

Memorandum

CLIMATE-RELATED FINANCIAL DISCLOSURES

August 4, 2021

To: Members of the Board
From: Robin M. Gilliam, Assistant Director
Thru: Monica R. Valentine, Executive Director
Subject: **Review Climate-Related Research-Discuss FASAB's Role** (Topic F)

INTRODUCTION

At the December 2020 meeting, staff coordinated an [education session](#) to inform members about the fiscal exposure and climate risk to property, plant, and equipment (PP&E) for the federal government. Staff then proposed a [technical plan](#) for a climate impact and risk reporting project. The Board requested that staff continue to research this topic and approved the Climate Impact and Risk Reporting Research Topic.

On January 20, 2021, President Biden signed Executive Order (EO) 14030: *Climate-Related Financial Risk*. EO 14030 provided an expanded scope beyond PP&E. In addition, international standard setters are developing implementation frameworks and guidance for climate-related financial disclosures based on the recommendations by the Task Force for Climate-Related Financial Disclosures (TCFD).

Attachment 1: *Staff Analysis* provides details on both US policy and the TCFD recommendations and implementation efforts for members to consider 1) the direction FASAB should take in relation to of climate-related financial disclosures; 2) whether to include this topic on the technical agenda; and 3) whether to adapt the TCFD recommendations as a model for federal climate-related financial disclosures.

REQUEST FOR FEEDBACK BY August 18, 2021

Please review the attached staff research on climate-related financial disclosures and respond to the questions by **August 18, 2021**.

For additional information, questions, or suggestions, please contact us as early as possible at gilliamr@fasab.gov with a cc to Monica Valentine at valentinem@fasab.gov.

NEXT STEPS – will be determined by Board decisions

ATTACHMENTS¹

#1. Staff Analysis

#2. Vancouver Annual Financial Report, 2020, pages 29-39, Task Force Climate-Related Financial Disclosures (TCFD) Unaudited

¹ Most references are provided as hyperlinks throughout this memorandum

Staff Analysis

CLIMATE-RELATED FINANCIAL DISCLOSURES

Attachment 1

CONTEXT

Staff began to research the climate-related impact to PP&E in relation to existing FASAB standards. However, on May 20, 2021, President Biden signed EO 14030: *Climate-Related Financial Risk* which prompted staff to expand the research beyond the original scope from PP&E to federal financial reporting and accounting standards. The EO directs the government to develop... *a comprehensive, Government-wide strategy for:*

Sec. 2.(a) the measurement, assessment, mitigation, and disclosure of climate-related financial risk to Federal Government programs, assets, and liabilities in order to increase the long-term stability of Federal operations; and

Sec. 5. (a) ...approaches related to the integration of climate-related financial risk into Federal financial management and financial reporting, especially as that risk relates to Federal lending programs. The recommendations should evaluate options to enhance accounting standards for Federal financial reporting where appropriate and should identify any opportunities to further encourage market adoption of such standards.

Staff then met with OMB and Treasury to understand what information would be helpful to include in the briefing materials. OMB and Treasury were interested in learning about the landscape of activity around developing and implementing climate-related financial disclosures.

Staff's research showed extensive work by international standard setters in developing and implementing **climate-related financial disclosures** based on recommendations by the [Task Force for Climate-Related Financial Disclosures](#) (the Task Force or TCFD).

The Financial Stability Board (FSB) established the TCFD in 2015.

The FSB is an international body that monitors and makes recommendations about the global financial system. Financial markets need clear, comprehensive, high-quality information on the impacts of climate change. This includes the risks and opportunities presented by rising temperatures, climate-related policy, and emerging technologies in our changing world. The [FSB created the TCFD](#) to improve and increase reporting of climate-related financial information.

The TCFD is committed to market transparency and stability. We believe that better information will allow companies to incorporate climate-related risks and opportunities into their risk management and strategic planning processes. As this occurs, companies' and investors' understanding of the financial implications associated with climate change will grow, empowering the markets to channel investment to sustainable and resilient solutions, opportunities, and business models.

At this time, International standard setters² are encouraging transparency through disclosures about climate-related risks, opportunities, and fiscal impacts—including impacts to PP&E—for making decisions on the sustainability of an organization.

Staff presents recent findings on the development and implementation of climate-related financial disclosures, as well as US policy and reports that could impact federal reporting entities.

Staff requests that members consider the following while reviewing this research:

- 1) What is FASAB's role in climate-related disclosures?
 - a. Staff believes FASAB should consider the TCFD recommendations (details presented below) as a model for developing federal climate-related financial disclosures. The TCFD recommendations could potentially provide guidance to federal reporting entities on the information required in financial statements to support recent Executive Orders (EO) related to climate-risk reporting. Details of EO 14008, Sec. 103 (a) and EO 14030, Sec. 2.a) and 5.a) are presented below.
 - b. While TCFD recommendations are written for publically held organizations, staff is competent they can be adapted for the federal government.
- 2) Add the Climate-Related Financial Disclosures project to the technical agenda.
 - a. As an active project, the Board designates resources to provide proper guidance for federal reporting entities in reporting on this complicated, yet necessary issue.
 - b. The Board has access to other research tools, such as Invitations to Comment prior to developing an Exposure Draft (ED).

² As of the writing of this briefing memorandum, there is no information on if or how the Financial Accounting Standards Board (FASB) or Government Standards Accounting Board (GASB) are proceeding with standards for climate-related financial disclosures.

RESEARCH, KEY TAKEAWAYS, AND STAFF NOTES:

The following is a chronological list of the recent history on the need, development, and implementation of climate-related financial disclosures to help members address both considerations.

- A. April 2015 – the Group of 20 (G20)** Finance Ministers and Central Bank Governors asked the [Financial Stability Board \(FSB\)](#) to convene public-and private-sector participants to review how the financial sector can take account of climate-related issues.³

ABOUT G20: The G20 is the international forum that brings together the world's major economies. Its members account for more than 80% of world GDP, 75% of global trade and 60% of the population of the planet.

- B. November 2016 – The Office of Management and Budget (OMB)** published [Climate Change: The Fiscal Risks Facing The Federal Government-A Preliminary Assessment](#)

KEY TAKEAWAYS:

Page 5 – 6 *the impacts of climate change will also affect the Federal balance sheet, for example:*

- *An increase in the frequency of catastrophic storms will require more disaster relief spending and flood insurance payouts.*
- *Rising seas and heavy rainfall events will prompt investments to protect, repair, and relocate Federal facilities.*
- *Changing weather patterns and extreme weather events will affect American farmers and the Federal programs that support their risk management.*
- *Climate impacts affecting the nation's food, water, air quality, weather, and built and natural environments endanger the health of the American people and weigh on Federal health care programs.*
- *An increase in wildland fire frequency and intensity will place further strain on Federal fire suppression resources.*
- *Climate change shocks and stressors worldwide pose global security risks and affect resource needs for defense operations and infrastructure.*

³ [Task Force on Climate-related Financial Disclosures 2020 Status Report](#), page 2 Figure ES1 *The Task Force's Remit*

Wide-ranging impacts will impede economic production and diminish Federal revenue.

STAFF NOTE:

Staff suggests that the following Statement of Federal Financial Accounting Standards (SFFAS) be reviewed to determine if guidance is appropriate for climate-related financial disclosures.

- SFFAS 2 - *Accounting for Direct Loans and Loan Guarantees*
- SFFAS 5 - *Accounting for Liabilities of The Federal Government [contingent liabilities]*
- *SFFAS 6 - *Accounting for Property, Plant, and Equipment*
- *SFFAS 15 - *Management's Discussions and Analysis*
- SFFAS 36 – *Comprehensive Long-Term Projections for the U.S. Government*
- *SFFAS 40 - *Deferred Maintenance and Repairs: Definitional Changes*
- *SFFAS 42 - *Deferred Maintenance and Repairs: Amending Statements of Federal Financial Accounting Standards 6, 14, 29, and 32*
- *SFFAS 44 - *Accounting for Impairment of General Property, Plant, and Equipment Remaining in Use*

*Standards included in the toolbox presented by staff in the *Federal Accounting for Climate-Related Events* outreach briefings.

- C. June 2017 – The **Task Force for Climate-Related Financial Disclosures** (The Task Force or TCFD) published the [*Final Report - Recommendations of the Task Force on Climate-related Financial Disclosures*](#).

KEY TAKEAWAYS:

1. Pages i – iii [Letter to Chairman and Executive Summary]

...The FSB selected a 32 member global Task Force. Members were selected from various organizations, including large banks, insurance companies, asset managers, pension funds, large non-financial companies, accounting and consulting firms, and credit rating agencies...

The Task Force spent 18 months consulting with a wide range of business and financial leaders to hone its recommendations and consider how to help companies better communicate key climate-related information...

The TCFD developed recommendations for more effective climate-related disclosures that could promote more informed investment, credit, and insurance underwriting decisions and, in turn, enable stakeholders to understand better the

concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risks.

Executive Summary

Financial Markets and Transparency

One of the essential functions of financial markets is to price risk to support informed, efficient capital-allocation decisions. Accurate and timely disclosure of current and past operating and financial results is fundamental to this function, but it is increasingly important to understand the governance and risk management context in which financial results are achieved. The financial crisis of 2007-2008 was an important reminder of the repercussions that weak corporate governance and risk management practices can have on asset values. This has resulted in increased demand for transparency from organizations on their governance structures, strategies, and risk management practices. Without the right information, investors and others may incorrectly price or value assets, leading to a misallocation of capital.

