transalta™

2023 Investor Day

November 21, 2023

Disclaimer and forward-looking statements

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This written and accompanying oral presentation contains "forward-looking information", within the meaning of applicable Canadian securities laws, and "forward-looking statements", within the meaning of applicable United States securities laws, including the United States Private Securities Litigation Reform Act of 1995 (collectively referred to herein as "forward-looking statements"). The forward-looking statements are provided for the purpose of presenting information about management's current expectations and plans and readers are cautioned that such statements may not be appropriate for other purposes. TransAlta’s actual results could differ materially from those expressed in, or implied by, these forward-looking statements, and accordingly, no assurances can be given that any of the events anticipated by the forward-looking statements will transpire or occur. Forward-looking statements are predictive in nature, depend upon or refer to future events or conditions, or include words such as “expects”, “anticipates”, “plans”, “predicts”, “believes”, “estimates”, “intends”, “targets”, “projects”, “forecasts” or negative versions thereof and other similar expressions or future or conditional verbs such as “may”, “will”, “should”, “would” and “could”. These statements may include, without limitation, statements regarding: global trends for decarbonization, including cost of carbon, cost effective technologies for storage, hydrogen, carbon capture, and customer demand; natural gas generation playing a role in maintaining affordability and reliability in each of TransAlta's core markets; anticipated evolution of the Alberta merchant market; TransAlta's ability to maintain and execute its strategy, including meeting customer needs, operational excellence, and increasing shareholder value and delivering stable and predictable cash flows; TransAlta’s Company-wide priorities to 2028, including optimizing the Alberta portfolio, the Clean Electricity Growth Plan, maintaining financial strength and capital allocation discipline, defining the next generation of power solutions and leading ESG and market policy; TransAlta’s ability to execute its investment focus to 2023, including new technology, renewables and storage and reliable generation; the technology cost of renewables and storage continuing to decline; forecasted composition of 2024 earnings before interest, taxes, depreciation and amortization (“EBITDA”); Company’s EBITDA attributable to renewable generation reaching 70%; emissions reductions, including reducing emissions (scope 1 and 2) by 75% below 2015 levels by 2026, achieving net zero by 2045, and ending coal generation by 2025; TransAlta’s ability to execute its sustainability targets, including 80% of procurement spend to be with supplier committed to sustainability, 40% company-wide female employment by 2030; 50% female Board representation by 2030; forecasted 2024 EBITDA of $1.15 Billion to $1.3 Billion and free cash flow of $450 million to $600 million; realizing incremental EBITDA from Kent Hills, White Rock, Northern Goldfields and the Mount Keith transmission project; the changing energy regulatory landscape, including the relaxation of the draft Clean Electricity Regulations, and the expected impact that regulatory changes will have on the Company's business; expected changes to the Alberta power market; the impacts arising from the significant supply additions in the Alberta market; the swings in generation in Alberta from hour to hour; the Alberta pool price forecasts and expected increase to price volatility; the benefits of the Alberta hydro fleet and the expected revenue from energy sales from hydro; Alberta’s forecasted load growth and supply additions; the Company's increasing diversification strategy by fuel type, including our growth pipeline, and development of projects such as the expected capacity additions, date of investment decisions and timing of commercial operations; the value of TransAlta's hydro fleet, including ability to maintain higher realized ancillary pricing and energy pricing compared to the spot price; realization of the anticipated benefits of thermal and peaking generation facilities; TransAlta’s acquisition of Heartland, including timing of closing and the anticipated benefits arising from such transaction; the Alberta portfolio strategy and priorities, including new technologies for post-2025 and optimizing value from the diversified fleet; TransAlta's energy marketing business ability to deliver value with low risk; expected EBITDA contribution from TransAlta's Energy Marketing segment; the ability to achieve the updated Clean Electricity Growth Plan targets, including delivering up to an incremental 1.75 GW of clean electricity capacity, a 10 GW pipeline, and deploying approximately $3.5 Billion of growth capital, and achieving cumulative annual EBITDA from new growth projects of $350 Million, in each case to 2028; the ability to pursue and execute joint development projects with Hancock Prospecting; ability to proceed to construction and operation of the Company’s advanced development projects, including WaterCharger, Pinnacle and the Mount Keith Expansion, and the timing thereof and the expected EBITDA contribution; technology pathways in the short and medium term, including storage, hydrogen fired generation, smart grids and EV adoption and the evolving nuclear landscape; TransAlta's Data and Innovation center ability to maximize availability and extract value from assets; the Company’s mine reclamation costs; the sources of funding the update Clean Electricity growth plan and the Company’s ability to access a variety of sources for funding, including free cash flow; TransAlta's repayment of $1.5 billion in amortizing project debt; and the Company achieving a Debt to EBITDA ratio of between 3 to 4 times.

These statements are based upon certain material factors or assumptions that were applied in developing the forward-looking statements, including: the design specifications of development projects; management’s current plans and its perception of historical trends; current conditions and expected future developments; merchant power prices in Alberta and the Pacific Northwest; the Alberta hedge position, including price and volume of hedged power; the availability and cost of labour, services and infrastructure; and the satisfaction by third parties of their obligations, including under our power purchase agreements as well as other factors that are believed to be appropriate in the circumstances. Some of the factors, many of which are beyond TransAlta’s control and the effects of which can be difficult to predict, but may cause actual results to differ materially from those contemplated or implied by forward looking statements include, but are not limited to: realization of expected benefits from the acquisition by the Company of all of the outstanding common shares of TransAlta Renewables; fluctuations in merchant power prices, including lower pricing in Alberta, Ontario and Mid-Columbia; changes in demand for electricity and capacity; our ability to contract or hedge our electricity generation for prices and at volumes that will provide expected returns; risks relating to our early stage development projects, including interconnection, offtake contracts and geotechnical and environmental conditions of such projects; long term commitments on gas transportation capacity that may not be fully utilized over time; our ability to replace or renew contracts as they expire; risks associated with our projects under construction and projects in development, namely as it pertains to capital costs, permitting, land rights, engineering risks, and delays in the construction or commissioning of such projects; any difficulty raising needed capital in the future, including debt, equity and tax equity, as applicable, on reasonable terms or at all; the inability to obtain regulatory approvals necessary for the acquisition of Heartland Generation, on terms satisfactory to TransAlta or at all; changes to the legislative, regulatory and political environments in the jurisdictions in which we operate; environmental requirements and changes in, or liabilities under, these requirements; operational risks involving our facilities, including unplanned outages; disruptions in the transmission and distribution of electricity, including congestion and basis risk; restricted access to capital and increased borrowing costs; changes in short-term and/or long-term electricity supply and demand; reductions in production; increased costs; a higher rate of losses on our accounts receivables due to credit defaults; impairments and/or write-downs of assets; adverse impacts on our information technology systems and our internal control systems, including increased cybersecurity threats; commodity risk management and energy trading risks, including the effectiveness of the Company’s risk management tools associated with hedging and trading procedures to protect against significant losses; reduced labour availability and ability to continue to staff our operations and facilities; disruptions to our supply chains, including our ability to secure necessary equipment on the expected timelines or at all; the effects of weather, including man-made or natural disasters, as well as climate-change related risks; unexpected increases in cost structure; reductions to our generating units’ relative efficiency or capacity factors; disruptions in the source of fuels, including natural gas and coal, as well as the extent of water, solar or wind resources required to operate our facilities; general economic risks, including deterioration of equity markets, increasing interest rates or rising inflation; the inability to fully utilize or monetize the gas transport capacity; failure to meet financial expectations; general domestic and international economic and political developments, including armed hostilities, the threat of terrorism, diplomatic developments or other similar events; equipment failure and our ability to carry out or have completed the repairs in a cost-effective manner timely manner or at all; industry risk and competition; public health crises and the impacts of any restrictive directives of government and public health authorities; fluctuations in the value of foreign currencies; structural subordination of securities; counterparty credit risk; inadequacy or unavailability of insurance coverage; our provision for income taxes; legal, regulatory and contractual disputes and proceedings involving the Company; reliance on key personnel; and labour relations matters. TransAlta cautions that the foregoing list of important factors that may affect future results is not exhaustive. When relying on the Company's forward-looking statements, investors and others should carefully consider the foregoing factors and other uncertainties and potential events. Except as required by law, TransAlta undertakes no obligation to publicly update or revise any forward-looking statements or information in this presentation, whether as a result of new information, future events or otherwise. Past performance is not indicative or a guarantee of future results. The foregoing risk factors, among others, are described in further detail in the Company's Management Discussion and Analysis and Annual Information Form for the year ended December 31, 2022, filed under the Company's profile on SEDAR at www.sedar.com and with the U.S. Securities and Exchange Commission at www.sec.gov. 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.

This presentation contains references to financial measures that are calculated and presented using methodologies other than in accordance with International Financial Reporting Standards (“IFRS”), as issued by the International Accounting Standards Board, including EBITDA, funds from operations (“FFO”) and free cash flow (“FCF”), and such measures 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. Please refer to the “Additional IFRS Measures and Non-IFRS Measures” and “Reconciliation of Non-IFRS Measures” section of Management's Discussion and Analysis for the nine months ended September 30, 2023 for further discussion of these items, including, where applicable, reconciliations to measures calculated in accordance with IFRS. The Company utilizes these measures in managing the business, including for performance measurement, capital allocation and valuation purposes and believe that providing these performance measures on a supplemental basis to its IFRS results is helpful to investors in assessing the overall performance of TransAlta's businesses. The Company cautions readers that these non-IFRS financial measures or other financial metrics may differ from the calculations disclosed by other businesses and, as a result, may not be comparable to similar measures presented by other issuers and entities.

TransAlta's executive leadership team

John Kousinioris

President and Chief Executive Officer

Todd Stack

EVP, Finance and Chief Financial Officer

Blain van Melle

EVP, Commercial and Customer Relations

Kerry O'Reilly Wilks

EVP, Growth and Energy Marketing

Aron Willis

EVP, Project Delivery and Construction

Chris Fralick

EVP, Generation

Jane Fedoretz

EVP, People, Culture and Chief Administrative Officer

Scott Jeffers

Acting EVP, Legal

Brent Ward

SVP, M&A, Strategy and Treasurer

David Little

SVP, Growth

Agenda

Strategic Overview

John Kousinioris

President and Chief Executive Officer

TransAlta at a glance

$8.7 billion
Enterprise value

Strong balance sheet and capital discipline

112 years
Generation experience

Foundation of our focused strategy

$3.5 billion
Market capitalization

Listed on the TSX and NYSE

1,280
Employees

Central to value creation

6,400 MW
Diversified portfolio

76 generating facilities in Canada, United States and Australia

~$900 million
2023 expected free cash flow

Continued strong performance

32 million tonnes
Annual emissions reductions since 2005

10% of Canada's emissions reduction target

Who we are

Braley, Massachusetts

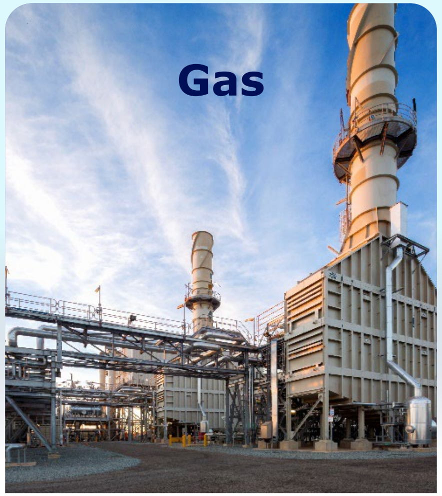
A leader in clean electricity committed to a sustainable future and a responsible energy transition

Our Strategy	Our Values
Customer needs	Safety
Operational excellence	Innovation
People	Sustainability
Shareholder value	Respect
	Integrity

transalta™

Hydro

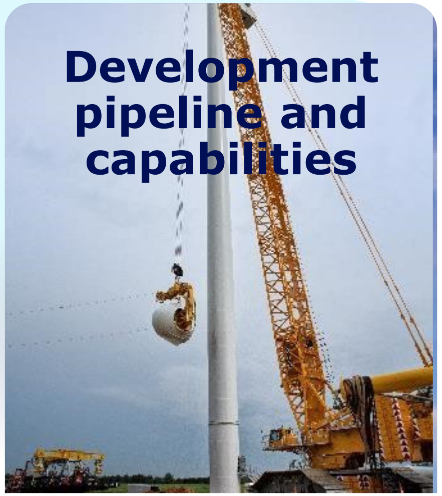
Gas



Wind and solar

Energy marketing

Development pipeline and capabilities



Highly diversified portfolio of high-quality assets
Stable contracted base with Alberta merchant upside

Strategic position strengthened since 2021

Progressed Clean Electricity Growth

+800 MW of wind and solar

+2.7 GW increase in development pipeline

Simplified Corporate Structure

+1.2 GW increase in economic ownership of capacity through TransAlta Renewables acquisition

Advanced Carbon Transition

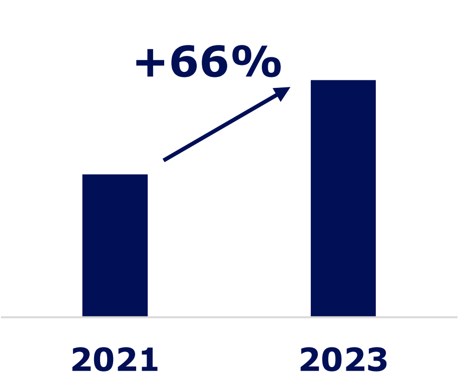
-800 MW of thermal generation retired

Expanded Alberta Diversification

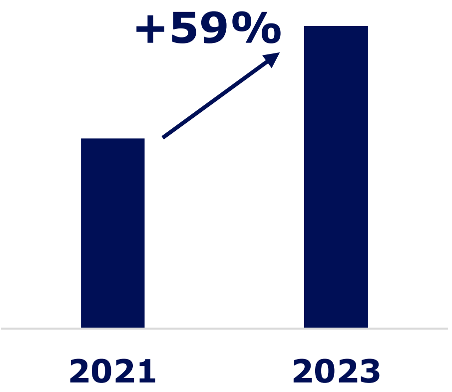
+1.8 GW of complementary flexible capacity through Heartland acquisition

Delivered exceptional results

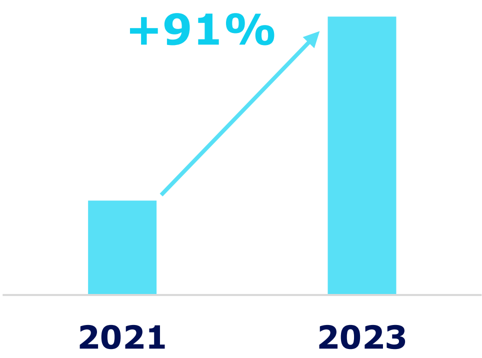
Free Cash Flow[1]



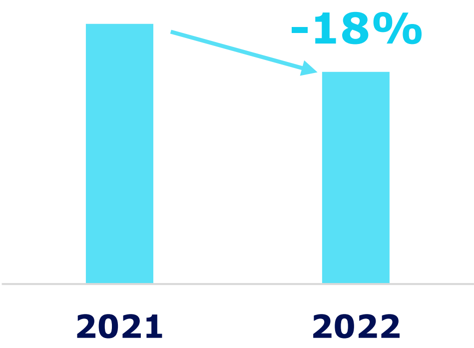
Adjusted EBITDA[1]



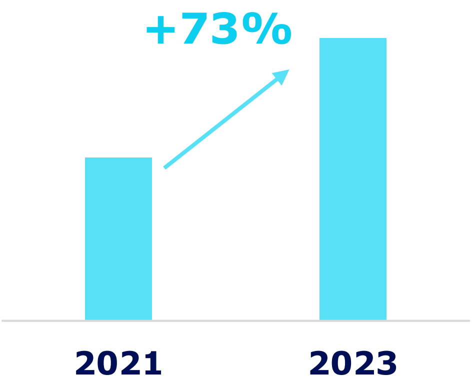
Contractedness[1,2]
(MW)



Emissions reductions
(Millions tonnes CO_2)



Renewable capacity[1,2]
(MW)



Since our last Investor Day

Free Cash Flow[1] increased by

$360 Million

EBITDA[1] increased by

$650 Million

Contractedness[1,2] increased by

1.7 GW

Emissions reduced by

3 million tonnes CO_2

Increased renewable capacity[1,2] by

1.4 GW

[1] Adjusted EBITDA and Free Cash Flow are non-IFRS measures. Certain additional disclosure for these specified financial measures have been incorporated by reference and can be found on slide 2 of this presentation. 2021 Adjusted EBITDA, Free Cash Flow, Contractedness and Renewable Capacity do not include TransAlta's non-controlling interest in TransAlta Renewables. 2023 Free Cash Flow and Adjusted EBITDA are the midpoint of TransAlta's 2023 guidance.

[2] 2023 Contractedness and Renewable Capacity include TransAlta's under construction White Rock and Horizon Hill wind projects.

Electrification presents significant opportunities

Global efforts to **decarbonize** are accelerating at a rapid pace

Policy responses are fast-tracking the emergence of a **clean electricity economy**

Corporations and investors are **leading** by committing to net-zero goals

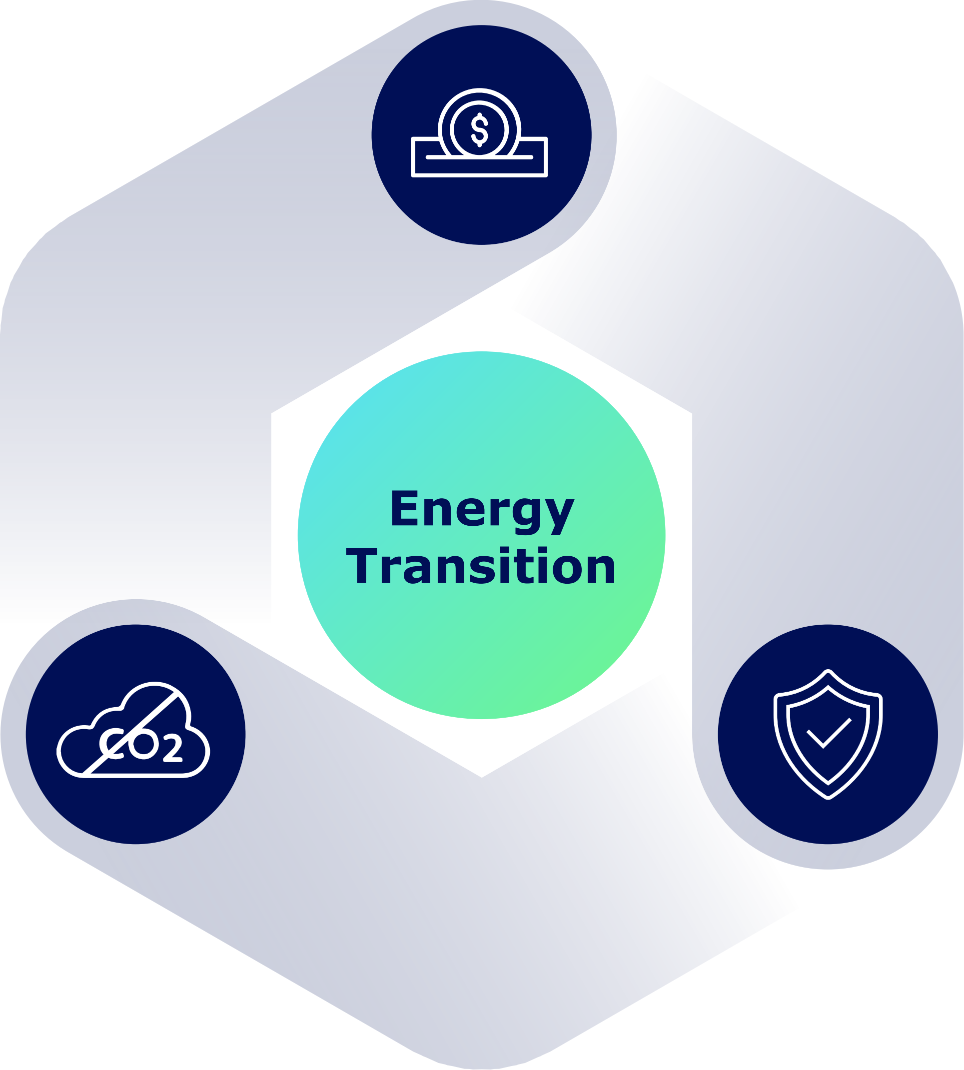
Significant investment required to meet the challenge

Balanced approach required for success in energy transition

Affordability

Reliability

Decarbonization



Strategic priorities to 2028

Freetown, Massachusetts

1. Optimize Alberta portfolio
2. Execute Clean Electricity Growth Plan
3. Selective expansion of flexible generation and reliability assets
4. Maintain financial strength and capital allocation discipline
5. Define next generation of power solutions
6. Lead in ESG and market policy development

Clean Electricity Growth Plan to 2028

Up to
1.75 GW
Clean electricity

$3.5 billion
Growth capex

$350 million
New annual EBITDA

2024 **2025** **2028**

5 GW
Development pipeline

10 GW
Development pipeline

Our investment focus to 2028

Renewables and storage

Expand core focus of **onshore wind**

Expand position in **solar**

Expand position in **storage** to meet future grid stability

Expand position in **hybrid solutions**

Optimize legacy Alberta **hydro** assets to **maximize** cash flow

Responsive and flexible generation for reliability

Optimize legacy **gas generation** to maximize cash flow and fund renewables and storage growth

Complete Heartland Generation acquisition and **integrate 1.8 GW**

Pursue **selectively higher-returning** natural gas generation where TransAlta can add tangible value

New technology

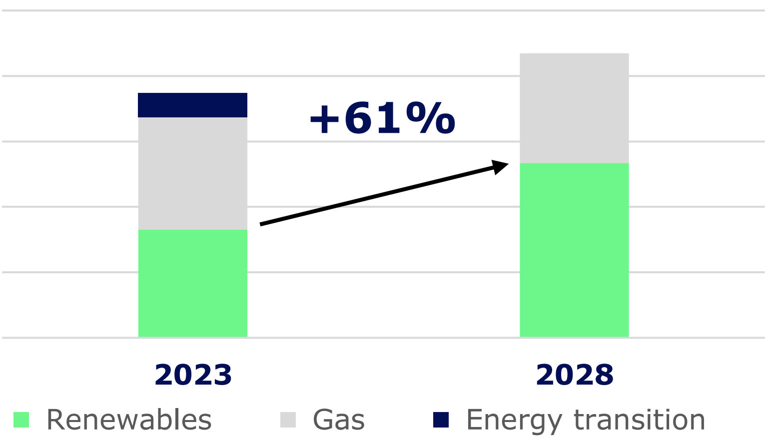
Monitor and assess **new technologies** such as storage, hydrogen, fusion, SMRs and carbon capture for deployment post-2025

