

Investor Day 2021

**Powering a sustainable
future for people and planet**

December 2, 2021



Forward-looking information

Cautionary statement

Certain information in today's presentations and in responses to questions contains forward-looking information. Actual results could differ materially from conclusions, forecasts or projections in the forward-looking information, and certain material factors or assumptions were applied in drawing conclusions or making forecasts or projections as reflected in the forward-looking information.

Please refer to the forward-looking information slides at the end of the presentation and in our disclosure documents filed with securities regulators on SEDAR, which contain additional information about the material factors and risks that could cause actual results to differ materially from the conclusions, forecasts or projections in the forward-looking information and the material factors or assumptions that were applied in drawing a conclusion or making a forecast or projection as reflected in the forward-looking information.

The forward-looking information contained in today's presentations is provided for the purpose of providing information about management's current expectations and plans relating to the future. Such information may not be appropriate for other purposes.

Executive Leadership Team



**Brian
Vaasjo**

President and
Chief Executive
Officer



**Sandra
Haskins**

SVP, Finance
and Chief
Financial
Officer



**Kate
Chisholm**

SVP, Planning,
Stakeholder
Relations
and Chief
Sustainability
Officer



**Bryan
DeNeve**

SVP, Operations



**Chris
Kopecky**

SVP, Chief Legal,
Development and
Commercial Officer



**Jacquie
Pylypiuk**

SVP, People,
Culture and
Technology



**Steve
Owens**

SVP, Construction
and Engineering

Agenda

Introduction

Randy Mah / Director, Investor Relations

Increasing our velocity

Brian Vaasjo / President & CEO

Powering a sustainable future for people and planet

Kate Chisholm / SVP, Planning, Stakeholder
Relations & Chief Sustainability Officer

Delivering reliable growth

Chris Kopecky / SVP, Chief Legal,
Development and Commercial Officer

BREAK (5 minutes)

Optimizing operations to deliver long term value

Bryan DeNeve / SVP, Operations

Building on success

Steve Owens / SVP, Construction
and Engineering

Funding a low carbon future

Sandra Haskins / SVP, Finance & CFO

Value proposition

Brian Vaasjo / President & CEO

Q&A

Increasing our velocity

- Resilient strategy
- Optimizing our operations
- Investing in innovation

Brian Vaasjo

President & CEO





Our strategy – driving to the future

To develop, acquire and optimize renewable power generation assets

- Wind
- Solar
- Storage

To acquire and/or optimize natural gas assets

- Well positioned in their respective markets
- Over time requires technologies to mitigate CO₂

Continue to thrive in the Alberta market

Renewable and storage acceleration



Whitla Wind Phases
2 and 3 completed



Halkirk Wind Phase 2
commencing



Secured 1,298 MW of U.S. solar
sites with battery potential



Strathmore and Enchant
Solar projects underway



North Carolina solar projects
commencing construction in 2022



Long-term contracting of renewables
in Alberta continues to be strong



Natural gas assets



Recontracting



Decatur

Extended enhanced Decatur contract by 10 years to 2032



Island Generation

Recontracting Island Generation in progress



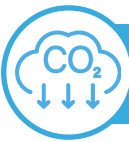
Arlington

With developments in Arizona, confident in recontracting Arlington Valley



Goreway

Developments in Ontario very positive for recontracting in 2030



Carbon emissions mitigation



Thriving in the Alberta market

Alberta power market back to historical fundamentals post Balancing Pool PPAs

Genesee 1 and 2 repowering very well positioned

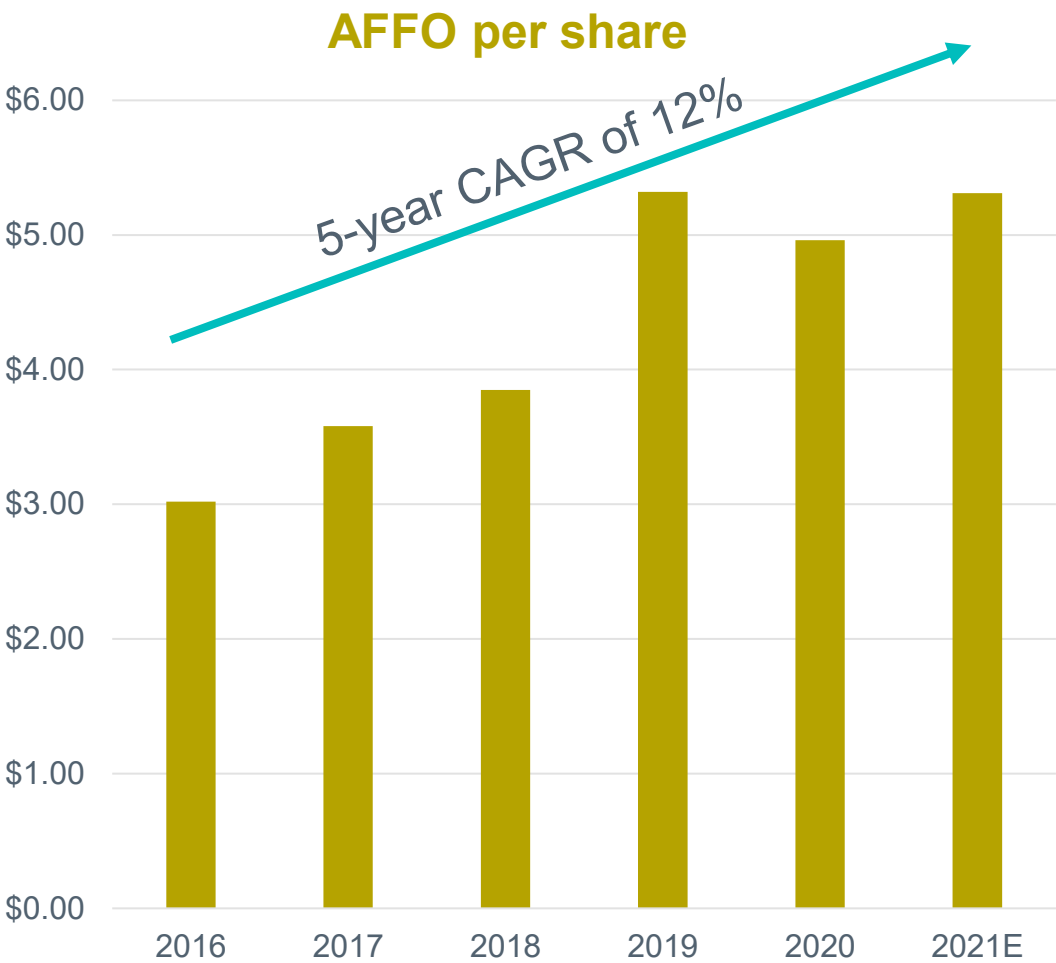
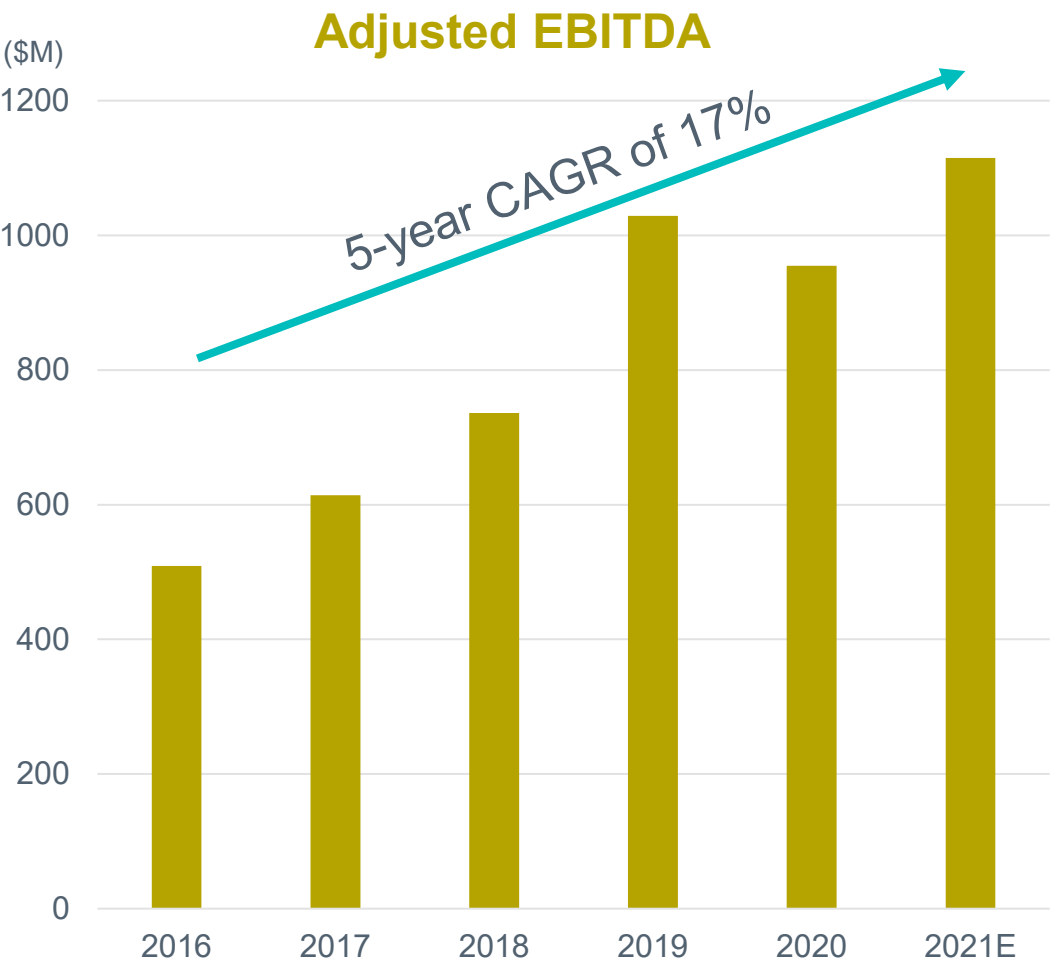
- Optimized and enhanced with 210 MW battery addition

CCS studies and development going very well

- Enbridge CO₂ hub fits our project very well
- Federal and provincial support very promising
- On track for investment decision late 2022 or early 2023



Growth in adjusted EBITDA and AFFO per share



Our Corporate Purpose

*To power a sustainable
future for people and planet*



Vision

Electrifying the world reliably and affordably while protecting the planet for future generations

Mission

Implementing and operating innovative energy solutions

Values

- We manage our impact on the environment to leave a healthy planet.
- We value equity, diversity and inclusion, listen with open minds, and treat all people with respect.
- We are committed to the safety and wellbeing of our people.
- We act with integrity and take responsibility for our decisions and actions.
- We embrace innovation by fostering creativity and harnessing technology.



Our commitments



To be carbon neutral by 2050

- Reduce our carbon intensity per MWh by 65% by 2030
- Reduce our carbon intensity per MWh by 30% by 2024
- Off coal in 2023



Greater diversity

- Targeting 30% of new hires be women in 2022
- Targeting (TBD) increase in diverse employees by 2024
- Targeting 10% increase in women in leadership by 2024



To implement a water management strategy

- Focused on optimization and risk mitigation



To implement a supply chain strategy

- Committed to “Solar Industry Forced Labor Prevention Pledge”
- Focused on resiliency and sustainability



Stable outlook supports dividend growth

Cash flow from long term contracts remains strong through the decade

Strong balance sheet

Robust Alberta market

- Continue to reposition and optimize assets to maintain leadership position
- Leading efforts to decarbonize thermal generation in the province
- Leading developer and/or owner of renewables in the province
- Largest provider of new generation over the last 20 years

Partially de-risked medium term

- Hedging Alberta power position
- Have carbon credits to cover requirements beyond 2025
- Hedging significant portion of Alberta natural gas requirements
- 2021 and 2022 plant maintenance positions us very well

Comfortable providing 5% annual dividend growth to 2025 excluding new investments



Powering a sustainable future for people and planet

- Environmental responsibility
- Reliability
- Affordability

Kate Chisholm

Senior Vice President, Planning, Stakeholder Relations
and Chief Sustainability Officer



Our Corporate Purpose

*To power a sustainable
future for people and planet*



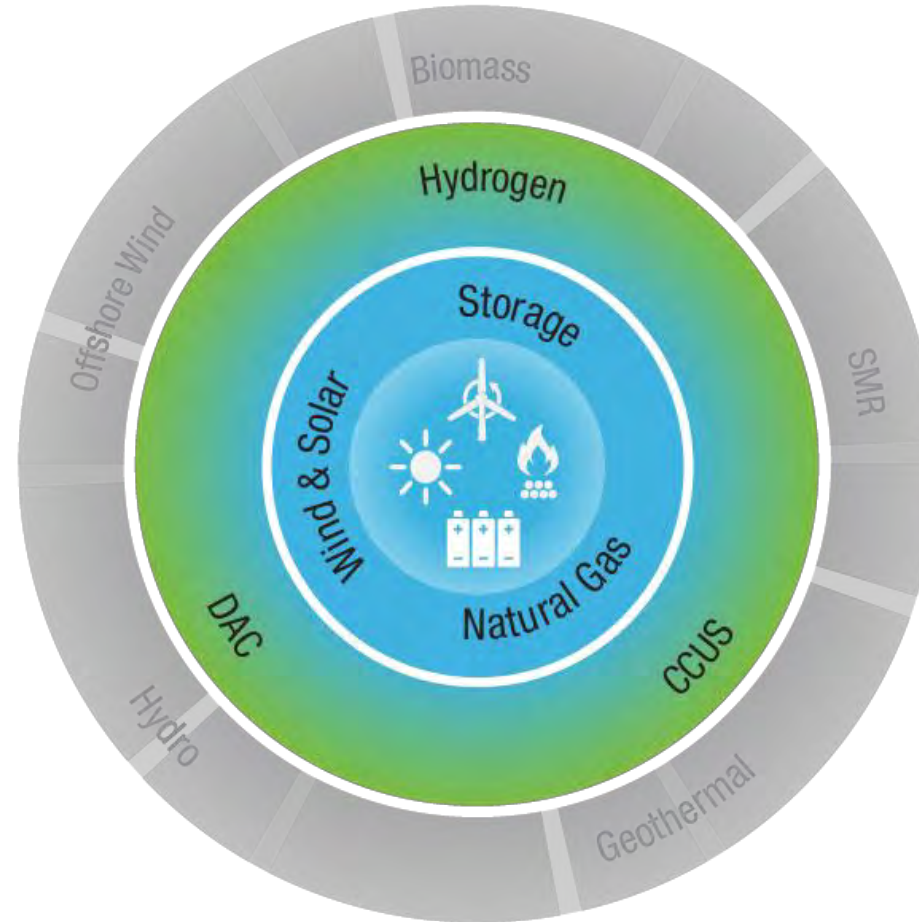
Climate change in Canada

Governments are taking action globally – faster than ever before





Advancing our technology strategy



Planning &
development

Implementation &
execution

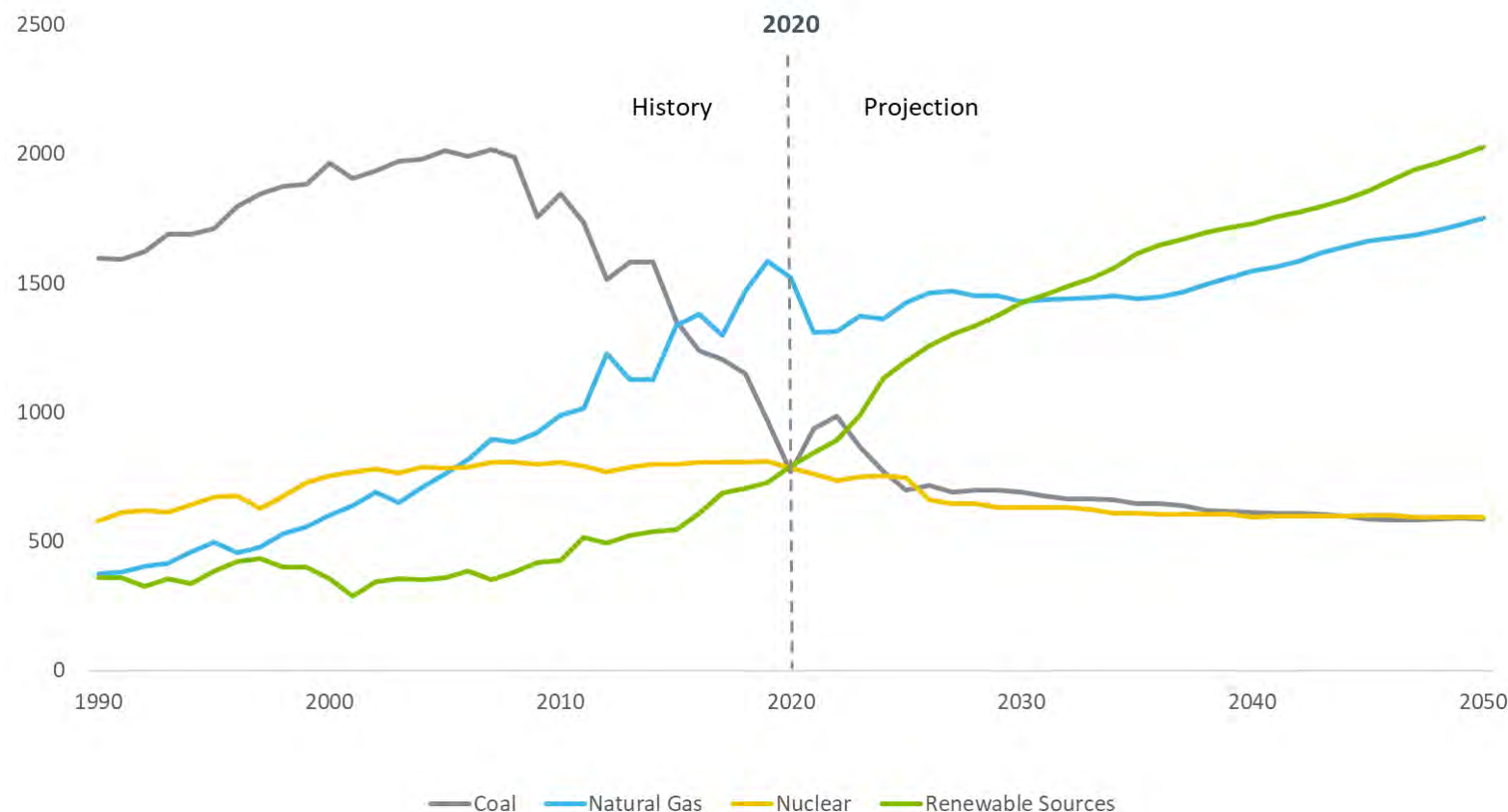
Optimization &
innovation



Natural Gas: necessary long-term role in power

- Natural gas essential to maintain system reliability and integrate renewables
- Decarbonization will be essential to long term resiliency
- Role of natural gas will transition from serving baseload energy requirements to serving capacity
- Responsible investments in strategic natural gas assets essential to long term decarbonization

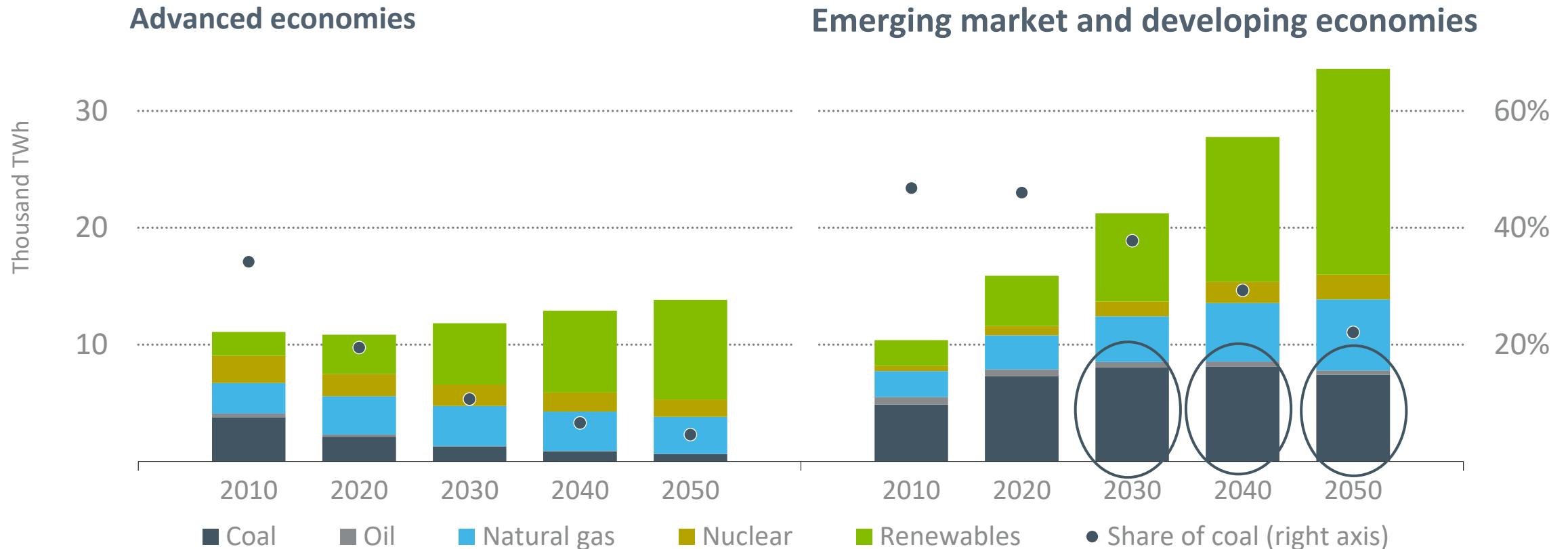
U.S. Electricity Generation by Fuel Type
Generation (BkWh)



