TransAlta Corporation

May 2020 Investor Presentation

TransAlta™

Powering Economies and Communities

Forward Looking Statements and Non-GAAP Measures

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 our 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: our growth strategy, including EBITDA generated by new assets; our business and strategy, including the closing of the $400 million financing in the fourth quarter of 2020; the coal-to-gas conversions, including the Sundance 6 conversion, the Sundance Unit 5 repowering, the Keephills 2 and 3 conversions and the timing thereof; delivering on renewables growth; expanding on-site generation business; increasing the Company's presence in the U.S. market; maintaining a strong financial position; the Company's response to COVID-19 and the expected impact on the Company and its stakeholders; Alberta power pricing through the remainder of 2020; plans regarding future dividends and share buybacks; liquidity to support the Company's growth strategy, including the ability to raise debt on unencumbered assets; further senior recourse debt reduction throughout 2020; the 2020 outlook, including as it pertains to free cash flow; refinancing of 2022 debt; growth projects, including capital invested, expected returns and commercial operation date; and progress on 2020 objectives, including as it pertains to environmental, social and governance (ESG) targets. 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 variable fuel and emission costs; the Alberta Hedge position, including the weakness in Alberta demand; trading multiples of U.S. merchant IPPs; the Company's ability to successfully defend against any existing or potential legal actions or regulatory proceedings; the closing of the second tranche of the Brookfield investment; no significant changes to regulatory, securities, credit or market environments; the Alberta hydro assets achieving their anticipated future value; the anticipated benefits and financial results generated on the coal-to-gas conversions and the Company's other growth strategies; assumptions contained in our previously released guidance; and the assumptions set forth herein and in the related management's discussion and analysis and the Company's annual information form for the year-ended December 31, 2019.

The forward-looking statements contained in this presentation are subject to a number of significant risks, uncertainties and assumptions that could cause actual plans, performance, results or outcomes to differ materially from current expectations. Factors that may adversely impact what is expressed or implied by the forward-looking statements contained in this presentation include risks relating to the impact of COVID-19 and the associated general economic downturn, the impact of which will largely depend on the overall severity and duration of COVID-19 and the general economic downturn, which cannot currently be predicted, and which present risks including, but not limited to: more restrictive directives of government and public health authorities; reduced labour availability impacting our ability to continue to staff the Company's operations and facilities; impacts on the Company's ability to realize its growth goals; decreases in short-term and/or long-term electricity demand and lower power pricing; increased costs resulting from the Company's efforts to mitigate the impact of COVID-19; deterioration of worldwide credit and financial markets that could limit the Company's ability to obtain external financing to fund its operations and growth expenditures; a higher rate of losses on accounts receivables due to credit defaults; further disruptions to the Company's supply chain; impairments and/or write-downs of assets; and adverse impacts on the Company's information technology systems and the Company's internal control systems as a result of the need to increase remote work arrangements, including increased cybersecurity threats. Other factors that may adversely impact the Company's forward-looking statements include, but are not limited to, risks relating to: operational risks involving the Company's facilities, including unplanned outages at such facilities; disruptions in the transmission and distribution of electricity; the effects of weather and other climate-related risks; disruptions in the source of water, wind, solar or gas resources required to operate our facilities; natural disasters; equipment failure and our ability to carry out repairs in a cost-effective or timely manner; and industry risks and competition. The foregoing risk factors, among others, are described in further detail in the Company's Management's Discussion and Analysis and Annual Information Form for the year ended December 31, 2019, which are available on SEDAR at www.sedar.com. 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 in this presentation are 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 and is given as of the date of this presentation. The Company disclaims any intention or obligation to update or revise these forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Certain financial information contained in this presentation, including Comparable EBITDA, FFO and FCF may not be standard measures defined under International Financial Reporting Standards ("IFRS") and may not be comparable to similar measures presented by other entities. These measures should not be considered in isolation or as a substitute for measures prepared in accordance with IFRS. Refer to the Comparable EBITDA, Funds from Operations and Free Cash Flow and Earnings and Other Measures on a Comparable Basis sections of the Company's MD&A for the year ended December 31, 2019, for further discussion of these items, including, where applicable, reconciliations to measures calculated in accordance with IFRS.

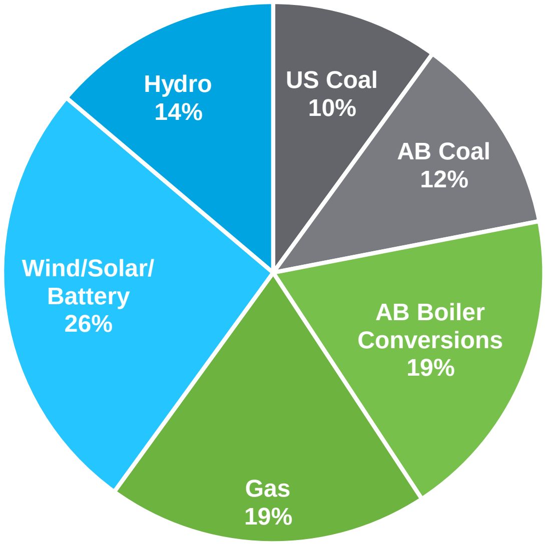
TransAlta Summary

Corporate Snapshot

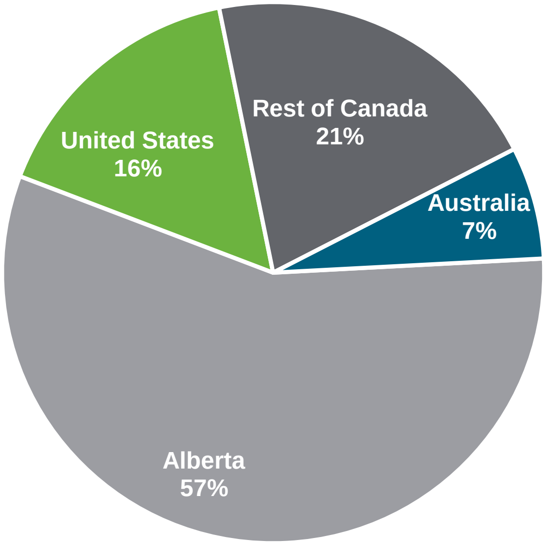
Enterprise Value[1]	$7.9 Billion
Market Capitalization[1]	$2.1 Billion
Dividend Yield[1]	2.2%
2020E EBITDA (guidance)	$925 - $1,000M
2020E FCF[2] (guidance)	$325M - $375M

73 generating facilities with 8,051 MW of capacity spanning multiple technologies and regions

TECHNOLOGY DIVERSITY IN 2021[3]