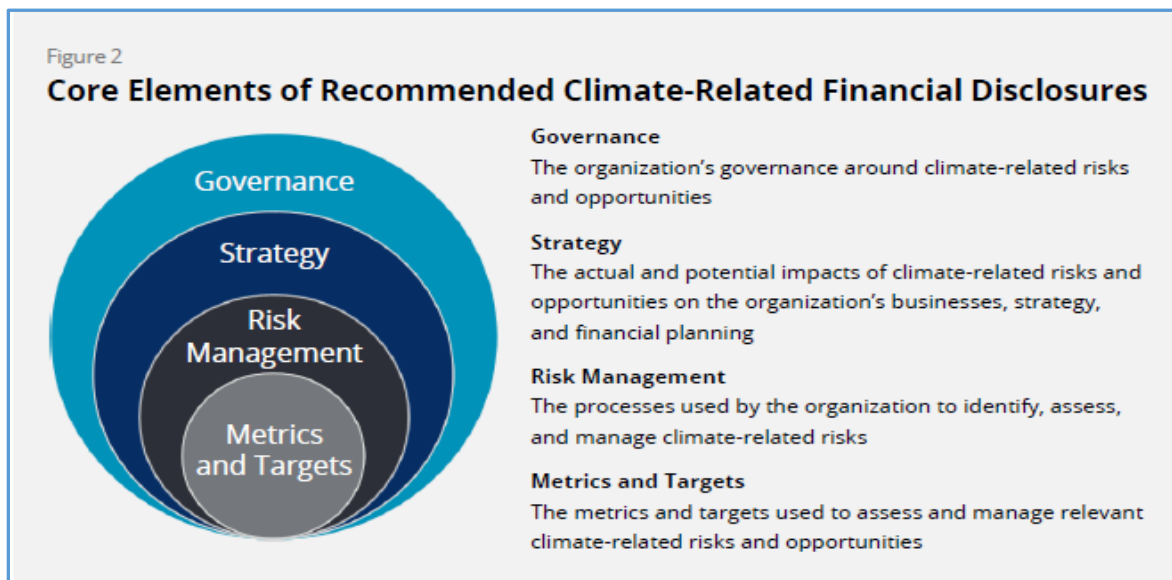
Financial Implications of Climate Change

One of the most significant, and perhaps most misunderstood, risks that organizations face today relates to climate change. While it is widely recognized that continued emission of greenhouse gases will cause further warming of the planet and this warming could lead to damaging economic and social consequences, the exact timing and severity of physical effects are difficult to estimate. The large-scale and long-term nature of the problem makes it uniquely challenging, especially in the context of economic decision making. Accordingly, many organizations incorrectly perceive the implications of climate change to be long term and, therefore, not necessarily relevant to decisions made today.

2. Page iii, Figure 1 – Key Features of Recommendations:

- *Adaptable by all organizations*
- *Included in financial filings*
- *Designed to solicit decision-useful, forward-looking information on financial impacts*
- *Strong focus on risks and opportunities related to transition to lower-carbon economy*

3. Page v, Figure 2 – Four core elements recommended by TCFD for climate-related financial disclosures.



4. Page 5, 1. Climate-Related Risks Identified by TCFD

The Task Force divided climate-related risks into two major categories: (1) risks related to the transition to a lower-carbon economy and (2) risks related to the physical impacts of climate change.

*a. **Transition Risks** - Transitioning to a lower-carbon economy may entail extensive policy, legal, technology, and market changes to address mitigation and adaptation requirements related to climate change. Depending on the nature, speed, and focus of these changes, transition risks may pose varying levels of financial and reputational risk to organizations.*

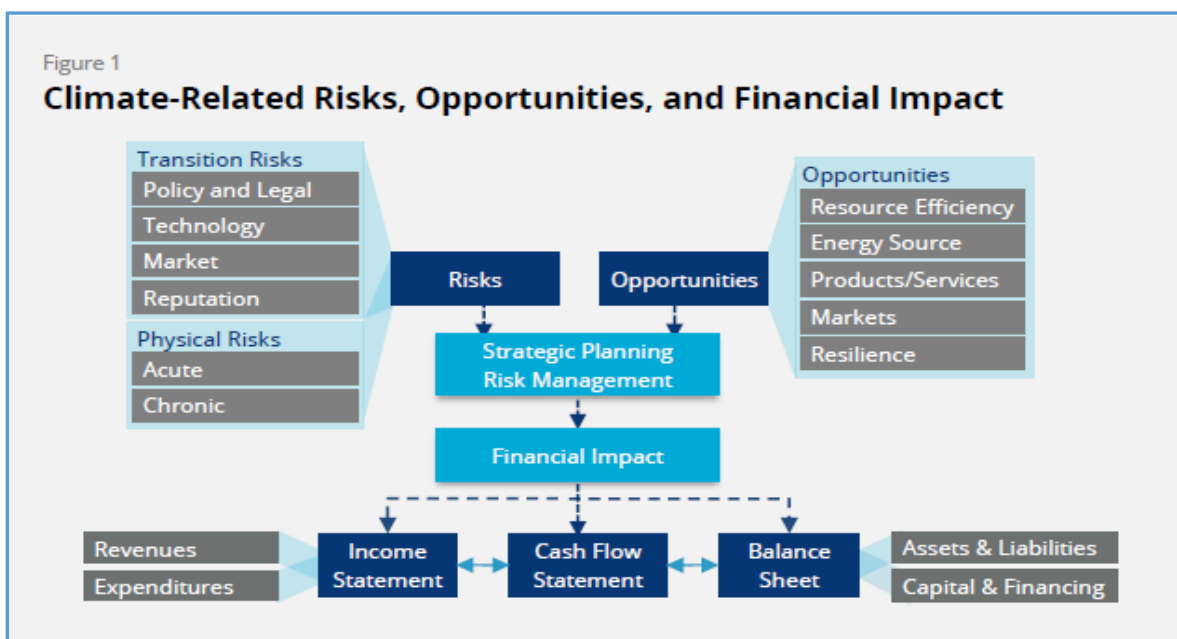
*b. **Physical Risks** - resulting from climate change can be event driven including increased severity of extreme weather events, such as cyclones, hurricanes, or floods (acute); or longer-term shifts (chronic) in climate patterns.*

Physical risks may have financial implications for organizations, such as direct damage to assets and indirect impacts from supply chain disruption. Organizations' financial performance may also be affected by changes in water availability, sourcing, and quality; food security; and extreme temperature changes affecting organizations' premises, operations, supply chain, transport needs, and employee safety.

5. Page 8, 3. Financial Impacts Identified by TCFD

Better disclosure of the financial impacts of climate-related risks and opportunities on an organization is a key goal of the Task Force's work. In order to make more

informed financial decisions, investors, lenders, and insurance underwriters need to understand how climate-related risks and opportunities are likely to impact an organization's future financial position as reflected in its income statement, cash flow statement, and balance sheet as outlined in Figure 1.



*Fundamentally, the financial impacts of climate-related issues on an organization are driven by the specific climate-related risks and opportunities to which the organization is exposed and its strategic and risk management decisions on managing those risks (i.e., mitigate, transfer, accept, or control) and seizing those opportunities. The Task Force has identified four major categories, described in **Figure 2 (below)**, through which climate-related risks and opportunities may affect an organization's current and future financial positions.*

6. Page 9, Figure 2, Major categories of financial impact identified by TCFD

Figure 2

Major Categories of Financial Impact

| Income Statement | Balance Sheet |
|--|---|
| <p>Revenues. Transition and physical risks may affect demand for products and services. Organizations should consider the potential impact on revenues and identify potential opportunities for enhancing or developing new revenues. In particular, given the emergence and likely growth of carbon pricing as a mechanism to regulate emissions, it is important for affected industries to consider the potential impacts of such pricing on business revenues.</p> <p>Expenditures. An organization's response to climate-related risks and opportunities may depend, in part, on the organization's cost structure. Lower-cost suppliers may be more resilient to changes in cost resulting from climate-related issues and more flexible in their ability to address such issues. By providing an indication of their cost structure and flexibility to adapt, organizations can better inform investors about their investment potential.</p> <p>It is also helpful for investors to understand capital expenditure plans and the level of debt or equity needed to fund these plans. The resilience of such plans should be considered bearing in mind organizations' flexibility to shift capital and the willingness of capital markets to fund organizations exposed to significant levels of climate-related risks. Transparency of these plans may provide greater access to capital markets or improved financing terms.</p> | <p>Assets and Liabilities. Supply and demand changes from changes in policies, technology, and market dynamics related to climate change could affect the valuation of organizations' assets and liabilities. Use of long-lived assets and, where relevant, reserves may be particularly affected by climate-related issues. It is important for organizations to provide an indication of the potential climate-related impact on their assets and liabilities, particularly long-lived assets. This should focus on existing and committed future activities and decisions requiring new investment, restructuring, write-downs, or impairment.</p> <p>Capital and Financing. Climate-related risks and opportunities may change the profile of an organization's debt and equity structure, either by increasing debt levels to compensate for reduced operating cash flows or for new capital expenditures or R&D. It may also affect the ability to raise new debt or refinance existing debt, or reduce the tenor of borrowing available to the organization. There could also be changes to capital and reserves from operating losses, asset write-downs, or the need to raise new equity to meet investment.</p> |

STAFF NOTE:

TCFD recommendations could potentially assist FASAB in developing a model to provide guidance to federal reporting entities on climate-related financial disclosures.

7. Page 14, Figure 4: 11 core element disclosures recommended by TCFD:

Figure 4

Recommendations and Supporting Recommended Disclosures

| Governance | Strategy | Risk Management | Metrics and Targets |
|--|---|--|---|
| Disclose the organization's governance around climate-related risks and opportunities. | Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material. | Disclose how the organization identifies, assesses, and manages climate-related risks. | Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material. |
| Recommended Disclosures | Recommended Disclosures | Recommended Disclosures | Recommended Disclosures |
| a) Describe the board's oversight of climate-related risks and opportunities. | a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term. | a) Describe the organization's processes for identifying and assessing climate-related risks. | a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. |
| b) Describe management's role in assessing and managing climate-related risks and opportunities. | b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. | b) Describe the organization's processes for managing climate-related risks. | b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the 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. | c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management. | c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets. |

D. 2019 – The Sustainability Accounting Standards Board (SASB) and Climate Disclosure Standards Board (CDSB) published [TCFD Implementation Guide](#).



ABOUT SASB

The Sustainability Accounting Standards Board standards guide the disclosure of financially material sustainability information by companies to their investors. Available for 77 industries, the Standards identify the subset of environmental, social, and governance (ESG) issues most relevant to financial performance in each industry.

SASB Standards are maintained under the auspices of the Value Reporting Foundation, a global nonprofit organization that offers a comprehensive suite of resources designed to help businesses and investors develop a shared understanding of enterprise value—how it is created, preserved, or eroded. The resources—including Integrated Thinking Principles, the Integrated Reporting Framework, and SASB Standards—can be used alone or in combination, depending on business needs.

ABOUT CDSB

The [Climate Disclosure Standards Board](#) was founded in 2007 and is an international consortium of business and environmental NGOs committed to advancing and aligning the global mainstream corporate reporting model to equate natural capital with financial capital.

CDSB also hosts the [TCFD Knowledge Hub](#) on behalf of the Task Force on Climate-related Financial Disclosures.

KEY TAKEAWAY:

Page 1, Executive Summary

...More than a year and a half after the 2017 publication of the TCFD recommendations, more than 617 organizations have publicly expressed support for the TCFD, yet far fewer appear to have used the recommendations to guide their climate-related disclosures. Therefore, SASB and CDSB published this practical guidance for companies to use in attempting to fulfill the principles-based recommendations and make the 11 recommended disclosures in their mainstream reports.

