TransAlta Corporation

Capacity Market Great Expectations

March 2018

TransAlta™ CLEAN POWER TODAY AND TOMORROW

Without a level playing field, subsidized resources will undermine the market

Subsidized resources bid at uneconomic levels

Drives out competitive suppliers

Subsidized competition leads to a vicious circle of unintended consequences

Lack of investment drives need for market change

Distorts market prices and suppresses investment signals

Subsidized resources must bid at their *true economic costs*

An intermittent system must still be reliable, cost-effective, and competitive

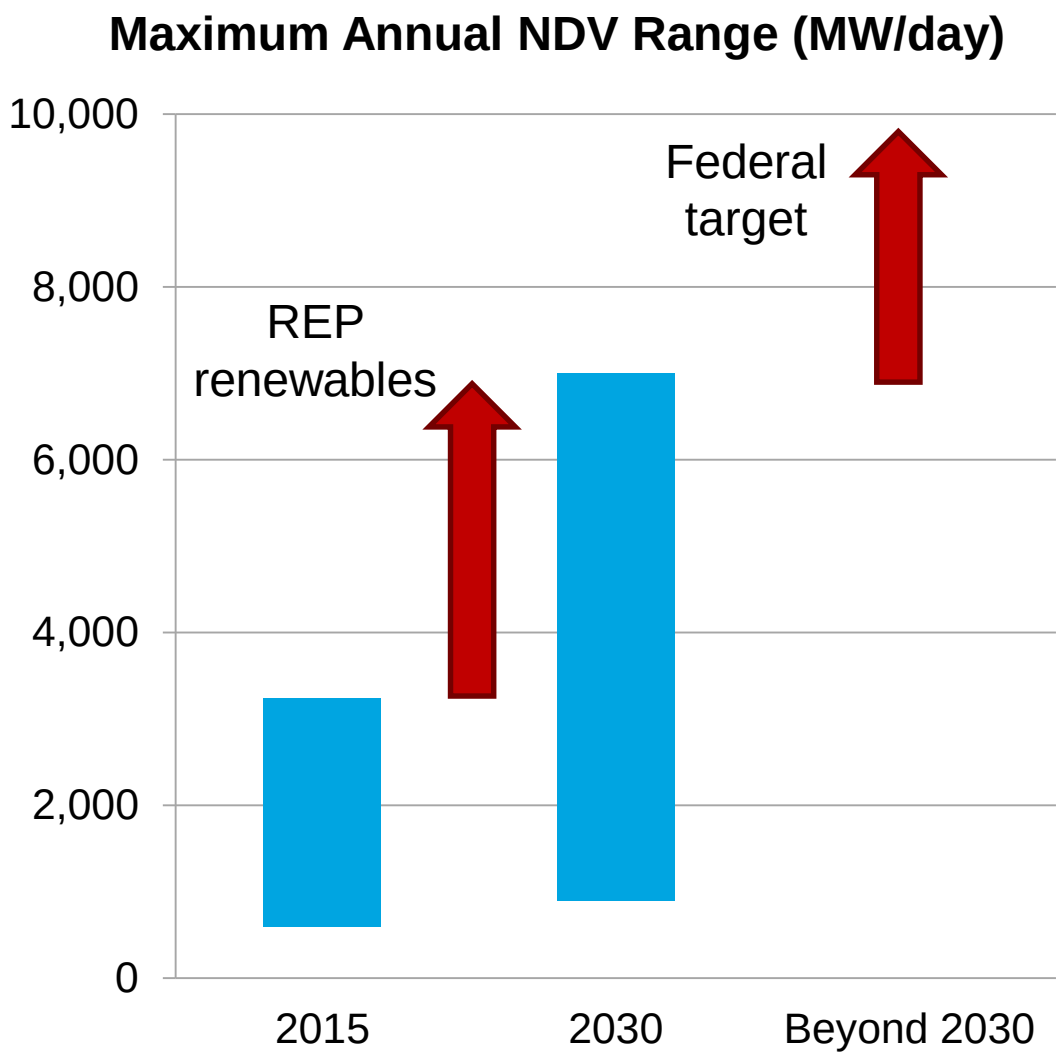
Provincial Policy
Climate Leadership Plan

+

Federal Policy
80% below 2005 GHG levels by 2050

=

Lower carbon, but more variable system



Net Demand Variability (NDV) = Alberta Internal Load – Variable Generation. Source: AESO NDV Studies

Work is still needed on critical design features to meet electricity market objectives

Keep the lights on

Protect consumers from high costs

Ensure fair and equal treatment

Missing pieces of the market design:

If generators receive capacity payments, why do they need economic withholding?

Economic withholding is no longer necessary with a capacity market structure.

Past

Economic withholding was required for long-term cost recovery

Volatile energy prices

High and unpredictable costs

Present

CMD1 includes economic withholding *and* capacity payments

- **Large generators can bid up to 3 times their actual dispatch costs**
- **All other generators can bid up to the $999.99/MWh price cap**

Future

Economic withholding *and* capacity payments will increase costs to consumers

Up to $1B/yr

Allowing above-SRMC bidding unnecessarily increases costs to consumers

By allowing *above-SRMC bidding*, CMD1 increases costs by up to $11/MWh:

Market Scenario	Energy Costs (demand-weighted)	Capacity Costs (levelized)	Total Cost per MWh
CMD1 (SRMC Bidding)	$40.6	$15.2	**$55.8**
CMD1 (Above SRMC Bidding)	$51.8	$12.0	**$63.8**
CMD1 "Worst Case" for Consumers*	$51.8	$15.2	**$67.0**

Source: London Economics International LLC, average 2021-2035