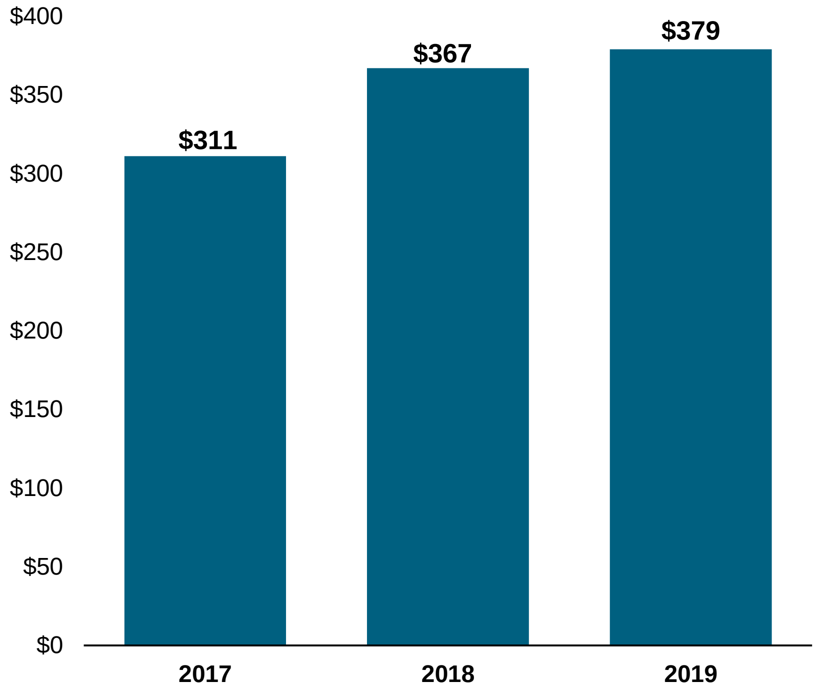
GEOGRAPHIC DIVERSITY IN 2021[3]



1) Price as at May 20, 2020. Non-Controlling Interest of TransAlta Renewables based on market value. 2) Free cash flow ("FCF"' is an important metric as it represents the amount of cash that is available to invest in growth initiatives, make scheduled principal repayments on debt, repay maturing debt, pay common share dividends, or repurchase common shares. 3) Based on MW of owned capacity. Includes projects under construction and excludes current mothballed units and Centralia unit 1 as it is retiring at the end of 2020.

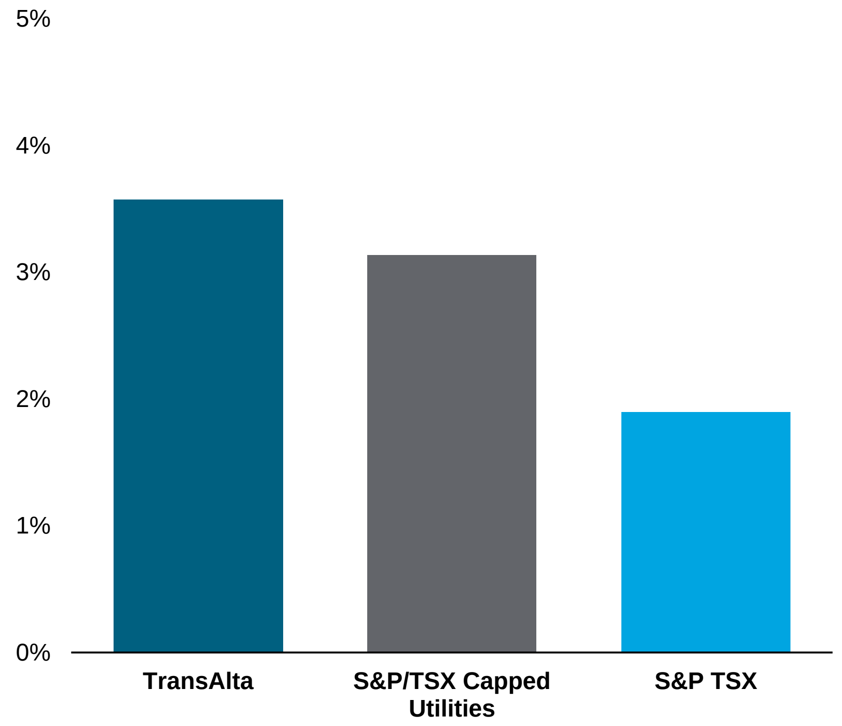
Strong Financial and Market Performance

CONSOLIDATED FREE CASH FLOW[1] ($ MILLIONS)



FCF per share	$1.14	$1.28	$1.34

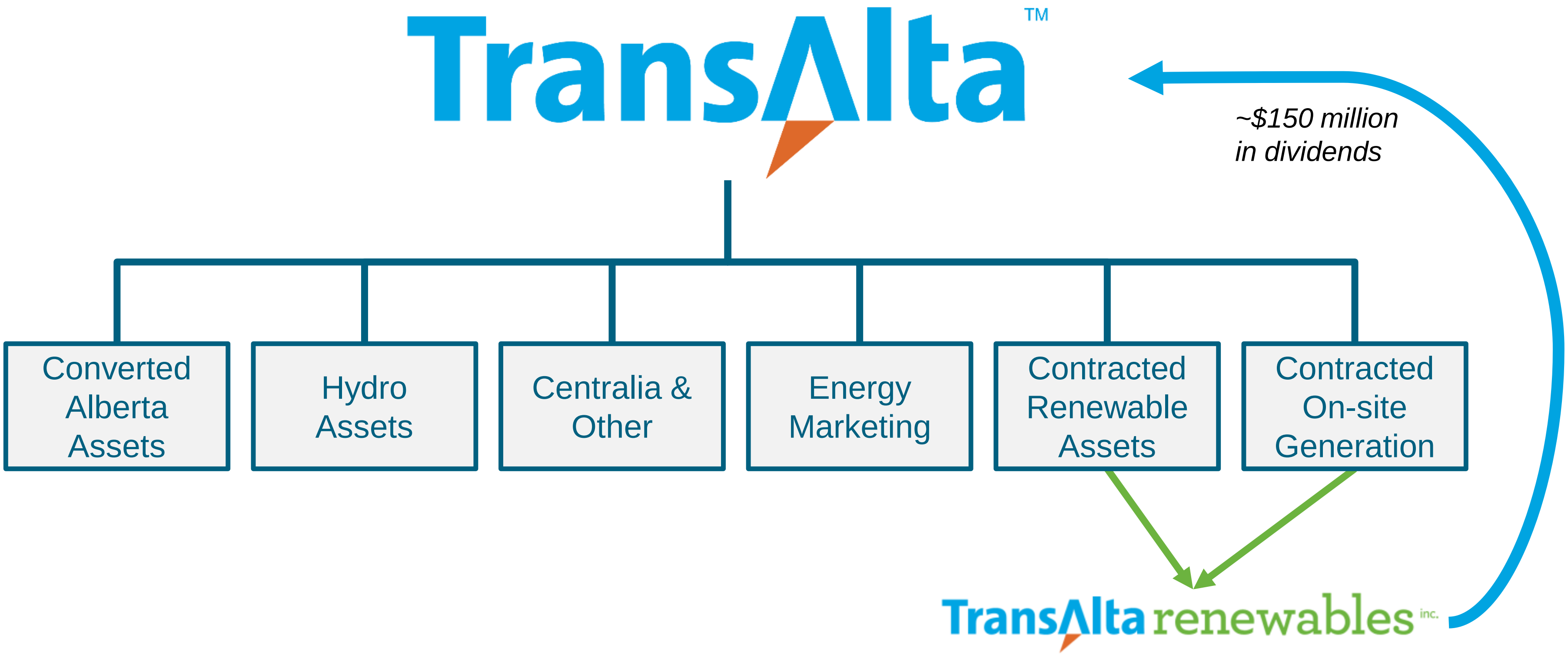
AVERAGE ANNUAL TOTAL SHAREHOLDER RETURN FOR LAST THREE YEARS[2]



Strong free cash flow performance delivering shareholder value

1) Adjusted to exclude the $56 million received during the third quarter of 2019 related to winning the arbitration against the Balancing Pool for the Sundance B and C PPA termination payment, $157 million received during the first quarter of 2018 related to the Sundance B and C PPA termination payment and $34 million OEFC settlement payment received in the first quarter of 2017. 2) Price as at May 20, 2020. Total shareholder return includes return from dividend and share appreciation.