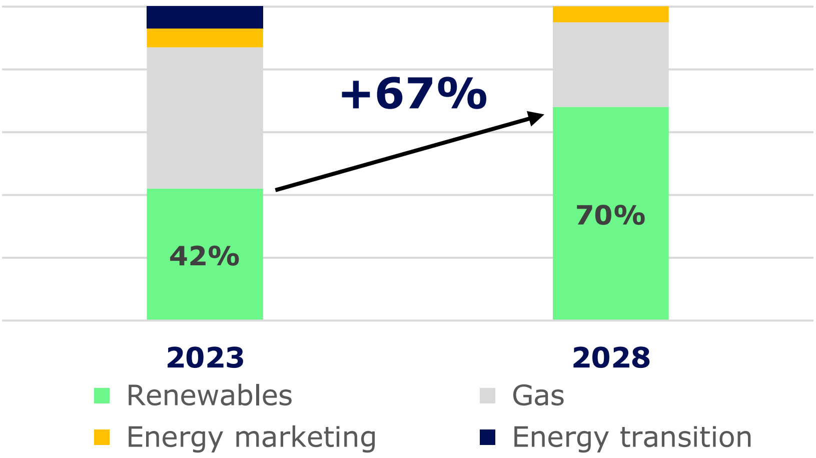
Evolution of the company

Capacity (MW)[1]

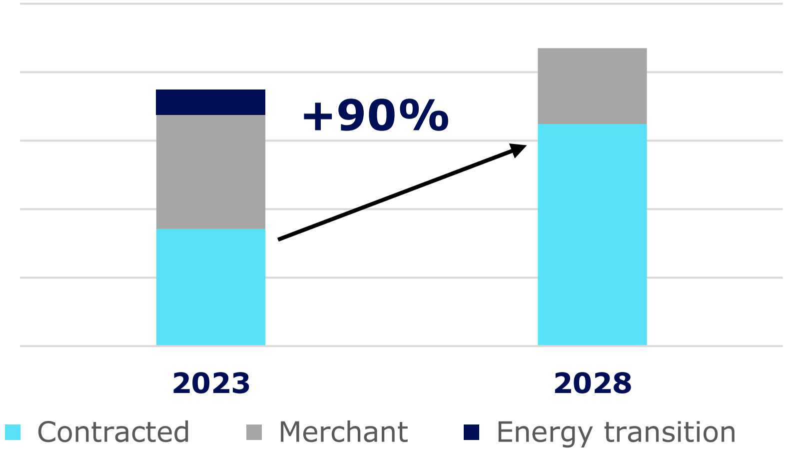
Adjusted EBITDA (%)

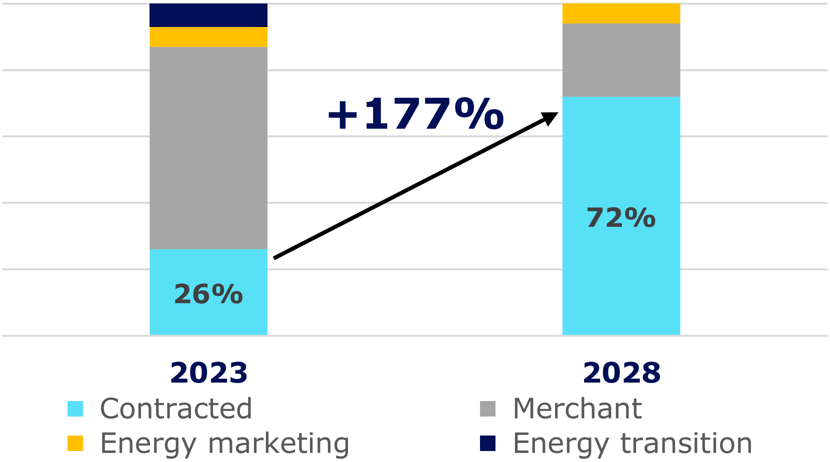
Renewables





Contracted





Growing our renewable generation

Growing our contracted base

EBITDA attributable to renewables will reach 70%

[1] Includes Horizon Hill, White Rock, the Clean Electricity Growth Plan and assets from the Heartland acquisition.

Foundations for our success

Optimization and trading expertise

Highly credible developer

Local presence

Operational excellence

Strong balance sheet

Technological innovation

2024 guidance

($ millions)	2024 Outlook
Adjusted EBITDA[1]	**1,150 to 1,300**
FCF[1]	**450 to 600**
Sustaining Capital	**130 to 150**

Market	2024 Outlook
Alberta Spot ($/MWh)	**75 to 95**
Mid-C Spot (US$/MWh)	**85 to 95**
AECO Gas Price ($/GJ)	**2.50 to 3.00**

[1] Adjusted EBITDA and Free Cash Flow are non-IFRS measures. Certain additional disclosure for these specified financial measures have been incorporated by reference and can be found on slide 2 of this presentation.

Committed to emissions reductions

TransAlta carbon reductions achieved to date[1]

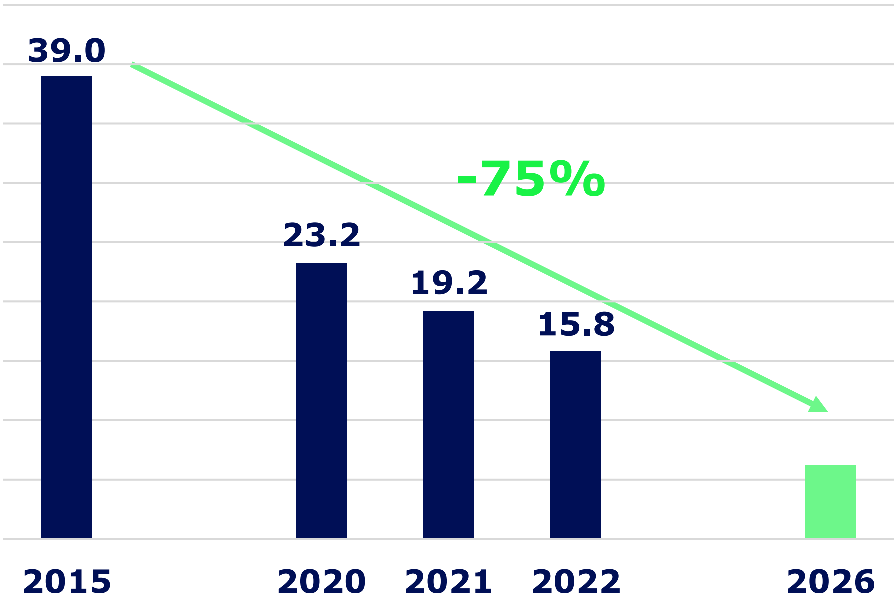
↓76%
From 2005 levels

↓32M
Annual tonnes from 2005

~10%
Of Canada's Paris Agreement Target

0%
Coal-fired emissions in Canada

Combined emissions of TransAlta and Heartland[2] (million tonnes CO_2)



[1] TransAlta's carbon reductions achieved to date do not include Heartland assets.
[2] Heartland's emissions are estimated values based on available data. As required by internationally accepted calculation methodologies, we will review our base-year emissions for any significant impacts as a result of changes in available data, calculation methodologies and major acquisitions or divestments.

Sustainability targets

Environmental goals

Net zero by 2045

Reduce GHG emissions by **75%** by 2026[1]

Verify 80% of our scope 3 emissions by 2024

End coal generation in US by 2025

Social goals

Support for **indigenous communities**

Reclaim mined land in Alberta and Washington State

By 2024, **80% of our spend** will be with suppliers committed to sustainability

Governance goals

50% female Board representation by 2030

40% company-wide female employment by 2030

Leadership on ESG reporting within financial disclosures

[1] *As of TransAlta's 2015 Annual Integrated Report.*

Recognized as a global leader

"TransAlta Corporation received an A-, which is in the Leadership band. This is above the thermal power generation sector average of B."

"TransAlta Corporation received an AA, which is the second highest rating given by MSCI on ESG related business practices."

"TransAlta Corporation received three awards for best overall (mid-cap) in the utilities sector, best ESG reporting (mid-cap) and best innovation in shareholder communications."

26th
Ranking Overall

Alberta Strategy

Blain van Melle

Executive Vice President,
Commercial and Customer Relations

Alberta market evolution

Kananaskis, Alberta

Alberta business

Maximize

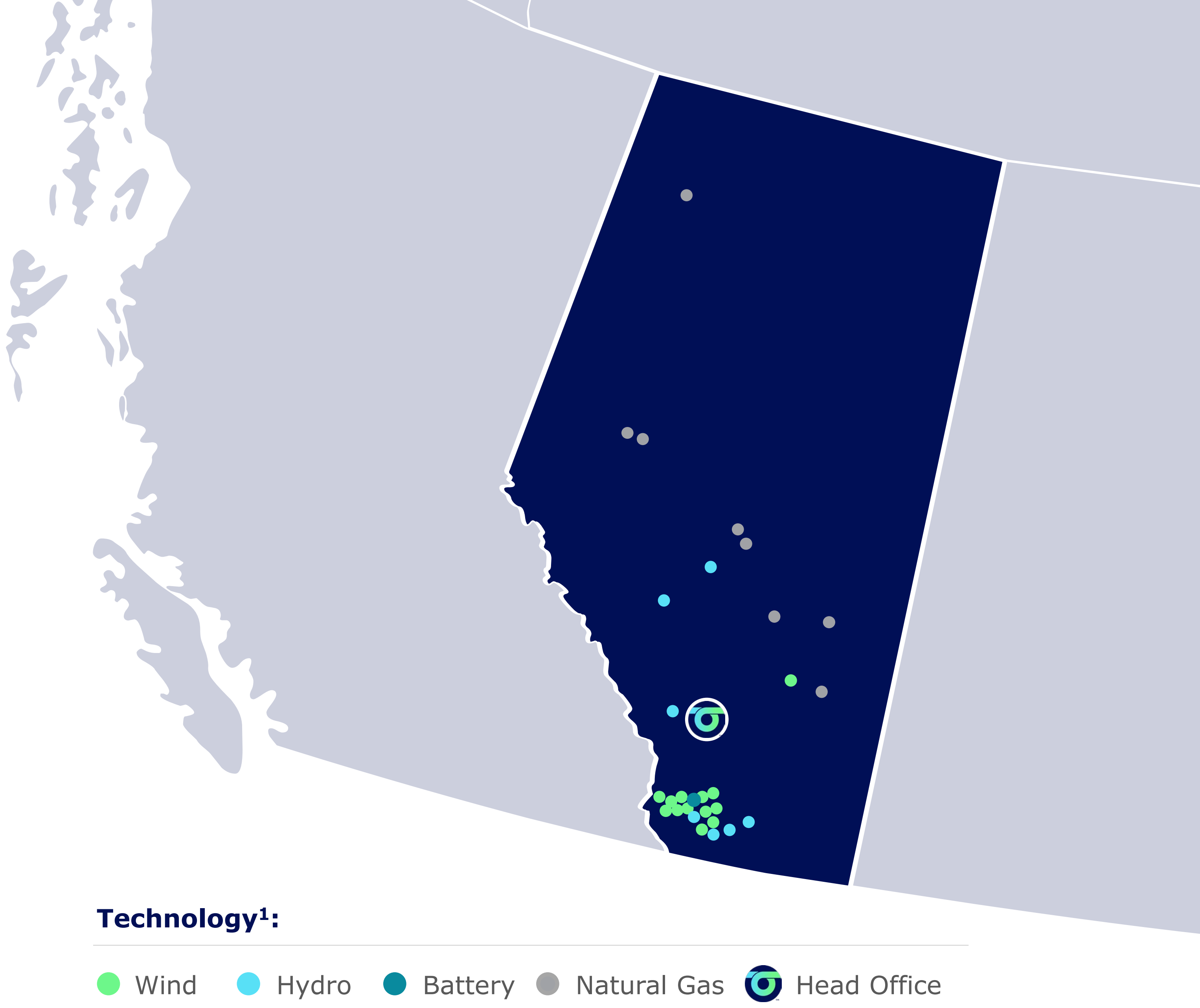
shareholder returns through **active management** of our **diversified** merchant **portfolio**

Provide

dynamic, cost-effective and low-carbon **solutions** to meet **customer power demand and ESG goals**

Identify

and evaluate market and technological sources for **long-term growth**



[1] *Includes Heartland Generation assets*

Clean Electricity Regulations

State of play

Achieve a **net-zero** electricity grid by 2035

Current draft will create **reliability and affordability challenges** regionally

Final regulations in the Canada Gazette, Part II in 2024

TransAlta's positioning

Current fleet **operates under CER**, for the longer of 2035 or prescribed asset end of life

A diversified portfolio with **strategic assets** provides resiliency and positioned for future market opportunities

Changing energy landscape requires a long-term focus

Alberta market review

State of play

Market review underway to address a net-zero electricity **system transition**

Industry **consultation** throughout 2023 – 2024

Modest changes to occur by late-2024, followed by **continued analysis** and review of broader system changes

TransAlta's positioning

Addresses reliability challenges from intermittent resources and risk of exiting legacy gas assets

Diversified fleet **presents opportunities** to realize value as this process evolves

Future opportunities for **known and emerging technologies** for reliability services

Near-term opportunities for existing assets for reliability needs

Alberta renewable pause

State of play

Response to concerns on land use, system reliability and reclamation

Expected to be in place from **Aug 2023 to Feb 2024**

Provides time for **review of regulatory framework** for renewable development

TransAlta's positioning

Required for **grid reliability and resiliency**

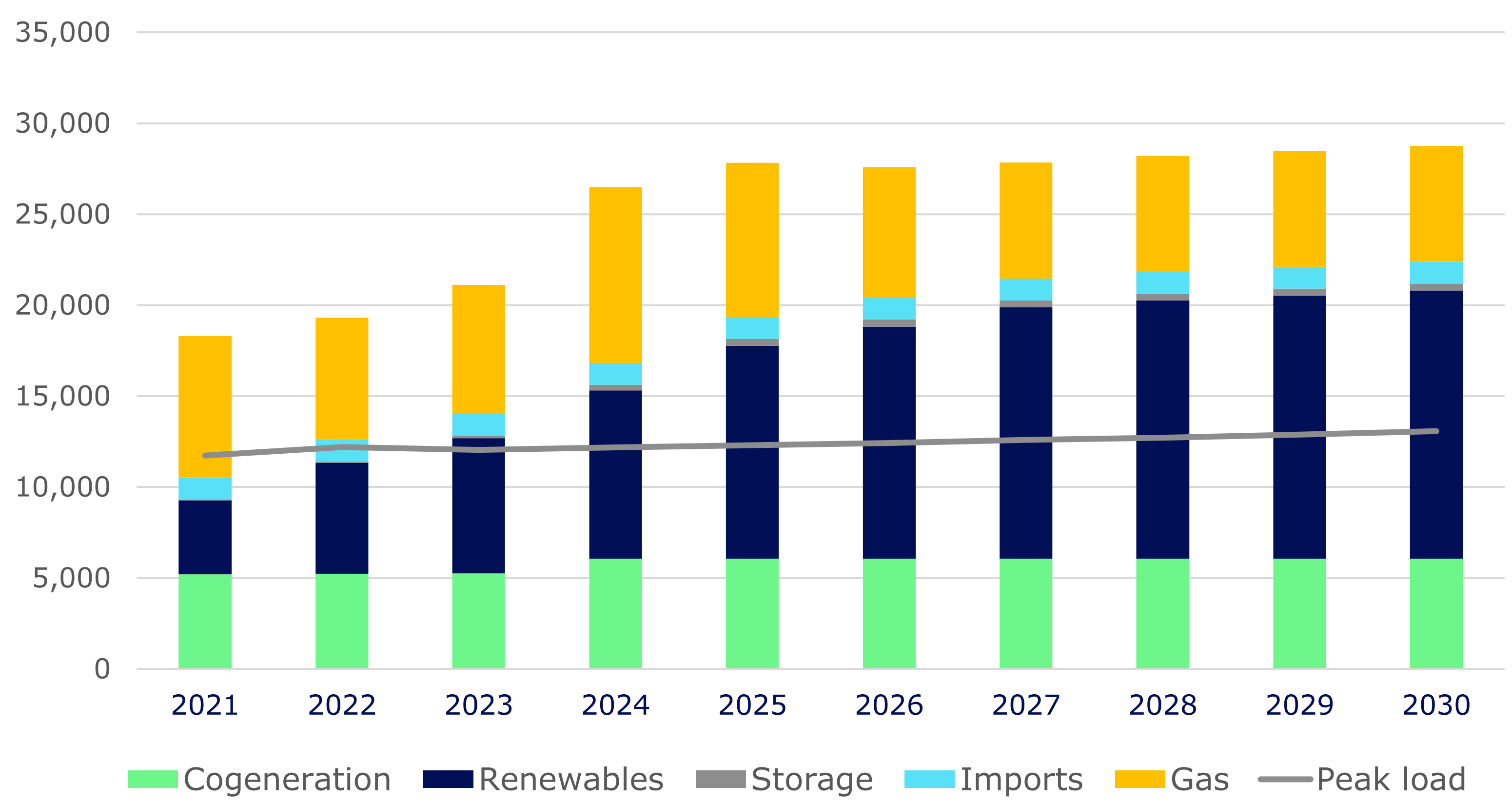
Ensures a **stable investment climate** for our current assets and future investments

No short-term impact on our key development projects as **approvals are already in place**

Resilient to pause on AUC approvals for renewables

Major supply shift continues

Alberta installed capacity and peak load (MW)



+185%

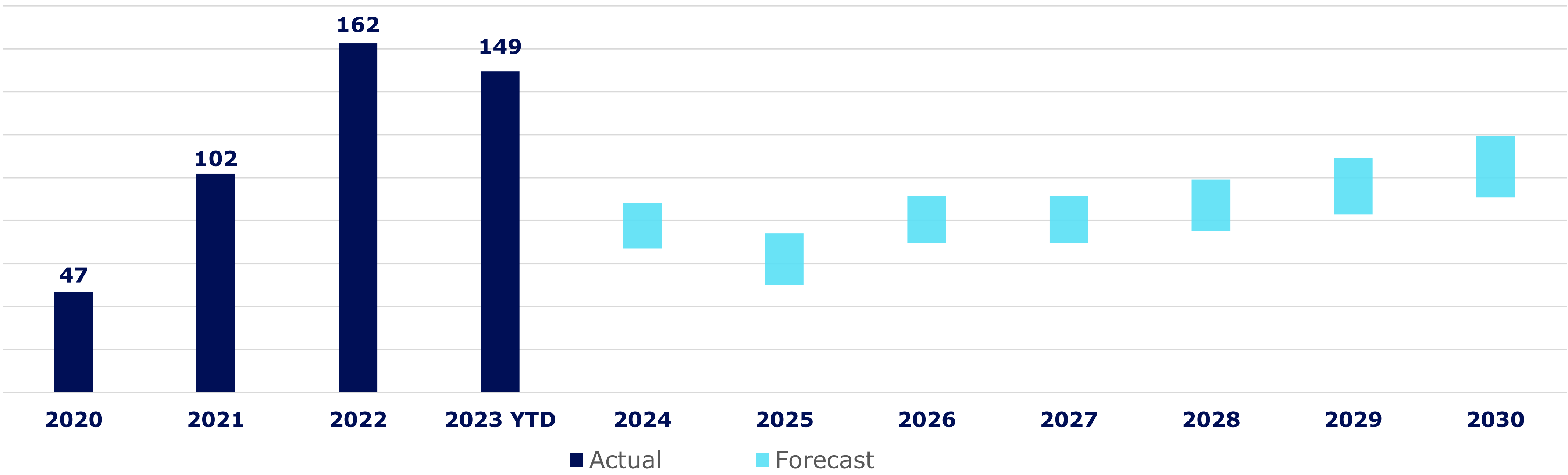
Expected supply growth in renewables

+140%

Expected supply growth in combined cycle gas

Prices expected to soften mid-decade with supply

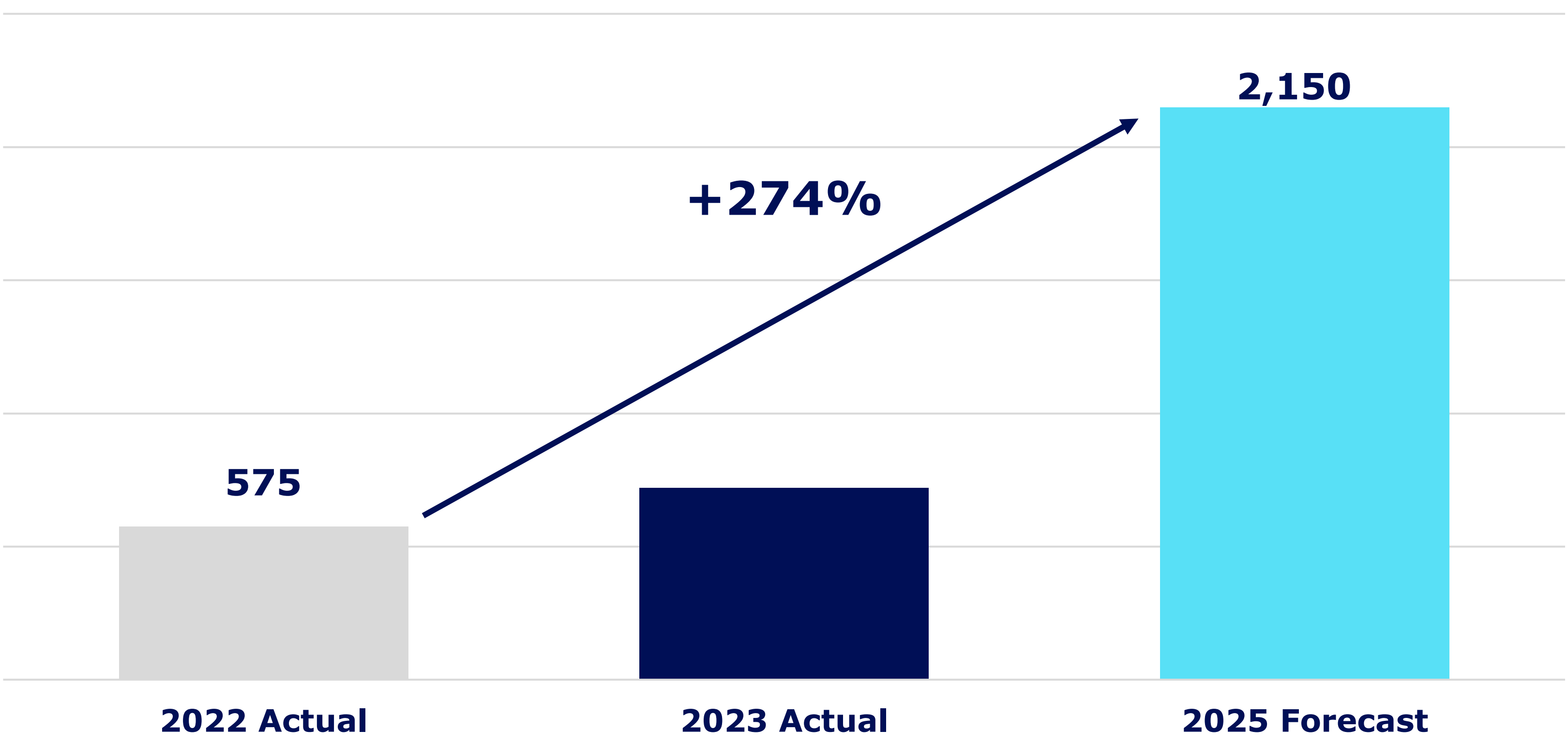
Annual average power price forecast ($ per MWh)



Prices to decline before rebounding later in the decade

Intraday volatility of renewable supply

Renewable generation - maximum hourly change (MW)

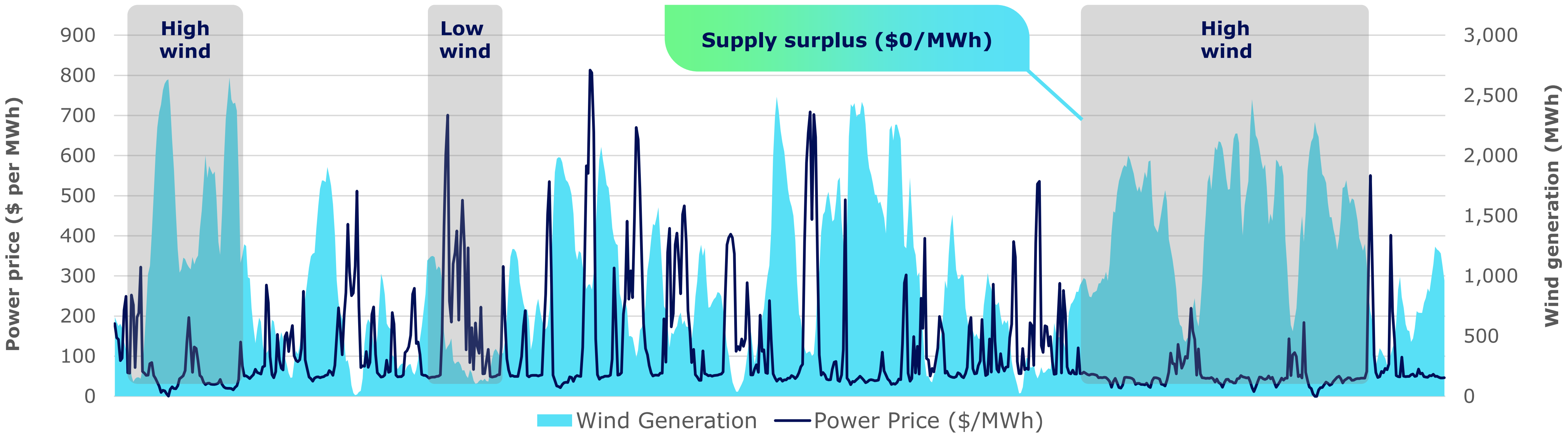


Increasing renewable generation will result in larger hour-to-hour changes in output

Challenging the reliability of the system

Wind penetration will increase volatility in price

September 2023 wind generation and power price volatility



Low wind generation allows for higher prices, while high wind generation tends to drive lower pricing or even supply surplus conditions.

