

# Enhancing Climate-related Disclosure by Cities: A Guide to Adopting the Recommendations of the Task Force on Climate- related Financial Disclosures (TCFD)

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# 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).<sup>1</sup>

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.

This *Guide* includes a general process framework for aligning a city's internal and external reporting with the TCFD recommendations, recognizing that implementation will vary based on a city's specific characteristics and circumstances, including its size and structure.

## Working Group Members

Members of the Working Group include representatives from:

- C40 Cities Climate Leadership Group
- Canadian Urban Sustainability Practitioners' (CUSP) Network
- City of Montreal (Environment Department)
- City of Montreal (Finance Department)
- City of Toronto (Environment & Energy Division)
- City of Toronto (Accounting Department)
- City of Vancouver (Sustainability Department)
- City of Vancouver (Finance Department)
- Delphi Group
- Federation of Canadian Municipalities (FCM) Partners for Climate Protection (PCP) program
- International Council for Local Environmental Initiatives (ICLEI) Canada
- Public Sector Accounting Board (observer role)

<sup>1</sup> See: [www.fsb-tcfd.org](http://www.fsb-tcfd.org)

This *Guide* has been developed based on input and direction from a Working Group comprised of Canadian cities and supporting organizations (see sidebar on page iii). It can be scaled more broadly across the Canadian municipal landscape and potentially serve as a resource to other cities globally.

## How To Use This Guide

This *Guide* contains an overview of how cities can benefit from aligning with the TCFD recommendations, including a process framework for implementation. In addition, a Resource Toolkit is appended to this *Guide* with tools for city staff and key decision makers, including background information to further support cities aligning with the TCFD recommendations. The Resource Toolkit and its intended audiences is summarized below.

### Overview of Resource Toolkit in This Guide

Resource	Title	Description	Intended Audience
<a href="#">Resource I</a>	Background on TCFD	Provides an overview of TCFD, disclosure recommendations, and climate-related risks and opportunities.	<ul style="list-style-type: none"> <li>City staff</li> <li>Senior management in the finance department</li> <li>Elected officials</li> </ul>
<a href="#">Resource II</a>	Process Framework for TCFD Implementation	Provides a five-stage process for aligning with TCFD, including guiding questions to support the alignment.	<ul style="list-style-type: none"> <li>City staff in the finance department (i.e., financial report preparers and budget and capital planners)</li> </ul>
<a href="#">Resource III</a>	TCFD Maturity Assessment Framework	Provides considerations to determine how far a city has progressed toward aligning with the TCFD recommendations. A city can use the roadmap provided within this framework to further advance its alignment with TCFD.	<ul style="list-style-type: none"> <li>City staff and members of senior management in the finance, sustainability and engineering departments</li> </ul>
<a href="#">Resource IV</a>	TCFD Alignment with Existing Municipal Climate Reporting Frameworks in Canada	Provides an overview of how TCFD aligns with other existing voluntary climate-related disclosure frameworks commonly used by Canadian cities, as well as gaps between the frameworks.	<ul style="list-style-type: none"> <li>City staff and senior management in the sustainability department</li> </ul>
<a href="#">Resource V</a>	Supplementary Information and Resources	Provides additional information and links to resources relevant to cities on TCFD, measuring and quantifying climate-related risks, and climate change and financial disclosure.	<ul style="list-style-type: none"> <li>City staff and senior management</li> <li>Elected officials</li> </ul>

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# The Impact of a Changing Climate on Cities

The current and future impacts of climate change present both risks and opportunities to cities and their service delivery models. According to C40 Cities, an organization made up of a network of cities taking action to address climate change, 70% of cities are already being impacted by climate change.<sup>2</sup> The economic cost of rising sea levels and flooding alone is expected to amount to more than US\$1 trillion by 2050,<sup>3</sup> with over 90% of cities located near coastal areas expected to feel impacts from flooding.<sup>4</sup>

Insured losses in Canada have been over *CAD \$1 billion per year for the past five years*, with payouts in 2018 reaching nearly CAD \$2 billion. In reaction to the growing costs and risks of climate change, multiple Canadian cities in recent months have declared “climate emergencies” and are responding with actions accordingly.<sup>5</sup>

It is expected that over CAD \$670 billion per year in investment is needed from now until 2030 on top of business-as-usual activities to keep global temperatures from rising by more than 1.5°C. For Canada’s finance sector alone, this could translate to between CAD \$36 billion to \$148 billion annually by 2025.<sup>6</sup>

Investing in climate-resilient infrastructure and services today can help reduce future losses. The FCM estimates that for every CAD \$1 billion invested in disaster mitigation, CAD \$6 billion in costs can be avoided.<sup>7</sup>

2 C40 Cities. ([www.c40.org/ending-climate-change-begins-in-the-city](http://www.c40.org/ending-climate-change-begins-in-the-city))

3 C40 Cities. Staying Afloat: The Urban Response to Sea Level Rise. ([www.c40.org/other/the-future-we-don-t-want-staying-afloat-the-urban-response-to-sea-level-rise](http://www.c40.org/other/the-future-we-don-t-want-staying-afloat-the-urban-response-to-sea-level-rise), 2019.)