Investment in TransAlta Renewables



Portfolio run by a single leadership team
Provides operational and financial synergies driving competitive advantage

ESG Leadership at TransAlta

ENVIRONMENT

- GHG reductions of 21 million tonnes of CO_2e since 2005 (50% reduction)
- Prevention of over 1.6 million tonnes of CO_2e emissions in 2019 through renewable energy generation
- Revenue of ~$28 million in 2019 from the sale of environmental attributes

SOCIAL

- Community Investments of over $13 million over the last five years
- Record safety year in 2019
  - Total Injury Frequency of 1.12 (1.91 in 2018)
  - Total Recordable Injury Frequency of 0.73 (1.00 in 2018)
- Target Zero – aspirational goal to have zero accidents

GOVERNANCE

- Sustainability prioritized at the Board level through our Governance, Safety and Sustainability Committee
- Diversified Board and executive team
  - 50% female leadership on the executive team
  - 33% female leadership on the Board
- Board average tenure of less than five years
- Board and Workplace Diversity Policy in place since 2015

ESG Reporting, Rankings and Recognition

- Five years of voluntary integrated reporting
  - Reporting on over 80 social and environmental KPI's
- Utilizing leading ESG reporting frameworks

- Voluntary climate change reporting since 2010
  - Current CDP score: B (Management) / North American average score: C (Awareness)
- Voluntary alignment with TCFD climate change disclosure recommendations since 2016

- Silver level Progressive Aboriginal Relations (PAR) recognition of our Indigenous partnerships and relationships
- United Way "Thanks a Million Award" recipient since 2001
- Added to the Bloomberg Gender Equality Index

Sustainability Targets

Environmental Goals	Social Goals	Governance Goals
• **Minimize environmental incidents** • **Reclaim land utilized for mining in both Alberta and Washington State** • **Reduce GHG emissions:** Targeted GHG reduction of 60% over 2015 levels by 2030 • **Targeted reductions of air emissions**	• **Transition to clean energy by 2025:** Conversion and repowering of existing coal fleet with continued renewable development • **Reduce safety incidents** • **Support prosperous Indigenous communities**	• **Strengthen gender equality:** equal pay for women; by 2030 50% women on the Board target and 40% female employee target • **Demonstrate leadership on ESG reporting within financial disclosures**

Our future sustainability goals and targets support the long-term success of our business

Key Strategic Priorities - 2020

Successfully execute conversion strategy

Deliver on announced renewables growth

Advance and expand our on-site generation business

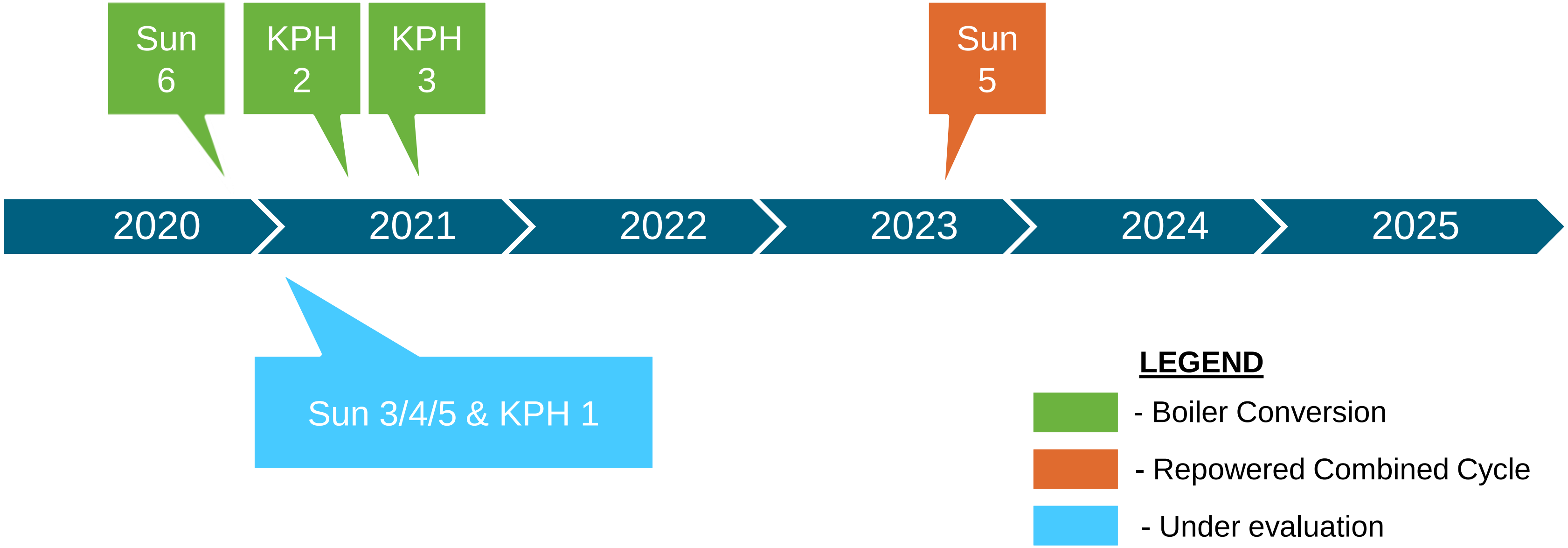
Increase our presence in the US renewables market

Maintain a strong financial position

Keeping TransAlta People protected and resilient under COVID-19 pandemic

Targeted Conversion Plans

- Base plan involves three boiler conversions in the 2020 to 2021 period, and one unit repowered into combined cycle
  - Options for Sundance 3, Sundance 4, Keephills 1, and Sundance 5 prior to being repowered will be evaluated in the 2020/2021 timeframe and be based on long-term market fundamentals
  - The plan presented assumes there are no delays in securing 100% of natural gas supply requirements that may result from regulatory or other constraints



Significant Benefits from Converting to Gas

Benefits

- Attractive investment returns
- Significantly extends life of the fleet
- Significantly lowers operating, capital and carbon costs
- Natural gas is in abundant supply and competitively priced
- Avoids significant expenditures on NO_X and SO_X
- Low capital and outage time for boiler conversions
- The brownfield repowered combined cycle has a capital cost 40 – 50% lower than greenfield combined cycle or cogen
- Removes complex and expensive mining operations