Merchant electricity market evolution

Higher average pricing

Lower average pricing

2020 | 2025 | 2030

Moderate volatility

Baseload generation

Higher carbon footprint

Hedging and optimization

Higher volatility

Peaking generation and fleet diversity

Lower carbon footprint

Optimization

Grid reliability services

Portfolio positioning

Keephills, Alberta

Increasing diversification of future portfolio






	Wind[1]	Hydro[2]	Storage[3]	Thermal Gas[4]	Peaking Gas[4,5]	Cogen Gas[4]
Assets	15	17	3	7	5	5
Capacity	1,134 MW	834 MW	350 MW	2,439 MW	431 MW	542 MW
	Intermittent Carbon-free	Baseload and peaking energy	Energy arbitrage / peaking	Baseload + dispatchable – long lead start-ups	Peaking/ flexible	Non-dispatchable
	Energy only	Ancillary services	Ancillary services including fast frequency response	Energy plus ancillary services	Energy plus ancillary services	Energy only

Total All Types: 5.7 GW

[1]Includes Alberta, Tempest and Riplinger.
[2]Includes all Alberta hydro assets.
[3]Includes Tent Mountain and WaterCharger.
[4]Includes Heartland Generation.
[5]Includes Pinnacle.

Comparison of technology capabilities

Technology	Baseload Energy[1]	Fast Response Energy[1]	Carbon Free Energy[1]	Regulating Reserve	Spinning Reserve	Supplemental Reserve	Fast Frequency Response
Hydro	✓	✓	✓	✓	✓	✓	
Wind / Solar			✓				
Thermal CTG	✓			✓	✓		
NGCC	✓			✓	✓	✓	
NG Peaking		✓			✓	✓	
Storage		✓	✓		✓	✓	✓

Legend:

● TA capabilities[2]

[1]Baseload energy is capable of running 24 hours per day; fast response energy can deliver within 10 minutes or less; carbon free energy cannot respond to system operator instructions.
[2] Includes Heartland Generation.

Value of hydro portfolio

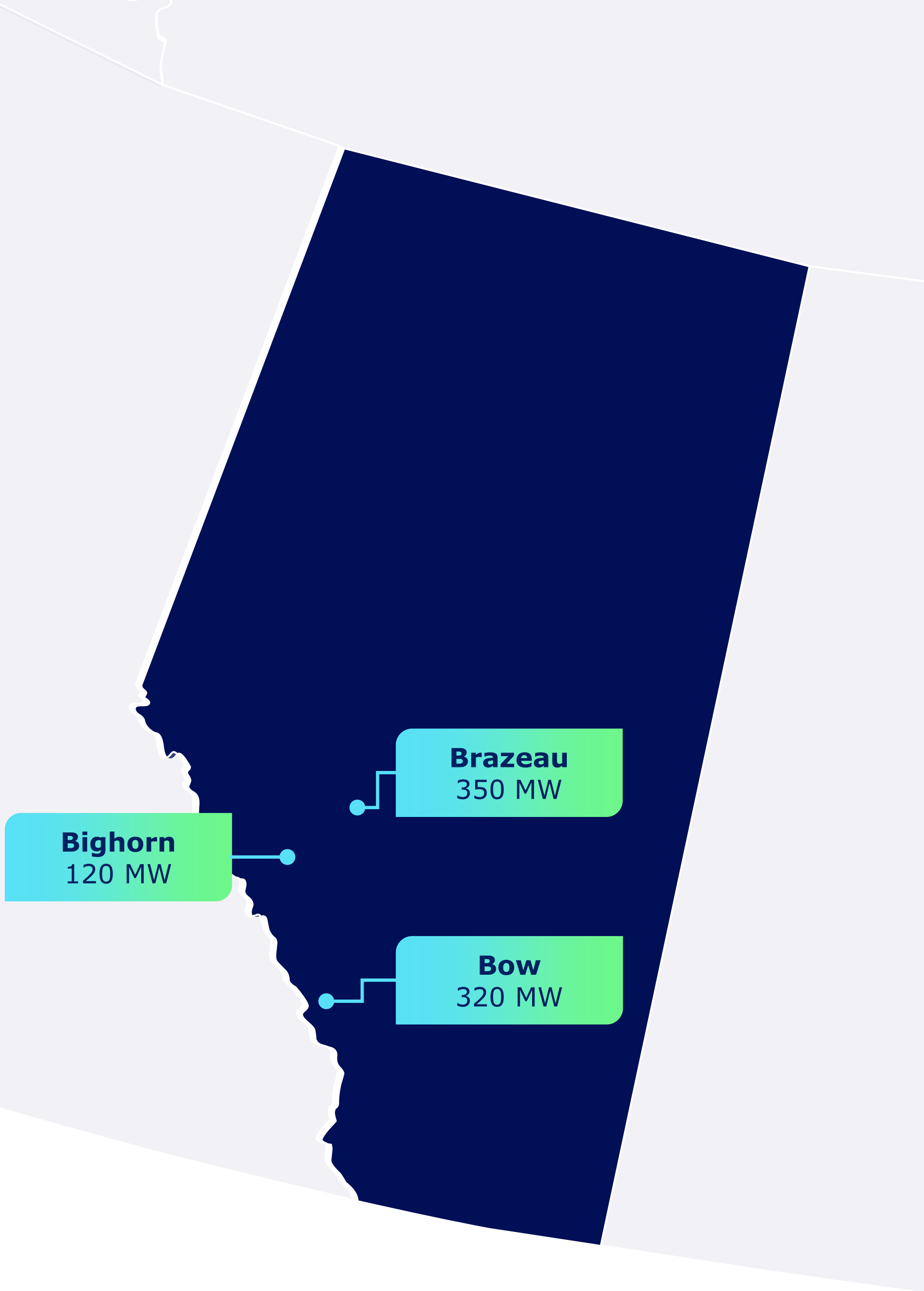
Key supplier of regulating reserves

Market size of ancillary services to be in the range of **$200M to $400M** per year

Merging conventional hydro and battery storage **expands optionality**

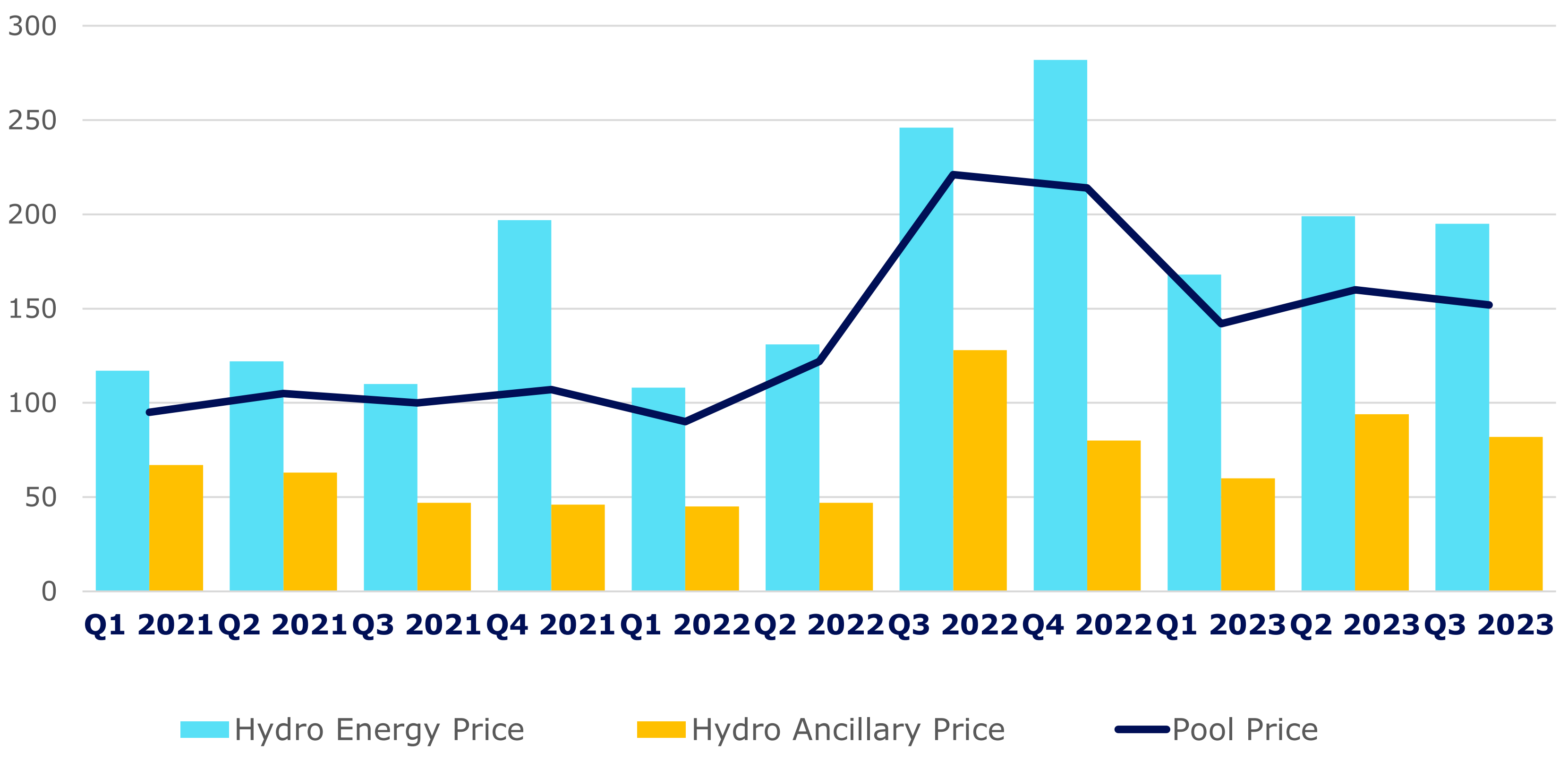
Growth in electrification, demand, renewables and energy imports are **all supportive of hydro** valuation

Brookfield conversion expected to be **below 30%** due to **strong performance**



Strong track record of realized pricing and optimization

Realized energy and ancillary prices ($ per MWh)



50%

Average Realized Ancillary Price to Spot

126%

Average Realized Energy Price to Spot

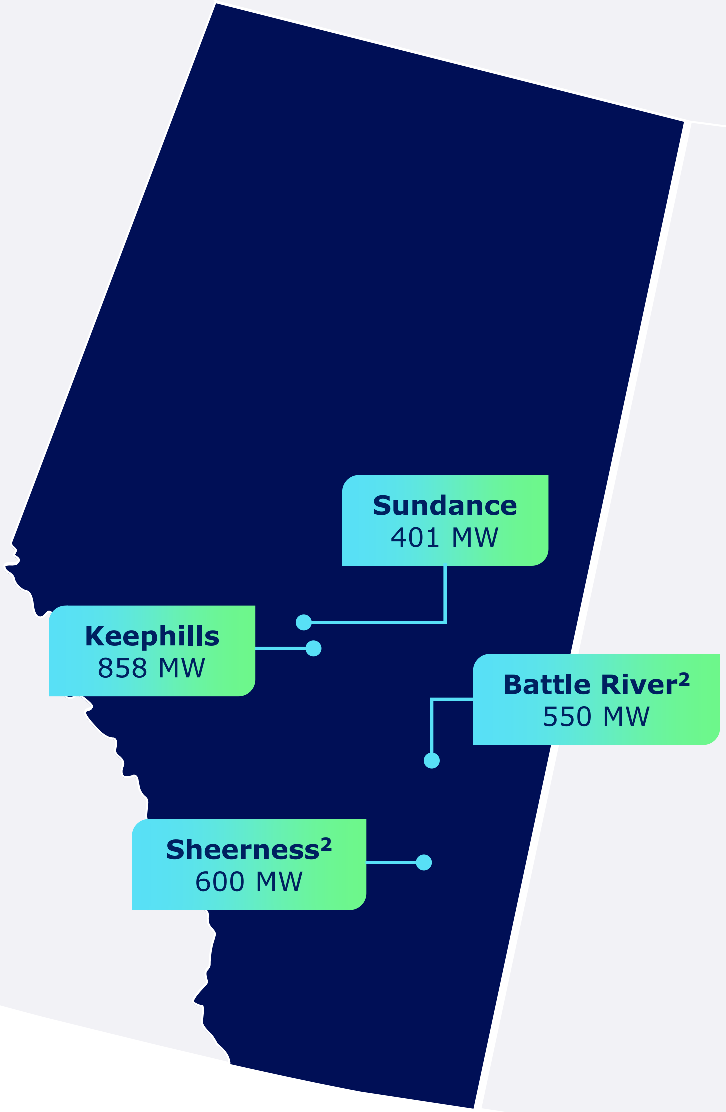
Value of CTG portfolio

Operates in the **high-value part** of the offer curve – acting as **super-peakers**

Key resources needed for **market reliability**

Retirement and/or mothball decisions based on **economics**

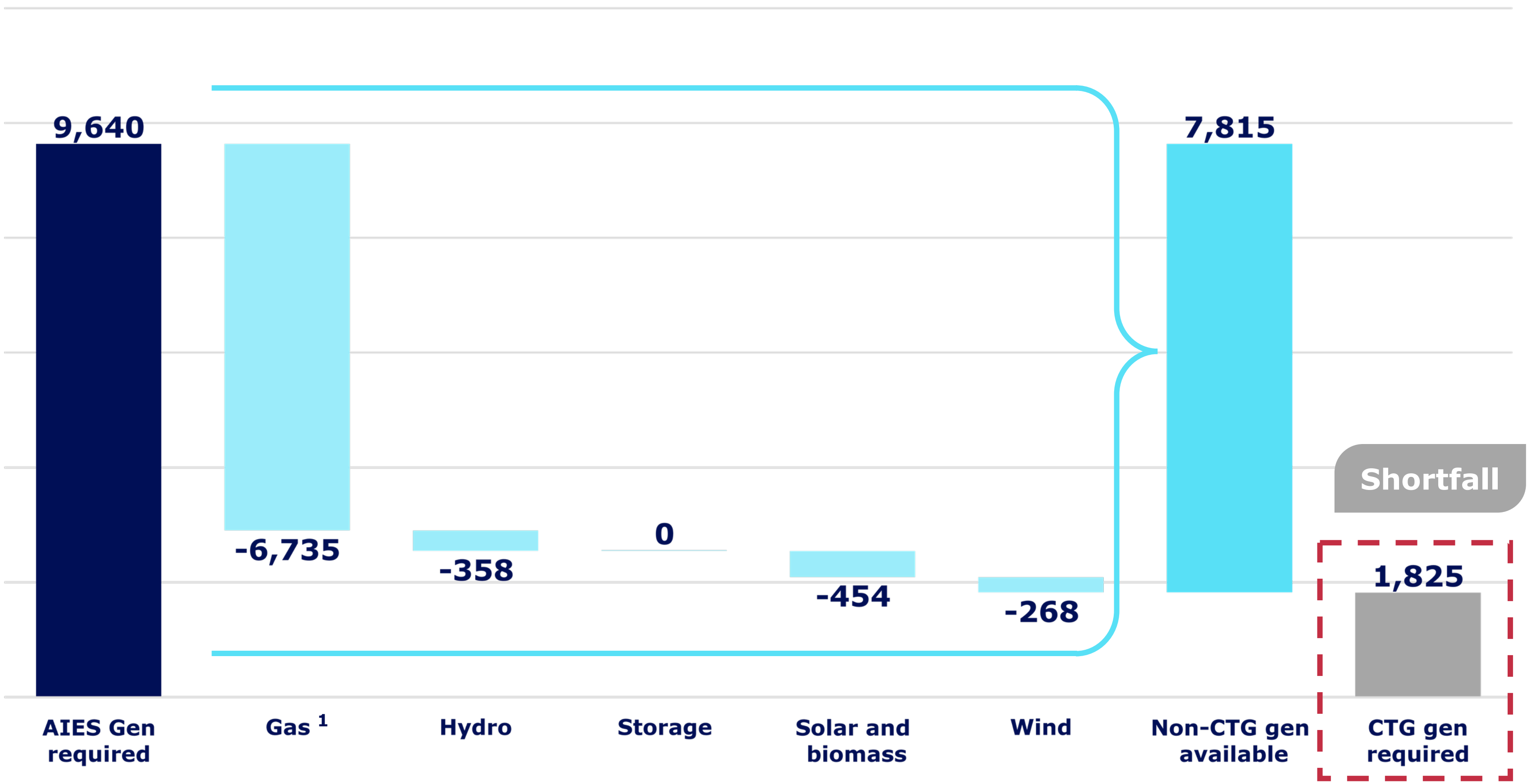
Optimization and **market expertise** to ensure effective dispatch and portfolio efficiency



[1] CTG refers to coal-to-gas units.
[2] Heartland Generation assets. TransAlta owns 400 MW of Sheerness.

Thermal gas required when renewable resources are low

Estimated thermal gas generation required (MW)



[1] Includes cogen NTG, CCGT and SCGT

Thermal gas capacity is required to meet Alberta demand and reliability

Province loses 5.5 GW of capacity on low renewable-resource days

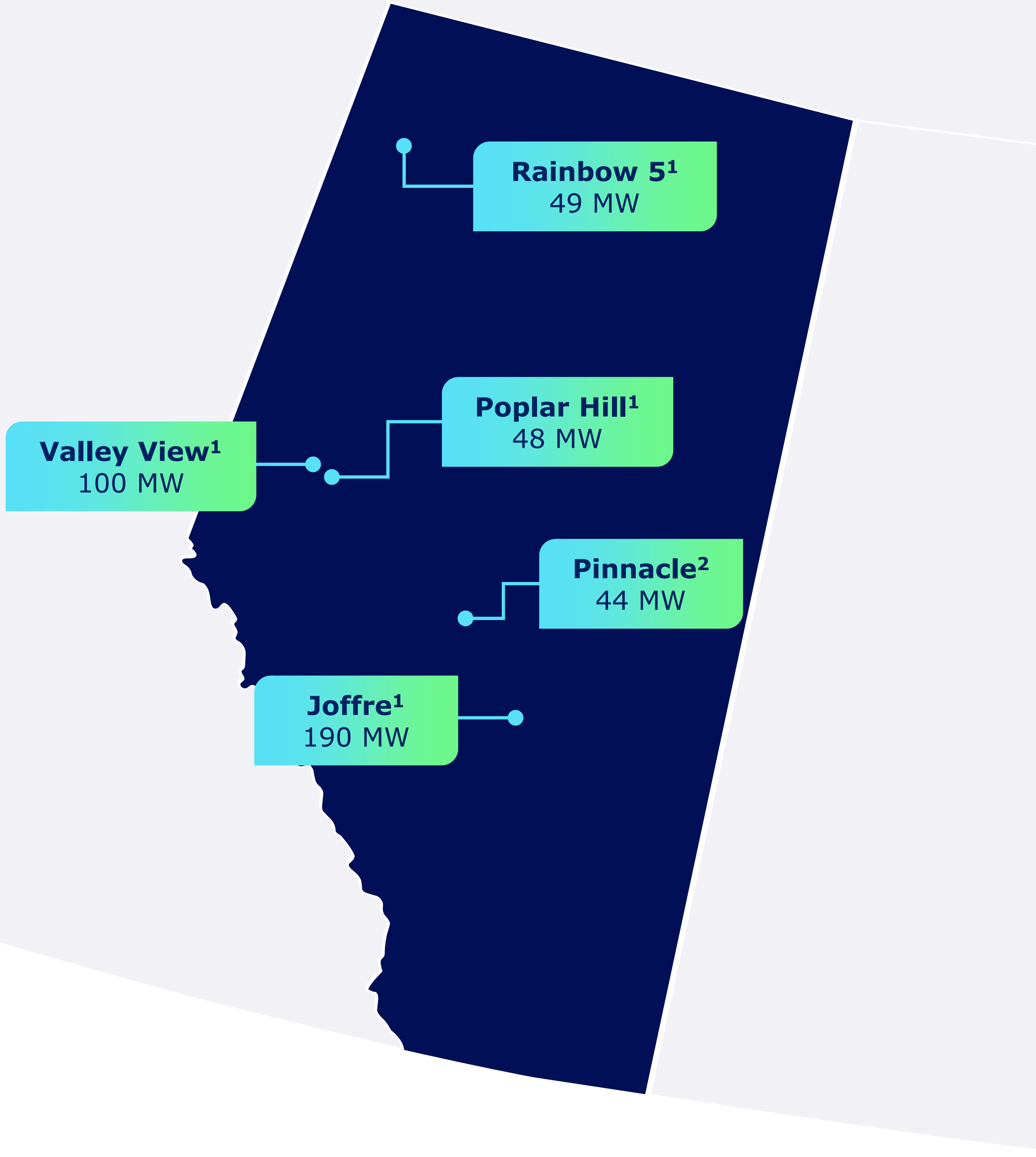
Value of peaking portfolio

Peaking asset **value to increase** with intermittent generation

Fast-ramping **flexible units** and combined with our hydro, coal-to-gas and storage cover the entire dispatch curve

