Investor Presentation
June 2021

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Capital Power
RESPONSIBLE ENERGY FOR TOMORROW

Growth-oriented North American power producer

- Highly-contracted, young and diversified portfolio
- Targeting 10-12% total shareholder return
- Targeting net carbon neutral before 2050

Operational facilities

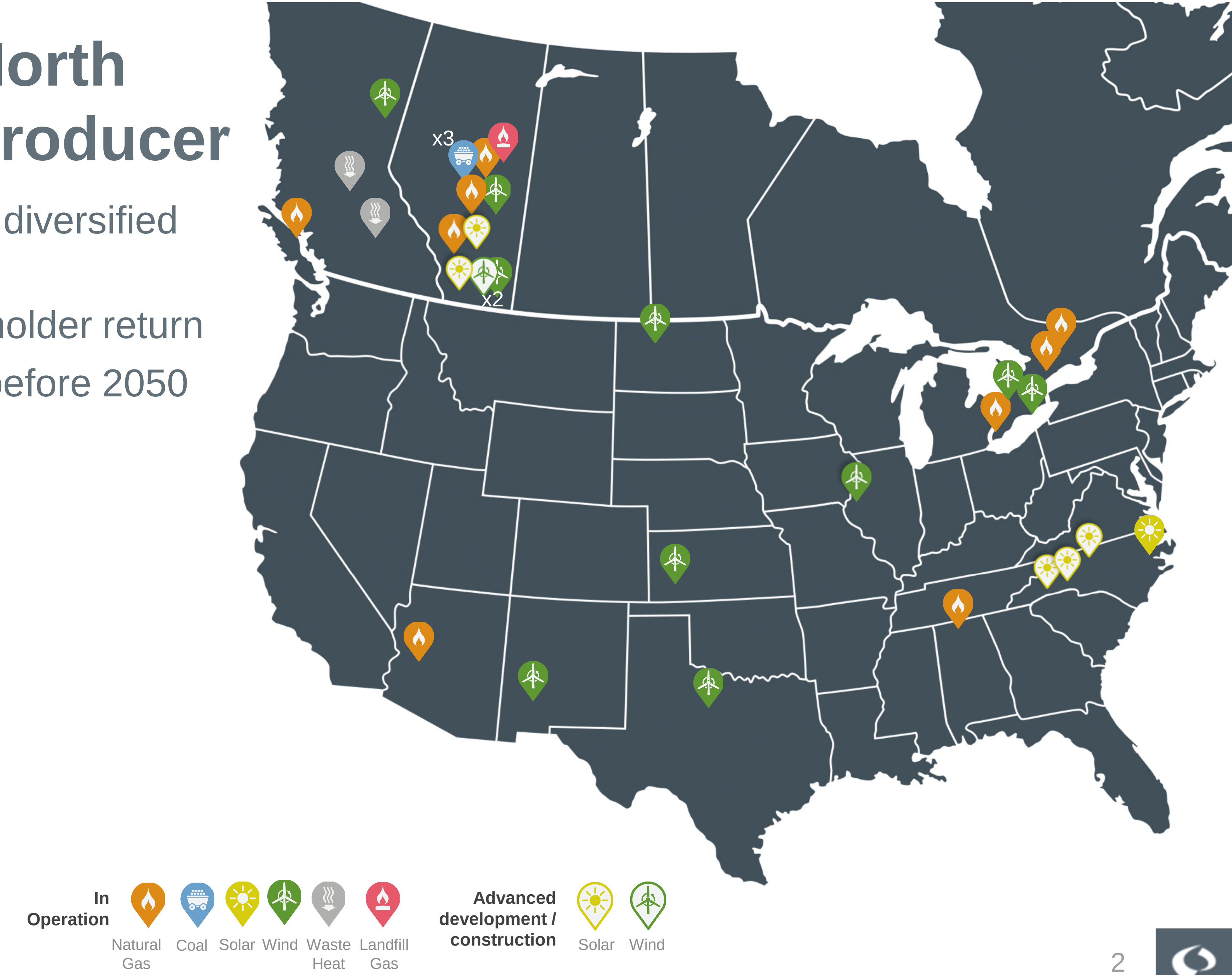
~6,400 MW

26 facilities

Projects under development

985 MW

7 renewable projects and Genesee 1&2 repowering



Increasing growth and getting to net carbon neutral by 2050

Decarbonization Strategies	Today	2024 and beyond
Investing in emissions free renewables	Building and acquiring wind and solar in Canada and the U.S.	Integration of storage technologies
Investing in critical natural gas generation	Acquiring key facilities in Canada and the U.S.	Reduce emissions through CCS, carbon utilization and hydrogen use
Transitioning heritage coal generation to natural gas	Repower and move to 100% natural gas capability	

Strategic path to a low-carbon future

Accelerated growth in renewables

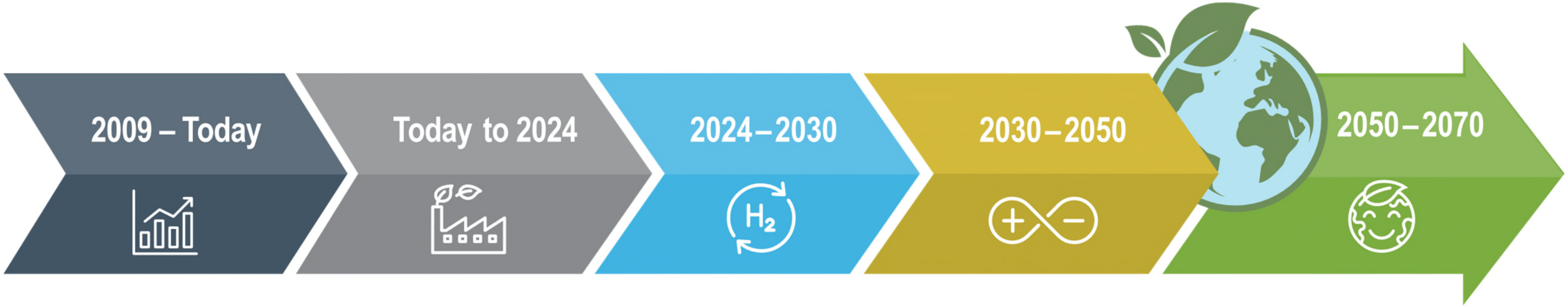
- 7 development projects totaling 425 MW; 100 MW Buckthorn Wind acquisition

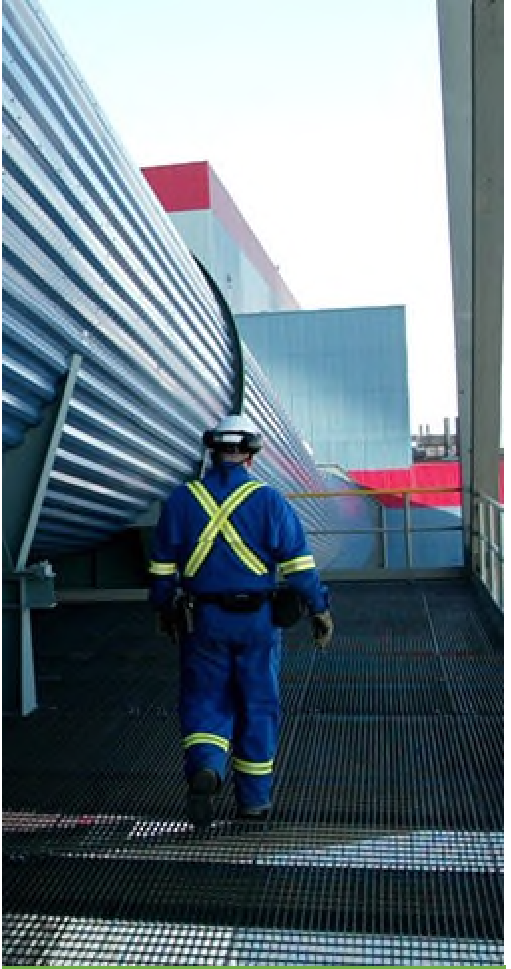
Off-coal in 2023

- Roxboro and Southport power plants retired at end of Q1/21
- Genesee site 100% natural gas in 2023

Natural gas critical to net carbon neutral transition

- Reliable, affordable, flexible power
- Carbon conversion and hydrogen technology enhance natural gas resiliency





Advancing CO_2 reduction initiatives

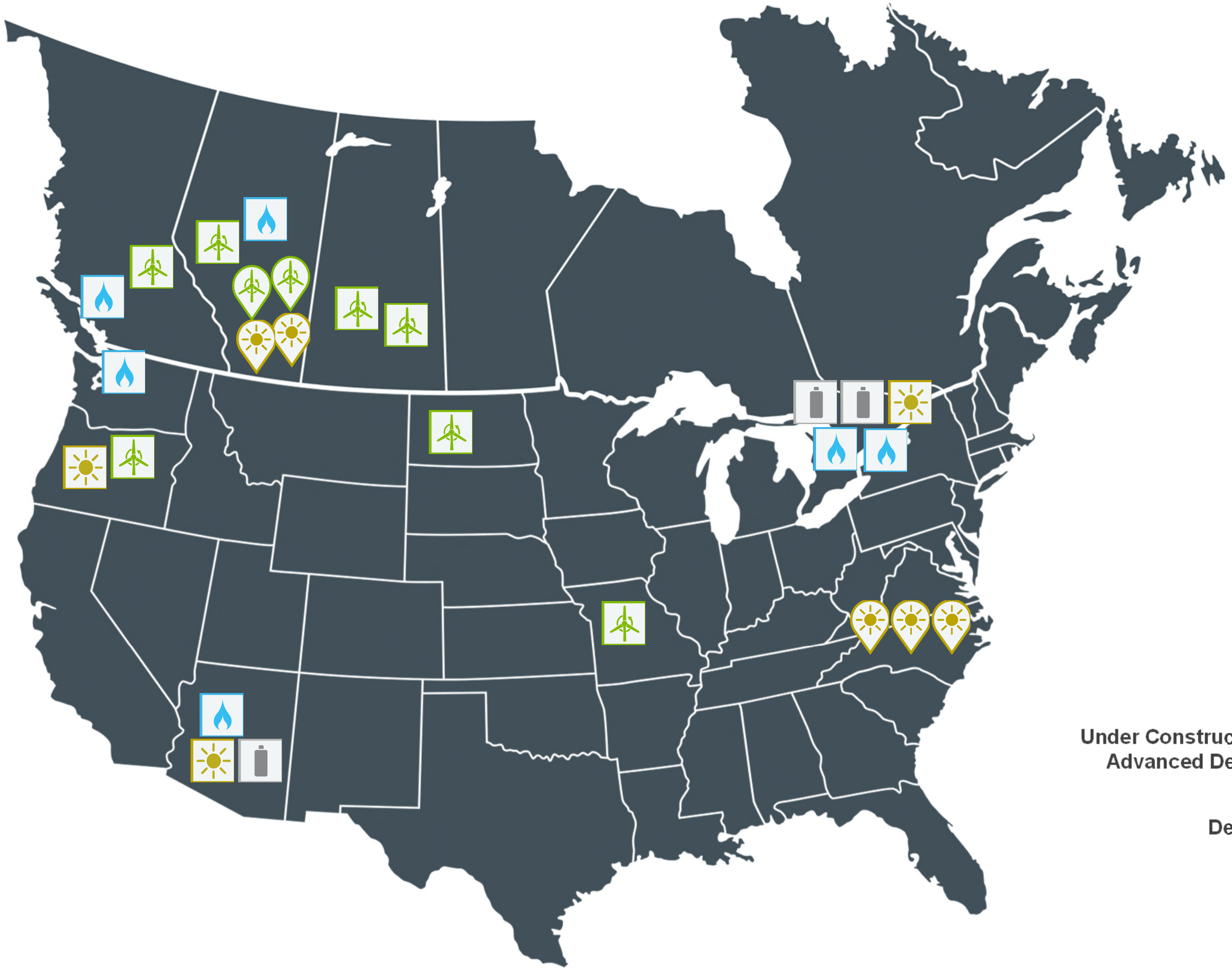
- Carbon Corp (C2CNT) won the NRG COSIA Carbon X-Factor award – technology to be applied at Genesee Carbon Conversion Centre (GC^3)
  - 1 of 2 Canadian companies honoured for "creating excellent products"
- Development and marketing of GC^3 underway; expected to be operational in mid-2022
  - Creates carbon nanotubes from Genesee 3 emissions
- Developing plans to apply CCUS technology at Genesee 1&2
  - Emerging Federal and Provincial funding supports expansion of CCUS applications
  - Set to reduce emissions by 3 million tonnes annually

