Should resources outside of Alberta participate in the Alberta Capacity Market?

Overview:

- In order for Alberta's capacity market to operate efficiently, internal and external participation symmetry is desired. Internal resources should be allowed to participate in external capacity markets, just as external resources should be allowed to participate in Alberta's capacity market.
- The exclusion of either capacity imports or exports would be the creation of an inefficient trade barrier, resulting in less competition, resulting in market prices clearing at levels that do not properly reflect the broader market's willingness to participate.
- The precedent has been set in existing capacity markets that internal resources can participate in external markets and external resources can participate within that marketplace for the purpose of pricing transparency and competition.
- There are few compelling offsetting benefits to disallow internal generation from participating in external capacity markets, or to disallow external resources from participating in Alberta's capacity market.

	Option 1: No imports or exports	Option 2: Allow imports and exports
Advantages	• This has the potential to stimulate the development of new capacity resources within the Alberta marketplace, as facilities retire, and/or load grows.	• This would result in the most competitive and efficient marketplace, with the lowest cost resources within the WECC and MAPP region influencing the market clearing price. The lowest cost capacity would be procured for load. • Cleared prices in the Alberta capacity market would more accurately represent the market's willingness to participate. • Alberta's capacity market would have a more diverse generation mix, assisting with reliability, efficiency, annual price stability and (potentially) the province's Climate Leadership plan.
Disadvantage	• The creation of an islanded capacity market, where settled prices do not reflect the efficiency of a broader pool of resources. Load could pay an artificially high price for capacity relative to prices that could	

	be procured from external capacity resources. • Domestic capacity supply would not be able to enter external markets, where the market clearing price may be higher. This would preclude opportunity for the development of low-cost capacity resources in Alberta to capture higher spreads in external markets (for example, if Alberta gas capacity resources are the least-cost supplier in the broader region, excluding exports would stifle the development of these new capacity resources in Alberta if they are not needed to serve internal load). Similarly, external resources could not enter the Alberta market to drive down the clearing price. • Lack of diversity of capacity resources. For example, dependency on all-gas capacity resources, leaving the market subject to cyclical gas prices, and or pipeline deliverability concerns. • No existing capacity market operates this way. All capacity markets allow for imports and exports of supply. Refer to below notes on External Resources in North American Eastern Capacity markets.	

If external resources are deemed eligible, how are external resources (importers) eligible capacity volumes determined?

- An external resource's eligible capacity should be determined based on the lesser of the source's firm path to the Alberta border, or Alberta's Available Transfer Limit (ATC) for imports.
- The same principle should apply to exports.
    - However, given that there are currently no firm transmission rights within Alberta, the AESO should use the ATC of the export path to determine the eligible capacity for an export.
- If the ATC is smaller than the source's firm path to the Alberta boarder, than the ATC of the source's flow gate will be used to determine a source's eligible capacity. The ATC capacity should be based on System Normal (MW) conditions established within the AESO's Information Document: Available Transfer Capabilities and Transfer Path Management (ID #2011-001R).[1]

British Columbia import example:

The following transmission conditions currently exist:

- Firm Path: Maximum firm path to the Alberta border = 480 MW
- ATC: AB-BC flow gate System Normal Import Total Transfer Capability = 800 MW

In this British Columbia example, the firm path to the Alberta border would be used as a limit for an external source's eligible capacity volume (i.e. up to 480 MW).

Should emergency energy qualify as eligible capacity?

- Emergency Energy should **not** qualify as eligible capacity.
- Emergency Energy is generally defined as an amount of energy requested by the AESO, which is in addition to any energy supplied to the AESO pursuant to the Northwest Power Pool Reserve Sharing Agreement, on a short term basis to maintain balance on the Alberta Interconnected Electric System in the case of an emergency.
- There is no specific capacity held aside for Emergency Energy, instead the supply is provided to the AESO **to the extent possible** based on available resources(if any).
- Based on SAM 1.0, a resource that clears the Alberta capacity auction will have a Must Offer obligation into the energy market, and there will be performance standards associated with the cleared capacity. An emergency energy contract will not have any capacity set aside for it and is only available if not already used prior to the emergency.
- From a supplier's point of view, the management of an Emergency Energy MW, relative to a cleared MW in the proposed capacity market is very different. A MW sold in the capacity market must be held and bid into the energy market every hour and is subject to sizeable financial penalties for under-performing. Meanwhile, an Emergency Energy MW is provided to the AESO on an as available basis and is not subject to financial penalties for not being available upon request.

