TransAlta Renewables Inc.

March 2020 Investor Presentation

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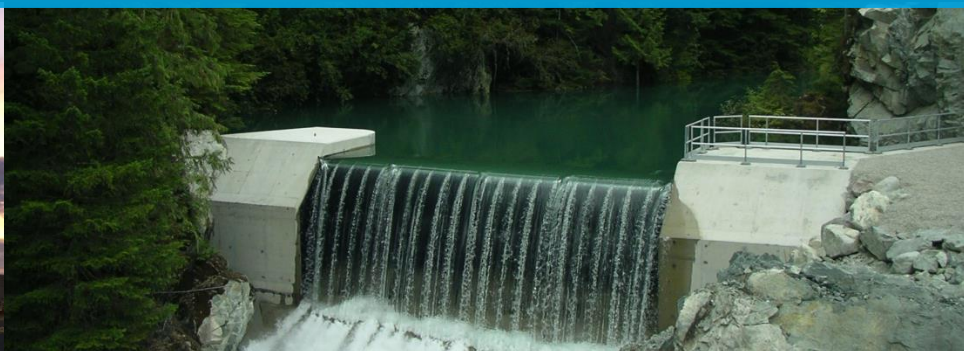


Forward Looking Statements

This presentation may include 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 TransAlta Renewables Inc.'s (the "Company") beliefs as well as assumptions based on information available at the time the assumptions were made 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", "believe", "expect", "anticipate", "intend", "plan", "project", "foresee", "potential", "enable", "continue", or other comparable terminology. These statements are not guarantees of the Company's future performance and are subject to risks, uncertainties, and other important factors that could cause our actual performance to be materially different from that projected. In particular, this presentation contains forward-looking statements pertaining to, without limitation, the following: the 2020 guidance for EBITDA and cash available for distribution (CAFD); the completion of projects under construction, including the timing; capital investment and expected return thereof; the drivers of future growth, including the ability to benefit from government policies and regulations such as renewable targets and carbon pricing; the ability to deliver customer requirements and demands; the ability to benefit from low gas prices; the construction of the Kaybob 3 cogeneration project and SemCAMS acquiring a 50% interest in the cogeneration project at the commercial operation date; the expected financial results, performance, growth prospects, dividends, distribution profile and expected liquidity of the Company; and the Company being well positioned to realize growth and our ability to access capital. These forward looking statements are based on a number of assumptions considered by the Company to be reasonable as of the date of this presentation, including, but not limited to, the following: no significant changes to applicable laws and regulations, including any tax and regulatory changes in the markets in which the Company operates; no material adverse impacts to the investment and credit markets; and assumptions regarding our current strategy and priorities, including as it pertains to our growth strategy and relationship with TransAlta Corporation.

These forward-looking statements are not historical facts but reflect current expectations concerning future plans, actions and results. These statements are subject to a number of risks, uncertainties and assumptions that could cause actual plans, actions and results to differ materially from current expectations including, but not limited to, the following: changes in tax, environmental, or regulatory laws and regulations in which the Company operates; changes in general economic conditions including interest rates; our foreign exchange risk strategy; operational risks involving our facilities, including unplanned outages at such facilities; disruptions in the transmission and distribution of electricity; disputes with counterparties, including as it pertains to the commercial operation at South Hedland; changes to hydrology at our hydroelectric facilities, to wind conditions at our wind energy facilities, to irradiance at our solar facilities or to weather generally as a result of climate change or otherwise at any of our facilities; disruptions in the source of fuels, water, or wind required to operate our facilities; risks pertaining to our relationship with TransAlta Corporation; competitive factors in the power industry; changes in economic, credit and market conditions; negative impacts associated with Covid-19 outbreak, including the ability to acquire wind, solar and gas projects on favourable economic terms and the ability continue to operate and maintain the Company's existing assets; potential supply chain disruptions, including those arising due to Covid-19; the ability raise capital and maintain liquidity due to deteriorating market conditions, including to the extent contributed by Covid-19; the volatility in the supply and demand of energy markets; inability to renegotiate, renew or replace expiring power purchase agreements on similar terms; global pandemic qualifying as a force majeure event; uninsurable losses and higher insurance premiums; reliance on computerized business systems, which could expose us to cyber-attacks; our ability to raise additional debt against existing assets; our ability to finance our operations due to the status of the capital markets; operating and financial restrictions imposed on us by our loan, debt and security agreements; changes to our credit ratings; the growth of our portfolio and our ability to realize the expected benefits of our transactions or acquisitions; our ability to acquire new greenfield or brownfield sites; the reliance on key personnel; availability of tax equity to invest in the U.S. wind and solar projects; and other risks and uncertainties discussed in the Company's materials filed with the Canadian securities regulatory authorities from time to time and as also set forth in the Company's MD&A dated December 31, 2019 and the Annual Information Form for the year ended December 31, 2019. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect the Company's expectations only as of the date of this presentation. The purpose of the financial outlooks contained herein is to give the reader information about management's current expectations and plans and readers are cautioned that such information may not be appropriate for other purposes. The Company undertakes no obligation to update or revise any forward-looking statements except as required by law.