Regardless of whether an organization has a sophisticated approach to managing climate risks and opportunities or is just getting started, it can use this guidance to move forward in supporting improved decision-making, enhanced market resilience, and more sustainable economic growth.

- E. **October 2019 – CPA Canada** published [*Enhancing Climate-related Disclosure by Cities: A Guide to Adopting the Recommendations of the Task Force on Climate related Financial Disclosures \(TCFD\)*](#)

ABOUT CPA CANADA

CPA Canada is a progressive and forward-thinking organization whose members bring a convergence of shared values, diverse business skills and exceptional talents to the accounting field. Domestically, CPA Canada works cooperatively with the provincial and territorial CPA bodies who are charged with regulating the profession. Globally, it works together with the International Federation of Accountants and the Global Accounting Alliance to build a stronger accounting profession worldwide. As one of the world's largest national accounting bodies, CPA Canada carries a strong influential voice and acts in the public interest.

KEY TAKEAWAYS:

1. Page iii, Preface:

[*About This Guide*](#)

Understanding the costs and potential economic benefits of climate change is essential for cities and their stakeholders. Cities that adopt a strategic long-term approach to climate adaptation and mitigation will be better prepared to support economic growth, attract new investors, reduce potential costs and damages, and build more resilient communities.

This Guide has been developed to enhance the transparency of a city's climate-related risks and opportunities, strategies, and governance in line with

recommendations from the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD).

This Guide is designed to help cities determine what climate-related information is valuable for internal decision-making to support short-term budgeting and longer term capital planning. It is also intended to enhance the usefulness of a city's general-purpose financial reports for external stakeholders.

2. Page 11 – CPA Canada's suggestion for how Canadian cities should implement TCFD.

- Cities have competing priorities and limited resources to address the many needs of their stakeholders.
 - TCFD recommendations suggest evaluating the potential financial impacts of climate change on a city's operations, budget / capital planning, and services. By quantifying the potential impacts, cities are better able to assess material climate-related risks and opportunities, target valuable investments in climate-related initiatives, and report on outcomes to key stakeholders.
 - It takes time to implement the TCFD recommendations, so start small and scale efforts based on assessed priorities, materiality of the issues, and available support and resources.
 - Cities should consider five-year timelines from start to full integration.
 - [Resource III](#) includes a tool for assessing a city's current alignment with TCFD recommendations, as well as a roadmap for integration.

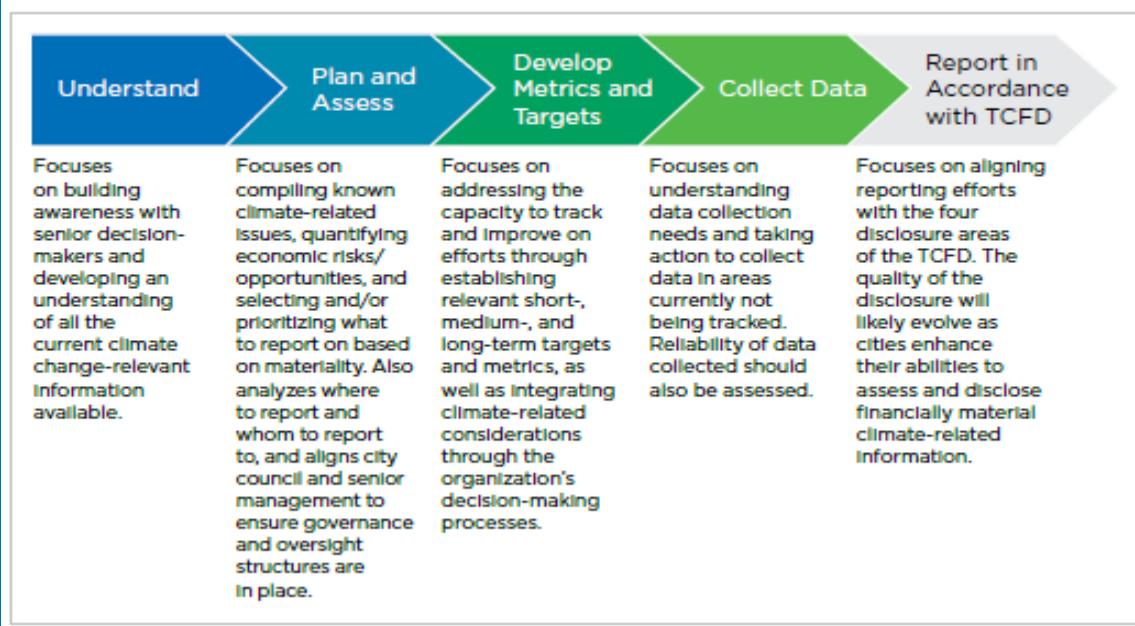
3. Page 12 – A Process Framework for Applying TCFD to Cities



The TCFD recommends material climate-related information be disclosed in mainstream (i.e., public) annual financial reports. In a city context, multiple stakeholders would be involved in the preparation of these disclosures, including but not limited to accountants, infrastructure and capital planners, and other senior decision makers.

Figure 1 below provides a process framework for preparing climate-related financial disclosures in line with the TCFD. More details on the process framework, along with guiding questions, can be found in [Resource II](#).

FIGURE 1: PROCESS FRAMEWORK FOR PREPARING CLIMATE-RELATED FINANCIAL DISCLOSURES IN LINE WITH TCFD



4. Page 13

Understand How Climate Change Impacts City Operations and Financial Health

Examples of climate-related information relevant to city staff in the finance department includes, but is not limited to:

- list of potential material risks from climate change to city operations and assets, including how climate-related risks impact a city's financial status and its ability to operate
- estimates of financial impacts of climate risks and adaptation and mitigation efforts (e.g., estimate of future savings for each dollar invested in disaster mitigation)
- current and future budgeting requirements for climate-related projects / initiatives
- useful life of existing capital assets and plans to invest in / upgrade critical infrastructure
- costs associated with climate change impacts (e.g., windstorm damage and snow removal costs)
- projections of costs based on future extreme weather scenarios and risk assessments (including an understanding of assumptions / estimates used in the calculation)

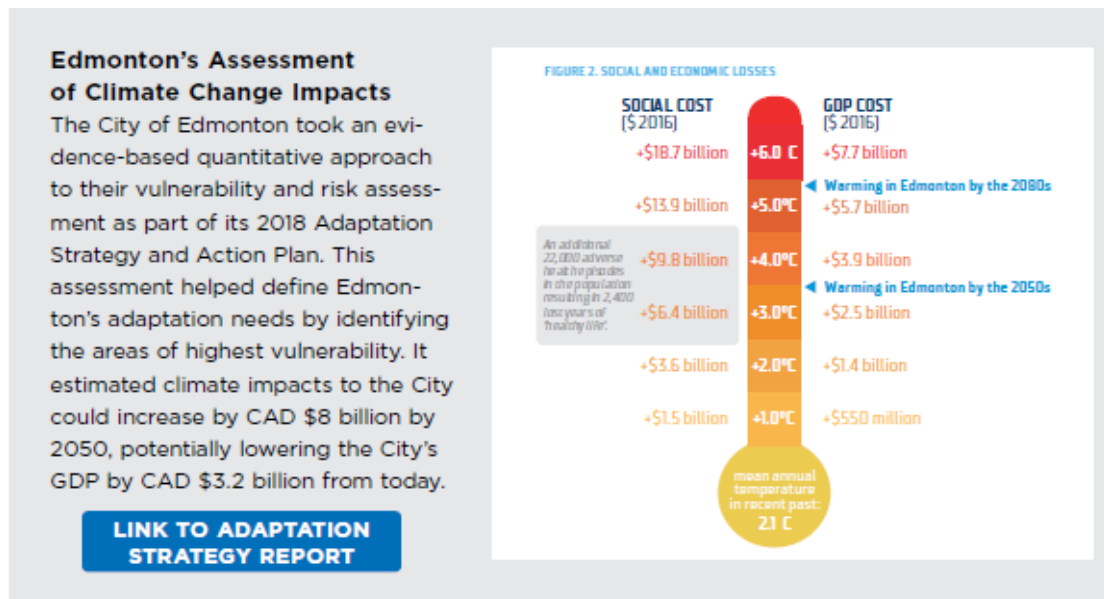
STAFF NOTES:

The CPA Canada guide provided city finance staff with useful examples for analyzing and applying to their financial reports. FASAB could potentially use this information to

develop guidance for Federal reporting entities to determine and understand how to measure and report material climate.

The following Canadian cities are implementing the TCFD recommendations according to this implementation guidance:

5. Page 5 - Edmonton



6. Page 10 - Montreal

Being very aware of the need for more transparent public financial information related to climate risks and opportunities, the City of Montreal plans to integrate several elements into its future financial reporting in alignment with the TCFD recommendations – reporting that will evolve and improve over time as we get more experienced at collecting and analyzing the relevant data and reporting on our material climate-related risks and opportunities.”

– Raoul Cyr, Director, Accounting and Financial Information, Ville de Montréal

7. Page 13 – City of Toronto

"The City of Toronto's involvement in developing this TCFD Guide for cities emphasizes our commitment to transparency, including the applicability of the TCFD disclosure recommendations to municipalities and other public sector organizations. Like Vancouver, Toronto included climate-related disclosure, guided by TCFD principles, in our 2018 Annual Financial Report, along with an unaudited note in our consolidated financial statements. For Toronto, the 2018 climate disclosure is a good start. Bringing all of our climate-related disclosure into a single document communicates our pledge to addressing the climate emergency and its significance to the decision-making process for our financial statement readers, investors, and within the City itself. We believe TCFD-style disclosure will help to institutionalize climate change considerations into organizational governance, funding requests, and reporting to support both our GHG reduction and resilience strategies and action plans."

– Accounting Services and Environment and Energy Divisions, City of Toronto

8. Page 14- Vancouver⁴

City of Vancouver's 2018 Annual Financial Report

Vancouver was the first city in Canada to publish its alignment with the four TCFD recommendation areas in its 2018 Annual Financial Report. The disclosures include links to various City of Vancouver reports and documents, including its climate strategy, adaptation plan, governance model, capital plans, budget and five-year financial plan. It also provides a more detailed discussion on how Vancouver is working toward further integration of TCFD best practices across the four recommendation areas of governance, strategy, risk management, metrics and targets.