Source: US Energy Information Administration, Annual Energy Outlook 2021



Electricity generation by fuel type and share of coal in STEPS⁽¹⁾



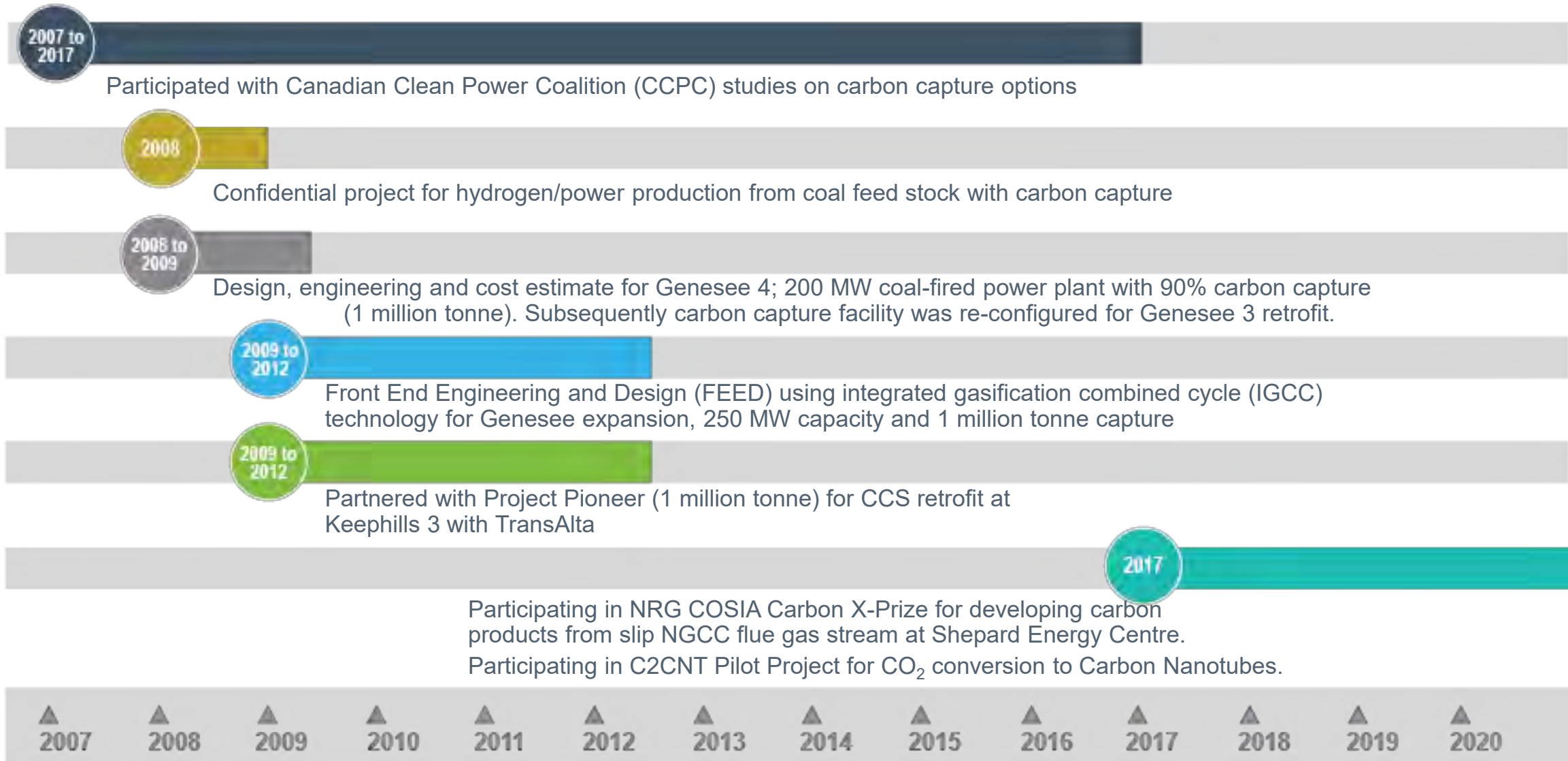
Emerging market and developing economies drive most of the increase in global electricity demand, met mainly by renewables and gas, though coal remains important

Source: *Net Zero by 2050*, International Energy Agency @ p.39

(1) Stated Policies Scenario (STEPS)

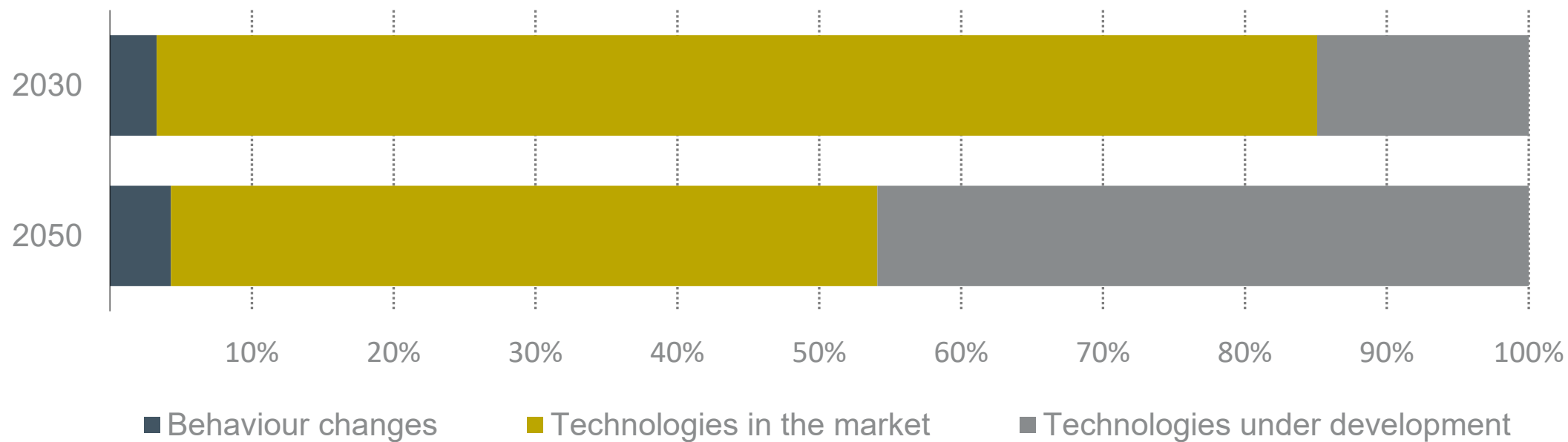


Our major carbon capture initiatives



2030 versus 2050

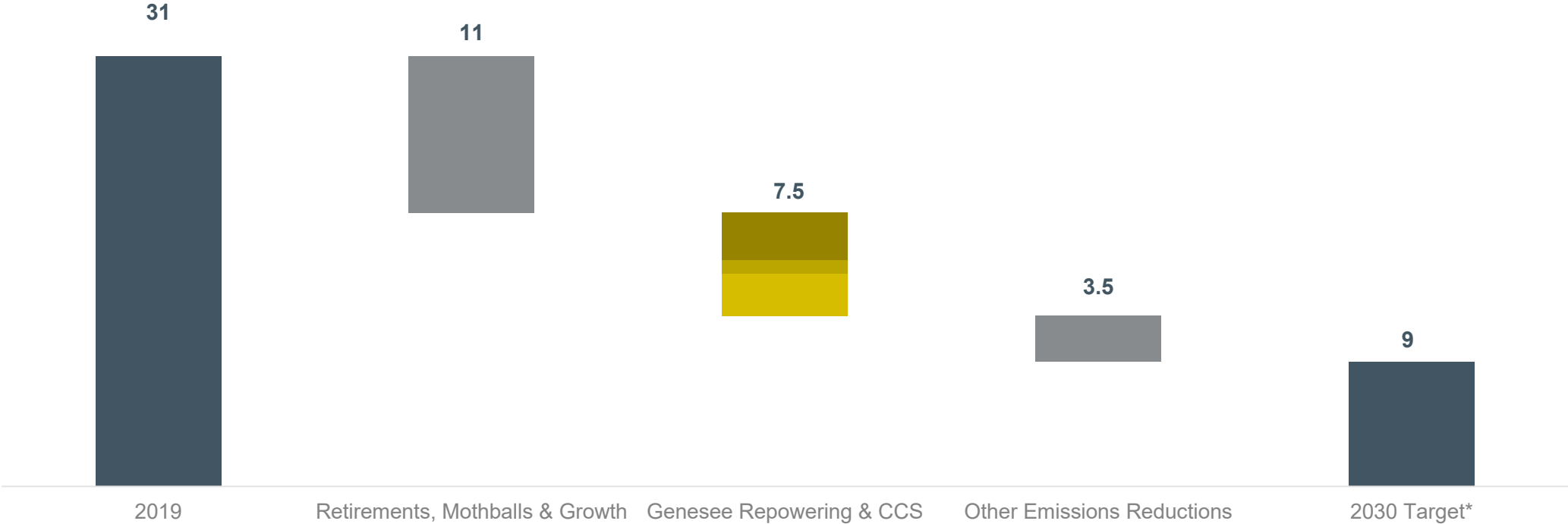
Annual CO₂ emissions savings in the net zero pathway, relative to 2020



Source: *Net Zero by 2050*, International Energy Agency @ p.16

Our contribution to Alberta's share of Canada's targets

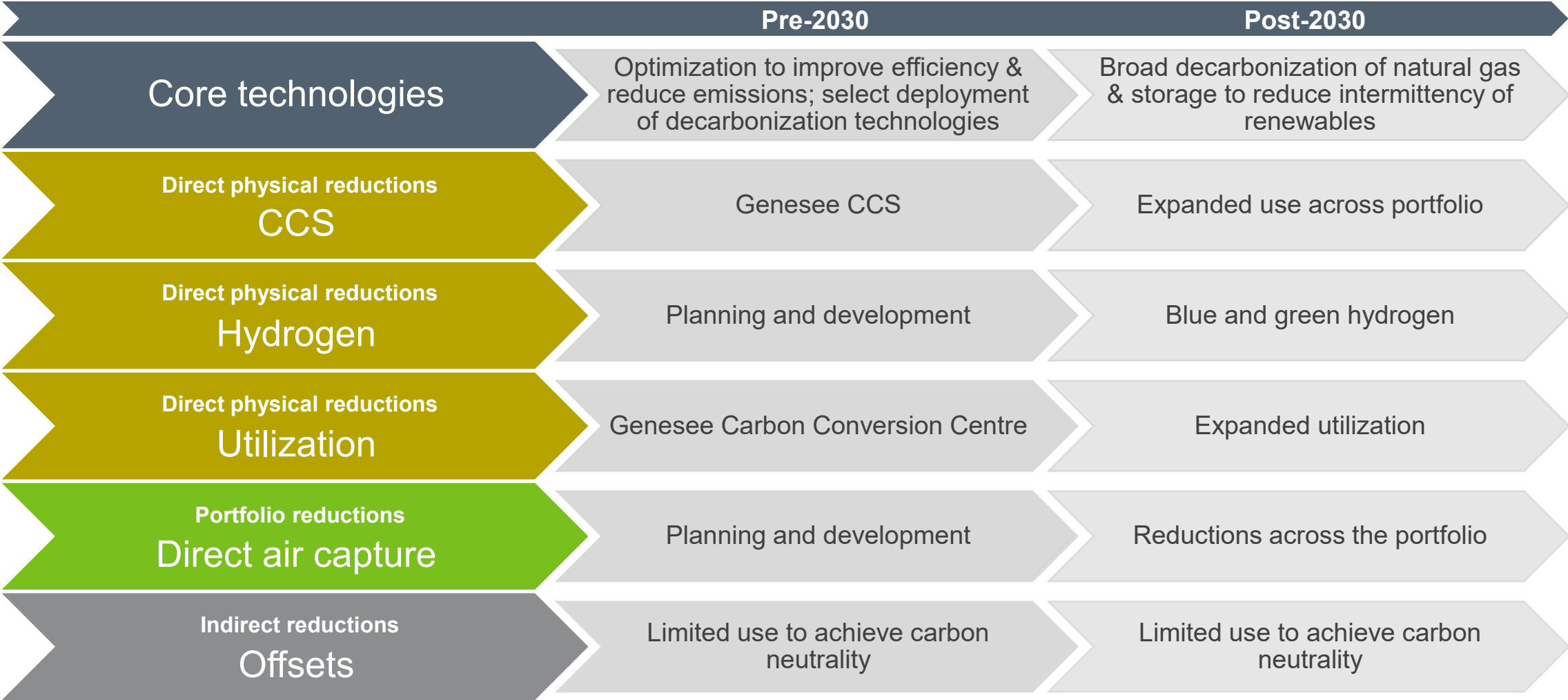
Alberta electricity sector emissions (megatonnes)



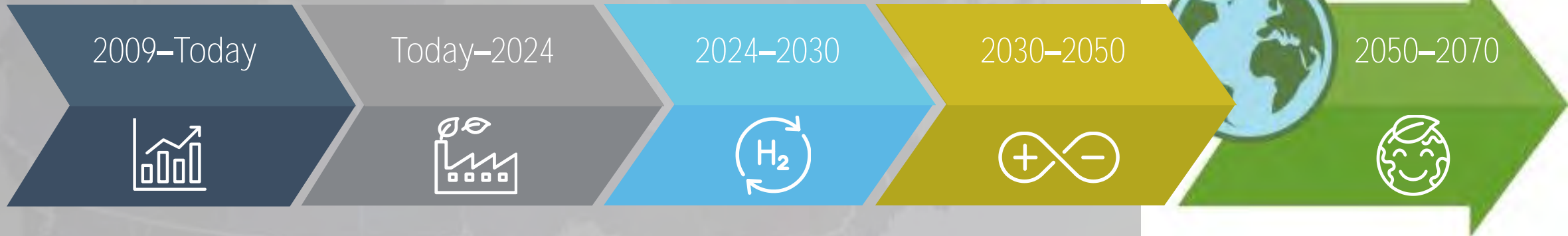
We'll deliver ~70% of the remaining targeted emissions reductions in the Alberta power sector

*Alberta Climate Policy Engagement - Technology and Innovation for the Electricity Sector (Presentation by AEP, March 15, 2021)

Priority of emissions reductions



Our (R)Evolution



- 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)
- Complete repowering and off coal
- Genesee Battery Energy Storage System
- CCUS FEED study at Genesee
- Invest in renewables, strategic natural gas
- Pair renewables with storage
- CCU: C2CNT and beyond
- Explore commercial / physical Direct Air Capture (DAC) solutions
- Genesee CCS project
- Expand CCU
- Exploring carbon mitigation technologies on ex-Alberta fleet
- Add DAC to carbon compliance portfolio
- Net carbon neutral via physical solutions on natural gas assets, DAC and “offsets”
- Invest in DAC facility
- Renewables + storage as baseload
- Physical decarbonization



Accelerating social and governance initiatives

Working together, turning ambition into action

- Diversity, Equity and Inclusion
 - Increased leadership and workforce diversity
 - Committed to "Equal by 30" and "30 by 30"
 - Inclusive and equitable programs that foster an inclusive workplace culture
- Diverse Board and Executive
 - 44% Women Board members, 43% Woman Executives
 - Jill Gardiner Chair of the Board
 - Board includes one LGBTQIA2S+ and one visible minority member
 - Doyle Beneby one of Savoy's 2021 Most Influential Black Corporate Directors
- Community investment 1% of income before tax
- Reinvigorated Indigenous relations strategy
- Only Canadian energy & utility sector company named one of the World's Most Ethical Companies by Ethisphere





Putting our money where our mouths are

Incentive pay linked to delivering on ESG targets

- 2022 Executive short-term objectives include 25% ESG elements
 - HSE Index
 - Implement sustainable sourcing and water management plans
 - Employee retention
 - Diversity of external candidate pool
 - 30% new hires women
 - Implement structural bias review recommendations
 - Flexible work environment
- 15% of 2022 non-Executive short-term incentive pay
 - HSE Index
 - 30% new hires women
- 20% of 2022 Executive and Leadership performance share units
 - 10% growth in women leaders by 2024
 - xx% increase in workforce diversity by 2024 (xx TBD in Q1 2022)
 - 30% reduction in fleet emissions intensity by 2024



Our disclosure strategy

We're among the leaders in Canada adopting integrated annual reporting

Integrated Annual Reporting

Transparency in reporting material topics

- Climate Change / carbon footprint
- Sustainable Sourcing / Water Management
- Innovation
- Community Investment
- ED&I

Clarity on governance structure

Alignment with Reporting Frameworks

Aligning our integrated reporting with evolving best practices

Current:

- Global Reporting Initiative (GRI)
- Sustainability Accounting Standards Board (SASB)
- Task Force on Climate-Related Disclosures (TCFD)

Future:

- International Sustainability Standards Board
- Canadian Securities Administrator

CDP Climate Change and Water Disclosures

Continued commitment to the annual Carbon Disclosure Project (CDP) for Climate Change and Water

- Climate Change: A-
- Water: B

Demonstrating leadership in Climate Change

Rating Agencies

Increased transparency in integrated reporting improves accuracy of information used in ratings

Rated in line with peers:

- Sustainalytics
- MSCI
- ISS

Bar has been raised, expectations of rating agencies has increased



On track to meet our sustainability targets

Sustainability Targets	Progress
Achieve net carbon neutral by 2050	On track
Construct all new natural gas generation units to be carbon capture and/or hydrogen-ready	On track
Reduce CO ₂ emissions at Genesee by 50% by 2030 from 2005 levels	Ahead of schedule
Reduce CO ₂ emissions by 10% and our emission intensity by 65% in 2030 from 2005 levels	On track
Invest in carbon capture and utilization technology to help us achieve net carbon neutrality before 2050 and eventually physically decarbonize our natural gas fleet	On track
Complete the Genesee Carbon Conversion Centre	Delayed
Enhanced Sustainable Sourcing Strategy	Complete
Enhanced Water Management Strategy	Complete



Sustainability in action

Helping customers meet their needs today without impacting future generations

E

Helping the world reach **net zero by 2050**, reducing our environmental footprint (including in our supply chain), using water responsibly

S

Keeping electricity **reliable and affordable**, **increasing diversity and inclusion** across our workforce (including Board and employees at every level), ensuring equity in our employment and cultural practices, committed to *Equal by 30* and helping Canada exceed the *30 by 30* tipping point

G

Ensuring **strong Board oversight** of our strategic sustainability efforts and a **compensation structure** that incentivizes innovative thinking and applies **increasing diversity** across our business and decision making



Powering a sustainable future for people and planet



Responsibly

Implementing and operating innovative energy solutions to protect the planet for future generations



Reliably

Electrifying the world reliably so the power system has the resilience to withstand extreme and seasonal weather events



Affordably

Keeping electricity accessible and affordable today and tomorrow

Delivering reliable growth

- Decarbonization is an immense opportunity for gas and renewables technologies
- Our growth pipeline is robust
- We are the market leader in Alberta

Chris Kopecky

Senior Vice President,
Chief Legal, Development and Commercial Officer



Our growth pillars

We're able to pull various levers at correct times

- Target \$500M/year capital commitment on average
- Stay disciplined and opportunistic
- Achieve 10-12% TSR

Innovative portfolio optimization

Successfully recontracting and securing new PPAs

Transparent growth pipeline

A mix of technologies and geographies

Discipline investment

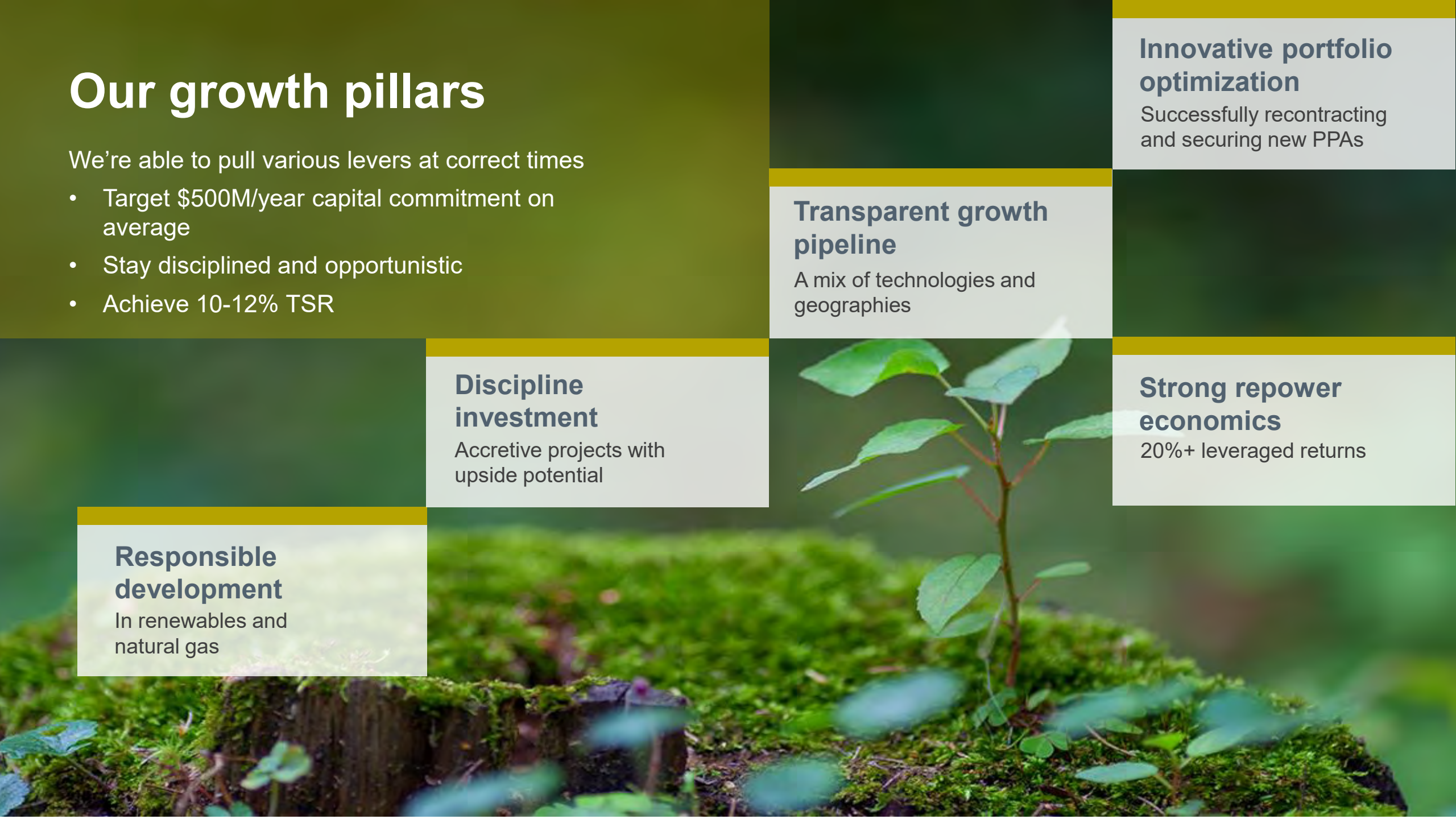
Accretive projects with upside potential