Best-in-class asset **optimization team**

Backstops **hydro** in the ancillary services market



[1] *Heartland Generation assets*
[2] *Assets in development pipeline.*

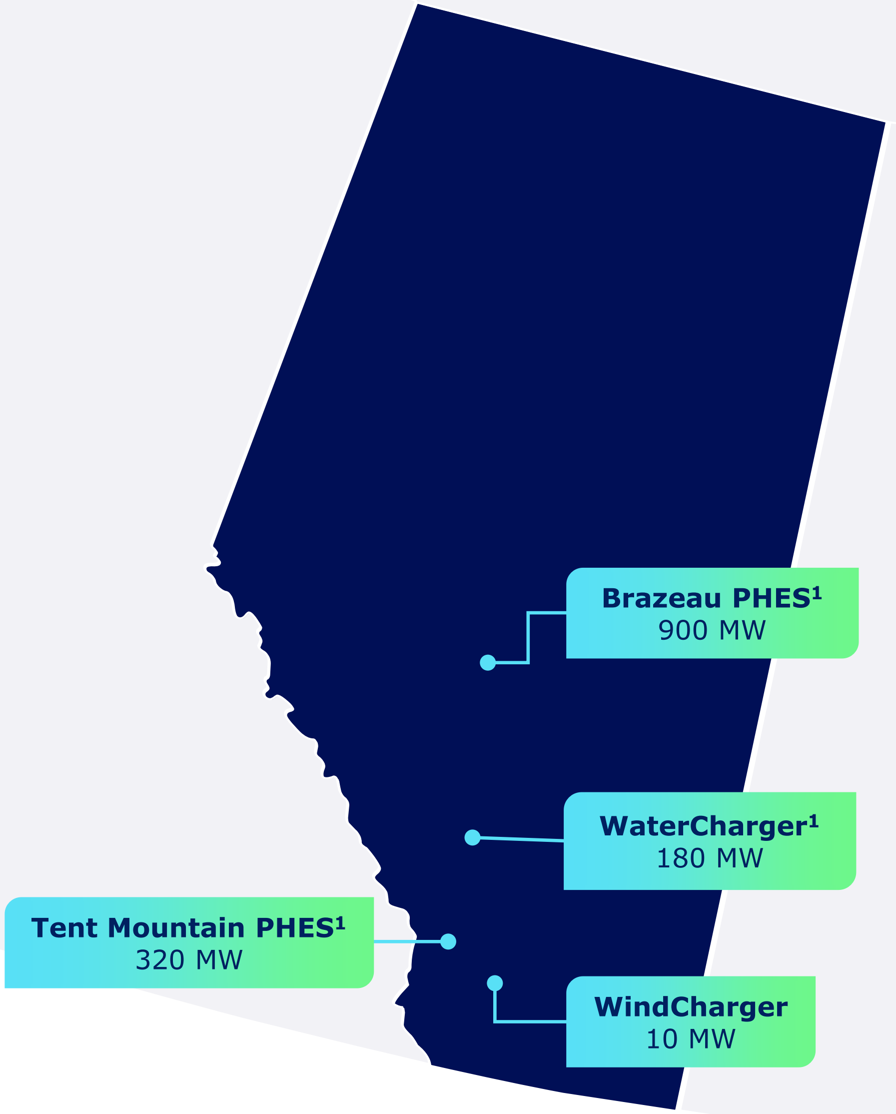
Value of storage portfolio

Strategically-located units will store surplus generation for **discharge at peak periods**

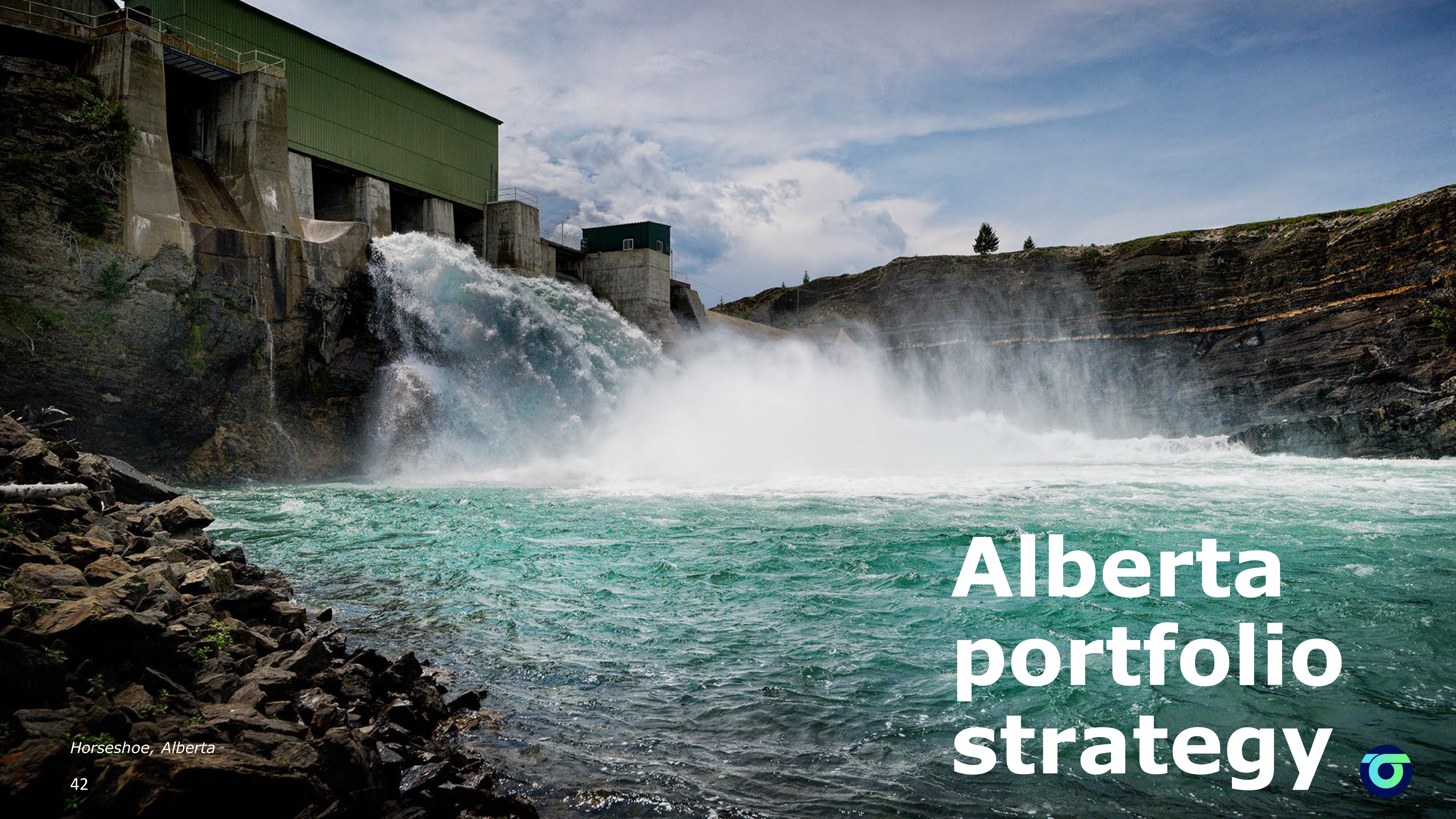
Extremely valuable in ancillary services and fast-frequency response markets

Volatile price environment expected

Opportunities for **pumped hydro**



[1] *Assets in development pipeline.*



Alberta portfolio strategy

Horseshoe, Alberta

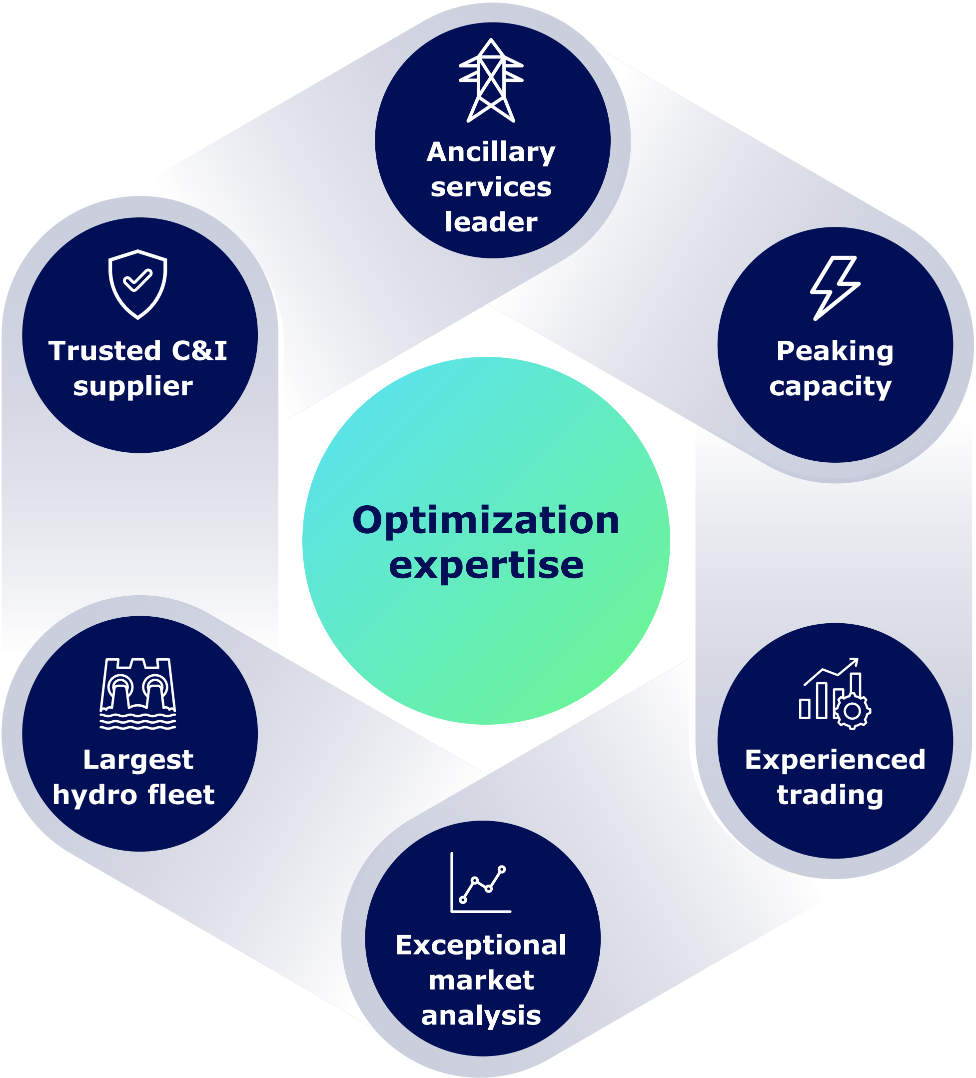
Hedging and optimization increases our advantage

112-year extensive operating expertise

Exceptional **in-house forecasting and analytical** capabilities

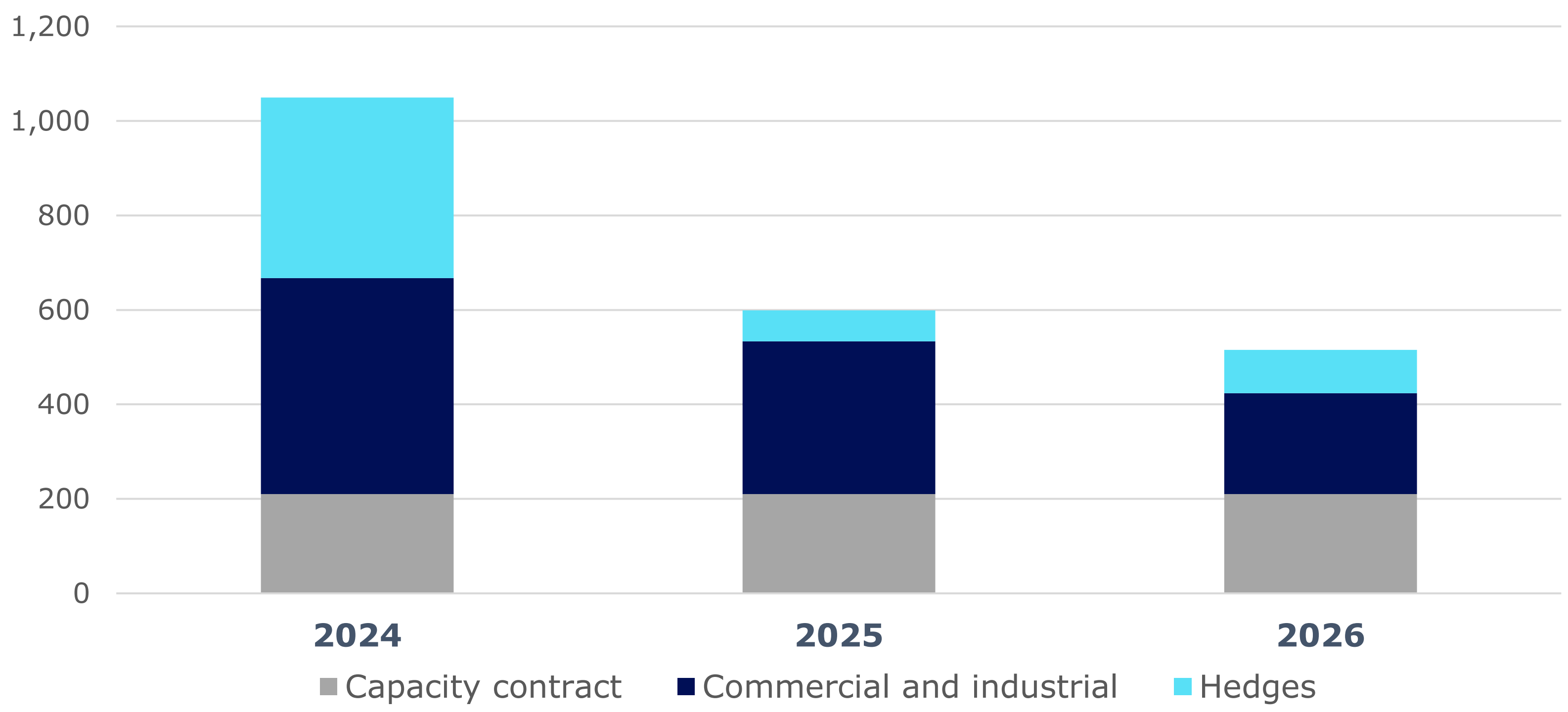
Integrated **asset optimization and operations** to ensure portfolio value maximization

Large customer base spanning the wholesale, commercial and industrial base



Hedging strategy aligned with market outlook

Power positions 2024-2026 (average MW per hour)

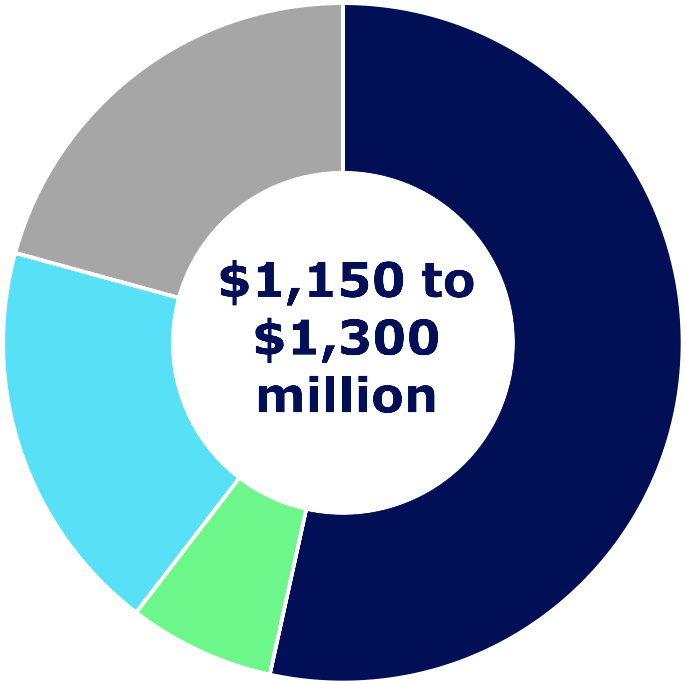


Expected 2024 production mostly hedged

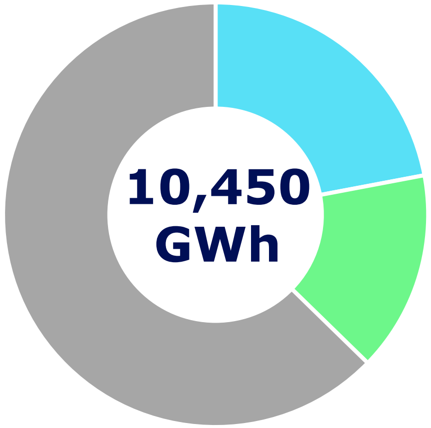
+600 MW of sales achieved through 2025 hedging program

Alberta portfolio provides solid cash flows for 2024

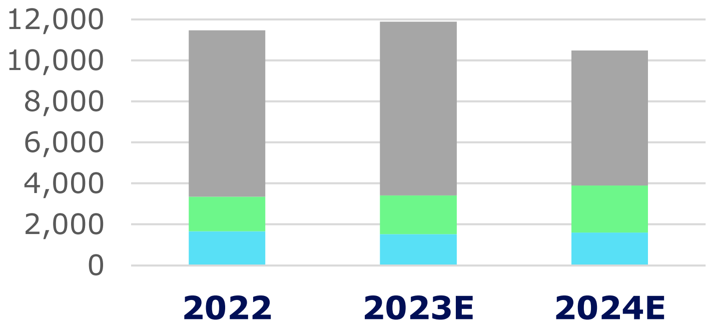
2024E adjusted EBITDA guidance



2024E Alberta fleet production (GWh)



2022-2024E fleet production (GWh)



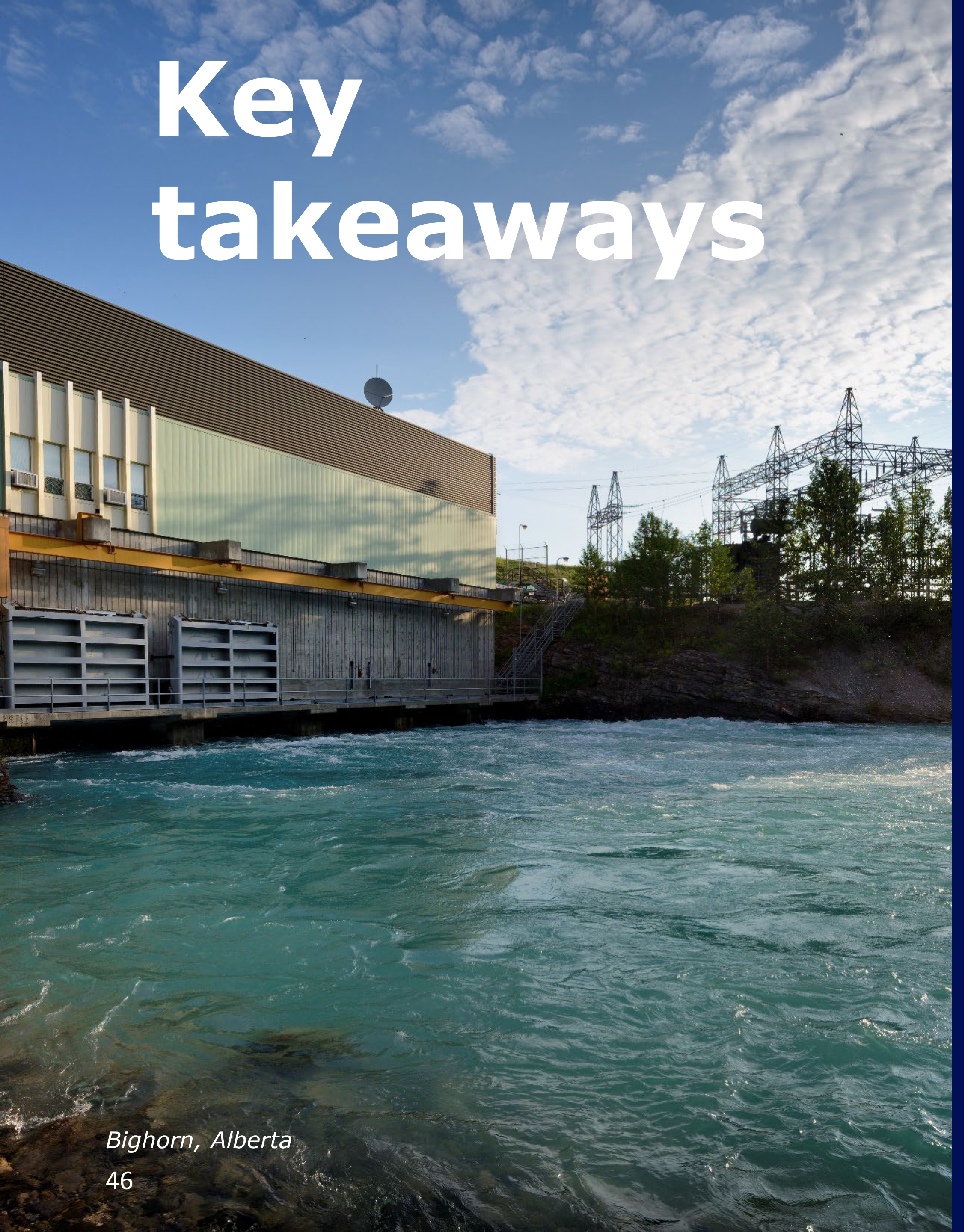
Legend:

Alberta Hydro | Alberta Gas | Alberta Wind | Rest of fleet

Alberta portfolio expected to contribute $500 to $600 million or ~45% of 2024 adjusted EBITDA target

$5 per MWh change in spot price is expected to have a $20 million impact on adjusted EBITDA

Key takeaways



Bighorn, Alberta

1. Rationalize converted gas fleet
2. Minimize capital spend on converted gas units
3. Optimize hydro portfolio cash flows
4. Optimize value from new flexible gas peaker units
5. Advance grid reliability product opportunities
6. Assess new technologies for post-2025 deployment

Generation

Chris Fralick

Executive Vice President, Generation

Operational excellence is our advantage

Exceed customer expectations

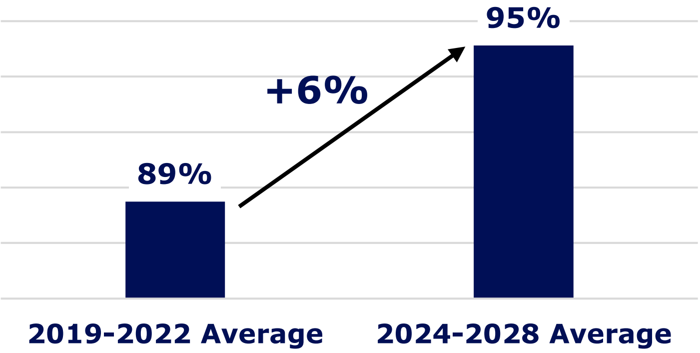
Optimize fleet performance

Foster culture of safety and innovation

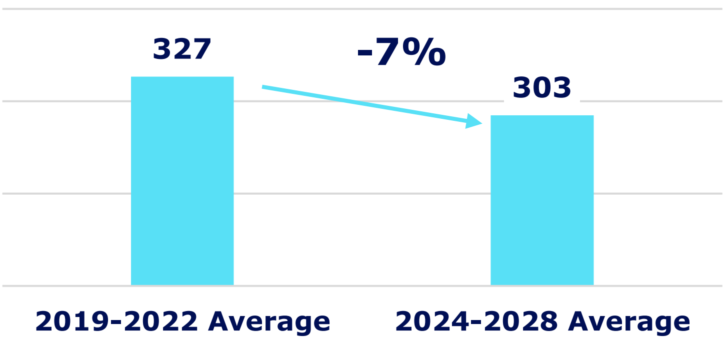
Safely doing the right work at the right time and being better than the sum of our parts

