to offer from within a range of capacity values up to their UCAP to allow individual generators to manage up-side risk (i.e. having a higher UCAP) with down-side risk (i.e. increased performance penalties) and to allow Generators to account for any observed module degradation (e.g. typically <0.5% per year).
- *Availability Penalties:* The proposed availability and performance assessments do not consider the realities of generation from variable renewable resources. Furthermore, CanSIA proposes that penalties paid during the Availability Assessment period are returned to the other generators providing capacity during that same period. This approach would incentivize performance (while continuing to penalize under-performance) similar as to how it is proposed for the Performance Assessment.
- *Aggregation:* The procurement and provision of capacity from a technologically and geographically diverse generation fleet mitigates availability risk to the AESO and performance risk to generators. CanSIA recommends that rules governing aggregation

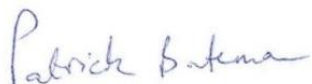
are simple and flexible and do not limit spatial distribution of facilities (e.g. by settlement zone). CanSIA also requests clarification on the reference to UCAP stability.

- *Payment Adjustments:* CanSIA recommends that the monthly limit on payment adjustments be limited to 200% of the monthly capacity value (i.e. reduced from the proposed 300%).

Finally and with regard to continuing process, CanSIA recommends that the AESO establish a stakeholder oversight committee to review capacity market auction parameters and their methodology and we would also support an investigation into ramping products and compensation thereto.

Thank you for your consideration. We would be pleased to meet to discuss the contents of this letter and look forward to future participation in consultation on the design of the Capacity Market.

Best regards,



Director of Policy & Market Development
Canadian Solar Industries Association (CanSIA)