Strong repower economics

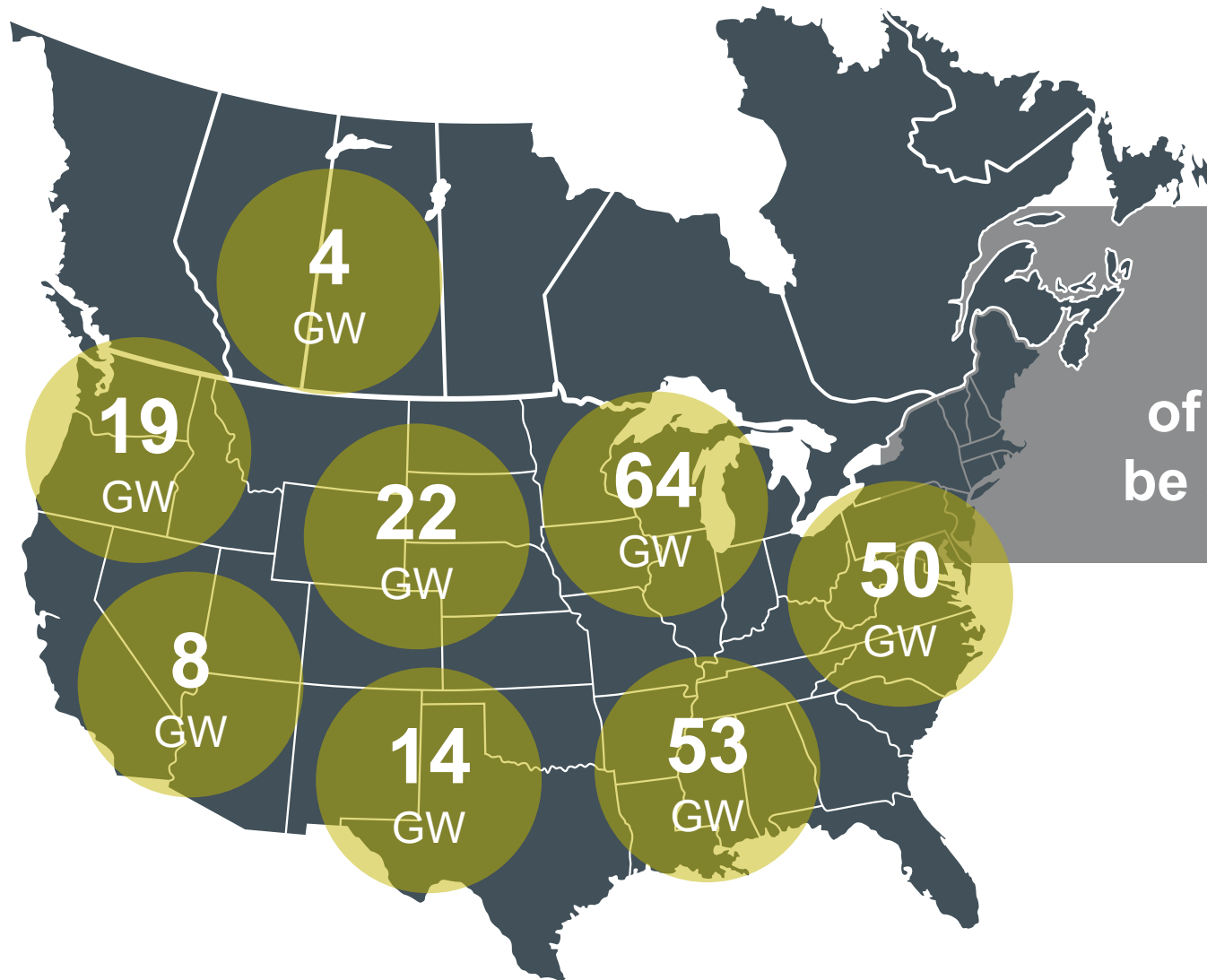
20%+ leveraged returns

Responsible development

In renewables and natural gas



The immense opportunity



234 GW

of coal capacity still needs to be addressed in North America

The size of the prize

95 GW

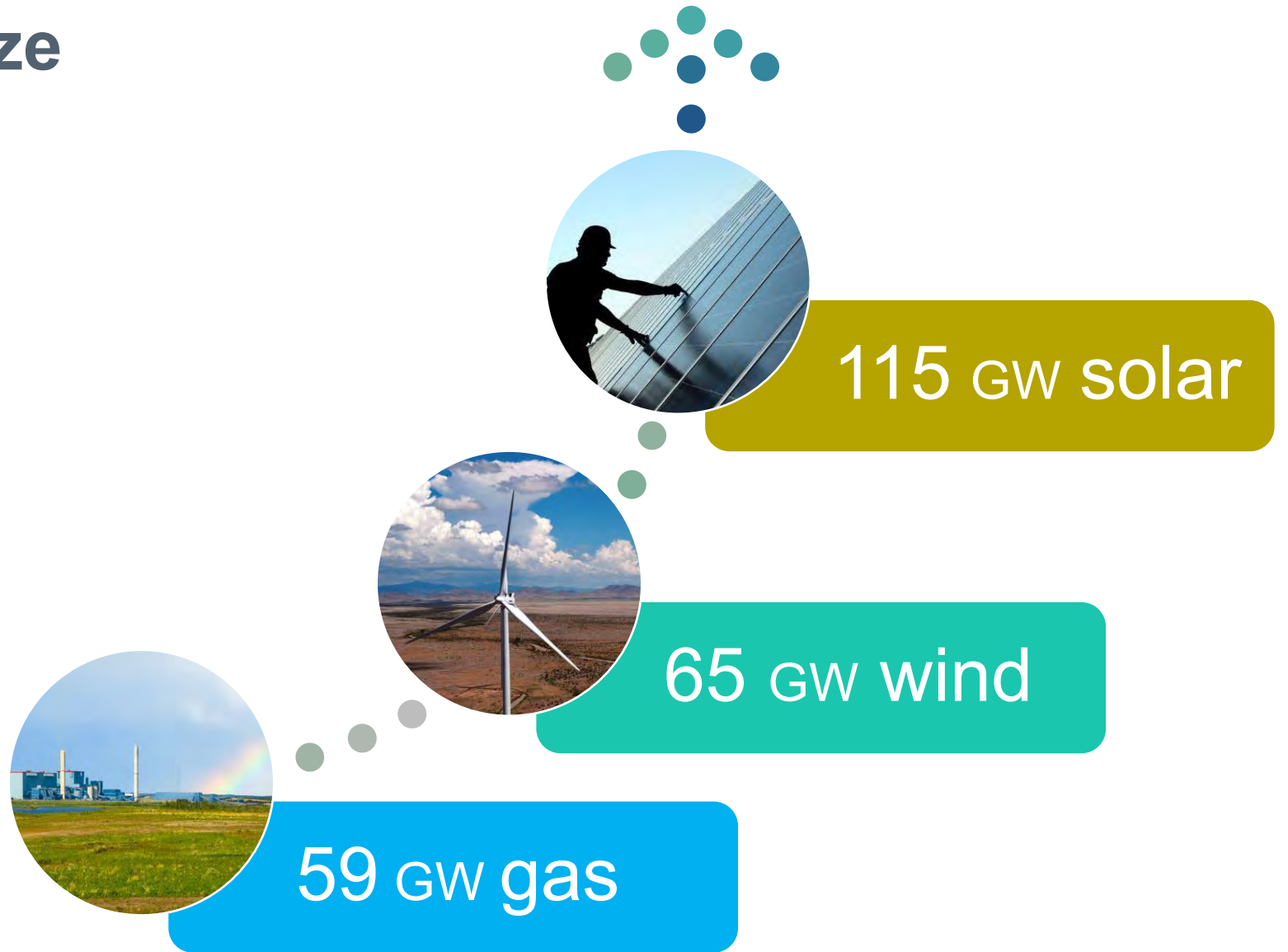
EIA forecast for coal generation removed from the U.S. system by 2030

240 GW

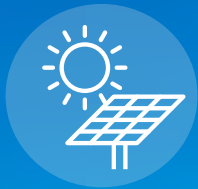
EIA forecast for gas, wind and solar built in the U.S. by 2030

10 GW

EIA forecast for large-scale battery storage installations in the U.S. from 2021-2023



Our path to success



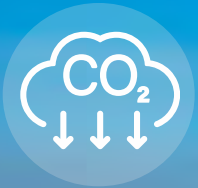
Investing in emissions
free renewables



Building and acquiring
facilities 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.



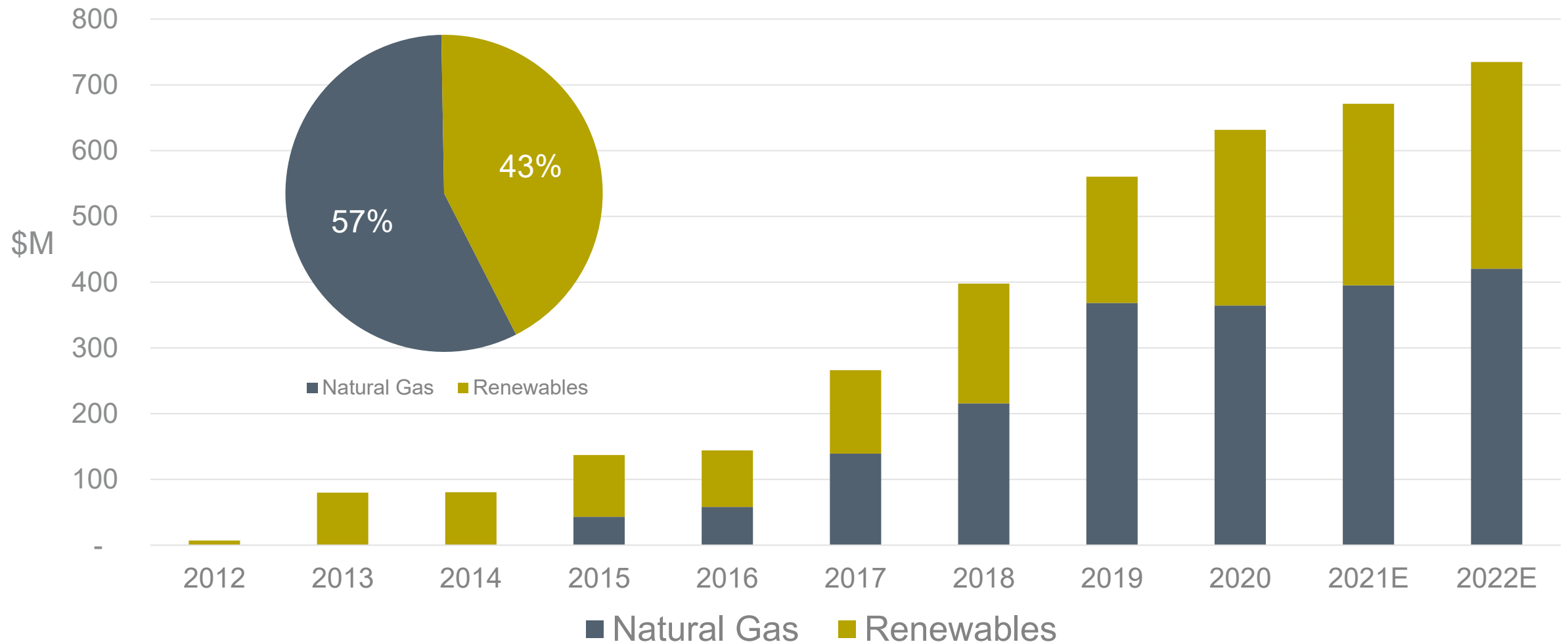
Reduce emissions profile
through carbon utilization
and be hydrogen ready



Repower and move to
100% natural gas capability



Where our adjusted EBITDA growth has come from since 2012



Growth in renewables

Increasing carbon free generation to reach net carbon neutral by 2050



**Halkirk
Wind**
(Phase 2)

151 MW
Contracting
available



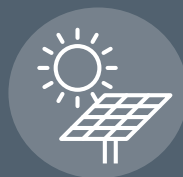
**Whitla
Wind**
(Phase 2 & 3)

151 MW
15 Year
Contract*



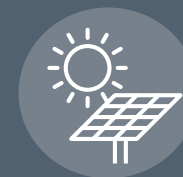
**Strathmore
Solar**

40.5 MW
25 Year
Contract



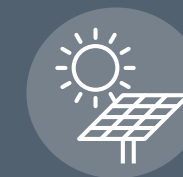
**Enchant
Solar**

75 MW
15 Year
Contract



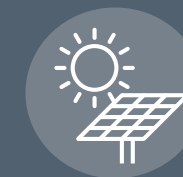
**Bear
Branch
Solar**

35 MW
20 Year
Contract



**Hornet
Solar**

75 MW
20 Year
Contract



**Hunter's
Cove Solar**

50 MW
20 Year
Contract

Canada

United States

* Partially contracted



Halkirk Wind – Phase 2

Taking advantage of new technology

151 MW
Project

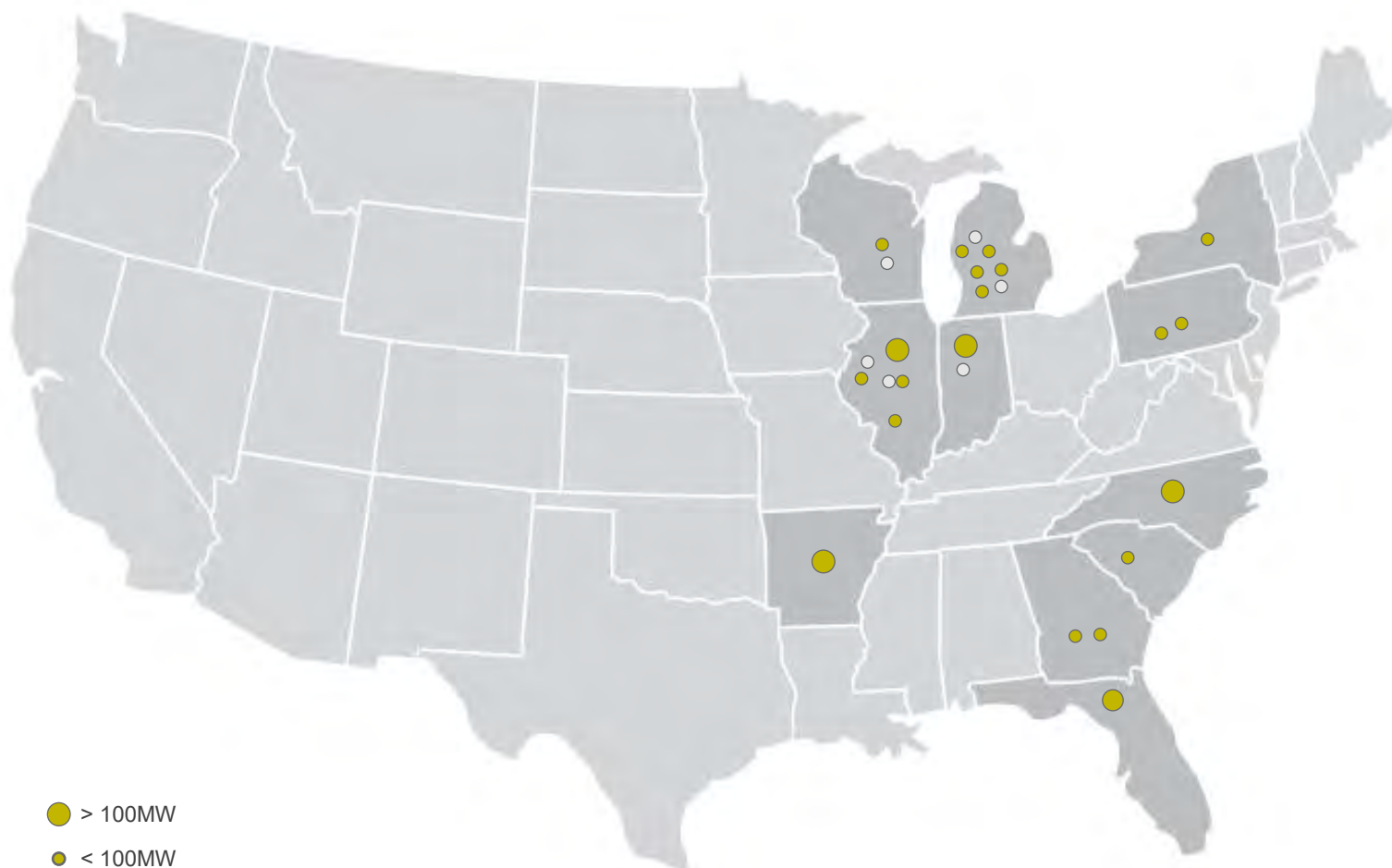
4-5 MW
machines

\$274 M
Capex



Solar sites acquisition

United States



Total: 1,298 MW
Total Battery Storage: 1,440 MWh

Location	Project	MW	Storage (MWh)
AR	Fairview	100	200
FL	Ironwood	340	
GA	Horse Creek	30	
GA	Garretta	19.5	
IL	East Donica Creek	60	120
IL	Macomb	15	
IL	Kepple Creek	100	200
IL	Greathouse Creek	85	170
IN	Greencastle	100	200
MI	11 Mile Road Solar	65	120
MI	Glenwood	55	110
MI	Mcdonald Station	50	
MI	South Branch	40	
MI	Rail Line	50	100
NC	Sixth Siding	60	120
NY	Madison	20	
PA	McCall Road	20	
PA	Loyalhanna Creek	18	
SC	Manville	20	
WI	Spring Bluff Solar	50	100