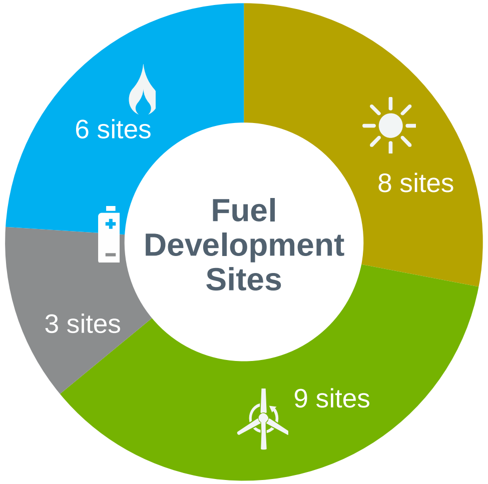
CCUS initiatives support a low-carbon energy future

Growth strategy

- Growth strategy aligns with our sustainability goals
- Target markets support $500M annual capital investment
- Strong renewable growth pipeline in Alberta and the U.S.
- Potential acquisition of mid-life natural gas assets
- Targeting 10-12% total shareholder return over the long term

Dynamic pipeline supports resilient & responsible growth





2021 Growth Target:
Invest $500M

Under Construction and in Advanced Development

Future Development

Natural Gas Solar Wind Storage

Solar
8 sites
Potential: 360 MW
Committed: 276 MW
Total: 636 MW

Wind
9 sites
Potential: 1,129 MW
Committed: 151 MW
Total: 1,280 MW

Storage
3 sites
Potential: TBD

Gas
6 sites
Potential: 1,700 MW

Continued growth in renewable assets

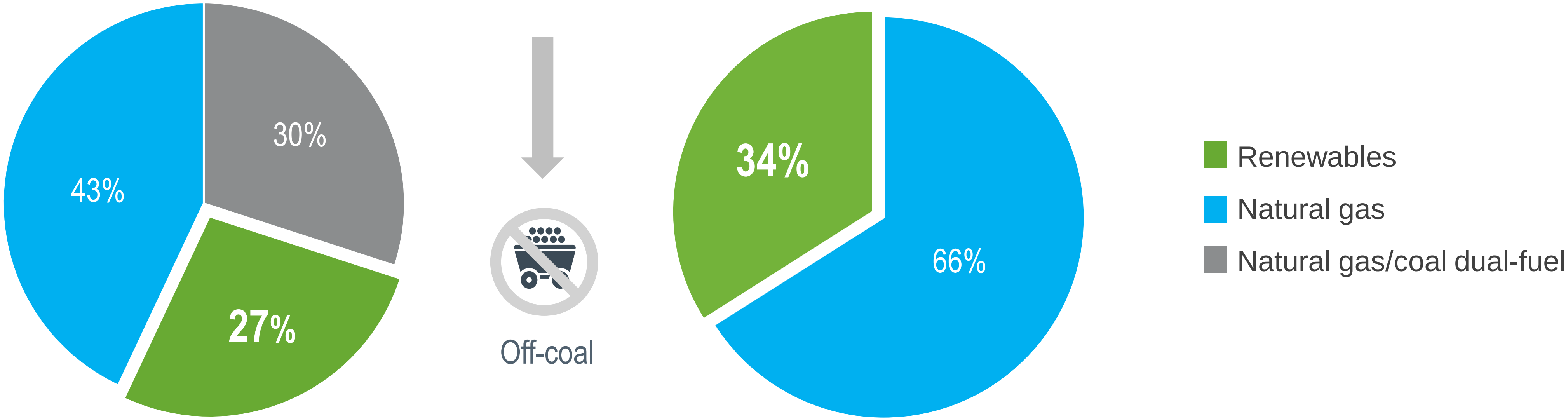
Adjusted EBITDA from renewables expected to increase from 27% to 34%

2020 | **2023F** | **2025F**

Repowering (+560 MW)

5 projects (276 MW)

2 projects (151 MW)



Renewable projects and repowering will contribute materially to progress on emissions intensity and absolute reduction targets

Gas generation vital for reliability and flexibility

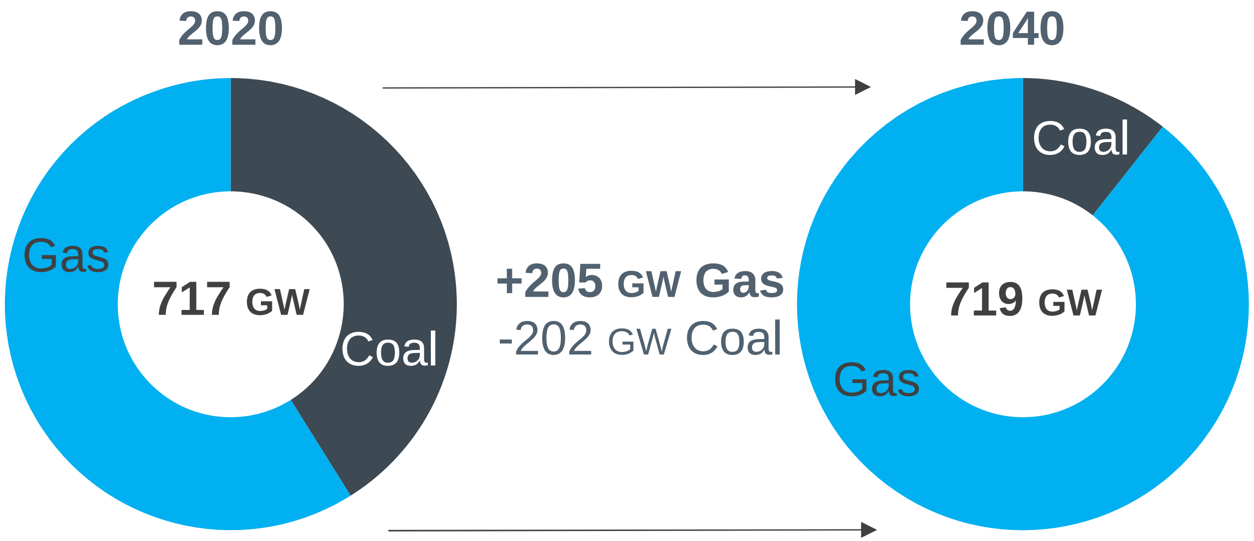
Growth drivers

- Coal & nuclear retirements
- Renewables proliferation
- Low gas prices

Value of incumbent assets

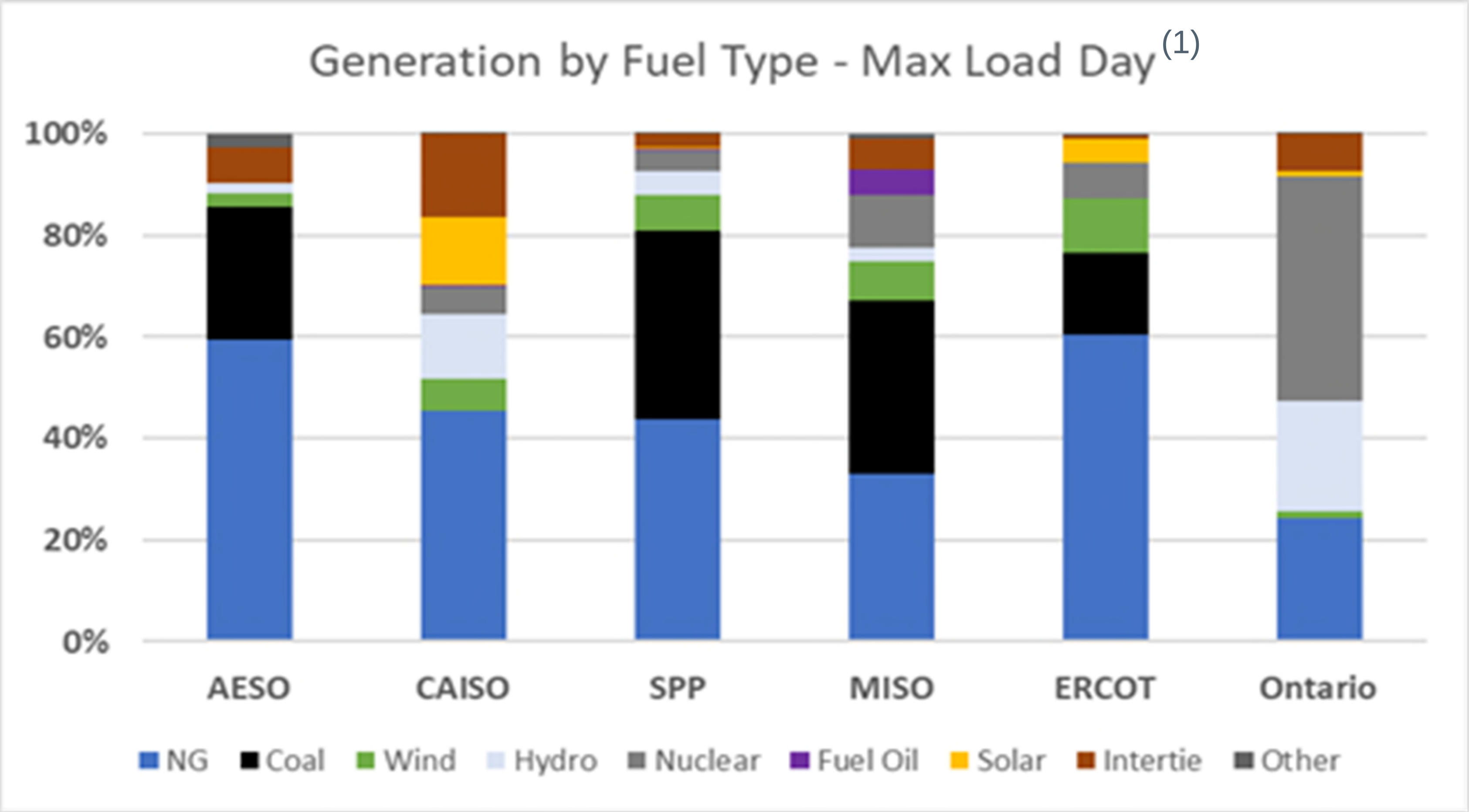
- High barrier to entry
- Strategic placement
- Optimization potential

