



# TransAlta<sup>TM</sup>

Powering the Future

A Deep Dive into the Alberta Power Market

April 12, 2021

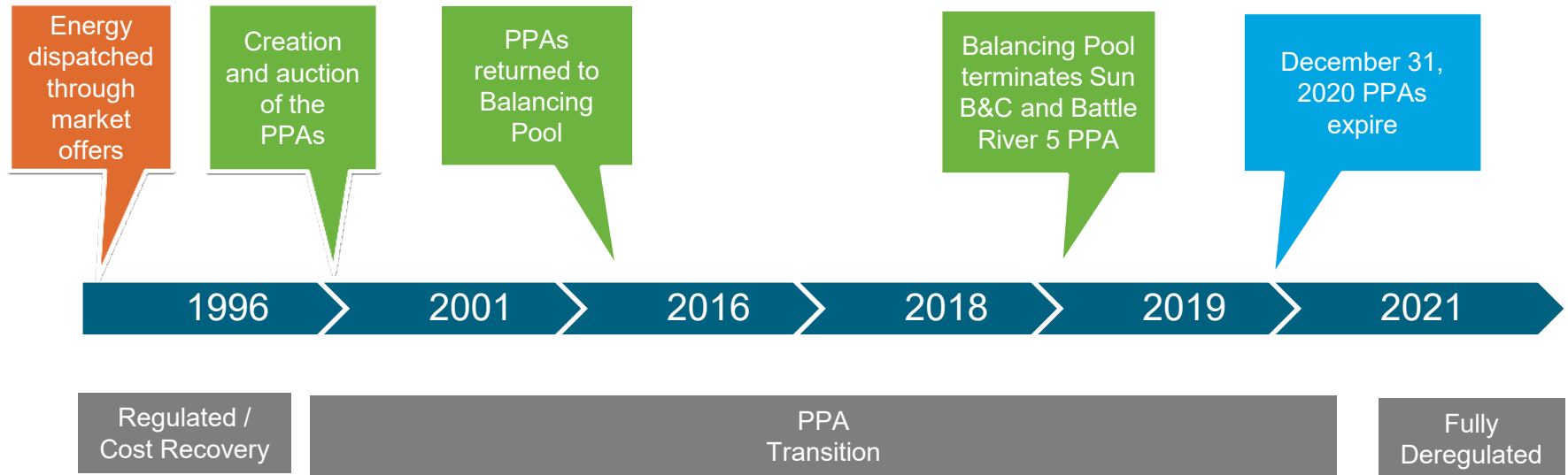
# Forward-Looking Statements

This presentation includes forward-looking statements or information (collectively referred to herein as “forward-looking statements”) within the meaning of applicable securities legislation. All forward-looking statements are based on our beliefs as well as assumptions based on available information and on management’s experience and perception of historical trends, current conditions, and expected future developments, as well as other factors deemed appropriate in the circumstances. Forward-looking statements are not facts, but only predictions and generally can be identified by the use of statements that include phrases such as “may”, “will”, “can”, “believe”, “expect”, “anticipate”, “intend”, “plan”, “project”, “forecast”, “foresee”, “potential”, “enable”, “continue”, or other comparable terminology. These statements are not guarantees of TransAlta Corporation’s (“we”, “our”, Company”) future performance and are subject to risks, uncertainties, and other important factors that could cause actual results or outcomes to be materially different from those set forth in the forward-looking statements. In particular, this presentation includes forward-looking statements pertaining to, among other things: the characteristics of the Alberta fleet; Alberta load growth; forecasted carbon costs; Alberta pricing and its sensitivity to EBITDA; and pro forma Hydro EBITDA outlook. The material factors and assumptions used in the preparation of the forward-looking statements contained herein, which may prove to be incorrect, include, but are not limited to, the assumptions set forth in the management’s discussion and analysis and the Company’s annual information form for the year-ended December 31, 2020.

