



UNDERSTANDING

THE CAPACITY MARKET

Alberta's electricity market is changing to ensure reliable power at stable prices. A new electricity market is taking shape. Moving to a capacity market will help attract investment as Alberta shifts to lower-emission generation sources, and ensure Albertans have reliable, affordable electricity at stable prices.

Here are the benefits of a capacity market, how it will work and why it's needed.

What is Alberta's electricity market today?

Electricity is like other commodities: bought at a wholesale price and resold to consumers at retail prices. Alberta currently has an energy market, where suppliers, built by private investors, compete to sell their electricity into the wholesale market in real time.

The lowest-priced electricity is dispatched first until supply meets demand. The Alberta Electric System Operator (AESO) plays an instrumental role in developing and operating this market. The new capacity market framework will complement Alberta's existing energy market.

Alberta also has an ancillary services market that plays a fundamental role in ensuring reliable power. These services also generate revenue, but within a considerably smaller market than the energy market.

What is a capacity market?

A capacity market is a market for the ability or capacity to produce energy. Capacity is purchased to deliver energy in the future – ensuring reliable power is available when it's needed.

In the new market structure, the markets for capacity, energy and ancillary services will work alongside each other, and suppliers can compete for three revenue streams.


We know that system reliability comes at a cost. So to balance this, under the new market framework, the Government of Alberta has set the minimum level of reliability needed to keep the lights on, and the AESO determines the capacity required to meet that minimum level. Suppliers will then compete in auctions to provide this capacity in advance of when electricity will be supplied.

Why do we need a capacity market?

Our central role and public interest mandate in Alberta’s electricity industry means that we have visibility of the entire electricity grid and market and make all of our decisions based on what is in the best interest of all Albertans.

We are constantly monitoring and analyzing a wide range of factors that could impact reliability to ensure we plan responsibly for the future. Our research showed us that the existing market structure would not ensure the necessary investment in new generation Alberta needs.

To maintain reliability, we determined that the electricity market structure needed to change, and provided our recommendation to the Government of Alberta.



Moving to a capacity market is in the **best interest** of all Albertans. It will ensure we provide **reliable**, **affordable** electricity at **stable** prices.

Like many other parts of the world, Alberta is moving away from coal-fired generation toward greener sources of electricity. These sources are variable, meaning they are not always available. Generation that can commit to providing power when other resources aren’t able to, helps protect overall grid reliability. A capacity market will encourage different types of suppliers to build and compete in Alberta. Competition drives innovation and efficiencies, which lowers costs to consumers.

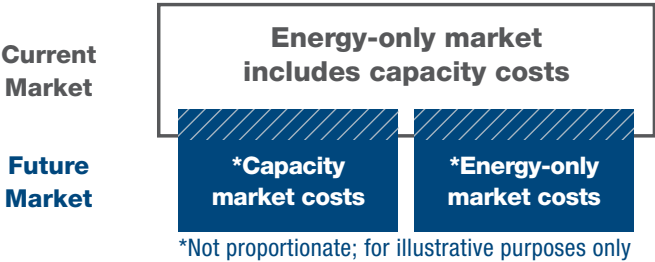
A capacity market will also introduce more price stability because future generation capacity commitments will come at prices established well in advance of the electricity’s delivery. Having an energy market that responds to real-time price signals, as well as a capacity market that determines future pricing, can reduce fluctuations in price over the long term.

Alberta is not alone in adopting a capacity market—many other places in North America and in the world have capacity markets.



What will happen to the price of electricity?

Capacity price is embedded in the current energy-only price. Creating a market where capacity value can compete essentially divides these costs and should not increase the overall electricity price. That means we will continue to get the same level of reliability going forward at similar cost, despite changes in supply.



How will the market work?

Similar to how other capacity markets work, suppliers will compete to sell their capacity in the market through a series of competitive auctions run by the AESO. Competitive auctions will help drive prices down.

