

2019 Climate Change Disclosure Report

Powering a Resilient Future



By enhancing our operations through innovation and ingenuity, we are collecting more data, finding more efficiencies and driving better results to deliver value both in the short and long term.

KATE CHISHOLM, SENIOR VICE PRESIDENT,
CHIEF LEGAL AND SUSTAINABILITY OFFICER

Table of Contents

Letter from Kate Chisholm	1
Metrics and Targets	2
Capital Power	3
Our Operations	4
Our Strategy	5
Our Sustainable Approach for the Future	6
About This Report	7
Our Reporting	8
Update on the Climate Change Disclosure Scenarios	8
Corporate Governance	9
Capital Power's Organizational Structure	10
Managing Climate Risks and Opportunities	11
TCFD Framework	12
Climate-Related Opportunities	13
Climate-Related Risks	15
Using the IEA Scenarios for Resilience Testing	18
Overview of IEA (2018) Scenarios	19
Current Policies Scenario	20
New Policies Scenario	21
Sustainable Development Scenario	22
Testing Our Strategy Resilience	23
Carbon Conversion: The Key to a Decarbonized World	24
TCFD Alignment Table	26
Our Commitment to Resilience	27
What's Next – Advancing Our Carbon Disclosure Efforts	28

Letter from Kate Chisholm



Sustainability has always been a part of who we are as a company and considering climate-related issues is integral to our approach to managing all aspects of our business. We believe that doing the right thing and tackling challenging problems makes us a stronger, more resilient North American power producer and enables us to generate greater value for our employees, our investors and the communities in which we operate.

I am very proud to present this second Climate Change Disclosure Report, “Powering a Resilient Future,” which provides a clearer picture of how we are managing climate-related issues and builds on our inaugural Climate Change Report published last year. We’ve always been committed to sustainability and transparency through our annual sustainability reporting and have disclosed our climate change impacts for over a decade. The decision to adopt the Task Force on Climate-related Financial Disclosures (TCFD) recommendations furthers this commitment and supports the TCFD’s aspirations towards consistent and transparent reporting. This second report illustrates our strong foundation of sustainability practices and shows how climate-related issues form part of our management practices, which helps us mitigate risk and identify opportunities.

As in our inaugural report, we have aligned to the TCFD recommendations using scenarios. After a more thorough analysis this year, we decided to conduct our qualitative analysis using the three scenarios contained in the International Energy Agency’s (IEA) 2018 World Energy Outlook Report in order to use data that was more current and reflective of the global environment. These scenarios also provide greater standardization in the methodology and approach than the scenarios we used last year. These scenarios include the Current Policies Scenario reflecting a 3 to 6 °C temperature rise, the New Policies Scenario reflecting a 2.7 °C temperature rise and the Sustainable Development Scenario reflecting a below 2 °C rise in temperature. We plan to update our analysis in accordance with the IEA annually to ensure it remains relevant and up to date.

The IEA (2018) scenarios indicate an increase in demand for natural gas as power consumption continues to rise and validate our position in the market with respect to our assets and our approach towards a low-carbon future. They also validate our approach to managing climate change risk and opportunities, whether it is mitigating or capitalizing on transitional risk and opportunities through our investments in carbon conversion technologies and renewables or mitigating or capitalizing on physical risks or opportunities through the geographic diversity of our assets and our operational efficiency initiatives. In fact, our

analysis using these scenarios highlights the importance of our ongoing investments in carbon conversion technology, which aim to achieve net-zero emissions both at our facilities and downstream, creating benefits for today and for generations to come.

By enhancing our operations through innovation and ingenuity, we are collecting more data, finding more efficiencies and driving better results to deliver value both in the short and long term. Digitization, optimization and collaboration across our company are crucial as we move into the new decade and continue to position Capital Power as the power company of tomorrow. The future is uncertain and climate change is complex; however as this analysis highlights, our strategy is strong and we have every reason to believe in a bright future ahead.

As we all know, creating a sustainable low-carbon future is complex, fast-paced and a greater challenge than one person, company or industry can resolve. It will take many people and an “all-of-the-above” approach. Over the last year, I’ve had many conversations with other industries, governments, NGOs and investors about climate-related issues and how we can all work together to invest in solutions and strategies that will lower our collective carbon footprint. In fact, at our last investor day, there was notable excitement around our plans to develop the first commercial-scale production facility of carbon nanotubes at one of our generation facilities in Alberta. We are putting our money where our mouth is, and we hope this is a game-changing step toward mitigating the impacts of climate change for all of us, now and in the future. As Capital Power’s Chief Legal and Sustainability Officer, I’m excited about our unlimited potential to reduce climate change impacts and seek out technologies that could remove carbon from the atmosphere. I believe we can create a more sustainable and more prosperous world for generations to come.



Kate Chisholm, Q.C.
Senior Vice President,
Chief Legal and Sustainability Officer

Metrics and Targets

Capital Power believes that measuring and understanding our environmental impacts and establishing meaningful targets helps drive meaningful progress towards achieving our climate change goals. We have always reported our climate-related performance metrics and progress as part of our annual CSR reporting in accordance with the GRI Standards. Moving forward, climate-related performance will be included in our integrated annual reporting.

In 2019, compensation for our Executive Team was in part based on achieving sustainability performance, which included ESG. In 2020, sustainability performance, including ESG disclosures, form 20% of the company's performance objectives. Our Integrated Annual Report provides a more comprehensive list of our ESG metrics and targets.

In 2019, company-wide targets were identified to guide the business, drive proactive innovation and benchmark long-term sustainability specific to climate-related performance. These include:

- Constructing all new natural gas generation units to be carbon capture and/or hydrogen ready.
- Reducing CO₂ emissions at Genesee by 50% by 2030 from 2005 levels.
- Reducing CO₂ emissions by 10% and our emission intensity by 65% by 2030 from 2005 levels,¹ in spite of increasing our generation by 145%.
- Investing in carbon capture and utilization technology such as C2CNT to eventually decarbonize our natural gas generation assets.
- Complete the Genesee Carbon Conversion Centre (GC³) by Q4, 2021. Commercial application of carbon conversion technologies would enable zero or near-zero emissions by 2050.

¹ Based on our current fleet.



Information regarding targets and performance can be found in our [Integrated Annual Report](#), Management Proxy (scheduled to be published in March 2020).

Capital Power

Capital Power (TSX: CPX) is a growth-oriented North American power producer headquartered in Edmonton, Alberta.

We develop, acquire, own and operate power generation facilities using a variety of energy sources. We own nearly 6,200 megawatts (MW) of power generation capacity at 26 facilities across North America. Approximately 800 MW of owned generation capacity is in advanced development in Alberta and Illinois.

We own approximately 2,600 MW of power generation capacity in Alberta, with ownership interests in nine facilities. The majority of power generated by the Alberta power plants in which Capital Power owns an interest is sold on a merchant, or non-contracted, basis into energy markets as part of our portfolio optimization activities.

We sell some of the power generated by our Alberta power plants, and the majority of the power generated by our power plants outside of Alberta, on a contracted basis to arm's length third parties.

As part of our growth strategy, we continually seek opportunities to acquire or develop contracted, larger-scale, natural gas-fired and renewable power generation facilities in Alberta, the rest of Canada and the U.S., and have focused our merchant power business on Alberta.

Our climate strategy is guided by our vision and mission, which are described below.

Our Values

Committed to safety

Working together as a diverse and inclusive team

Accountable to our stakeholders

Delivering excellence

Our Vision Is to Power a Sustainable Future

We are a leading North American power generator powering a sustainable future in the markets we operate for generations to come.

