

Stakeholder Comment Matrix

Designing Alberta's Capacity Market stakeholder sessions held January 12 and 16, 2017



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| Date of Request for Comment: <u>February 10, 2017</u> | Contact: <u>Raj Hundal</u> |
| Period of Comment: <u>January 17, 2017</u> through <u>February 10, 2017</u> | Phone: <u>604-891-6063</u> |
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| Date [yyyy/mm/dd]: <u>February 10, 2017</u> | |

To initiate stakeholder consultation on the capacity market design, the AESO hosted kick-off stakeholder sessions in Calgary and Edmonton on January 12 and 16, 2017. At these sessions the AESO presented a brief description about capacity markets, described our vision of the desired end state, proposed an approach to undertaking the design and a potential roadmap for completing the work. In addition, the AESO presented an approach to consultation, as well as a set of proposed criteria and assumptions to be used as tools to guide the capacity market design.

The presentation can be [found here](#).

We request your feedback about these topics as well as any others that you believe are appropriate for the AESO to consider. We expect a great deal of feedback based on the level of interest demonstrated by stakeholders at the sessions, and request you use this structured template to provide your comments. This will allow the AESO to quickly synthesize and publish the feedback from a broad range of interested parties.

All stakeholder comments received will be reviewed by the AESO and posted on the AESO website.

Capacity Market Design Approach

Please indicate in your response whether you support the planned design approach, or if not, why?

| Section | Approach | Stakeholder Response |
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| 1. Proposed desired end state of capacity market development <i>Slide 7</i> | <p>Do you support the following statement regarding the desired end state for the capacity market? Do you disagree with the statement or have alternative wording? Please provide reasons for your response.</p> <p><i>“The desired end state is to develop a capacity market that utilizes competitive market forces, ensures continued supply adequacy and reliability at a reasonable cost and is flexible to reflect the unique aspects of Alberta’s electricity industry.”</i></p> | <p>At a high level it seems like a reasonable goal for this exercise.</p> |
| 2. Key design questions for capacity market development <i>Slides 8 – 11</i> | <p>Is the preliminary list of key design questions an inclusive list? Is it clear what area of capacity market development each question is intending to address? What clarification is required on any of these items? What additional questions or areas, if any, do you think should be added to the list to ensure a comprehensive capacity market design? Please provide as much detail as possible.</p> <ul style="list-style-type: none"> <i>– How much capacity needs to be procured? (Resource adequacy requirement)</i> <i>– Who will buy the capacity? (Obligation to procure)</i> <i>– When and how often will capacity be purchased? (Procurement timing and frequency)</i> <i>– How long will the capacity delivery period be? (Term)</i> <i>– Who can provide capacity? How much can they provide? (Eligibility)</i> | <p>Regarding Inter-operability implications, AESO should consider whether a forward procurement of some ancillary service elements (e.g., regulation) should be done in coordinated fashion with the capacity market (e.g., either as part of the capacity auction or in a separate but coordinated auction). These ancillary products also provide capacity and this would avoid paying for the capacity twice and provide a more efficient outcome.</p> |

| Section | Approach | Stakeholder Response |
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| | <ul style="list-style-type: none"> – <i>How do we know that capacity has been provided? (Performance assessments)</i> – <i>How will the capacity market work? (Market mechanics)</i> – <i>How will capacity providers be paid? How will capacity costs be allocated? (Capacity market settlement)</i> – <i>How will the capacity market impact the energy and ancillary services markets? (Inter-operability implications)</i> | |
| 3. Design dependencies and sequencing <i>Slide 12</i> | <p>What additional information do you require regarding sequencing? Do you agree with dependencies between design elements and the proposed sequencing of the design? Is there an alternative sequencing that should be followed? Is there a different approach entirely that should be considered? Please provide reasons for your response.</p> | <p>The proposed sequencing seems reasonable; however, the result may be unproductive and time-consuming ‘design-by-committee.’ In the end the individual elements have to fit together in a cohesive structure.</p> <p>An alternative approach would be for AESO (or maybe AESO’s expert consultant) to develop one or two appropriate complete capacity market proposals based on existing capacity markets, and then allow stakeholders to comment on these straw-man proposals.</p> <p>The AESO (or consultant) could identify which of the design elements could be modified to suit Alberta’s unique circumstances and perhaps provide options for those elements that would be consistent with the overall design and the pros and cons of such options. Stakeholders could weigh in on the merits of the overall design and each of the options identified.</p> |
| 4. Capacity market development roadmap <i>Slide 13</i> | <p>What additional questions or clarification do you have regarding the roadmap? Do you have any issues or concerns with the proposed roadmap for designing and implementing the capacity market? Are there items or considerations missing from the roadmap?</p> | |

