Designing Alberta's Capacity Market

Desired end state, criteria and assumptions

Final

Desired end state of capacity market development

"The desired end state is a stable and transparent capacity market that relies on competitive market forces, and works efficiently with the energy and ancillary service markets, to achieve sufficient investment to maintain supply adequacy and reliability at the lowest cost for consumers, while working effectively within Alberta's unique electricity structure."

Key questions for capacity market development

- How much capacity needs to be procured?
  - Resource adequacy requirement
- How will capacity costs be allocated?
  - Cost allocation
- Who will buy the capacity?
  - Obligation to procure
- When and how often will capacity be purchased?
  - Procurement timing and frequency

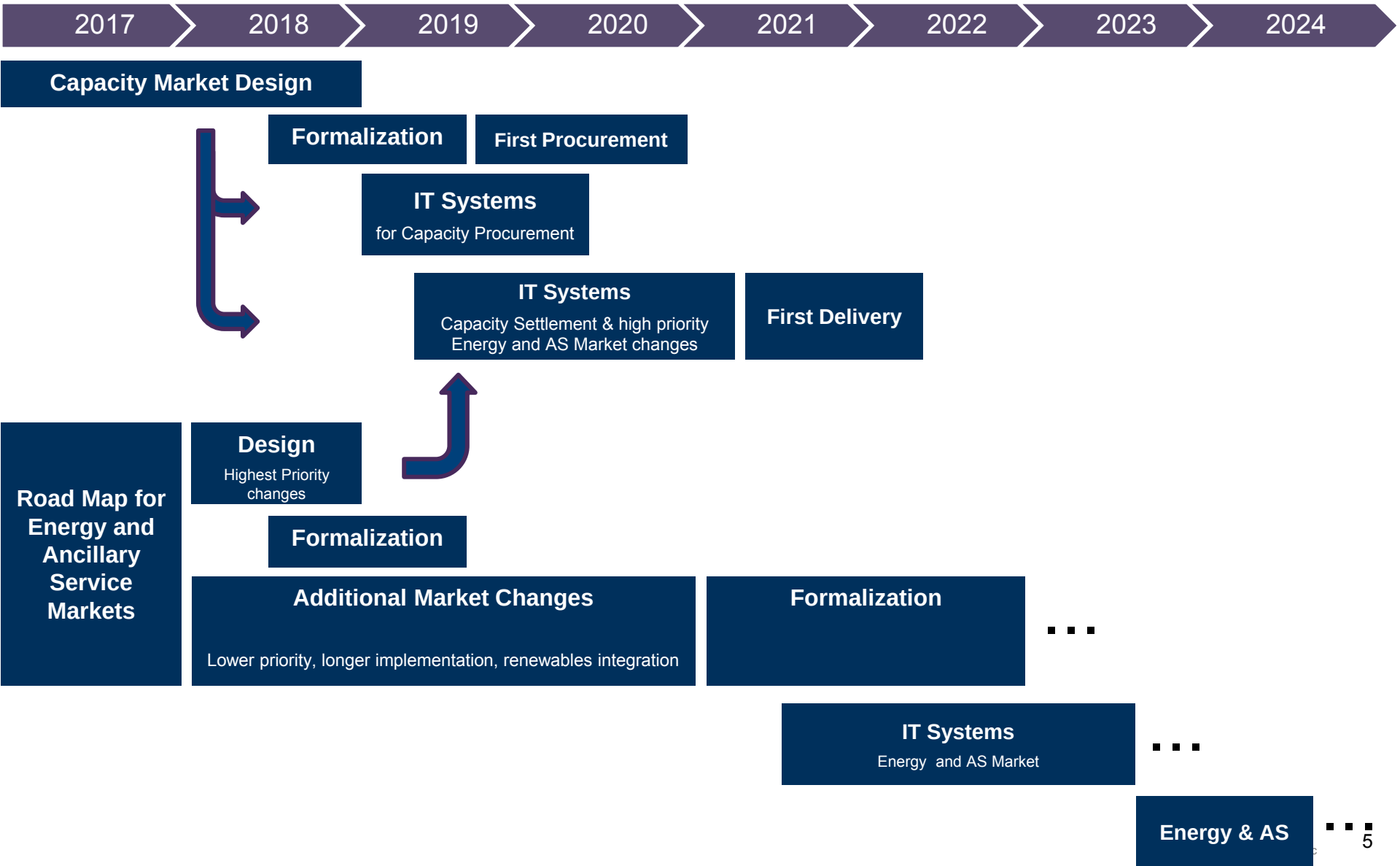
Key questions for capacity market development