Growth pipeline: 3,800 MW generation + 3,350 MWh storage

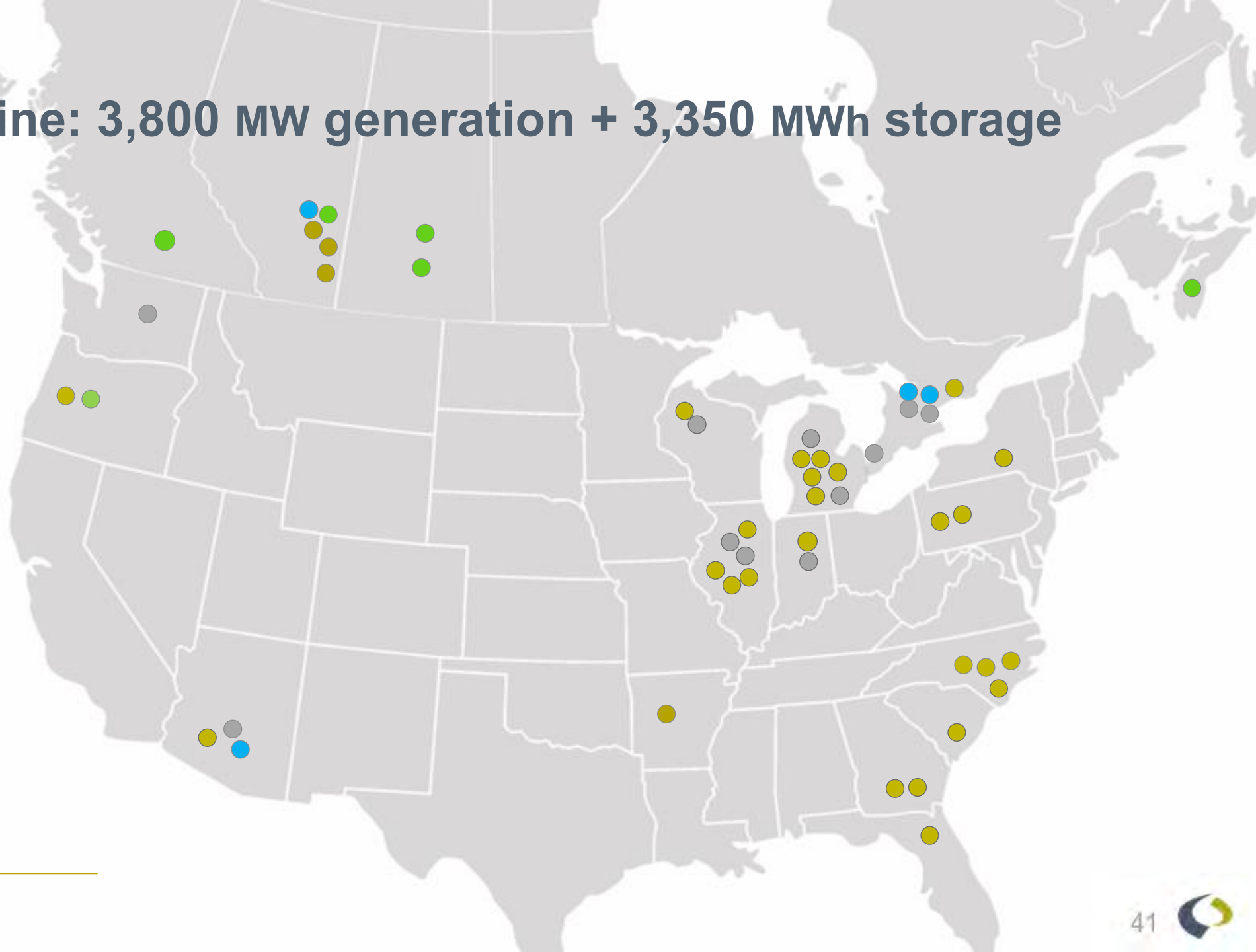
900 MW
wind

2,100 MW
solar

800 MW
gas

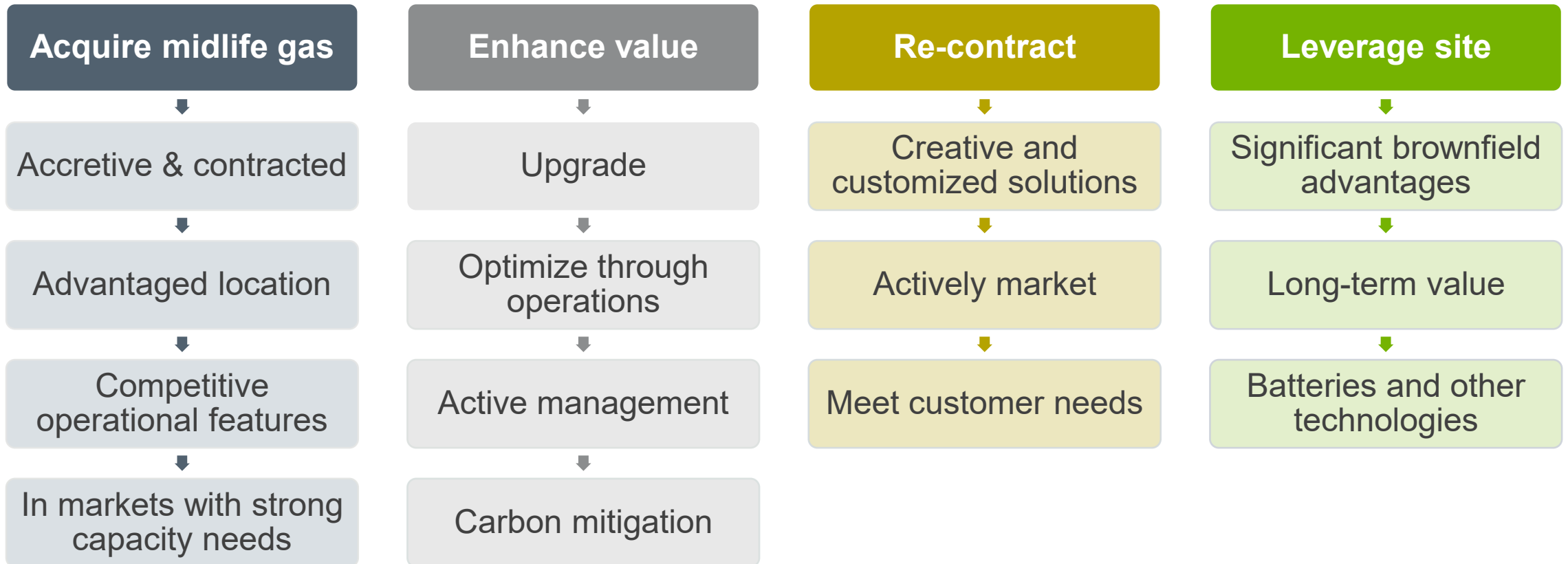
3,350 MWh
battery storage

- Wind
- Solar
- Gas
- Battery Storage

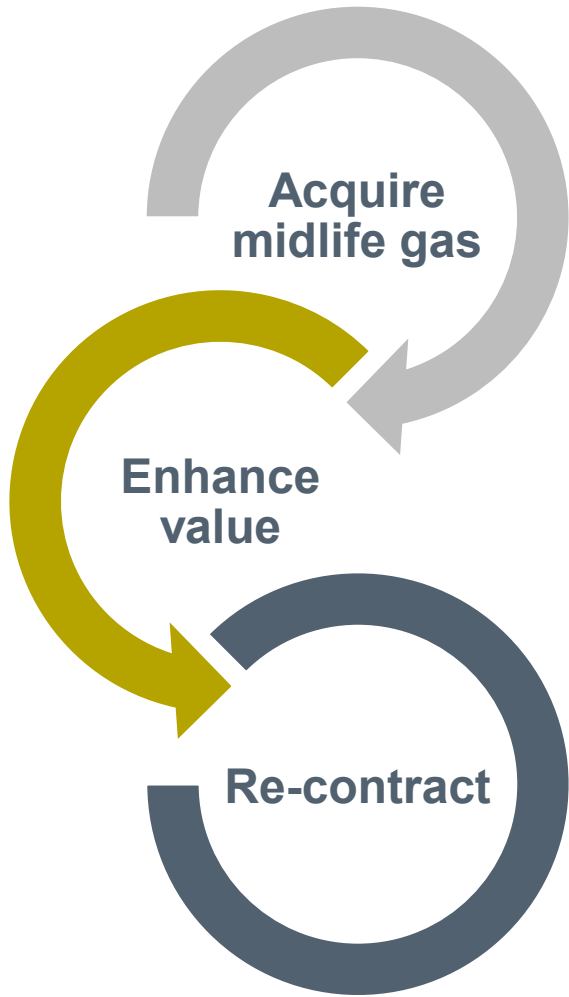


Midlife gas acquisition strategy

Enhanced value through operational expertise



Decatur: midlife gas strategy confirmed



Acquired in 2017

3 combustion turbines
upgraded adding 90MW

Increased efficiency and
lowered heat rate

10-year contract renewal
through 2032



Arlington Valley: a desert oasis



12%

Population growth in Phoenix over last 10 years



3,500 MW

Coal retirements by 2032



120 MWh

Battery potential on site



60 MW

Solar potential on site

More bullish on recontracting than when we acquired it

Ontario gas fleet: vital reliability and flexibility

\$27 Billion

Cost to taxpayers to replace gas by 2030

30%+

Percentage of operating reserve market provided by our fleet

10 GW

Capacity deficit in 2030 without existing contracted generators

Well situated facilities

210 MW / 840 MWh

Actively developing battery storage projects

York

456 MW | +120MW BESS*

Goreway

875 MW | +50MW BESS*

East Windsor

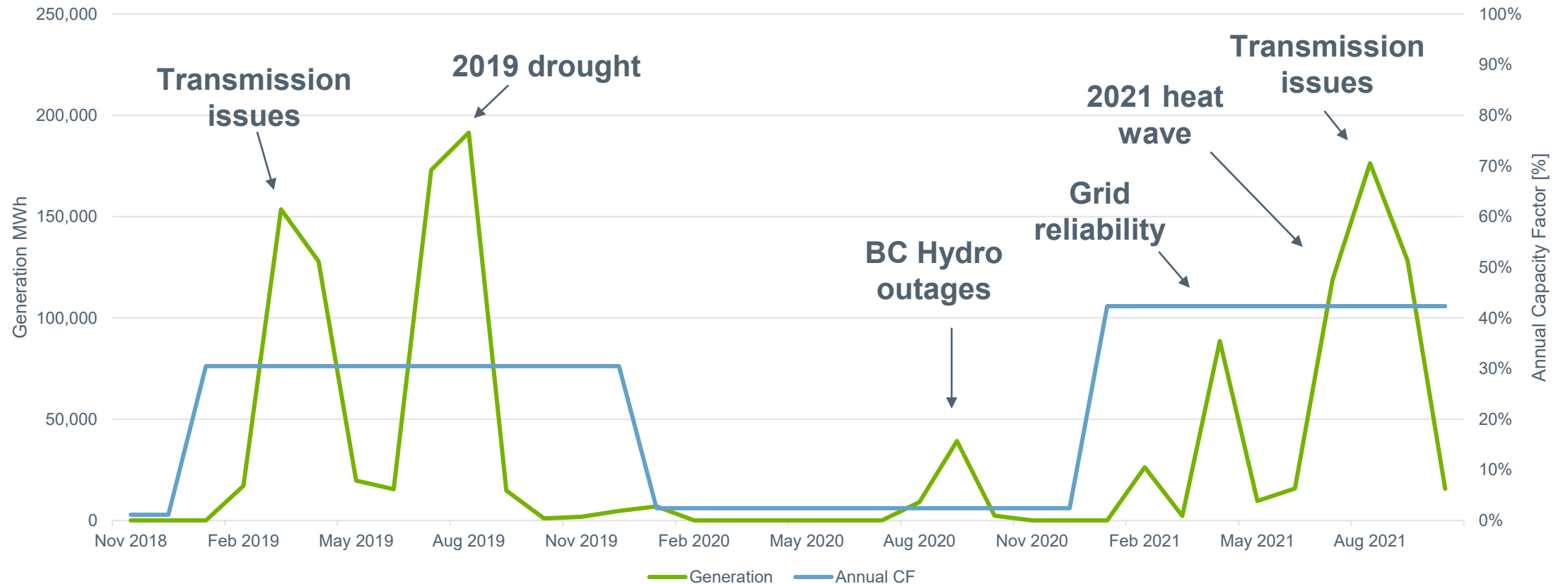
92 MW | +40MW BESS*

Toronto

* Potential battery energy storage system addition



Island Generation: Keeping Vancouver Island's lights on



A contract extension is expected



Undisputed leader in Alberta

A smiling man with dark hair, wearing a dark suit jacket over a light blue button-down shirt, is positioned on the left side of the frame. The background is a blurred cityscape featuring a tall building and a red-topped tower. Overlaid on the image are several semi-transparent text boxes with teal borders, each containing a key achievement or statistic.

**3.4M tonnes of
carbon reduction at
Genesee 2024+**

**2,640 MW of Alberta
generation capacity
growing to ~3,500 MW**

**3 long-term
renewable PPAs**

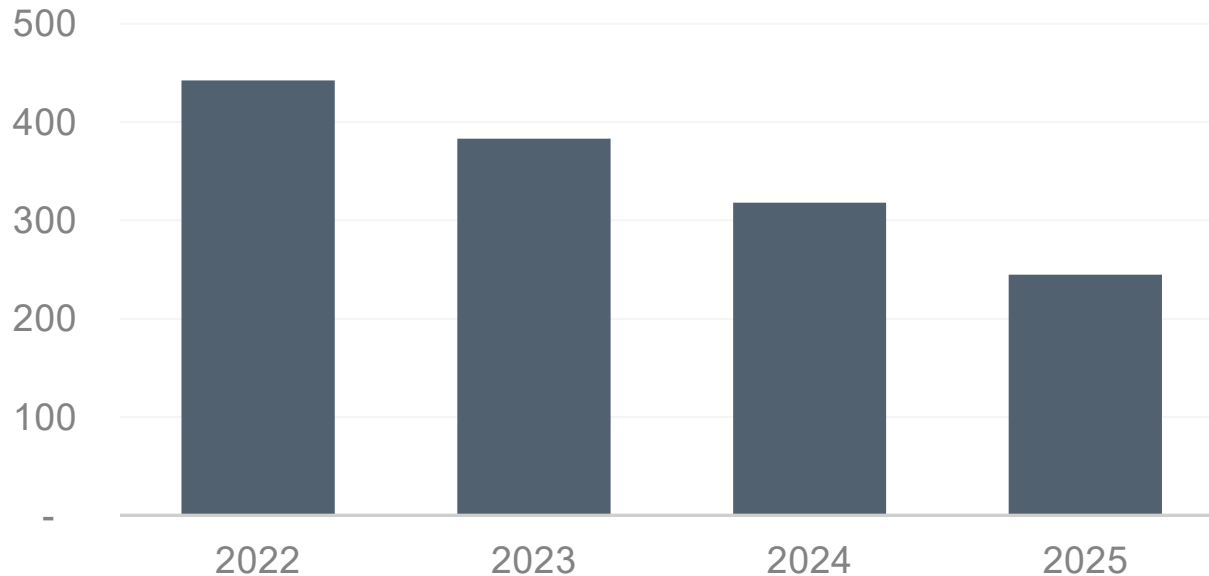
**Captured price 15%
above market since
inception**

**\$3B+ committed in
Alberta between
2015-2024**

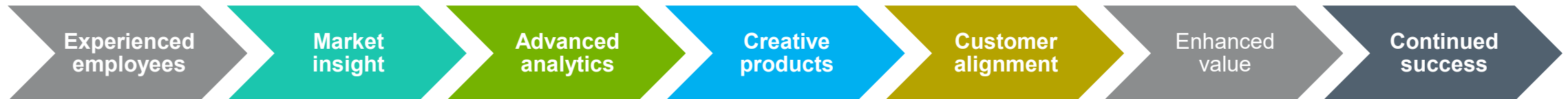
A trusted supplier in Alberta

Expanding energy marketing and origination presence

MW contracted with AB customers

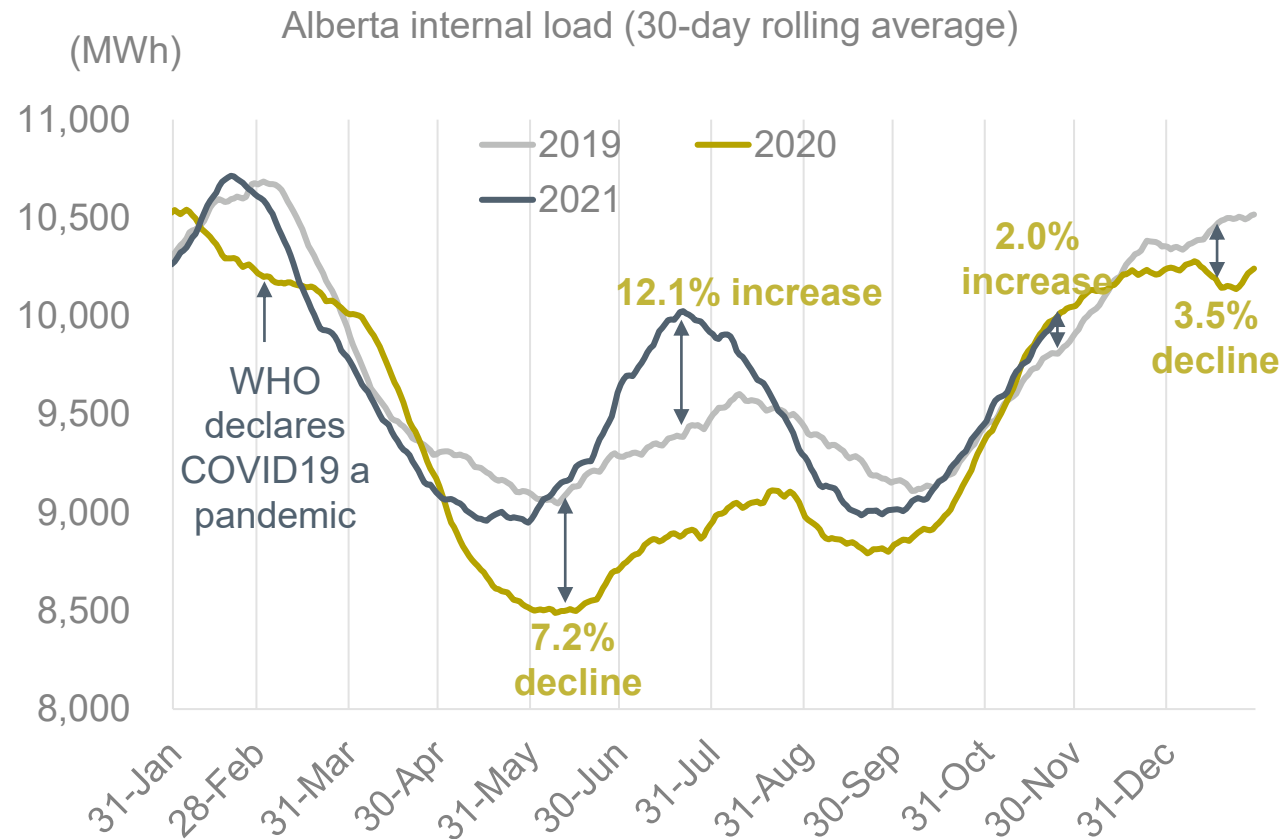


- Creates **long-term contractual arrangements** with creditworthy customers
- Supports stability of cashflows
- Backs **renewables growth**
- Provides market intelligence, price transparency, optionality



Alberta power market

Positive signs of demand recovery



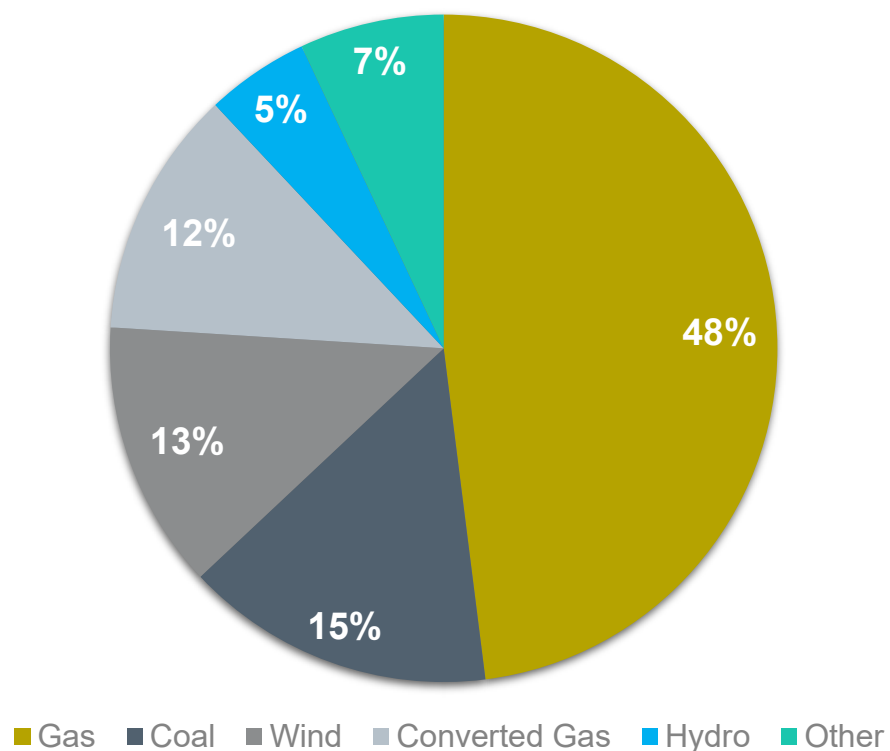
- Largest 2020 vs. 2019 yoy decline in power demand was 7.2% due to COVID-19 pandemic and low crude oil prices
- Demand started to recover as the economy re-opened
- Seeing demand recovery in 2021 but still some uncertainty regarding the rate of recovery
- **New all time summer peak demand of 11,721 MW** on Jun 29/21 due to prolonged heat wave



Alberta power market

Need for reliable, flexible natural gas capacity

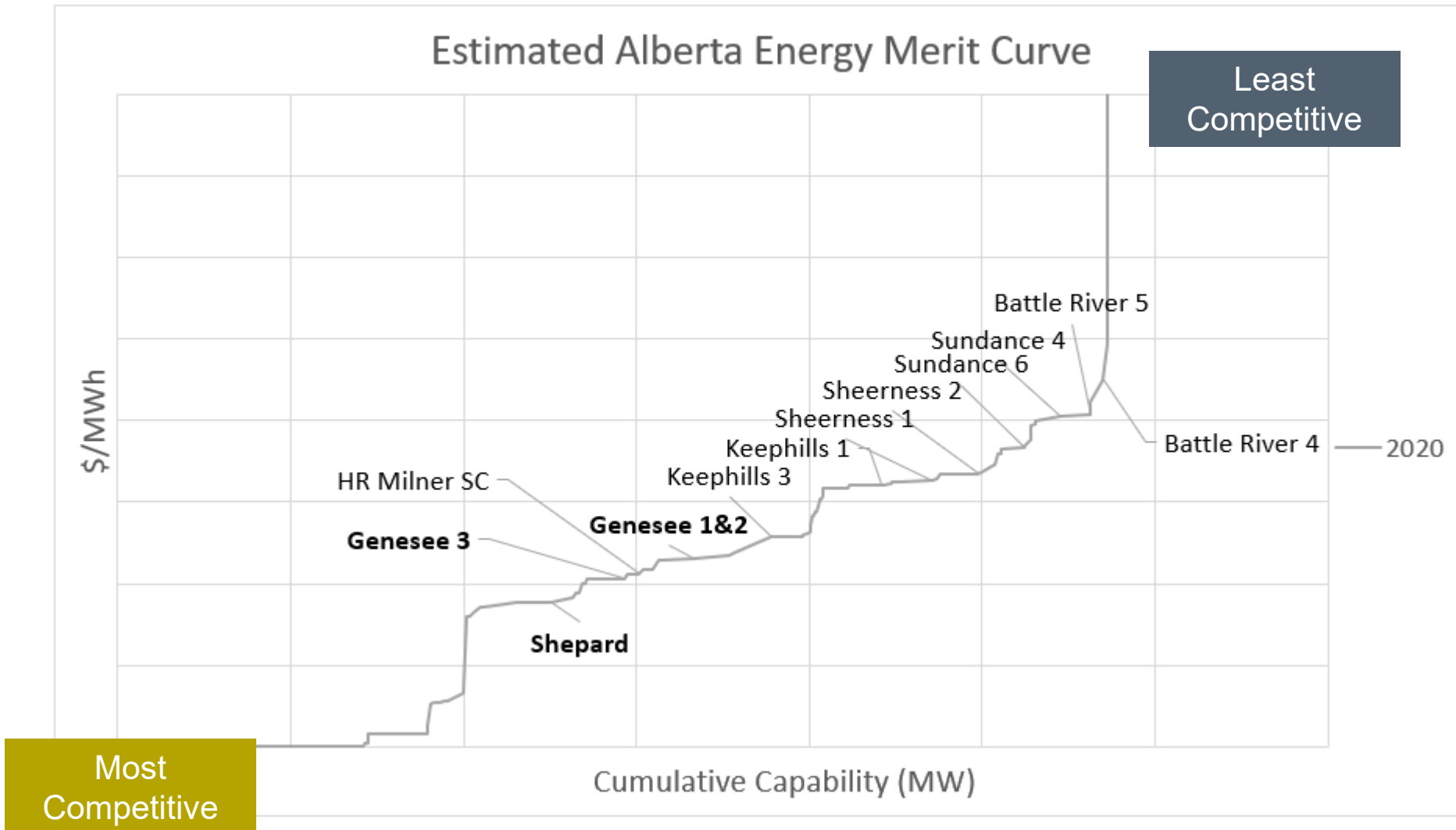
AESO capacity by technology



Source: AESO

- Today there is still **4,666MW** of inefficient coal, converted coal, or dual fuel capacity
- Peak winter and summer load hours in 2021 saw **~85% of load being met with coal and gas**
- Peak winter and summer load hours saw wind and solar operating at **only 12% and 19%** of their respective capacities
- System can accommodate higher renewable penetration, but lower capacity factors will still result in the **need for reliable, flexible natural gas capacity**

Strong repowering economics

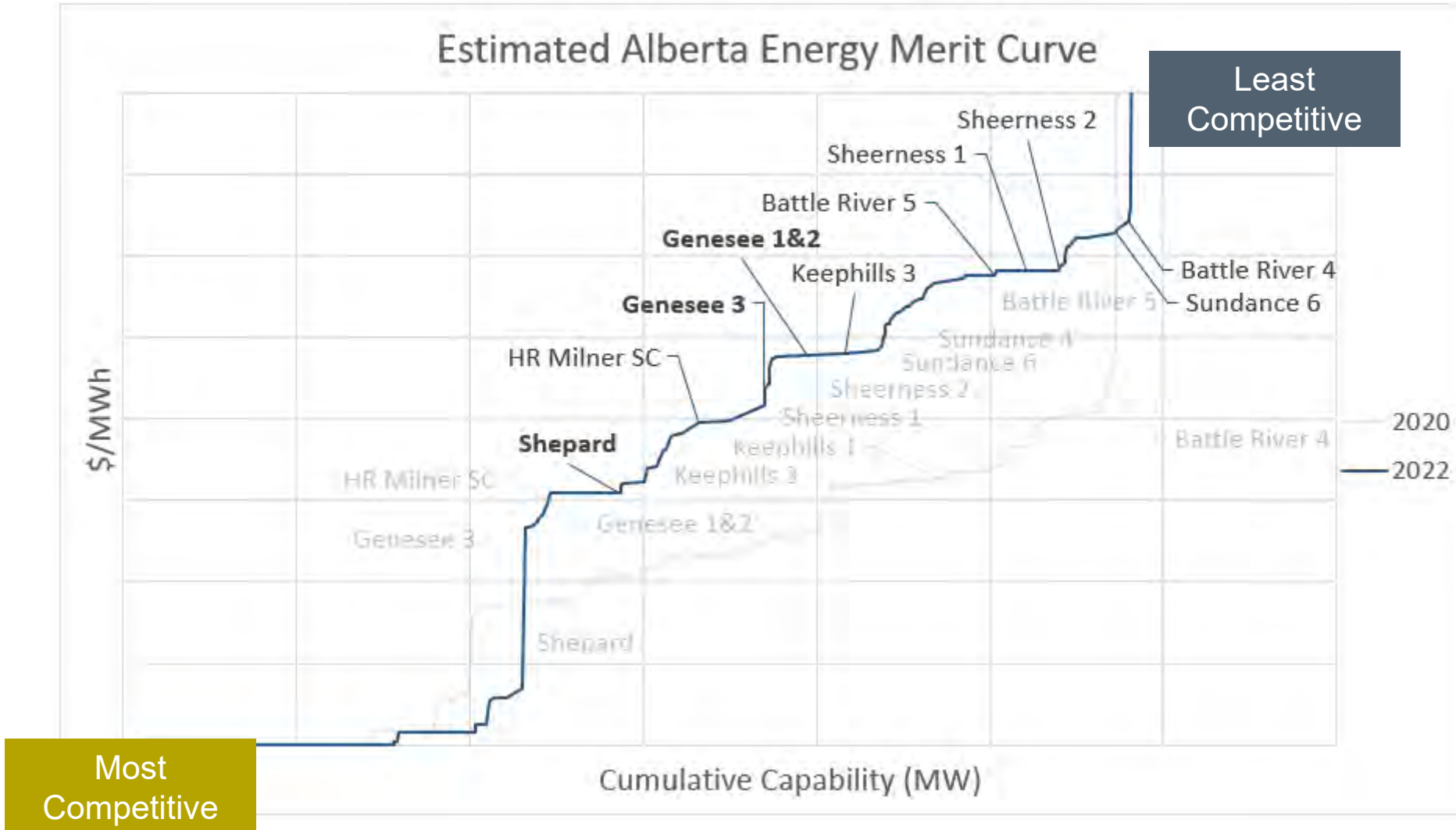


Retired Asset	Capacity (MW)
Battle River 3	149
Sundance 1	280
Sundance 2	280
Sundance 3	368
Sundance 5*	406