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| 5. AESO Consultation Principles <i>Slide 15</i> | Do you have any questions regarding the AESO's consultation principles as they pertain to development of the capacity market? Are there additional concepts or principles which should be considered? Please provide reasons for your response. | |
| 6. Proposed approach to answering key design questions <i>Slides 16 – 17</i> | What clarification or additional information do you require regarding the proposed approach? Do you support the two-stage iterative process proposed for the capacity market design? Do you agree this process will deliver an inclusive, timely, efficient, cohesive and comprehensive design? Do you think that the process will result in the expected benefits listed? Are there modifications to this approach that would improve its effectiveness? Is there an alternative consultation approach you would like us to consider and why? Please describe the alternative in as much detail as possible. | See response to question 3, above. |
| 7. Design Alternatives Sheets <i>Slide 18</i> | Do you have any comments regarding the proposed purpose, structure or content for of the proposed design documentation? | |
| 8. Term Sheets <i>Slide 19</i> | Do you have any comments regarding the proposed purpose, structure or content for of the proposed design documentation? | |

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| 9. Design development steps <i>Slide 20</i> | Do you have any questions regarding the proposed steps? Do you support the proposed design development process? What should be considered before a design component moves to the stage of being drafted into legal language? | |

Capacity Market Criteria

Please indicate in your response whether you support the following market criteria and provide reasons for your position.

| Section | Subject | Stakeholder Response |
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| 10. Potential criteria for supply adequacy and reliability <i>Slide 22</i> | Do you support the following criteria regarding the supply adequacy and reliability category? Please explain. <i>The capacity market should achieve desired reliability objectives by creating a real and measurable supply adequacy product.</i> | Yes |
| 11. Potential criteria for supply adequacy and reliability <i>Slide 22</i> | Do you support the following criteria regarding the supply adequacy and reliability category? Please explain. <i>The capacity market should contribute to the reliable operation of the electricity grid and implementation should be consistent with, and complementary to, other measures aimed at ensuring reliability.</i> | Yes |
| 12. Potential criteria for supply adequacy and reliability <i>Slide 22</i> | Are there additional criteria which should be included in this category? | |
| 13. Potential criteria for the capacity market <i>Slide 23</i> | Do you support the following criteria regarding the market category? Please explain. <i>The capacity market should be fair, efficient, and openly competitive.</i> | Yes |
| 14. Potential criteria for the | Do you support the following criteria regarding the market category? Please explain. | Must-Offer: There is a question as to whether the Must-Offer requirement should apply to compel participation in the capacity market, |

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| capacity market <i>Slide 23</i> | <i>The procurement of capacity should employ market-based mechanisms and a competitive market for capacity should be developed.</i> | as opposed to being an outcome of a successful bid within the capacity market. I.e., if you are awarded a capacity contract, you must offer in the energy market. |
| 15. Potential criteria for the capacity market <i>Slide 23</i> | Do you support the following criteria regarding the market category? Please explain. <i>A wide variety of technologies should be able to compete to provide capacity.</i> | Yes; however, the question of whether the AESO should decide how much capacity a resource can provide or whether the Market Participant should make that decision based on their unique knowledge of operating their resource(s), subject to penalties for non-performance, is an element that should be addressed. |
| 16. Potential criteria for the capacity market <i>Slide 23</i> | Do you support the following criteria regarding the market category? Please explain. <i>Capacity market mechanisms, outcomes and relevant data should be transparent.</i> | Yes |
| 17. Potential criteria for the capacity market <i>Slide 23</i> | Do you support the following criteria regarding the market category? Please explain. <i>There should be a well-defined product and an effective and efficient capacity price signal.</i> | Yes, subject to the comment in question 2 above that multiple types of capacity (e.g., regulation, base load or flexible) can meet the peak load requirements. Some of these types can meet other capacity requirements that will be required in greater quantities with more intermittent supply. Efficient procurement should consider minimizing the total quantity of capacity that is purchased to meet the multiple requirements. |
| 18. Potential criteria for the capacity market <i>Slide 23</i> | Are there additional criteria which should be included in this category? | |