Forecasted natural gas generation in the US(1)



1) Source: Bloomberg New Energy Finance, New Energy Outlook 2020

Natural gas is critical to power reliability



1) 2019/20 data

Securing long term PPAs delivers stable cash flows

Decatur
(Alabama)

- 10-year tolling agreement extension to 2032 with current counterparty (A-rated)
- Extension includes additional capacity from upgraded combustion turbines (855 MW total capacity)

Validates acquisition strategy of mid-life natural gas assets

Strathmore Solar
(AB)

- 25-year PPA with investment grade counterparty
- 40.5 MW
- Bundled energy & environmental attributes
- Maintain competitive advantage in AB

Enchant Solar
(AB)

- 15-year renewable energy agreement with Labatt for sale of electricity and RECs
- Virtual PPA for 51% of electricity from Enchant Solar; ¼ RECs from Enchant, ¾ from Eastern Canada
- 75 MW

3 solar projects
(North Carolina)

- 20-year PPA with investment grade counterparty
- 160 MW
- Bundled energy & environmental attributes
- Competitive in the U.S.

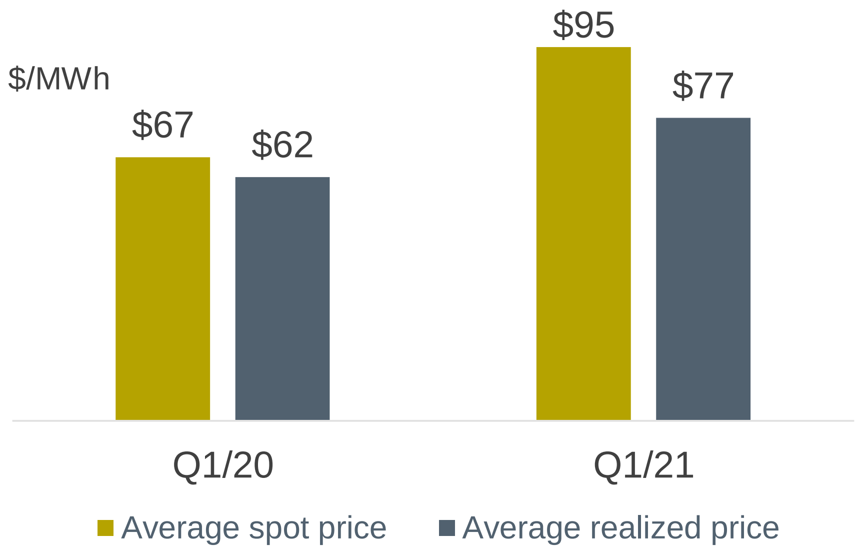
ESG priorities driving corporate demand for renewables

Alberta power market

- Market showing strong recovery from impacts of COVID-19 and low oil prices
- Supply has responded to lower demand with other market participants announcing the retirement of Sundance 3 and delays on some cogen and renewable projects
- Starting in 2021, all output controlled by commercial market participants

Robustness of Alberta power market

- Extreme cold temperatures in February set new daily record for demand and contributed to high average power price of $95/MWh in Q1/21
- Milder temperatures in January & March resulted in lower demand and lower generation
- 2021 forward prices have steadily increased during the year; currently at $79/MWh



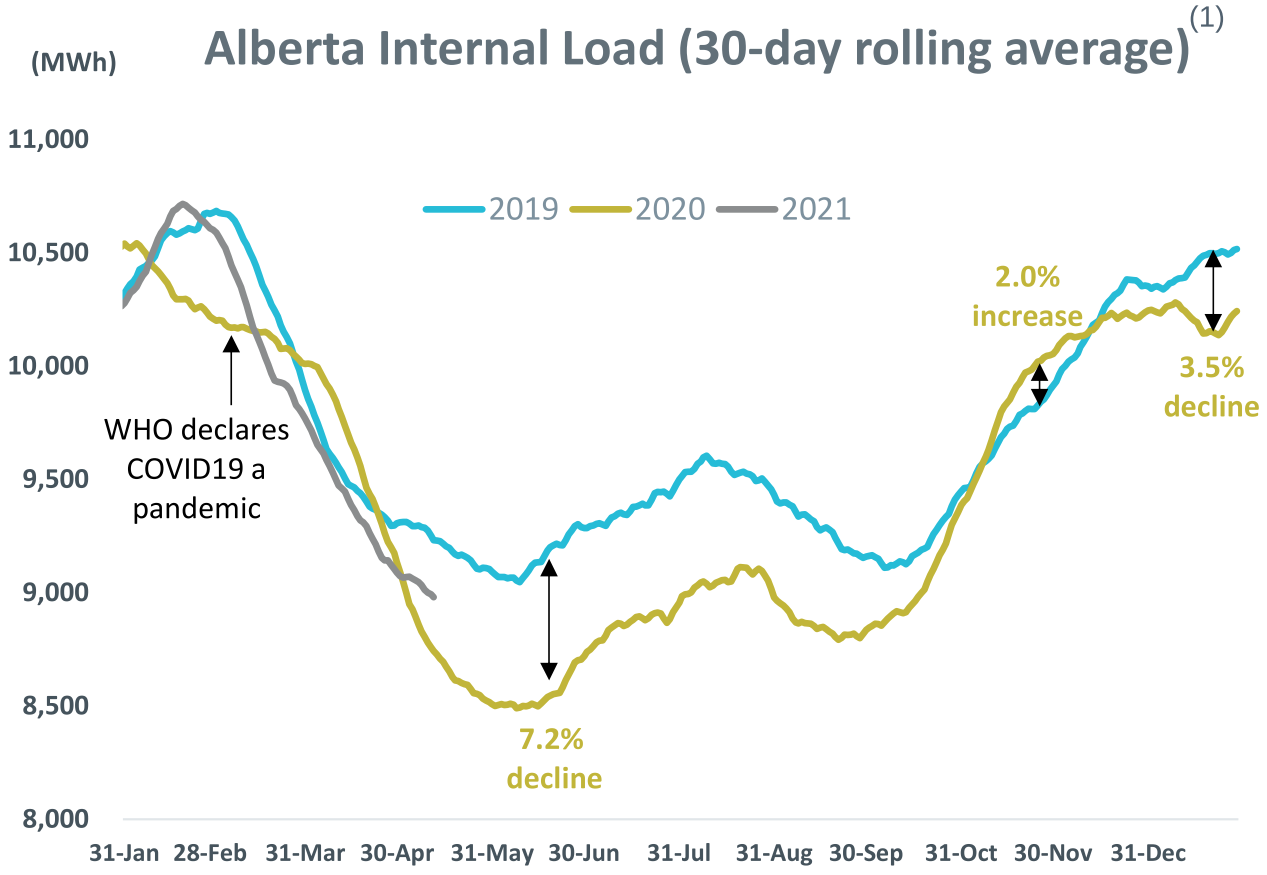
24% higher realized price of $77/MWh compared to $62 in Q1/20

AB hedged positions	2022	2023	2024
% sold forward[1]	30%	24%	10%
Contracted prices[1] ($/MWh)	Mid-$50	Mid-$50	Mid-$50
Current forward prices[2] ($/MWh)	$65	$55	$51

1) As of March 31, 2021. Based on the Alberta baseload facilities plus a portion of Joffre and the uncontracted portion of Shepard.
2) As of May 21, 2021.

Alberta power market

COVID-19 and crude oil impact



- Largest 2020 vs. 2019 yoy decline in power demand was 7.2% due to COVID-19 pandemic and low crude oil prices
- Demand started to recover as the economy re-opened
- Expect demand recovery in 2021 but still some uncertainty regarding the rate of recovery
- Daily AIL demand record of 11,230 MWh on Feb 9/21 due to extreme cold weather