Operational excellence driving fleet-wide improvements

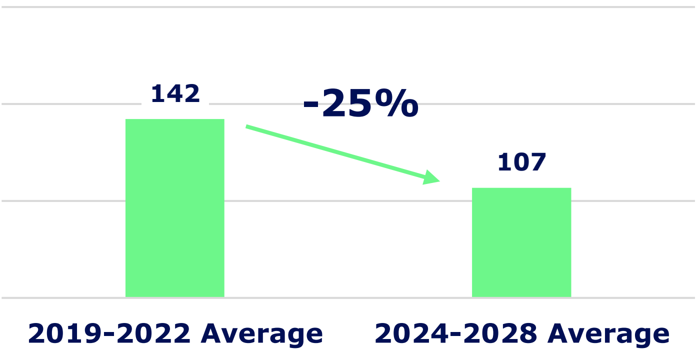
Availability[1] (%)



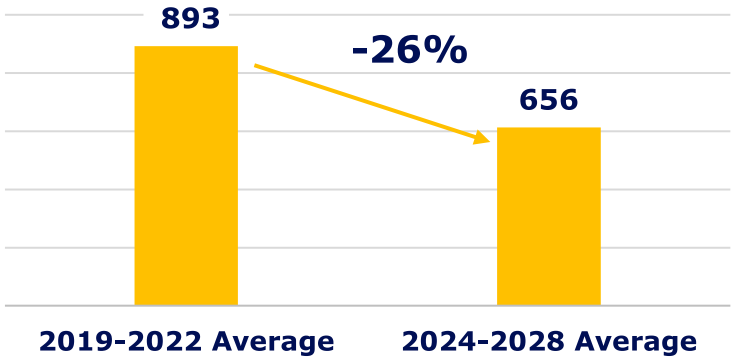
Generation OM&A[1] ($ million)



Sustaining capex[1] ($ million)



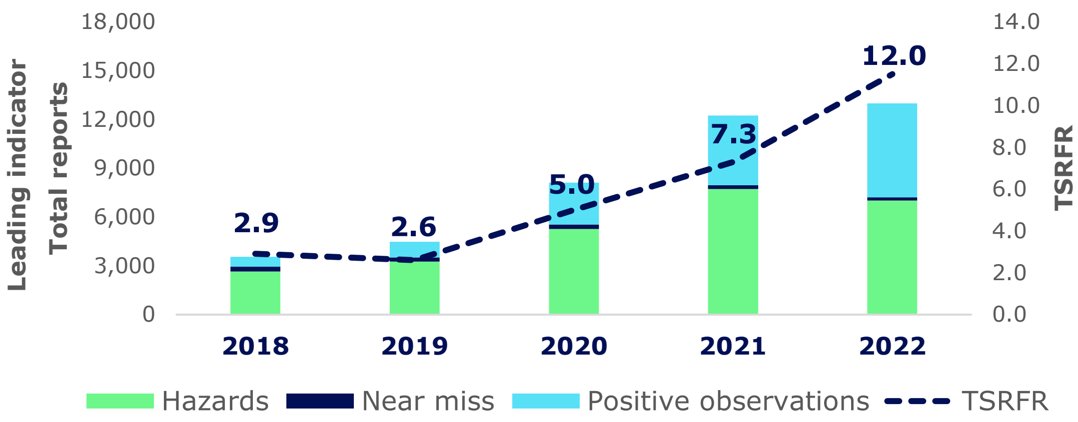
Generation staffing levels[1] (FTEs)



1. *Does not include Heartland Generation assets*

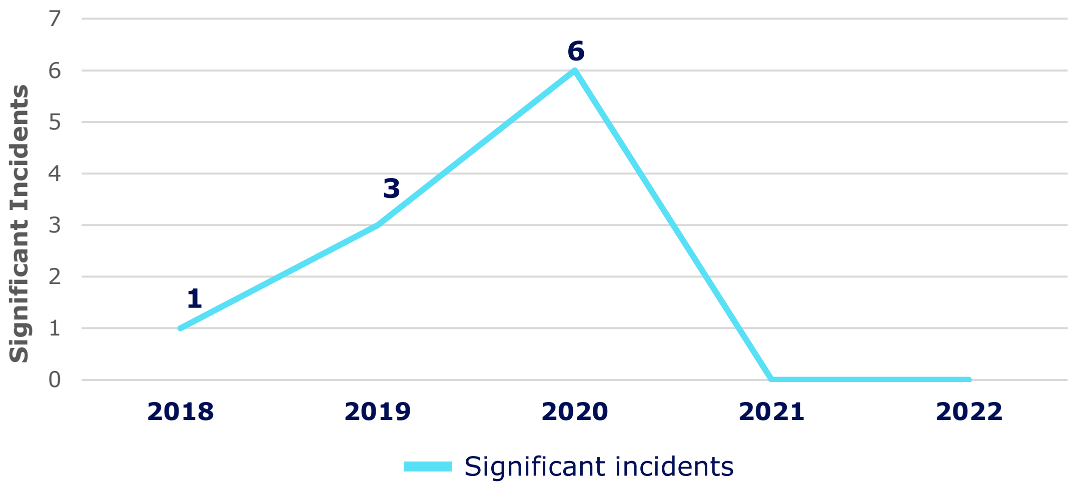
Leading safety and environmental performance

Total safety report frequency rate[1] (TSRFR)



Total recordable incident frequency[1] (TRIF)

Environmental incidents and spills[1]



Emphasis on hazard and risk identification has yielded positive performance

[1] *Does not include Heartland Generation assets*

Responsible stewards of legacy assets

Cowley Ridge

Highvale Mine

Centralia Mine

Key takeaways

Barrier Lake, Alberta

1. Safety is our core value
2. Operational excellence driving sustainable improvements
3. Fleet-wide asset management and capital optimization
4. Efficient integration of new assets
5. Site redevelopment options
6. Responsible stewards of our sites

Break

Brazeau, Alberta

Enhancing value with energy marketing

Kerry O'Reilly Wilks

Executive Vice President,
Growth and Energy Marketing

Energy marketing fulfils key roles

Asset optimization

Manages **optimization** and **commodity risk** for Ontario and US assets

Asset growth

Provides **market insights** to the growth and M&A teams

Segment profitability

Track record of generating **strong segment revenues**

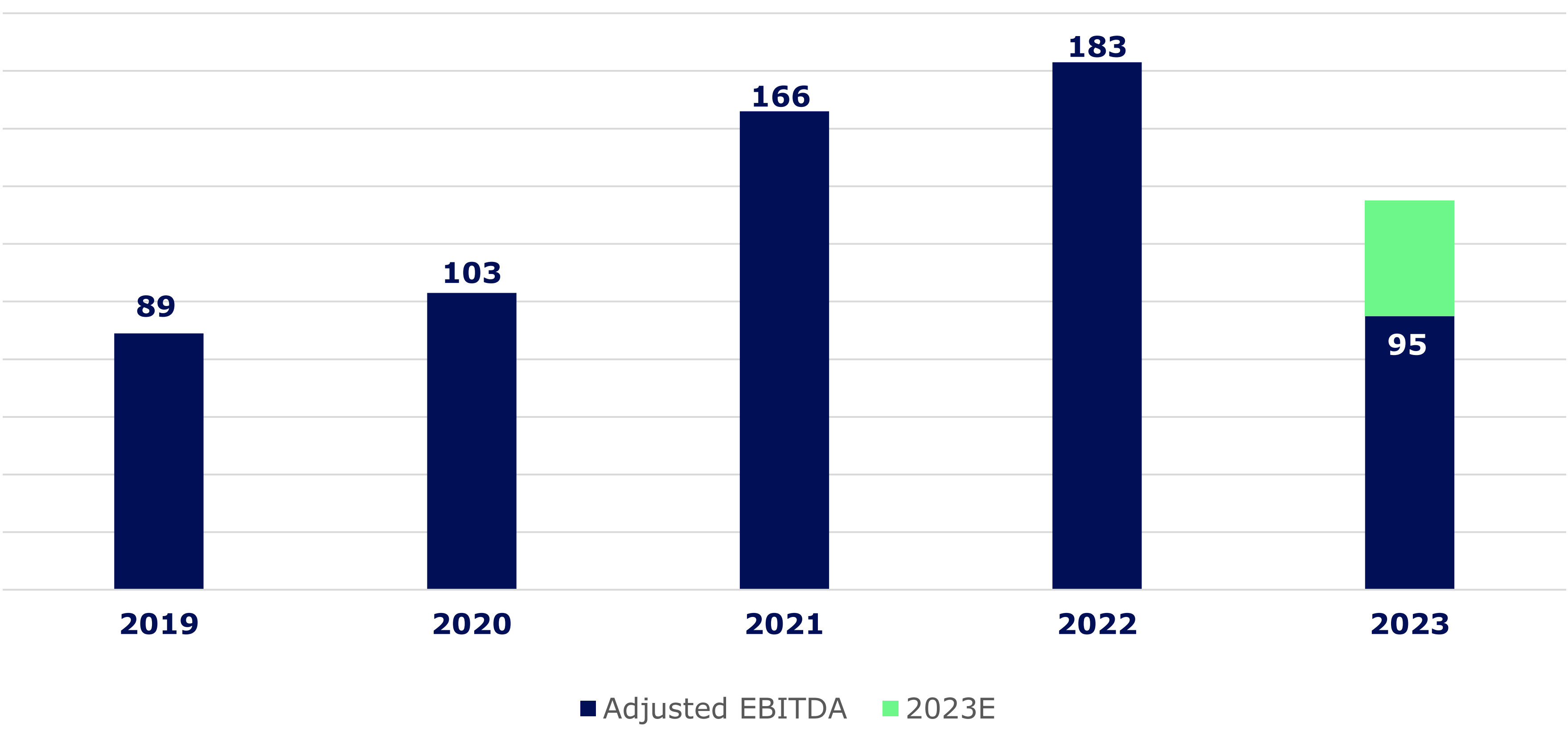
Energy marketing capabilities

Products		Electricity	Natural Gas	Emissions
	Markets	NWPP, CAISO, SPP, SWPP, IESO, ISO-NE, NYISO, PJM, MISO, ERCOT	Canada and US	Canada and US
Products	**Execution for TransAlta and third-party assets**	✓	✓	✓
	Origination and structured products	✓	✓	✓
	Real-time trading	✓	✓	-
	Term trading	✓	✓	✓
	Congestion trading	✓	-	-
	Transmission / transportation	✓	✓	-
	Options	✓	✓	✓

Diverse product knowledge base provides key insights into North American Markets

EBITDA contribution of over $630 million since 2019

EBITDA contribution ($ million)



Increasing volatility across North American markets

Positioned to deliver value in all market conditions

Tightly managed risk profile

$135 million
4-year average EBITDA

Key takeaways

Windrise, Alberta

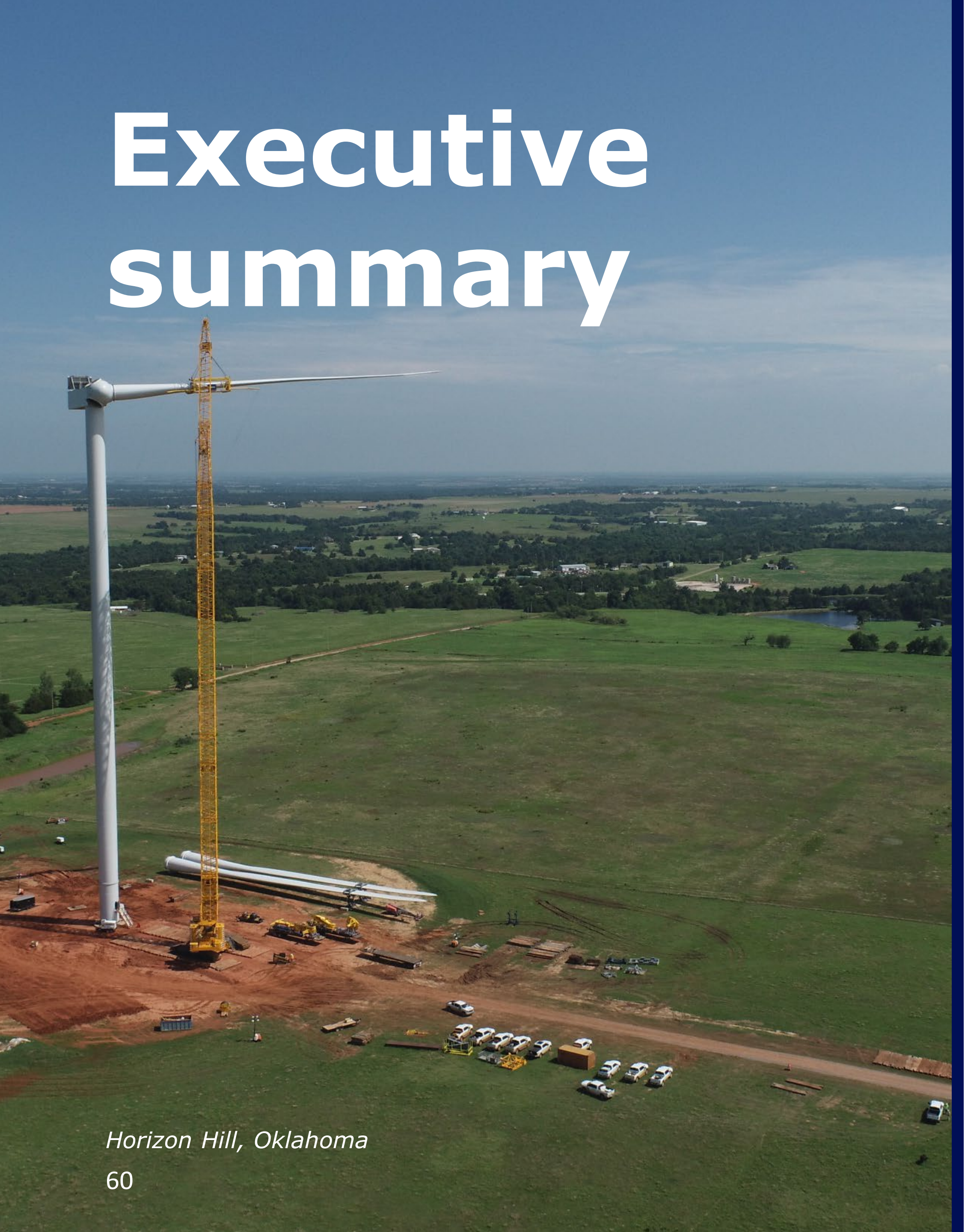
1. Provide industry intelligence
2. Optimize and deliver value
3. Generate strong EBITDA and free cash flow

Growth Execution

Kerry O'Reilly Wilks
Executive Vice President,
Growth and Energy Marketing

Aron Willis
Executive Vice President,
Project Delivery and Construction

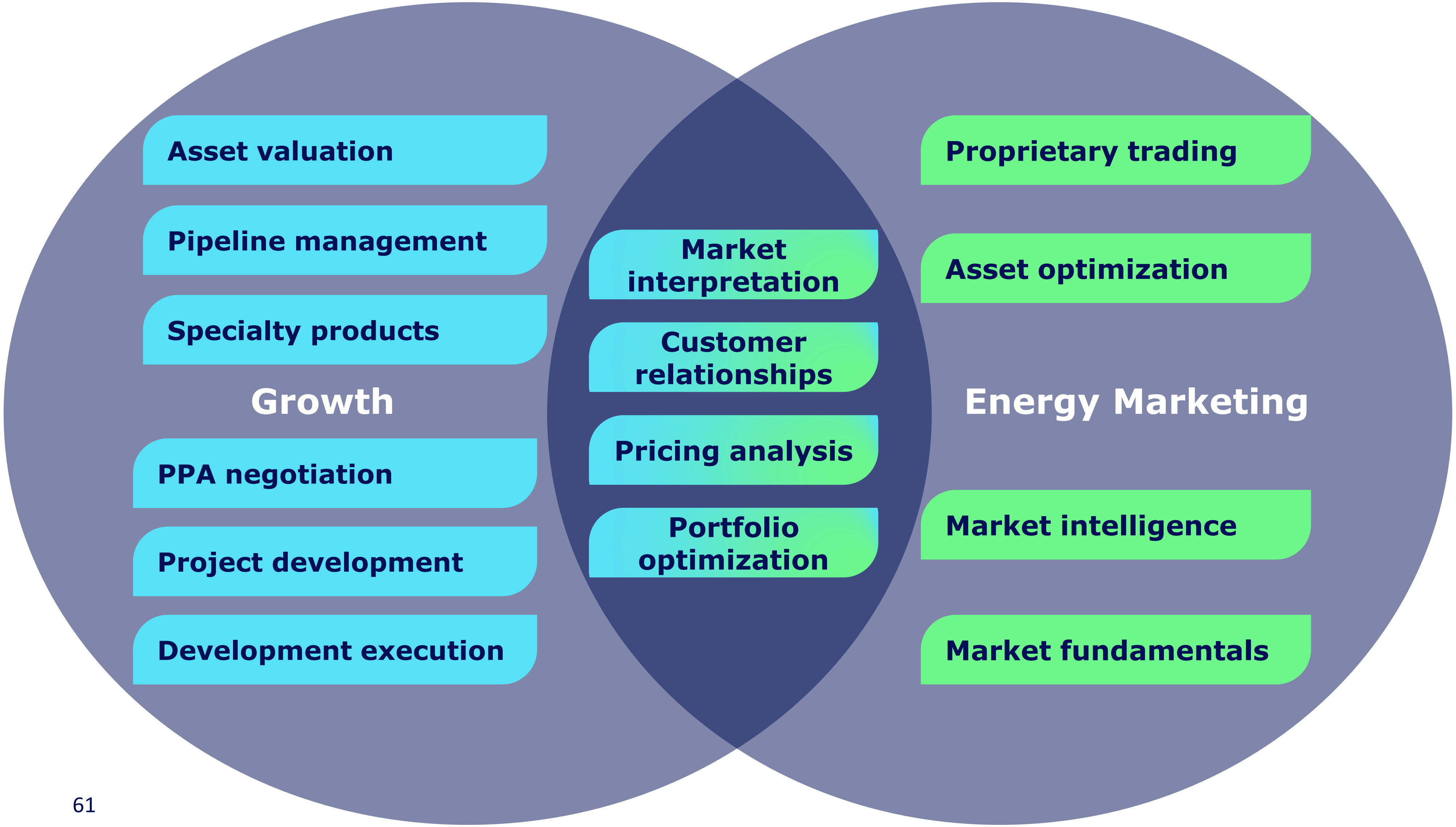
Executive summary



Horizon Hill, Oklahoma

1. Disciplined development
2. Customer focus
3. Expanding development pipeline
4. Teams in three core geographies
5. Capabilities and key competitive advantages

Aligning Growth and Energy Marketing

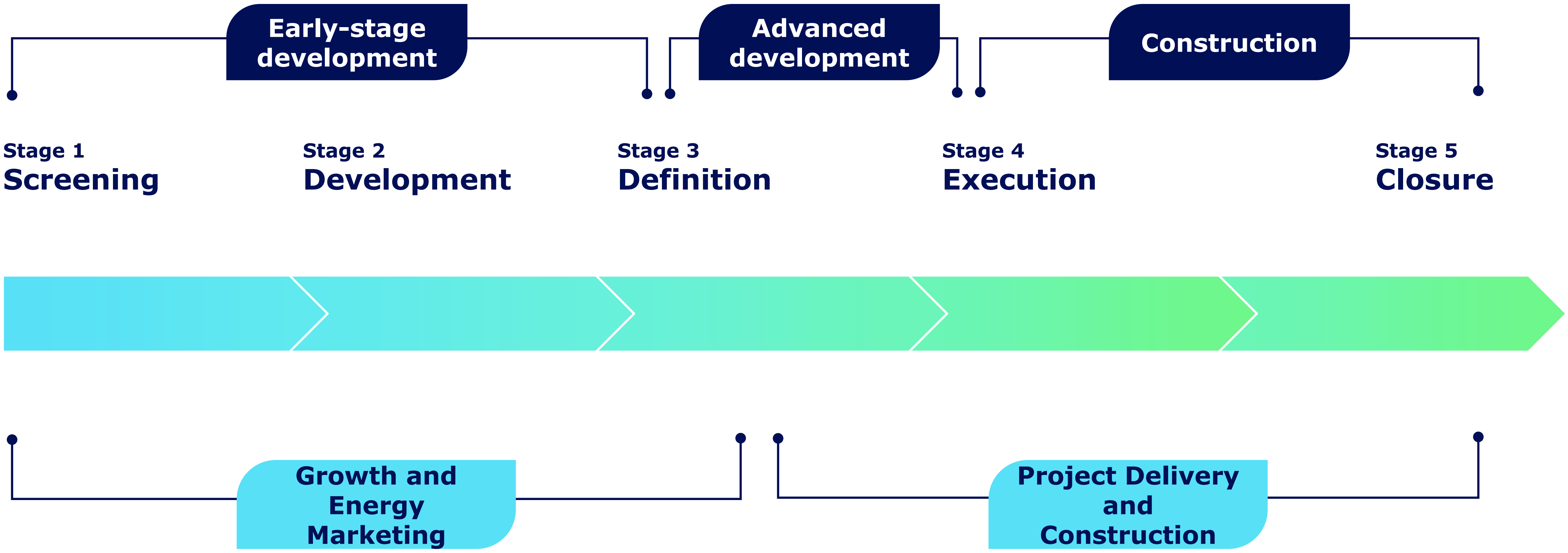


Aligned global team committed to accelerating value delivery of high-quality portfolio through cross-team enablement