The Company evaluates its performance and the performance of our business segments using a variety of measures. Certain of the financial measures discussed in this presentation, including but not limited to, EBITDA, cash available for distribution (CAFD), and ratio of net debt to EBITDA are not defined under International Financial Reporting Standards (IFRS) and, therefore, should not be considered in isolation or as an alternative to IFRS measures when assessing the financial performance or liquidity of the Company. These non-IFRS measures have no standardized meaning under IFRS, may not be comparable to similar measures presented by other issuers and should not be considered in isolation or as a substitute for measures prepared in accordance with IFRS. Non-IFRS measures are presented to provide management and investors with a proxy for the amount of cash generated from operating activities, including with respect to finance income from subsidiaries of the Company in which it has an economic interest. Please refer to the Company's MD&A, which is available on the Company's website or under the Company's profile on www.sedar.com for further discussion of these items, including, where applicable, reconciliations to measures calculated in accordance with IFRS. Information contained in this presentation is as of March 19, 2020.

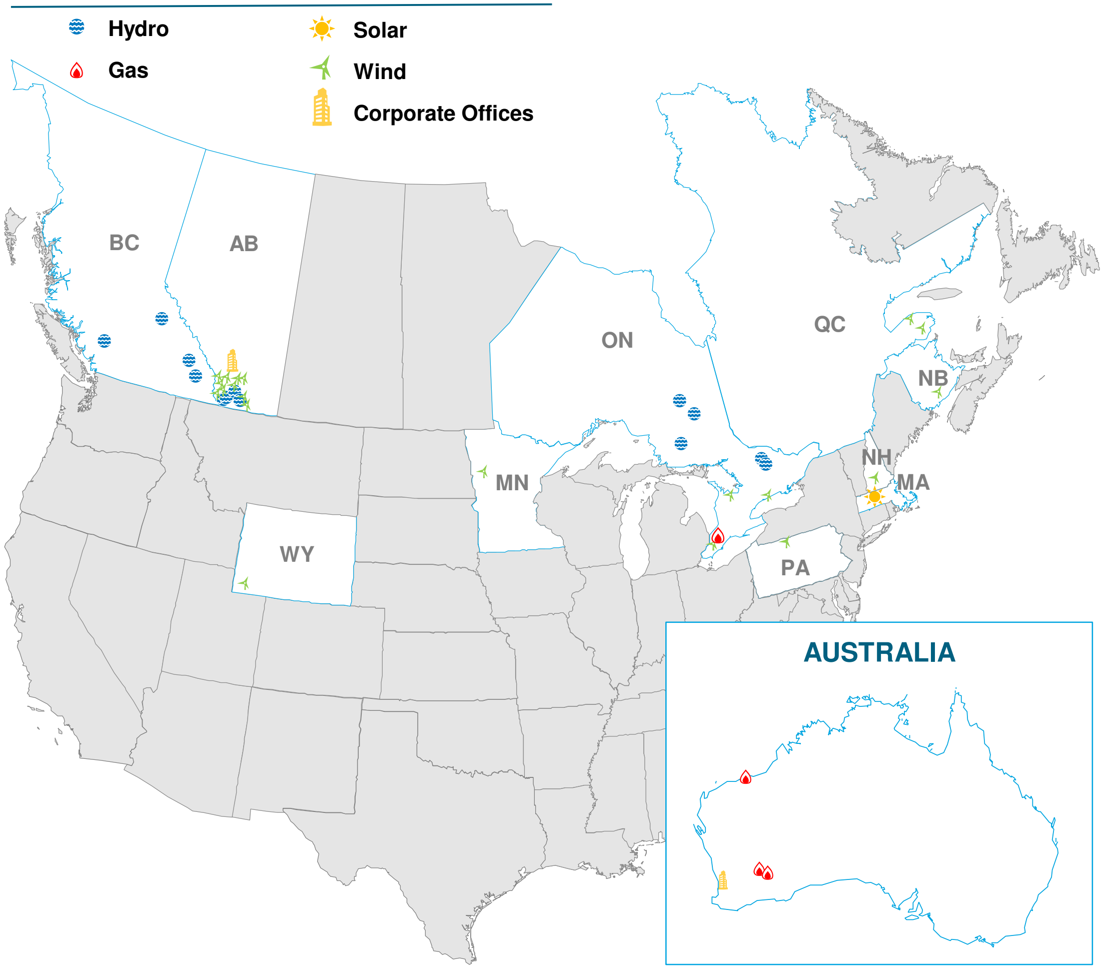
Unless otherwise specified, all dollar amounts are expressed in Canadian dollars.

TransAlta Renewables Today

Company Highlights	
Enterprise Value[1]	$4.0 Billion
Market Cap.[1]	$3.0 Billion
Dividend Yield	7.8%
TransAlta's Ownership	60%
2020E EBITDA (guidance)	$445M - $475M
2020E CAFD (guidance)	$300M - $330M

Diversified Asset Base

	# of Assets	Owned MW[2]	Percent of Generation Cash Flow
Wind	23	1,446	51%
Natural Gas	7	949	43%
Hydro	13	112	4%
Solar	1	21	2%
Total	44	2,527	100%



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1) Based on closing price on the Toronto Stock Exchange as at March 19, 2020. Balance sheet data as at December 31, 2019.
2) MW is rounded to the nearest whole number and does not add due to rounding.