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# Evolution of the Alberta Electricity Market



PPAs used by AB government to introduce competition and provide a transition to fully deregulated market over a 20-year period

**From a regulated, cost recovery market to a deregulated energy-only market**

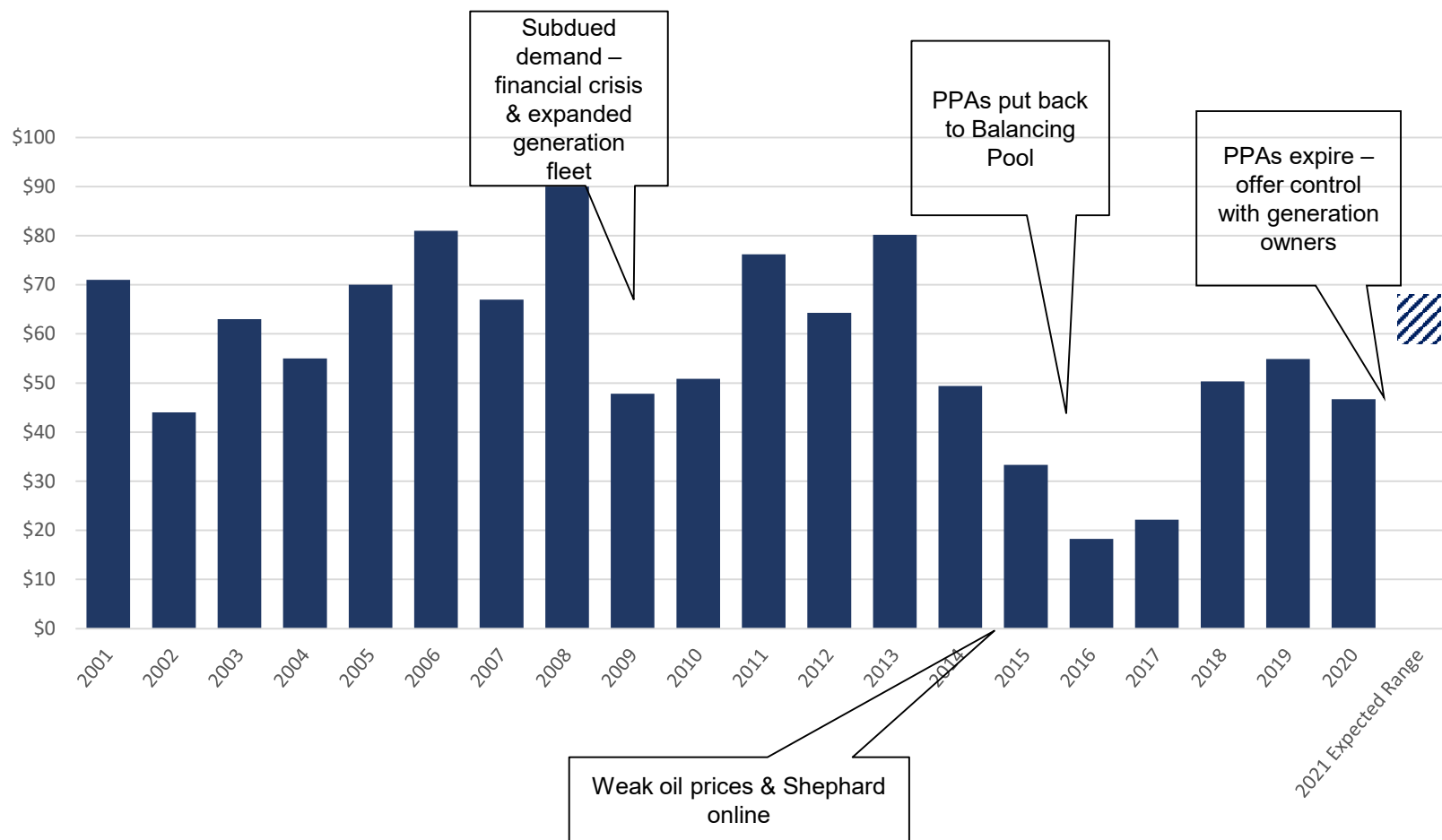
# Alberta Power Market 101

- Alberta Government has never owned/operated an electric utility company
- Energy-only market
- Competitive markets determine wholesale prices
- Merchant generators are paid only for the electricity that is produced
- Prices fluctuate every hour with available/offered supply and consumer demand
- Generators are expected to receive adequate wholesale prices to deliver both return on and of capital for their fixed capital investments through their cumulative offer strategies

