

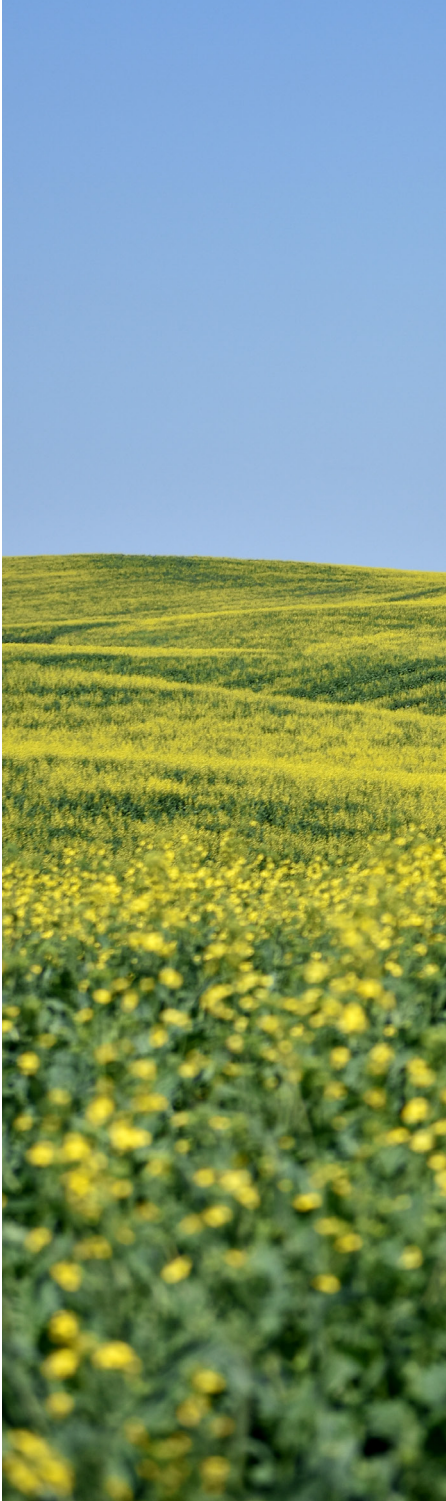


# Transforming the **Electricity Landscape**

AESO 2025 STRATEGIC PLAN

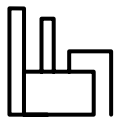
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## AESO at a Glance