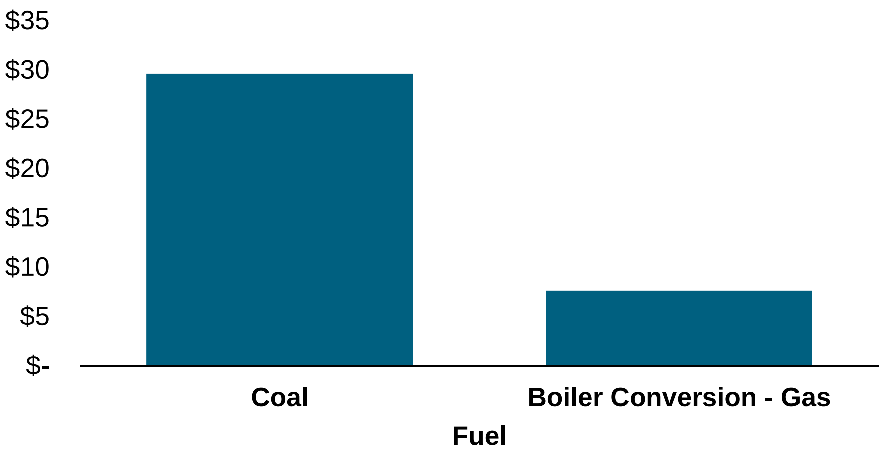
Achieved Milestones

- ✓ Issued FNTP for Sundance 6 and Keephills 2
- ✓ Advanced Keephills 3 conversion
- ✓ K3/G3 non-operating interest swap
- ✓ Transported first gas on Pioneer Pipeline with firm contract beginning November 1st
- ✓ Advanced repowering strategy with Kineticor transaction
- ✓ Announced sale of Pioneer Pipeline to TC Energy (NGTL) providing access to highly liquid natural gas network and trading hubs

Emission Savings Pay for Boiler Conversions in < 1.2 Years

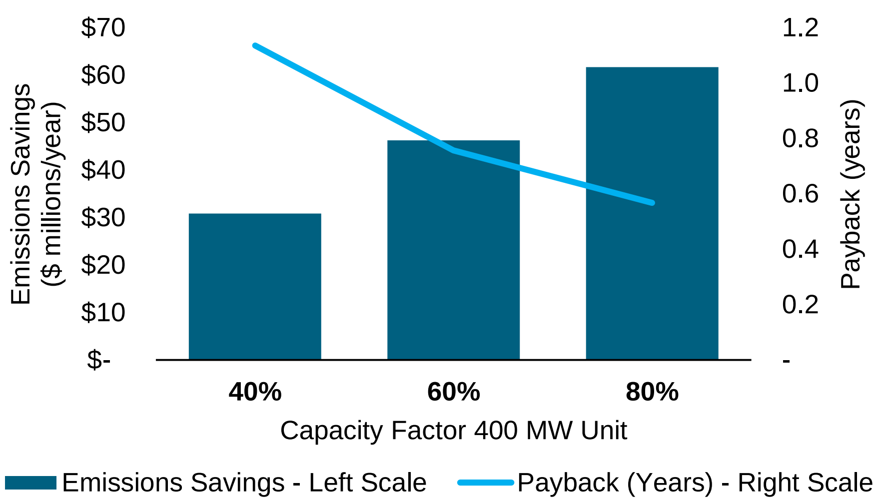
- ~\$22/MWh CO2, NOx, SOx and mercury savings from converting from coal to gas

EMISSION COSTS PER MWH[1]



- \$30 to \$60 million per year in emission cost savings for a 400 MW unit
- Savings pay off the capital costs to convert in less than 1.2 years
- Lower operating & capital costs going forward and avoids ~\$40 million in NOx/SOx compliance capital

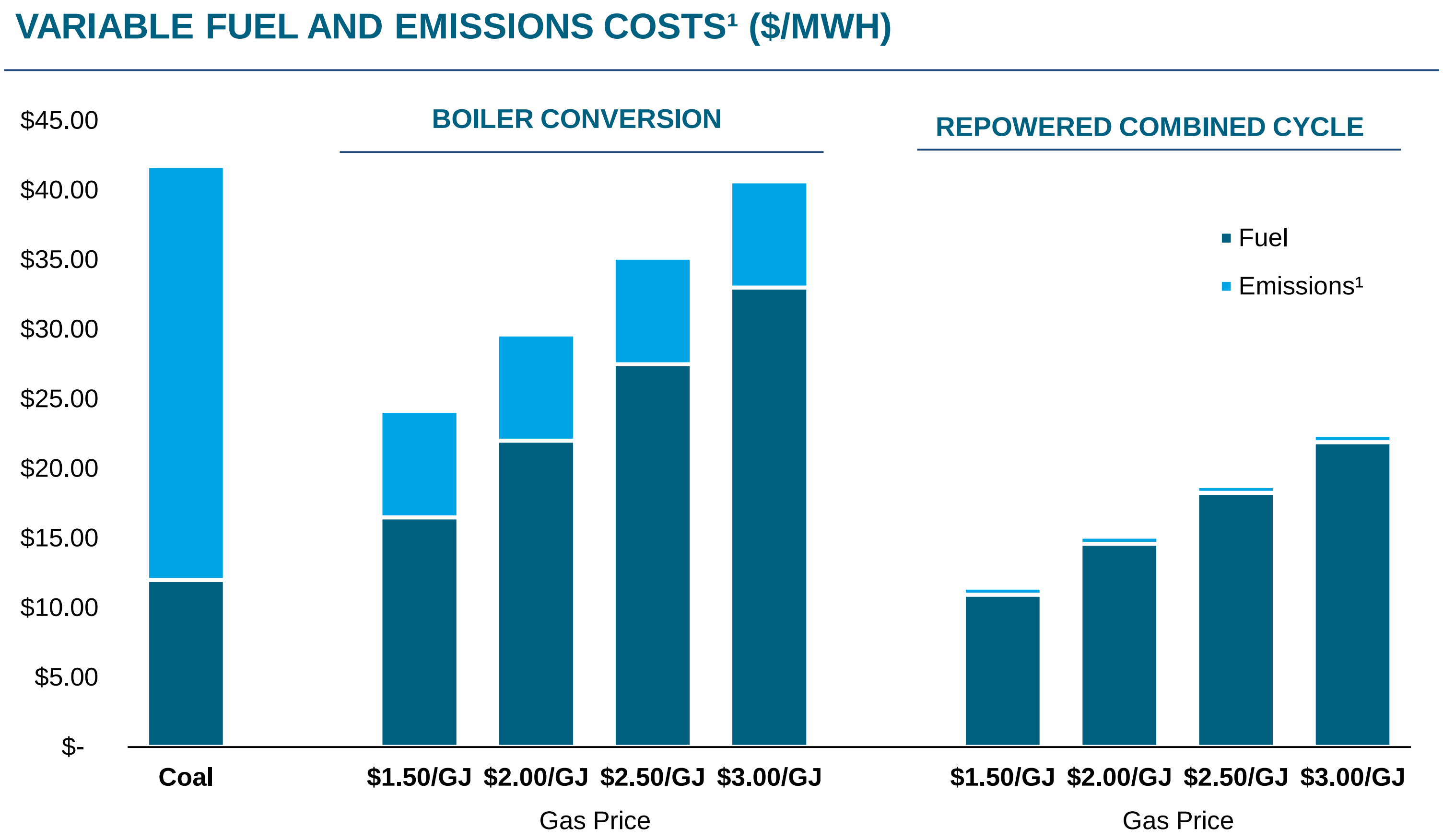
EMISSION SAVINGS AND PAYBACK – 400 MW UNIT[1]