1) Source: AESO, Capital Power

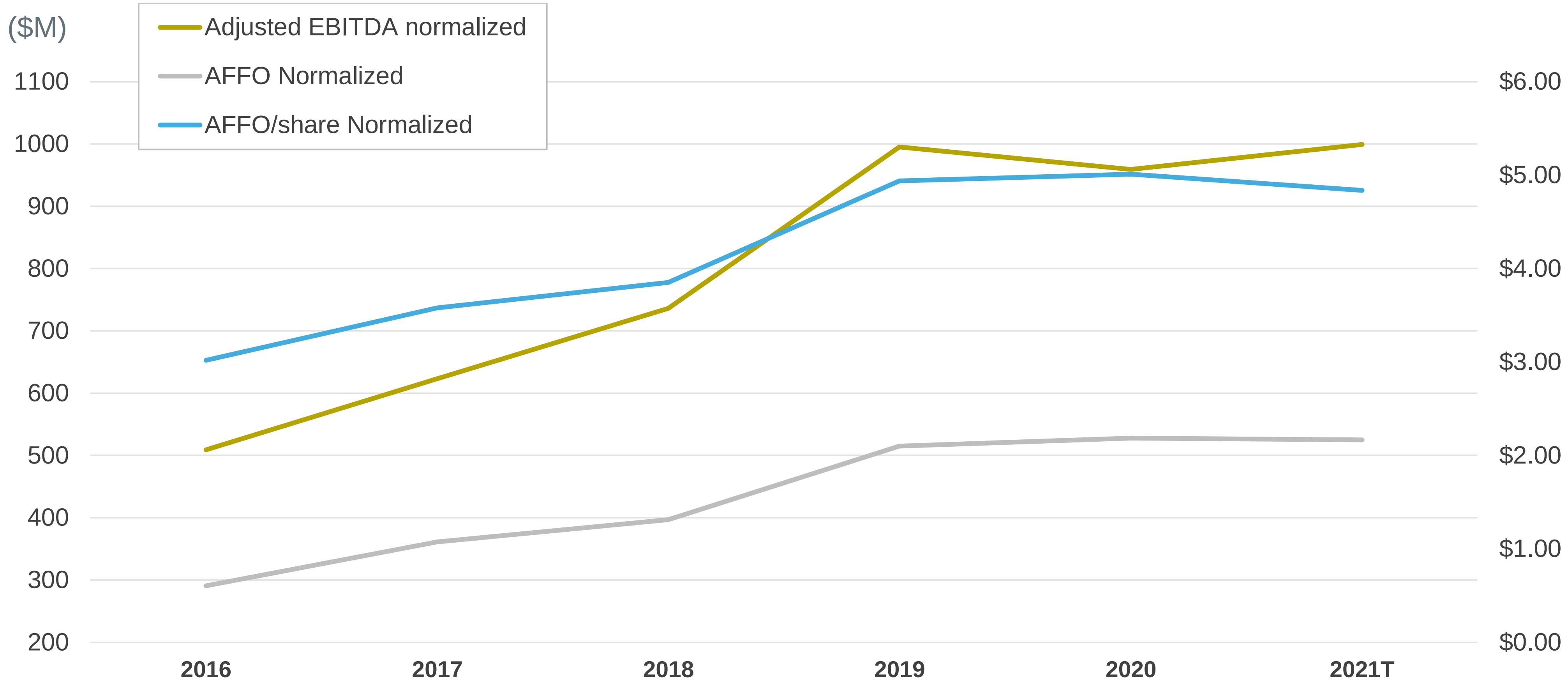
Financial strategy

- Deploying capital for the repowering of Genesee 1&2 and growing renewables portfolio
- Disciplined growth with focus on predictable cash flows and sustainability goals
- Dividend growth of 7% in 2021 and 5% in 2022
- Maintain investment grade credit rating

Overview of financial strategy

Fund growth towards low carbon future	• Fund growth in a cost-effective manner • Access various sources of capital and seek innovative ways to fund growth
Maintain investment grade credit rating	• Maintain competitive cost of capital • Ensure access to capital markets through business cycles • Provides stability to the dividend
Deliver annual dividend growth	• Provide dividend stability through contracted cash flow profile • Annual dividend growth within long term AFFO payout ratio target of 45% to 55%
Manage financing risk	• Properly laddered debt maturities • Effective management of interest rate, foreign exchange and counterparty risk

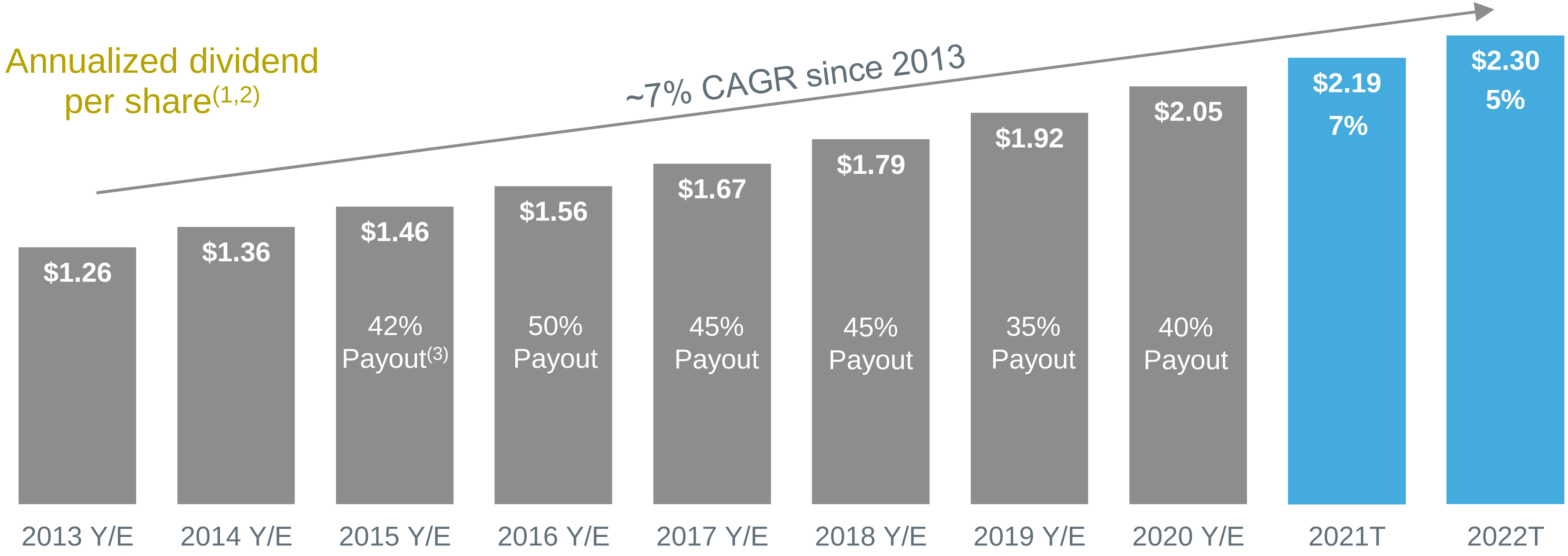
5-year growth in key financial metrics[1,2,3]



5-year growth supported by average growth capex of $750M[4] per annum

1) Normalized for Milner line loss accrual and non-recurring 2019 Arlington toll payment.
2) Normalized for non-recurring 2019 Arlington toll and payment of Milner line loss.
3) Excludes the $250M + 38M (over-allotment) equity offering that closed on June 2, 2021.
4) Includes gross capex on Tax Equity Investor projects.

History of stable dividend growth



Long-term AFFO payout ratio target of 45-55%

1) Subject to market conditions, economic outlook, cash flow forecast, and Board approval at the time.
2) 2013 to 2020 annualized dividend based on year-end quarterly common shares dividend declared.
3) Dividend payout ratio based on dividends declared per year as a percentage of AFFO per share.

Capital allocation balance

Dividend growth

Growth opportunities

- Existing asset improvements
- Development projects
- Acquisitions

Share buyback & debt repayment

Capital recycling

- Balanced focus between dividend growth and growth opportunities
- Allocating capital strategically to develop, commercialize and implement technologies to support sustainability targets
- Share buybacks and debt repayment are considered during periods of limited growth opportunities
- Capital recycling considered with significant capital requirements and/or undervaluation of assets

Efficient capital allocation creating shareholder value

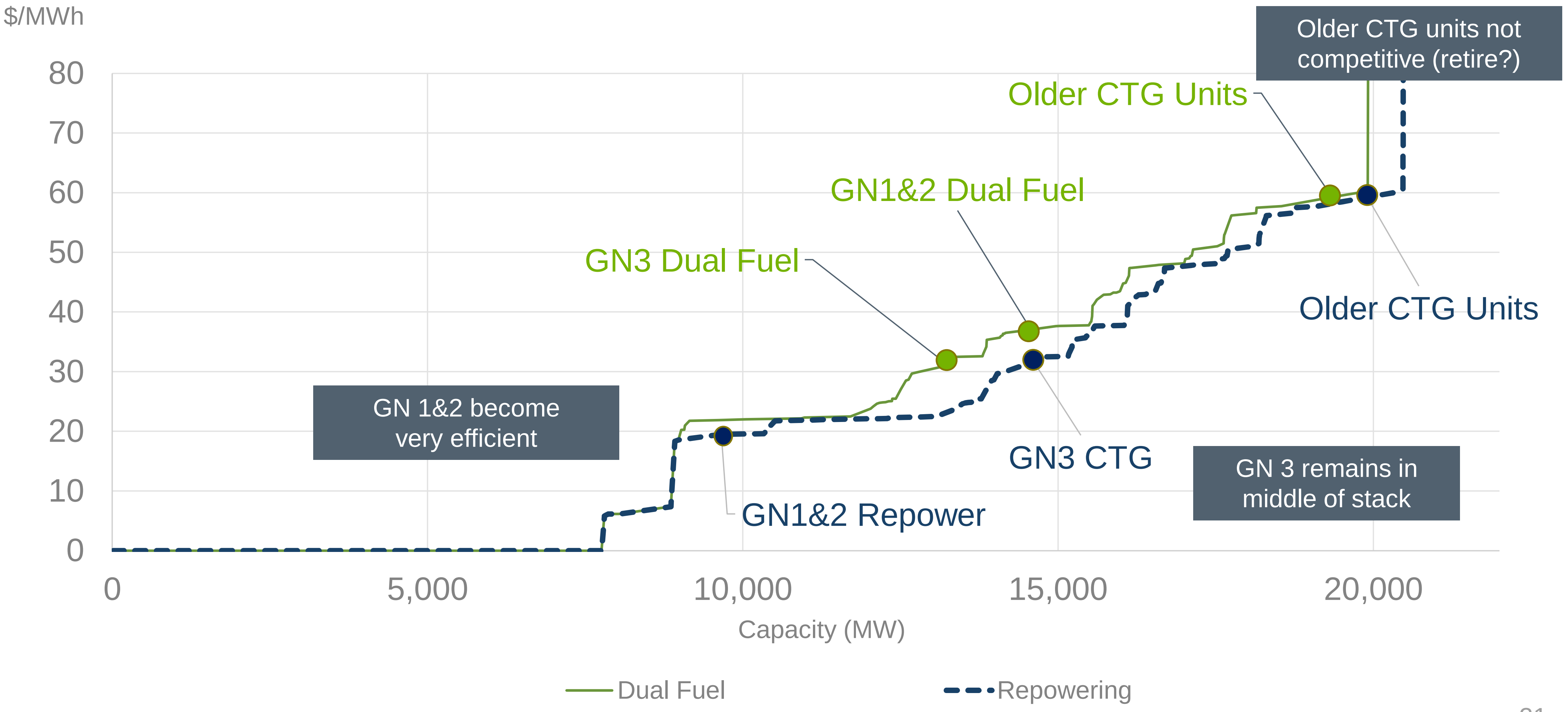
Repowering Genesee 1&2 delivers long term value

