

# Considerations For Minimum Resource Size Threshold in the Capacity Market

Eligibility WG Meeting #3 – July 4, 2017

The following materials provide an examination of the question: **What is a minimum resource size threshold (MW) to participate? (in the Capacity Market)**

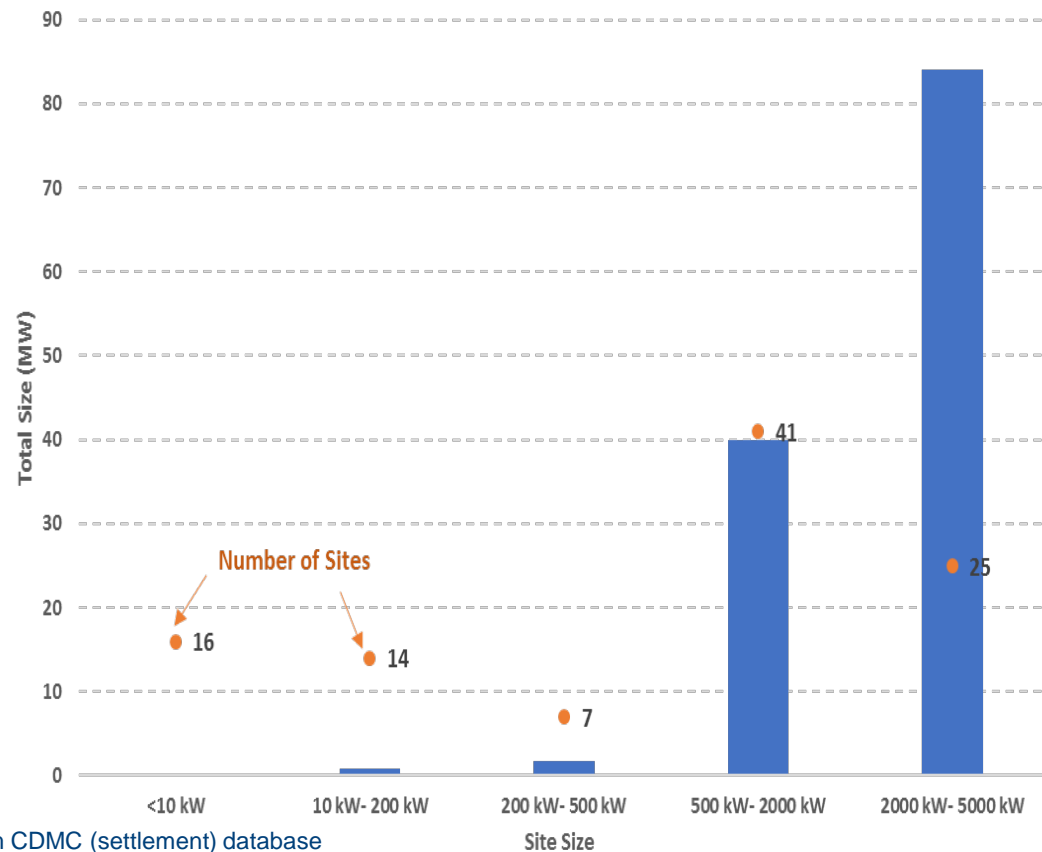
## Outline

- Background
  - Current Alberta supply resources below 5 MW
  - Jurisdictional review of threshold size to participate for generation and demand resources
- Description of alternatives
- Assessment of alternatives
- Comparison of options to criteria

# Current Alberta Supply Sources Less Than 5 MW

## Alberta specific generation data for sites < 5 MW

- The combined generation capability from all sites < 5 MW is ~ 127 MW
- Approximate number of sites < 5 MW is 103.
- Sites that are 2 MW and smaller are:
  - 76% of total sites.
  - 34% of total generation capability (or 43 MW)



\*Data is from August 2016 and originates from CDMC (settlement) database

\*Site sizes are as reported when added to the database there might be some errors in the above values

## Minimum threshold to participate in the market:

**UK – minimum size for market participation is 2 MW**

## Select US Markets:

	PJM Gen Metered	PJM DR/PRD	CAISO Gen Metered	CAISO PDR	CAISO DERP
Aggregation	Same loc'n	Y	Same loc'n	Y	Y
Minimum market size (for aggregate)	100 kW RPM 100 kW A/S	100 kW	500 kW	100 kW (500 kW A/S)	500 kW

	NEISO Gen Metered	NEISO DR	NYISO Gen Metered	NYISO DR	NYISO BTM:NG
Aggregation	No except Reg	Y	Same owner & loc'n	Y	Same as gen
Minimum market size (for aggregate)	~1000 kW	100 kW	1 MW	100 kW reliability, 1 MW economic	2 MW gen (1 MW load)

Aggregation: Multiple units may be combined into a single market entity

"Y" means aggregation is allowed over a relatively wide area or zone

Minimum size: Minimum size threshold for participating in markets

DR = Demand Response

PRD = Price Responsive Demand

PDR = Proxy Demand Resource

DERP = Distributed Energy Resource Provider

# Description of Alternatives

- **The threshold discussion is only focused on a stand- alone basis**
- **Considerations for aggregation will be dealt with in a separate question**



# Assessment of Maintaining Threshold for Participation at 5 MW

## Potential Advantages

- Simple to implement as it is aligned with the current energy market requirements
- Appropriate metering and infrastructure already in place will minimize implementation time
- The AESO will incur transaction costs in validating each bidder's participation in the capacity market. Keeping the threshold for participation at 5MW may minimize administrative costs

## Potential Disadvantages

- Reduces pool of potential supply sources.
- Excluded resources may be relatively low cost.

# Assessment of Reducing Threshold for Participation to 2 MW













## Potential Advantages

- ~25 additional existing generation sites would be able to participate in the capacity market
- ~83 MW of additional existing generation may be bid into the auction
- May increase demand response participation in the capacity market as well as participation of non-conventional resources
- May encourage greater resource mix- contributing to system reliability and competition

## Potential Disadvantages

- Added administrative complexity & cost to implement
- Specialized metering equipment will need to be installed - SCADA technical and operating requirements state that only resources >5MW need to have SCADA.
- May impact future AS and Energy market rules
- Approximately 78 sites with 43 MW of generation excluded from participating in the capacity auction
- May increase administrative burden on smaller resources if they are made subject to must offer requirements

# Comparison of Options Relative to Relevant Criteria

	Participation size 2 MW or greater	Participation size 5 MW or greater
The risks of regulatory delay and need for re-design should be minimized.		
Common practices and lessons learned from other capacity market implementations should be leveraged as much as practicable and applicable.		
Simple and straightforward initial implementation should be a priority		
Market should be targeted to open in 2019 for start of first capacity procurement for delivery of capacity starting in 2021		
Unique aspects of Alberta's electricity system should be considered in the design of the capacity market		
The procurement of capacity should employ market-based mechanisms and a competitive market for capacity should be developed		



# References

Neme, C., Energy Futures Group, and Cowart, R., Regulatory Assistance Project. (2014) Energy Efficiency Participation in Electricity Capacity Markets – The U.S. Experience Montpelier, VT: The Regulatory Assistance Project. Available at:  
<http://www.raonline.org/document/download/id/7303>

PJM/ Comparing RTO Market Framework Rules In DER Context

<http://www.pjm.com/~media/committees-groups/committees/mrc/20160824-special/20160824-item-02-der-rto-benchmarking.ashx>