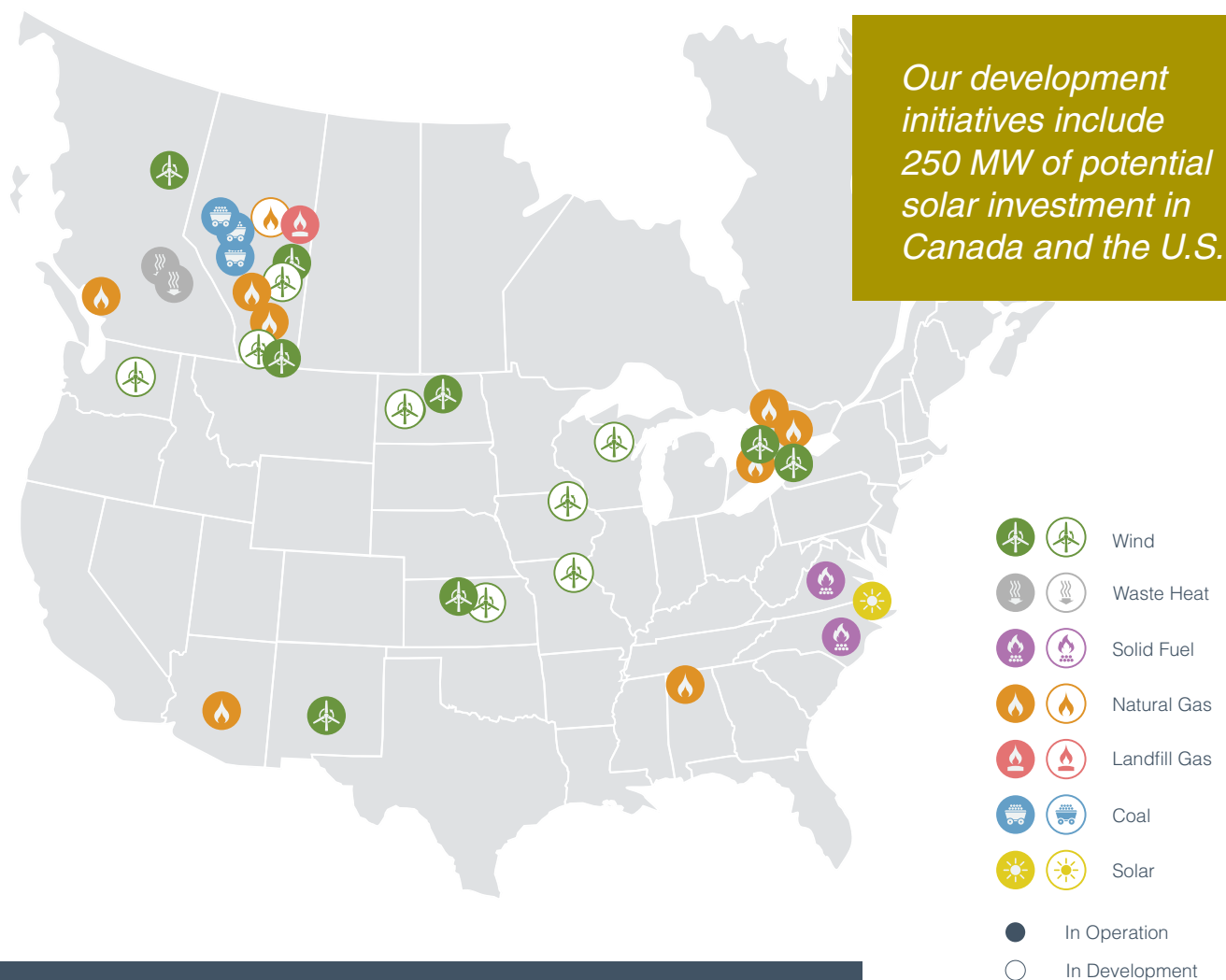
Our Mission Is to Create Dependable, Cost-Effective and Future-Ready Electricity Solutions

We are a dependable power producer by building, owning and operating high-quality, utility-scale generation facilities from diverse fuel sources to achieve outstanding availability standards and flexible generation technologies.

We accomplish our vision and mission through:

- Producing cost-effective power using our expertise, technology and business model to ensure there is affordable power available to our stakeholders
- Developing future-ready electricity solutions that protect our natural resources by creating electricity from lower-carbon fuel sources

Our Operations



Our strategy reflects our commitment to taking steps to capitalize on the transition to a low-carbon economy through continued investment in efficient natural gas generation, by lowering our emissions at thermal facilities, by growing our renewables – specifically wind and solar – and by advancing deployment of CCUS technologies.

Our Strategy

Our strategy has three foundational pillars, which are:

- Investing in emission-free renewables. We are currently building new facilities in Canada and the U.S. with future aspirations to integrate storage technologies.
- Investing in critical natural gas generation. We are actively acquiring key facilities in Canada and the U.S., working to optimize unit efficiencies and planning to reduce our emissions profile using carbon capture, utilization and storage (CCUS) technologies such as carbon conversion, as we expect them to mature and advance in the future.
- Transitioning heritage coal generation to natural gas, completing a 12% emissions reduction program and moving to 100% natural gas capabilities.

Climate change-related issues are a key consideration for Capital Power's strategy and long-term plan and are broadly and consistently considered in all current operational decisions and in future investments and developments. The annual corporate planning/strategy process is completed with extensive direction and input from the Executive Team and the Board based on their understanding of climate change risks, impacts and opportunities for our business.

As part of our long-term planning process, Capital Power considers external climate-related factors based on current market trends and monitors these trends for major changes or developments that could potentially change or influence our strategy, which is based on the following assumptions:

1. Gas will continue to be a primary generation source in North American power markets

Low natural gas prices and inherent operability make gas generation the most cost-effective and reliable technology for power generation. Increased renewables penetration also creates the need for more flexible capacity, which is achieved with fast-ramping gas units. Gas-fired generation will continue to play a major role in North American power markets over the duration of our strategic plan.

2. Wind and solar generation will make up a larger part of the supply mix in North American power markets

Wind and solar generation technologies have experienced a rapid decline in cost due to technological advances. In conjunction with economic incentives and continued policy support, wind and solar generation technologies are poised to continue their rapid growth.

3. CCUS technologies will be required to reduce emissions from global industrial processes and to enable removal of carbon from the atmosphere

The technical and economic viability of carbon capture is improving as a result of ongoing efforts by industries and governments around the world to accelerate deployment and demonstration of innovative technologies. The heightened focus and attention on carbon conversion and utilization, in which recovered carbon is converted into a wide range of commercial and industrial products and the revenue raised from the sale of those products is used to offset the cost of capture, represents a game-changer for the pace of development.



Our Sustainable Approach for the Future

We realize how critical it is to our business to ensure sustainability is embedded into our strategy, including addressing climate-related issues. Capital Power defines sustainability as managing all non-financial environmental, social and governance (ESG) issues that pose a significant risk to Capital Power's business and includes assessing and managing climate-related risks.

Our sustainability strategy aligns to our corporate vision and mission and is based on the following:

1. Resilience – Capital Power is ready for the future and can adapt successfully as our industry evolves and changes.
2. Environmental stewardship – We aim to operate our business in a way that has the lowest possible environmental impact on our planet and its resources.
3. Trust – Our employees and shareholders know and trust that we always say what we do, and then do what we say.

Over the past year, our cross-functional Sustainability Committee helped us to identify and articulate the sustainability challenges we face as a company over the long term, towards 2050.

We monitor the ongoing execution of our strategy to ensure it is yielding the desired results. We have identified several key metrics that reflect the success of our strategic plan, including committed capital, adjusted funds from operations (AFFO) accretion, ratio of contracted to merchant EBITDA, geographic diversification and sustainable technologies. These metrics have helped us to establish the following medium-term aspirations for a sustainable approach for the future.



About This Report

This second Climate Change Disclosure Report contains an expanded qualitative assessment to address the recommendations of the TCFD. This report is aligned to the four central themes of the TCFD recommendations, which include governance, strategy, risk management, and metrics and targets.

This report describes:

- Our climate-related governance from the Board of Directors, through to our executives, senior management and the entire organization.
 - How climate-related risks, opportunities and mitigation are identified, assessed and managed in accordance with our business strategy and Long-Term Plan (LTP), which are updated and reviewed on an annual basis.
 - Our assessment of the resiliency and sustainability of our strategy relative to alternative climate change scenarios, using three International Energy Agency (IEA) World Energy Outlook 2018 climate change-related scenarios.
- Current metrics and targets describing our performance and progress in managing climate-related risks and opportunities.

Capital Power already uses scenario analysis as part of our ongoing and regular corporate planning, risk management, strategy and forecasting initiatives. We recognize the value scenario assessments provide in helping us to consider the potential implications of alternative future outcomes relating to a range of factors including, but not limited to, commodity, technology, market and environmental factors. The IEA (2018) climate change-related scenarios provide an expanded lens that further validates our current strategy and approach.

“Organizations just beginning to use scenario analysis may choose to start with qualitative scenario narratives or storylines to help management explore the potential range of climate change implications for the organization. As an organization gains experience with qualitative scenario analysis, the scenarios and associated analysis of development paths can use quantitative information to illustrate potential pathways and outcomes.”

(TCFD, 2017, PAGE 4)



Our Reporting

Our reporting has always aimed to engage stakeholders and help them understand the material aspects of financial and non-financial aspects of our business, including issues related to GHG emissions and how climate change-related matters are managed and assessed, along with other business risks.

We have regularly disclosed and reported on our environmental and climate-related disclosures through our past Management Discussion and Analysis (MD&A), Annual Information Forms (AIF) and Corporate Sustainability reports which have been in accordance with the GRI Standards. We have also been reporting to the Carbon Disclosure Project (CDP) for years, as well as to the Canadian Electricity Association's reporting framework.

Building on our previous efforts, we committed to enhance and evolve our climate-related disclosures by producing our inaugural Climate Change Disclosure Report last year, which was aligned to the TCFD recommendations. This year, we are also publishing our first Integrated Annual Report, combining our ESG and financial performance in one report with the intent to further integrate financial and ESG/sustainability performance over time. Data on Capital Power's carbon emissions are provided in Capital Power's Integrated Annual Report published in February 2020.

We continue to evaluate and evolve our climate- and ESG-related reporting to ensure we provide the information that investors and stakeholders require to understand Capital Power's strategy, including the frameworks and processes we use to assess the resilience of our business and how we are minimizing and mitigating risks while capitalizing on opportunities.

Update on the Climate Change Disclosure Scenarios

In 2018, we selected three different scenarios – IEA 2017, IEA 2018 and Shell Sky – to assess the resilience of the company's strategy in respect of climate-related risks and opportunities. This year, we have changed our approach and are using the three scenarios described in the IEA (2018), namely the Current Policies Scenario, the New Policies Scenario and the Sustainable Development Scenario. We believe the IEA scenarios provide more current data, are more reflective of global expectations and provide greater standardization in general methodology and approach than was the case with the scenarios used in our inaugural report.