*Suspended



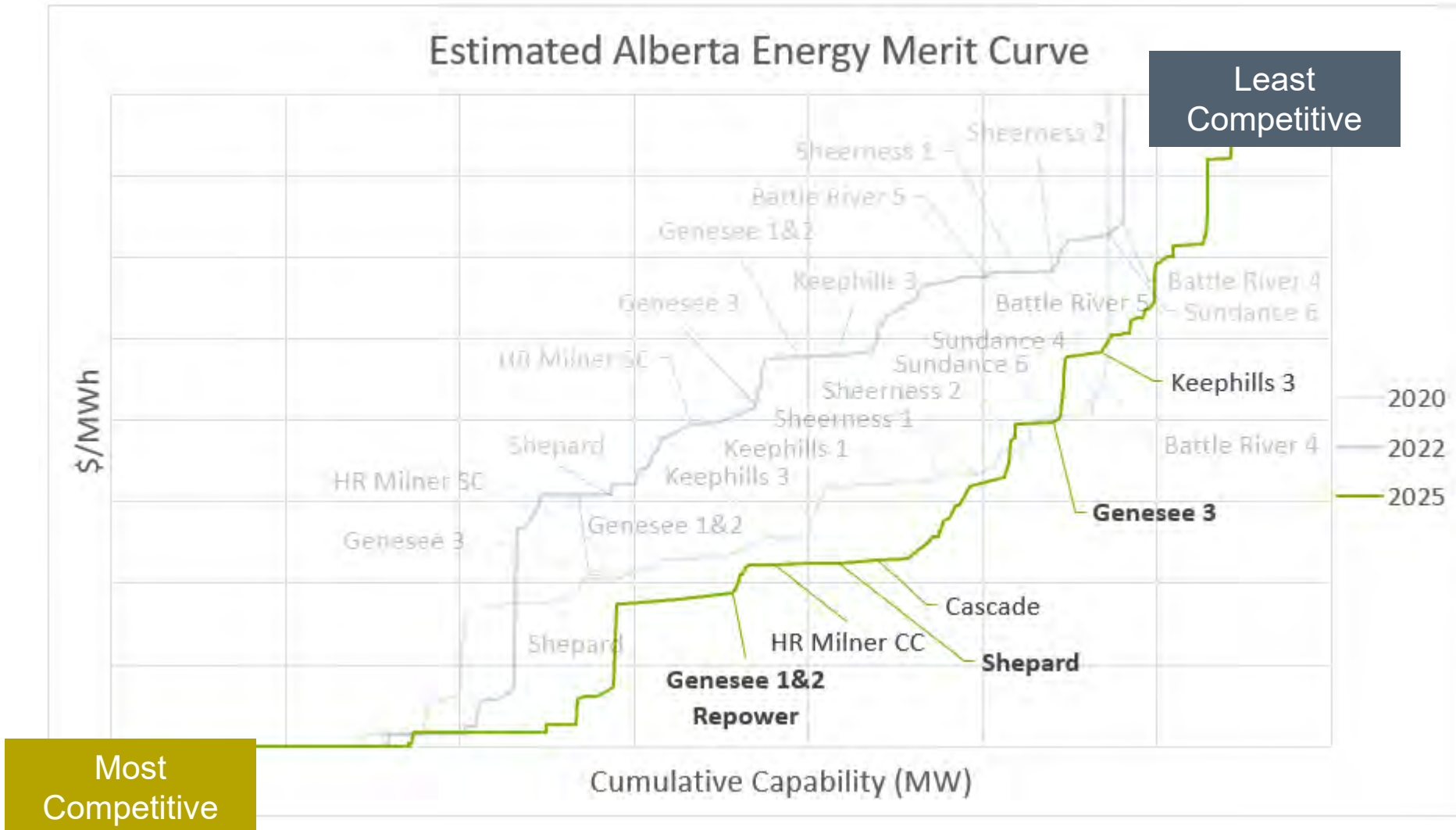
Strong repowering economics



Retired Asset	Capacity (MW)
Battle River 3	149
Sundance 1	280
Sundance 2	280
Sundance 3	368
Sundance 5*	406
Sundance 4	406
Keephills 1	395

*Suspended

Strong repowering economics



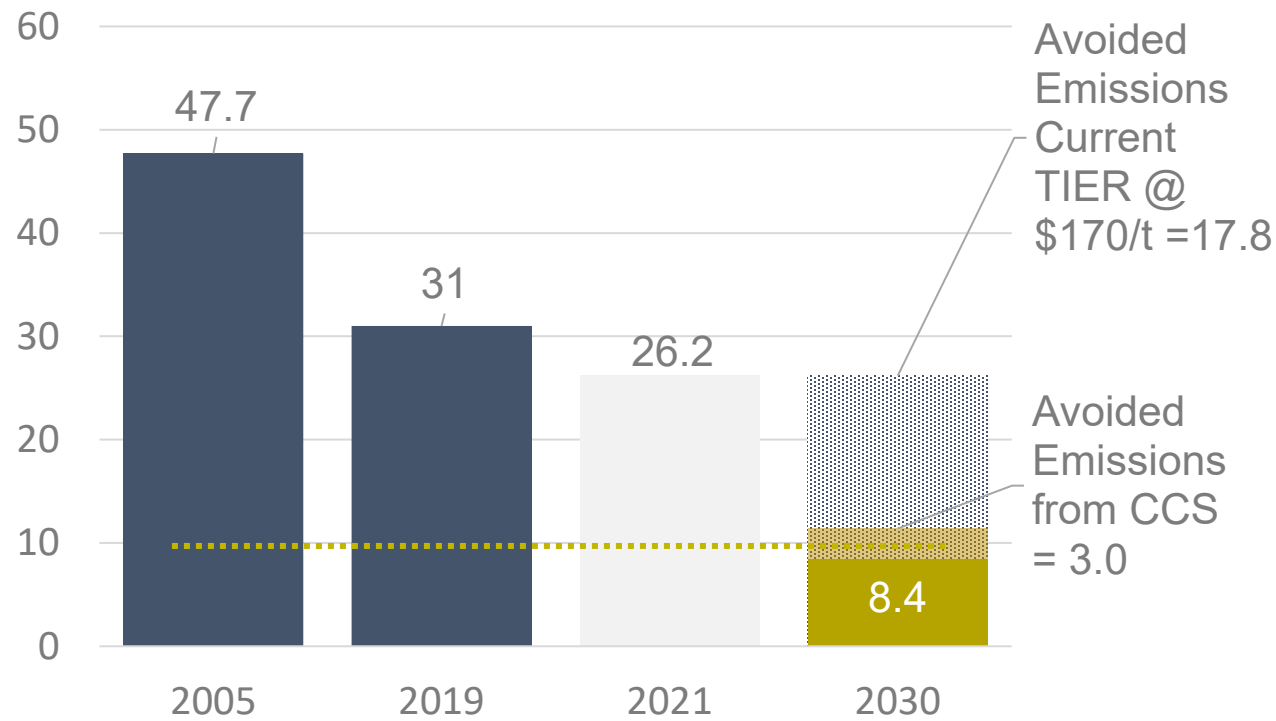
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Sundance 2	280
Sundance 3	368
Sundance 5*	406
Sundance 4	406
Keephills 1	395
Sundance 6**	401
Battle River 4**	155
Battle River 5**	385
Sheerness 1**	400
Sheerness 2**	400

*Suspended
**Projected retirement

Alberta TIER⁽¹⁾ program

Significantly reducing carbon emissions

AB electricity sector emissions (MT)⁽²⁾



- TIER program driving down carbon emissions in a **meaningful** way
- Alberta government is **supportive** of TIER program
- Carbon prices per tonne will rise annually and post-2030, intensity standards will also tighten
- Genesee 1 and 2 repowering projects are **robust and resilient** to increasingly stringent carbon pricing frameworks

(1) Technology Innovation and Emissions Reduction Regulation

(2) Capital Power projections



Genesee Energy Centre: The heart of Alberta's decarbonized future



Repowering



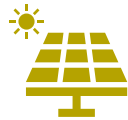
CCUS



Hydrogen



Batteries



Solar



Fly ash



Behind the fence



Technology hub



Bulk electrical
transmission

Natural gas
supply

Proximity to
industrial
Heartland

Human
capital

Trunkline &
storage

5,000 acres





Final configuration of Genesee 1 and 2 repowering

Issue

- Most severe single contingency (MSSC) limit

Solution

- Installing a **210MW / 210MWh** battery
- Revised capex of **\$1.19B**

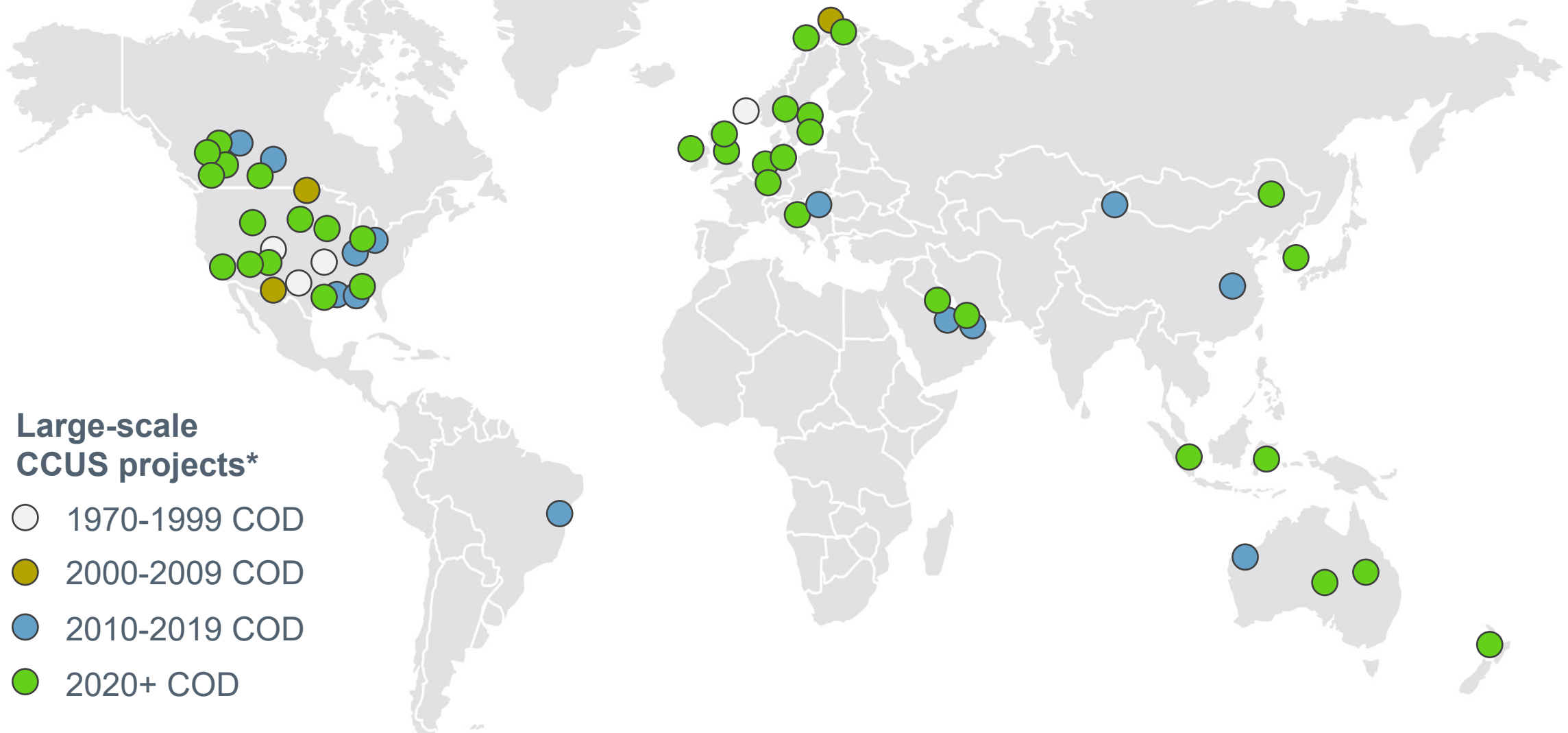
Result

- Levered returns remain strong at **20%+**
- Longer term potential battery value if MSSC limit adjusted

Continues to be the **best-in-class** natural gas combined cycle technology with **6.7 GJ/MWh** heat rate and **0.35 t/MWh** intensity



Net zero plans make CCUS a necessity



* Source: Global CCS Institute

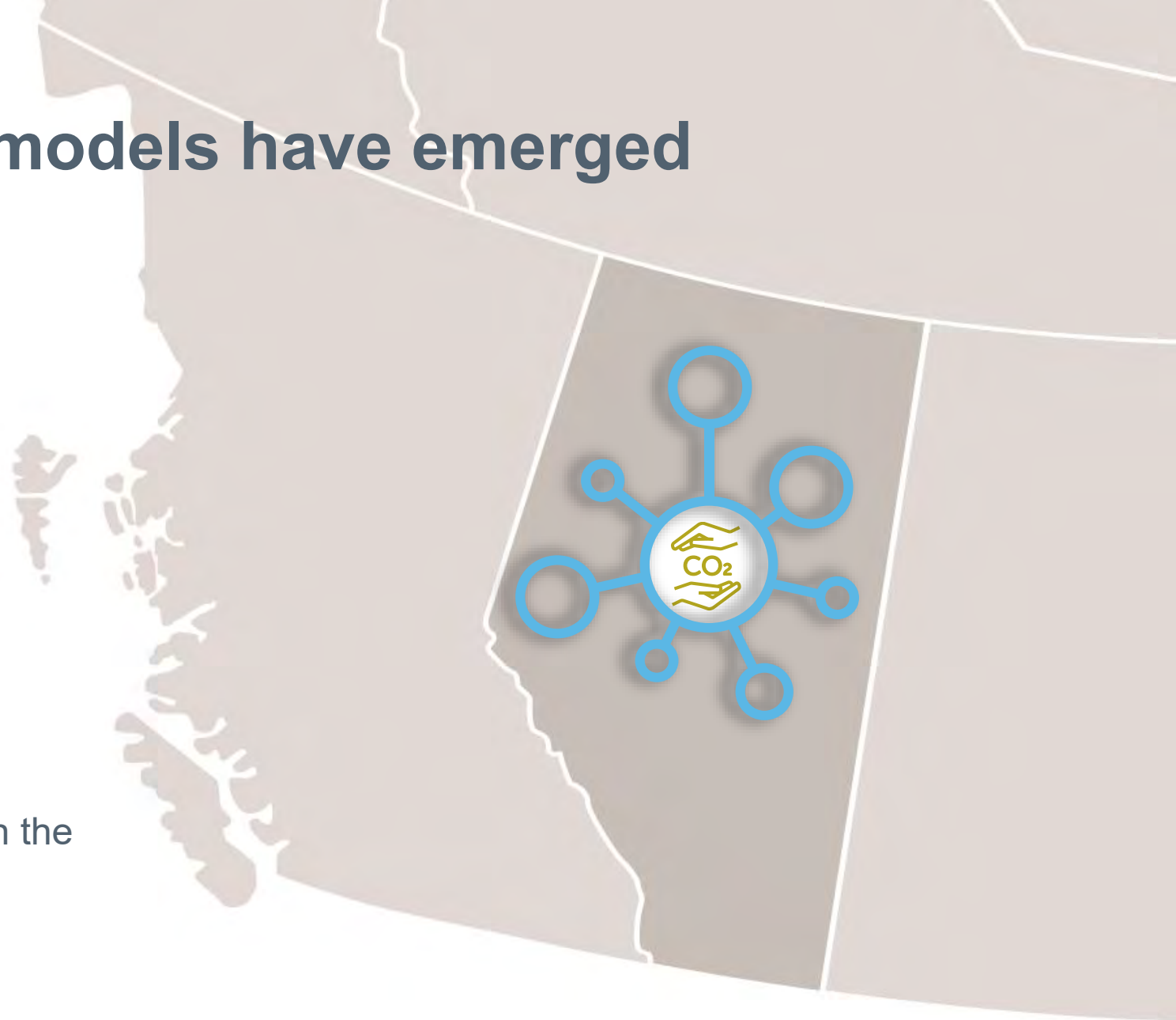
New CCUS business models have emerged

Industrial hub model

- Shared CO₂ infrastructure
- Economies of scale
- Reduced commercial risks

Alberta carbon hub

- Enabling carbon transportation and storage networks
- Jointly evaluate and advance a CCS project with Enbridge
- Develop an open access carbon hub in the Wabamun area
- Compliments the Genesee Carbon Conversion Centre



The image shows two flags flying on a black pole against a blue sky with white clouds. The top flag is the Canadian national flag, featuring a red field with a white square in the center containing a red maple leaf. The bottom flag is the Alberta provincial flag, which is blue with a white cross in the upper left canton and a shield in the center depicting a landscape with mountains, a river, and a field of wheat.

The CCUS investment environment has improved

Federal

- 2021 Budget announced intent for investment tax credit, earmarking \$15 billion
- Committed \$319 million to improve commercial viability
- Canada Infrastructure Bank \$10 billion growth plan

Provincial

- Committed \$1.24 billion for two projects
- Recently announced \$100 million in TIER funding



Initial CCS activities

Genesee

- Pre-FEED almost complete
- FEED study in 2022
- \$1.8 - \$2.0 billion capex

Shepard

- Investigating CCS potential

Genesee Energy Centre

The heart of Alberta's
decarbonized future

- 
- The image is an aerial photograph of the Genesee Energy Centre, a large industrial facility with a tall smokestack and various buildings. Overlaid on the image are 3D models representing different components of the decarbonization plan. A legend in the top right corner identifies these components: light blue for G1, G2 Repowering; dark blue for the Carbon Conversion Centre (GC³); green for the Battery Energy Storage System; and red for G1, G2 CCS. The 3D models include several red cylinders and rectangular blocks on the left, a long dark blue rectangular structure at the bottom, and a large green rectangular area on the right representing the battery storage system.
- G1, G2 Repowering
 - Carbon Conversion Centre - GC³
 - Battery Energy Storage System
 - G1, G2 CCS

Powering a sustainable future for people and planet



Growth

~4,000 MW transparent growth pipeline with history of execution



Expertise

Long history of operational, commercial and development expertise



Decarbonization

We are leading the charge, providing innovative solutions

Optimizing operations to create long term value

- Operational excellence
- Resiliency
- Optimization and innovation

Bryan DeNeve

Senior Vice President, Operations



Operational facilities

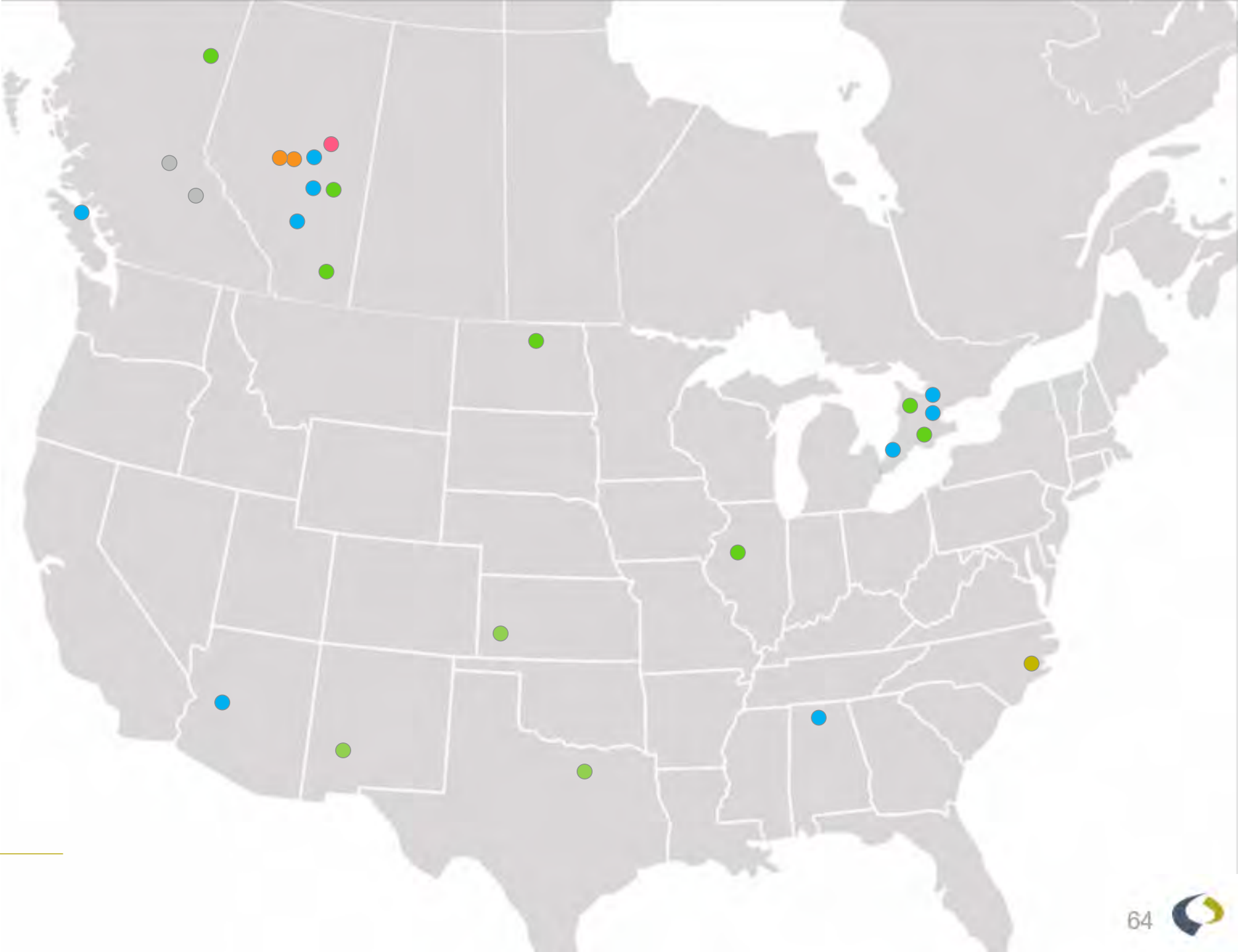
6,600
megawatts

25
facilities

93%
plant availability

In Operation

- Wind
- Solar
- Battery
- Gas
- Coal
- Waste Heat
- Landfill Gas



Resiliency through COVID-19

- Continued deployment of the pandemic plan first activated in March 2020
- Deployed rapid antigen screening at strategic generating sites in Alberta, Alabama and Arizona
- Conducted monthly inspections at all sites to ensure adherence to COVID-19 protocols
- Announced Vaccination Policy effective January 1, 2022 that will require all employees, contractors and visitors to be fully vaccinated to gain access to our sites or submit a negative rapid test
- Provided vaccination incentives to field employees