| Section | Subject | Stakeholder Response |
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| 19. Potential criteria for costs and risk Slide 24 | Do you support the following criteria regarding the costs and risks category? Please explain. <i>Long-term investment risks should continue to be largely borne by investors rather than consumers.</i> | We do not disagree, but the logical flip-side is that if the risk is borne by Market Participants, then those Market Participants should also maintain the exclusive right to bid into markets external to the AESO and not be subject to a must offer requirement in the energy market if they are not successful in the Alberta capacity market. There is also a question as to whether a Must-Offer requirement should apply to compel participation in the capacity market, as opposed to being an outcome of a successful bid within the capacity market (i.e., if you are awarded a capacity contract, you must offer in the energy market). |
| 20. Potential criteria for costs and risk Slide 24 | Do you support the following criteria regarding the costs and risks category? Please explain. <i>The capacity market should instil investor confidence and should result in private investment.</i> | |
| 21. Potential criteria for costs and risk Slide 24 | Do you support the following criteria regarding the costs and risks category? Please explain. <i>There should be an effective balance between capacity cost and supply adequacy.</i> | |
| 22. Potential criteria for costs and risk Slide 25 | Do you support the following criteria regarding the costs and risks category? Please explain. <i>The term of the capacity obligation should be as short as possible while ensuring supply adequacy objectives are achieved.</i> | |
| 23. Potential criteria for costs and risk | Do you support the following criteria regarding the costs and risks category? Please explain. <i>Reasonable capacity costs for consumers should be achieved</i> | |

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| Slide 25 | <i>through effective competition and administratively determined prices should be avoided.</i> | |
| 24. Potential criteria for costs and risk Slide 24 | Do you support the following criteria regarding the costs and risks category? Please explain. <i>The design should provide mechanisms for consumers to hedge the cost of capacity if and where appropriate.</i> | |
| 25. Potential criteria for costs and risk Slides 24 – 25 | Are there additional criteria which should be included in this category? | |
| 26. Potential criteria for flexibility Slide 26 | Do you support the following criteria regarding the category of flexibility? Please explain. <i>Unique aspects of Alberta's electricity system should be considered in the design of the capacity market (e.g. nature of load/generation, levels of cogeneration, limited inerties, large geographic area, etc.).</i> | |
| 27. Potential criteria for flexibility Slide 26 | Do you support the following criteria regarding the category of flexibility? Please explain. <i>The capacity market should be compatible with other components of the electricity framework, and should be robust and adaptable to different government policy initiatives related to the electricity sector.</i> | |
| 28. Potential | Are there additional criteria which should be included in this | |

| Section | Subject | Stakeholder Response |
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| criteria for flexibility <i>Slide 26</i> | category? | |
| 29. Potential criteria for timely development <i>Slide 27</i> | Do you support the following criteria regarding the timely development category? Please explain. <i>Market should be targeted to open in 2019 for start of first capacity procurement.</i> | |
| 30. Potential criteria for timely development <i>Slide 27</i> | Do you support the following criteria regarding the timely development category? Please explain. <i>The initial degree of change to the current energy and ancillary service market should be minimized.</i> | We are not sure that minimizing changes is the correct approach. The focus should be on market efficiency. Minimizing changes can lead to greater uncertainty in the long run, as more changes are eventually required. We suggest learning from other markets that have gone through the development of capacity markets already. |
| 31. Potential criteria for timely development <i>Slide 27</i> | Do you support the following criteria regarding the timely development category? Please explain. <i>Simple and straightforward implementation should be a priority.</i> | |
| 32. Potential criteria for timely development <i>Slide 28</i> | Do you support the following criteria regarding the timely development category? Please explain. <i>To the extent a staged implementation is pursued, the expected timing and nature of future changes should be provided.</i> | |

| Section | Subject | Stakeholder Response |
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| 33. Potential criteria for timely development Slide 28 | Do you support the following criteria regarding the timely development category? Please explain. <i>The risks of regulatory delay and need for re-design should be minimized.</i> | |
| 34. Potential criteria for timely development Slide 28 | Do you support the following criteria regarding the timely development category? Please explain. <i>Best practices and lessons learned from other capacity market implementations should be leveraged as much as possible.</i> | Agreed. Other markets have substantial experience with developing, operating, and modifying capacity markets. Certain constructs from these existing capacity markets should be employed in Alberta's capacity market development. Refer to the response to question 3, above, regarding development of an AESO straw-man proposal. |
| 35. Potential criteria for timely development Slides 27 - 28 | Are there additional criteria which should be included in this category? | As discussed, a straw-man proposal developed by the AESO would help with timely development. |
| 36. General feedback regarding criteria Slides 21 – 28 | Are there additional categories of criteria which should be considered? Do you require additional explanation or have questions regarding any of the categories or criteria? Do you think all criteria are equally important or should some take precedence over others? | |