The IEA (2018) World Energy Outlook data set is generally used and referenced by other comparable industry partners, is publicly available, peer-reviewed and uses data sets at global, national and regional levels. Additionally, the IEA data sets are aligned to the TCFD recommendations, enabling a better comparison of climate-related risks within our own sector. The other advantage of using the IEA scenarios is that they are updated annually and will help to ensure that future analyses include updated and relevant information.

It is important to note that although Capital Power does not currently use IEA or other comprehensive climate scenarios as part of its regular forecasting or modelling efforts, we do consider climate-related risks extensively as part of our business planning, which takes into account carbon pricing and policy-related risk scenarios. In this regard, the use of IEA (2018) scenarios is for the purpose of this report only.

A detailed overview of our analysis of the three IEA (2018) scenarios and qualitative analysis can be found starting on page 18.

“A scenario describes a path of development leading to a particular outcome. Scenarios are not intended to represent a full description of the future, but rather to highlight central elements of a possible future and to draw attention to the key factors that will drive future developments. It is important to remember that scenarios are hypothetical constructs; they are not forecasts or predictions nor are they sensitivity analyses.”

(TCFD, 2017, PAGE 4)

Corporate Governance

Capital Power recognizes the importance of good governance and sustainability to support our ability to effectively address risks, capitalize on opportunities and create long-term shareholder value. Our Board of Directors oversees the creation and execution of Capital Power's strategy, Long-Term Plan¹ (LTP), and the identification, management and mitigation of risks to the strategy through our enterprise risk management (ERM) system.

In addition, the Board's strategic mandate expressly includes the obligation to consider "the opportunities, risks and sustainability of the business" and to receive reports from management "on matters relating to, among others, ethical conduct, human rights, diversity and inclusion, climate change and other sustainability matters."

The Board reviews the corporate risk register biannually, conducts site visits during annual meetings and consults regularly with shareholders for first-hand perspectives of their key topics of interest. The Board and the CEO set the tone for management in driving the behaviours and attitudes needed to support corporate-wide alignment on a strong sustainability culture.

The Board's focus on climate change includes annually approving the LTP, which contains medium-term strategies relating to decarbonization, technology and the pursuit of renewable generation. The Board recognizes that in order to be sustainable we must evolve with the power market. This means that in addition to maintaining reliability, we must increasingly focus on decarbonization.

The Board has established a Health, Safety and Environment Committee, which provides a structured approach to, among other things, monitoring and assessing the effectiveness of Capital Power's environmental stewardship (including the environmental impact of our operations), and reviewing related goals, compliance and policies (including matters relating to GHGs and climate change).

Responsibilities of the Board's Audit Committee include reviewing our public disclosures and recommending them for Board approval. This includes annual financial reporting such as the Management's Discussion and Analysis and Annual Information Form, which provide information on risks and significant events including

Capital Power recognizes the importance of good governance and sustainability.

those related to environmental and social factors. Our annual disclosures now reference our inaugural Climate Change Disclosure Report released in 2019 and our first Integrated Annual Report.

The Board has established a Corporate Governance, Compensation and Nominating Committee, which is responsible for reviewing and recommending compensation targets and the related framework to the Board. Executive remuneration is linked to social and environmental targets including worker safety, employee retention and climate change initiatives like achieving lower greenhouse gas (GHG) emissions at our Genesee Generating Station. These targets cascade throughout Capital Power. The targets and remuneration framework are reviewed and approved annually by the Board. Further information regarding metrics and targets is provided on page 2.

¹ Capital Power's Long-Term Plan (LTP) is an internal document that provides a medium-term outlook extending over 10 years that is updated annually to ensure it remains current. This year's plan will provide a 10-year outlook from 2020-2030. For competitiveness reasons this document is not shared with the public.

More information regarding our Board can be found under Who We Are > Corporate Governance at www.capitalpower.com



Capital Power's Organizational Structure

Under the Board's oversight, the Chief Executive Officer (CEO) is ultimately responsible for climate-related issues. The Executive Team as a whole is responsible for addressing climate change-related issues, assessing implications, risks and opportunities for Capital Power, and ensuring our strategy is sustainable. The Chief Sustainability Officer (Senior Vice President, Chief Legal & Sustainability Officer), Chief Financial Officer (CFO), Chief Operating Officer (Senior Vice President, Operations, Engineering & Construction), Senior Vice President of Corporate Development and Commercial Services, and the Vice President, Human Resources, are all members of Capital Power's Executive Team and report directly to the CEO.

The annual corporate planning/strategy process is completed with extensive direction and input from the Executive Team and Board based on their understanding of climate change risks, impacts and opportunities for our business.

The Chief Sustainability Officer (Senior Vice President, Chief Legal & Sustainability Officer) provides quarterly sustainability updates (including climate-related issues) to the Board.

Members of the Executive Team hold the following specific responsibilities with regards to assessing, monitoring and developing recommendations for climate-related issues:

- The Chief Legal & Sustainability Officer (CLSO) is responsible for overseeing Capital Power's overall sustainability strategy, providing coordination at the highest level. In addition to providing strategic leadership, the CLSO oversees the communication and coordination of sustainability issues, ensuring legal compliance and alignment to the corporate strategy. The CLSO communicates with the Board, management, shareholders, customers, employees and other stakeholders to address sustainability matters.
- The Senior Vice President of Corporate Development and Commercial Services is responsible for overseeing the annual 10-year corporate LTP, for which our CFO develops our long-term forecast and scenario-builds (which considers climate change-

related issues along with a range of market, policy, technology and commercial considerations), which are used for financial planning and investment decisions. These scenarios are developed and regularly reviewed and refined by the market assessment and forecast team which reports to the CFO. The Senior Vice President of Corporate Development and Commercial Services is also responsible for pursuing investment in renewables and low-carbon generation, and for our strategy relating to the creation and management of our carbon offsets and environmental credit portfolio.

- The Chief Operating Officer (Senior Vice President, Operations, Engineering & Construction) is responsible for the safe, efficient and reliable construction, operation and maintenance of all of Capital Power's generating facilities. With respect to climate change-related considerations, key responsibilities relate to environmental compliance, operational emissions, reporting to government on emissions, leading efforts to physically reduce emissions and continued optimization of fleet operations to reduce emissions.
- The CFO is responsible for financial administration with respect to carbon taxes and offsets, disclosure, financial sustainability and integrity of the corporation.
- The Vice President, Human Resources, is responsible for developing a people strategy that ensures our people are ready for the future. We must attract, retain and engage a future-focused workforce that has the ability and agility to address sustainability matters, which include climate-related issues. Our people strategy supports the successful execution of our business strategy by hiring people with the right skills for our business now and in the future, strategic workforce planning to address our changing business, enabling employees and leaders to grow in the identified competencies related to ESG through training and development, and designing experiences and programs that engage our employees.

Senior management actively and continually assesses climate change-related issues as part of our ongoing review of various business, market, technical, operational, regulatory and policy, and strategy-related matters.

Managing Climate Risks and Opportunities

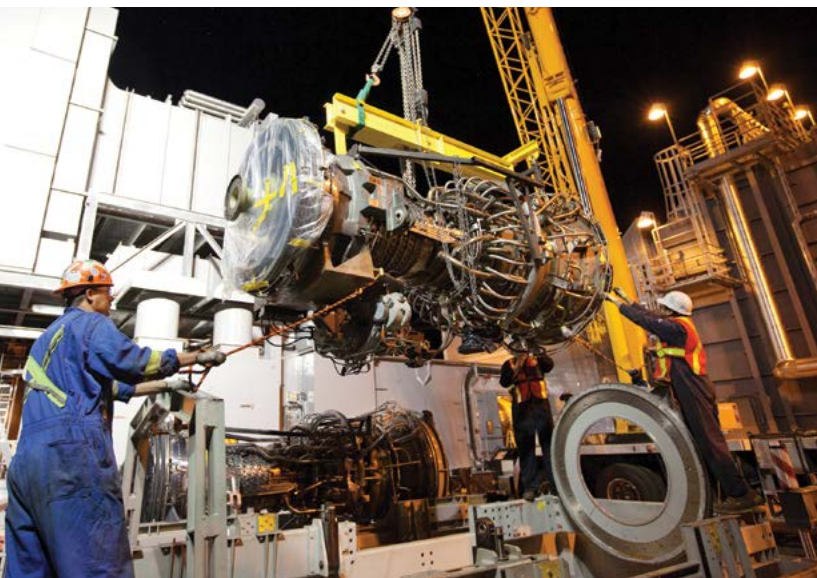
Capital Power actively manages its climate change-related risks and opportunities through several processes and initiatives as part of a natural, embedded process. Both our long-term business planning and enterprise risk management (ERM) processes consider short- to medium-term risks, including climate-related risks, as part of their regular biannual updates.