TransAlta Renewables Investment Highlights

Highly Diversified	• 44 facilities across multiple regions and spanning various technologies
Highly Contracted Portfolio	• ~11 year weighted average contract life
Strong Balance Sheet and Access to Competitive Capital	• 2.2x Net Debt/EBITDA • Strategic use of low cost project debt • $700 million syndicated credit facility
Proven Track Record of Growth and Value Creation	• $3.0 billion of acquisitions since IPO in 2013 • Over 90% total shareholder return since IPO
Strong Sponsorship from TransAlta Corp.	• Proven team with track record of growing the business and cash flows • Strong operating expertise • Experienced in constructing and developing projects

Natural Gas

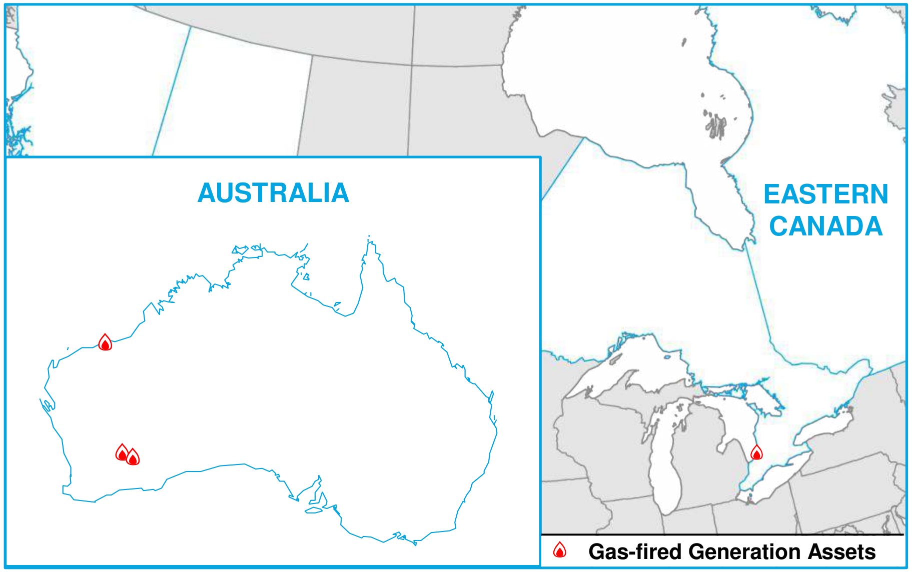
OVERVIEW

- 100% of generation contracted
  - 7 year weighted average contract life
- Total owned capacity of 949 MW
  - 50% Canada and 50% Australia

CUSTOMER FOCUS

- Sites designed and built to supply a customer need
- Excellent track record of extensions beyond original contract term

Natural Gas Summary			
	# of Facilities	Owned MW	Percent of Generation Cash Flow
Natural Gas	7	949	43%

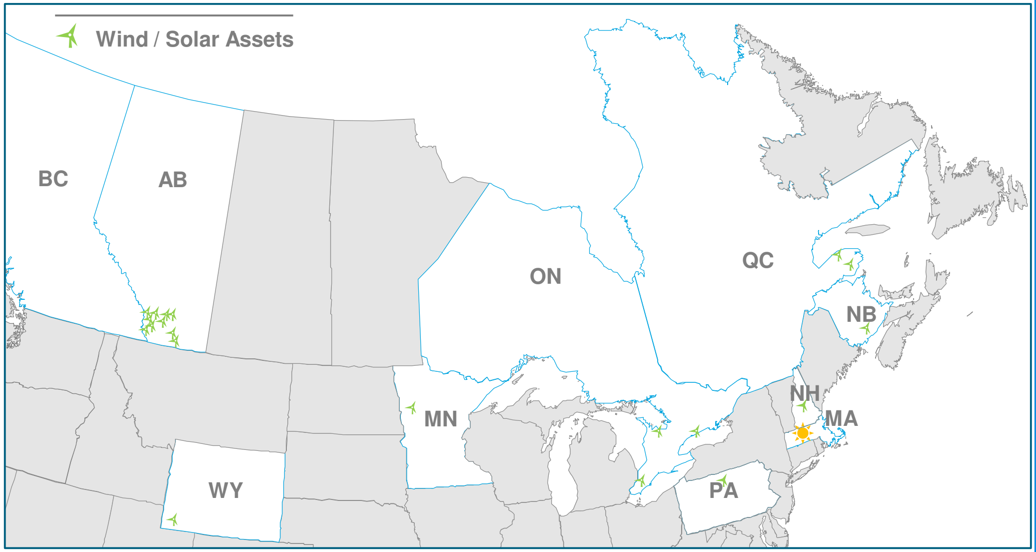


Long-term stable cash flows

Wind and Solar

OVERVIEW

- 100% of generation contracted with an average capacity weighted contract life of 11 years
- Canada's largest generator of wind power and one of the largest wind portfolios in North America
- Experienced developer and operator of wind assets