**Alberta Power Market is fully deregulated energy-only market**

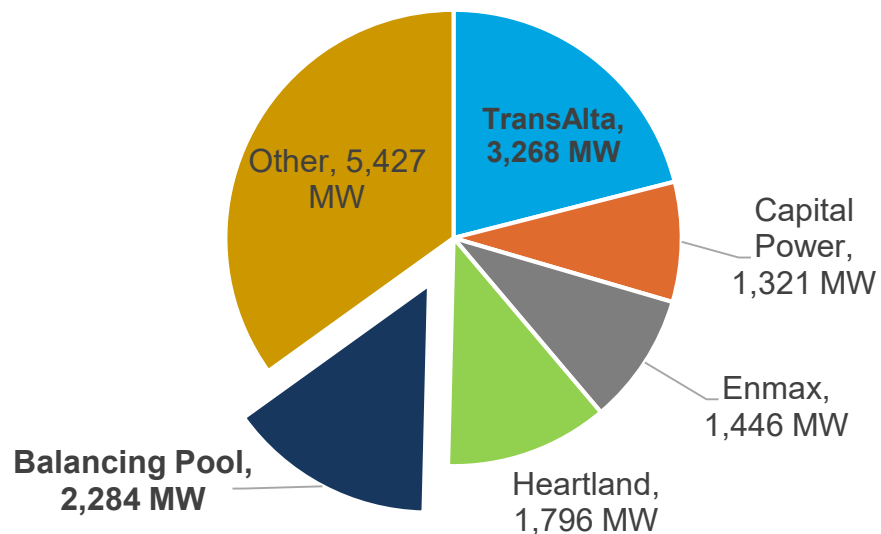
# Historical Alberta Energy Prices

## ALBERTA ELECTRICITY PRICES – AVERAGE POOL PRICE (\$/MWH)

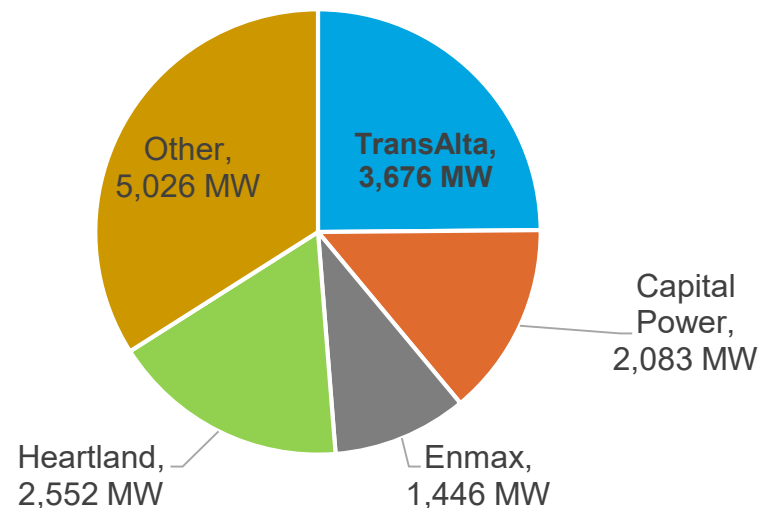


# 2021 Shift in Offer Control and Market Share

2020 OFFER CONTROL <sup>(1)</sup>