Our competitive advantage

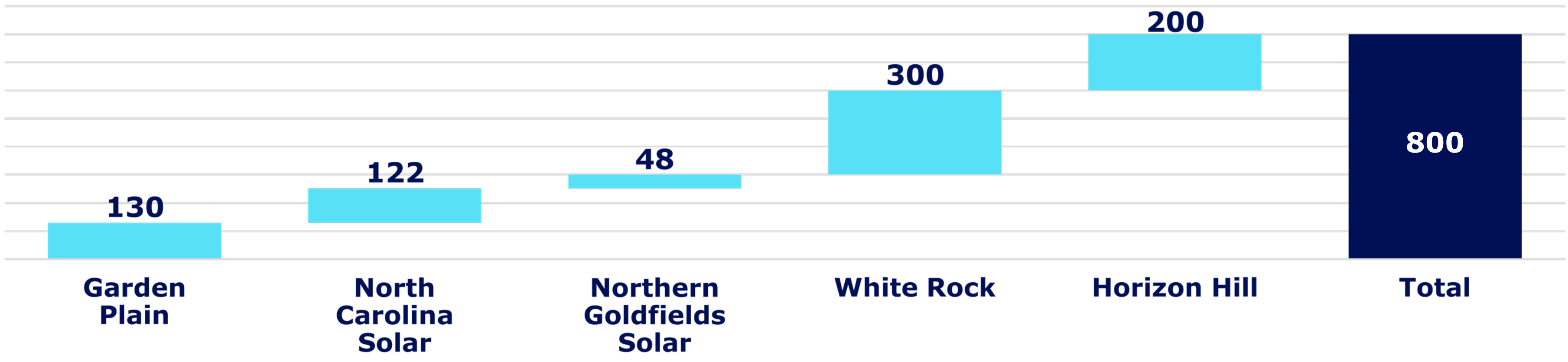
- Owner / operator business model
- Optimization and trading excellence
- Strong balance sheet
- Extensive wind platform
- Full lifecycle capabilities and risk control
- Strong customer relationships
- Demonstrated ESG results

TransAlta project development lifecycle

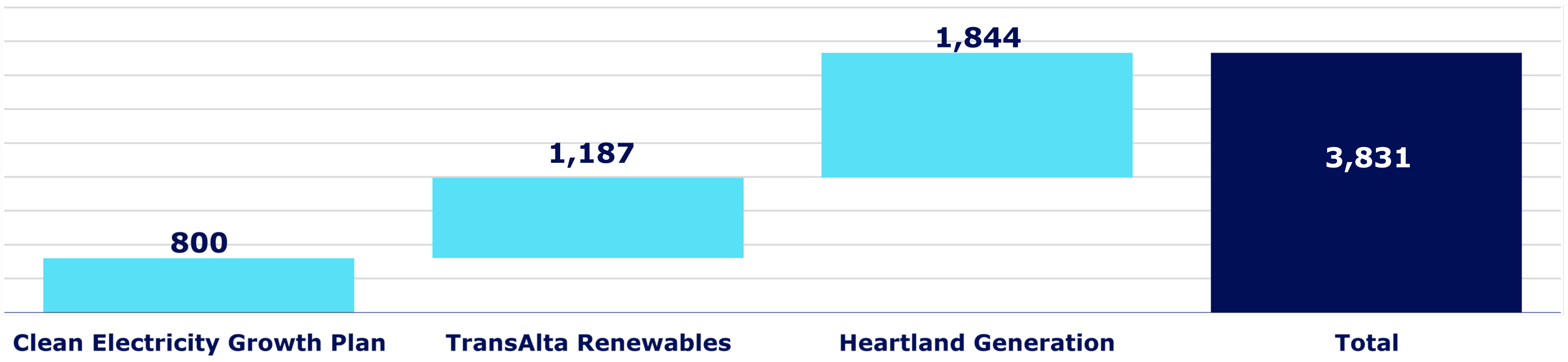


Growing our fleet

Clean Electricity Growth Plan progress (MW)



Clean Electricity Growth Plan and strategic transactions (MW)



800 MW

delivered since 2021

3 GW

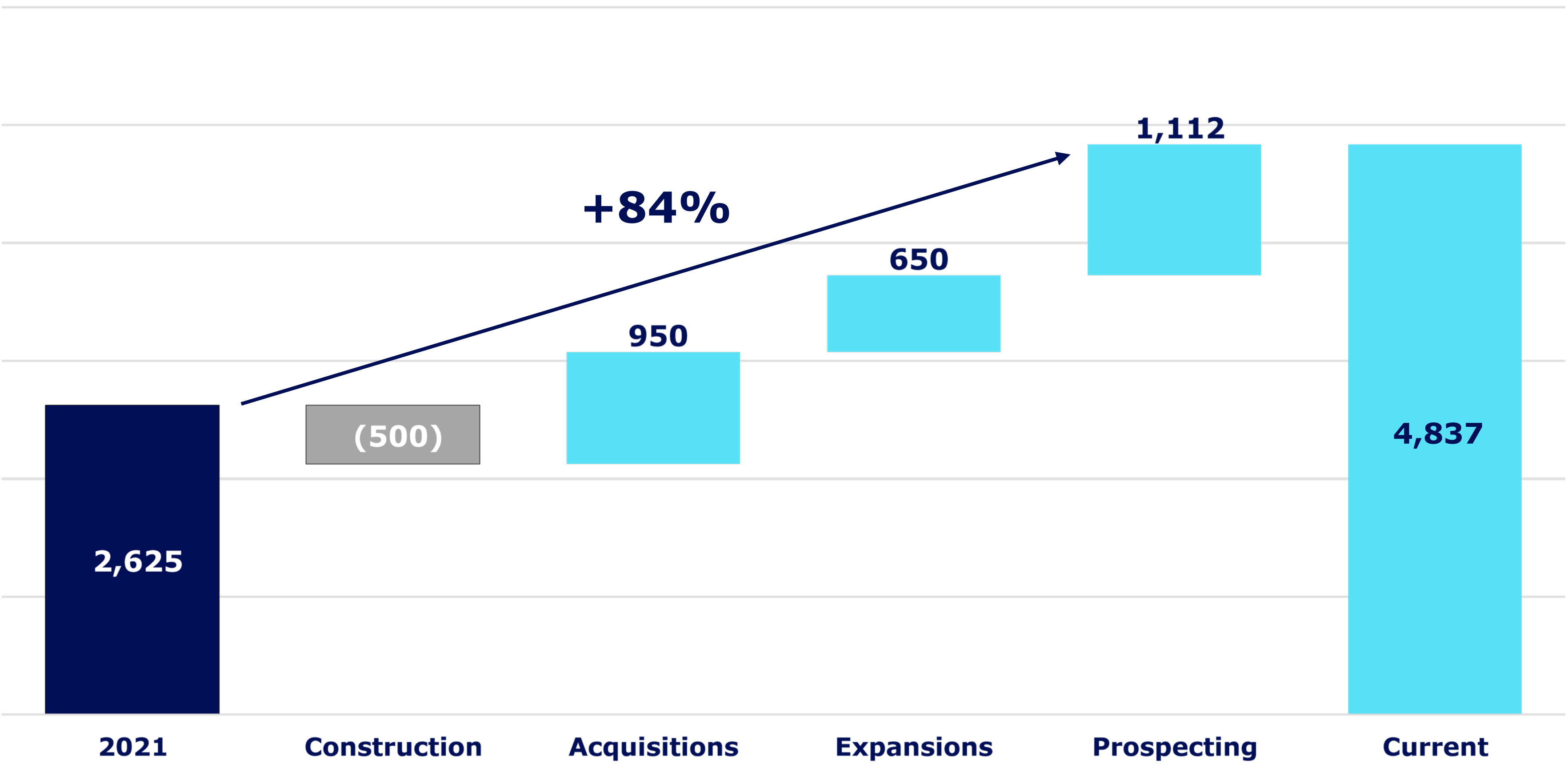
through strategic transactions

400 MW

in advanced stage

Successful pipeline growth

Development pipeline (MW)



Pipeline expanded by

>2.7 GW

Since 2021

On track to achieve

5 GW

pipeline

By 2025

New target to deliver

10 GW

pipeline

By 2028

United States

Inflation Reduction Act provides strong policy support for continued growth

Corporate PPA demand remains strong driven by ESG targets

Pace of development has slowed due to market and supply chain challenges

Pac NW

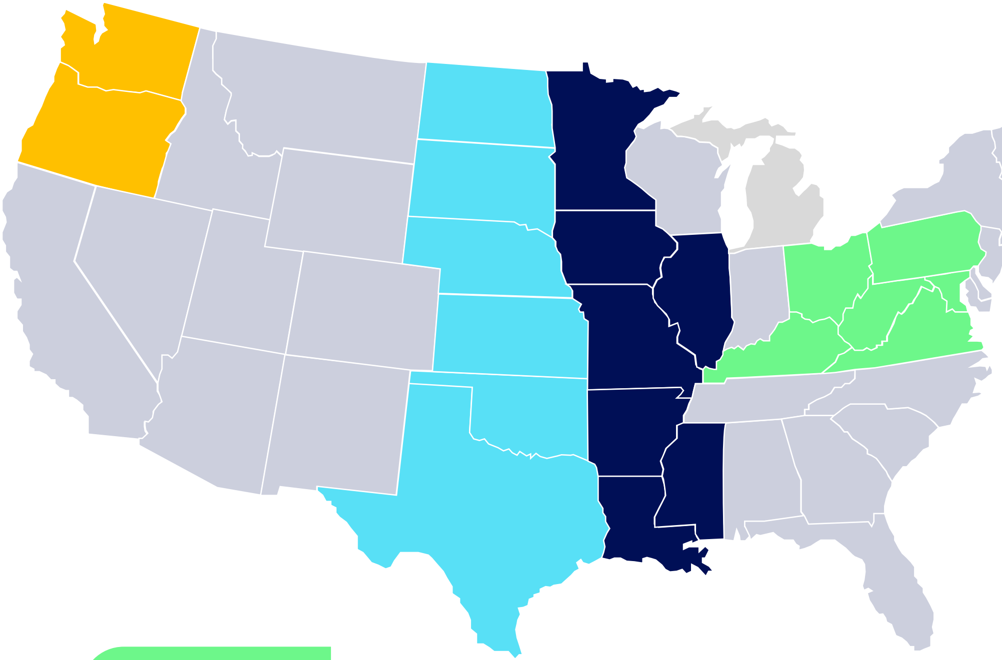
High demand for energy and capacity as utilities prepare for Resource Adequacy Program requirements

SPP and ERCOT

Large corporate demand within the region, as well as state Renewables Portfolio Standard

MISO

Customer demand has shifted to MISO from PJM as queue reform in PJM has reduced availability of projects



PJM

Liquid market and strong demand from multiple IOUs and corporate buyers

Canada

Seeing an increase in renewable RFPs by provincial utilities

Alberta

Continued high demand for renewable power purchase agreements

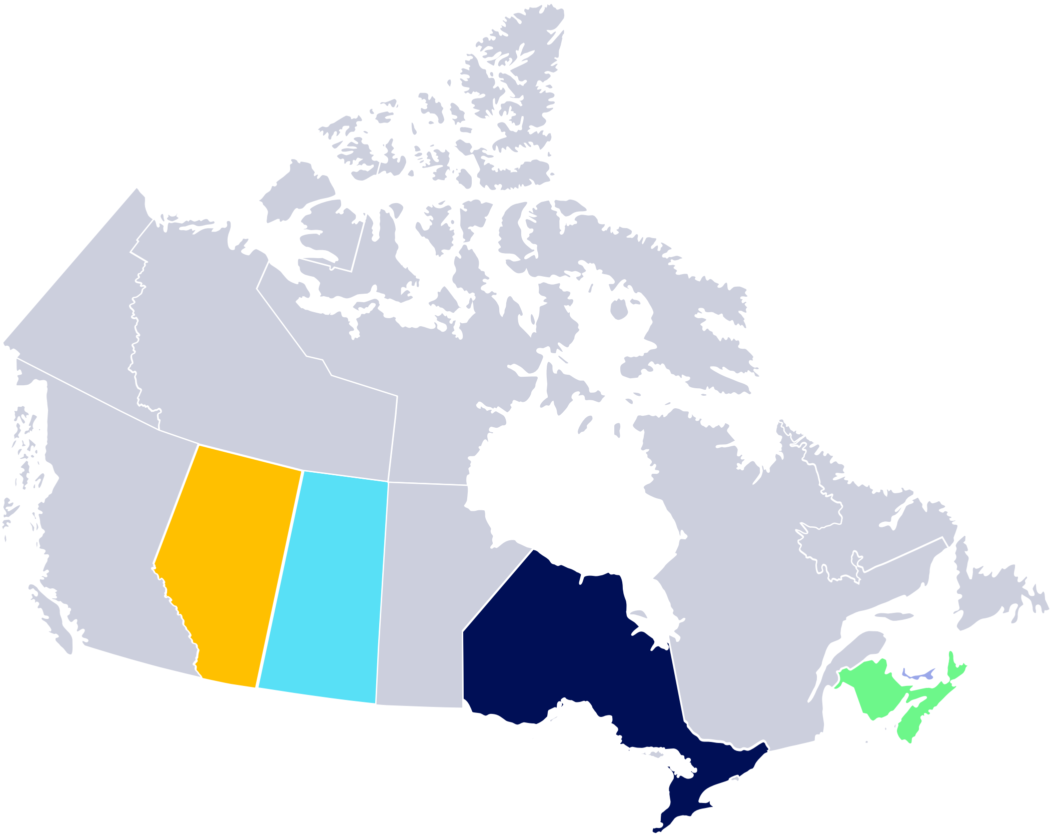
Market and pricing dynamics are changing as the generation mix transitions

Saskatchewan

Corporate renewable power purchase agreement demand is initiating a policy shift that may allow bilateral contracts for renewables

Ontario

IESO's recent Long-Term Energy Plan identifies a capacity gap that has widened significantly



Maritimes

Highly reliant on coal generation for base capacity

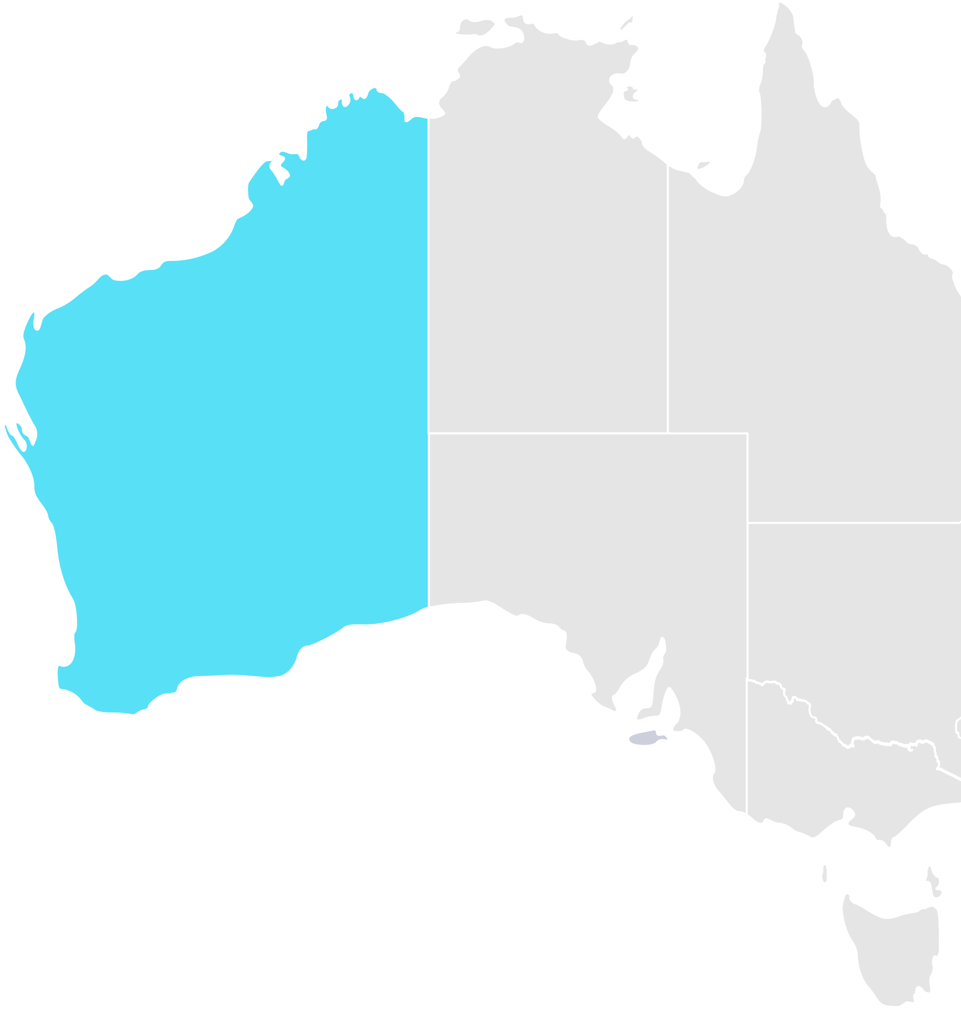
Western Australia

Emerging opportunities in mining industry from increased resource demand and growing ESG focus

Western Australia

TransAlta's two largest customers have announced **significant expansions** to mining operations

Projects in the region offer **solid returns** that are fully contracted



Investment return targets

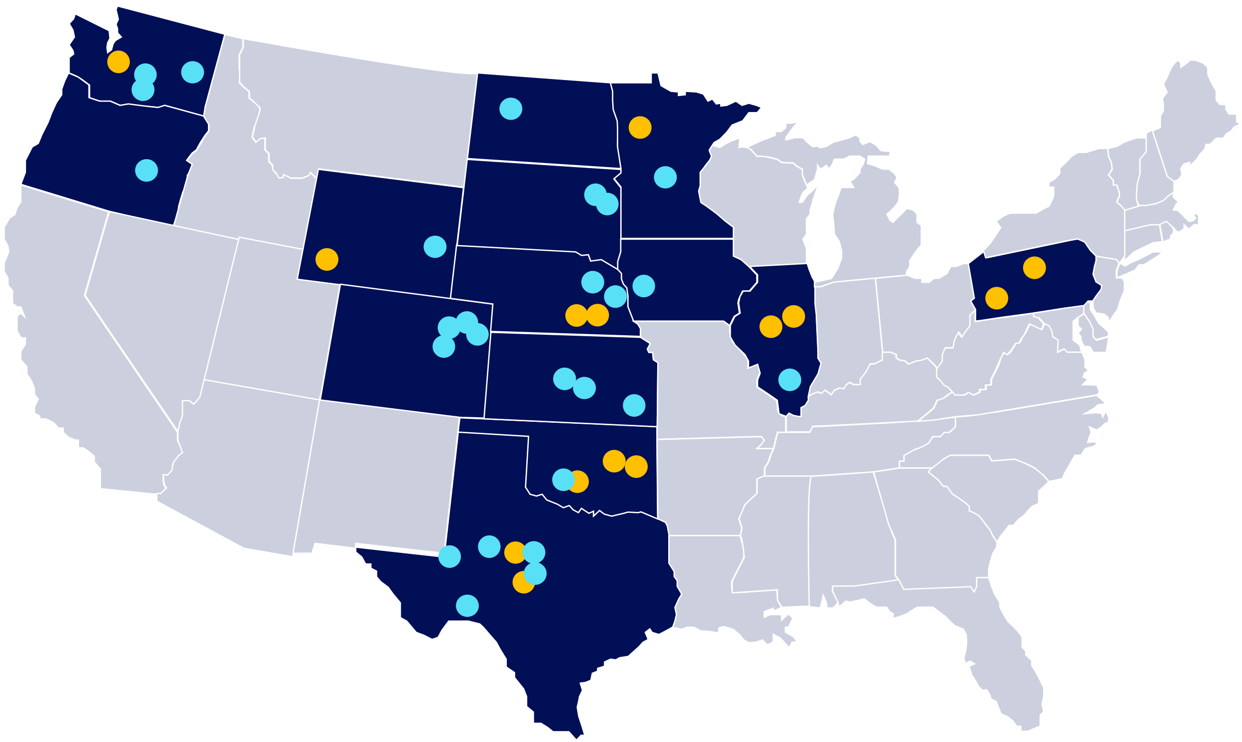
- Disciplined capital allocation to enhance shareholder value
- Project returns are assessed based on the unique characteristics of each project

Targeting returns at 10% or higher

Required return evaluation criteria

- Investment size
- Contractedness
- Customer quality
- Future business potential
- Construction risk
- Ability to finance

Development pipeline
United States



Legend:

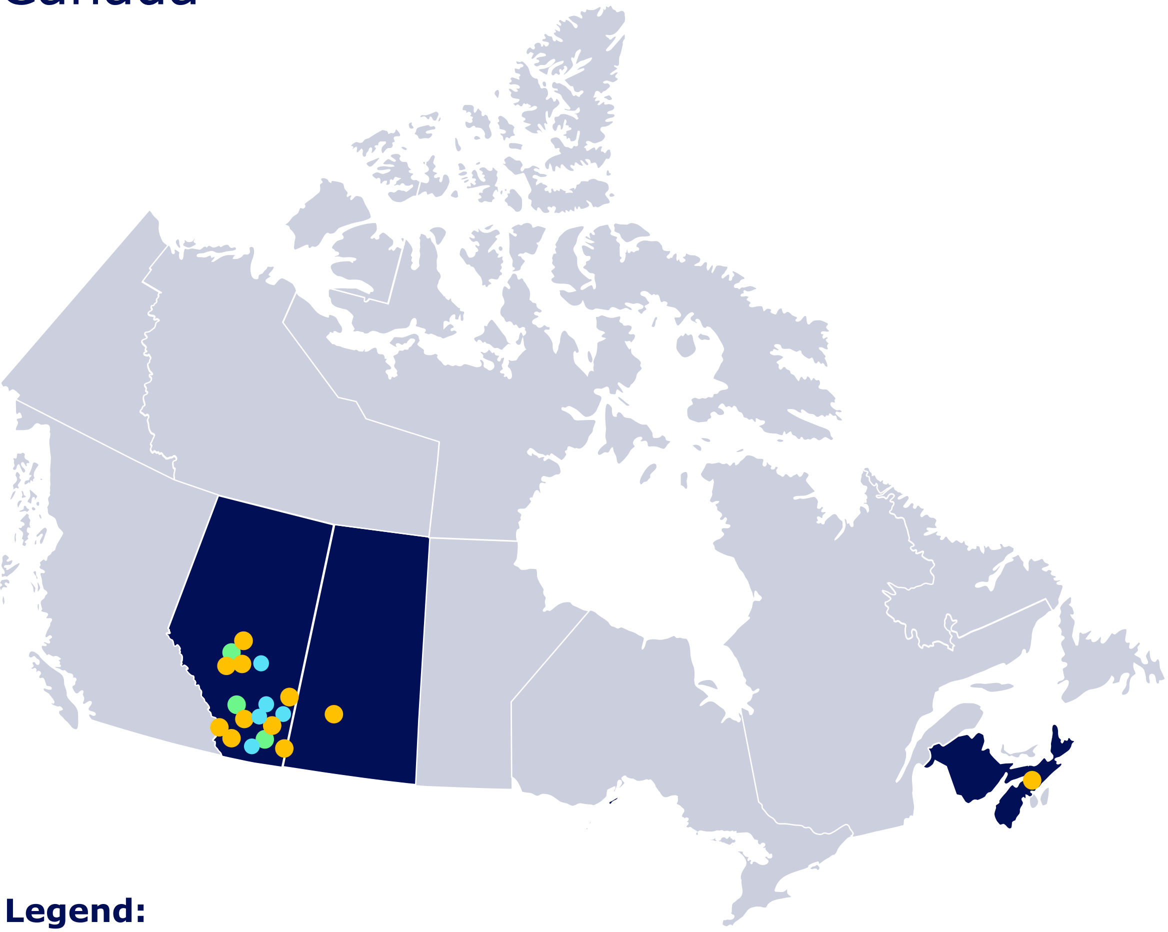
Early   Prospects

Potential Development (excluding prospects):

