

2017 YEAR IN REVIEW

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# GUIDING THE FUTURE

OF OUR ELECTRICITY SYSTEM

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A new Alberta electricity system is taking shape, influenced by new technologies and evolving practices.

The Alberta Electric System Operator (AESO) is taking a leadership role in guiding this transition, while continuing to preserve a strong, reliable electricity grid.

This Year in Review outlines the work accomplished in 2017, as the AESO pursued the objectives of its strategic plan and delivered on its mandate.

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# TRANSITIONING

## THE GRID AND MARKET

### Meeting renewable targets responsibly

The AESO completes Round 1 of Alberta's Renewable Electricity Program, with winning bidders bringing almost 600 megawatts (MW) of renewable generation development to the grid. At a \$37/MW hour average, it is the lowest-priced renewable generation in Canada. By carefully utilizing existing capacity in conjunction with previously planned and approved transmission projects, the AESO minimizes the new infrastructure required and puts Alberta on track toward 30 per cent energy from renewable sources by 2030.

### Guiding market evolution

Executing on recommendations for a market transition, the AESO begins framework design and industry engagement on the development of a capacity market. Transitioning from the current energy-only market to both an energy market and a capacity market helps sustain reliability and supply adequacy as the electricity system shifts to lower-emission generation sources.

### Funding through innovation

The AESO plays a leading role in creating the Debt Funding Competition, an innovative public-private partnership model designed to finance the Fort McMurray West 500 kilovolt (kV) Transmission Project. The largest Canadian A-rated financing project of its kind to date, it obtains 100 per cent private-sector funding and successfully raises \$1.4 billion in project financing.

**VISION:** The AESO is the trusted leader in the advancement of the electricity framework by ensuring reliability, facilitating competition, enabling Alberta's economic growth, and enhancing the quality of life for Albertans.



# 2017 YEAR IN REVIEW

## ELECTRICITY IN ALBERTA



### PROVINCIAL ELECTRICITY DEMAND



**82,572** GWh

▲ 3.8% increase from 2016

### TOTAL GENERATION CAPACITY



**16,626** MW

▲ 1.2% increase from 2016

### PEAK WIND GENERATION



**1,380** MW

16% of Alberta Internal Load (March 19)

### ELECTRICITY MARKET PARTICIPANTS



**201** Total

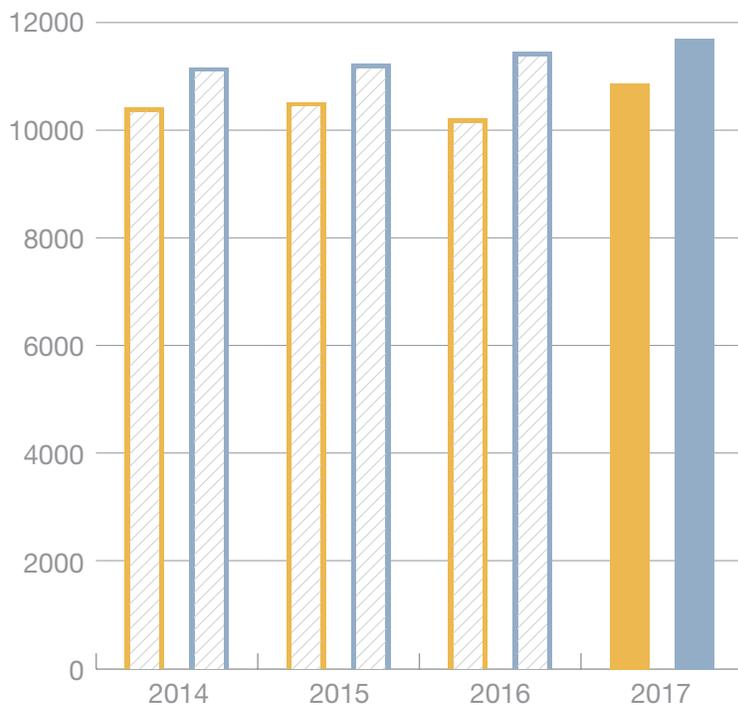
approx. \$3 billion in energy transactions



**SUMMER  
PEAK DEMAND 10,852 MW**



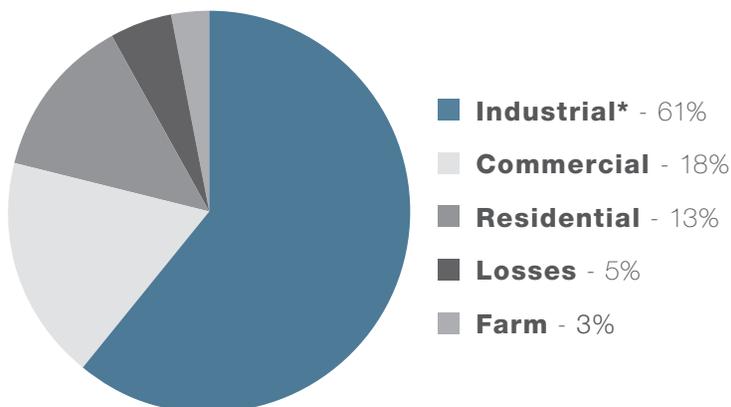
**WINTER (NEW ALL-TIME)  
PEAK DEMAND 11,473 MW**



▲ 608 MW increase from 2016

▲ 239 MW increase from 2016

### ALBERTA'S ELECTRICITY MARKET



\*High industrial load makes Alberta unique