Lower operating costs, useful asset life extension, long-term cash flow growth

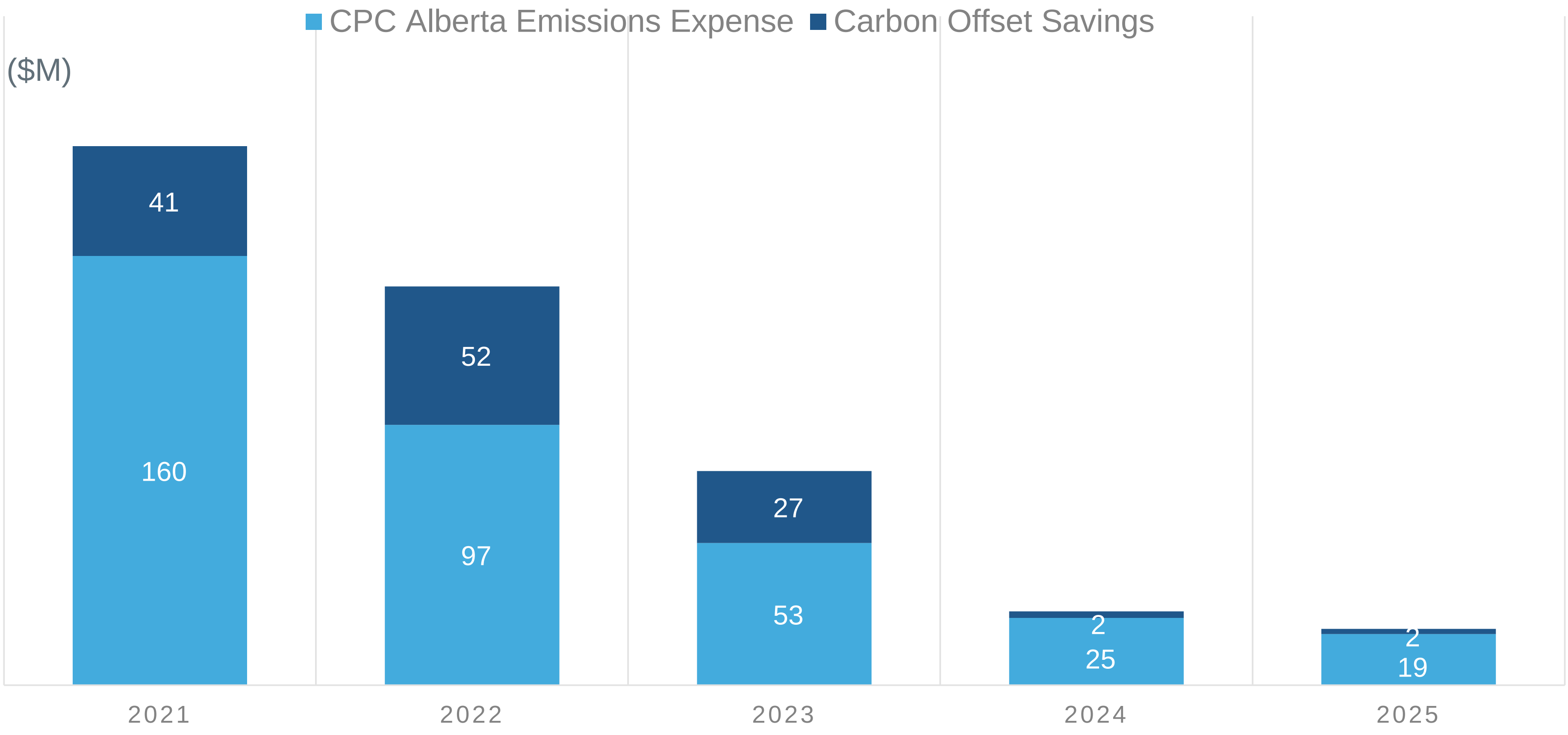
- Favourable economics – $997M capital cost, 20%+ levered returns, ~$0.70 average accretion to AFFO/share
- 560 MW net capacity increase (total 1,360 MW)
- Best-in-class NGCC technology with heat rate (6.6-6.7 GJ/MWh) advantage over all current and announced natural gas facilities
- Significant environmental benefits – intensity of 0.35t/MWh; below Alberta's TIER regulation benchmark of 0.37t/MWh
- Carbon conversion ready and hydrogen capable (30% to start and upgradable to 95%)

Genesee more competitive after repowering

Estimated variable cost merit order in 2025



Managing Alberta carbon exposure

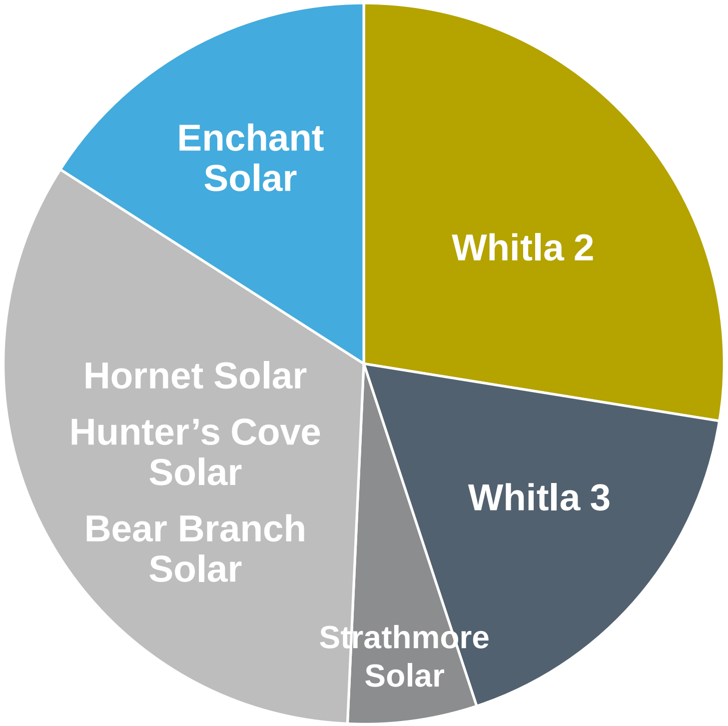


Low-cost offsets and transition to gas protect and enhance asset value

1) Based on current Alberta TIER regulation and assumes carbon prices follow the announced federal government increases. Excludes offsets created by merchant renewables.

EBITDA growth from 7 renewable projects

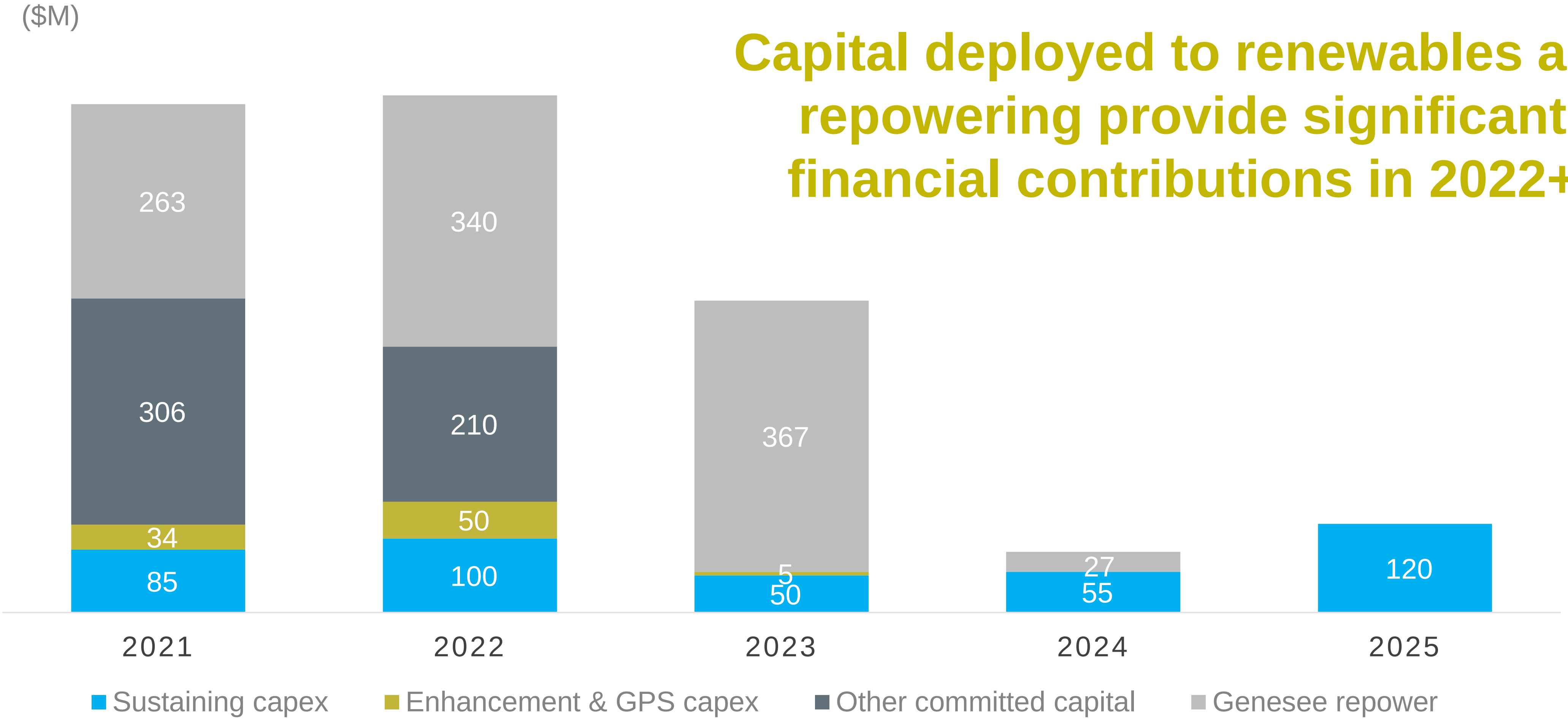
Annualized EBITDA of ~$70M



Average annualized EBITDA ~$70M and AFFO of ~$55M
after completion in late 2021 and 2022

Full-year financial contributions starting in 2023 from growth capex in 2021-22

Capital program



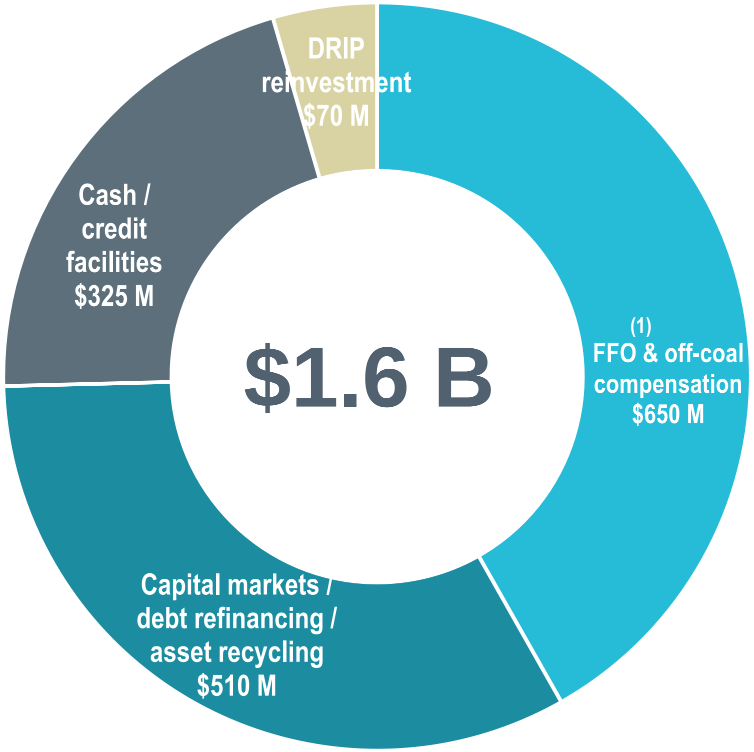
Capital deployed to renewables and repowering provide significant financial contributions in 2022+

1) Includes net capex after Tax Equity Investor contributions.