Capacity Market Assumptions

Please indicate in your response whether you support adopting the following starting assumptions and provide reasons for your position.

| Item | Assumption | Stakeholder Response |
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| 1 Slide 30 | Do you support adopting the following assumption? Please explain. <i>A capacity obligation is a forward physical obligation on capacity suppliers that requires the capacity sold in the capacity market to be available to provide energy when needed. This obligation is created when the supplier's offer is cleared in the capacity market.</i> | Yes |
| 2 Slide 30 | Do you support adopting the following assumption? Please explain. <i>All existing capacity "must offer" their eligible capacity to the capacity market. Planned capacity must offer for the delivery year they are connected.</i> | Refer to response to question 19 regarding 'Must-Offer.' |
| 3 Slide 30 | Do you support adopting the following assumption? Please explain. <i>The capacity market will be designed as a single zone with the capability of adding zones should it be required due to a change in transmission policy or other factors.</i> | Yes |
| 4 Slide 31 | Do you support adopting the following assumption? Please explain. <i>The resource adequacy requirement for Alberta will be centrally determined.</i> | Yes |
| 5 Slide 31 | Do you support adopting the following assumption? Please explain. <i>The capacity market is intended to ensure supply adequacy. Other attributes such as carbon output, total capacity factor, ramp flexibility, energy production costs, etc., are not considered within the capacity market.</i> | The outcome may be inefficient and a higher final cost to the consumer if, in purchasing capacity that does not align with the Province's low-GHG and flexibility/ramping requirements, you end up procuring more total capacity than needed (see responses to questions 2 and 17 above). |

| Item | Assumption | Stakeholder Response |
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| 6 Slide 31 | Do you support adopting the following assumption? Please explain. <i>Capacity and energy/ancillary services are separate products, and are procured independently.</i> | No. See response to assumption 5, above, as well as responses to questions 2 and 17. |
| 7 Slide 32 | Do you support adopting the following assumption? Please explain. <i>Participants do not need to be successful in the capacity market to participate in the energy and ancillary service markets.</i> | Yes |
| 8 Slide 32 | Do you support adopting the following assumption? Please explain. <i>While receiving support payments, Renewable Electricity Program (REP) round 1 winners are not eligible to sell REP capacity in the capacity market owing to the Indexed REC payment mechanism chosen.</i> | Yes |
| 9 Slide 32 | Do you support adopting the following assumption? Please explain. <i>Capacity market mechanics/behavior will have regulatory oversight. Market outcomes will be the result of market clearing, unless otherwise demonstrated.</i> | The discussion of 'Mitigation' should be added to the stakeholder session: Whether there is a cap on offer prices in the auction, or whether there is some other form of mitigation on offers that are deemed to be uncompetitive. |
| General feedback regarding assumptions | Are there additional assumptions which should be considered? Do you require additional explanation or have questions regarding any of the assumptions? | |

General Feedback

Please provide as much detail as possible in your responses below.

| Section | Subject | Stakeholder Response |
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| Next Steps <i>Slides 33 – 34</i> | <p>Please provide any general feedback you have regarding the January 12/16 AESO presentation content or format.</p> <p>Please provide any general feedback you have regarding formats for future materials or stakeholder sessions.</p> | |
| Next Steps <i>Slides 33 – 34</i> | <p>Please provide any feedback you have regarding next steps in the capacity market development process.</p> | <p>Refer to the response to question 3, above, regarding development of an AESO straw-man proposal.</p> |
| Next Steps <i>Slides 33 – 34</i> | <p>Assuming criteria, assumptions, key questions, sequencing and stakeholder approach are finalized, do you agree that next steps are to begin consultation on the first detailed design components? Do you agree that these items need to be resolved before detailed design components begin to be addressed?</p> <p>Other than the items listed above, do other topics need to be discussed or addressed, or other information provided, before detailed design discussions begin?</p> | |
| General Information | <p>Please provide any additional comments or information regarding topics which you think are relevant but have not been specifically addressed above.</p> | |