

CHALLENGE STATEMENT #2

A wholesale market structure that fully recognizes the benefits of diverse supply and demand resources

What is the systemic barrier?

Alberta's wholesale electricity market was created roughly 20 years ago when the majority of electricity generation in the province came from coal-fired power plants. The services and technical rules governing the market were designed with the attributes of coal and natural gas generation in mind. They were also designed to attract and entice investor-owned generation into the province at the outset of deregulation. As renewable energy sources and emerging solutions, such as energy storage have come onto the system, the market design, services and rules need to be adjusted to account for their benefits and limitations.

Even as the 2024 Restructured Energy Market (REM) scope and engagement intends to address supply-side issues that might enable new generation sources and emerging solutions to participate in the market, greater connection to and enhanced participation from the electricity system's demand-side remains a gap. Enabling more demand-side participation in the market can help industrial and commercial customers manage their electricity costs, enabling them to remain competitive, while also making new products and services available to residential customers that allow them to influence their energy bills.

Why is this critical to achieving our vision?

[Alberta's Electricity Future \(AEF\) vision](#) seeks to create a future where the system delivers more than just electrons. It seeks a system where vastly expanded sets of goods and services are created and sold. A service-oriented electricity system will nurture new entrepreneurship and business models, create new efficiencies and potentially even new income streams for customers. To do this, the system must also have the ability to predict, calculate, coordinate and balance demand and supply through inter- and intra-jurisdictional imports and exports, creating resilience in the face of unexpected disruptions.

A fundamental enabler for achieving this is a wholesale market designed to recognize the advantages offered by new generation sources, energy storage solutions, and demand side management, and be adaptable to incorporating emerging solutions as they become

commercially available. A wholesale market designed to properly assess and value the benefits of demand side management and emerging solutions inline with the AEF vision is critical to establishing Alberta as a destination for innovators, investors and businesses focused on delivering a greater diversity of electricity solutions.

What surface-level barriers are related to this systemic barrier?

Surface level barriers are often what actors see or experience as a result of a systemic barrier. Such barriers provide insights into areas that can be improved should the systemic barrier be resolved.

The following are examples of surface level-barriers that are the result of a wholesale market not enabled to fully recognize the benefits of emerging solutions.

- **More regular electricity system blackout notifications**
- **More zero-priced hours, making it harder for generators to recover their costs**
- **Difficulty in coordinating a growing number of small-scale resources whose market participation differs from large generators**
- **Lack of market incentives to optimize the grid and deploy new technologies**
- **Difficulty in building complete business cases for new resources, products, services, and expanding interties**
- **Lack of investor confidence in the stability of the market to deploy new generation**
- **Economic growth constraints due to lack of abundant clean, affordable, reliable electricity to fuel future companies**
- **Market rules limit participation from new entrants**