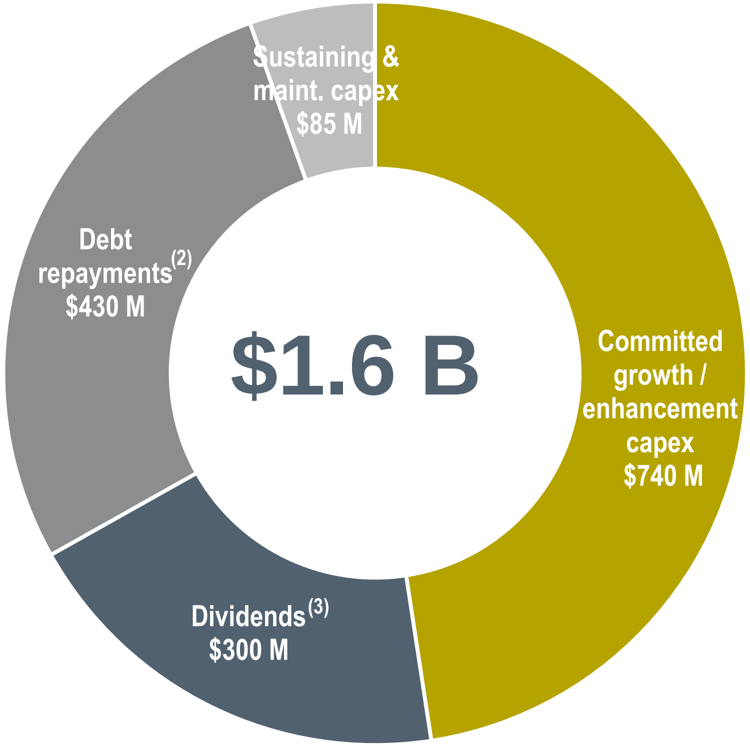
Cash flow and financing outlook

Positive cash position and credit facilities to fund growth projects in 2021

Expected Sources

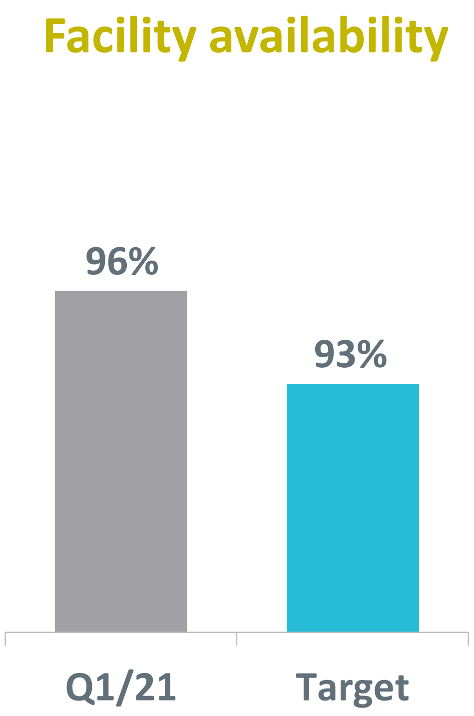


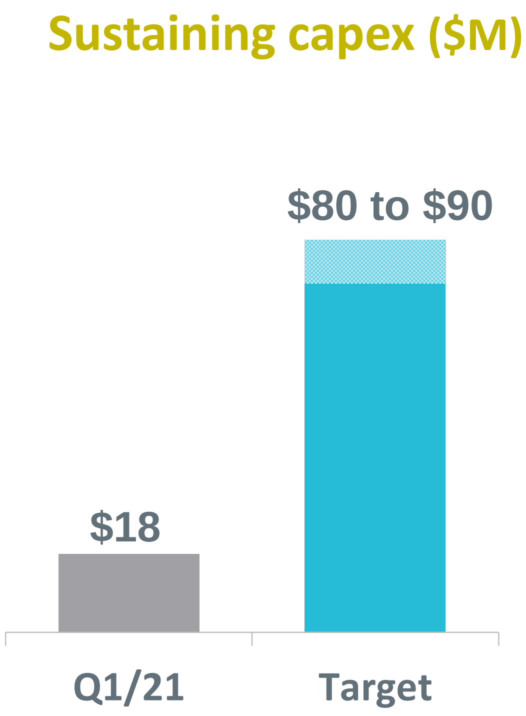
Expected Uses

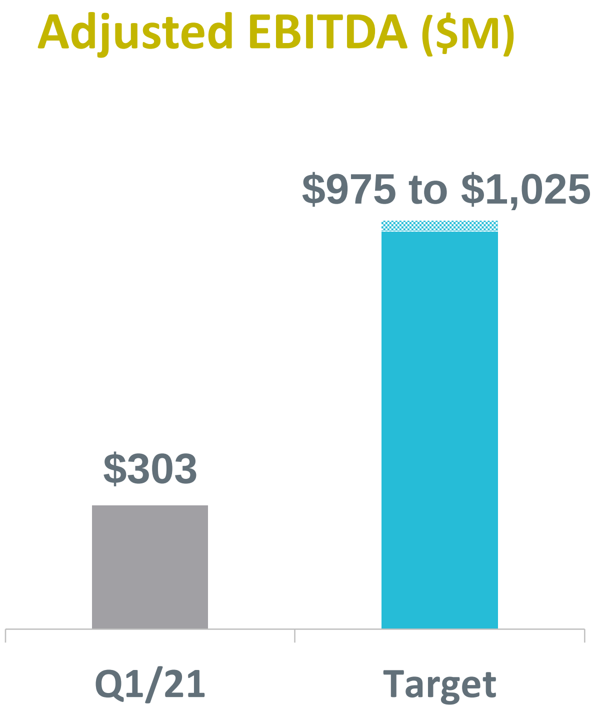


1) Funds from operations (FFO) is a non-GAAP financial measure.
2) Includes principal payments on finance lease payables but excludes debt repayments to tax equity investor and equity accounted investment.
3) Includes preferred and common dividends and preferred dividend tax.

Q1/21 performance versus 2021 annual targets







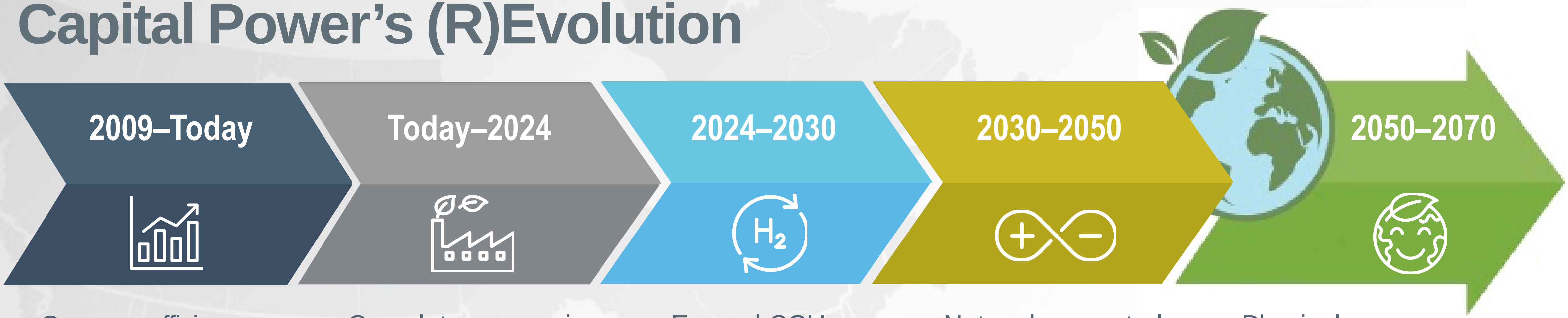
Annual adjusted EBITDA and AFFO expected to be modestly above top end of guidance ranges

1) AFFO target excludes impact from the Line Loss Rule (LLR) Proceeding. Q1/21 results includes a cash outflow of $6M related to LLR Proceeding.

Sustainability / investment opportunity

- Advancing a low carbon future with a clear path to net carbon neutral before 2050
- Natural gas generation has a necessary long-term role in power
- Accelerating ESG initiatives

Capital Power's (R)Evolution



2009–Today

- Genesee efficiency program - 12% decrease in GHG by 2021
- Over $3B invested in/committed to renewables
- C2CNT interest increased to 40%
- Over $40M invested in carbon capture research
- Completed two CCUS FEED studies (2007/2011)

Today–2024

- Complete repowering and off coal
- Invest in renewables, strategic natural gas
- CCU: C2CNT & beyond
- Pilot/demo renewables + storage project
- CCUS FEED study at Genesee
- Assess hydrogen at Genesee
- Explore commercial / physical Direct Air Capture (DAC) solutions

2024–2030

- Expand CCU
- Develop CCUS and/or hydrogen application at Genesee
- Add DAC to carbon compliance portfolio

2030–2050

- Net carbon neutral via physical solutions on natural gas assets, DAC and "offsets"
- Invest in DAC facility
- Renewables + storage as baseload

2050–2070

- Physical decarbonization

Sustainability targets and highlights

Target: Achieve net carbon neutrality by 2050

Scope 1 Emissions[1]

50%
reduction at Genesee by 2030

10%
reduction in fleet emissions by 2030

65%
reduction in emission intensity by 2030

Strategic Investments

Construct all natural gas generation units to be carbon capture and/or hydrogen ready

Repower Genesee 1&2 from coal to natural gas

CCUS: Invest in carbon capture, utilization and sequestration

Genesee Carbon Conversion Centre completed in the first half of 2022

Sustainability Highlights

Leadership & Governance

- Enhanced sustainable sourcing plan (2021)