**June 2024**  
**Coal-Fired Generation Retired**  
 Emissions from Coal Phased Out



**12,385 MW**  
**Seasonal Peak Demand**  
 All-Time Record Winter 2023



**3 Interties**  
**BC, Montana, Saskatchewan**  
 Moving Power Across Borders



**589**  
**Generating Assets**  
 ~276 Pool Participants

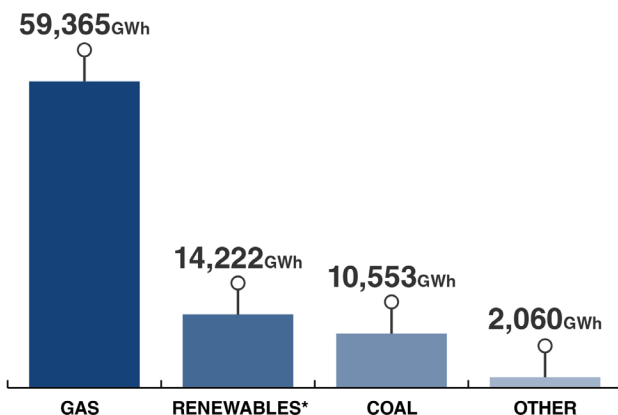


**\$15.8 Billion**  
**Annual Energy Transactions**  
 Key Market Enabler of Alberta's  
 \$331 Billion Economy



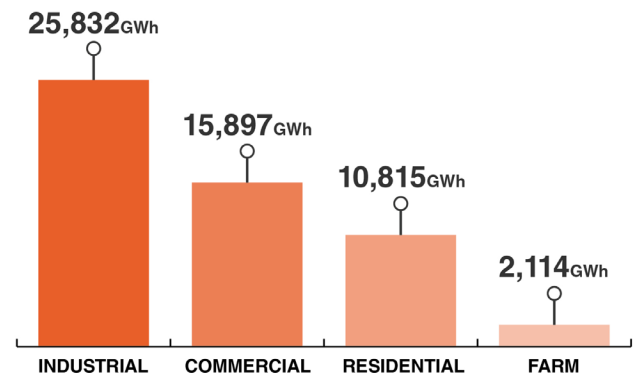
**20,777 MW**  
**Installed Generation Capacity**  
 Thermal, Renewables, and  
 Co-Generation

**Alberta Generation**

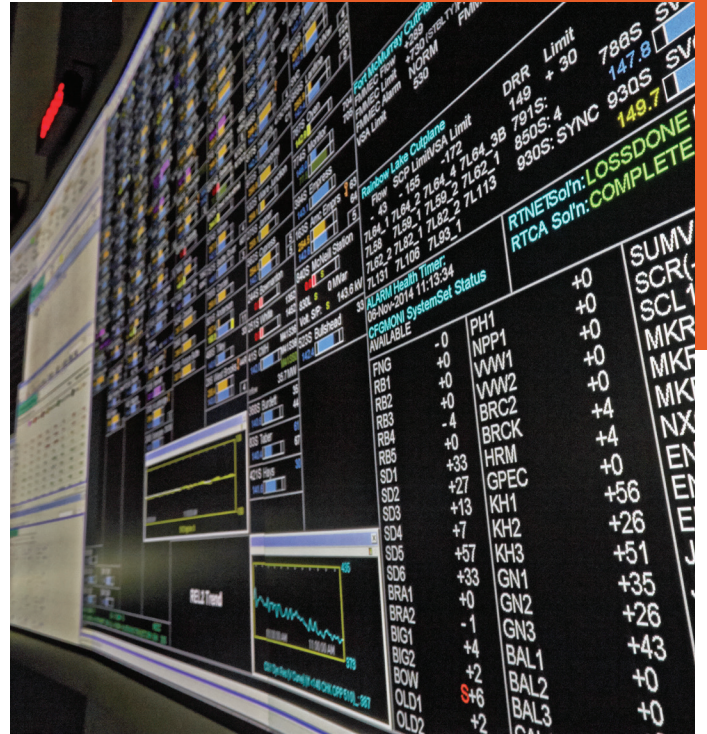


Source: AESO Annual Market Statistics Datafile (data as of Dec 31, 2023)  
 \*Renewables includes wind, solar and hydro.

**Power Use in Alberta**



Source: Annual Sales History 2023 ([www.auc.ab.ca/annual-electricity-data/](http://www.auc.ab.ca/annual-electricity-data/))  
 Note: Power Use values do not include usage at sites with an Industrial Site Designation (ISD). The ISD volume is estimated to be 28,000 GWh.



## What We Do



### DIRECT THE SAFE AND RELIABLE OPERATION OF THE GRID

We work with industry partners to keep electricity safely and reliably flowing throughout the province. Our System Controllers dispatch generation to meet electricity demand and direct the operation of the transmission system 24/7, 365 days a year. We ensure almost five million Albertans have power when they need it.



### PLAN THE TRANSMISSION SYSTEM

We plan ahead by developing power supply and demand forecasts and scenarios to ensure the right transmission lines are built in the right locations, as cost effectively as possible. We identify needed transmission solutions and work through the regulatory process to secure necessary approvals.



### CONNECT CUSTOMERS TO THE GRID

We ensure customers can connect to the transmission system in a safe and reliable manner. Timely transmission system access is facilitated through the AESO's Connection Process. Using transmission tariffs, we recover the costs of the transmission system from customers. After deducting our costs of operating the system, we forward the remainder to transmission facility owners.