OPERATING MODEL

- Remote monitoring and operation
- Extensive data enables optimization
- Able to leverage our knowledge and customer relationships to develop new sites

Wind and Solar Summary

	# of Facilities	Owned MW	Percent of Generation Cash Flow
Wind	23	1,446	51%
Solar	1	21	2%

Large diversified portfolio and long-term stable cash flows

Hydro

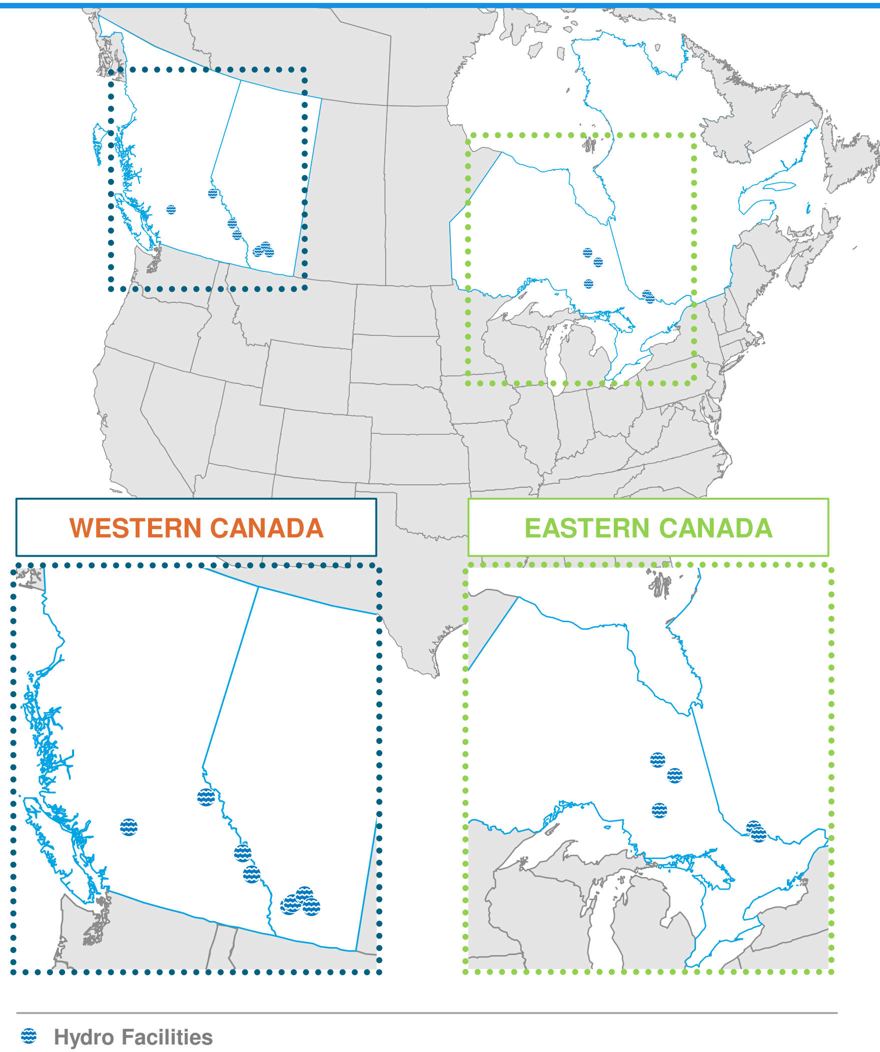
OVERVIEW

- Critical back-up for wind and solar
  - Essential for market stability
  - Immediate ramping
  - Experienced operator of hydro