2021 OFFER CONTROL <sup>(2)</sup>



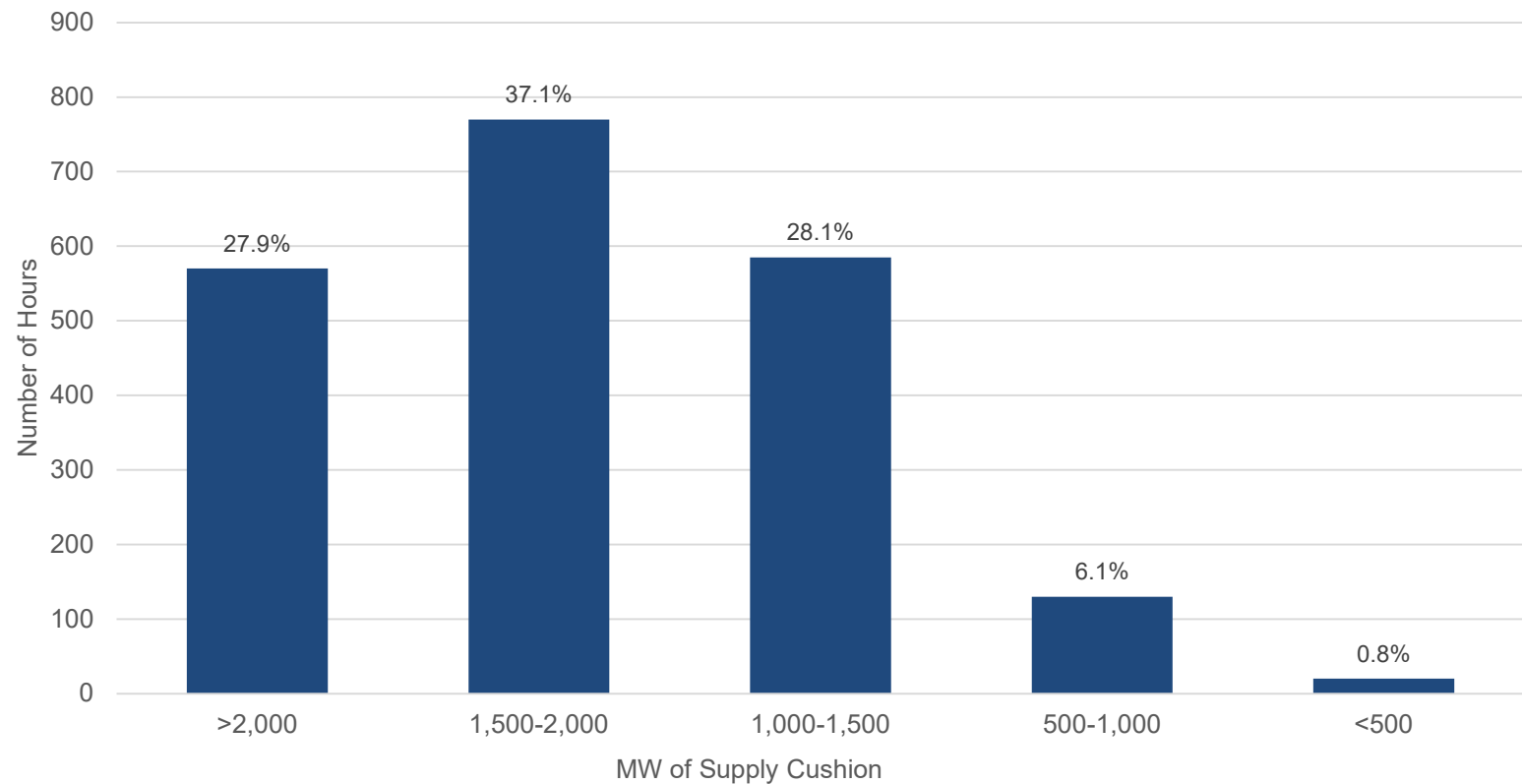
**Offer control transitioned back to generators from Balancing Pool in 2021**

(1) Source: MSA 2020 Market Share Offer Control Report as at Feb 2020 includes TransAlta Sun 3, which has since retired