Our ERM process is integrated into planning and involves identifying, evaluating and addressing economic, social and environmental risks and opportunities on a regular basis, particularly as global management practices related to climate-related issues continue to evolve. Our risks and impacts are multi-faceted and require effective collaboration among departments, business units and external stakeholders. We continually identify and assess opportunities to strengthen our practices to ensure we remain current.

The company also considers changes in its climate risk profile as we review our insurance program on an annual basis. We ensure coverage is in place for potential losses arising from catastrophic natural events appropriate to the level of risk related to each site.

Other specific processes and initiatives that assist us in managing climate risks and opportunities, and are embedded in our business practices, include the following:

- Operations and maintenance practices are intended to achieve high levels of plant reliability, availability and efficiency, and compliance with applicable carbon policies. Carbon emissions are measured in real time at our thermal plants.
- The organization dedicates resources to actively monitor and, where required, provide feedback into and influence the development of government policy that could impact the company's existing or prospective interests, and to ensure compliance with current and future requirements.
- Our ERM team reports directly to the Board in respect of GHG-related risk management strategies and provides a biannual update of the company's risk profile, which includes GHG-related risks and mitigation strategies.
- Carbon pricing and policy-related risks are regularly considered and managed through internal forecasting, due diligence and asset management and commodity risk management processes, including participation in relevant carbon trading markets. Our forecasting activities include utilizing base and sensitivity cases for carbon pricing for all jurisdictions in which we have commercial interests.
- Business development and corporate strategy processes assess, on an ongoing basis, a range of development and acquisition opportunities, and carbon-related issues are considered as an integral part of due diligence, capital allocation and evaluation activities.



TCFD Framework

The qualitative assessment includes using the TCFD framework described below to identify transitional and physical risks and opportunities. These risks were used to determine potential impacts to Capital Power's strategic planning and risk management processes. Climate-related opportunities, risks and risk management are described below.







*“Over the last two years
we have published two
transparent climate change
disclosures aligned to TCFD.”*

BRIAN VAASJO, PRESIDENT AND CEO

Climate-Related Opportunities




Our inaugural Climate Change Disclosure Report identified a range of short- to medium-term climate-related opportunities for which Capital Power's strategy was positioned. The following table identifies the climate-related opportunities and furthers the assessment based on an evaluation using our ERM and LTP processes. The table shows how we are seizing these opportunities and implementing mitigation strategies to minimize our exposure to climate-related risks.


Driver	Opportunities and how we pursue them
Physical Opportunities	
Acute Physical 	<p>Lower insurance costs over the life of assets by avoiding areas with more extreme weather events caused by climate change (e.g., tornadoes, hurricanes, floods, drought and ice storms).</p> <p><i>Our risk assessment process considers increases in severe weather and the impact that extreme events could have on our facilities. We use this analysis to ensure our insurance costs are lower in the long term.</i></p>
Chronic Physical 	<p>Assess physical opportunities associated with climate change, such as long-term changes in weather patterns. For example, potential changes in wind patterns and wind regimes are considered in the design and operation of wind facilities to enable us to generate wind power more efficiently and deliver more renewable energy.</p> <p><i>We employ future-focused thinking to the engineering, design and operation of our assets. In 2019, Phase 1 of the Renewables Operation Centre (ROC) project sought to optimize the energy output and financial performance of our wind assets by increasing our remote monitoring and analytics capabilities. Phase 2 will further optimize and enhance the performance of these assets in 2020.</i></p>
Upstream 	<p>Pursue digitization and new technologies like AI to capitalize on upstream physical and commercial opportunities associated with climate change, and improve adaptation or reduce vulnerability to climate change events.</p> <p>Engage on climate change issues with a variety of stakeholders to help them understand our approach and find out how Capital Power can more effectively address broader stakeholder concerns.</p> <p><i>We employ future-focused thinking to the engineering, design and operation of our assets and are deploying AI strategies at our sites. For example, AI-enabled combustion optimization and intelligent sootblowing software has been implemented through our Genesee Performance Standard Program.</i></p>
Downstream 	<p>Assess downstream physical, commercial and regulatory opportunities associated with climate change from a demand perspective, looking at how social behaviours may change demand in the longer term.</p> <p>Engage with our stakeholders to help us identify opportunities to reduce costs related to generation (i.e., power, natural gas and environmental commodities) and gather input for inclusion in our assessments and decision making.</p> <p><i>We engage on climate change issues with various stakeholders to help them understand our business and to obtain input for more accurate assumptions and potential opportunities.</i></p>



Driver	Opportunities and how we pursue them
Transitional Opportunities	
<p>Market</p> 	<p>Increase in demand for new, low-carbon technology.</p> <p>Need for flexible generation to enable greater renewable build out.</p> <p>Create valuable products from captured carbon to improve economics of carbon capture and make CCUS more competitive.</p> <p><i>Our commercial and technology strategy shows we are developing and investing in renewable and efficient natural gas generation to support cleaner, affordable and reliable electricity in markets across North America.</i></p>
<p>Policy/Regulatory</p> 	<p>Accelerated deployment and demonstration of CCUS for existing and new gas plants.</p> <p>Funding support for investments to convert or repower thermal units, invest in new renewables, and test and demonstrate CCUS technologies at scale.</p> <p>Increased market opportunities for carbon trading and risk management activities.</p> <p>Expanded electrification across sectors increases demand for electricity.</p> <p><i>We actively participate in carbon-related policy development in all jurisdictions in which we operate and continue to include carbon pricing and other policy sensitivities in our commercial planning.</i></p>
<p>Technology</p> 	<p>Assess commercial opportunities associated with climate change, including technology advancements that support the transition to a lower-carbon, energy-efficient economic system.</p> <p>Monitor for technologies that may be disruptive and impact the cost or environmental competitiveness of our fleet (e.g., battery and storage and small modular reactors).</p> <p>Specific opportunities include:</p> <ul style="list-style-type: none"> • Undertaking co-firing and conversion of coal units to natural gas operations. • Engineering, construction and operation expertise transferable to a range of technology types. • Creating valuable products from captured carbon. <p><i>Our technology strategy will establish full capability for our three coal facilities to have 100% dual-fuel flexibility to utilize either natural gas or coal by 2021, with full conversion to natural gas to occur no later than 2030.</i></p>
<p>Reputational</p> 	<p>Demonstrate leadership in responsible construction, operation and maintenance of power generating facilities.</p> <p>Maintain transparent and robust communication and disclosure practices with investors, communities and other stakeholders.</p> <p><i>We provide transparent communication of the decarbonization strategy with all of our stakeholders, including through our TCFD-related reporting.</i></p>

Climate-Related Risks

The following table identifies a number of medium-term climate-related risks and furthers our assessment based on an evaluation using our ERM and LTP processes. The table below shows how risks previously identified have been further investigated.

Driver	Risks and how we manage them
Physical Risks	
Acute Physical 	<p>Extreme weather events caused by climate change (e.g., tornadoes, hurricanes, floods, droughts and ice storms) could have an impact on our operations and critical infrastructure and trigger increased insurance costs and potential liabilities.</p> <p><i>Given the geographical areas in which our facilities operate, increases in extreme weather are included in our risk assessment process.</i></p> <p><i>Our insurance program ensures adequate coverage is in place.</i></p> <p><i>We have dedicated subject matter expertise such as market forecasters, trades specialists, crisis and disaster management specialists, and engineers who assist in managing key issues related to acute and chronic physical risks.</i></p> <p><i>Our talent recruitment and development strategy ensures that we attract appropriate competencies when positions become available and that the skills of our current workforce are kept up to date.</i></p>
Chronic Physical 	<p>Physical risks associated with climate change, such as changing wind patterns and extreme weather, could reduce the amount of renewable electricity we produce.</p> <p><i>We actively seek opportunities for optimizing production for our wind assets and have developed the following strategies for several wind assets:</i></p> <ul style="list-style-type: none"> <i>Optimizing operations and maintenance activities during high-wind periods by minimizing turbine downtime, actively assessing turbine production and revising OEM contracts to further support reliable operations of wind assets.</i> <i>Implementing upgrades to turbine blades with aerodynamic enhancements and turbine control software that increase generation across various wind speeds.</i> <i>Trialling wind-detecting products that align turbine direction for optimal performance.</i>
Upstream 	<p>There could be increased upstream risk due to inadequate fuel supply, including the coal, natural gas, wind regime, solar capacity and alternative fuel sources used at our facilities.</p> <p>Increased compliance costs related to using coal and natural gas could negatively affect share prices, particularly if investors pull back and those still willing to invest seek a higher return for the risk profile, resulting in share price declining and cost of capital increasing.</p> <p>Increased rating agency concerns could negatively influence the cost of debt and restrict access to debt markets.</p> <p><i>Our diverse assets, both in terms of fuel mix and geography, reduce physical risks.</i></p> <p><i>We are converting our existing coal units to natural gas and acquiring additional renewable, wind and gas facilities.</i></p>

Driver	Risks and how we manage them
Downstream 	<p>Increased downstream risks due to changing social behaviours over the longer term could result in increased costs of generation and compliance.</p> <p>It could become more difficult to forecast the market due to changing climate-driven regulations and policies, which could in turn drive supply and demand.</p> <p><i>We have dedicated subject matter expertise such as energy traders, market forecasters, and regulatory and commercial specialists who assist in managing key issues related to downstream physical risks</i></p>