2,235 – 2,485 MW

Project	MW	Technology	State	Stage	FID
Monument Road	152	Wind	NE	Early	2025
Swan Creek	126	Wind	NE	Early	2025
Dos Rios	242	Wind	OK	Early	2025
Old Town	185	Wind	IL	Early	2025
Cotton Belle 1	96	Solar	TX	Early	2025
Quick Draw	174	Wind	TX	Early	2025
Square Top	195	Solar	OK	Early	2026
Canadian River	250	Wind	OK	Early	2026
Prairie Violet	130	Wind	IL	Early	2026
Big Timber	50	Wind	PA	Early	2026
Trapper Valley	225	Wind	WY	Early	2027
Wild Waters	40	Wind	MN	Early	2027
Coolspring	120	Wind	PA	Early	2027
Centralia Site Redevelopment	250-500	Various	WA	Early	TBD
Other US Prospects	>2000	Wind/Solar		Prospects	2025+

Development pipeline
Canada



Legend:

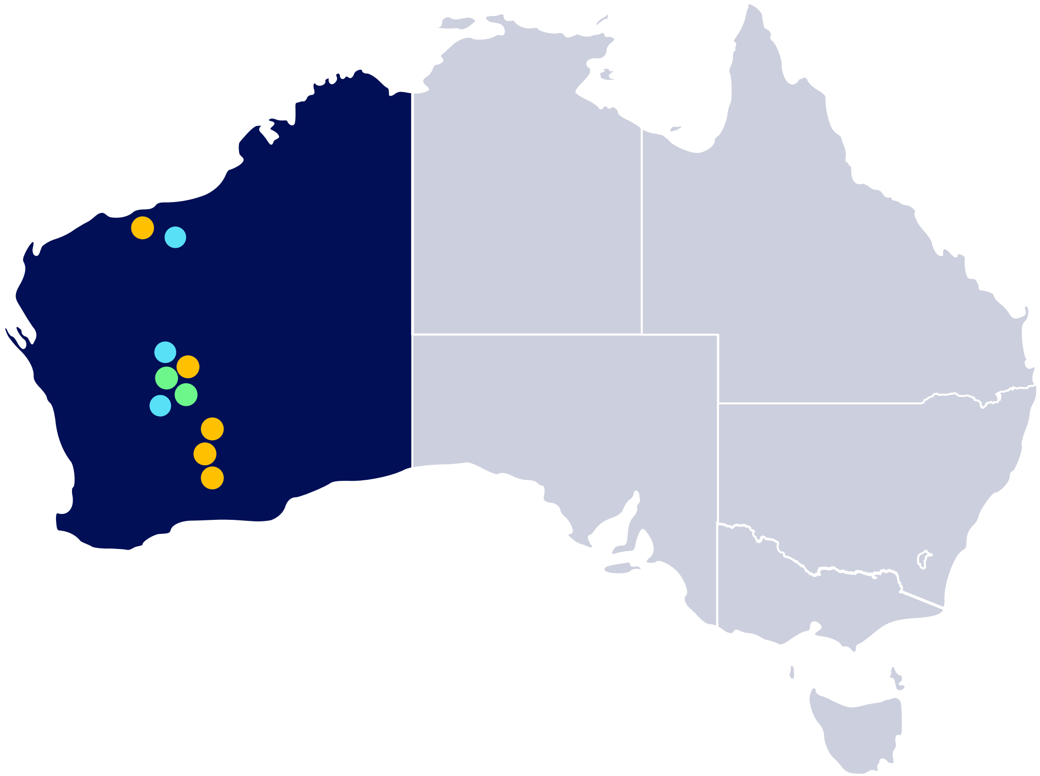
Advanced   Early   Prospects

Potential Development (excluding prospects):

2,181 – 3,031 MW

Project	MW	Technology	Location	Stage	FID
Tempest	100	Wind	AB		2024
WaterCharger	180	Battery	AB		2024
Pinnacle 1 & 2	44	Gas	AB		2024
Riplinger	300	Wind	AB		2025
SunHills Solar	170	Solar	AB		2025
McNeil Solar	57	Solar	AB		2025
New Brunswick Power Battery	10	Battery	NB		2025
Tent Mountain	160	Pumped storage	AB		2025
Provost	170	Wind	AB		2026
Antelope Coulee	200	Wind	SK		2027
Red Rock	100	Wind	AB		2027
Willow Creek 1 & 2	140	Wind	AB		2027
Brazeau	300-900	Pumped storage	AB		TBD
Alberta Thermal Redevelopment	250-500	Various	AB		TBD
Alberta Cogen Prospects	400	Cogen	AB		2025
Alberta Wind Prospects	450	Wind	AB		2027+

Development pipeline
Australia



Legend:

Advanced Early Prospects

Potential Development (excluding prospects):

421 MW

Project	MW	Technology	Location	Stage	FID
Mt. Keith West Network Upgrade	32[1]	Transmission	Mt Keith		2023
Mt. Keith Capacity Additions	94	Gas	Mt Keith		2023
Mt. Keith Wind	100	Wind	Mt Keith		2024
Boodarie Solar	50	Solar	Port Hedland		2024
Southern Cross Energy	120	Solar/Wind	Kalgoorlie		TBD
Transmission Expansion Projects	25[1]	Transmission	Various		2023+
Ridley Solar	50	Solar	Pilbara		2024
Other Australian Prospects	150	Various	Various		2024+

1 Transmission projects converted to equivalent MW using $2,000/kW multiple

WaterCharger

Ghost Lake, Alberta

Largest battery installation in Alberta, providing energy optimization and key reliability service to the Alberta system

First Nation equity partnership

Funding secured through Canada’s Smart Renewables and Electrification Pathways Program

Alberta Utilities Commission permits in place

Location	Ghost Hydro Facility
Technology	Battery Storage
Chemistry	Lithium-Ion Phosphate
Size	180 MW, 1-hour
COD	H1 2025
EBITDA	+$20 Million

Pinnacle

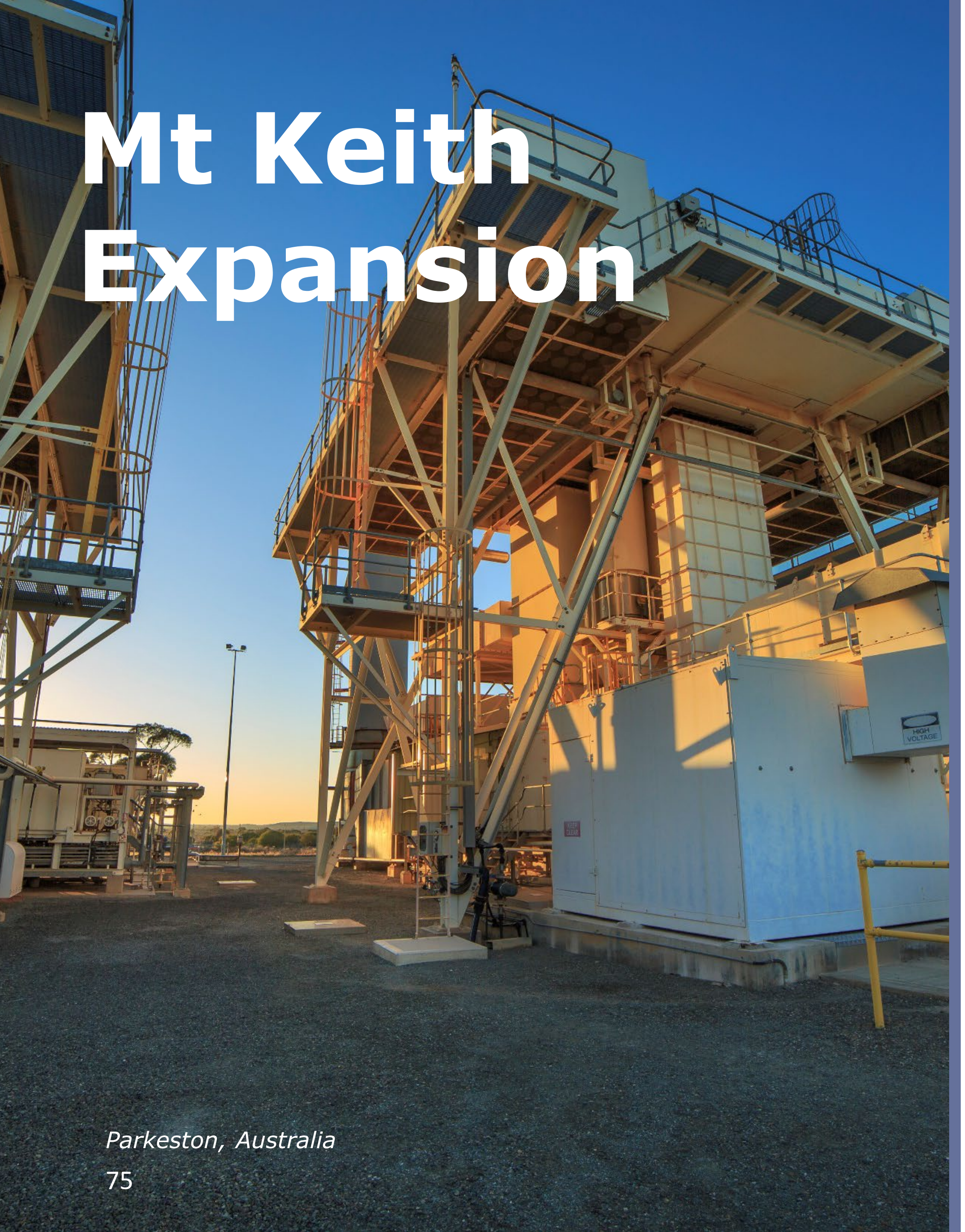
Keephills, Alberta

Fast dispatch gas-fired peaking facility, will respond to periods of high demand

- **Acquired gas reciprocating engines at significant discount**
- **Leverages existing infrastructure at Keephills site**
- **Positioning for a more volatile energy market**

Location	Keephills
Fuel	Natural Gas
Contract Type	Merchant
Size	44 MW
COD	H2 2025
EBITDA	\$14 - \$16 Million

Mt Keith Expansion



Parkeston, Australia

Efficient gas-fired generating capacity to meet customer's growing demand and to enable increased renewable generation

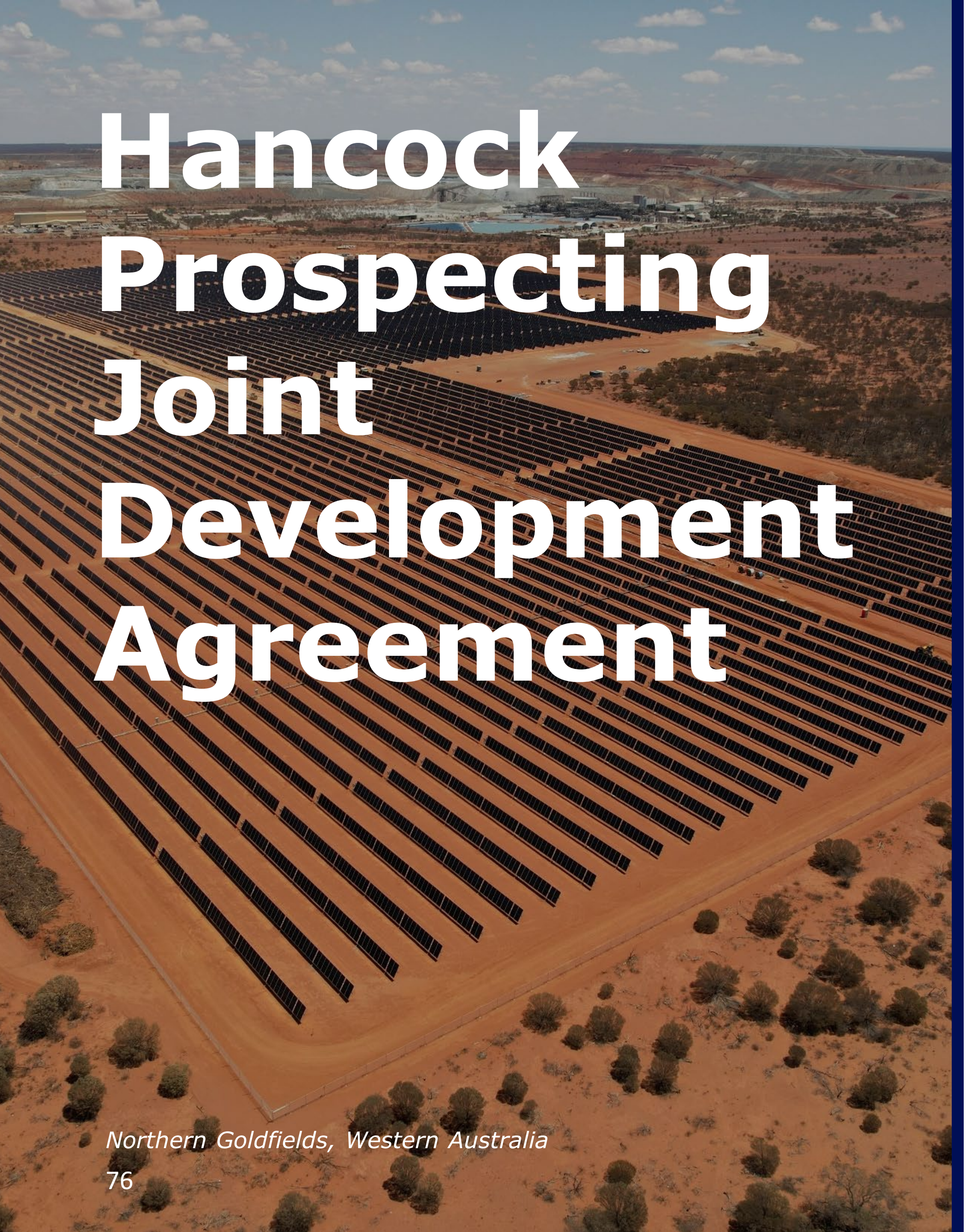
Developing under the BHP Nickel West PPA

Adding synchronous condenser capability to improve grid stability

Delivers annual emissions reduction of ~19%

Location	Mount Keith
Fuel	Gas
Contract Type	13-year PPA
Size	94 MW
COD	H2 2025
EBITDA	$36 – $40 Million

Hancock Prospecting Joint Development Agreement



Northern Goldfields, Western Australia

Strategic development partnership to provide reliable supply to Hancock Prospecting

HANCOCK ENERGY + transalta

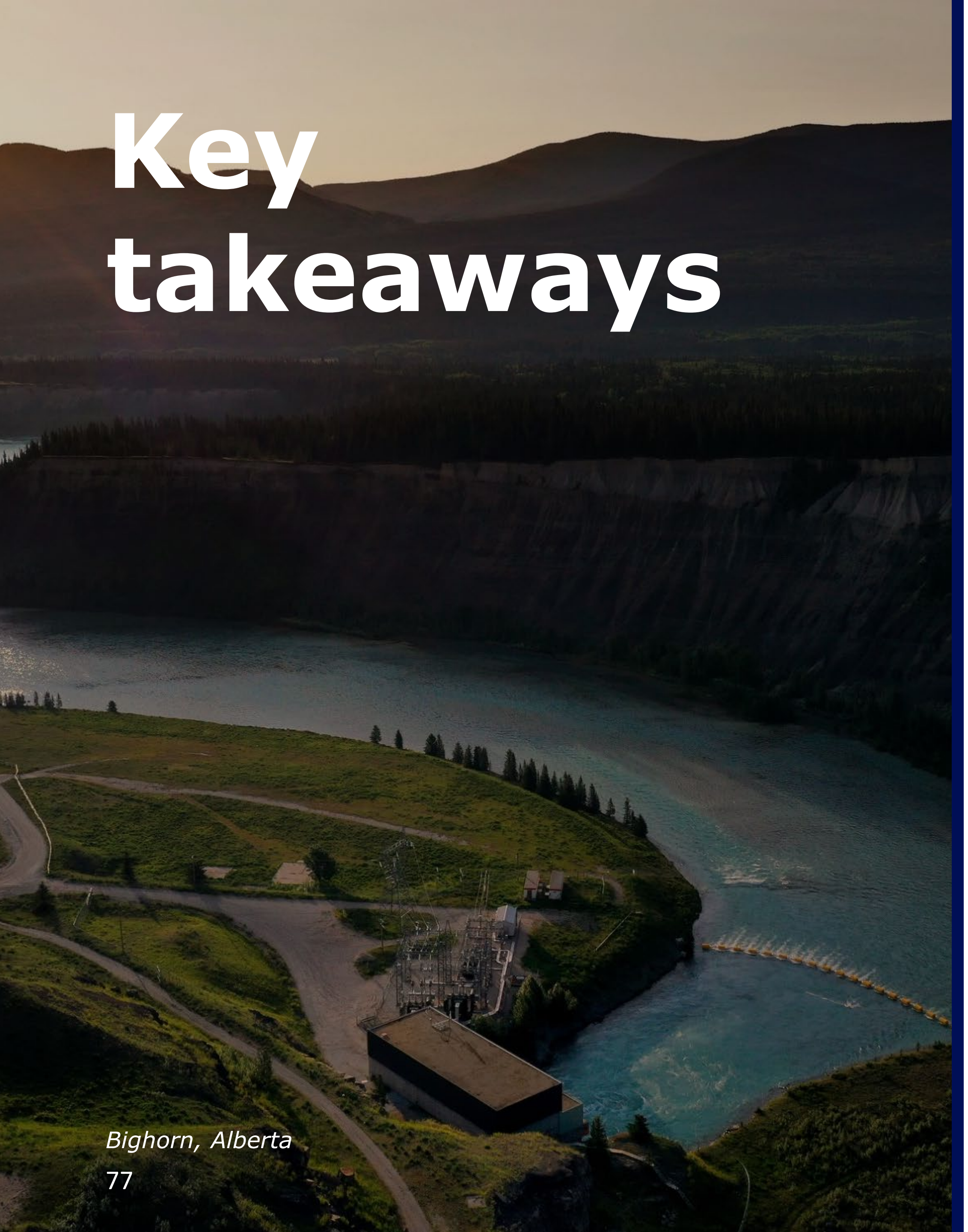
Hancock Prospecting is a large and diversified Australian company and fourth largest iron ore producer in the country

Partnership builds on expertise in reliable supply to remote operations in Western Australia

Hancock and TransAlta together define the supply need and the optimal behind-the-fence solution which TransAlta will build, own and operate

Hancock will have an option to co-invest with TransAlta maintaining the role as the managing partner and operator

Key takeaways



Bighorn, Alberta

1. Disciplined development
2. Customer focus
3. Pipeline expansion
4. Local expertise and presence
5. Energy marketing competitive advantage

Technology Pathways

Blain van Melle

Executive Vice President,

Commercial and Customer Relations

Energy innovation outlook

WaterCharger 180 MW **lithium-ion** battery storage

TransAlta fleet **EV** Pilot

Commercial **hydrogen** hubs and turbines

Tent Mountain pumped **hydro** storage

Brazeau pumped storage

Commercial small modular **fission reactors**

Commercial **fusion reactors**

2020 2025 2030 2035 2040

TransAlta's ecosystem for innovation

Financial Strategy and Funding Plan

Todd Stack

Executive Vice President, Finance
and Chief Financial Officer

Positioned to enhance shareholder value

Strong financial foundation

Strong balance sheet and credit metrics

Modest debt maturities and low floating rate exposure

Prudent capital allocation maximizes shareholder value

Disciplined target investment returns

Deliver value to shareholders through growth, dividends and share buybacks

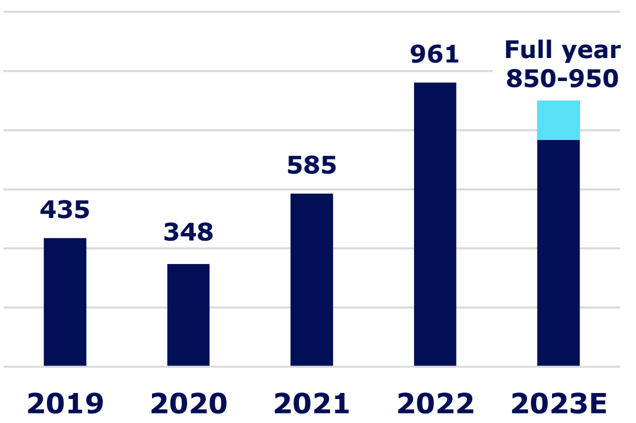
Well-positioned to fund growth

Simplified corporate structure expected to generate significant free cash flow

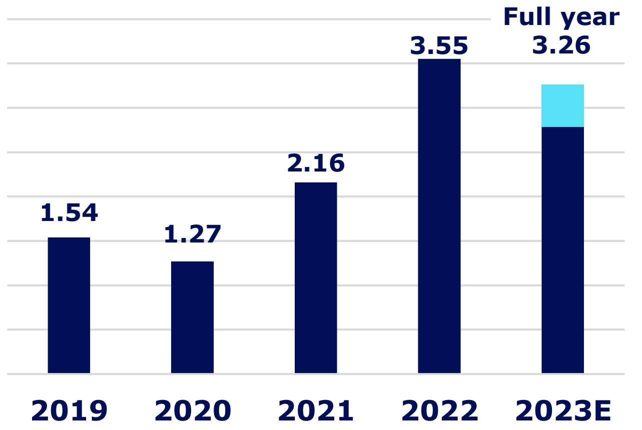
Significant cash retained with incremental debt capacity to fund growth

Strong financial trend

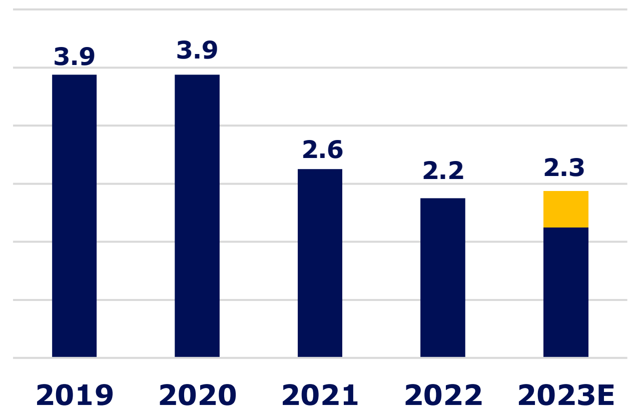
Free Cash Flow ($ millions)



Free Cash Flow[1] ($ per share)



Debt to EBITDA (times)



Exceptional free cash flow has transformed the company and strengthened its financial foundation

[1] The weighted average number of common shares outstanding for the year ended Dec. 31, 2022, was 271 million shares (2021 – 271 million, 2020 – 275 million, 2019 – 283 million). The weighted average number of common shares outstanding for the nine months ended Sept. 30, 2023, was 265 million shares. On October 5, 2023, approximately 46 million shares were issues to acquire TransAlta Renewables bringing the total number of shares outstanding to 310 million shares, bringing the weighted average number of common shares outstanding to 276 million for full year 2023.