(2) Excludes TransAlta's Sun 3 and includes TransAlta's mothballed Sun 5

# Supply Cushion

## Q1 2021 SUPPLY CUSHION – ADJUSTED FOR LONG LEAD-TIME ASSETS

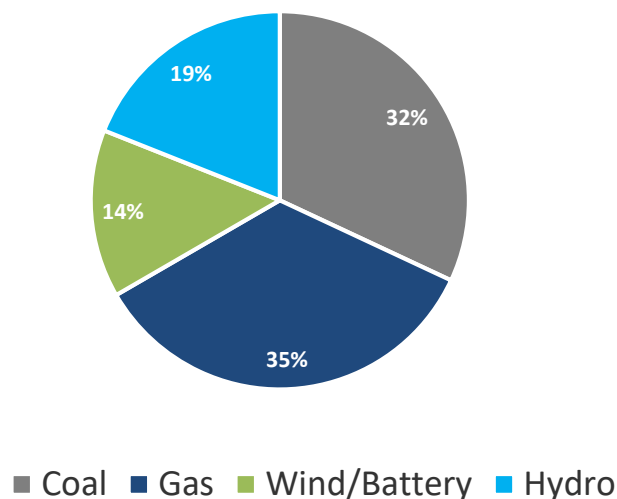


**Supply cushion tighter than current supply conditions indicate**

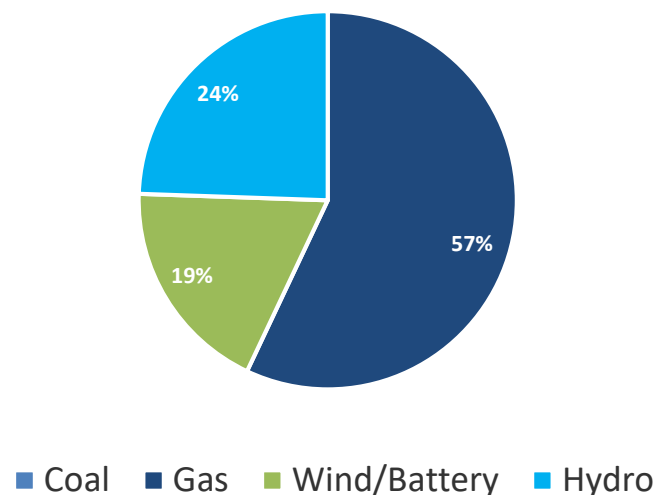
# TransAlta's Role in Alberta Power Supply

- Fleet flexibility is key in the Alberta merchant market
- Converted units provide supply when renewables are not available/generating
- Renewables create credits that offset carbon and provide clean power to the grid

2020 ALBERTA FLEET



2021 ALBERTA FLEET



**TransAlta has a diverse asset portfolio that supplies clean, low-cost, reliable power**



# TransAlta's Alberta Fleet Characteristics

## Hydro

- Low variable cost
- Water a finite, storable resource
- Allows for optimization of flows
- Super-peak capacity, must run, ancillary market products
- Grid reliability support
- Produces Emission Performance Credits “EPCs”



## Wind

- Low variable cost
- Price taker
- Not correlated to event/weather driven pricing
- Produces EPCs



## Converted Gas

- Higher variable cost
- Low capital investment
- Base load and peak capacity



# Rising Carbon Costs

- Under TIER every large emitting facility is given a GHG emissions benchmark
- Gas generation is less carbon intensive and less impacted by changing carbon prices than coal
- Renewable generation generates credits and avoids a carbon levy