Driver	Risks and how we manage them
Transitional Risks	
Market 	<p>Our current portfolio may result in higher GHG obligations and/or greater carbon compliance exposure.</p> <p><i>We actively manage compliance costs through an active presence in environmental commodity markets.</i></p> <p><i>We have dedicated subject matter expertise such as energy traders and energy marketers to assist in managing our carbon compliance exposure.</i></p>
Policy/Regulatory 	<p>More stringent carbon pricing frameworks could impose additional costs on thermal assets.</p> <p>Aggressive government renewable energy regulations and subsidies could undermine electricity markets and opportunities for return on existing investments.</p> <p>Expansion in conservation and efficiency programs could reduce demand for electricity.</p> <p><i>Risks from emerging regulations associated with climate change are assessed, including policies relating to emission intensity levels. For example, in 2019 there was uncertainty around carbon regimes due to the provincial and federal elections in Canada. We assessed the impact of various carbon regimes, which could significantly impact our compliance costs in the short-to-medium and long term.</i></p> <p><i>We regularly engage with government bodies to participate in the development of carbon policy.</i></p> <p><i>We have dedicated subject matter expertise related to environmental and/or government regulations and policies in Canada and the U.S. to assist in managing key issues related to climate change.</i></p>

Driver	Risks and how we manage them
<p>Technology</p> 	<p>Degradation in thermal asset performance over time could result in increased carbon compliance costs.</p> <p>High energy efficiency and distributed generation could affect load profiles and displace large central generation.</p> <p><i>We have significant expertise in the development and construction of wind farms, and experience with solar technology.</i></p> <p><i>We proactively pursue opportunities to enhance the reliability and efficiency of all facilities.</i></p> <p><i>We are committed to capital and maintenance programs in order to ensure high availability of our assets and efficient use of resources. For example, the GPS Program, a five-year initiative that commenced in 2016, targeted a 12% improvement in GHG emission intensity through capital upgrades and operational improvements.</i></p>
<p>Reputational</p> 	<p>There could be increased public perception risk or investor/cost of capital risks related to having a carbon-intensive portfolio.</p> <p>There could be damage to reputation stemming from climate change-related events involving or affecting company assets.</p> <p><i>Legal risks are assessed from the perspective of pending potential litigation and learnings from other jurisdictions (e.g., landowners potentially suing due to wind farm concerns), as well as compliance risks.</i></p> <p><i>Our commitment to more transparent sustainability/ESG reporting and disclosures and ensuring two-way engagement with stakeholders assists in addressing potential concerns and risks.</i></p> <p><i>We have dedicated subject matter expertise related to regulatory compliance and community engagement who are committed to stakeholder engagement efforts and have helped to develop meaningful relationships over time.</i></p> <p><i>We have a stakeholder engagement guide which has enabled a streamlined approach with respect to stakeholder management across the organization.</i></p>

Over the short and medium term, we will continue to focus on growing renewable and natural gas opportunities in Canada and the U.S. and transitioning fuel at existing facilities from coal to natural gas or other renewable sources. For example, in 2019 we announced a project to establish 100% dual-fuel flexibility at our Genesee facilities, which by 2021 will enable the units to utilize 100% natural gas or coal depending on prevailing market, electricity and carbon pricing conditions. Also in 2019, we furthered our investment in C2CNT as part of a

long-term opportunity to mitigate risks related to carbon dioxide (CO₂) emissions and initiated plans to develop the Genesee Carbon Conversion Centre, both of which reflect our commitment to carbon-free power generation through the medium and long term.

It is important to note that risk assessment work is ongoing and is subject to change over time. Please refer to the cautionary statement on forward-looking statements found at the conclusion of this report.

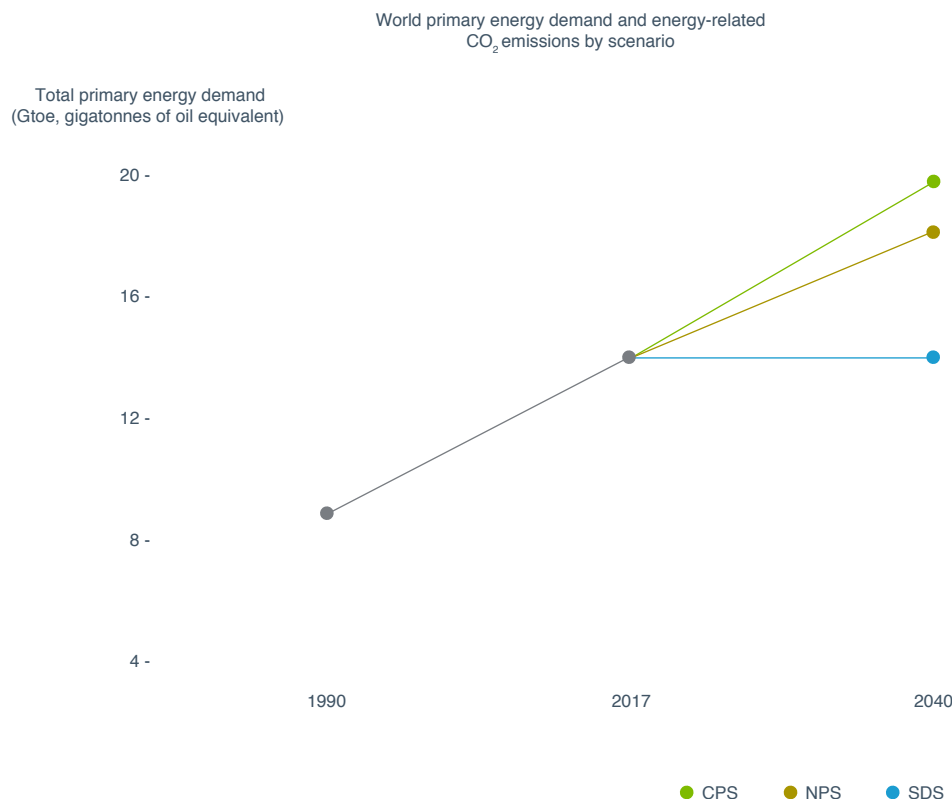
Using the IEA Scenarios for Resilience Testing

Capital Power has chosen to use the IEA scenario model and the IEA's 2018 data for this year's analysis. The IEA model makes assumptions about technology, policy, CO₂ prices, fuel prices and various socioeconomic drivers such as population and GDP. The IEA model simulates the interactions among supply, primary energy demand, energy transformation processes, final energy demand and energy service demand; and it outputs the resulting energy flows, CO₂ emissions and investments up to 2040.

Note: The IEA's 2018 World Energy Outlook Report provides a framework for thinking about the future of global energy. It does not make predictions about the future. Instead, it sets out what the future could look like based on different scenarios or pathways, with the aim of providing insights to inform decision making by governments, companies and others concerned with energy.

The following includes a summary of each of the three main scenarios contained in the IEA 2018 report:

- Demands for energy security are expected to increase if policies align to the **Current Policies Scenario**, which would likely result in an increase in energy-related CO₂ emissions.
- The increased focus on government policies and climate-related targets to encourage renewables and low-carbon sources of power in the **New Policies Scenario** would result in a negligible change in global energy-related CO₂ emissions.
- The **Sustainable Development Scenario** includes more aggressive efforts to accelerate a clean energy transition in order to meet global goals related to climate change, universal access and clean air. The Sustainable Development Scenario is fully aligned with the Paris Agreement's goal of holding the increase in the global average temperature to "well below 2 °C."




Overview of IEA (2018) Scenarios

The principal quantitative tool used to generate the scenario projections is the World Energy Model, a large-scale simulation model developed at the International Energy Agency (IEA) over many years to capture the evolving nature of energy markets and technologies. A selection of information inputs used to generate the scenarios, including the underlying assumptions

for economic growth, population, policies and the trajectories for energy and CO₂ prices, is found in this paragraph. Assumed rates of growth for global gross domestic product (average of 3.4% worldwide and 2.1% for North America per year to 2040) and population (an increase to just over 9 billion people worldwide and 571 million people in North America in 2040) are constant across the scenarios, whereas policies, costs and equilibrium prices differ substantially.

North American general assumptions

NAM	2000	2016	2017	2025	2030	2035	2040
Population	414	483	487	520	539	556	571
Share of World population	7%	7%	7%	6%	6%	6%	6%
GDP (\$2,017 billion, PPP)	17,258	23,087	23,618	27,792	30,737	34,054	37,842
Share of World GDP	25%	19%	19%	16%	15%	14%	14%
GDP per capita (\$2,017, PPP)	41,689	47,819	48,499	53,454	57,022	61,250	66,315



The decision to adopt different scenarios from what we used in our inaugural report allowed us to use scenarios that were more current and reflective of global expectations and provided greater standardization in general methodology and approach.

Current Policies Scenario

The Current Policies Scenario reflects current global commitments with respect to reducing GHG emissions. In this scenario, the world continues to rely heavily on fossil fuels, resulting in a major additional rise in energy-related CO₂ emissions and changes to climate due to the failure to contain a global temperature increase.