Minimal COVID-19 related impacts to our operations, maintenance activities and construction sites

No transmission of infection at any of our operated sites





Net effect of Genesee 2 outage

- Accelerated LP Turbine upgrade project previously planned for 2023
- Insurance coverage confirmed for the failure
- Rebuilding failed Genesee 2 stator core with upgraded components for installation in Genesee 1



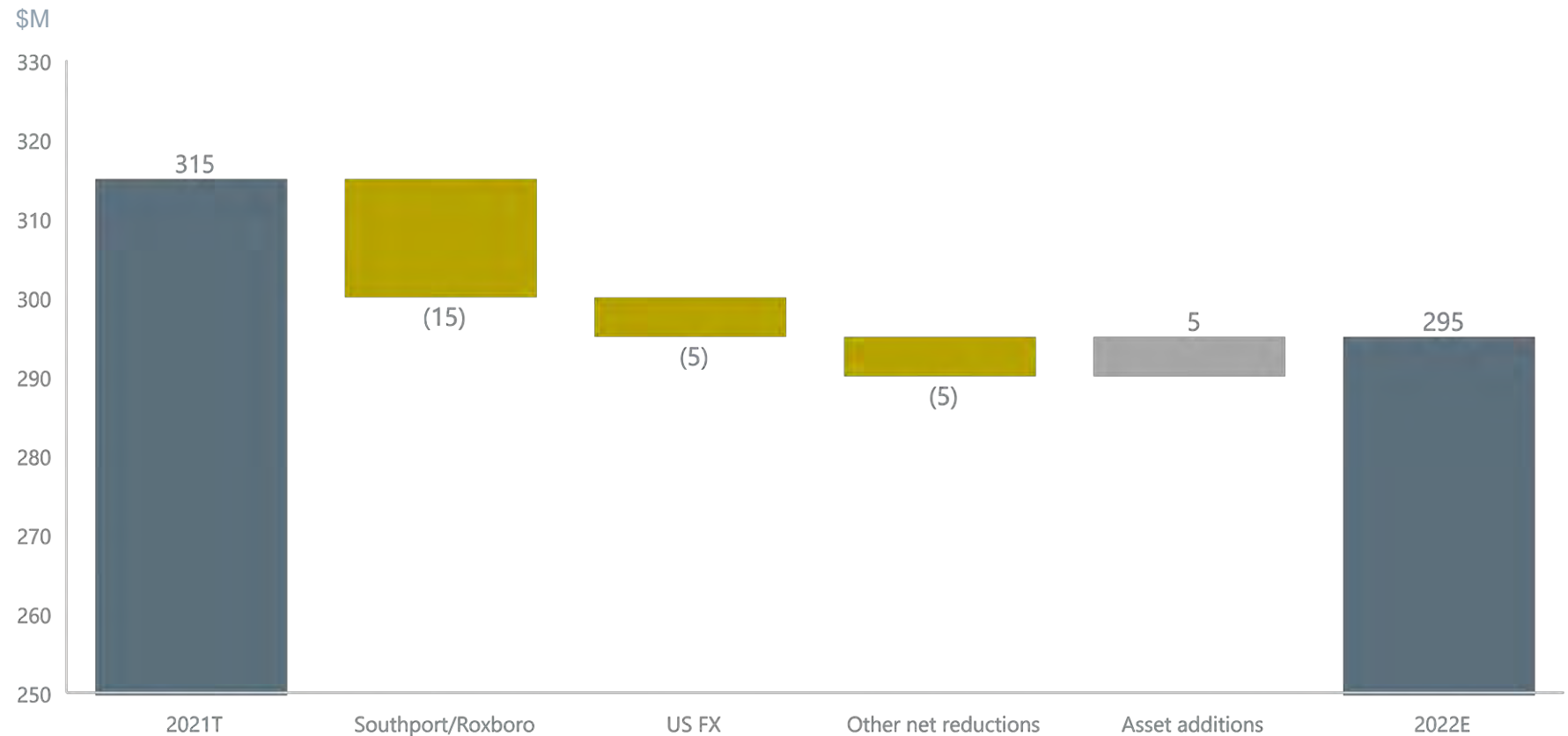
Plant availability

- Fleet availability has averaged over 93% for 2019-2021
- 2022 target availability has been set at 93%
- Maintenance and improvements continue under COVID-19
 - Completed planned outages at 7 thermal facilities and at 10 renewables facilities
 - Successful completion of these planned outages set us up well for improved reliability and lower maintenance and sustaining capex over the next 5 years

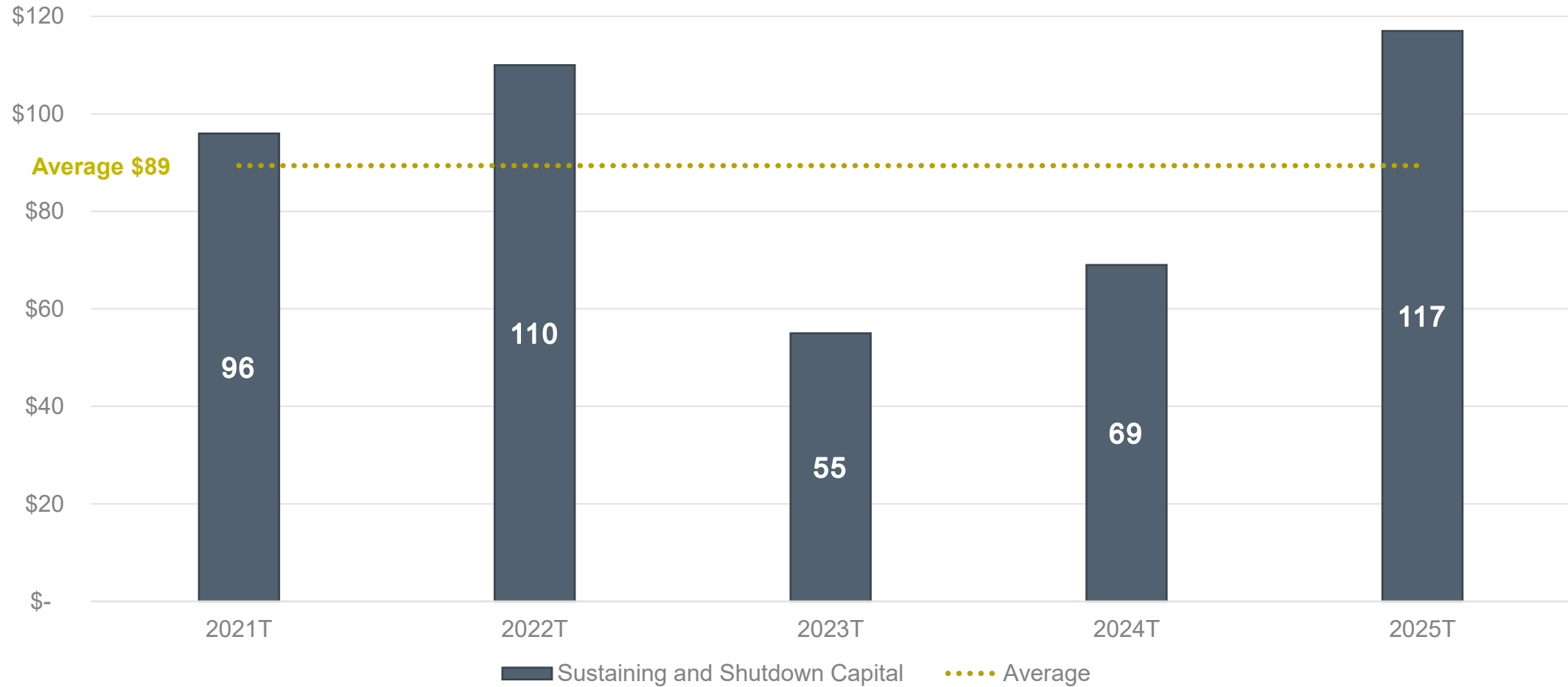


Reduction in operating expenses

- Target O&M costs for 2022 are \$20M lower than the 2021 Budget



Capital program



2021 includes insurance proceeds for Genesee 2 outage

Operation excellence in renewables



Wind fleet

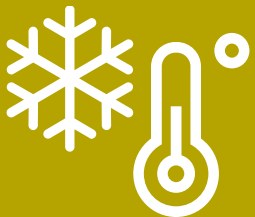
Seeing improved results

- Renewables Operations Centre
 - 2020 Vestas Long Term Service Agreement
 - Blade repair program
 - Drone inspections
-



Weather resiliency

- Cold weather standard for Buckthorn required by December 1, 2021 by the Public Utility Commission of Texas
- Expect our response will form the basis for the larger NERC Cold Weather Standard for the remainder of renewables fleet
- Working to ensure facilities meet new NERC Cold Weather Standards (effective April 1, 2023)
 - Actively working with regulators and industry to implement the new compliance monitoring and oversight requirements and guidance
 - Development of cold weather plans for each applicable site based on regional specific weather conditions and design parameters
 - Identifying typical modes of failures under cold weather, root causes and countermeasures



Advancing water management

- Enhance measurement and monitoring in our operations
- Better manage risks and capture opportunities of water resources
- Proactive management

Stewardship and optimization



- Establishing consistent measurement and monitoring across our fleet
- Deploying technology to manage water use across assets
- Optimization through predictive analytics and artificial intelligence

Decision-making



- Expanding the consideration of water use in valuations
- Expanding the consideration of water in risk management across our direct operations and supply chain

Transparency and accountability



- Expanding disclosures and reporting of water use across our operations
- Expanding our engagement with key stakeholders
- Establishing asset-specific targets to drive improvements



Advancing sustainable sourcing

- Increase the long-term resiliency and transparency of our supply chain
- Consider social and environmental impacts when sourcing goods and services

Environmental



- Decreasing our environmental footprint by:
 - Reducing Scope 3 emissions
 - Managing use of water and other scarce resources
 - Protecting biodiversity
 - Incorporating circularity into operations

Social



- Respecting human rights
- Increasing diversity in sourcing
 - BIPOC
 - Indigenous communities
 - Women
 - Local
- Decreasing dependence on suppliers that do not embrace diversity, equity and inclusion

Governance



- Increasing supply chain transparency
- Developing policies to support increased sustainability in our supply chain



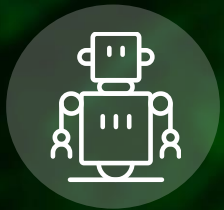
Ops2030

Leveraging digitalization, technology and other innovations that will transform our fleet to integrated, autonomous, sustainable power generation facilities of the future



Integrated

Increase data digitalization, availability and connectivity to enable information-based decisions and big data deployment



Autonomous

Incremental autonomy of processes and systems through tools such as augmented reality and robotics



Sustainable

Continuous improvement and innovation to minimize environmental impact to air, water, waste and land; to achieve maximum reliability, operational flexibility and efficiency

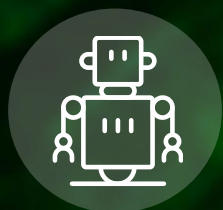
Ops2030

**Accelerating our investments
to achieve \$50M EBITDA by 2030**



Integrated

- Advanced Pattern Recognition
- Data historian modernization
- WindFAST



Autonomous

- Generator health program
- Remote digital worker
- Drones
- Remote operations
- Mobility in operator rounds



Sustainable

- Water treatment optimization
- Plant efficiency improvements
- Acoustic leak detection

Powering a sustainable future for people and planet



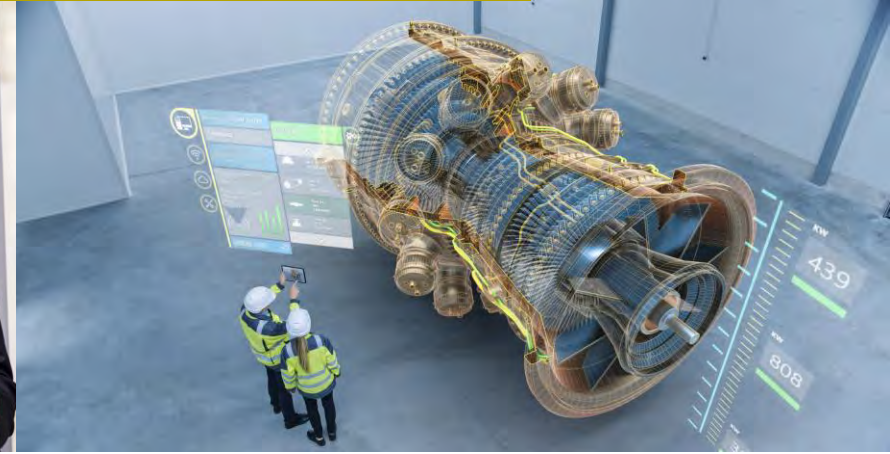
Resiliency

Proactively investing in our people, technology and processes to evolve, adapt and deliver results



Optimization

Relentlessly striving for continuous improvement and operational excellence



Innovation

Outside the box creativity and solutions

Building on success

- **\$1.9B capital investment**
- **Project success through partnership**
- **Committed to further carbon reduction**

Steve Owens

Senior Vice President, Construction and Engineering





On Time



On Budget

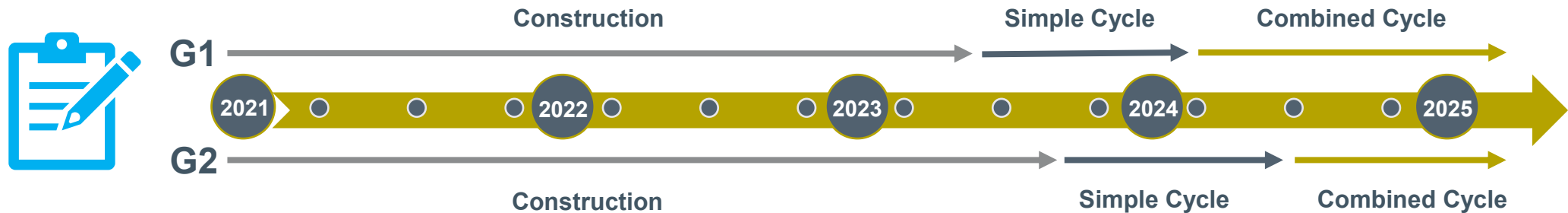


Genesee units 1 and 2 repowering

- Progressing on time and on-budget
 - Civil works on schedule
 - Major procurement activities 84% complete
 - CT 1 and 2 shipped ex-works - scheduled on site early January 2022
- Considerable commodity risk avoided through early procurement of centerline equipment
- Significant North American supply avoids logistic risks



Genesee units 1 and 2 repowering



Genesee Battery Energy Storage System

210 MW Battery (1hr discharge)

- Proven lithium-ion technology
- 50-60 battery containers
- ~3 football fields in size
- Full 210 MW instantaneous discharge
- Largest BESS facility in Canada
- Connected to 500KV system for maximum reliability
- Interconnection process initiated on December 1, 2021



Whitla Wind Phases 2 and 3

- Achieved COD on December 1, 2021
 - Well ahead of original schedule of December 31, 2021 and under budget
- Extensive stakeholder consultation and engagement throughout planning and construction
- Timely procurement of wind turbine equipment mitigated commodity pricing and logistics risks
- Leveraged long-term relationship with Vestas to overcome logistical hurdles
- Worked collaboratively with our EPC contractor to optimize design, adapt to delays, and complete project in 16 months from mobilization



Strathmore and Enchant Solar

- Strathmore COD forecast extended to March 15, 2022; PV module shipments are delayed due to compounding impacts of international shipping backlog and B.C. flooding
- Enchant COD December 9, 2022
- Forecasting project cost overrun of 14% (\$7M) and 18% (\$19M) respectively in the face of 5x increase in steel prices and 5x increase in international shipping rates
 - Optimized site layout reduced cost while maximizing output
 - Modified site schedule to optimize material supply opportunities
 - Deferred shipping commitments as pricing softens
 - Monitoring steel, PV material and shipping markets closely



North Carolina Solar

- Project consists of three separate sites:
 - Hornet 75 MW
 - Hunter's Cove 50 MW
 - Bear Branch 35 MW
- Site works in 2022 to optimize pile design program to maximize design efficiencies
- Procurement of PV modules and racking to benefit from forecast commodity pricing reductions
- Material deliveries in 2023 should benefit from softening material and shipping costs
- Projects expected to be completed on budget





Beneficial approach to contracting



**Senior level
relationships
with
contractors**



**Collaborative
approach
based on trust
and respect**



**Mutually
beneficial
management
strategy**



**Cross-
functional
solution-
finding for
design and
supply
challenges**



***Building strategic, long-term partnerships to achieve
favorable results in an everchanging market***



A photograph of a white wind turbine with three blades, set against a clear blue sky with some light clouds. The turbine is positioned on the left side of the slide.

Halkirk Wind Phase 2

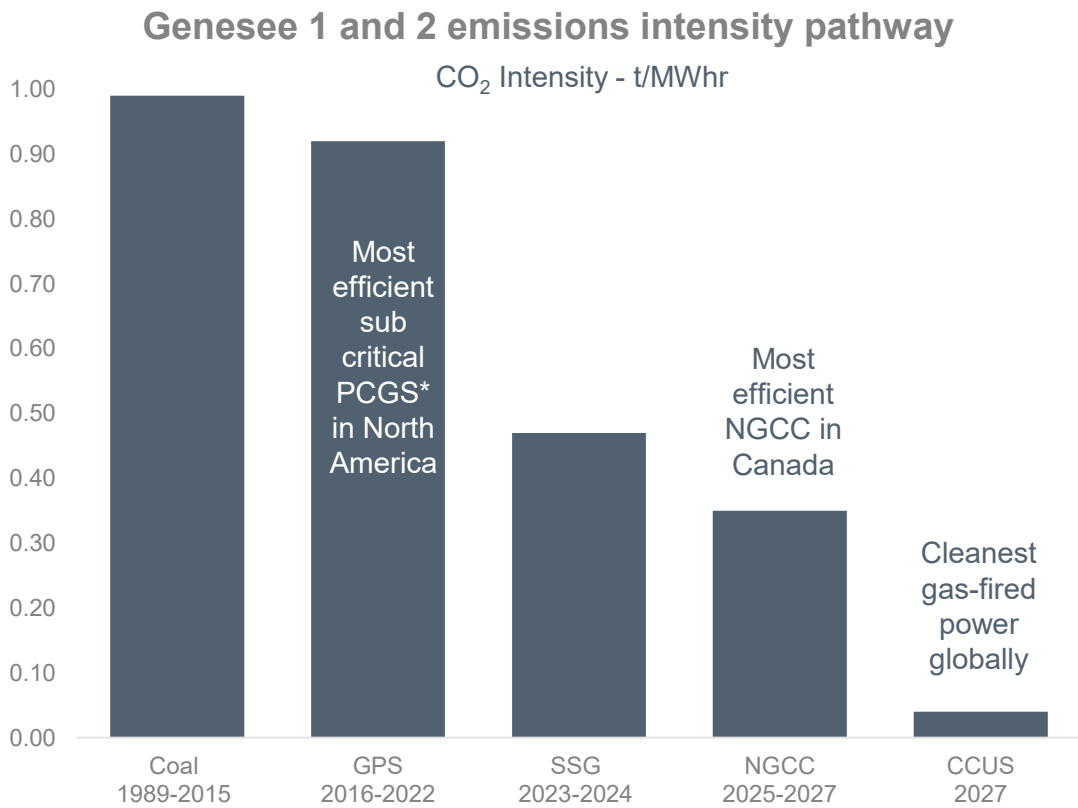
- 151 MW wind project
- Paintearth County – north of Halkirk Wind
- Schedule:
 - AUC Amendment filing June 2022
 - Construction Q3 2023
 - COD Q4 2024