1) *Assumes a \$40 per tonne carbon price and 0.37 CO2 tonne/MWh performance standard*

Competitive Variable Costs

- TransAlta's conversion strategy will result in a highly competitive fleet



1) Analysis based on a sub-critical unit, $40 per tonne carbon price, and 0.37 CO2 tonne/MWh performance standard. Emission costs include carbon and, in the case of Coal, mercury, NOx and SOx. Analysis will vary by unit depending on heat rate and capacity factors.

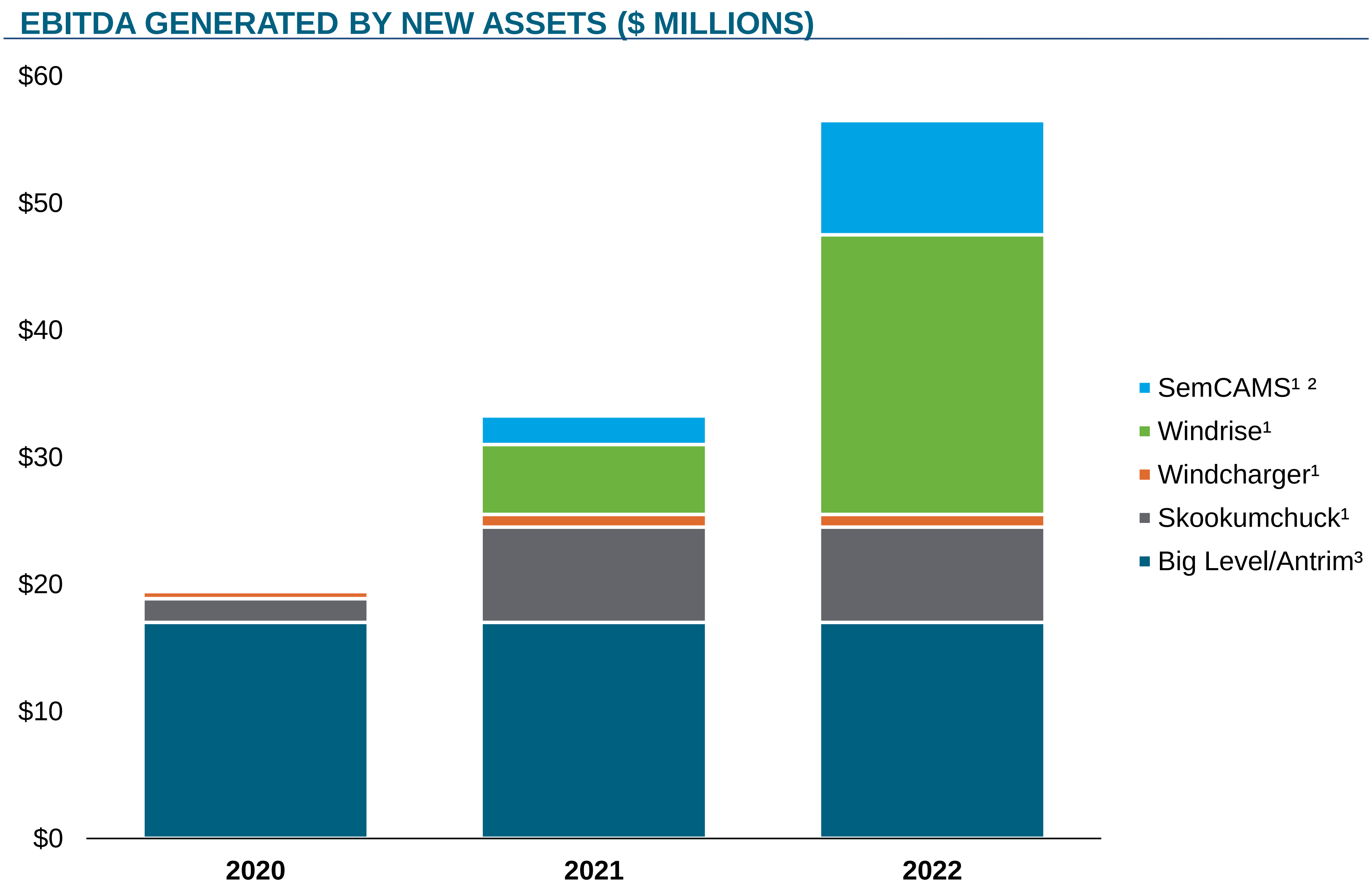
Growth Projects Underway

Projects	Owned MW	Capital Invested[5] (CAD$ millions)	Expected Returns	Expected COD
Skookumchuck Wind[1]	67	$150 - $160	High single digit	H2 2020
Windrise Wind	207	$270 - $285	High single digit	H2 2021
WindCharger Battery[2]	10	$7 - $8	Low/Mid teens	H2 2020
Kaybob Cogen[3]	40	$105 - $115	Low/Mid teens	H2 2021
Boiler Conversions	1,260 to 2,430	$120 - $200	High double digit	2020 to 2023
Repowering[4]	730	$750 - $770	Double digit	2023

- Skookumchuck Wind moved to second half of 2020 with no cash outlay until COD
- Windrise construction began in April and is expected to reach COD in H2 2021
- Windcharger Battery expected to reach COD in July 2020
- Closed the Michigan cogeneration acquisition in May; first step in expanding our U.S. cogeneration footprint
- Continue advancing boiler conversions and repowering 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. 4) Keephills 1 Unit remains a candidate for repowering, but would most likely occur after the 2023 timeframe shown in the table. 5) Expected capital spend to the end of 2023.