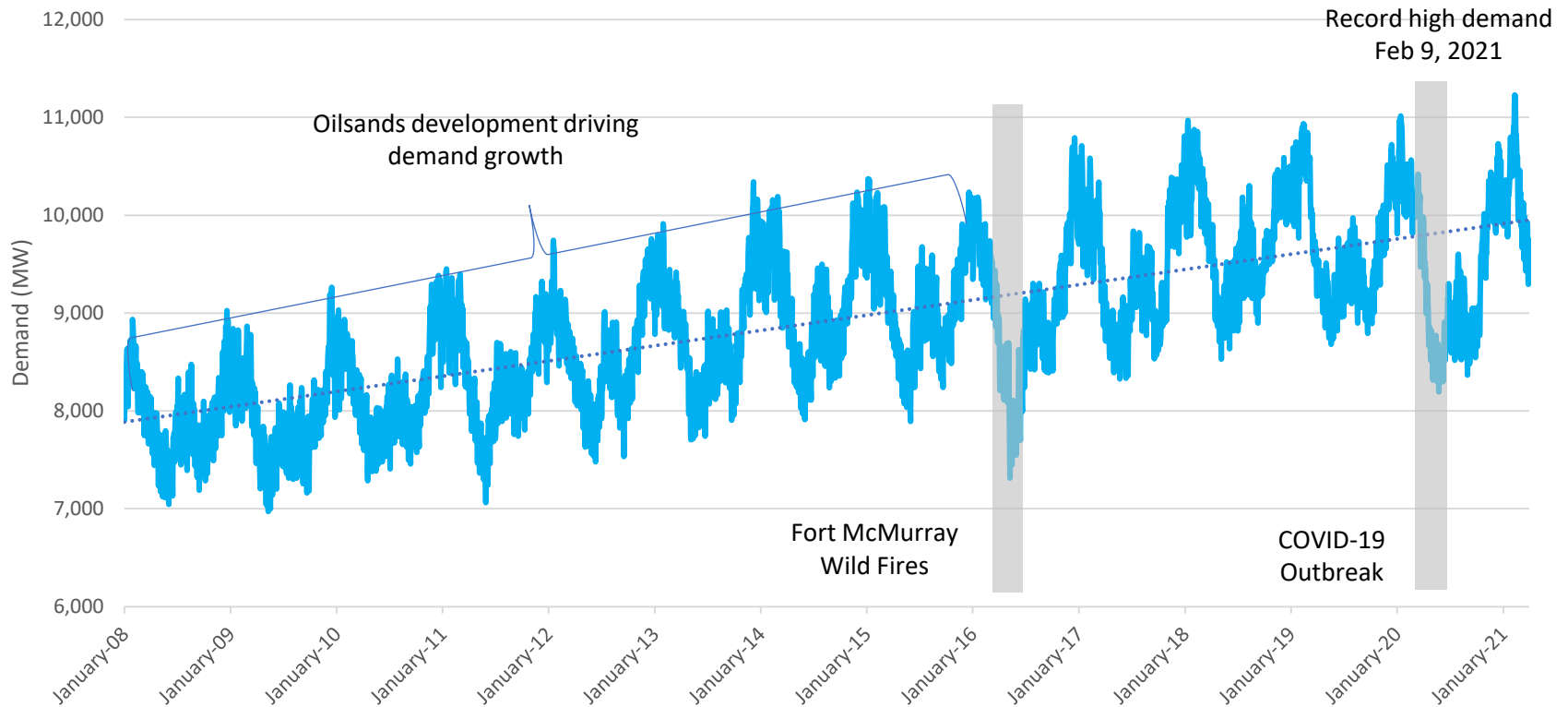
## IMPACT OF INCREASING CARBON COSTS ON GENERATION COSTS



**TransAlta fleet resilient with rising carbon costs**

# Historic Demand - Alberta

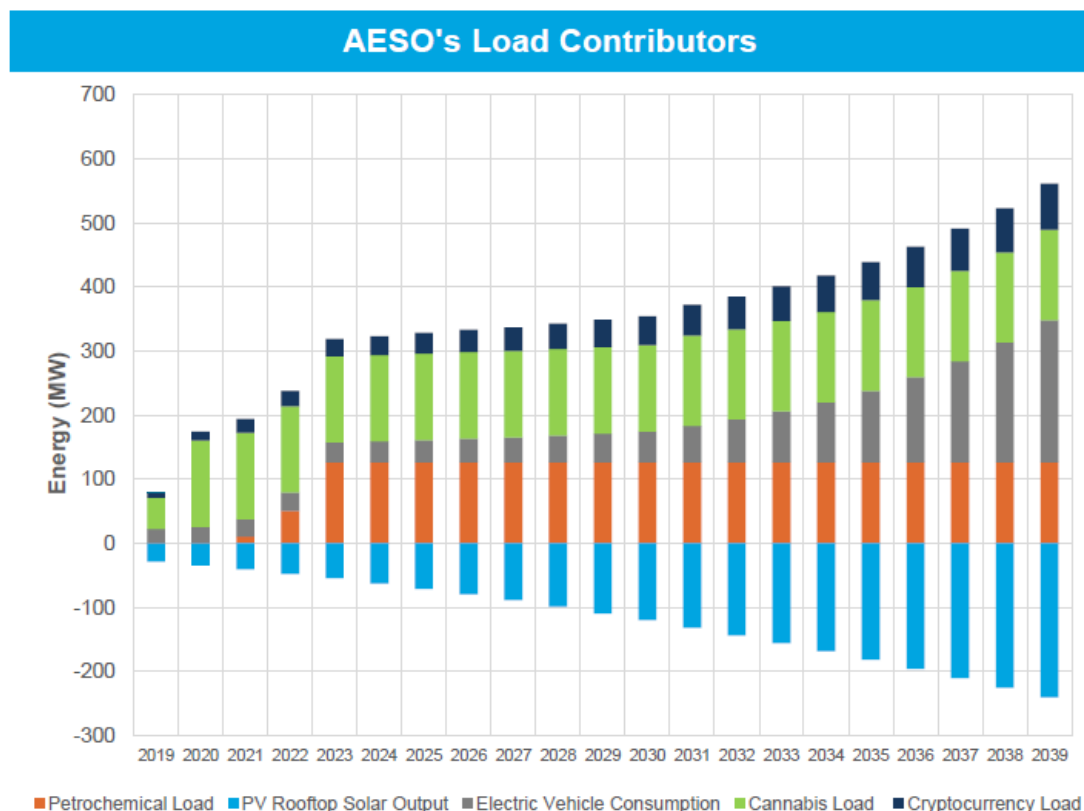
- Recent Alberta demand has been impacted by large decreases in industrial load, due to the wildfires and COVID-19



**Demand in Q1 showing recovery from 2020 levels and signs of improving economic activity**

# Demand - Load Growth

- Future load growth will come from new sources such as:
  - cryptocurrency, electric vehicles, cannabis, and new petrochemical business