LIFE EXTENSION AND GROWTH

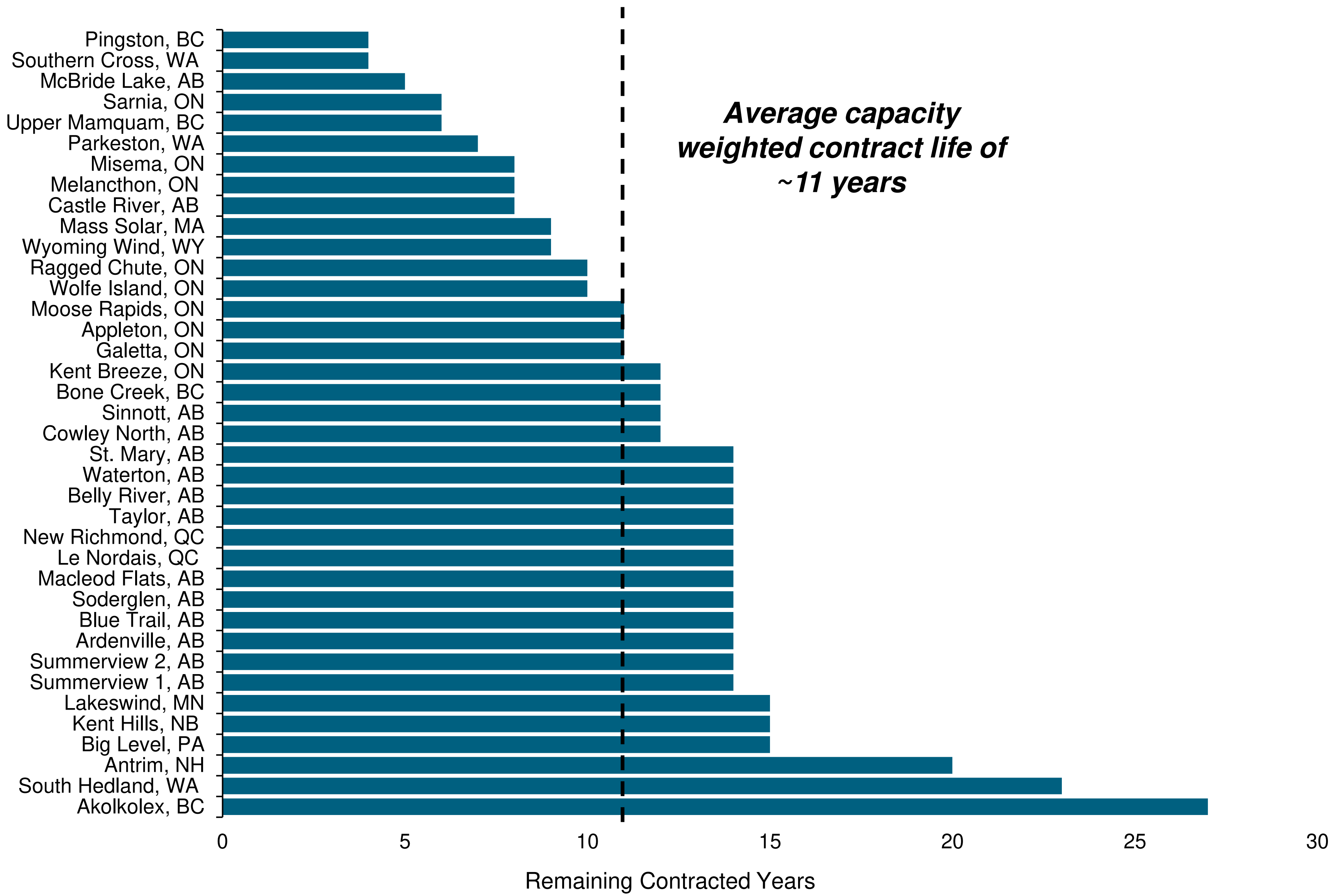
- Re-contracted Akolkolex for an additional 30 years
- Optionality for extensions and upgrades

Hydro Summary			
	# of Facilities	Owned MW	Percent of Generation Cash Flow
Hydro	13	112	4%