LINK TO ANNUAL FINANCIAL REPORT

TASK FORCE FOR CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD) UNAUDITED

Table 1 – TCFD Recommended Disclosures – Continue

| TCFD Recommended Disclosures | City of Vancouver Disclosures |
|---|---|
| Strategy | |
| Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning where such information is material. | <p>a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term. Climate Risk in Vancouver: 2018-2020 Climate Plan</p> <p>b) Describe the impact of climate-related risks and opportunities on the organization's business, strategy, and financial planning. Climate Adaptation in Vancouver: 2018 Budget and Five-Year Financial Plan</p> <p>c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 1.5C or lower scenario. Climate Risk in Vancouver</p> |
| Risk Management | |
| Disclose how the organization identifies, assesses, and manages climate-related risks. | <p>a) Describe the organization's processes for identifying and assessing climate-related risks. Climate Adaptation in Vancouver: 2018-2020 Climate Plan</p> <p>b) Describe the organization's processes for managing climate-related risks. Climate Risk in Vancouver</p> <p>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management. Climate Adaptation in Vancouver</p> |
| Metrics and Targets | |
| Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management processes. | a) Describe the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management processes. Vancouver's Climate Metrics and Targets |
| Disclose Scope 1, Scope 2, and, if applicable, Scope 3 greenhouse gas (GHG) emissions, and the related risks. | Vancouver's Climate Metrics and Targets |
| Disclose the targets used by the organization to manage climate-related risks and opportunities and performance against targets. | Vancouver's Climate Metrics and Targets |

⁴ See Attachment #2, *Vancouver Annual Financial Report, 2020, pages 29-39, Task Force Related Financial Disclosures (TCFD) Unaudited*

- F. June 2020 – The International Public Sector Accounting Standards Board® (IPSASB) published [Staff Questions and Answers: Climate Change: Relevant IPSASB Guidance](#).

ABOUT IPSASB

The International Public Sector Accounting Standards Board® (IPSASB®) works to improve public sector financial reporting worldwide through the development of International Public Sector Accounting Standards (IPSAS®), international accrual-based accounting standards, for use by governments and other public sector entities around the world.

ABOUT THE DOCUMENT

CLIMATE CHANGE: RELEVANT IPSASB GUIDANCE

This Questions & Answers (Q&A) publication is issued by the staff of the International Public Sector Accounting Standards Board® (IPSASB®) to discuss the relevance of International Public Sector Accounting Standards™ (IPSAS™) and related Recommended Practice Guidelines (RPG) to reporting on both climate change and the United Nations' (UN's) Sustainable Development Goals (SDGs) in the general purpose financial reports (GPFR) of public sector entities.

The objective of this document is to summarize the accounting requirements and recommended practice guidelines that may be applicable to climate change.

This publication is not an authoritative pronouncement, and it is not an interpretation of an authoritative IPSASB pronouncement. It does not amend or override the requirements of existing IPSAS or provide further implementation guidance. This Q&A is not exhaustive and is not a substitute for reading the full text of IPSAS or RPG.

KEY TAKEAWAYS: [The IPSASB Q&A guide addressed](#) eight key questions. Staff found the following questions most relevant for FASAB.

Q2. What existing IPSASB literature is relevant to climate change reporting?

Q4. How should a public sector entity disclose its assessment of climate change-related risks?

Q5. When governments or public sector entities have strategies and programs in place to manage climate change risks, how should these be reported?

Q6. If a government or public sector entity is delivering services which could be significantly impacted by climate change, how should these impacts be disclosed?

Q7. Are there any other ways that climate change can potentially impact the general purpose financial statements? If so, which IPSAS might be applicable?

The IPSASB staff guide included several references to relevant guidance and how the guidance may relate to climate-related impacts:

- **RPG 1, Reporting on the Long-term Sustainability of an Entity's Finances**, provides guidance on broader disclosures about long-term fiscal sustainability and includes guidance on the projection of inflows and outflows based on assumptions regarding policy decisions, future economic and other conditions. If climate change is relevant to a public sector entity's projected inflows and outflows, the entity should assess the financial impacts from climate change and take them into account when developing its projections. In addition, if an entity has specific policies or programs to address SDGs, RPG 1 may be relevant to disclosures of the long-term financial impact of these goals.
- **RPG 2, Financial Statement Discussion and Analysis**, recommends the provision of information on the external trends, risks and uncertainties that are impacting or may impact a public sector entity's financial position, financial performance and cash flows. If these trends, risks or uncertainties include climate change, RPG 2 calls for discussion of this impact.
- **RPG 3, Reporting Service Performance Information**, provides good-practice recommendations on reporting information on the services that a public entity provides, its service performance objectives and the extent of its achievement of those objectives. Climate change is relevant to the extent that it is affecting or may affect the services performed by the entity and the extent to which it is achieving its service performance objectives. In addition, if the entity has established specific targets to achieve climate change-related SDGs, RPG 3 will also be relevant to the reporting of these targets and the extent to which they have been achieved.
- **IPSAS 1, Presentation of Financial Statements**, provides guidance on the overall considerations for the presentation of financial statements, including their structure and minimum content requirements. As mentioned in Question 4 above, IPSAS 1 requires the disclosure of key sources of estimation uncertainty, which may include climate change-related risks, when the estimation uncertainty could have a material impact on the carrying amounts recognized in the financial statements.
- **IPSAS 17, Property, Plant and Equipment**, provides guidance on the recognition and measurement of tangible assets. IPSAS 17 requires an entity to review, at least annually, the estimated residual value and useful life of its assets.⁹ Depending on the specific facts and circumstances of an asset, these estimates may be impacted by climate change. For example, changing weather patterns (such as more frequent heavy rainfall) may negatively impact the useful lives of certain buildings and other such property, plant and equipment assets.
- **IPSAS 19, Provisions, Contingent Liabilities and Contingent Assets**, provides guidance on the recognition, measurement and disclosure of provisions. Provisions may arise from a legal obligation to comply with certain climate

change-related laws and regulations. In addition, depending on the details of any plans to mitigate or adapt to the impacts of climate change and how such plans are communicated to external parties, certain announcements may be considered constructive obligations which require recognition in the financial statements. In certain circumstances, changes in climate change laws and regulations, or changes in the estimated costs to comply with such laws and regulations, could also lead to the recognition of provisions for onerous contracts.

- **IPSAS 21, Impairment of Non-Cash-Generating Assets, and IPSAS 26, Impairment of Cash-Generating Assets**, provides guidance on when and how to measure impairments of non-cash-generating and cash-generating assets. It is possible for climate change-related laws and regulations to adversely affect the expected cash flows and/or service potential that can be generated by an asset, which in turn may impact the recoverable service amount or recoverable amount of the asset.

STAFF NOTES:

Many of the IPSASB standards are comparable to the FASAB standards presented in the toolbox for staff's outreach presentation *Federal Accounting for Climate-Related Events*⁵.

G. September 2020 – The Market Risk Advisory Committee of the U.S. Commodity Future Trading Commission (CFTC) published [Managing Climate Risk in the U.S. Financial System](#)

ABOUT CFTC

The Market Risk Advisory Committee advises the Commission on matters relating to evolving market structures and movement of risk across clearinghouses, exchanges, intermediaries, market makers and end-users. It examines systemic issues that threaten the stability of the derivatives markets and other financial markets, and makes recommendations on how to improve market structure and mitigate risk.

KEY TAKEAWAYS:

1. Page ii, Findings of the Report

A central finding of this report is that climate change could pose systemic risks to the U.S. financial system. Climate change is expected to affect multiple sectors, geographies, and assets in the United States, sometimes simultaneously and within a relatively short timeframe. As mentioned earlier, transition and physical risks—as well as climate and non-climate-related risks—could interact with each other, amplifying shocks and stresses. This raises the prospect of spillovers that

⁵ https://files.fasab.gov/pdf/files/20_12_Tab_G_Climate_Impact_Risk_Reporting_Combined.pdf, Appendix A

could disrupt multiple parts of the financial system simultaneously. In addition, systemic shocks are more likely in an environment in which financial assets do not fully reflect climate-related physical and transition risks. A sudden revision of market perceptions about climate risk could lead to a disorderly repricing of assets, which could in turn have cascading effects on portfolios and balance sheets and therefore systemic implications for financial stability.

2. Page 101, Recommendation 7.9 specifically mentions FASAB:

Recommendation 7.9: The United States should direct the Federal Accounting Standards Advisory Board (FASAB) to study and pilot the development of climate-related federal accounting standards, disclosure procedures and practices for U.S. government departments, agencies and administrative units.

H. November 2020, International Financial Reporting Standards Foundation (IFRS), published education material entitled [effects of climate related matters on financial statements](#).

ABOUT IFRS

The International Financial Standards Foundation is a not-for-profit, public interest organisation established to develop a single set of high-quality, understandable, enforceable and globally accepted accounting standards—IFRS Standards—and to promote and facilitate adoption of the standards.

IFRS Standards are set by the IFRS Foundation's standard-setting body, the International Accounting Standards Board (IASB).

ABOUT IASB

The International Accounting Standards Board is an independent group of experts with an appropriate mix of recent practical experience in setting accounting standards, in preparing, auditing, or using financial reports, and in accounting education. Broad geographical diversity is also required.

KEY TAKEAWAYS:

Page 1:

...Companies must consider climate-related matters in applying IFRS Standards when the effect of those matters is material in the context of the financial statements as a whole.

*IFRS includes a **table of examples** illustrating when IFRS Standards may require companies to consider the effects of climate-related matters in applying the principles in a number of Standards.*

The following is a synopsis of the standards referenced in this IFRS table:

- **IAS 1, *Presentation of Financial Statements***, Paragraphs 25–26, 122–124, 125–133

These overarching requirements in IAS 1 may be especially relevant for companies whose financial position or financial performance is particularly affected by climate-related matters.

- **IAS 2, *Inventories***, Paragraphs 28–33

Climate-related matters may cause a company's inventories to become obsolete, their selling prices to decline or their costs of completion to increase.

- **IAS 16 *Property, Plant and Equipment***, paragraphs 7, 51, 73, 76; and **IAS 38 *Intangible Assets***, paragraphs 9–64, 102, 104, 118, 121, 126

Climate-related matters may prompt expenditure to change or adapt business activities and operations, including research and development. IAS 16 and IAS 38 specify requirements for the recognition of costs as assets (as an item of property, plant and equipment or as an intangible asset). IAS 38 also requires disclosure of the amount of research and development expenditure recognised as an expense during a reporting period.

- **IAS 36 *Impairment of Assets***, Paragraphs 9–14, 30, 33, 44, 130, 132, 134–135

IAS 36 sets out requirements for when companies need to estimate recoverable amounts to assess impairment of goodwill and impairment of assets such as property, plant and equipment, right-of-use assets and intangible assets. A company is required to assess whether there is any indication of impairment at the end of each reporting period...

- **IAS 37 *Provisions, Contingent Liabilities***, IAS 37 paragraphs 14–83, 85–86

Climate-related matters may affect the recognition, measurement and disclosure of liabilities in the financial statements...

