

## 2018 Capital Power Climate Change Disclosure

Capital Power is a forward-looking, innovative power producer with a strategic focus on sustainable energy. We are responsible and realistic and consider this to be a great competitive advantage as we are set to lead our industry in the production of reliable, cleaner power.

Sustainability is nothing new to us and each Capital Power employee holds, at their core, the commitment to providing responsible energy for generations to come.

We are also committed to evolving our current reporting and disclosure of climate-related risks and opportunities to provide our shareholders, investors and stakeholders with an increased level of open and transparent disclosure. We support the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations and the objectives they aim to address with respect to increasing the level of disclosure of potential risks and opportunities faced by businesses relating to climate change.

This document is provided to identify elements of the TCFD recommendations currently being addressed through our existing disclosure and reporting, identify the three climate scenarios that will provide the basis for our strategy assessment going forward, and provide an initial qualitative assessment of the key risks and opportunities those scenarios present for Capital Power's business.

### Our Current Reporting<sup>1</sup>

Capital Power has historically disclosed how issues relating to greenhouse gas (GHG) emissions and climate change-related matters are managed and assessed, along with other business risks, in our Management Discussion & Analysis (MD&A) reports, our Annual Information Form (AIF) reports, and our Corporate Sustainability Report (CSR) as summarized below.

#### A. Governance

- The Board of Directors oversees the creation and execution of Capital Power's strategy, as well as 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 and other sustainability matters".
- The Board has established a Health, Safety and Environment Committee to, among other things, monitor and assess the effectiveness of Capital Power's environmental stewardship, including the environmental impact of our operations, and reviewing our goals, compliance and policies in this respect, including matters relating to GHG and climate change.
- 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.

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<sup>1</sup> All of our reports can be found on our website at [capitalpower.com](http://capitalpower.com)

## **B. Strategy**

- Capital Power's business is the development, construction, acquisition, operation and optimization of power generating facilities. Our current generating portfolio includes a diverse range of fuels and technologies, including coal, natural gas, wind, solar, and biomass.
- Capital Power's plan to achieve continuous efficiency improvements at all our facilities includes co-firing coal units with natural gas until they are entirely transitioned to natural gas, expanding our natural gas and renewable generating portfolio across Canada and in the U.S., and advancing demonstration and deployment of carbon capture, utilization and storage (CCUS) on our natural gas units. Most studies addressing global climate change scenarios identify CCUS as being a key technology for achieving global climate change objectives, not just within the power generation sector but within the broader industrial process sector.
- Capital Power's existing assets and prospective development opportunities stand to be impacted by climate change in various respects. These include implementation of or changes to carbon pricing and/or emissions policies; policy mechanisms intended to incent and/or discourage particular generating technologies; potential demand reduction from energy conservation and efficiency programs, the potential emergence of disruptive technologies or business processes; and disruption to operations and/or business processes due to climate-related events.

## **C. Risk Management**

- Capital Power actively manages our climate change-related risks through several processes and initiatives.
  - 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 each stack via continuous emissions monitoring systems on each relevant unit.
  - 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.
  - 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 valuation activities.

## D. Metrics and Targets

- Capital Power reports its climate-related performance metrics and progress as part of its annual reporting in accordance with the Global Reporting Index, which is included as part of the CSR report.

## Future Forward: Planning with Climate Change Scenarios



Climate change scenarios help us plan and make better decisions by considering possibilities, opportunities and uncertainties that lie ahead. They help us to innovate, create and deliver long-term value.

Members of our leadership team conducted an initial analysis of three alternate climate change scenarios:

1. A high carbon scenario based on the International Energy Agency's (IEA) 2018 World Energy Outlook New Policy Scenario,
2. A base case using the IEA's 2017 Energy Technology Perspectives Two-Degree Scenario, and
3. A low-carbon scenario based on Royal Dutch Shell's Sky scenario.

We did this to facilitate Capital Power's assessment of policy, market, technological, reputational and physical risks and opportunities associated with climate change. Based on our assumption that governments, companies, and markets are shifting to a lower-carbon economy, drivers - such as more robust climate-related policy and regulation, technological advancements, rising investor interest, and increasing physical impacts - will present opportunities to build and develop zero and low-emitting generating sources and technologies and receive incentives for such investments, and will also present us with risks related to increasing compliance costs, damage and operational impacts caused by climate-related weather change and, enhanced disclosure requests.