### OPERATE THE WHOLESALE ELECTRICITY MARKET

Electricity in Alberta is bought and sold through a wholesale market. We operate the market, manage its financial settlement function, and facilitate its ongoing development by designing and implementing market rules to ensure it is a fair, efficient and openly competitive market.

## Message From Our CEO



Over the next few years, the Alberta Electric System Operator (AESO) is undertaking the most significant restructuring of our electricity market in its history and implementing major changes to Alberta's transmission policies. And we will do those things while continuing to reliably operate the grid.

Our 2025 Strategic Plan sets the course for Alberta's wholesale electricity market and the grid. It is driven by clear objectives and a commitment to action. It reflects both the challenges we face and the opportunities we must seize to ensure we have a reliable and affordable electricity system.

### FOCUSED ON FUNDAMENTALS

- **Increase Reliability:** Grid reliability and supply adequacy are not where we want them to be, especially during those critical hours when demand surges and system stress peaks. We must address this fundamental issue to ensure system resilience when it matters most.
- **Deliver Affordable Power:** While a safe and reliable grid is paramount, it must also be affordable. Aligning market structures and incentives to strike the right balance between securing reliable power and managing ratepayer costs guides our thinking and actions.
- **Engage Stakeholders:** There are many nuances and complexities to structuring and managing electricity markets and operating an evolving grid. We don't have all the answers. Our consultation process is growing and improving. We listen to stakeholders. We implemented this approach in our Restructured Energy Market (REM) consultation process and other critical engagements.

- **Anticipate the Future:** Through proactive grid planning and forecasting, we will be positioned to adapt the grid to the challenges and opportunities of the coming decades.
- **Invest in Success:** Our strategic plan is ambitious and outcome driven. Our budgets are carefully and thoughtfully developed to ensure we are properly resourced to succeed in completing Alberta's energy market transformation. As we move through the transformation, we will regularly evaluate our resources and where needed, drive efficiencies to ensure our costs reflect the AESO's role in Alberta's electricity industry.

My roots run deep in Alberta—it's where my wife and I raised our family. It's where our four sons are now raising theirs. Doing meaningful work that creates a bright future for them, and for all Albertans, matters deeply to me.

And it matters to the entire AESO team—a group whose expertise, dedication and passion I have come to deeply appreciate in my short time with the AESO. To each of you, I extend my heartfelt thanks.

Our 2025 Strategic Plan clearly outlines the AESO's strategic objectives, maps out the impactful actions we will take, and paints a vision of what Alberta will look like when we succeed.

The path ahead is both daunting and exciting. While there is much work to be done, I am confident we have the right plan and the right people to get there.

Aaron Engen  
President and Chief Executive Officer

## Strategic Objectives and Actions

The *AESO 2025 Strategic Plan* centres on four strategic objectives, with actionable steps which will help secure a bright future for Albertans.

Our mandate consists of four primary functions:

- direct the safe and reliable operation of the grid;
- plan the transmission system;
- connect customers to the grid; and
- operate the wholesale electricity market.

Like other jurisdictions around the world, Alberta's electricity sector has been undergoing transition. Shifts in how electricity is produced, commercially exchanged, transmitted and consumed are all occurring at once. The cumulative effects of the transition impact how the AESO performs its primary functions and place Alberta at a pivotal moment where:

- Market trends and government decarbonization policies led to the end of coal-fired generation while current and potential federal policies negatively impact potential investment in new gas-fired generation.
- Rapid growth in variable wind and solar generation helps decarbonize the grid but also:
  - increases grid reliability challenges; and
  - means energy supply can change suddenly with weather, requiring faster grid operation responses and more detailed forecasting.
- Transmission planners face new pressures to affordably meet changing customer needs.
- The market is demanding larger, faster, and more innovative grid connections across Alberta and with neighbouring jurisdictions.