- How long will the capacity delivery period be?
  - Term
- Who can provide capacity? How much can they provide?
  - Eligibility
- How do we know that capacity has been provided?
  - Performance assessments

Key questions for capacity market development

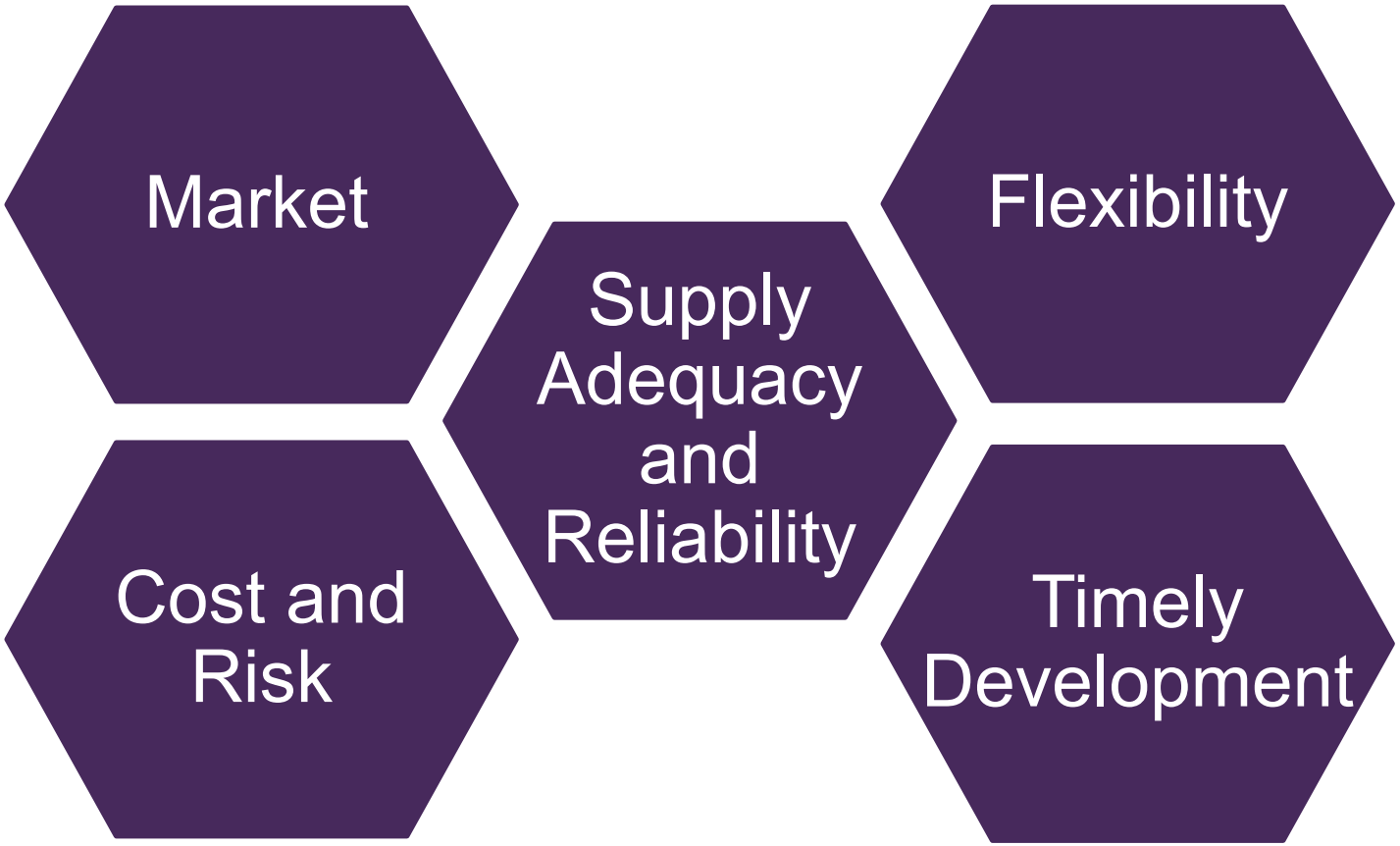
- How will the capacity market work?
  - Market mechanics
- How will capacity providers be paid?
  - Capacity market settlement
- How will the capacity market impact the energy and ancillary services markets?
  - Inter-operability implications – ensuring efficient integration of capacity, energy and ancillary service markets
- How is regulatory oversight applied?
  - Role of agencies and legislative changes required