Simplified capital allocation

Free Cash Flow

- **Maintain balance sheet**
- **Fund the dividend**
- **Execute on growth**
- **Repurchase shares**

Since 2021

Maintained **strong credit metrics**

Returned **$160 million** in dividends

Dividend increased by **10%** annually

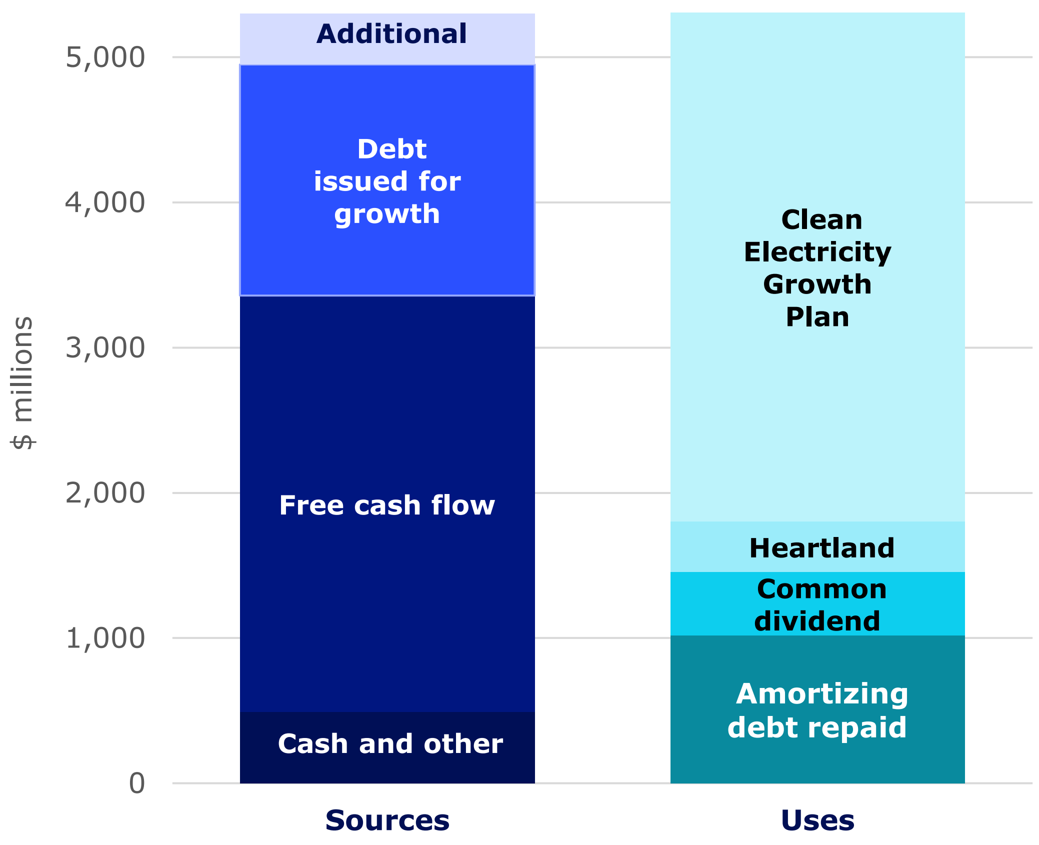
Deployed **$1.4 billion** towards the Clean Electricity Growth Plan

Invested **$1.4 billion** to acquire TransAlta Renewables

Returned **$125 million** through share buybacks

Growth plan is well funded

Consolidated sources and uses 2024-2028

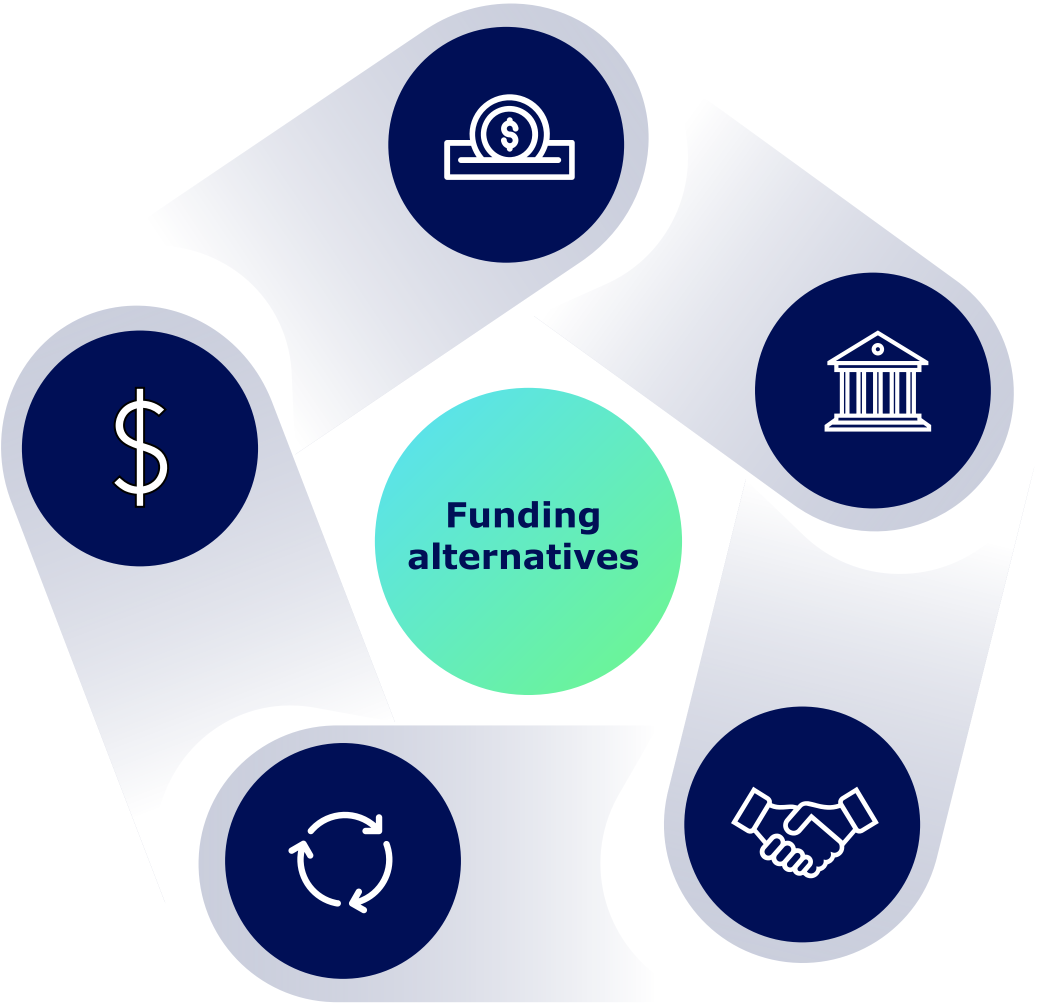


Growth funding 2024-2028

Operating cash flow will fund equity requirements for growth program

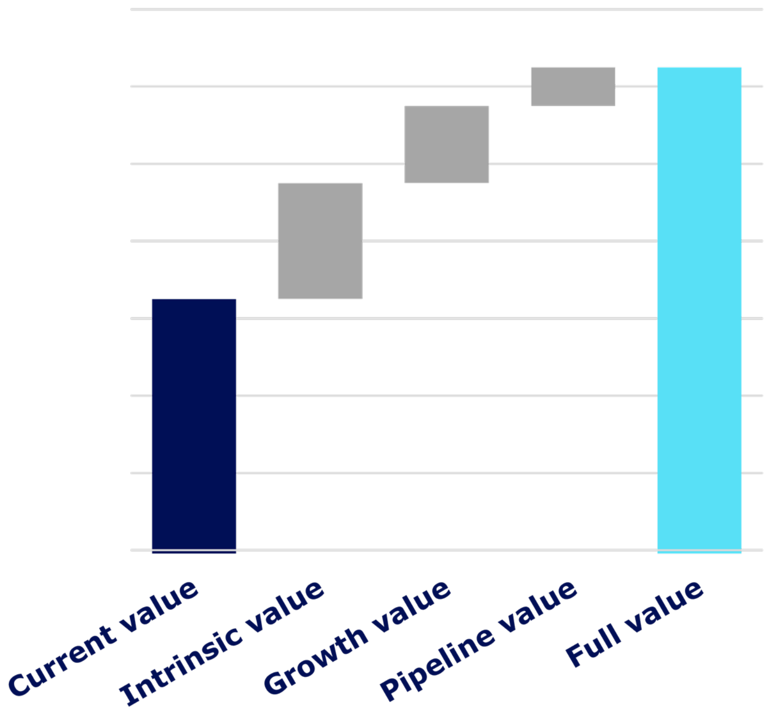
Strategic funding sources

- Operating free cash flow
- Corporate and asset level debt
- Partnerships
- Asset recycling opportunities
- Common equity



Prudent capital management

Share Valuation

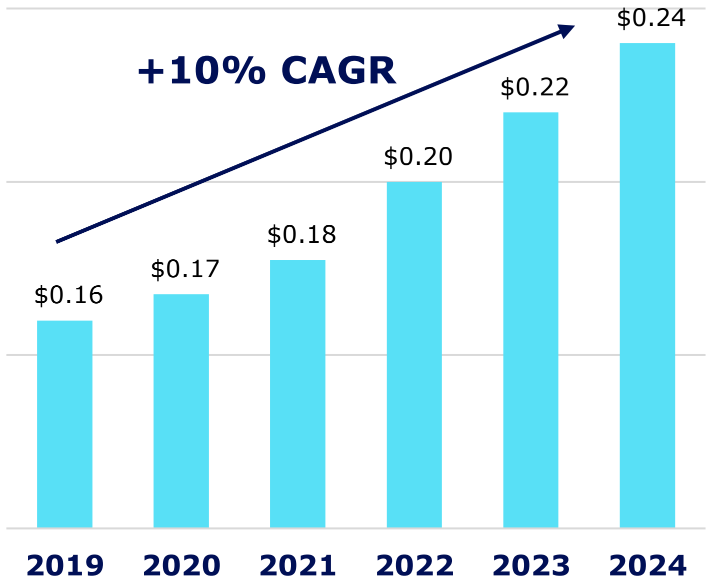


Credit ratings

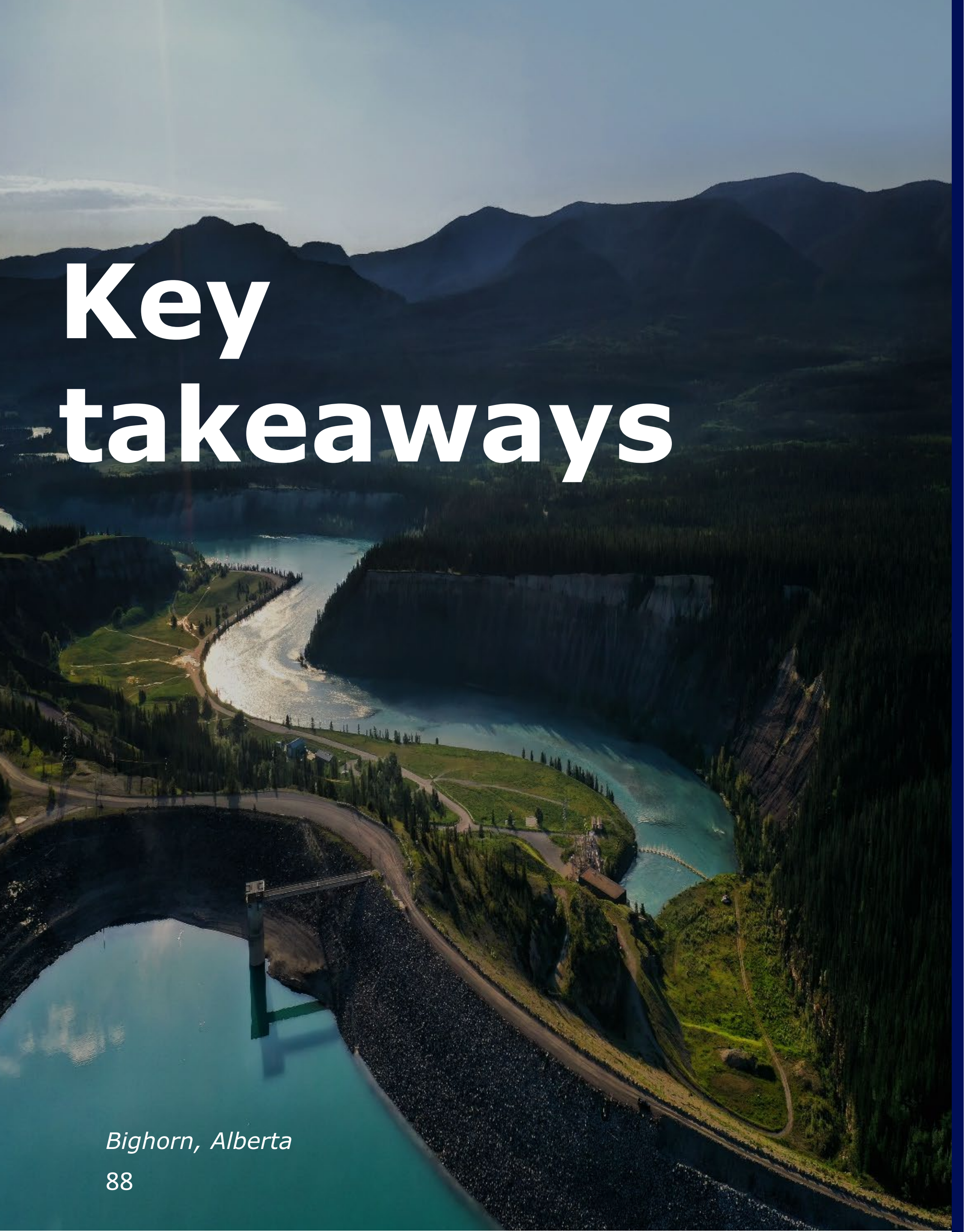
S&P	BB+
Moody's	Ba1
DBRS	BBB (low)

Debt/EBITDA target **3.0 - 4.0x**

Dividend



Key takeaways



Bighorn, Alberta

1. Disciplined capital allocation
2. Balance sheet is well positioned
3. Growth plan funded with free cash flow

Talent and Culture

Jane N. Fedoretz

Executive Vice-President, People,
Culture and Chief Administrative Officer

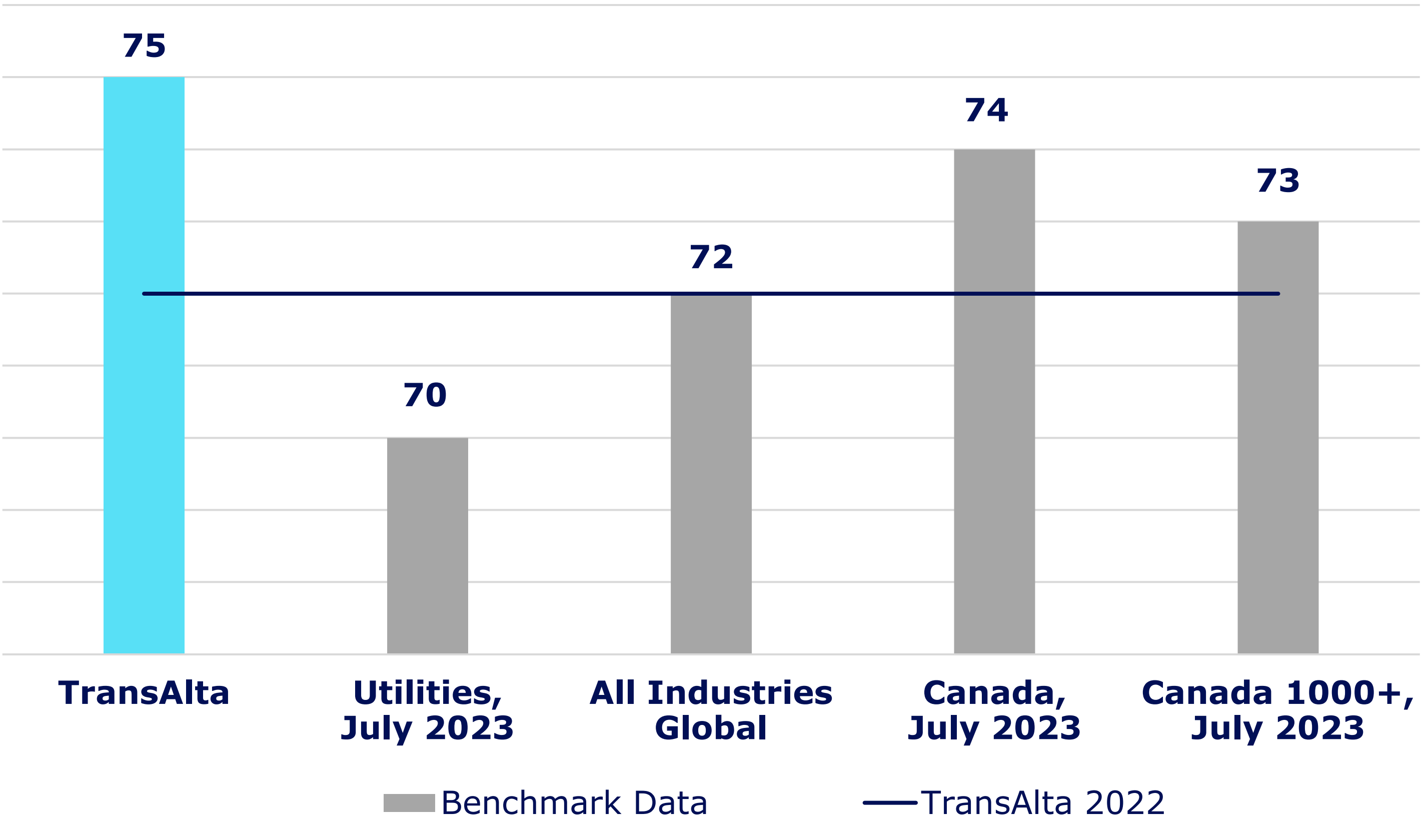
Shifting our culture by being cultural architects together

- Attraction and retention
- Leadership development and succession
- Health, wellness and safety
- Equity, diversity and inclusion ("ED&I")
- Total rewards and recognition
- TransAlta story and brand

One TransAlta for exceptional results

Engagement and ED&I results

TransAlta's 2023 employee engagement compared to benchmark[1] (%)



ED&I Census Score

+6.1%

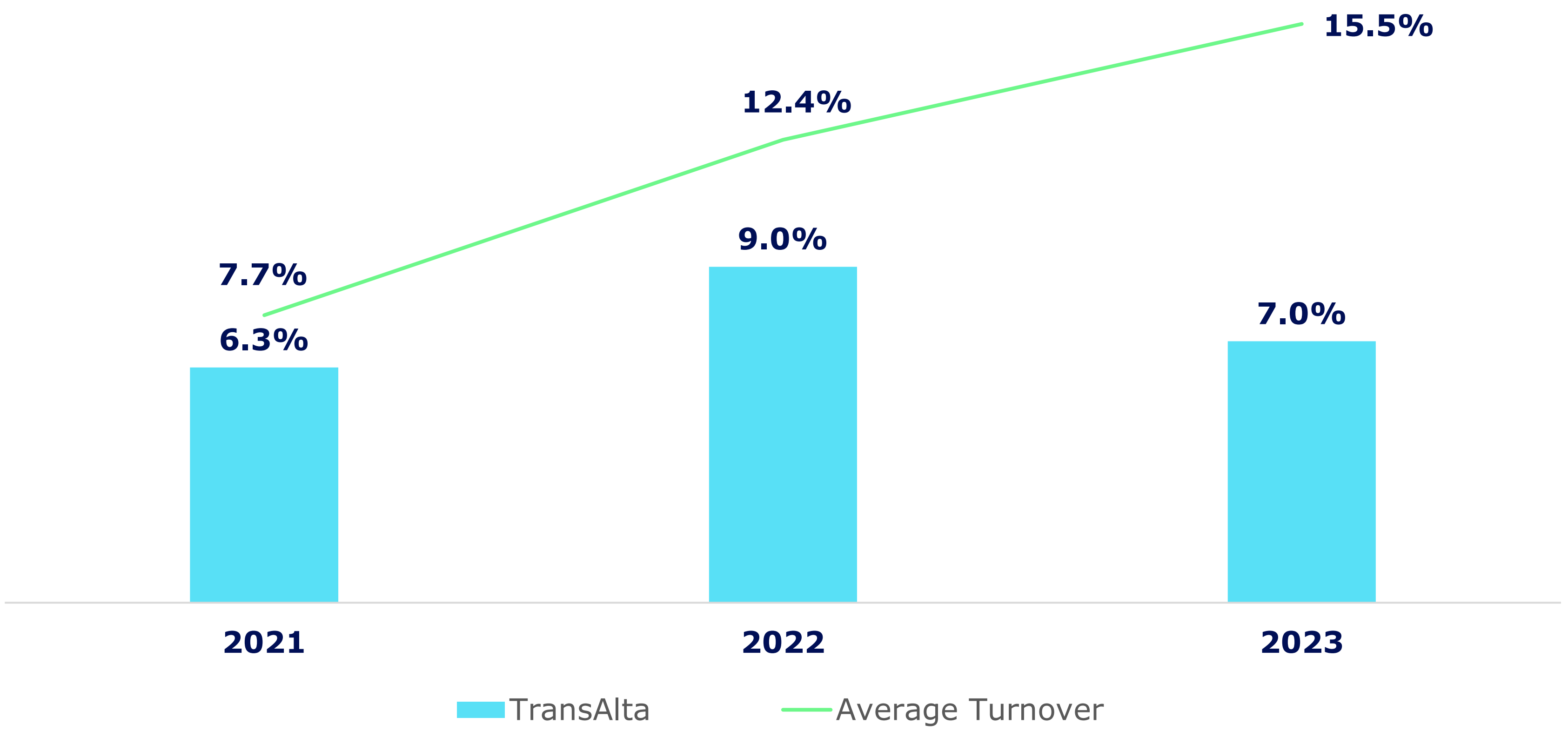
61.5%
Industry Average

67.6%
2022 Score
(latest data available)

Source: Diversio, July 2023

Voluntary turnover

Turnover



TransAlta's voluntary turnover below Canadian average

Source: Mercer Canada turnover data

Driving a leading talent platform for renewable energy

Earned Best HR Team Award in Canada

Won Alberta Business Award of Distinction

Employees honoured by Electricity Canada's first Women in Electricity Award

Recognized by Best Places to Work

Awarded 5-Star designation Diversity, Equity and Inclusion Employer

EHRC Innovation in HR Practices

Awarded Best Wellness Program

Key takeaways

Garden Plain, Alberta

1. Focusing on culture transformation
2. Improving our employee experience
3. Increasing employee engagement
4. Prioritizing employee attraction and retention

Closing Remarks

John Kousinioris

President and Chief Executive Officer

Strategic priorities to 2028

Interlakes, Alberta

1. Optimize Alberta portfolio
2. Execute expanded Clean Electricity Growth Plan
3. Selective expansion of flexible generation and reliability assets
4. Maintain financial strength and capital allocation discipline
5. Define next generation of power solutions
6. Lead in ESG and market policy development

Our Value Proposition

Diversified and resilient fleet

Clean electricity leader with ESG focus

4.8+ GW growth pipeline

Strong financial position

Antrim, New Hampshire

Questions & Answers

Visit us at: www.transalta.com

Investor_relations@transalta.com