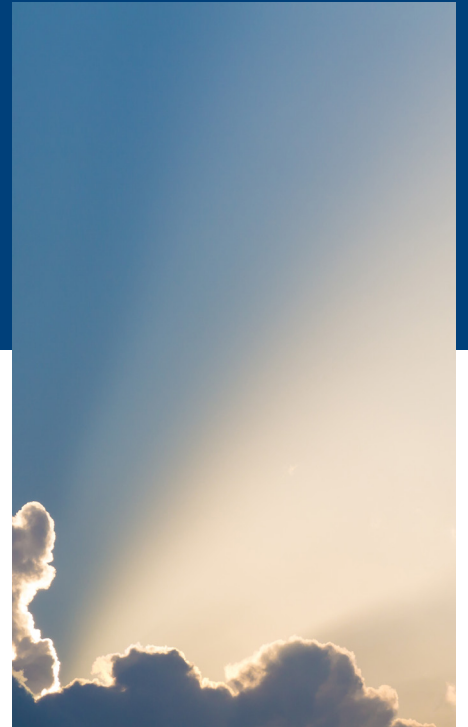
The challenges posed by the transition are amplified by Alberta's outdated energy market structure and policy framework. What has worked well for the past 30 years is insufficient to meet our current and future needs.

Securing Alberta's energy future is a critical priority and a shared responsibility. The AESO is working with policy makers and stakeholders to transform Alberta's energy market and transmission policy design into a framework that:

- meets market participants' needs;
- sends the right price signals to promote investment;
- encourages innovation and cost savings; and
- incents development of a reliable generation supply mix.

With an unwavering commitment to the safe and reliable operation of the grid, we have identified a set of strategic objectives, actions and outcomes that:

- address grid reliability and supply adequacy through the transformation;
- support the successful transformation of the energy market and transmission policy framework;
- focus on proactively planning for the future; and
- ensure we have a skilled, engaged workforce to deliver on our key roles in the transformation.



## Strategic Objective: What the AESO Wants to Achieve

# Maintain Grid Reliability Through the Transformation

We stand at a pivotal moment in the evolution of how we generate and transmit power on the grid. Our energy future depends on how quickly and effectively our industry adapts to change.

### Strategic Action: *What the AESO Will Do* **Restore System Reliability**

The AESO is working to restore the grid to the historical levels of reliability that Albertans expect, as quickly as possible. We will resolve reliability challenges created by a rapidly changing generation supply mix that makes it more difficult to maintain grid stability. When addressing these issues, implementing solutions with urgency will, within reason, take precedence over cost considerations. Once grid reliability is restored to historical levels, we will keep it there as the grid continues to change. Reliability is and will be “first among equals” as we operate the grid.

### Outcome: *What the World Looks Like When We’re Successful* **A Reliable Grid**

We will have optimal levels of flexibility capability, frequency stability and system strength—essential elements for a healthy grid. We will also have identified and implemented an enhanced suite of tools for managing grid reliability. These tools can be maintained long-term or until replaced by components of the Restructured Energy Market (REM).

By aligning market incentives and structures with system reliability measures, we will have a more resilient, flexible grid.

### Strategic Action: *What the AESO Will Do* **Ensure Supply Adequacy**

We will be proactive, taking steps to ensure sufficient dispatchable energy supply to meet demand through the transformation and beyond. This includes pursuing solutions with stakeholders that drive grid reliability and supply adequacy as we shift toward a lower-carbon generation fleet. We will achieve this cost-effectively and without disrupting the energy market.

### Outcome: *What the World Looks Like When We’re Successful* **A Stable Transformation**

Grid events and alerts will have decreased. Supply adequacy will be maintained through the energy market and transmission policy transformation, grid decarbonization, and increased electrification of the economy.



## Strategic Objective: What the AESO Wants to Achieve

# Successfully Implement Grid and Market Redesign

The timely and effective implementation of new market rules, policies and tariffs is essential to a smooth transformation.