Expected electricity market development roadmap



Final design criteria

- The design criteria are meant to document what the capacity market is intended to achieve and high-level measures of success. For ease of discussion, potential design criteria have been grouped into the categories below.



Final criteria for supply adequacy and reliability

- The capacity market should achieve desired reliability objectives by creating a measurable supply adequacy product designed to provide energy production or reduced consumption when needed

- The capacity market should contribute to the reliable operation of the electricity grid, and implementation should be consistent with, and complementary to, existing measures aimed at ensuring reliability

Final criteria for the capacity market

- The capacity market should be fair, efficient, and openly competitive
- The procurement of capacity should employ market-based mechanisms and a competitive market for capacity should be developed
- A wide variety of technologies should be able to compete to provide capacity provided they are qualified to meet the eligibility criteria
- Capacity market mechanisms, outcomes and relevant data should be transparent
- There should be a well-defined product and an effective and efficient price signal

Final criteria for costs and risk

- Investment risks should continue to be largely borne by investors rather than consumers
- The market structure, which includes the capacity market, energy market and ancillary services market, should create conditions such that private investment can be reasonably expected
- There should be an effective balance between capacity cost and supply adequacy

Final criteria for costs and risk

- The term of the capacity obligation should be as short as possible, while ensuring supply adequacy objectives are achieved through sufficient investment in new capacity supply
- The design should allow consumers to manage the cost of capacity if and where appropriate

Final criteria for flexibility

- 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 interties, large geographic area, etc.
- The capacity market should be compatible with other components of the electricity framework

Final criteria for timely development

- Market should be targeted to open in 2019 for start of first capacity procurement for delivery of capacity starting in 2021
- Changes to the energy and ancillary service markets required to achieve the most efficient steady state electricity market possible may need to be staged to ensure timely initial implementation.
- To the extent a staged implementation of the overall electricity market is pursued, the expected timing and nature of future changes should be provided before opening the first procurement.

Final criteria for timely development

- 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

Starting assumptions

1. A capacity obligation is a forward obligation on capacity suppliers that requires the capacity sold in the capacity market to be available to provide energy production or reduced consumption when needed.

2. All existing capacity “must offer” their eligible capacity to the capacity market. Planned capacity must offer for the delivery year they are connected.

3. The capacity market will be designed as a single zone.

Starting assumptions

4. The resource adequacy requirement and resulting volume of capacity for Alberta will be centrally determined prior to each procurement.

5. Capacity and energy/ancillary services are separate products, and are procured independently.

6. Participants do not need to have a capacity obligation in the capacity market to participate in the energy and ancillary services markets.

Starting assumptions

7. 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; however their capacity contribution will be netted off the overall capacity requirement.

8. Capacity market mechanics/behaviour will have regulatory oversight. Capacity clearing price formed in the capacity procurement process is not subject to adjustment after the fact, unless it is demonstrated that the price outcome resulted from prohibited behaviors, technical failures or errors.