Total Primary Energy Demand

NAM: 3,284 Mtoe in 2040,
stable 98% compared to 2017

NAM: Electricity generation 6,281 TWh,
20% increase compared to 2017

Power sector investments required to realize this scenario:

NAM investment:

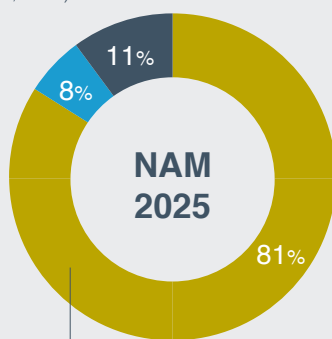
Gas: 2018-2025, \$15 billion per year and 2026-2040, \$11 billion per year

Wind: 2018-2025, \$13 billion per year and 2026-2040, \$2 billion per year

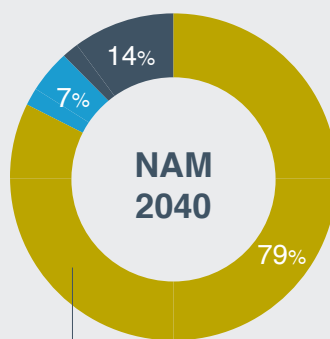
Solar PV: 2018-2025, \$24 billion per year and 2026-2040, \$13 billion per year

Energy Mix (WEO, 2018)¹

● Thermal ● Nuclear ● Renewables



(of which 34% gas)



(of which 36% gas)

Notes on Thermal

- In NAM, coal will decline to 86% of 2017 use.
- In NAM, oil demand will be stable at 97% of 2017 use.
- In NAM, gas demand will increase to 127% of 2017 use.

The world is on a trajectory toward:

Carbon levels: In NAM, carbon levels will remain stable at 100% to 6.7 Gt compared to 2017 carbon levels.

Temperature rise: 3-6 °C

Sea level rise: 0.5-1.0 metre and more heat waves and changes in rainfall patterns by 2100



Renewables

NAM: Increase 170% to 399 Mtoe in 2040 compared to 2017



Carbon Prices

Carbon price in Canada:
USD 35 in 2025 and
USD 39 in 2040

¹ North American energy demand related to power generation is measured in Mtoe and has been converted to percentage for this report.

New Policies Scenario

The New Policies Scenario broadens the scope to include government policies and targets. While this is an improvement, the increase of fossil fuels and connected CO₂ emissions would nevertheless result in a 2.7 °C temperature rise.



Total Primary Energy Demand

NAM: 3,129 Mtoe in 2040, decline to 93% compared to 2017

NAM: Electricity generation 6,059 TWh, 16% increase compared to 2017

Power sector investments required to realize this scenario:

NAM investment:

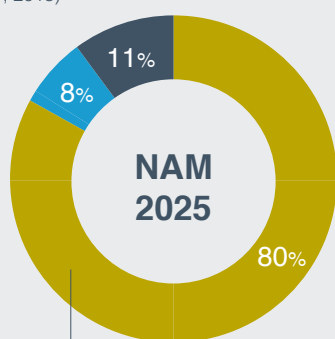
Gas: 2018-2025, \$14 billion per year and 2026-2040, \$9 billion per year

Wind: 2018-2025, \$15 billion per year and 2026-2040, \$14 billion per year

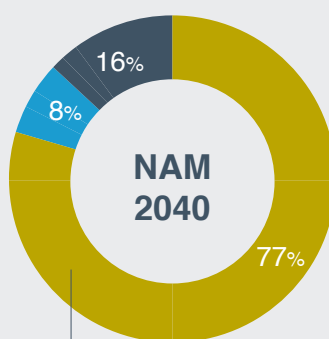
Solar PV: 2018-2025, \$29 billion per year and 2026-2040, \$14 billion per year

Energy Mix (WEO, 2018)¹

● Thermal ● Nuclear ● Renewables



(of which 33% gas)



(of which 36% gas)

Notes on Thermal

- In NAM, coal will strongly decline to 66% of 2017 use.
- In NAM, oil demand will decline to 87% of 2017 use.
- In NAM, gas demand will increase to 121% of 2017 use.

The world is on a trajectory toward:

Carbon levels: In NAM, carbon levels will decline to 88% and 5.0 Gt compared to 2017 carbon levels.

Temperature rise: 2.7 °C

Sea level rise: 0.32-0.63 metre



Renewables

NAM: Increase 182% to 428 Mtoe in 2040 compared to 2017



Carbon Prices

Carbon price in Canada: USD 35 in 2025 and USD 39 in 2040

¹ North American energy demand related to power generation is measured in Mtoe and has been converted to percentage for this report.

Sustainable Development Scenario

The Sustainable Development Scenario represents a more aggressive approach to meeting the Paris Agreement's goal to keep the global average temperature to "well below 2 °C." In this scenario, increasing renewable clean energy puts the world on track to meet goals related to climate change, universal access and clean air.



Total Primary Energy Demand

NAM: 2,602 Mtoe in 2040, decline to 78% compared to 2017

NAM: Electricity generation 5,671 TWh, 8% increase compared to 2017

Power sector investments required to realize this scenario:

NAM investment:

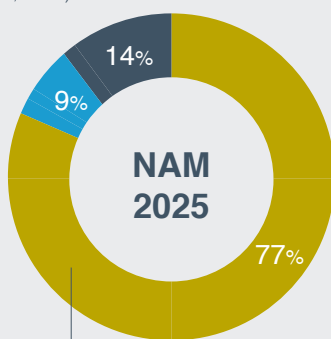
Gas: 2018-2025, \$12 billion per year and 2026-2040, \$16 billion per year

Wind: 2018-2025, \$21 billion per year and 2026-2040, \$35 billion per year

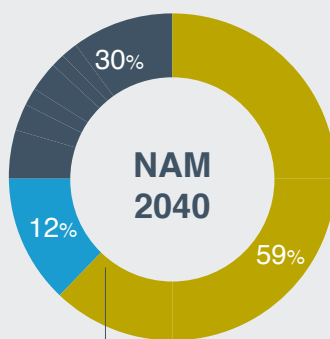
Solar PV: 2018-2025, \$34 billion per year and 2026-2040, \$27 billion per year

Energy Mix (WEO, 2018)¹

● Thermal ● Nuclear ● Renewables



(of which 35% gas)



(of which 32% gas)

Notes on Thermal

- In NAM, coal will approach 0 with a decline to 12% of 2017 use.
- In NAM, oil demand will decline even stronger to 53% of 2017 use.
- In NAM, gas demand will decrease to 84% of 2017 use.

The world is on a trajectory toward:

Carbon levels: Compared to 2017, worldwide carbon level will decrease to 54% and 17.7 Gt in 2040. In NAM, carbon levels will decline to 40% and 2.3 Gt compared to 2017 carbon levels.

Temperature rise: 1.7-1.8 °C

Sea level rise:
0.26-0.55 metre



Renewables

NAM: Increase 266% to 625 Mtoe in 2040 compared to 2017



Carbon Prices

Carbon price in advanced economies: USD 63 in 2025 and USD 140 in 2040

¹ North American energy demand related to power generation is measured in Mtoe and has been converted to percentage for this report.

Testing Our Strategy Resilience

We have tested the resilience of our strategy, and the underlying pillars and key assumptions, relative to the three IEA scenarios.

All three scenarios support our strategic focus on continued growth and investment in renewables and natural gas generation. Our findings are summarized below.

Our Strategic Pillars

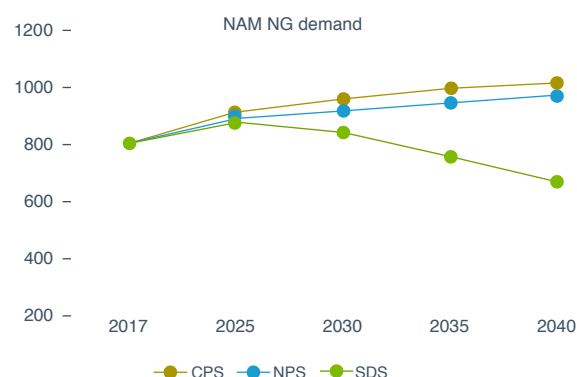
- Investing in critical natural gas generation and actively acquiring key facilities in Canada and the U.S. with plans to reduce our thermal emissions profile using CCUS technologies such as carbon conversion, as we expect them to mature and advance in the future.
- Transitioning heritage coal generation to natural gas, completing a 12% emissions reduction program and moving to 100% natural gas capabilities at our sites.
- Investing in emission-free renewables and building new facilities in Canada and the U.S. with future aspirations to integrate storage technologies.

Our view on these assumptions based on the IEA (2018) scenarios

In the Current Policies and New Policies scenarios, natural gas continues to rise both worldwide and in North America. Within the Sustainable Development Scenario

for North America, natural gas starts a decline from 2025; however, natural gas still comprises more than one-third of the energy mix in 2040. Natural gas will continue to be a primary energy source in North America.

The Current Policies and New Policies scenarios project the growth rate for renewables to be between 170% and 182%, respectively, between 2017 and 2040. Renewables reach 170% of the energy mix in 2040 in the CPS and 182% in the NPS. Growth opportunities for Capital Power to capitalize on wind are greater within the Sustainable Development Scenario. All scenarios highlight great opportunities in the future for wind and validate our current strategy to further expand our wind assets in North America.