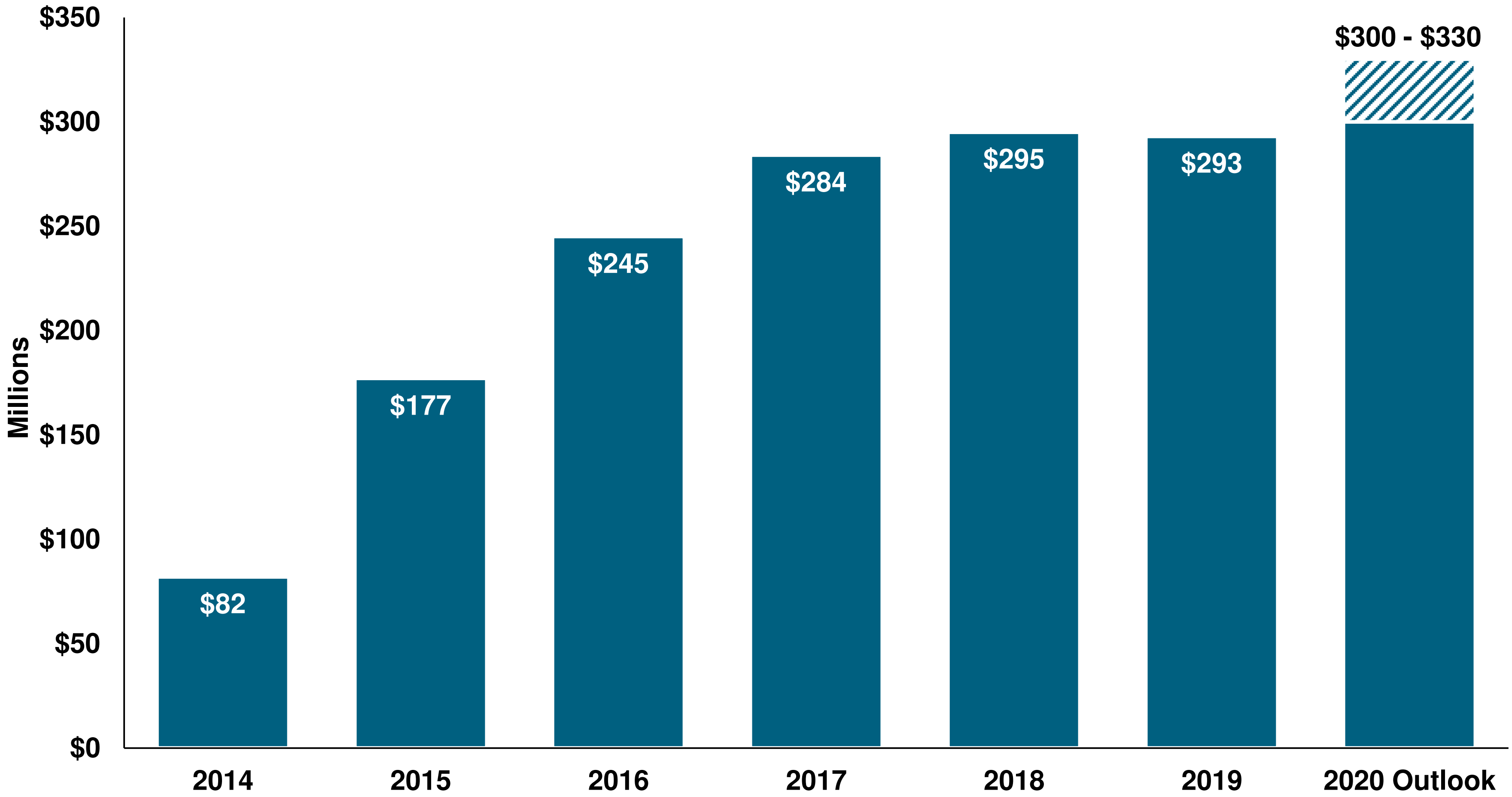
Unique, reliable and perpetual

Highly Contracted Facilities

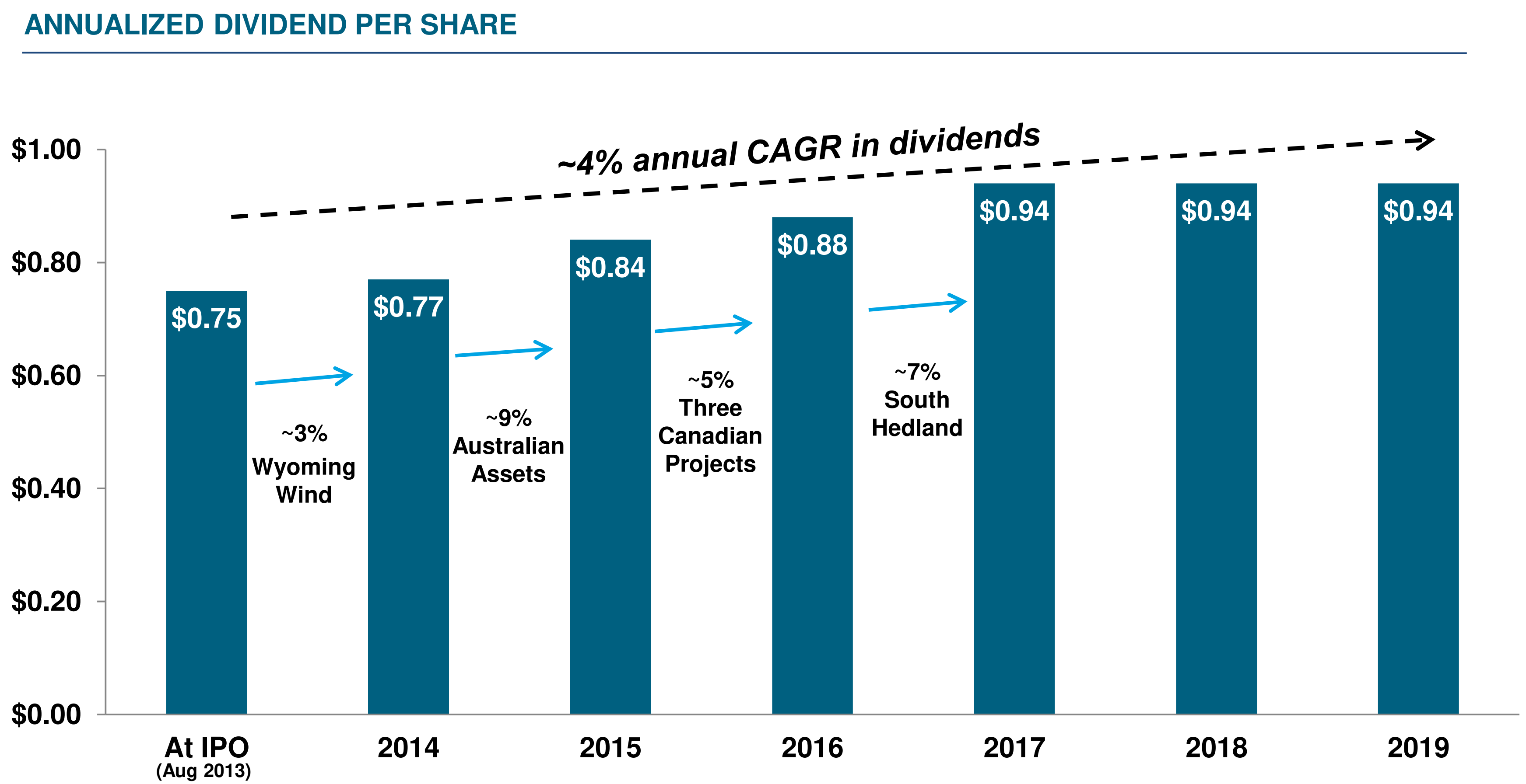


Significant Increase in Cash Available For Distribution

CASH AVAILABLE FOR DISTRIBUTION ($ MILLIONS)