- **IFRS 17, *Insurance Contracts***, Paragraphs 33, 40, 117 and 121–128, Appdx A

Climate-related matters may increase the frequency or magnitude of insured events or may accelerate the timing of their occurrence... Examples of insured events that could be affected by climate-related matters include business interruption, property damage, illness and death. Climate-related matters may, therefore, affect the assumptions used to measure insurance contract liabilities

STAFF NOTE:

Many of these IASB standards are comparable to the FASAB standards presented in the toolbox for staff's outreach presentation *Federal Accounting for Climate-Related Events*⁶.

I. September & December 2020:

*In **September 2020**, five leading framework and standard-setting organizations—CDP, CDSB, GRI, IIRC and SASB (the group)—announced a shared vision for a comprehensive corporate reporting system that includes both financial accounting and sustainability disclosure, connected via integrated reporting. The joint statement outlines how existing sustainability standards and frameworks can complement generally accepted financial accounting principles (Financial GAAP).*

About the collaborating organisations

- **CDP** is a global non-profit that drives companies and governments to reduce their greenhouse gas emissions, safeguard water resources, and protect forests.
- **CDSB** – See D. above
- The **Global Reporting Initiative (GRI)** is the independent international organization that helps businesses, governments and other organizations understand and communicate their impacts. The GRI Standards are the world's most widely used for sustainability reporting.
- The **International Integrated Reporting Council (IIRC)** is a global coalition of regulators, investors, companies, standard setters, the accounting profession, academia and NGOs. The coalition promotes communication about value creation as the next step in the evolution of corporate reporting. The IIRC's vision is a world in which capital allocation and corporate behaviour are aligned to the wider goals of financial stability and sustainable development through the cycle of integrated reporting and thinking.
- **SASB** – See D. above

***18 December 2020** ...the group published a paper that addresses one part of this system: standards for reporting on enterprise value, brought to life with a prototype climate-related financial disclosure standard.*

*The group have co-authored an illustration of how their current frameworks, standards and platforms, along with the elements set out by the **Task Force on Climate-related Financial Disclosures (TCFD)**, can be used together to provide a running start for*

⁶ https://files.fasab.gov/pdf/files/20_12_Tab_G_Climate_Impact_Risk_Reporting_Combined.pdf, Appendix A

development of global standards that enable disclosure of how sustainability matters create or erode enterprise value.



J. December 2020 – CDSB published *Accounting for Climate: Integrating Climate-Related Matters into Financial Reporting*

This guidance does not seek to create new accounting standards in relation to climate-related matters, but builds on International Accounting Standards Board's (IASB) position on how climate-related matters should be integrated into financial reporting based on current International Financial Reporting Standards (IFRS) Standards.



KEY TAKEAWAYS:

This guidance will seek to address three main questions:

Chapter 1: Are climate-related matters relevant to financial reporting?

Page 12, Summary – climate change and financial reporting

The message to preparers is clear:

1. IFRS Standards require the incorporation of material climate-related matters in financial reporting and / or where there is a specific application of the standards, where climate change has an effect on financial performance or position.

2. Investors have made it clear that climate-related risks are material to their investment decision-making. They therefore expect companies to reflect material climate-related matters in their financial statements (including the related notes) and to provide additional disclosure on judgements and assumptions used in relation to climate-issues.

Chapter 2: How should climate-related matters be factored into a company's financial reporting and what this might look like?

STAFF NOTE:

Chapter 2, pages 13-21, reviews the IAS standards that provide guidance explaining how climate-related matters can be factored into a company's financial report and what this might look like. Staff has included the same list and summary in H above.

Chapter 3: What steps can companies take to integrate material climate-related matters into financial reporting? [Next Steps for Preparers]

Page 23-24 - Summary

Climate risk is a financial risk that will impact all organisations. Recent guidance and this document set out the need to embed climate risk into the measurement of assets and liabilities in company financial statements. This is not just a narrative disclosure issue, but also impacts the quantification and valuation of assets and liabilities.

In preparing this guidance CDSB identified some key takeaways that may be useful for preparers looking to integrate material climate-related matters into their financial reporting:

1. Take a methodical approach to assessing materiality
2. Consistency with narrative and TCFD reporting
3. Company collaboration and buy-in
4. Iterative process

- K. January 20, 2021 – President Biden issued the first executive order on climate:**
[Executive Order \(EO\) #14008 – Tackling the Climate Crisis at Home and Abroad.](#)

STAFF NOTE:

Section 103 of EO 14008 could potentially impact climate-related information that reporting entities may need to disclose in a financial report.

KEY TAKEAWAY:

Sec. 103. Prioritizing Climate in Foreign Policy and National Security. To ensure that climate change considerations are central to United States foreign policy and national security:

(a) Agencies that engage in extensive international work shall develop, in coordination with the Special Presidential Envoy for Climate, and submit to the President, through the Assistant to the President for National Security Affairs, within 90 days of the date of this order, strategies and implementation plans for integrating climate considerations into their international work, as appropriate and consistent with applicable law. These strategies and plans should include an assessment of:

(i) climate impacts relevant to broad agency strategies in particular countries or regions;

(ii) climate impacts on their agency-managed infrastructure abroad (e.g., embassies, military installations), without prejudice to existing requirements regarding assessment of such infrastructure;

(iii) how the agency intends to manage such impacts or incorporate risk mitigation into its installation master plans; and

(iv) how the agency's international work, including partner engagement, can contribute to addressing the climate crisis.

- L. March 15, 2021 – the [Security and Exchange Commission \(SEC\)](#) issued a call for [public comments on climate disclosures](#)**

ABOUT THE SEC

The mission of the SEC is to protect investors; maintain fair, orderly, and efficient markets; and facilitate capital formation. The SEC strives to promote a market environment that is worthy of the public's trust.

In 2010, the Commission issued an interpretive release that provided guidance to issuers as to how existing disclosure requirements apply to climate change matters.[1] The 2010 Climate Change Guidance noted that, depending on the

circumstances, information about climate change-related risks and opportunities might be required in a registrant's disclosures related to its description of business, legal proceedings, risk factors, and management's discussion and analysis of financial condition and results of operations.

Acting Chair Allison Herren Lee asked the staff to evaluate SEC disclosure rules with an eye toward facilitating consistent, comparable, and reliable information on climate change. [SEC issued 15 questions](#) to facilitate the staff's assessment and be useful to consider as part of this evaluation.

STAFF NOTE:

The Board might consider issuing an Invitation for Comment (see page 6-7 of the [FASAB Rules of Procedures](#)) to gain a preliminary view about what information FASAB stakeholders want to see in financial statements concerning climate-related matters and climate-related financial disclosures.

M. May 20, 2021 – President Biden issued the second Executive Order on climate: [Executive order #14030 – Climate-Related Financial Risk](#).

KEY TAKEAWAYS:

Sec. 2. Climate-Related Financial Risk Strategy. The Assistant to the President for Economic Policy and Director of the National Economic Council (Director of the National Economic Council) and the Assistant to the President and National Climate Advisor (National Climate Advisor), in coordination with the Secretary of the Treasury and the Director of the Office of Management and Budget (OMB), shall develop, within 120 days of the date of this order, a comprehensive, Government-wide strategy regarding:

(a) the measurement, assessment, mitigation, and disclosure of climate-related financial risk to Federal Government programs, assets, and liabilities in order to increase the long-term stability of Federal operations.

Sec. 5. Federal Lending, Underwriting, and Procurement. In furtherance of the policy set forth in section 1 of this order and consistent with applicable law and subject to the availability of appropriations:

(a) The Director of OMB and the Director of the National Economic Council, in consultation with the Secretary of the Treasury, shall develop recommendations for the National Climate Task Force on approaches related to the integration of climate-related financial risk into Federal financial management and financial reporting, especially as that risk relates to Federal lending programs. The recommendations should evaluate options to enhance accounting standards for Federal financial reporting where appropriate and should identify any opportunities to further encourage market adoption of such standards.

STAFF NOTE:

Sections 2 and 5 of EO 14030 could also potentially impact climate-related information that reporting entities may need to disclose in a financial report.

BOARD CONSIDERATIONS:

CONSIDERATION #1 – What is FASAB’s role in climate-related financial disclosures?

In determining FASAB’s role in climate-related financial disclosures, members should consider the following:

1. Model TCFD recommendations for developing a FASAB climate-related disclosure framework.
2. Review the following list of standards to determine if disclosures are up to date for climate-related: events, risk, opportunities, and fiscal impacts
 - SFFAS 2 - Accounting for Direct Loans and Loan Guarantees
 - SFFAS 5 - Accounting for Liabilities of The Federal Government
 - SFFAS 6 - Accounting for Property, Plant, and Equipment
 - ***SFFAS 15 – Management’s Discussions and Analysis
 - SFFAS 36 - Comprehensive Long-Term Projections for the U.S. Government
 - SFFAS 40 - Deferred Maintenance and Repairs: Definitional Changes
 - SFFAS 42 - Deferred Maintenance and Repairs: Amending Statements of Federal Financial Accounting Standards 6, 14, 29, and 32
 - SFFAS 44 - Accounting for Impairment of General Property, Plant, and Equipment Remaining in Use
 - SFFAS 51 - Insurance *Programs*
3. Consider a separate climate-related matters disclosure for reporting entities at the agency and governmentwide levels to ensure that this guidance is level A GAAP.
4. ***The Board is currently working on proposed standards for Management’s Discussion and Analysis. Updated MD&A standards should provide guidance for

how to analyze and discuss forward looking information on significant risks and opportunities including climate-related events.

Question #1 for the Board:

What role do members see FASAB taking as it relates to climate-related financial disclosures?

CONSIDERATION #2 – Include a climate-related financial disclosures project on the technical agenda.

1. As an active project, the Board designates resources to provide proper guidance for federal reporting entities in reporting on this complicated, yet necessary issue.
2. The Board has access to other research tools, such as Invitations to Comment or Preliminary Views documents prior to developing an Exposure Draft (ED).

Question #2 for the Board:

Do members agree to include a Climate-Related Financial Disclosures project on the technical agenda?

Question #3 for the Board:

If the Board agrees to #2, do members agree with considering the TCFD recommendations as a model for federal climate-related financial disclosures?

**VANCOUVER 2020 ANNUAL FINANCIAL
REPORT, Pages 29-39**

**TASK FORCE
FOR CLIMATE-RELATED
FINANCIAL DISCLOSURES (TCFD)**

UNAUDITED

City of Vancouver Climate-Related Financial Disclosure

Introduction

Vancouver was one of the first cities in the world to recognize the significance of climate change. In 1990, the ground-breaking Clouds of Change Task Force recommended that Vancouver begin to reduce its greenhouse gas emissions. The City of Vancouver is committed to taking action to mitigate and adapt to the emerging and anticipated impacts of climate change. This commitment began with the adoption of our *Greenest City Action Plan* in 2011 and continues with the *Climate Emergency Action Plan* in 2020.