Scenario	Energy mix renewables	Growth rate
Current Policies Scenario	14% in 2040	170% from 2017 to 2040
New Policies Scenario	16% in 2040	182% from 2017 to 2040
Sustainable Development Scenario	30% in 2040	266% from 2017 to 2040

Other assumptions: Extreme weather as a key risk

As described on page 13, extreme weather was identified as a key risk with potential impact on our operations and critical infrastructure, long-term changes to wind patterns affecting the capacity of our wind assets and increased insurance costs and potential liabilities. The potential physical risks arising from severe weather events and changing climate patterns would be greater under the CPS and NPS. However, any weather-related risks will be proactively managed through insurance, geographic diversification and other measures to avoid loss of value as described on page 15.

Our view on these assumptions based on the IEA (2018) scenarios

In order to manage the physical impacts of climate change, such as severe weather events, we have a crisis management team that stays apprised of climate change-related impacts through continuous professional development. Our operations team coordinates with our contingency planning team and we have emergency response plans and emergency site plans that are reviewed annually. We perform emergency response exercises involving local first responders every three years. The geographic and fuel diversity of our assets also reduces the severity of these physical risks to our portfolio.

Carbon Conversion: The Key to a Decarbonized World

The IEA scenarios do not consider the role of CCUS and more specifically carbon conversion technologies. Carbon conversion technologies provide the potential globally to reduce or avoid emissions from both thermal generation and downstream industrial manufacturing processes and to make significant progress towards meeting or potentially exceeding climate change targets. The importance of the deployment and role of carbon conversion-related technologies continues to be recognized by the IPCC and other agencies and is one area which, in our view, is understated by the IEA scenarios.

In addition, the IEA (2018) scenarios do not contemplate thermal energy demand in conjunction with viable carbon conversion technology as per our strategy, nor do they consider the complexity of change, the emergence of other new technologies or global shifts accelerating or decelerating the transition to a low-carbon commodity. They are therefore not heavily relied upon for business planning purposes. Reasons for this include not yet widely recognizing the possibilities of beneficial CO₂ use.

At Capital Power, we have historically invested in carbon conversion technologies and are starting to see results materialize in the form of usable products. We have set a direction to scale CCUS technologies at some of our sites, as carbon conversion enables thermal power generation within all scenarios by taking CO₂ emissions out of the environment and turning them into useful products, thereby creating a competitive advantage as an environmentally sustainable solution.

Explanation

- Carbon capture and storage (CCS): the process of capturing waste carbon dioxide (CO₂) from large point sources, such as power plants, transporting it to a storage site and depositing it where it will not enter the atmosphere, normally an underground geological formation.
- Carbon capture and utilization (CCU): the process of capturing carbon dioxide (CO₂) to be recycled for further usage. CCU differs from CCS in that CCU does not aim for, nor result in, permanent geological storage of carbon dioxide. Instead, CCU aims to use the captured carbon dioxide for conversion into other substances or products with higher economic value (e.g., plastics, concrete, biofuel) while retaining the carbon neutrality of the production processes.

World Energy Outlook 2018

Natural gas consumption grows in every scenario, underpinned by its versatility and environmental advantages relative to other combustible fuels. Its growth prospects are, however, curtailed in the Sustainable Development Scenario by higher efficiency and the push towards full decarbonization of the energy system.

WEO-2018, p. 39

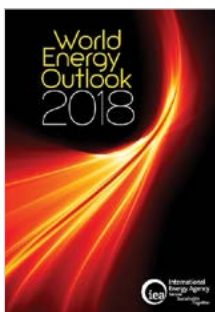
While some of the elements used in CCUS are relatively mature, limiting future cost reduction possibilities, there remain a number of novel aspects – particularly the combination of capture, transport and storage technologies – whose cost could fall substantially in the future.

WEO-2018, p. 501

The future scale of CO₂ use is highly uncertain

The future market for CO₂-derived products and services is very difficult to assess, reflecting the early stage of technology development for many applications and the reliance on supporting policy frameworks. Global estimates range from less than 1 GtCO₂ per year to 7 GtCO₂ per year by 2030, depending on the assumptions applied. These higher estimates are considered extremely optimistic.

Putting CO₂ to Use: Creating value from emissions, September 2019



CCUS technologies, including carbon conversion technologies, have been a focus for Capital Power for more than 10 years. We believe the successful development of these technologies will create a meaningful competitive advantage for Capital Power. We actively monitor technologies for building and operating dispatchable generation that creates zero or near-zero atmospheric CO₂. C2CNT is the first in a line of opportunities that are being readied for market penetration. We recently announced plans to implement CCUS technologies, specifically carbon conversion, on a commercial scale at the Genesee Carbon Conversion Centre located at our Genesee plant in Alberta, which will produce 7,500 tonnes per year of carbon nanotubes. This technology will allow us to convert GHG emissions into useful carbon nanotubes that can be used in a variety of applications (see New Technology in Action). Efforts to commence the permitting process are planned for early 2020.

New technology in action: C2CNT at Capital Power

Exemplifying our commitment to new technology, C2CNT is one example of an investment that provides a high-value proposition, creates a positive environmental impact and reflects our ability to innovate. C2CNT's revolutionary technology significantly reduces the cost of producing carbon nanotubes. Groundbreaking technology developed by C2CNT allows the current industry production cost to be reduced by approximately 20 to 100 times per tonne. This step-change in cost

allows for significant demand and market size expansion from the current environment.

What is a carbon nanotube?

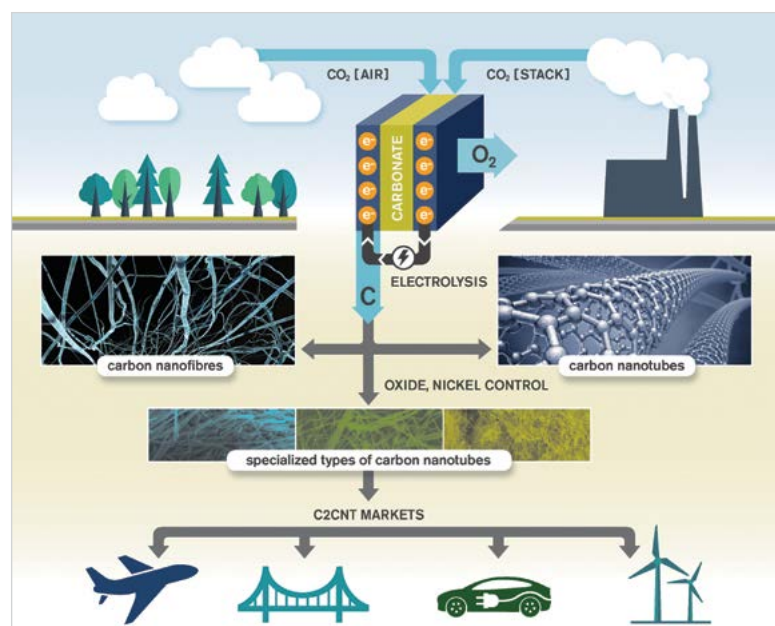
A carbon nanotube is an allotrope of carbon, popular due to its excellent electrical, mechanical and tensile strength properties. These properties help reduce weight and increase the strength in an array of applications including batteries, electronics, sensors, polymer composites and structural materials. Their tensile strength is 100 times greater than steel of the same diameter.

What is C2CNT's competitive advantage?

C2CNT can produce carbon nanotubes at a fraction of the current production cost and significantly reduce emissions in the process. In addition, the carbon nanotubes are made through an electrolysis process that removes CO₂ from entering the atmosphere.

Why are we interested in carbon nanotubes?

Reducing our carbon footprint is a meaningful factor, but not the primary driver. Our primary motivation is the value proposition: we see carbon nanotubes as the highest-value carbon utilization product that can be extracted from a flue gas stream. As a power producer, we are suited to supply the power and we have the expertise to build and operate the facilities.



The science behind it: simple electrolysis

1. CO₂ is captured from the atmosphere and industrial processes
2. CO₂ is split by molten carbonate electrolysis into high-value carbon nanotubes (75,000 times smaller than a human hair) and O₂
3. Captured O₂ mixes with air to produce oxygen-enriched combustion air resulting in ~26% decrease in fuel consumption
4. Oxide and nickel control is applied to render specialized types of carbon nanotubes
5. Specialized carbon nanotubes are used for various industrial materials applications

TCFD

Alignment Table

TCFD Theme	TCFD Recommendations	Alignment to Capital Power/Reference
Governance	a. Describe the Board's oversight on climate-related risks and opportunities.	<ul style="list-style-type: none"> See Corporate Governance See Who We Are > Corporate Governance (www.capitalpower.com)
	b. Describe management's role in assessing and managing climate-related risks and opportunities.	<ul style="list-style-type: none"> See Corporate Governance See Organizational Structure
Strategy	a. Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term.	<ul style="list-style-type: none"> See Climate-Related Risks and Opportunities
	b. Describe the impact of climate-related risks on the organization's business strategy and financial planning.	<ul style="list-style-type: none"> See Climate-Related Risks
	c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios including a 2 °C or lower scenario.	<ul style="list-style-type: none"> See Overview of IEA (2018) Scenarios See Testing Our Strategy Resilience
Risk Management	a. Describe the organization's process for identifying and assessing climate-related risks.	<ul style="list-style-type: none"> See Climate-Related Risks and Opportunities
	b. Describe the organization's process for managing climate-related risks.	<ul style="list-style-type: none"> See Managing Our Transitional and Physical Risks
	c. Describe how processes for identifying, assessing and managing climate-related risks are integrated into the company's overall risk management.	<ul style="list-style-type: none"> See Our Strategy See Climate-Related Risks and Opportunities
Metrics and Targets	a. Disclose metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	<ul style="list-style-type: none"> See Metrics and Targets See Integrated Annual Report 2019
	b. Disclose Scope 1, 2, and, if appropriate, Scope 3 GHG emissions and the related risks.	<ul style="list-style-type: none"> See Integrated Annual Report 2019 See CDP 2019
	c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	<ul style="list-style-type: none"> See Metrics and Targets

Our Commitment to Resilience

Capital Power has embedded climate change considerations into our business strategy and decision-making processes and has effective governance and risk mitigation processes in place to effectively monitor, mitigate and address climate-related risks and capitalize on opportunities.