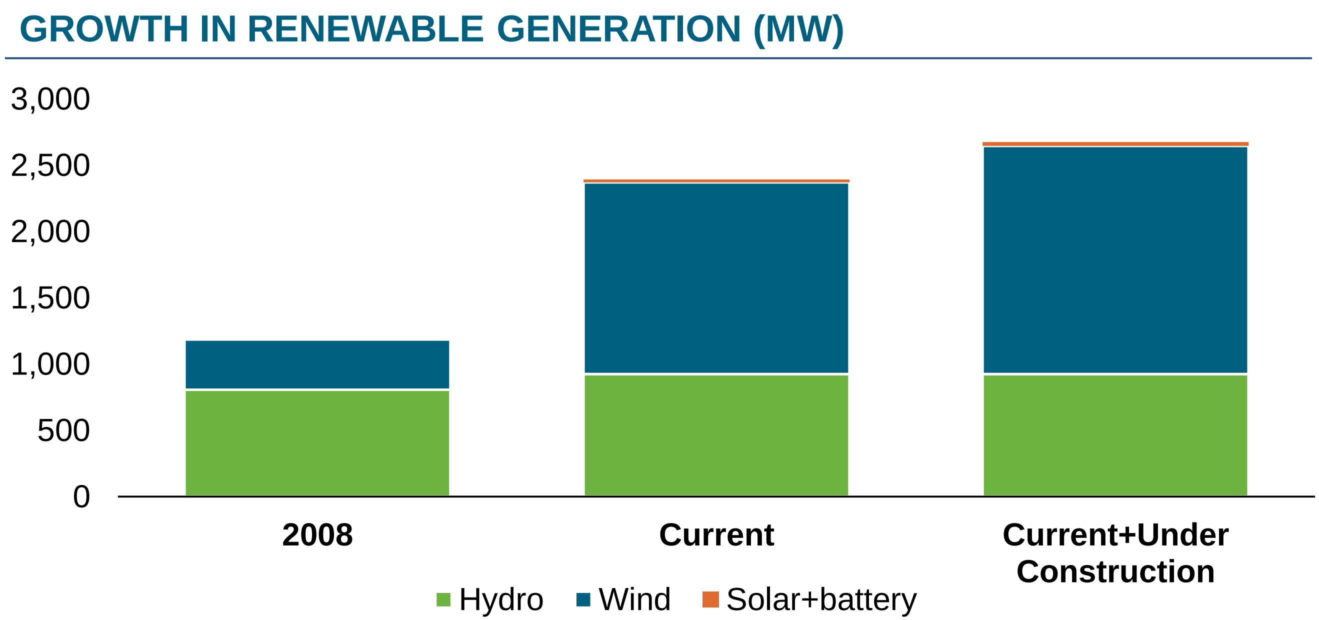
Growth Projects EBITDA



1) Potential drop-down candidates to TransAlta Renewables. 2) Reflects 50% of total project EBITDA as SemCAMS has 50% option to buy-in at COD 3) Antrim / Big Level EBITDA excludes tax equity Production Tax Credits (PTCs).

Positioned for Future in Renewables

- TransAlta/TransAlta Renewables has more than doubled its renewable fleet since 2008
- Our existing presence and expertise position us well to participate in the growing demand for renewable energy



	2008	Current	Current+Under Construction
Annual EBITDA Generated by Renewable Assets	$98M	$341M[1]	$398M
Percentage of EBITDA[2]	10%	37%	40%

Nearly a 250% increase in EBITDA from renewable assets since 2008

1) Current Annual EBITDA represents 2019 full year. 2) Percentage of EBITDA Adjusted to exclude the $56 million received during the third quarter of 2019 related to the Sundance B and C PPA termination payment

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

Funding Plan – TransAlta Renewables

New projects supported by project-level debt

Tax equity will be utilized for U.S. projects that have tax credits

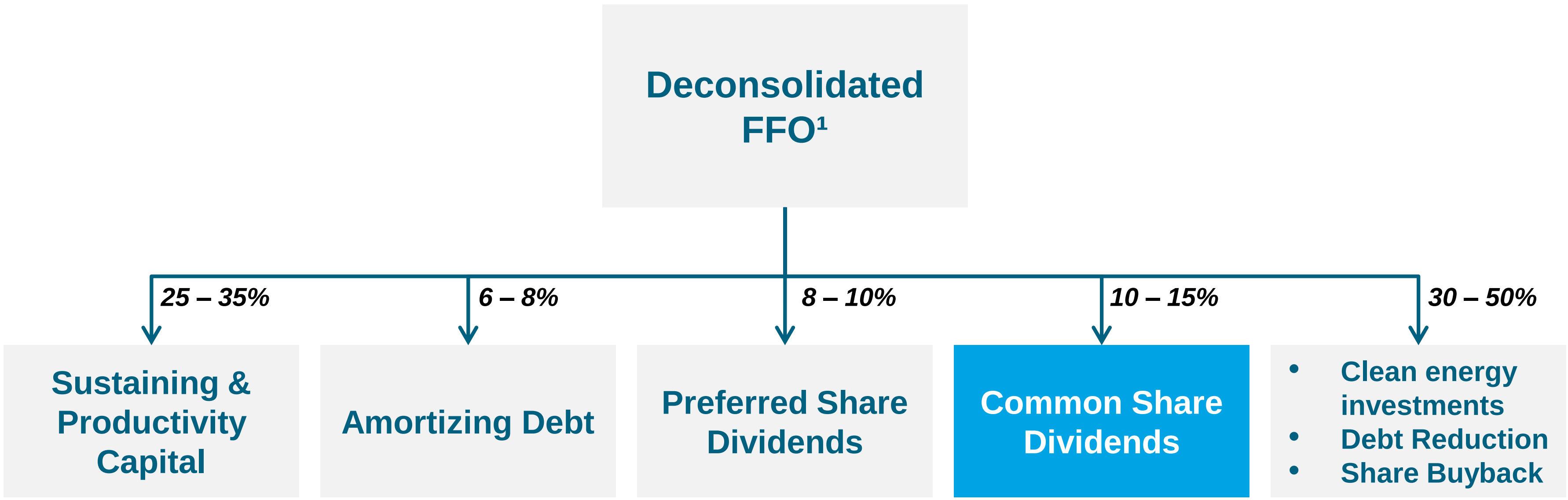
Opportunity to raise debt against currently unencumbered assets

Additional sources of capital include:

- **Excess cash flows**
- **DRIP**
- **Partnerships**

Prudent Capital Allocation and Dividend Policy

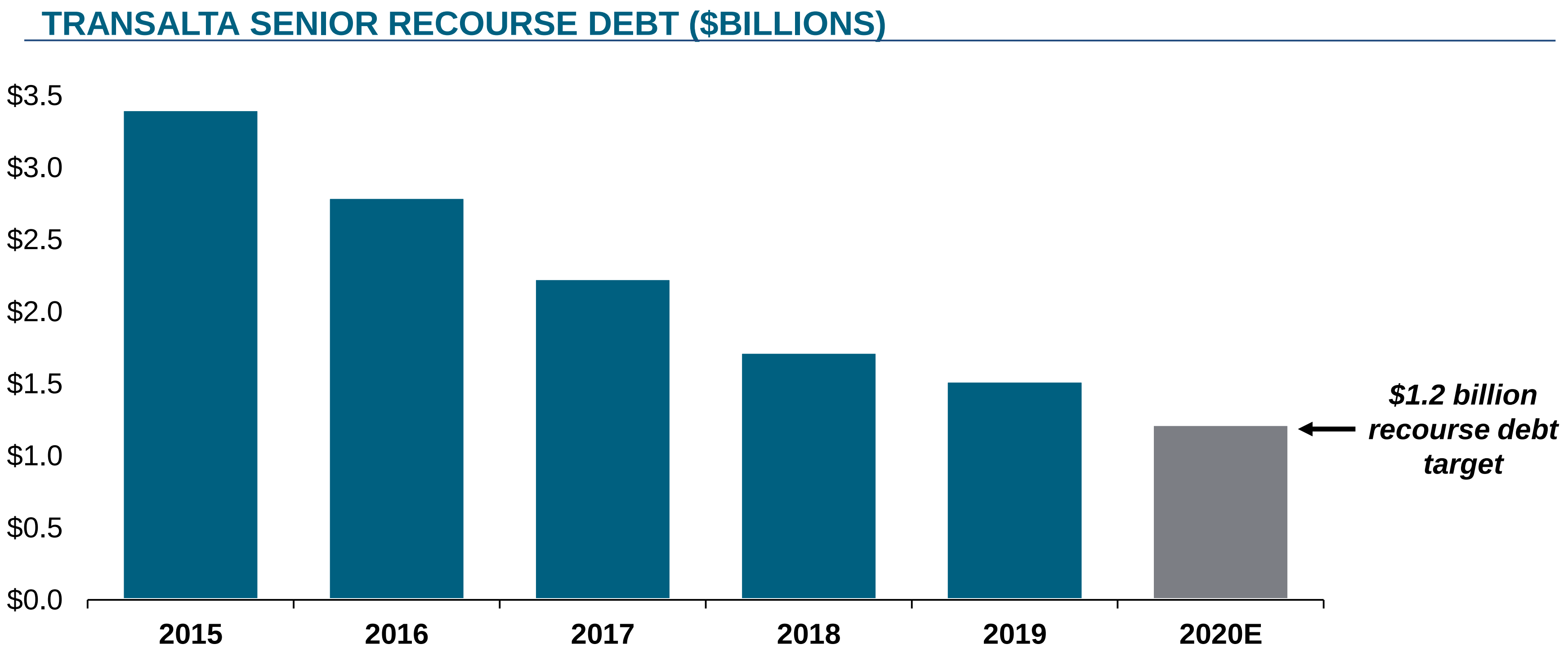
- Announced 6% dividend increase for common shares in January 2020



Dividend policy of 10 to 15% of TA deconsolidated FFO

1) Refer to Forward Looking Statements (slide 2)

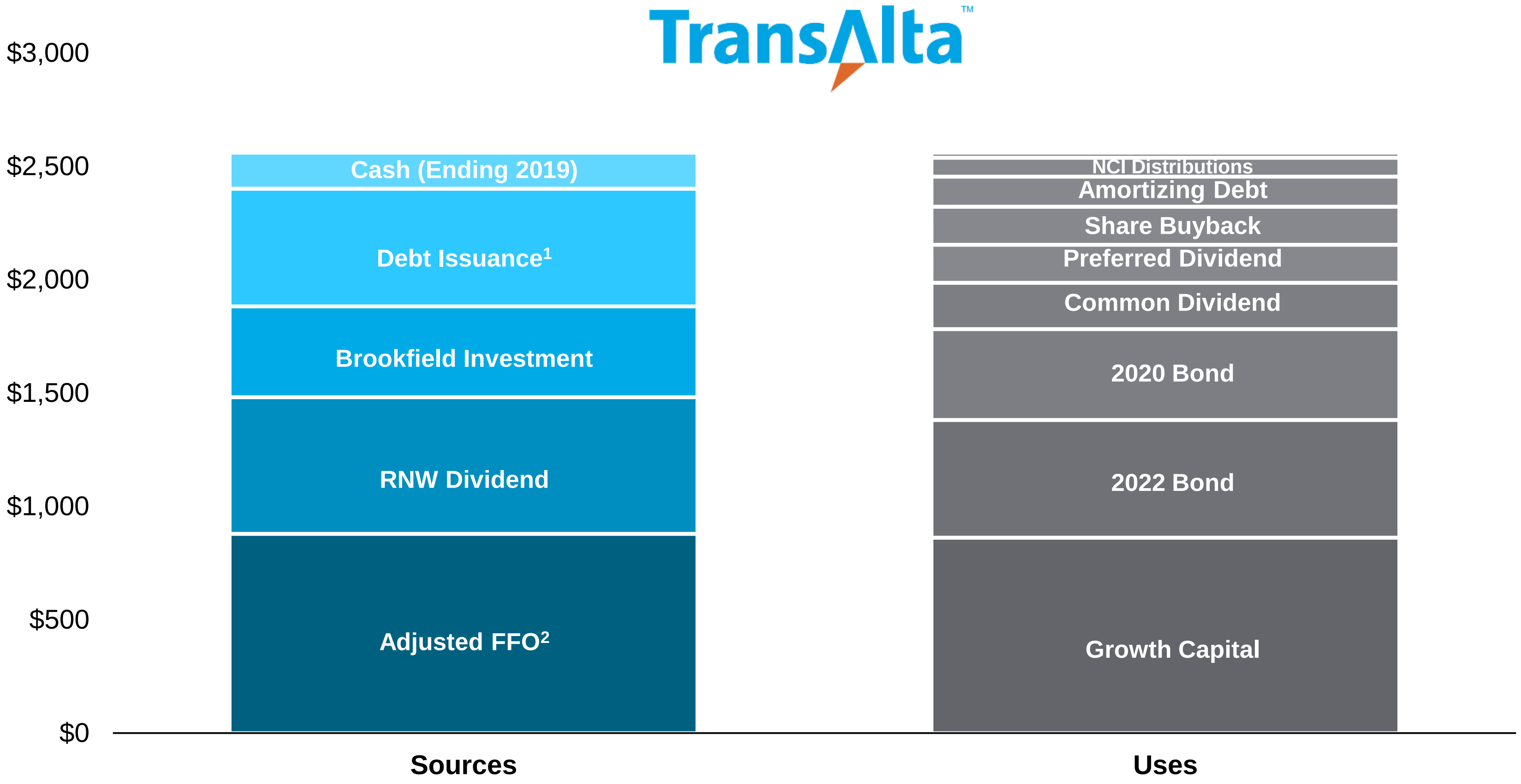
Success in Reducing Senior Recourse Debt



- Repositioned balance sheet to the size for operating in a merchant environment
- Consistent reduction in corporate recourse debt
- Anticipate further senior recourse debt reduction throughout 2020
- On track to achieve targeted $1.2 billion of net recourse debt to TransAlta

Deconsolidated Sources and Uses

DECONSOLIDATED SOURCES AND USES 2020-2023 ($ MILLIONS)

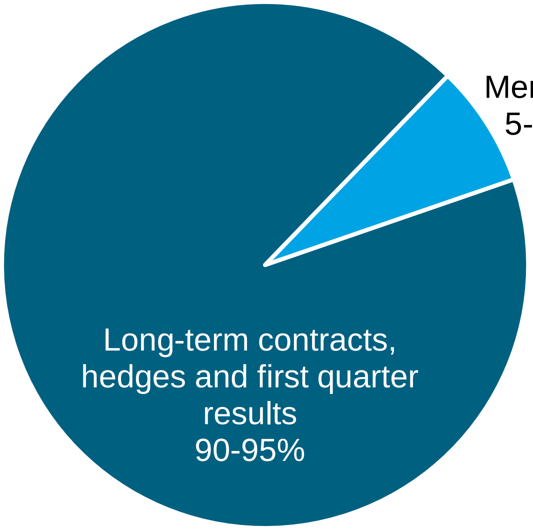


Plan is fully funded

1) Assumes refinancing of 2022 debt. 2) Adjusted FFO is equal to deconsolidated FFO less sustaining and productivity capital.