Strong Dividend Growth



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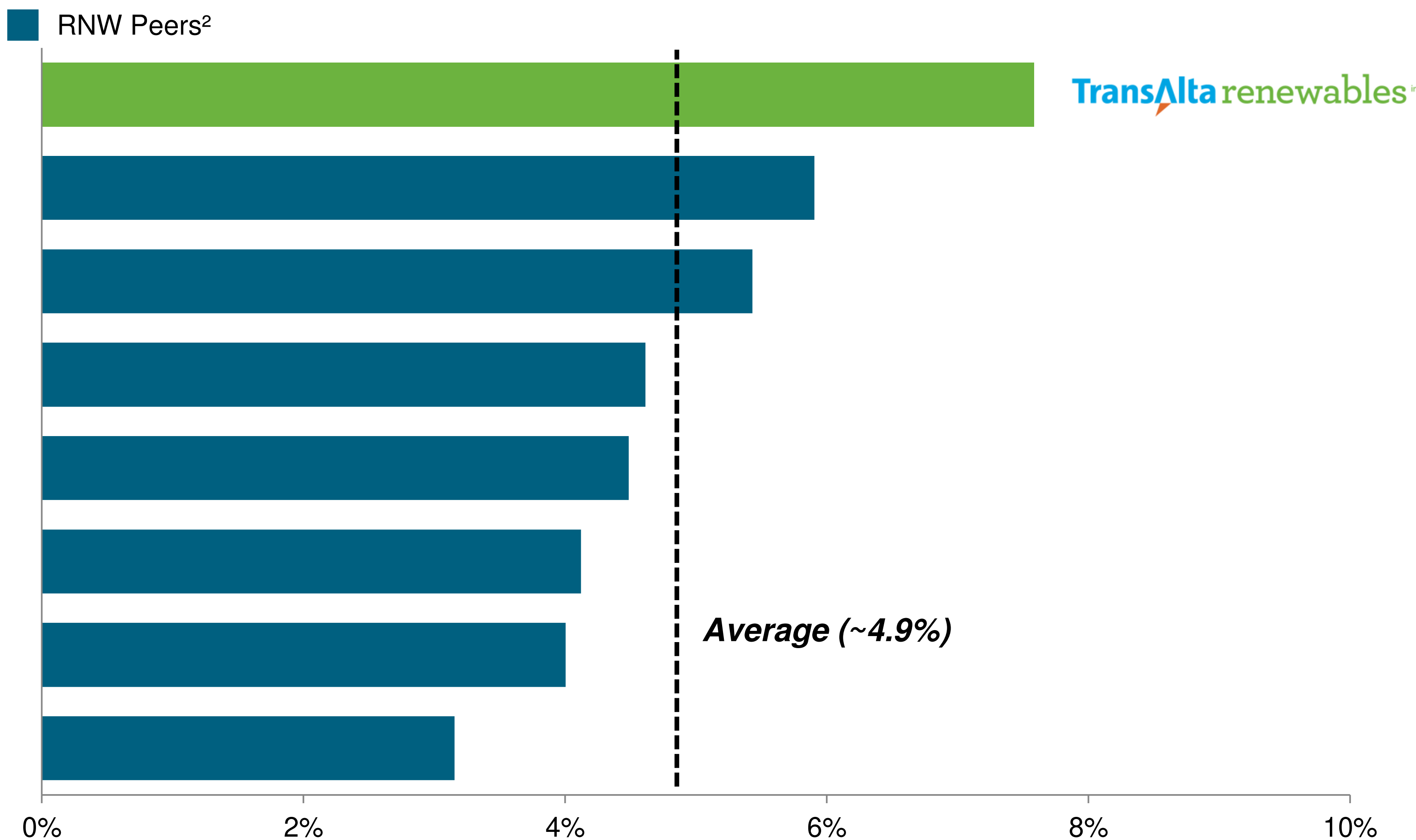
Attractive Dividend Yield

DIVIDEND YIELD[1] (%)



1) Based on the closing price as at March 19, 2020.
2) Other companies include: Algonquin Power, Brookfield Renewables, Innergex, Northland Power, NRG Yield, NextEra Energy Partners and Pattern Energy.
Source: FactSet

Proven Track Record of Growth

2014

- 140 MW Wyoming wind acquisition
- 575 MW Australian Assets investments

2015

- 506 MW Sarnia gas (Ontario) investment
- 98 MW Le Nordais wind (Quebec) investment
- 7 MW Ragged Chute hydro (Ontario) investment

2017

- 150 MW South Hedland gas (Australia) development
- 17 MW Kent Hills 3 wind (New Brunswick) expansion

2018

- 90 MW Big Level wind (Pennsylvania) investment
- 29 MW Antrim wind (New Hampshire) investment
- 21 MW Solar (Massachusetts) investment
- 50 MW Lakeswind wind (Minnesota) investment
- 20 MW Kent Breeze wind (Ontario) investment