The IEA scenarios highlight the continued role and importance that natural gas and renewables will have in the North American energy system, supporting our focus on these technologies and our ongoing efforts to optimize performance and reduce emissions at our thermal facilities. We are confident CCUS technologies will be essential to achieving global carbon-reduction objectives, particularly in the industrial process sector, and are committed to continuing our leadership to accelerate their deployment and advancement in the power generation space.

Our geographic diversification combined with our insurance and risk management initiatives also position us well to manage physical risks arising from climate change under the different scenarios. We understand the importance of continually tracking and refining key metrics that influence the strength and resilience of our business, recognizing that there is great uncertainty as to how the future will unfold.



Our geographic diversification combined with our insurance and risk management initiatives also position us well to manage physical risks arising from climate change under the different scenarios.

What's Next – Advancing Our Carbon Disclosure Efforts

As we completed our assessment, we noted variation across scenarios and within sources depending on which assumptions one makes, which increased the complexity of assessing the overall resilience of our business. It is important to note that the climate change scenarios and their implications for Capital Power are inherently speculative and future events are subject to change. We believe that this report taken together with our Integrated Annual Report is an important step in furthering disclosure efforts with respect to climate-related risks and opportunities and we will seek to build on this effort in the future.



Forward-looking information

Forward-looking information or statements included in this Climate Change Disclosure Report are provided to inform the Company's shareholders and potential investors about management's assessment of Capital Power's future plans and operations in the context of climate change. This information may not be appropriate for other purposes. The forward-looking information in this Climate Change Disclosure Report is generally identified by words such as "will", "anticipate", "believe", "plan", "intend", "target" and "expect" or similar words suggest future outcomes. By their nature, such statements are subject to significant risks, assumptions and uncertainties, which could cause Capital Power's actual results and experience to be materially different than the anticipated results.

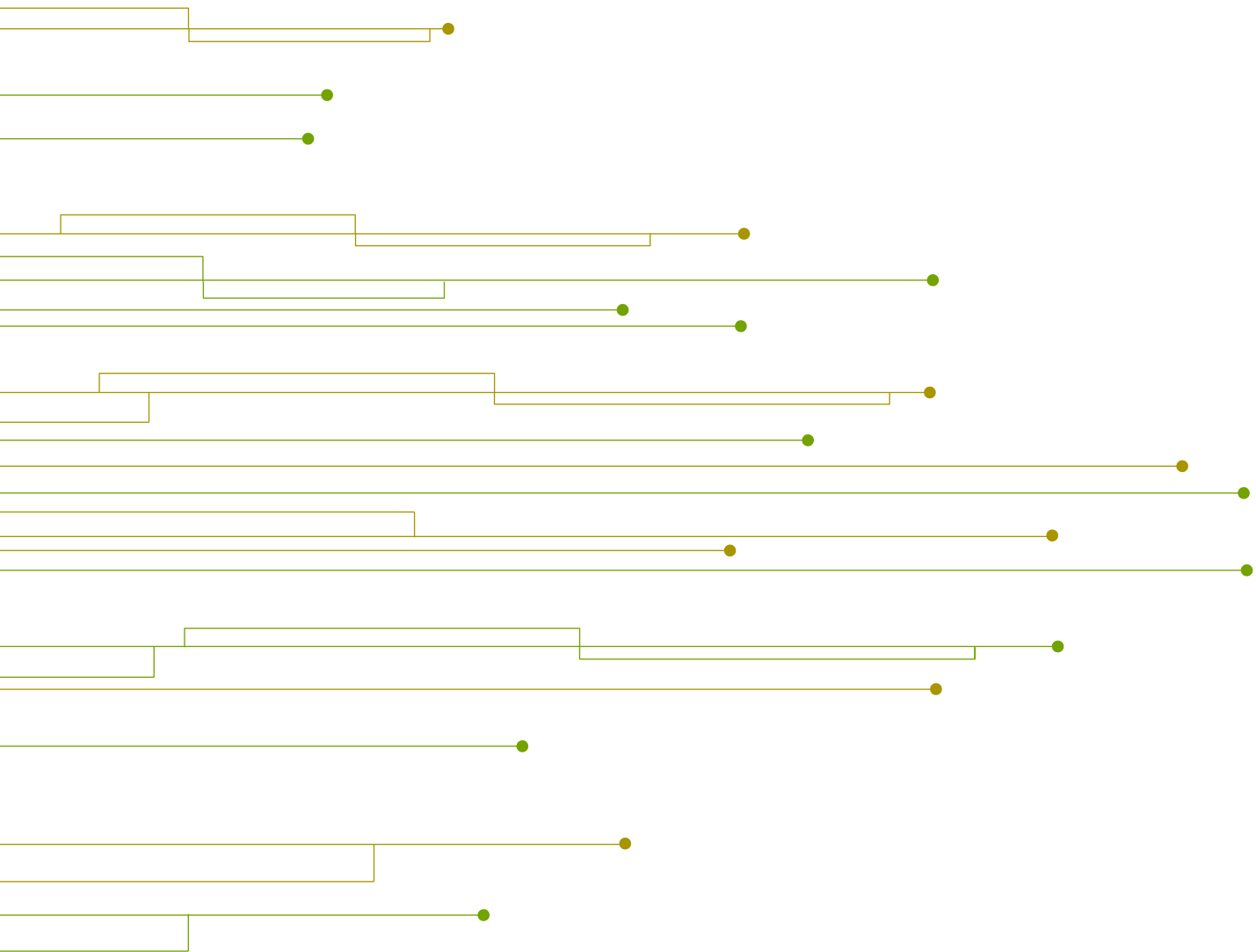
Forward-looking information in this document includes, among other things, information relating to:

- i. The global and North American energy future, including the factors and trends that are expected to shape it.
- ii. The transition to a low-emission economy and the expected role of different energy sources.
- iii. The three energy scenarios (International Energy Agency's Current Policies Scenario, New Policies Scenario and Sustainable Development Scenario) used to test the resilience of our strategy and its underlying pillars and key assumptions.
- iv. The trends that shape the three energy scenarios, and the expectations and forecasts regarding carbon prices and the energy demand and supply mix in the various scenarios.
- v. Our conclusions from our scenario analysis using the three scenarios on Capital Power's approach to managing climate change risk and opportunities.
- vi. Expected climate-related opportunities and ways to pursue them.
- vii. The effectiveness of our risk management strategies, including in mitigating climate-related risks.
- viii. Expectations around timing for achieving 100% dual fuel flexibility, and full conversion to natural gas, at our Genesee facilities.
- ix. Our aim to achieve net-zero emissions.
- x. Our aspirations for 2030 in respect of our generation fleet, contracted generation, contract length, geographical diversity and adjusted funds from operations accretion.
- xi. Our plans to reduce our emissions using carbon capture, utilization and storage technologies, such as carbon conversion, including regarding C2CNT, and anticipated production of carbon nanotubes.
- xii. Our company-wide targets specific to climate-related performance, including reduction of emissions and emissions intensity, competition of the Genesee Carbon Conservation Centre and commercial application of carbon conversion technologies.

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 and expected future developments, and other factors it believes are appropriate. The material assumptions used to develop these forward-looking statements relate to: (i) electricity and other energy prices, (ii) performance, (iii) business prospects and opportunities including expected growth and capital projects, (iv) status of and impact of policy, legislation and regulations, (v) effective tax rates, (vi) the development and performance of technology, and (vii) assumptions relating to the three energy scenarios.

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: (i) power facility availability and performance including maintenance expenditures, (ii) changes in electricity prices in markets in which Capital Power operates, (iii) regulatory and political environments including changes to environmental, financial reporting, market structure and tax legislation, (iv) acquisitions and developments including timing and costs of regulatory approvals and construction, (v) ability to fund current and future capital and working capital needs, (vi) changes in energy commodity market prices and use of derivatives, (vii) changes in market prices and availability of fuel, (viii) changes in general economic and competitive conditions, and (ix) changes in the performance of technologies and the development of new technologies, new energy-efficient products, services and programs.

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.



Corporate Headquarters
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