Our actions also include advocating, supporting and collaborating with other governments and stakeholders to respond together on this global issue. We believe cities will be at the forefront of developing policy, and planning and implementing climate mitigation and adaptation measures, and increasingly there are global initiatives to support immediate action. Notwithstanding, the powers of municipalities and their revenue sources are limited. Globally, cities and large institutional investors are calling on national and subnational government to send clear signals by stepping up their commitments, centering cities in their climate, housing and economic policy frameworks, and aligning funding and action accordingly.

One such initiative is the Task Force for Climate-Related Financial Disclosures (TCFD), which in June 2017 released their Recommendations for voluntary climate-related financial disclosures that are consistent, comparable, reliable, clear, and efficient, and provide decision-useful information to lenders, insurers, and investors.

In 2017, our CFO signed an Accounting for Sustainability (A4S) statement, supporting climate-related financial disclosure and committing the City to “affirm our commitment to support the voluntary recommendations” of TCFD. Starting in 2018, the City began including unaudited climate-related financial disclosures in its annual financial report. This disclosure is intended to align with TCFD recommendations, and will continue to improve over time as the City responds to climate change, and as climate-risk disclosure guidance and best-practices evolve.

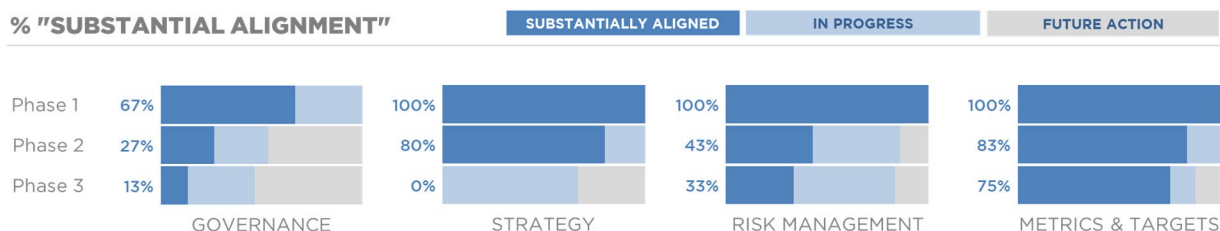
In 2020, we furthered our commitment through City Council adoption of the *Climate Emergency Action Plan*, and continued to work with other Canadian cities to develop and harmonize municipal climate-related risk disclosure standards.

Developments in TCFD Reporting

In early 2020, CPA Canada published [Enhancing Climate-related Disclosure by Cities](#), an overview of how cities can benefit from alignment with the TCFD recommendations, and a guide for implementation. Vancouver provided input and direction as part of a working group of Canadian cities and supporting organizations. The *CPA TCFD Guide* can be scaled more broadly across the Canadian municipal landscape and potentially serve as a resource to other cities globally.

Contained in the *CPA TCFD Guide* is a Maturity Assessment Framework to help cities self-assess their alignment with the TCFD recommendations. The framework contains three phases with characteristics that typify progress. Vancouver self-assessed its 2020 disclosure using a qualitative checklist approach: either aligned with a characteristic, making progress towards alignment, or will take future action towards alignment. Figure 1 below shows where Vancouver is substantially aligned. Overall, Vancouver considers itself largely aligned with a Phase 1 reporting city, with progress made towards Phases 2 and 3.

Figure 1 – Maturity Assessment of Vancouver’s 2020 TCFD Disclosure



Vancouver's Governance and Climate Strategies

| Governance | |
|--|--|
| Disclose the organization's governance around climate-related risks and opportunities. | <p>a) Describe the board's oversight of climate-related risks and opportunities.</p> <p>b) Describe management's role in assessing and managing climate-related risks and opportunities.</p> |

Governance

The City Council approves climate strategies and implementation plans, and prioritizes climate initiatives through budget funding approval. Implementation updates are given regularly to senior management through steering committees. Departments across the City are responsible for implementation of actions. Progress against targets and/or plan implementation is reported out annually or at stated intervals.

The City of Vancouver considers risk management to be fundamental to good management practice and a significant aspect of governance, and climate change is a top risk to the city. The Risk Management Committee oversees risk governance and the general risk framework. The Risk Management Committee sets limits within which risks should be managed.

The **Chief Risk Officer** and the Risk Management Team lead the **Enterprise Risk Management** (ERM) program, under direction of the Risk Management Committee. They are responsible for monitoring and facilitating the implementation through operational management of ERM processes, tools and reporting to achieve effective risk treatment. The Risk team also sits on key steering committees related to climate risk.

Department General Managers (GMs) are responsible for ensuring appropriate risk management practices are in place and operating effectively for their area of responsibility. GMs retain the ultimate responsibility for effective risk management in their departments, which includes identifying, treating, and reporting risks following the ERM process and timeline, assisted by the Risk team

Climate Action Governance

Climate action at the City of Vancouver falls into two broad categories.

- Climate change **mitigation** relates to the reduction of greenhouse gas (GHG) emissions. The 2018 Intergovernmental Panel on Climate Change (IPCC) *Special Report* reaffirmed that global GHG emissions must be cut by 45% by 2030 if we are to avoid global warming above 1.5°C, which would have widespread and unforeseeable impacts. Mitigating climate change through emissions reductions plays a vital role managing the amount we potentially have to adapt, by keeping risk levels within predictable scales.
- Climate change adaptation relates to preparing City operations and the community for the impacts of climate change. Due to GHGs already emitted into the atmosphere from human activity, some level of climate impact is already locked-in, and temperature changes have already been observed.

Improving Climate-Risk Management and Disclosure

Several Enabling Actions within the *Climate Change Adaptation Strategy (2018)* focus on mainstreaming climate-related disclosure and risk considerations into City processes (see *Climate Adaptation in Vancouver* section):

- E.1 Begin incorporating climate-related financial disclosure in City financial planning in 2019. Work with partners like the City of Toronto and CPA Canada in their TCFD Guidance for Cities project.
- E.2 After several years of climate-related financial disclosure, explore adding a specific climate assessment to large capital plan projects.
- E.3 Incorporate a scan of major projects against hazard and risk mapping to identify where staff risk experts should be involved early in the project.
- E.4 Add climate change considerations to the Sustainability addendum of the Engineering Asset Management framework.
- E.5 Support application of the Envision climate-risk section to the two Envision pilot projects, and propose any improvements to the scope/deployment of Envision.
- E.6 Add climate projections and information to multi-hazards risk assessment in the new Engineering Asset Management framework.

TASK FORCE FOR CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD) UNAUDITED

Regarding the latter, the City's ERM Group identified climate change as a top risk to the community and the organization. The inclusion of climate change in our enterprise risk process provides a basis for further discussing and identifying the impacts of climate risk on our operations and services provided to the public. Potential climate-related risks and hazards present our city with threats to health and safety, to assets and infrastructure, and to the economy that must be addressed and prepared for. These are captured in two related strategies at the City of Vancouver.

- The *Climate Change Adaptation Strategy (2018)* is our enterprise strategy addressing climate-related risks and hazards, and includes a set of priorities, supporting actions and several focus areas (see *Climate Adaptation in Vancouver* section). The Sustainability Group within the Planning, Urban Design and Sustainability department works with City Corporate functions and departments to develop, coordinate and maintain this strategy and its implementation.
- The Resilient Vancouver Strategy focuses on resilience to shocks and stresses in Vancouver, including those related to climate change. Objectives aligned with the "Proactive and Collaborative City" priority include strengthening organizational capacity to manage risk and recover from shocks and stresses and advancing collaborative disaster risk reduction and recovery planning. An associated action taking shape currently is to bring various City governance structures that deal with risk together into one disaster-risk reduction group. The group would oversee risk posed by various shocks and stresses, whether climate related or not.

Table 1 further details the management-level oversight for all relevant City Council-approved climate strategies and implementation plans. Departments across the City are responsible for implementation of actions.

Table 1 – City Strategy-Level Governance

| Strategy | Governance |
|--|--|
| <p><u>Climate Change Adaptation Strategy (2018)</u> Among the first of its kind in Canada, the <i>Climate Change Adaptation Strategy</i> contains core actions in five core areas, and enabling actions to help integrate an adaptation lens as standard practice into all City work.</p> | <p>City Council originally approved the <i>Adaptation Strategy</i> in July 2012. The <i>Adaptation Strategy</i> was updated in December 2018.</p> <p>The Adaptation Steering Committee provides oversight to implementation. This committee comprises senior managers, many of whom are also in the Corporate Leadership Team.</p> <p>The Sustainability Group tracks progress and reports to Council annually. Executive reports are also prepared as required. The <i>Adaptation Strategy</i> is updated and re-approved by Council every five years, which includes updating climate information, reviewing the status of adaptation actions, and identifying new or revised actions.</p> |
| <p><u>Climate Emergency Action Plan (CEAP)</u> <u>Full report / Summary</u> The <i>Climate Emergency Action Plan</i> is mitigation-focused, and contains action recommendations (organized into six "Big Moves") in line with efforts to limit global warming to 1.5°C. CEAP sets a target of 50% reduction in community-wide greenhouse gas emissions reduction by 2030. CEAP adopts an existing goal of deriving 100% of energy used in Vancouver from renewable sources before 2050. It expands the 2050 target, by committing to achieving carbon neutrality in our community-wide greenhouse gas emissions before 2050. CEAP supersedes the previous Renewable City Action Plan (2017), and the greenhouse-gas related goals in the Greenest City Action Plan (2011),</p> | <p>City Council approved <i>CEAP</i> in November 2020.</p> <p>The Climate Emergency Directors Forum provides oversight at a working level. The Vancouver Plan Steering Committee provides oversight at a programmatic level, as <i>CEAP</i> is considered an "action while planning" within the ongoing <i>Vancouver Plan</i> process (see below).</p> <p>The Sustainability Group tracks progress and reports to Council annually. Executive reports are also prepared as required. CEAP will be updated and re-approved by Council at the halfway mark of implementation (2025).</p> |

TASK FORCE FOR CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD) UNAUDITED