An auction will be held every year for a delivery date three years away, to ensure Alberta has enough power when it needs it in the future. After this auction there will also be rebalancing auctions where the volume of capacity bought and sold can be adjusted to reflect changing conditions.

The first electricity generated and supplied into the capacity market will start in November 2021.

Capacity market auction



What is the relationship between generation, investment and reliability?

The electricity price in Alberta's wholesale energy market provides the investment signal that investors consider when making decisions about whether to build new facilities. Periods when the price is low can indicate an abundance of generation capacity; periods when the price is high can indicate a lack of available generation. We have designed a capacity market that will work with energy prices to provide the right price signals to drive the level of investment needed.

How did the AESO design the capacity market?

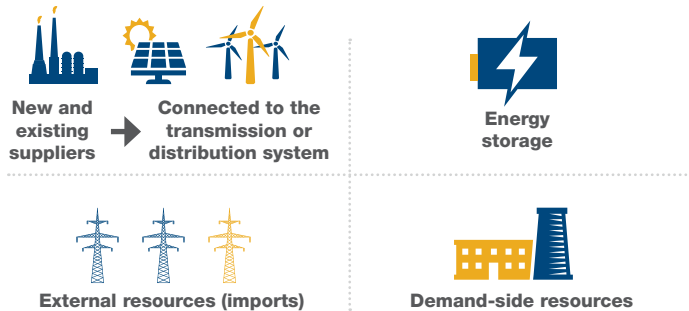
In early 2017 the AESO began engaging with stakeholders on capacity market design. In mid-2017, the AESO assembled working groups of 50 experts with diverse experience, perspectives and knowledge from 40 organizations across the electricity industry. These individuals provided input into key elements of the capacity market over 18 months. We also reached out to experts outside the AESO working groups for help when we needed analysis beyond our expertise.

All of this work was (and still is) available on our website so Albertans could see how the design was progressing and provide their input.



A robust, transparent and fair engagement process was fundamental in designing the new Alberta capacity market.

Who can provide capacity in the new market?



Energy efficiency resources will not be included in the first planned capacity market auction because we still have more work to do to better understand how these resources participate in other capacity markets.



How will the capacity market work with the Renewable Electricity Program (REP)?

The REP is intended to encourage development of large-scale renewable electricity generation to support the Government of Alberta's target of 30 per cent renewable electricity by 2030.

The AESO is responsible for implementing and administering the program through a series of competitions that will encourage the development of renewable electricity generation.

Renewable generators who receive support payments in REP Rounds 1, 2 and 3 will not be eligible for capacity payments when the first capacity market auction begins in 2019.

The AESO will continue to monitor REP rounds and the capacity market to ensure they work together, contributing to a properly functioning market.

Who is the AESO?

The Alberta Electric System Operator plans, manages and operates the provincial power grid.

We're a not-for-profit organization with no financial investment in the electricity industry. On behalf of Albertans, we work with industry partners and the provincial government to make sure reliable power arrives where and when you need it.

We operate Alberta's electricity markets, facilitate competition, enable economic growth and keep power flowing so that Alberta's electricity future always looks bright.

Who's involved?

The AESO is responsible for designing and implementing the capacity market and drafting rules to ensure that the capacity market operates in a fair, efficient and openly competitive manner, consistent with legislation and regulation, and at a reasonable cost to consumers.

The Alberta Utilities Commission (AUC) is an independent, quasi-judicial agency of the Province of Alberta. Under the amended *Electric Utilities Act*, the AUC is responsible for considering and, if appropriate, approving all rules drafted by the AESO. With the introduction of the capacity market, the AUC will hold a regulatory proceeding to review the rules that will establish and operate the capacity market.

The Market Surveillance Administrator (MSA) provides market-related expert advice to support the transition to a capacity market, and will be responsible for oversight of the operation of the market to ensure it's competitive.

Connect with us

For answers to questions about Alberta's transition to a capacity market, visit our website, subscribe to our stakeholder newsletter or email us at capacitymarket@aeso.ca

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