- Rooftop solar will absorb some load as customers offset some demand



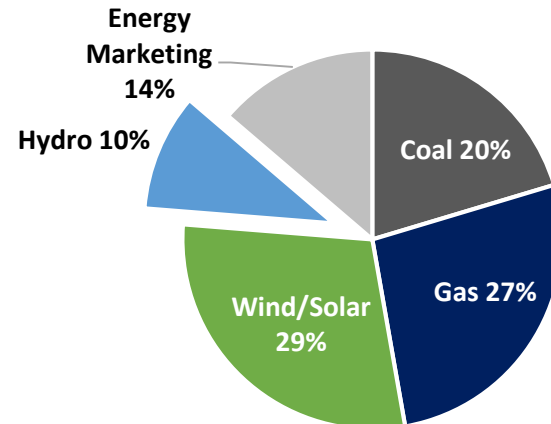
**Annual load growth of ~0.9% driven by new sources of industrial demand & EV transition**

# Hydro - Overview

- Own and operate over 90% of Alberta's hydro (834 MW)
- Mix of storage and run-of-river facilities
  - Brazeau and Bighorn facilities account for ~80% of ancillary revenue
- Green credits under new Alberta carbon policy
- Step up in cash flows with the expiry of the Alberta PPAs (end of 2020)
- Critical back-up for wind and solar
  - Essential for market stability
  - Immediate ramping
- Brookfield has option to acquire interest