### **Strategic Action:** *What the AESO Will Do* **Implement Restructured Energy Market**

The AESO is undertaking a comprehensive restructuring of Alberta’s wholesale electricity market. We will work with stakeholders and government to expeditiously implement the associated new rules, policies and tariffs and will endeavor to do so within the timelines asked of all stakeholders. We will align the new market design with revised transmission policies to ensure all their components work together.

### **Outcome:** *What the World Looks Like When We’re Successful* **A Modernized Market**

The REM will have been implemented and will revitalize and modernize Alberta’s electricity market. There will be:

- processes, tools and training available to prepare stakeholders for the launch of the REM; and
- broad stakeholder understanding of the restructured energy market.

The REM will:

- effectively and affordably deliver reliability and supply adequacy; and
- support a competitive market that attracts new investment and benefits ratepayers.

Metrics and monitoring processes will be established to measure success.

### **Strategic Action:** *What the AESO Will Do* **Implement New Transmission Policy**

The AESO will develop a clear and well-defined implementation plan for the updated transmission policy.

### **Outcome:** *What the World Looks Like When We’re Successful* **Clarity for Market Participants**

Market participants will have clarity regarding:

- Alberta’s revised transmission policy;
- optimal transmission planning;
- transmission cost allocation; and
- REM and transmission policy alignment.





## Strategic Objective: What the AESO Wants to Achieve

# Guide the Future of Electricity

The AESO is uniquely positioned to guide the future of electricity in Alberta. Market and policy changes made today must consider the future to provide flexibility for an electrified tomorrow.

**Strategic Action:** *What the AESO Will Do*

### **Be Proactive**

The AESO will seek to “future-proof” our market framework and grid operations today and into the future by:

- monitoring and adapting to emerging technologies;
- incorporating best practices and learnings from other jurisdictions;
- listening to stakeholders; and
- making continual operational improvements.

We will identify, implement or advocate for additional enhancements to the market, transmission planning or grid operations that drive efficiency, deliver economic or cost benefits, or foster continuous improvements.

### **Outcome:** *What the World Looks Like When We're Successful* **Mitigated Risks, Realized Opportunities**

Risks stemming from evolving technologies for producing, consuming, storing and transmitting electricity will be identified and prepared for.

We will develop a comprehensive 20-year outlook, identifying system infrastructure requirements and reliability attributes across a range of scenarios. This forward-thinking approach will mitigate risks and unlock opportunities for innovation and growth in Alberta's economy.

Government and industry support will be mobilized. Clear action plans will be developed for such issues as intertie development, demand response, efficient transmission connection processes, and other emerging issues.



## **Strategic Objective:** What the AESO Wants to Achieve

# Energize AESO People and Culture

Our greatest asset is our people. An energized, engaged workforce is essential to achieving our strategic objectives.

### **Strategic Action:** *What the AESO Will Do* **Enhance Organizational Effectiveness**

The AESO enhances organizational effectiveness by ensuring our employees have the skills they need to manage our continually changing electricity system. We will:

- deliver comprehensive learning and development programs;
- provide opportunities to learn new skills;
- improve job mobility within the organization;
- foster a culture of inclusivity; and
- make wellness an integral part of our culture.

### **Outcome:** *What the World Looks Like When We're Successful* **A Thriving Workforce**

The AESO will be equipped to deliver on its roles and responsibilities. Employees will see clear career paths, ensuring their engagement and leading to high retention rates. Our wellness strategy will help prevent burnout and support sustainable employee productivity.