Table 1 – City Strategy-Level Governance - Continued

| Strategy | Governance |
|---|---|
| <p><u>Resilient Vancouver Strategy (RVS)</u></p> <p>The <i>Resilient Vancouver Strategy</i> builds City capacity to understand and proactively address current and future shocks and stresses, with a focus on earthquakes. It leverages global and local knowledge to build the resilience of organizational, community, and infrastructure systems, and works in unison with the <i>Climate Change Adaptation Strategy</i> to build resilience to priority shocks and stresses in Vancouver.</p> | <p>Staff in the Vancouver Emergency Management Agency (VEMA), and staff working on seismic policy in other departments, manage RVS implementation. Underway in 2021, <i>Vancouver Plan</i> (see below) has a core focus on resilience and will draw from the RVS.</p> |
| <p><u>Vancouver Plan (under development)</u></p> <p><i>Vancouver Plan</i> will be a strategic, long-range plan guiding Vancouver to 2050 and beyond, with the aims of creating a more sustainable, inclusive, and affordable city. The plan will address issues such as long-term land use and transportation directions, housing affordability, environmental and social health, and the need to better leverage long-term public investments.</p> | <p>City Council approved the scope and framework for developing <i>Vancouver Plan</i> in July 2019. The City's Chief Planner is responsible for delivering the plan. The City Manager chairs the Vancouver Plan Steering Committee. Resilience is one of three core tenets of the Vancouver Plan, including resilience to shocks and stresses both natural and man-made. The Vancouver Plan will also set policy directions that will inform the City's next environmental sustainability plan (the successor to the <i>Greenest City Action Plan</i>).</p> |
| <p><u>Greenest City Action Plan (GCAP, ended in 2020)</u></p> <p>The <i>Greenest City Action Plan</i> was the City's main urban environmental sustainability and climate mitigation strategy, outlining 10 goal areas and associated targets to achieve zero carbon, zero waste, and maintaining healthy ecosystems. Work continues under the CEAP until the development of the City's next environmental sustainability plan, within the Vancouver Plan process.</p> | <p>City Council approved GCAP in 2011. GCAP was updated in October 2015.</p> <p>The Greenest City Action Plan Steering Committee provided oversight for implementation. This committee is comprised of department and division-level managers.</p> <p>Various City departments managed the goals and targets. The Sustainability Department tracked progress and reports to Council annually. Executive reports were also prepared as required.</p> |

Climate Risk in Vancouver

| Strategy | |
|---|--|
| Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material. | <p>a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.</p> <p>b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p> <p>c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p> |

Vancouver's Climate Risk Assessment

Through two separate rounds of climate adaptation planning in 2011 and 2018, staff from across the organization were engaged in prioritizing climate-related hazards and impacts for action, by identifying where systems and service-delivery areas were the most vulnerable, and where the greatest risk (likelihood of impact and magnitude of consequences) lay.

Table 2 below summarizes the city's impacted areas in a future of more extreme events generally: hotter, drier summers; warmer, wetter winters; and sea level rise. Adaptation *Strategy* priorities include addressing rainfall-related flooding and sea level rise flooding and inundation, and heat-related impacts to health, buildings and natural assets.

Climate-related hazards will be considered further through a hazard, risk and vulnerability assessment (HRVA) underway in 2021. The HRVA will consider current and future risks of climate-related, human-caused, and other natural hazards. The HRVA will also focus on vulnerable conditions that influence the adaptive capacity of individuals and predispose them to adverse impacts

**TASK FORCE FOR CLIMATE-RELATED FINANCIAL DISCLOSURES
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In July 2019, the Province published the [Preliminary Strategic Climate Risk Assessment for B.C.](#) Vancouver's climate change risk assessment mirrors the process recommended in the Provincial methodology. The Provincial assessment lists water supply shortages, health related impacts from heat and wildfires among the top risks.

Table 2 – Examples of Projected Climate Impacts to Vancouver

| Impacted Area | Impacts | Timeframe | Impacted assets/services |
|---|--|-----------------------|---|
| Human Systems (Community) | Increased health and safety risks for frontline communities including those in lower quality housing, homeless population and seniors | Short- to medium-term | Public health; emergency management |
| | Increases in private property sewer back-ups in combined sewer areas due to high rainfall volume in sewer system and increased costs for response actions and clean-up after heavy rain events | Short-term | Residential, commercial, industrial, institutional premises; water supply and sanitation; public health |
| | Water supply shortages felt in late summer due to a decreased spring snow pack and higher summer temps could result in increased costs for water and imperative conservation measures | Medium-term | Water supply and sanitation; public health |
| Natural Systems | Increase in impacts to urban forests, green spaces and trees from temperature extremes and wind storms resulting in increased maintenance and replacement costs and changes to aesthetics and use | Medium-term | Public health, urban forest and biodiversity |
| Built Environment (Buildings and Infrastructure) | New and existing buildings may be maladapted as the climate changes in terms of thermal comfort, water ingress, wind durability, rain and snow loads and require additional investment or early retirement | Short- to medium-term | Residential, commercial, institutional premises; public health; emergency management; transportation |
| | Increase in landslide risk affecting public infrastructure and private property | Medium-term | Emergency management; residential, commercial, industrial, institutional premises; transport |
| | Increased volume of third-party liability claims against the city from major rain events | Medium-term | Public and private assets; water supply and sanitation; public health |

Scenario Analysis

On the recommendation of climate scientists at the University of Victoria, the City employs the IPCC RCP8.5 scenario to ensure we are considering outcomes that best track current global action on reducing emissions. The RCP8.5 scenario for the 2050s is similar to the RCP4.5 scenario for the 2070s. In planning for climate change, using this scenario covers several scenarios planning to position the City to be prepared ahead of time.

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Climate projections for the 2050s and 2080s, from downscaled Global Climate Models (GCM), form the inputs to the City's climate adaptation planning processes. The most recent process relied on 2016 climate data from an ensemble of 12 GCMs using the RCP8.5 scenario.

Coastal Flood Risk Assessment

As an example of the risk assessment approach taken, a Coastal Flood Risk Assessment (CFRA) was conducted in three phases between 2012 and 2018. This assessment took a fulsome, rigorous look at current and future flood risk given sea level rise around the coastline.

The CFRA employed specific scenario analysis. A technical advisory team of academics, practitioners in the field and stakeholders advised on five scenarios to use for flood hazard mapping, with the following ranges to help understand the varying levels of risk possible:

- year flooding is mapped for (base case 2013 out to 2200)
- severity/frequency of storm events (1:200 to 1:500 (0.2% Annual Exceedance Probability or AEP) storm surge)
- amount of sea level rise (0 to 2.0 meters).

This information highlighted the importance of planning now for sea level rise and of prioritizing our efforts, such that critical infrastructure and vulnerable populations are protected first.

CFRA Phase I confirmed that Vancouver is most vulnerable to flooding caused by the combined effect of a coastal storm surge and a king tide (exceptionally high tides that typically occur in December and January) rather than river-related flooding caused by spring run-off. In addition to mapping the areas vulnerable to flooding, Phase I also identified the community assets, infrastructure and buildings at risk to flooding over time.

With one metre of sea level rise and a major storm surge event (1:500 (0.2% AEP) storm surge event), approximately 13 sq. km of land and buildings valued at CAD \$7B (2013 land value assessment) are vulnerable to flooding in Vancouver. Included in this is City infrastructure such as waterfront parks and seawalls, as well as a number of the City's facilities currently located in low-lying areas (e.g., City service yards located by the Fraser River and in the False Creek Flats). To protect vulnerable areas, an estimated \$1 billion of flood management infrastructure will be needed in Vancouver by 2100.

Climate Adaptation in Vancouver

Risk Management

Disclose how the organization identifies, assesses, and manages climate-related risks.

- Describe the organization's processes for identifying and assessing climate-related risks.
- Describe the organization's processes for managing climate-related risks.
- Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.

Climate Change Adaptation Strategy

The *Adaptation Strategy* contains two types of actions, on a five to ten year timeframe. Senior managers reviewed outcomes of the planning exercises and supported finalization of the Strategy.



Core Actions

84 actions address the impacts prioritized through the vulnerability and risk assessment, seeking to achieve the functions laid out in the inner ring of the diagram at right. Actions have been prioritized.

Enabling Actions

17 actions support integrating a climate lens into City processes, achieving the functions in the outer ring of the diagram. The enabling actions facilitate creating and integration of overarching risk management frameworks with respect to resilience, sustainability, capital planning, and asset management.

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Core actions are grouped into five action areas, summarized in Table 3 below. For more detail, see the *Adaptation Strategy*.

Table 3 – Adaptation Core Actions and Focus

Core actions are grouped into five action areas, summarized in Table 3 below. For more detail, see the *Adaptation Strategy*.

| Action Area | Focus |
|--|---|
| Climate Robust Infrastructure | <ul style="list-style-type: none"> • Improve understanding and integrate management of water flow in the city (Rain City Strategy and Integrated Utility Management Planning) • Increase use of green infrastructure where appropriate • “Fit for purpose” approach to water end use • Consider interconnected and cascading impacts to critical infrastructure |
| Climate Resilient Buildings | <ul style="list-style-type: none"> • “Future-proofing” the building stock • New: Building requirements and design options to improve climate resilience • Existing: Deep Retrofit Strategy (in development) supports co-benefits to enhance resilience • Thermal comfort in hotter summers |
| Connected and Prepared Communities | <ul style="list-style-type: none"> • Health and safety during heat waves in non-market housing and surrounding neighbourhoods • Address wildfire smoke events • Support continuation and scaling- up of community resilience-building programs |
| Coastal Preparedness | <ul style="list-style-type: none"> • Floodplain development regulations and guidelines • Engagement and design competition • Conceptual design for adaptation approaches for the Fraser River • Study of Climate change impacts to waterfront parks and open spaces |
| Healthy and Vigorous Natural Assets | <ul style="list-style-type: none"> • Support implementation of the Urban Forest Strategy actions for climate change • Move urban forest maintenance from a reactive to a proactive standard of excellence • Soil preservation • Water quality |

Integration into Overall Risk Management

The Vancouver Emergency Management Agency is responsible for implementation of the City’s *Resilient Vancouver Strategy*. An objective within the strategy is to strengthen organizational capacity to manage risk and recover from shocks and stresses. An effort is underway to develop governance that brings together shocks and stresses related to climate, earthquakes and other natural hazards.

Multi-Hazard Preparedness

The COVID-19 pandemic taught the City many lessons about compounding hazards, and both being prepared and nimble enough to adapt response plans quickly.

The City of Vancouver has a heat response plan and initial response guideline for extreme heat events. In the spring, and when the temperature reaches a certain threshold throughout the summer, certain actions are triggered. These include opening cooling centres, installing temporary misting and water stations, cooled common rooms in social housing with increased tenant checks, etc.

As summer months approached amid COVID-19, no public cooling centre buildings were open or staffed. Common rooms often did not allow any capacity with physical distancing measures, and many temporary fountains had been refurbished as hand washing stations. Meanwhile, health messaging included a push to be outside over cramped indoor spaces. Responding to poor air quality with closed windows and doors was counter to some of the existing COVID-19 recommendations, leading to many broader conversations with the health authority.