Project timing will benefit from normalized commodity and shipping costs



Innovation in action

Target: achieve net carbon neutrality by 2050



*Pulverized Coal Generating Station



Scope 1 emissions

65% reduction in emission intensity by 2030



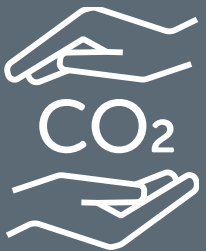
Strategic investments

CCS
invest in carbon capture and sequestration technology

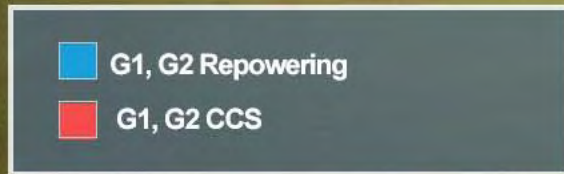


Applying proven technology for decarbonization

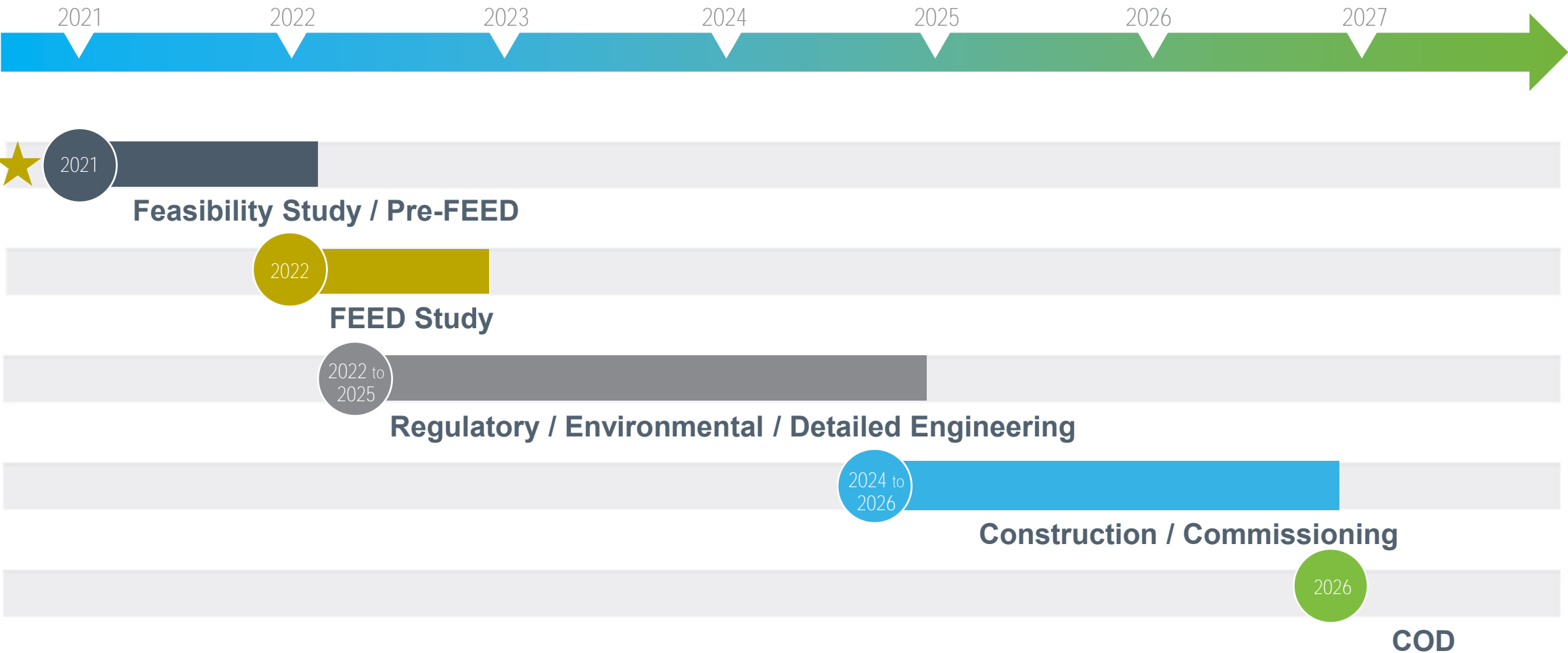
- Focused on proven amine-based capture technology
- Genesee would be only large baseload, dispatchable low-carbon energy on the grid
- No new transmission
- High efficiency turbines ensure excellent merit order positioning, high CCS capacity factor
- Sequestration options nearby; jurisdiction with active and proven sequestration regulatory framework
- Federal support on CO₂ pricing regime



Genesee units 1 and 2 Repowering and CCS



CCS path forward



★ Current Focus: Pre-FEED capex estimating, FEED planning



Powering a sustainable future for people and planet



Competitive

Through consistently meeting project budgets and timelines



Responsible

By developing environmentally friendly assets in support of a decarbonized future



Innovative

Through proven formula of strategic partnerships and collaborative contracting

Funding a low carbon future

- Deploying capital to advance progress towards our sustainability targets
- Resilient cashflows supported by risk mitigation strategies deliver extension of dividend growth
- Targeting 10-12% total shareholder return over the long term

Sandra Haskins

Senior Vice President,
Finance and Chief Financial Officer



Delivering shareholder value through all phases of the cycle

Competitive positioning and risk mitigation in the robust Alberta power market

- Genesee units will be the most efficient natural gas units in Canada, solidifying position in the merit curve
- Hedging of natural gas exposure and baseload power
- Continue to execute on long-term contracts for renewable assets

Solid track record of growth

- Completed phase 2 and 3 of Whitla Wind
- Proceeding with phase 2 of Halkirk Wind
- Adding 275 MW from 5 solar development projects between 2022 to 2024
- Acquired 20 solar development sites in the U.S. totaling approximately 1,298 MW
- Repowering Genesee 1 and 2 with battery technology

Delivering average annual total shareholder return of ~13% since IPO in 2009



Overview of financial strategy



Maintain financial stability and strength

- Strong liquidity
- Risk mitigation by stabilizing cash flows through hedging activities
- Invest in sustainable projects with stable cash flows



Funding a low carbon future

- Cost-effective funding of growth
- Innovative and diverse capital sources
- Well-laddered debt maturities



Maintain investment grade credit rating

- Access to capital markets through business cycles
- Competitive cost of capital



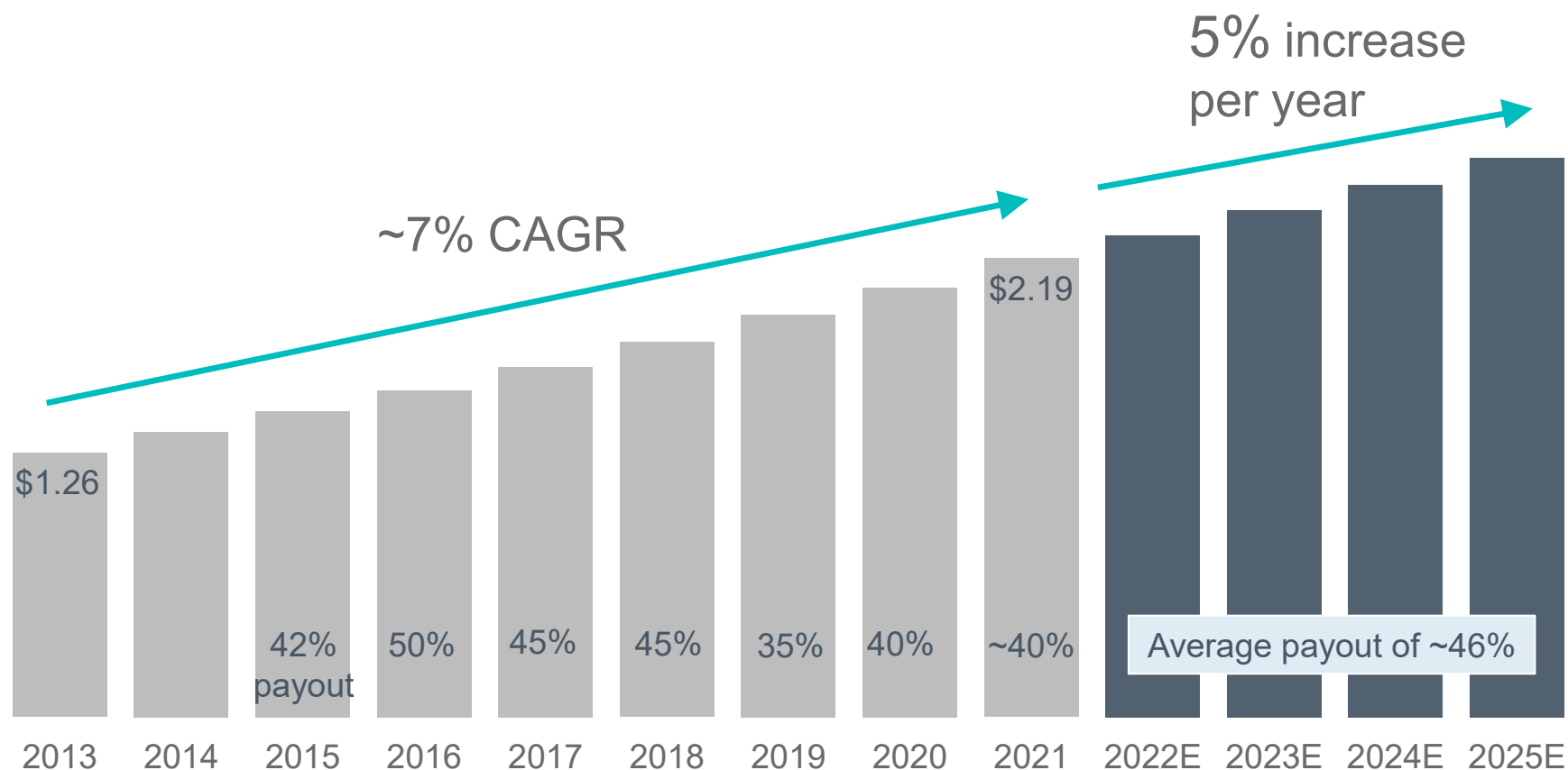
Deliver annual dividend growth

- Dividend stability through contracted cash flows
- Dividend growth within long term AFFO payout ratio of 45% to 55%



Dividend growth outlook

Annualized dividend per share ^(1,2)

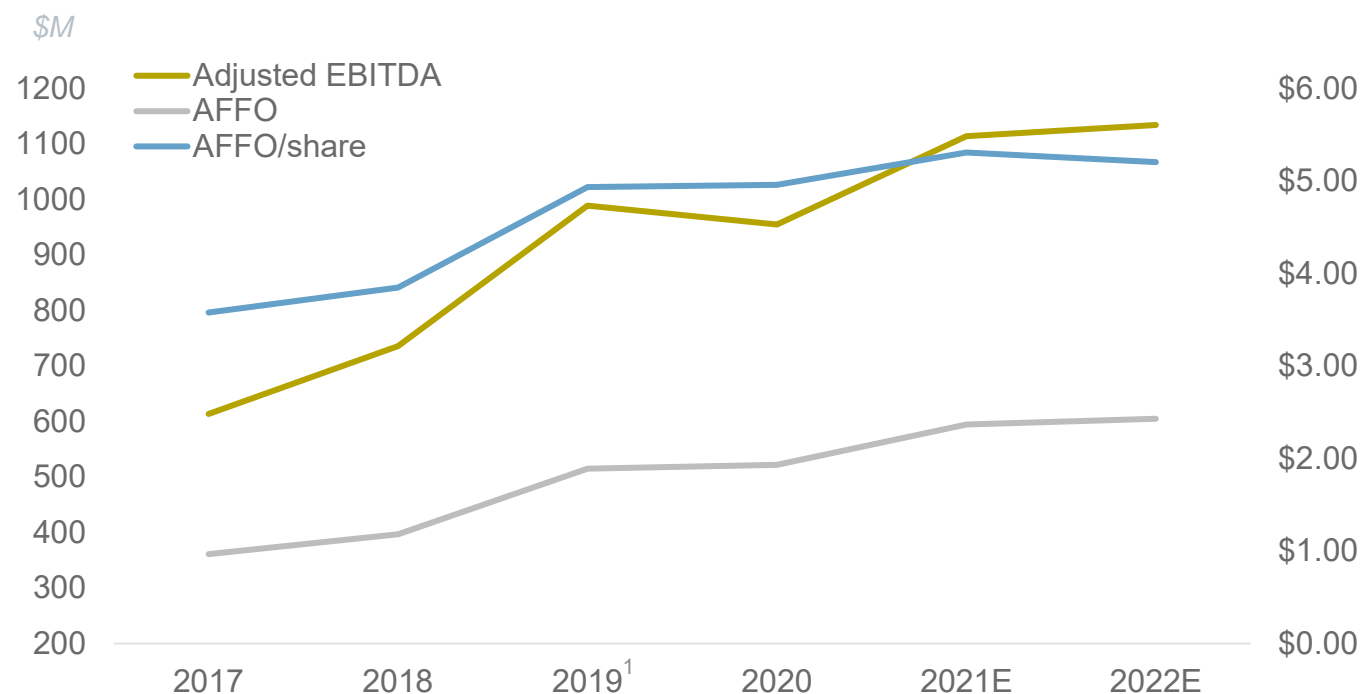


Forecast to be within AFFO payout ratio target range of 45% to 55% through 2025

1) Subject to market conditions, economic outlook, cash flow forecast, and Board approval at the time
2) 2013 to 2021 annualized dividend based on year-end quarterly common shares dividend declared

5-year growth in key financial metrics

~11% CAGR in AFFO from 2017 to 2022



- 2022 includes EBITDA contributions of \$40M from new assets (Whitla Wind and Strathmore Solar)
- 2022 excludes financial contributions generated from delivering on our \$500M capital growth target

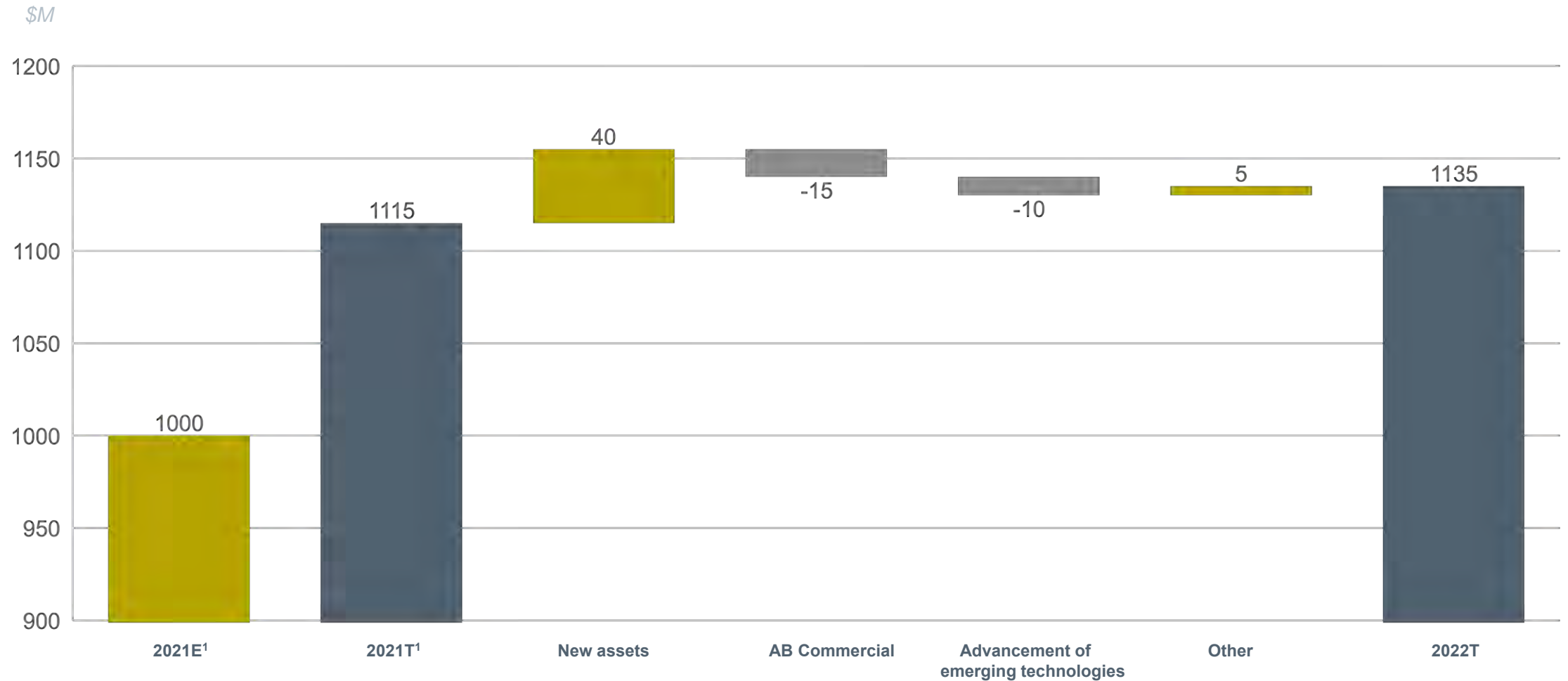
5-year growth supported by average growth capex of \$825M⁽²⁾ per annum

1) Normalized for non-recurring 2019 Arlington toll

2) Includes gross capex on Tax Equity Investor projects



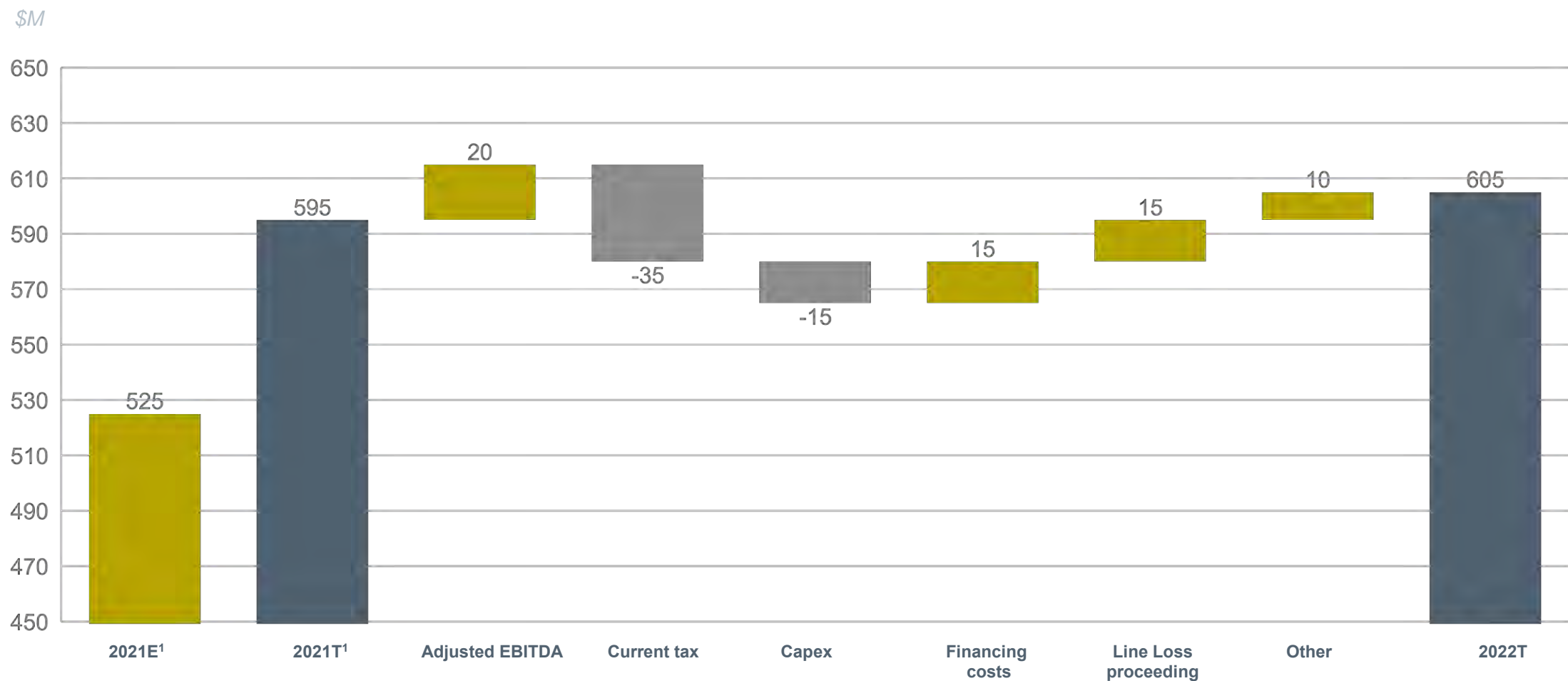
2022 adjusted EBITDA compared to 2021 guidance



1) 2021E represents the midpoint of the original guidance range of \$975M to \$1,025M. 2021T represents the midpoint of the revised guidance range of \$1,090M to \$1,140M.



2022 AFFO compared to 2021 guidance



1) 2021E represents the midpoint of the original guidance range of \$500M to \$550M. 2021T represents midpoint of the revised guidance range of \$570M to \$620M.



Portfolio optimization

AB commercial portfolio positions

(All data as of Nov 24/21)	2022	2023	2024
Power			
% of power position sold forward ⁽¹⁾	64%	41%	26%
Contracted power prices ⁽²⁾ (\$/MWh)	High-\$60s	High-\$50s	Mid-\$50s
Forward power prices (\$/MWh)	\$92	\$72	\$61
EBITDA sensitivity to a \$5/MWh change in spot power prices ⁽³⁾ (\$M)	\$25	\$36	\$49
Natural gas			
% of gas requirements bought forward ⁽⁴⁾	90-100%	85-95%	80-90%
Weighted average cost of gas contracts ⁽²⁾ (\$/GJ)	\$2.25-\$2.75	\$2.00-\$2.50	\$2.00-\$2.50
Forward gas prices (\$/GJ)	\$3.75	\$3.13	\$2.91

Strong track record of value creation and managing merchant risk exposure from portfolio optimization

1) Based on the Alberta baseload plants, including Joffre and Shepard

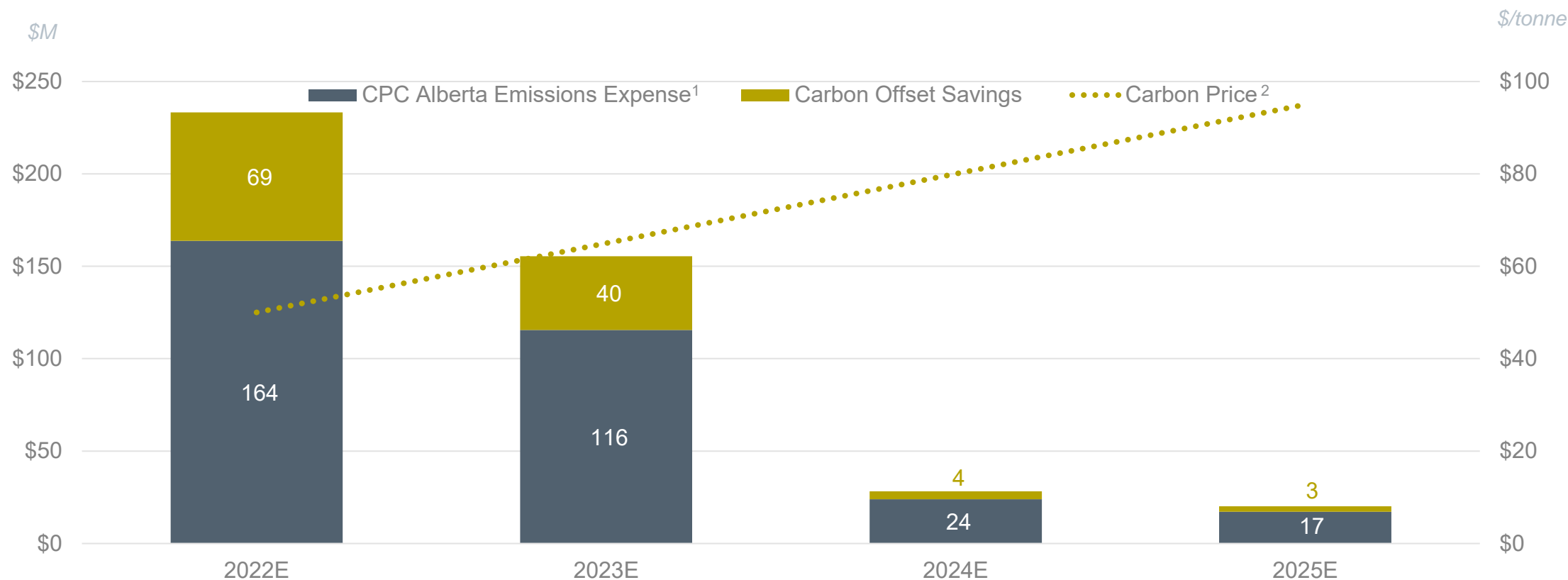
2) Forecasted average contracted prices may differ significantly from future average realized prices as future realized prices are driven by a combination of previously contracted prices and settled prices