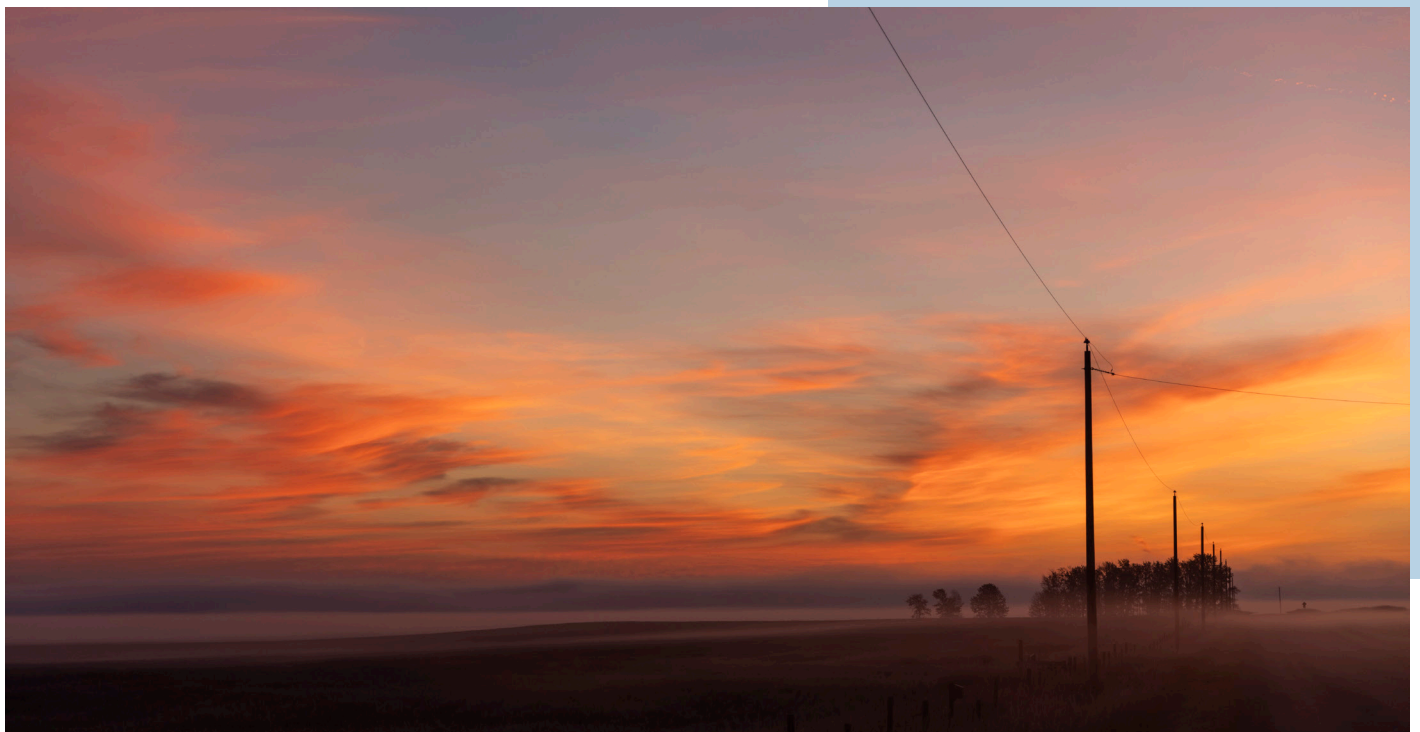


## Strengthening Our Core Business

Excellence in our core business activities is vital for achieving our strategic objectives. Without this solid foundation, success is unattainable.

Our commitment to excellence encompasses reliable operations, efficient market operation and settlement, effective stakeholder engagement and communication, timely system projects or procurements, and seamless customer connections.

Robust IT tools and cybersecurity measures, along with a dedication to continual improvement through data utilization and tool enhancement, are indispensable to our mission.



## Key Takeaways

- We don't have all the answers—we are listening to and working with industry to develop the right solutions.
- A significant scope and magnitude of work lies ahead to align market incentives with reliable, affordable grid operations—especially during critical demand periods.
- Clear and tangible strategic actions now will secure Alberta's energy future.
- Appropriate resource levels are critical to achieving success.
- By anticipating and planning for the future, we will meet any challenges and opportunities that lie ahead.
- Our world-class team is developing the right skills and expertise to deliver and operate a modern electricity market and ensure a resilient, adaptable grid.