$3.0 billion in investments

Drivers of Future Growth

Government Policies and Regulations	• Renewable targets • Carbon pricing • Thermal environmental regulations
Competitiveness	• Low gas prices and abundant supply • Cost competitive renewables • Technological improvements
Customer Requirements	• Desire for renewable energy • Behind-the-fence heat and power needs • Reliability and cost effectiveness
Diversified System	• Highly dispatchable generation to complement growth in intermittent generation • Minimize exposure to any one technology or fuel type

Growth & Financing Strategy

Strategic Focus

- Primarily focused on North America and Australia
- Renewables and gas-fired generation
- Highly contracted facilities
- Greenfield, brownfield and acquisitions

Potential Source of Capital

- New projects supported by project-level debt
- Tax equity will be utilized for U.S. projects that have tax credits
- Opportunity to raise $400 to $600 million of additional debt against existing assets
- Additional sources of capital include:
  - Excess cash flows
  - DRIP
  - Partnerships

RNW Growth Focus

On-Site and Cogeneration

Expand our fleet of on-site generation projects in Canada, the U.S. and Australia

- Extensive history of on-site generation extending back to the early '90s
- Our experience and team make us a strong partner as an on-site generation owner/operator
- Strong pipeline in place
- Leverage existing relationships to grow with our customers

Current Pipeline under evaluation – 900 MW

Renewables

Focus our renewables growth efforts on the U.S. corporate and institutional market

- Added five wind farms and a solar farm in the U.S. over the last five years
- 1+ GW of U.S. wind projects in development pipeline
- Focus on growing and broadening corporate PPA market
- Continuously evaluating opportunistic acquisitions

Current Pipeline under evaluation – 2,000 MW

Focus on Customers

Building relationships through direct contracts to supply an identified need

Significant Growth Underway

	Projects	Owned MW	Capital Invested (CAD$ millions)	Expected Returns	Expected COD
RNW	**Big Level Wind**	90	$225 - $240	High single digit	Operational
RNW	**Antrim Wind**	29	$100 - $110	High single digit	Operational
Potential RNW Drop- Down	**Skookumchuck Wind**[1, 2]	67	$150 - $160	High single digit	H1 2020
Potential RNW Drop- Down	**Windrise Wind**	207	$270 - $285	High single digit	H1 2021
Potential RNW Drop- Down	**WindCharger Battery**[2]	10	$7 - $8	Low/Mid teens	H1 2020
Potential RNW Drop- Down	**SemCAMS Cogen**[3]	40	$105 - $115	Low/Mid teens	H2 2021
Potential RNW Drop- Down	**Michigan Cogen acquisition**	29	$38	Undisclosed	Operational
		Total	**$895 - $956**		

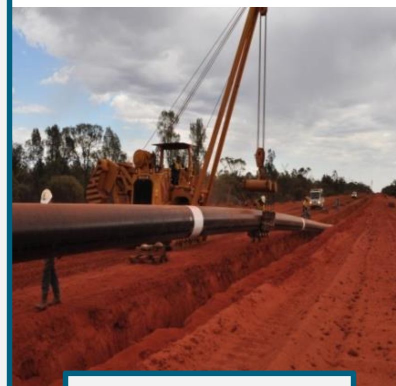
Expect to invest $890 to $960 million in high returning projects

1) Represents TransAlta's ownership of 49 per cent. 2) Capital investment represents TransAlta portion. 3) Capital investment represents total costs. SemCAMS has a 50% buy-in option at COD.

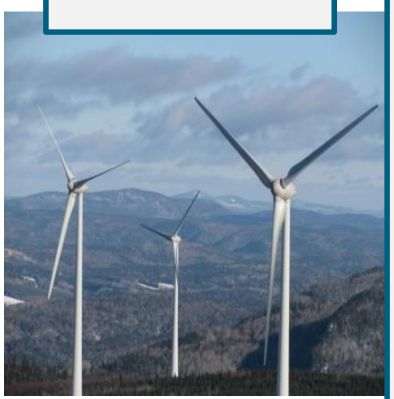
Investment Highlights

Diversified asset base by technology and geography

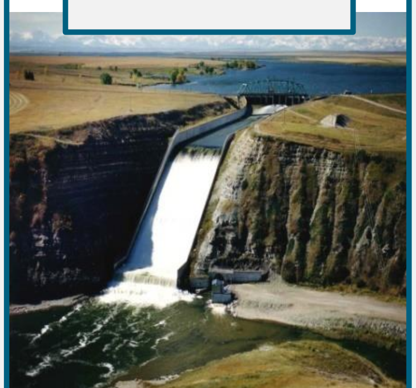
Access to growth capital



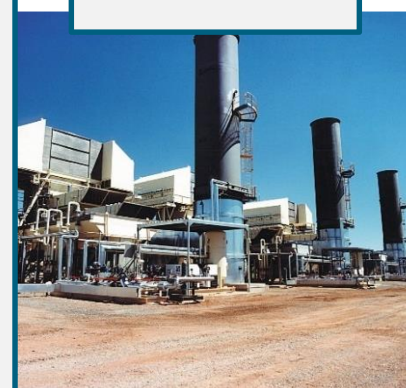
Proven track record of growing the business and cash flows



Positioned for organic and inorganic growth



Stable dividend supported by contracted cash flows



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