Capital Power's initial assessment of climate change scenarios indicates that: (1) there will continue to be several options available to mitigate risks and capitalize on opportunities related to a changing climate and energy system (as summarized in the table below) and (2) our business and strategy will be resilient to the risks and opportunities presented by all three scenarios. The expected continued global shift toward renewables - and corresponding requirement for natural gas to provide firming and backstop services to ensure reliable and affordable electricity - are reflected in our strategic focus on both types of generation. Our efforts to support the advancement and deployment of CCUS will support the long-term and sustainable use of natural gas as a zero or near-zero emitting fuel, not only in power generation, but in other industrial sectors as well.

DRIVERS	RISKS	OPPORTUNITIES	POTENTIAL MITIGATION MEASURES
 <p><b>MARKET</b></p>	<ul style="list-style-type: none"> <li>Changes in technology costs, carbon policy, and commodity prices reduce competitiveness of thermal generating assets relative to renewables, reducing revenue</li> </ul>	<ul style="list-style-type: none"> <li>Increase in demand for new, low-carbon technology</li> <li>Need for flexible generation to enable renewable build out</li> <li>Create valuable products from captured carbon to improve economics of carbon capture, and make CCUS more competitive</li> </ul>	<ul style="list-style-type: none"> <li>Develop low-carbon and renewable power generation assets, and maintain a diversified pipeline of projects</li> <li>Maintain geographical diversification within North America</li> <li>Participate in carbon markets including strategies to generate offsets</li> <li>Review vulnerabilities of suppliers to climate change</li> </ul>
 <p><b>POLICY/ REGULATORY</b></p>	<ul style="list-style-type: none"> <li>More stringent carbon pricing frameworks impose additional costs on thermal assets</li> <li>Aggressive government renewable energy regulations and subsidies undermine electricity markets and opportunities for return on existing investments</li> <li>Expansion in conservation and efficiency programs reduces demand for electricity</li> </ul>	<ul style="list-style-type: none"> <li>Accelerated deployment and demonstration of CCUS for existing and new gas plants</li> <li>Funding support for investments to convert/repower thermal units, invest in new renewables and test/demonstrate CCUS technologies at scale</li> <li>Increased market opportunities for carbon trading and risk management activities</li> <li>Expanded electrification across sectors increases demand for electricity</li> </ul>	<ul style="list-style-type: none"> <li>Active participation in policy development processes in markets in which we have assets</li> <li>Continue to include carbon pricing and other policy sensitivities in ongoing commercial planning initiatives</li> <li>Commitment to research on renewable / low-carbon technologies through partnerships and collaboration</li> <li>Maintain geographical diversification within North America</li> </ul>

DRIVERS	RISKS	OPPORTUNITIES	POTENTIAL MITIGATION MEASURES
 <p><b>TECHNOLOGY</b></p>	<ul style="list-style-type: none"> <li>• Degradation in thermal asset performance over time results in increased carbon compliance costs</li> <li>• High energy efficiency and distributed generation affect load profiles and displace large central generation</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake co-firing and conversion of coal units to natural gas operations</li> <li>• Engineering, construction and operation expertise transferable to range of technology types</li> <li>• Create valuable products from captured carbon</li> </ul>	<ul style="list-style-type: none"> <li>• Continue effective maintenance programs to ensure reliability and availability of assets</li> <li>• Focus future investments on high-efficiency power generation systems and associated equipment</li> </ul>
 <p><b>PHYSICAL</b></p>	<ul style="list-style-type: none"> <li>• Impact on operations / critical infrastructure from catastrophic weather events</li> <li>• Long-term change in wind patterns affect capacity factors of wind assets</li> <li>• Increased insurance costs and potential liabilities from extreme weather events</li> </ul>	<ul style="list-style-type: none"> <li>• Improve adaptation / reduce vulnerability to climate change events</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain contingency and disaster plans for extreme weather events</li> <li>• Diversify fuel and geographic portfolio</li> <li>• Employ forward thinking engineering and design principles</li> </ul>
 <p><b>REPUTATIONAL</b></p>	<ul style="list-style-type: none"> <li>• Public perception risk from carbon intensive portfolio</li> <li>• Damage to reputation stemming from climate change-related events involving or affecting Company assets</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to demonstrate leadership in responsible construction, operation, and maintenance of power generating facilities</li> <li>• Maintain transparent and robust communication and disclosure practices with investors, communities and other stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Increase public awareness about Capital Power's climate change adaptation / mitigation strategy</li> <li>• Maintain transparent communication of the decarbonization strategy with all stakeholders</li> </ul>