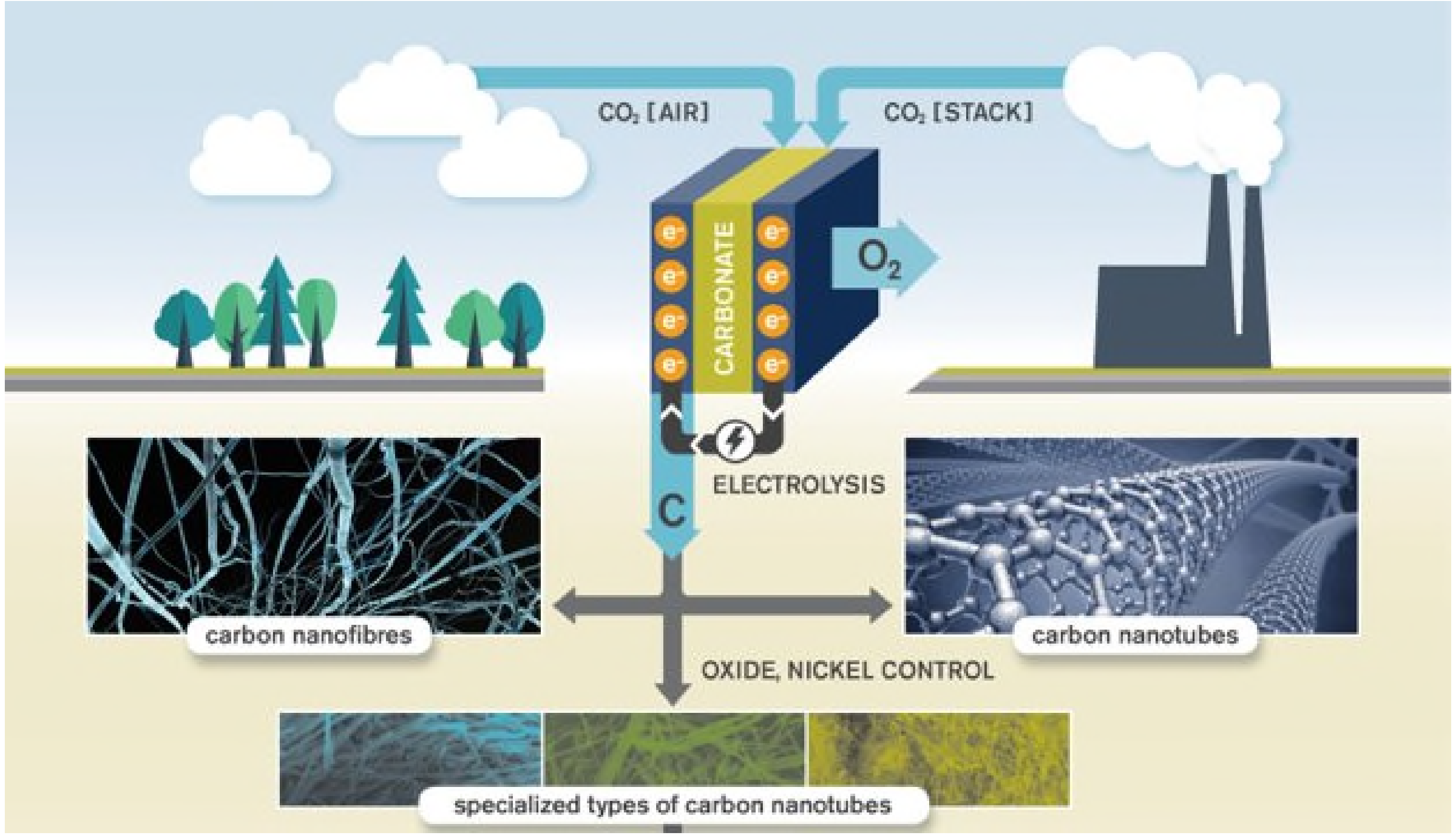
- Enhanced water management plan (2021)

- At least **30%** women on the Board and Executive Team

1) Baseline year: 2005

Genesee Carbon Conversion Centre

World's largest carbon nanotube production facility



Stronger cement

Enhanced battery products

More durable tires

Tougher anti-corrosion products

Accelerating ESG initiatives

Environmental

- Net carbon neutral before 2050
- Genesee repowering
- Renewables development
- Natural gas with carbon conversion and/or hydrogen
- A- CDP climate change score

✓ Sustainable sourcing roadmap on track to roll out in 2021

✓ Water strategy on track to roll out in 2021

Social

- Optimal workplace of the future to reflect key learnings and benefits from COVID-19
- Increased community investment funding in 2021; building off robust and generous response to COVID-19 relief efforts
- Indigenous training, employment and economic opportunities at Canadian wind facilities through new Vestas agreement
- Transitional support for employees at Roxboro, Southport, Genesee
- Committed to Equal by 30 – supporting gender equity in our industry

Governance

- 25% of Executive short-term incentive pay linked to meeting ESG targets
- 44% of Board and 43% of Executive female versus 30% target
- Executive short-term incentive linked to presentation of diverse candidates for corporate and plant positions
- 2021 review to identify and minimize institutional bias in policies, procedures and results
- World's Most Ethical Companies[1] award 3 years running – 1 of 4 Canadian companies and 1 of 9 energy and utilities companies worldwide

1) Named one of the 2021 World's Most Ethical Companies by Ethisphere on February 23, 2021.

Attractive investment opportunity

Resilient strategy drives growth and accelerates net carbon neutral before 2050

Success in renewables from innovation and optimization

- Recent success in solar more than doubles our growth opportunities
- Long-term contracts for solar projects in North Carolina and Alberta affirm competitiveness

Genesee repowering capitalizes on strong Alberta market and in-house innovation

- Most efficient natural gas combined cycle facility in Canada
- Significantly reduced carbon footprint and risk
- Carbon conversion ready and hydrogen achievable

Operational excellence and innovation remain fundamental

- $50 million EBITDA from Ops 2030 program
- Genesee Carbon Conversion Centre
- Carbon capture and storage under development

2021 adjusted EBITDA and AFFO expected to be modestly above top end of guidance ranges

We create value through resiliency, optimization and innovation

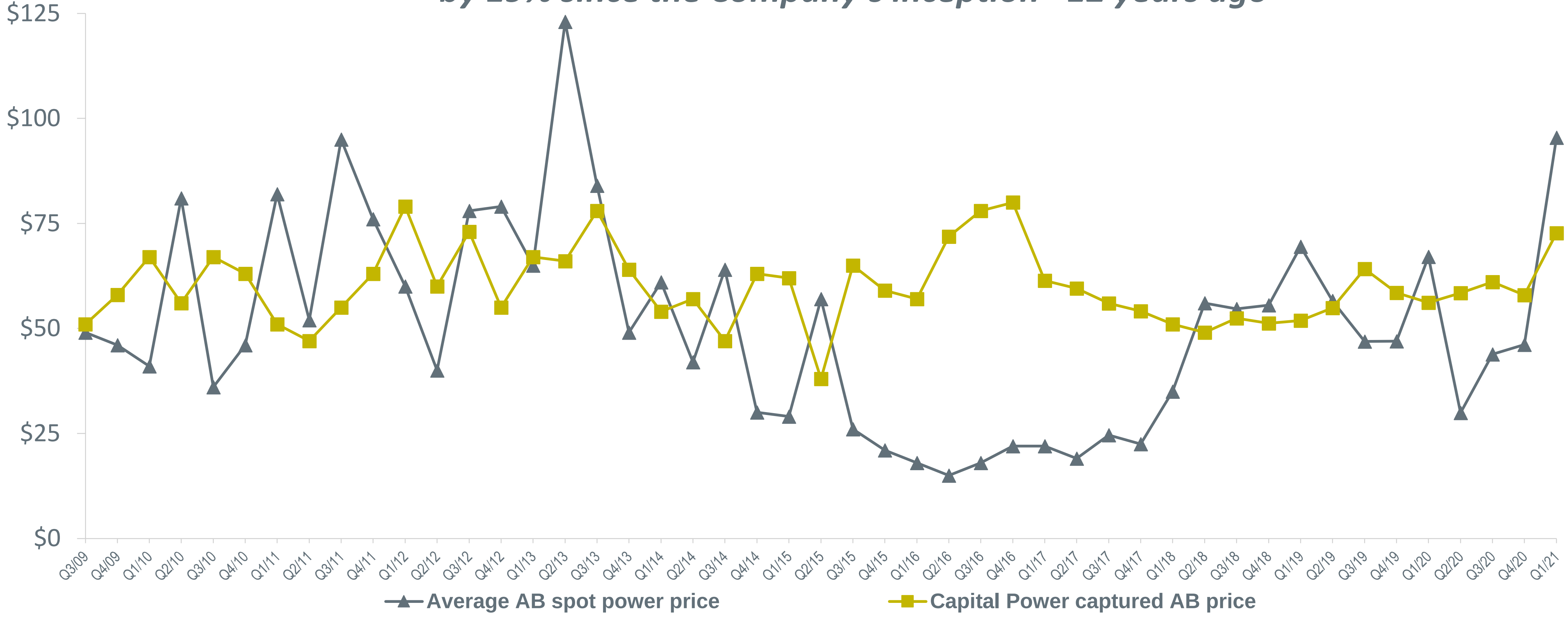
Appendices

- Alberta portfolio optimization
- Credit rating metrics
- Debt maturity schedule

Maximizing the Alberta commodity portfolio

Creating incremental value and stability through market expertise

Average realized power prices[(1)] have exceeded spot power prices by 19% since the Company's inception ~12 years ago



1) Based on the Alberta baseload plants and the acquired Sundance PPA plus the uncontracted portion of Shepard Energy Centre baseload. Effective Mar/16, Sundance PPA is no longer a part of Capital Power's baseload generation due to termination of the Sundance PPA.