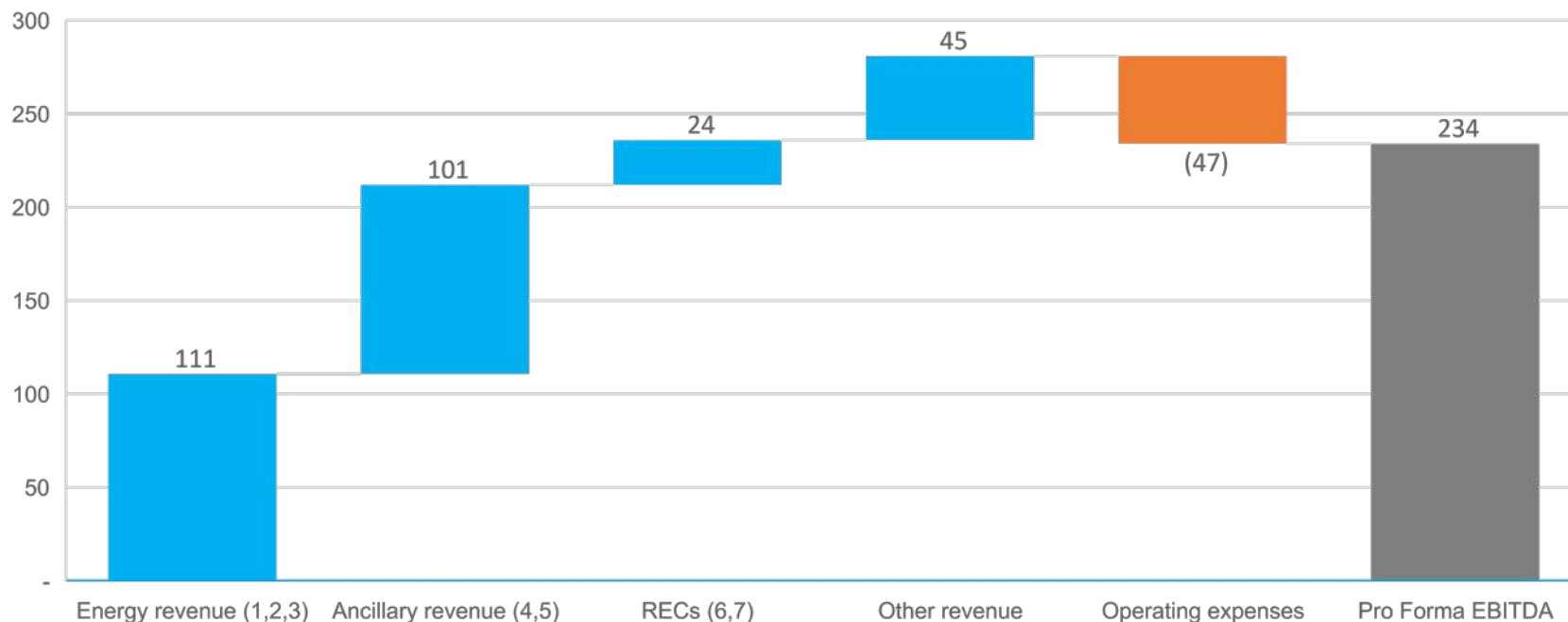
2020 SEGMENTED CASH FLOW



**Unique, reliable and perpetual**

# Hydro EBITDA Build-up Example

## POST-PPA HYDRO EBITDA BUILD-UP



## Hydro EBITDA step-up expected with PPA expiration

### Assumptions:

(1) Based on 3-year average historical production levels of 1,625 GWh

(2) Assumed pool price of \$60/MWh

(3) Realized energy price based on 3-year historical average premium to pool price of \$68/MWh

(4) Based on 3-year average historical ancillary production levels of 3,000 GWh

(5) Based on 3-year average historical discount to pool price

(6) RECs generated in 2021 to be realized in future years

(7) Based on \$40/tonne carbon with intensity factor of 0.37



# Questions and Answers

# TransAlta<sup>TM</sup>

Powering Economies and Communities

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