As a result, heat response in the city pivoted to a focus on providing shade and water in outdoor locations frequented by people for other services, providing fans to tenants of social housing and funding an external organization to open a cooling centre. Temporary staff and facility opening plans were prepared for a heat event, with significant work on COVID-19 safety protocols. While there were no heat events in summer 2020, a week of poor air quality in September triggered the opening of clean air shelters using many of the hot weather protocols developed.

Integration into Financial Planning

The City of Vancouver has been investing in climate change mitigation for many years and along with reduced carbon pollution, we have seen significant social benefits in the form of improved transportation infrastructure, less pollution and lower energy costs. We have also seen strong economic growth in Vancouver in part due to our green reputation.

In the *Vancouver Budget 2021 and Five-Year Financial Plan*, the City outlined its investments for accelerating action on climate change, one of four priorities adopted by Council to assist staff in making decisions about which projects, initiatives and service improvements will most advance our work to address our city's key issues. 2021 Budget climate change investments include existing and ongoing activities (\$44.1M), new operational activities (\$2.5M) and capital investments (\$55.0M) to support transportation improvements, biodiversity, green buildings and adaptation.

The City's current capital planning framework includes sustainability and resilience as core elements to guide capital investments and assist with prioritization. The work to create and integrate overarching frameworks with respect to resilience, sustainability and capital planning and asset management is well underway and will continue over several years. While these frameworks have brought greater awareness in this round of capital planning, it is anticipated that they will help inform and prioritize the next round of capital planning in 2022 in a more holistic and meaningful way.

Climate Emergency Action Plan Financial Framework

In the Climate Emergency Action Plan (CEAP), the City set a target of 50% reduction in community-wide greenhouse gas emissions reduction by 2030. The CEAP outlines six "Big Moves" to support this target, identifying an estimated \$500M (Table 4) investment required over the next five years to meet the 2030 climate goal. The CEAP investment is a financial strategy roadmap, comprising on-going initiatives (e.g., improving our walking and cycling infrastructure, expanding electric vehicle charging) and new initiatives (e.g., Metro Core transport-pricing system, Zero Emission Building Retrofit Strategy). There is currently a funding gap (\$230M) to be addressed through various considerations, and is subject to change.

Table 4 – CEAP Five-Year Capital Investments Plan

| Six Big Moves | | \$M |
|----------------------|---|---------------------------|
| 1. | 90% of people live within easy walk/roll of their daily needs | 70.0 |
| 2. | Two thirds of all trips in Vancouver will be made by foot, bike or transit | 288.4 |
| 3. | 50% of the kilometres driven on Vancouver's roads will be zero emissions vehicles | 77.9 |
| 4. | Carbon pollution from buildings in Vancouver will be reduced by 50% below 2007 levels | 56.6 |
| 5. | Embodied emissions from new buildings will be reduced by 40% compared to 2018 baseline | 3.2 |
| 6. | Develop "negative emissions" targets that can be achieved by restoring forest and coastal ecosystems. | <i>not yet identified</i> |
| Total | | \$ 496.1 |

Vancouver's Climate Metrics and Targets

Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.

b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Adaptation Metrics and Indicators

Measurement of adaptation work is a nascent discipline still under development. Complications arise due to the long time-horizons involved in adaptation outcomes; the prioritization and selection of process, outcome, and contextual indicators; and appropriate methods for quantifying counterfactual indicators (i.e., avoided climate impacts due to adaptation interventions).

The *Adaptation Strategy* contains an action to finalize measurement indicators. Some of these derive from existing City of Vancouver and Park Board plans and strategy implementation (see Canopy Cover below). Others are pending completion of related plans and strategies under development at this time (e.g., *Vancouver Plan*, *Rain City Strategy*). Also included within the *Adaptation Strategy* are Enabling Action indicators looking at the mainstreaming of climate

Table 5 – Selected Explanatory Metrics

| | # of Heat Warnings | Days Under Air Quality Advisory ¹ |
|--------|--------------------|--|
| 2014 | 0 | 1 |
| 2015 | 0 | 8 |
| 2016 | 0 | 0 |
| 2017 | 1 | 18 |
| 2018 | 4 | 22 |
| 2019 | 0* | 0 |
| 2020 | 0* | 12 |
| Source | Environment Canada | Metro Vancouver |

change considerations in to City operations, decisions, and investments. Explanatory metrics monitor the rate of climate change and its impacts on Vancouver (see Table 5). Regular reporting against these metrics is in development. For the preliminary Measurement Indicators and for more information, see the full *Adaptation Strategy*.

Actions Progress and Monitoring

Adaptation Strategy actions implementation is underway with regular updates to the Adaptation Steering Committee on progress (see Table 6). All actions have timelines for completion; two years into a five-year implementation, over 70% are currently underway or completed. In 2020, several actions became redundant (for instance, the *Vancouver Plan* process will now address the creation of a Living Systems Strategy).

Table 6 – Adaptation Core Actions and Focus

| | Completed | In Progress | Future | Total |
|-------------------------------------|------------|-------------|------------|-------------|
| Core Actions | 17 | 42 | 22 | 81 |
| Climate Robust Infrastructure | 5 | 10 | 3 | 18 |
| Climate Resilient Buildings | 3 | 9 | 5 | 17 |
| Connected and Prepared Communities | 6 | 10 | 1 | 17 |
| Coastal Preparedness | 3 | 7 | 7 | 17 |
| Healthy and Vigorous Natural Assets | 0 | 6 | 6 | 12 |
| Enabling Actions | 4 | 7 | 6 | 17 |
| Total | 21 | 49 | 28 | 98 |
| % Actions | 21% | 50% | 29% | 100% |

Preparing For Future Summers: Heat Mapping

Long-term planning is underway for the new summer normals in Vancouver. The Vancouver Emergency Management Agency is revising personal preparedness messaging to include climate-related hazards such as extreme heat. In 2020, the City conducted research on thermal comfort in buildings, set up temporary water fountains, and opened clean air shelters for the first time amid the COVID pandemic. Knowing where interventions like these are needed most requires an understanding of urban heat distribution. Heat mapping is also important for longer-term planning related to tree planting, green infrastructure and cooling capacity of new buildings.

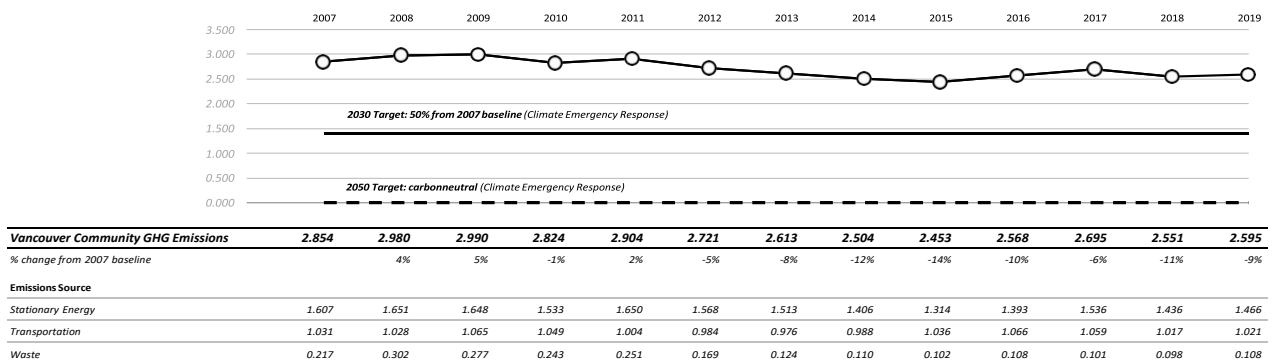
In August 2020, a City-led citizen science campaign recruited volunteers to ride their bikes along designated routes throughout the city. Bike-mounted sensors collected data to generate high-resolution descriptions of urban heat across the ambient environment at various times of day. Performed in collaboration with CAPA Strategies and the University of British Columbia, the result incorporates technological and methodological advancements for more accurate heat mapping to replace the last mapping completed in 2014.

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Community GHG Emissions

The City compiles annual inventories of community GHG emissions, as part of the *CEAP* climate-mitigation measurement and reporting framework¹. Below are Vancouver's emissions as measured according to the *Global Protocol for Community-Scale Greenhouse Gas Emission Inventories* (GPC), a globally recognized GHG accounting and reporting standard that ensures consistent and transparent measurement and reporting of GHG emissions between cities². As of 2019 (the latest year data are available), Vancouver's greenhouse gas emissions have decreased 9 percent from 2007 levels, while population has grown 11 percent and the number of jobs has increased 14 percent.

VANCOUVER COMMUNITY GREENHOUSE GAS EMISSIONS million tonnes CO₂e



GHG emissions inventory compiled according to the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC), "BASIC"

Canopy Cover

Vancouver's urban forest provides a multitude of benefits for the community, especially for climate resilience. The urban forest attenuates stormwater, helps keep ambient and building temperature down during hot summers, aids in cleaning the air and provides health and wellness benefits. Neighbourhood heat mapping illustrates that areas with greater canopy cover tend to be much cooler on hot days.

Since 2013, Vancouver has measured urban forest canopy cover to understand the impacts of tree planting efforts and other factors influencing canopy extent. Canopy cover is defined as the measured physical extent, when measured from above, of a tree's branches and leaves. The percent of a city's canopy cover (i.e., the area of the city covered by trees) provides the baseline measurement necessary to understand the extent of a city's urban forest. In late 2020, Vancouver Park Board reported canopy cover in 2018 at 23%, up 2% from 2013.

With many municipalities are establishing ambitious canopy cover targets (example targets in other North American cities with similar levels of urbanization: Toronto 40%; Portland 33%; Seattle 30%), the Park Board also re-established a more ambitious canopy cover target of 30% canopy cover by 2050. Achieving this target will require efforts beyond planting trees in parks. It will require ongoing stewardship of existing trees to ensure robust and healthy canopy growth, continuing advocacy and expansion of the urban forest in canopy-deficient areas. See the Park Board's [Urban Forest Strategy Update](#) report for more information.

¹ See Appendix M of the *Climate Emergency Action Plan* for the Indicators Framework (<https://vancouver.ca/climateemergency>). Current and past Greenest City Implementation Updates contain additional mitigation metrics, and are available at <https://vancouver.ca/green-vancouver/greenest-city-action-plan-development.aspx>.

² Note the GHG emission figures reported here do not align with figures published in the annual Greenest City Implementation Update, which are compiled to the *International Local Government Greenhouse Gas Emissions Analysis Protocol* (community section) published by ICLEI in 2009. This protocol has since been superseded by the GPC, but the City will continue to report on both inventories until at least 2021.