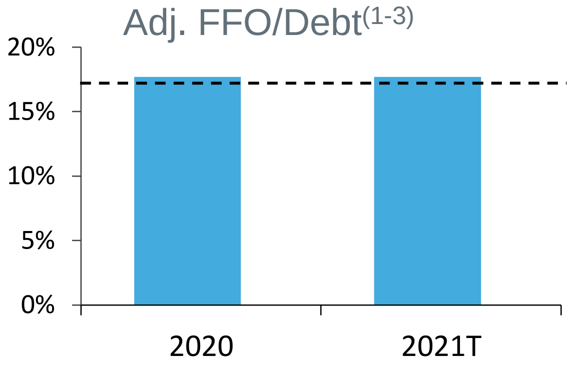
Financial stability and strength

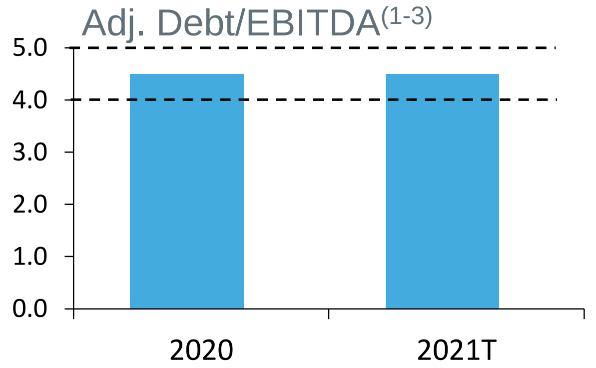
Strong balance sheet and commitment to investment grade credit ratings

Agency	Ratings	Outlook
S&P	BBB- / P-3	Stable
DBRS	BBB(low) / Pfd-3 (low)	Stable

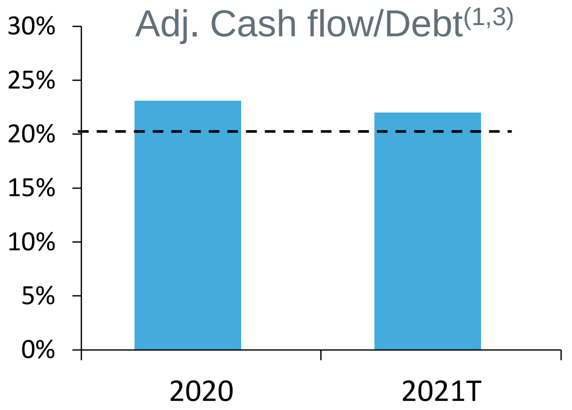
- DBRS affirmed investment grade credit rating and stable outlook in Apr/21
- S&P annual review mid-2021
- Strong liquidity from cash flow from operations and $1B of committed credit facilities to 2024
- Forecast metrics are within rating agency expectations for the current ratings with stable outlook

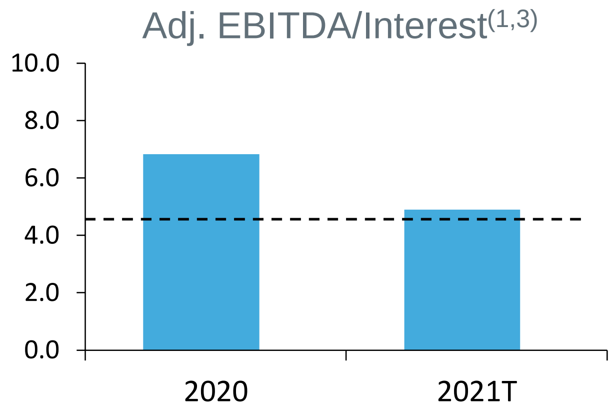
S&P financial metrics





DBRS financial metrics



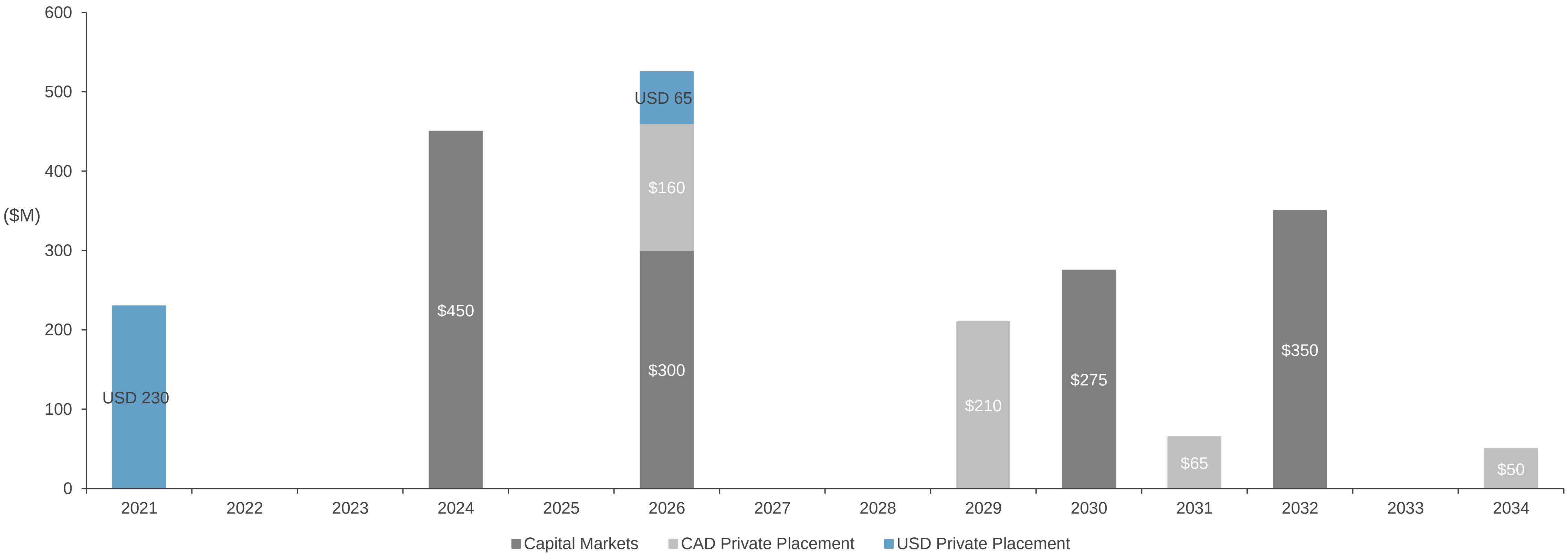


1) Cash flow and adjusted EBITDA amounts include off-coal compensation.
2) Based on S&P's weighted average ratings methodology.
3) 2021T means 2021 target, excluding Q1/21 actual results.

Debt maturity profile(1)

Well spread-out debt maturities supported by long asset lives

- Longer term debt reflects increased confidence in Capital Power's business profile
- Strong liquidity from cash flow from operations, cash-on-hand, and $1B of credit facilities committed to 2024(1)



1) Debt amounts as of March 31, 2021. Schedule excludes non-recourse debt, credit facility debt, and tax-equity financing.

Non-GAAP financial measures

The Company uses (i) earnings before net finance expense, income tax expense, depreciation and amortization, impairments, foreign exchange gains or losses, finance expense and depreciation expense from its joint venture interests, gains or losses on disposals and unrealized changes in fair value of commodity derivatives and emission credits (adjusted EBITDA), (ii) adjusted funds from operations, (iii) adjusted funds from operations per share, (iv) normalized earnings attributable to common shareholders, and (v) normalized earnings per share as financial performance measures.

These terms are not defined financial measures according to GAAP and do not have standardized meanings prescribed by GAAP and, therefore, are unlikely to be comparable to similar measures used by other enterprises. These measures should not be considered alternatives to net income, net income attributable to shareholders of the Company, net cash flows from operating activities or other measures of financial performance calculated in accordance with GAAP. Rather, these measures are provided to complement GAAP measures in the analysis of the Company’s results of operations from management’s perspective.

Reconciliations of these non-GAAP financial measures are disclosed in the Company’s Management’s Discussion and Analysis prepared as of April 29, 2021 for the first quarter of 2021, which is available under the Company’s profile on SEDAR at SEDAR.com and on the Company’s website at capitalpower.com.

Forward-looking information

Forward-looking information or statements included in this presentation are provided to inform the Company's shareholders and potential investors about management's assessment of Capital Power's future plans and operations. This information may not be appropriate for other purposes. The forward-looking information in this presentation is generally identified by words such as will, anticipate, believe, plan, intend, target, and expect or similar words that suggest future outcomes.

Material forward-looking information in this presentation includes expectations regarding:

- our 2021 performance targets and current period updates to our expectations, including for facility availability, sustaining capital expenditures, adjusted funds from operations (AFFO) and adjusted EBITDA;
- our company-wide targets specific to climate-related performance, including reduction of emissions and emissions intensity, repowering of Genesee 1 and Genesee 2, completion of the Genesee Carbon Conversion Centre, commercial application of carbon conversion technologies and plans to be off coal in 2023;
- future revenues, expenses, earnings, adjusted EBITDA and AFFO;
- the future pricing of electricity and market fundamentals in existing and target markets,
- future dividend growth;
- the Company's future cash requirements including interest and principal repayments, capital expenditures, dividends and distributions;
- the Company's sources of funding, adequacy and availability of committed bank credit facilities and future borrowings;
- the timing and costs for development projects (including the repowering of Genesee 1 and 2 , phases 2 and 3 of Whitla Wind, Strathmore Solar, Bear Branch Solar, Hornet Solar, Hunter's Cove Solar and Enchant Solar);
- facility availability and planned outages;
- capital expenditures for facility maintenance and other (sustaining capital, future growth projects, commercial initiatives);
- the impact of market designs on the Company's core markets;
- matters related to the LLR Proceeding including timing of payments to the AESO and recovery from appropriate parties and potential impacts to the Company arising from the foregoing;
- the resolution of the pricing dispute on the Buckthorn Wind offtake and commodity swaps; and
- the impact of the COVID-19 pandemic.

These statements are based on certain assumptions and analyses made by the Company considering its experience and perception of historical and future trends, current conditions, expected future developments, and other factors it believes are appropriate including its review of purchased businesses and assets. The material factors and assumptions used to develop these forward-looking statements relate to:

- electricity and other energy prices and carbon prices;
- performance;
- business prospects (including potential re-contracting of facilities) and opportunities including expected growth and capital projects;
- status of and impact of policy, legislation and regulations;
- effective tax rates;
- the development and performance of technology;
- foreign exchange rates;
- matters relating to the LLR Proceeding, including the timing of payments to the AESO and recovery from appropriate parties; and
- other matters discussed under the Performance Overview, Outlook and Risks and Risk Management sections.

Whether actual results, performance or achievements will conform to the Company's expectations and predictions is subject to several known and unknown risks and uncertainties which could cause actual results and experience to differ materially from the Company's expectations. Such material risks and uncertainties include:

- changes in electricity, natural gas and carbon prices in markets in which the Company operates and the use of derivatives;
- regulatory and political environments including changes to environmental, climate, financial reporting, market structure and tax legislation;
- generation facility availability, wind capacity factor and performance including maintenance expenditures;
- ability to fund current and future capital and working capital needs;
- acquisitions and developments including timing and costs of regulatory approvals and construction;
- changes in the availability of fuel;
- ability to realize the anticipated benefits of acquisitions;
- limitations inherent in the Company's review of acquired assets;
- changes in general economic and competitive conditions;
- changes in the performance and cost of technologies and the development of new technologies, new energy efficient products, services and programs; and
- risks and uncertainties discussed under the Risks and Risk Management section.

See Risks and Risk Management in the Company's 2020 Integrated Annual Report and Risks and Risk Management, for further discussion of these and other risks.

Readers are cautioned not to place undue reliance on any such forward-looking statements, which speak only as of the date made. The Company does not undertake or accept any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements to reflect any change in the Company's expectations or any change in events, conditions or circumstances on which any such statement is based, except as required by law.

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