Highly Diversified Asset Base

2020 CONTRACTED/MERCHANT EBITDA



ALBERTA HEDGE POSITION (BOY 2020)

AB Thermal Baseload Merchant Generation Hedged[(1)]	74%
Hedged Price *($/MWh)*[(1)]	$52
$1/MWh EBITDA sensitivity *($ Millions)*	+/-$3.5
Balance of Year Forward *($/MWh)*[(1)]	$49

- Approximately 90 to 95% of 2020 EBITDA generated through long-term contracts, hedges and first quarter results

- Forward curve reflects weakness in Alberta demand due to oil shut-in and COVID-19

- 2020 outlook maintained within FCF range of $325 to $375 million

1) *As of May 11, 2020.*

COVID-19 Response

Employees and Contractors

- Initiated business continuity plan in early March
  - Remote working arrangements
  - Health screening
  - Enhanced cleaning arrangements
  - Travel bans
  - Revised schedules
  - Contingent work teams
- Implemented virtual healthcare program

Customers and Communities

- Ensured facilities remain fully operational to meet the essential power demands of our customers.
- Continue providing safe, low-cost and reliable clean electricity to communities

Shareholders

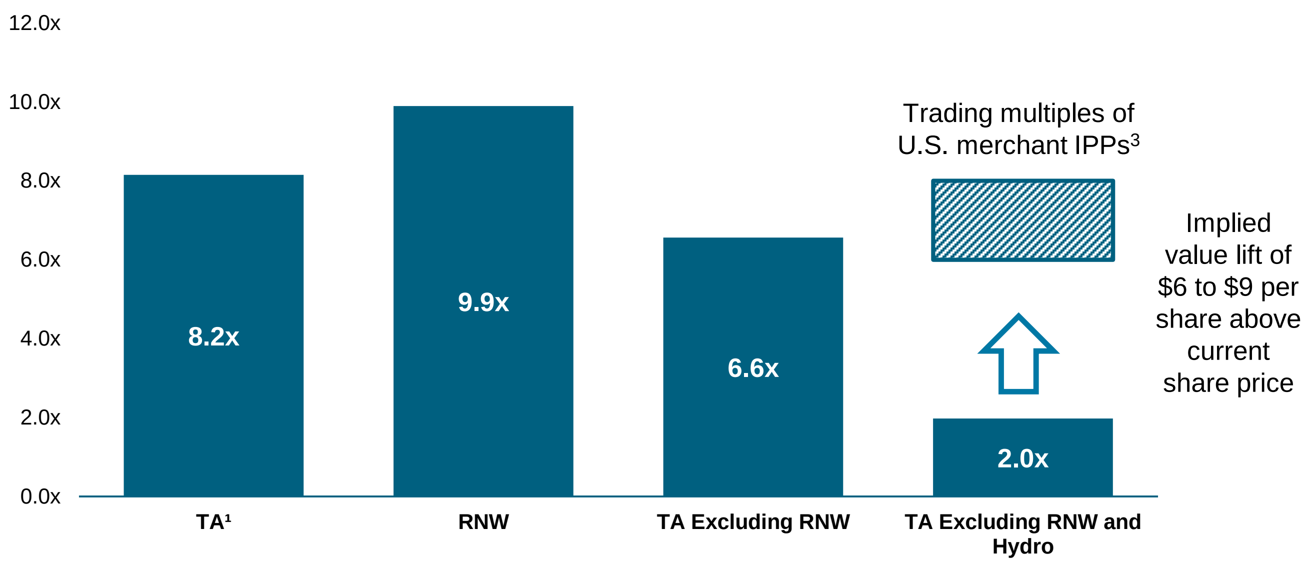
- Maintain strong financial position with no near-term liquidity/funding issues
- Highly diversified asset portfolio provides stability in our cash flows
- Highly hedged portfolio through 2020

Our response to COVID-19 reinforces our core values of Safety, Innovation, Sustainability, Respect and Integrity

Attractive Equity Entry Point

- Market is assigning a very low multiple to TransAlta's thermal fleet based on the current market prices for TransAlta Renewables and value of TransAlta's Hydro assets
- Merchant U.S. power companies trade closer to 6 – 8x EBITDA, implying a significant uplift in TransAlta's current share price

TEV/2019E EBITDA MULTIPLES



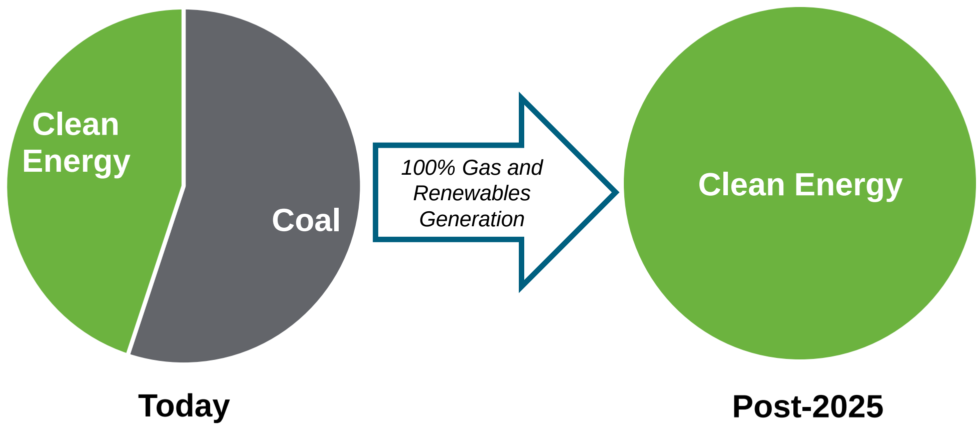
Annual EBITDA[2] ($Millions)	$925	$440	$485	$385

Note: Priced as at May 20, 2020. Balance sheet numbers reflect Q1 2020 value. Hydro value assumed to be $2.5 billion. 1) Includes market value of TransAlta Renewables and book value of TA Cogen. 2) Annualized EBITDA represents mid-point of 2020 Outlook and historical 5-year average hydro EBITDA of $100 million. 3) U.S. Merchant IPP peers include NRG Energy and Vistra Energy.

Why Invest in TransAlta

- Strategy of 100% Clean Energy unchanged – execution well underway
- Strong cash flows with significant upside potential
- TransAlta's fleet will be a competitive low-cost generator in the Alberta energy-only market
- TransAlta Renewables well positioned to fund and participate in growing demand for renewables and on-site generation
- Balance sheet, cash flow and capital available to fund current growth plans
- Strong culture focused on safety, operational and financial excellence
- Attractive equity entry point

PORTFOLIO TRANSFORMATION WELL UNDERWAY



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