[1] https://www.aeso.ca/downloads/2011-001R_ATC_and_Transfer_Path_Management.pdf

For intertie transitions to be eligible do we need to consider the entire path or the just the path to the AB border?

- For external resources to be eligible for Alberta's capacity market, the source should have to prove a firm transmission path from the source to the Alberta border.
- There are no firm transmission rights within Alberta; therefore, the path within Alberta is not relevant to this topic.
- The AESO has the authority to confirm or deny ETags . The AESO also is the path operator for the BC Tie. This should make it easy for the AESO to assess the performance of the intertie supplier at the border flow gate entry point.
- The external resource should also be required to have a representative officer attest that they have the ability to sell supply into the Alberta capacity market based on rights or ownership of a generator or a portfolio of generators.

External Resources in North American Eastern Capacity markets

Region:	Participation:
MISO - PRA	**External resources are eligible to participate** - Capacity import limit exists - Provisions: Firm transmission service to MISO border; capacity cannot be used as a capacity resource elsewhere; Generation Verification Test Capacity (must demonstrate capacity on an annual basis); Must-Offer requirements in the DAM
PJM - BRA	**External resources are eligible to participate** - The **Capacity Import Limit (CIL)** was established in 2014, due to: (1) the growth in capacity imports clearing the BRA; (2) growth in curtailment risk; and (3) suppression of capacity prices. - Under **Capacity Performance** (2015) a resource must (1) demonstrate firm capacity to the PJM border; (2) is pseudo-tied into PJM; and (3) agrees to be subject to the same must-offer requirements as PJM's internal resources. - PJM's pseudo-tie requirement was approved by FERC on the premise that a pseudo-tie enabled the monitoring of a facility during a performance event.

	- However, the pseudo-tie requirement has been heavily contested and recently challenged by Potomac Economics, the Market Monitor of MISO, NYISO and ISO-NE. The complaint underscores that the pseudo-tie requirement imposes substantial and unnecessary economic and reliability costs on PJM's adjacent RTOs/ISOs. - Further, ISO-NE has a similar performance standard (Pay-for-Performance) as PJM and does not have a pseudo-tie requirement for external resources.
NYISO - ICAP	**External resources are eligible to participate** - Capacity import limit exists, referred to as Unforced Capacity Deliverability Rights (UDRs). - UDRs allow remote capacity external to the area to be treated as if it were physically located within the NYISO. - Capacity Resource Interconnection Service (CRIS) enables a resource to participate in the NYISO Installed Capacity market to the extent of its deliverable capacity. - In order to qualify for CRIS, a generator or controllable transmission facility seeking to participate in the Capacity market must either: (1) Be determined by the NYISO to be deliverable for all or a portion of its requested CRIS; or (2) Commit to fund the upgrades necessary to make it deliverable
ISO-NE - FCM	**External resources are eligible to participate** - Capacity import limit exists and is related to the specific capacity zone (i.e., geographic sub-regions of the New England Balancing Authority Area that may represent load zones that are export constrained, import constrained, or contiguous—neither export nor import constrained). - Import-constrained areas are assigned a *local sourcing requirement* (LSR) (i.e., the minimum amount of capacity that must be electrically located within these areas to meet the ICR). - Export-constrained areas are assigned a *maximum capacity limit* (MCL)—the maximum amount of capacity that can be

	procured in these areas to meet the ICR (termed HQICCs). - Provision exist on external resources, including (but not limited to) a documentation review to determine ownership of external resource and determine capacity capability; Import Critical Path Schedule; Import Cost Workbook