3) Includes both baseload and non-baseload positions

4) Includes gas burn for all baseload plants, and estimated gas requirements to supply fixed retail contracts



Managing Alberta carbon exposure



Physically reducing emissions supplemented with low-cost offsets protect and enhance asset value

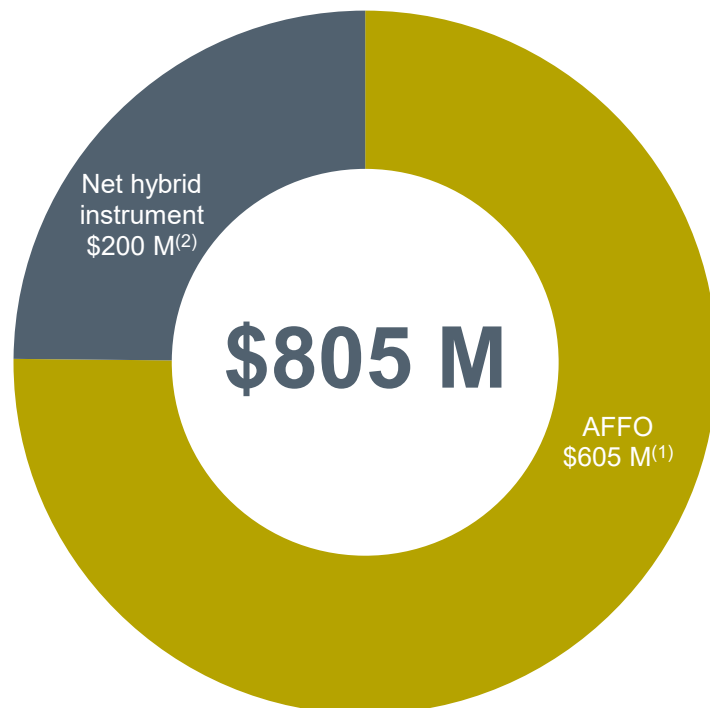
1) Assumes TIER regulation maintained, federal benchmark stringency requirements (under the Greenhouse Gas Pollution Pricing Act) maintained through 2025 at 0.37 tCO₂e/MWh

2) Assumes carbon price of \$50/tonne in 2022 and increasing by \$15/tonne each year thereafter to \$170/tonne in 2030

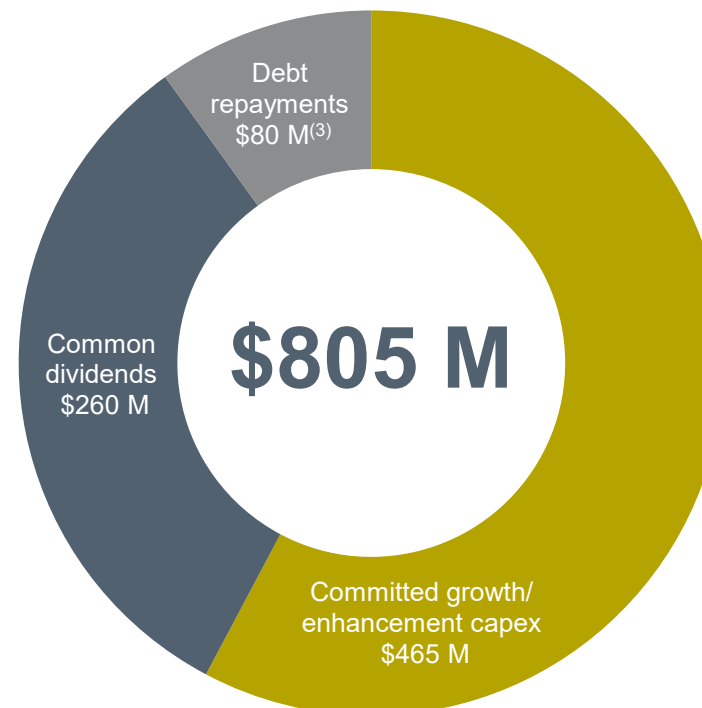


Cash flow and financing outlook

Strong cash flows to fund growth in 2022



Expected Sources



Expected Uses

1) AFFO is a non-GAAP financial measure

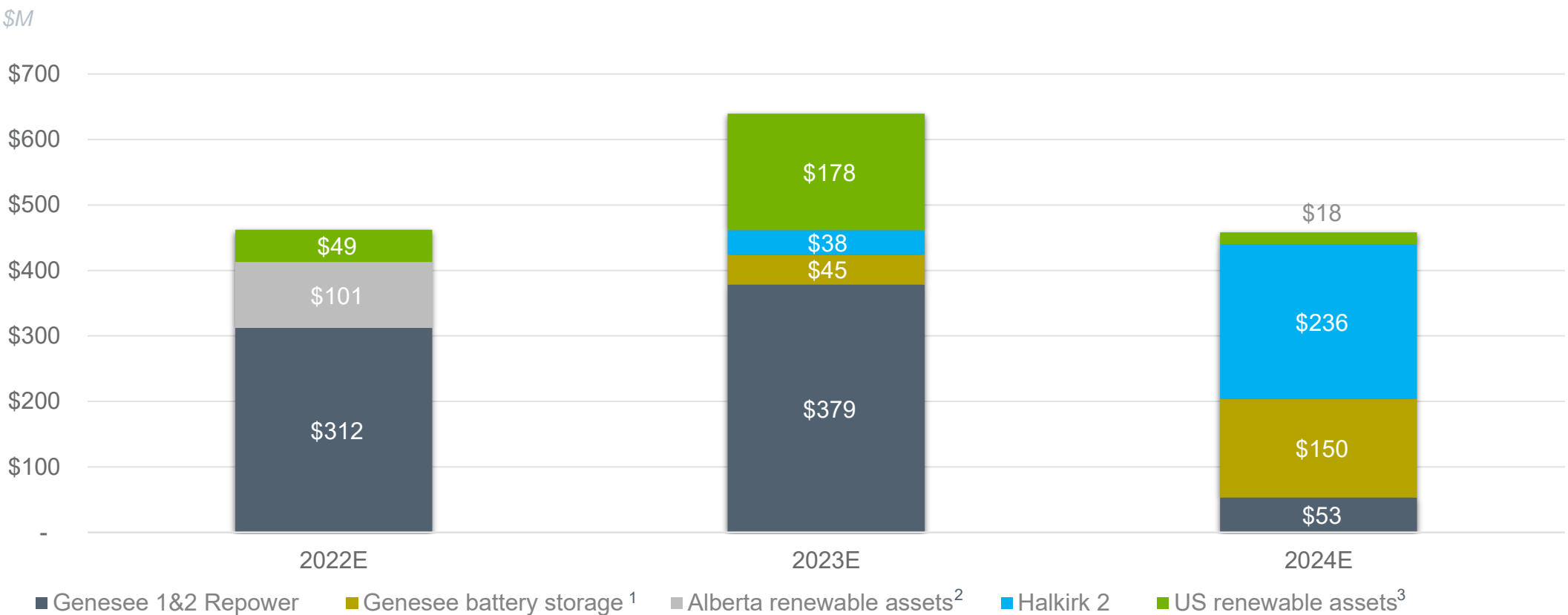
2) Net of preferred shares redemption

3) Includes principal payments on finance lease payables but excludes debt repayments to tax equity investor and equity accounted investment



Executing on ~\$1.5 billion of growth capex

Proceeding with phase 2 of Halkirk Wind and Genesee battery storage



Halkirk 2 expected to contribute average annual AFFO of ~\$27M in first 5 years

1) Genesee battery storage of 210 MWs
2) Alberta renewables consist of Enchant Solar and Strathmore Solar
3) US renewables assets excludes Tax Equity contributions

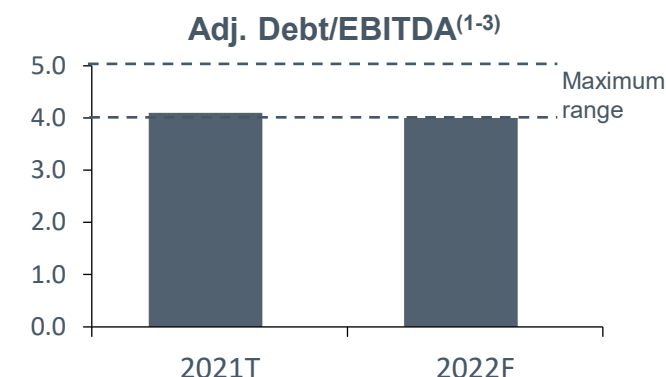
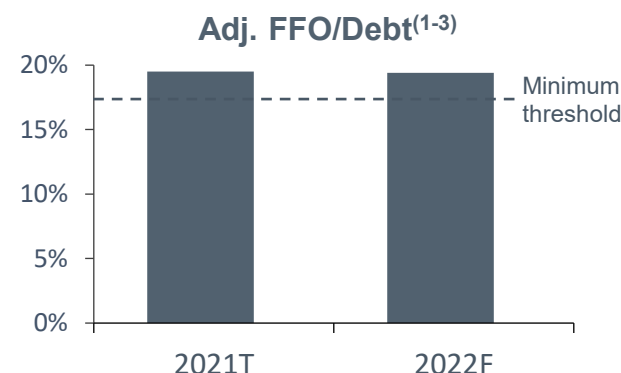
Financial stability and strength

Strong balance sheet and commitment to investment grade credit ratings

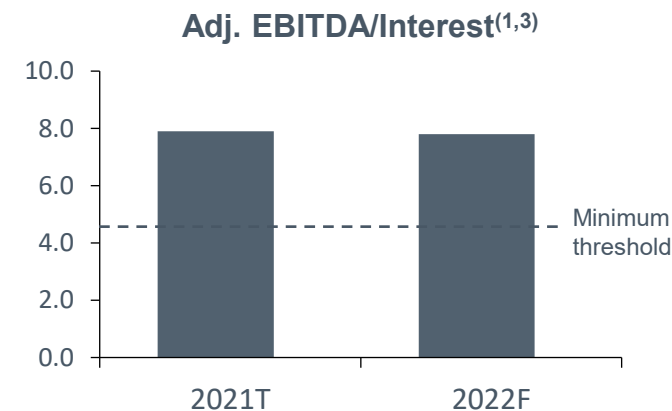
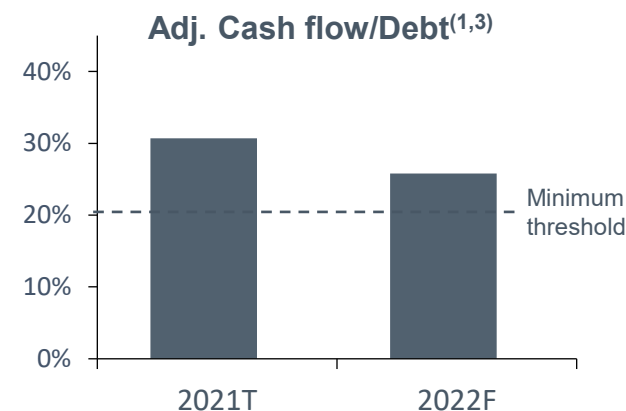
Agency	Ratings	Outlook
S&P	BBB- / P-3	Stable
DBRS	BBB(low) / Pfd-3 (low)	Stable

- DBRS and S&P have affirmed investment grade credit ratings and stable outlook
- Strong liquidity from operating cash flow and \$1B of committed sustainability-linked credit facilities to 2026
- 2022 forecast to be another strong year with credit metrics well above current ratings threshold

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

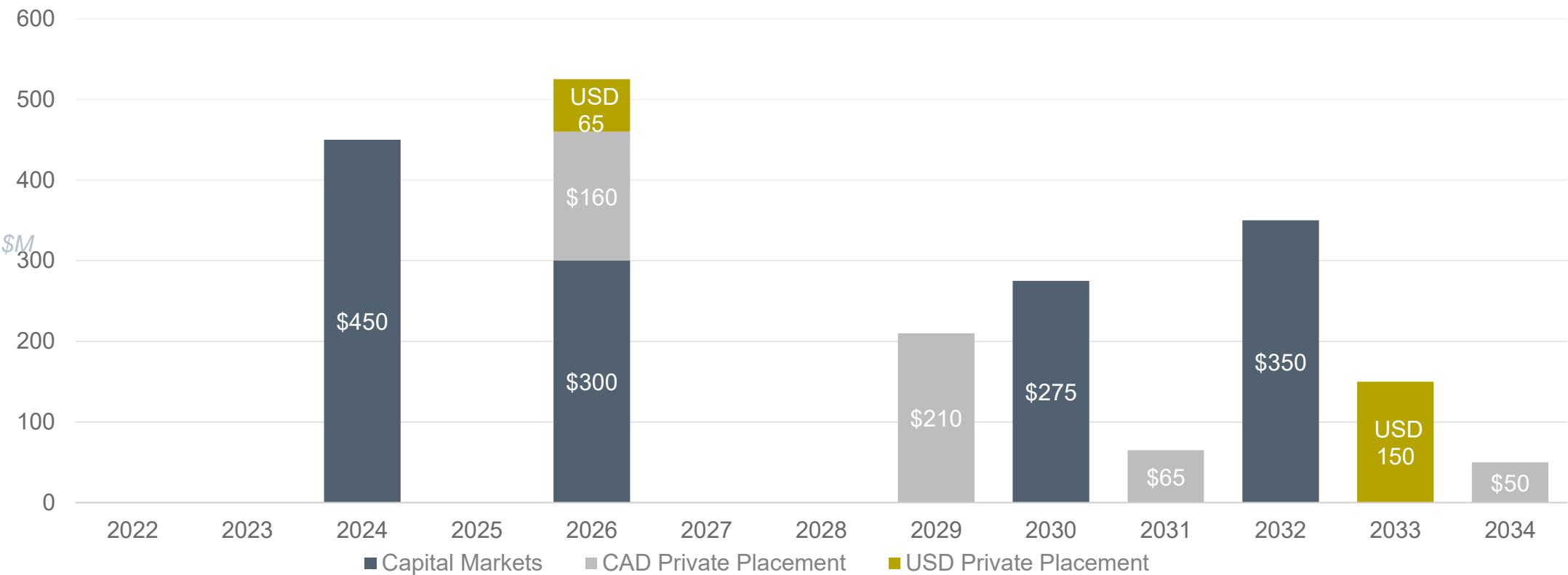
3) 2021T means 2021 target, 2022F means 2022 forecast



Debt maturity profile⁽¹⁾

Well spread-out debt maturities supported by long asset lives

- Longer term debt reflects increased confidence in our business profile
- Strong liquidity from cash flow from operations, cash-on-hand, and credit facilities



1) Debt amounts as of November 30, 2021. Schedule excludes non-recourse debt, credit facility debt, and tax-equity financing.

Powering a sustainable future for people and planet



Evolving

Significant deployment of capital on renewables and Genesee repowering



Well positioned

Preserving strong position in Alberta power market with Genesee repowering providing both environmental and shareholder benefits



Responsible

Maintain strong balance sheet to support investment grade credit rating and access to capital markets

Capital Power Value Proposition

A responsible, sustainability-focused
and attractive investment

Brian Vaasjo

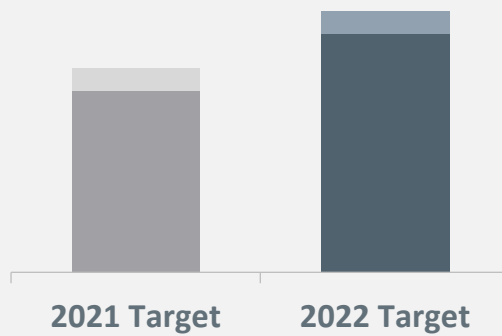
President & CEO



2022 targets

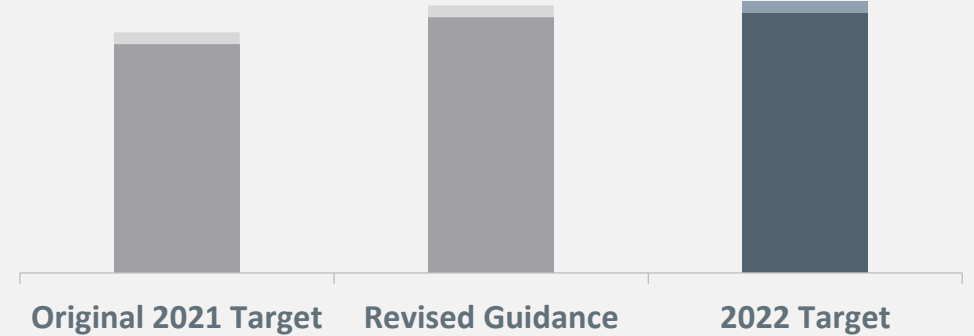
Sustaining capex (\$M)

\$80 to \$90 \$105 to \$115



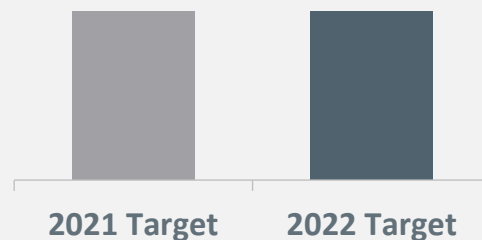
Adjusted EBITDA (\$M)

\$975 to \$1,025 \$1,090 to \$1,140 \$1,110 to \$1,160



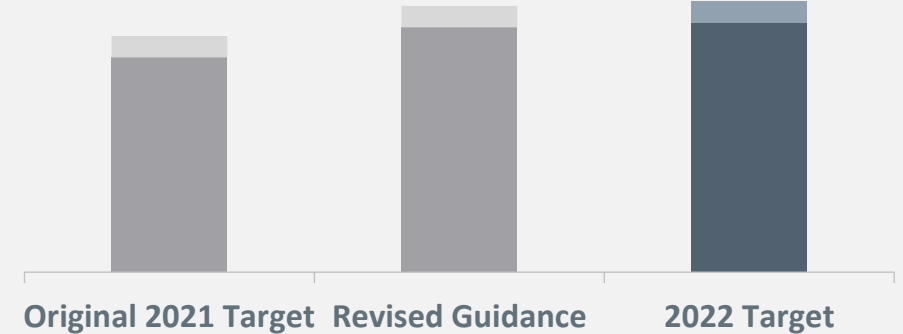
Facility availability

93% 93%



AFFO (\$M)

\$500 to \$550 \$570 to \$620 \$580 to \$630





Growth targets

- Continued progress on renewable projects

	Budget (\$M)	Target COD
Strathmore Solar (AB)	Updated to \$57	Early 2022
Enchant Solar (AB)	Updated to \$119	Q4/22
Hornet Solar (North Carolina)	\$118	Updated Q4/23 or Q1/24
Hunter's Cove Solar (North Carolina)	\$82	Updated Q4/23 or Q1/24
Bear Branch Solar (North Carolina)	\$60	Updated Q4/23 or Q1/24

- Continued progress on Genesee 1 and 2 repowering project
- Continued advancement of CCUS technology and Genesee Carbon Conversion Centre
- Target \$500 million committed capital for growth for 2022



Powering a Sustainable Future for People and Planet



Resiliency

Delivering on our disciplined, resilient strategy year-over-year to reliably and sustainably power our communities and create value for all our stakeholders



Optimization

We optimize our operations to deliver best-in-class service to our customers and create competitive advantages alongside lasting value for our stakeholders



Innovation

Researching and investing in critical technologies that will enhance the efficiency of our operations and enable carbon neutrality, including CCUS, batteries and hydrogen

2022 is another big year!



Attractive investment opportunity

Resilient strategy drives growth and accelerates net carbon neutral by 2050

Success in renewables

- Contracts for renewable projects affirm competitiveness
- Continued wind project execution in Alberta
- Very substantial renewable development opportunity set

In Alberta we have a great position in a robust market

- Repowering capitalizes on strong Alberta market
- Medium term risks greatly reduced

Strong long term cashflow from contracted assets including natural gas assets

- Strategy of recontracting natural gas assets proving out

Investing in optimization and innovation

- Genesee Carbon Conversion Centre
- Carbon capture and storage for Genesee 1 & 2
- Ops 2030 investment to increase EBITDA by \$50 million

ESG commitments are significant early steps in our journey

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) AFFO, and (iii) AFFO 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 October 26, 2021 for the third quarter of 2021, which is available under the Company's profile on SEDAR at [SEDAR.com](https://www.sedar.com) and on the Company's website at capitalpower.com.



Forward-looking information

Forward-looking information or statements included in the 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 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 includes expectations around: (i) the timing of construction readiness and commencement of commercial operations for the acquired wind development sites, (ii) the timing of permitting, construction and commencement of commercial operations for phase 2 of Halkirk Wind, (iii) the capital cost and AFFO contributions of phase 2 of Halkirk Wind, (iv) the capital cost of the addition of battery storage to the Genesee 1 and 2 repowering project, as well as the total capital cost of the Genesee 1 and 2 repowering project, (v) the impacts of battery storage on the project economics of Genesee 1 and 2 repowering, (vi) in-service timing for the Genesee CCS project and the volume of CO₂ to be captured annually from the repowered Genesee 1 and 2 units, (vii) the current 2021 financial outlook, (viii) 2022 targets including those for capacity-weighted average facility availability, sustaining capital expenditures, adjusted EBITDA, AFFO and committed capital for growth, (ix) dividend growth and AFFO payout ratios and (x) the timing of commencement of commercial operations for Strathmore Solar, Enchant Solar and the North Carolina solar projects as well as the completion dates of the Genesee 1 and 2 repowered units.

These statements are based on certain assumptions and analyses made by the Company in light of its experience and perception of historical 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: (i) electricity, other energy and carbon prices, (ii) operating and asset development performance, (iii) business prospects (including potential re-contracting opportunities) and opportunities including expected growth and capital projects, (iv) status of and impact of policy, legislation and regulations, (v) effective tax rates and (vi) foreign exchange rates.

Whether actual results, performance or achievements will conform to the Company's expectations and predictions is subject to a number of 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 are: (i) changes in electricity prices in markets in which the Company operates, (ii) changes in energy commodity market prices and use of derivatives, (iii) regulatory and political environments including changes to environmental, financial reporting, market structure and tax legislation, (iv) generation facility availability, wind capacity factor and performance including maintenance expenditures, (v) ability to fund current and future capital and working capital needs, (vi) timing and costs of regulatory approvals and construction in relation to development projects, (vii) changes in market prices and availability of fuel, and (viii) changes in general economic and competitive conditions.

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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