4 C40 Cities. Ending Climate Change Begins in the City. ([www.c40.org/ending-climate-change-begins-in-the-city](http://www.c40.org/ending-climate-change-begins-in-the-city), 2019.)

5 Corporate Knights. “It’s time to call climate change what it is – an emergency – and act accordingly”. (<https://www.corporateknights.com/channels/climate-and-carbon/time-call-climate-emergency-act-accordingly-15574967/>, 2019.)

6 Toronto Finance International. Capitalizing on Sustainable Finance: A Growth Opportunity for Toronto’s Financial Sector. ([https://cdn2.hubspot.net/hubfs/4372260/Sustainable%20Finance/TFI\\_Sustainable%20Finance\\_Final%20Report%20\(16.09.2018\).pdf](https://cdn2.hubspot.net/hubfs/4372260/Sustainable%20Finance/TFI_Sustainable%20Finance_Final%20Report%20(16.09.2018).pdf), 2019.)

7 FCM. Climate and Sustainability. (<https://fcm.ca/en/focus-areas/climate-and-sustainability>, 2019.)

### Costs of Major Canadian Weather Events

- Windstorms in Toronto, Eastern Ontario, and Quebec in May 2018 brought claims worth CAD \$600 million.<sup>1</sup>
- Spring floods in 2017 and 2019 cost the City of Montreal CAD \$8.6 million and nearly CAD \$16 million, respectively.
- Heavy rains in May 2017 caused flooding and damage resulting in more than CAD \$233 million in insured damage in Eastern Ontario and Western Quebec.<sup>2</sup>
- Wildfires in British Columbia in 2017, considered the worst in recent history, cost the province CAD \$568 million, equal to more than double the historical average annual cost of CAD \$214 million.<sup>3</sup>
- The 2013 super flood in Alberta caused an estimated CAD \$6 billion in damages and recovery costs, with CAD \$2 billion in insured losses.<sup>4</sup>

1 Canadian Underwriter. Why the Global Protection Gap is the Lowest it's Been in 14 years. ([www.canadianunderwriter.ca/insurance/why-the-global-protection-gap-is-the-lowest-its-been-in-14-years-1004151048](http://www.canadianunderwriter.ca/insurance/why-the-global-protection-gap-is-the-lowest-its-been-in-14-years-1004151048), 2019.)

2 Insurance Bureau of Canada. Spring Flooding in Ontario and Quebec caused more than 223 million in Insured Damage. ([www.ibc.ca/on/resources/media-centre/media-releases/spring-flooding-in-ontario-and-quebec-caused-more-than-223-million-in-insured-damage](http://www.ibc.ca/on/resources/media-centre/media-releases/spring-flooding-in-ontario-and-quebec-caused-more-than-223-million-in-insured-damage), 2017.)

3 CBC. How British Columbia Budgets for Wildfire: Choose an Arbitrary Number, Put it in the Books. ([www.cbc.ca/news/canada/british-columbia/how-b-c-budgets-for-wildfires-choose-an-arbitrary-number-put-it-in-the-books-1.4793981](http://www.cbc.ca/news/canada/british-columbia/how-b-c-budgets-for-wildfires-choose-an-arbitrary-number-put-it-in-the-books-1.4793981), 2018.)

4 Environment and Climate Change Canada. Canada's Top Weather Stories of 2013. ([www.ec.gc.ca/meteo-weather/default.asp?lang=En&n=5BA5EAF3-1&offset=2&toc=hide](http://www.ec.gc.ca/meteo-weather/default.asp?lang=En&n=5BA5EAF3-1&offset=2&toc=hide), 2017.)







# What Are the Benefits to Cities of Applying the TCFD Framework?

## What Is TCFD?

While the TCFD framework was designed for public companies, it has broader applicability as climate-related risks and opportunities impact most organizations, including cities. The TCFD recommendations are relevant to cities because of the following:

- They are generally focused on climate-related risks and opportunities and their linkage to strategy, risk management and governance.
- Cities are on the frontlines of climate change, and it is therefore critical to apply a climate risk lens on short- and long-term financial planning, operational budgets and capital investments.

## What Is TCFD?

The Task Force on Climate-related Financial Disclosure, or TCFD, is a private-sector led initiative supported by the G20 to develop voluntary, consistent climate-related financial risk disclosures for companies to use when providing information to investors, lenders, insurers and other stakeholders.

See [Resource 1](#) for more information on TCFD.



Table 1 below outlines the four key TCFD recommendation areas and associated actions.

**TABLE 1: TCFD RECOMMENDATION AREAS AND ASSOCIATED ACTIONS**

<b>TCFD Recommendation Areas</b>	<b>TCFD Recommended Actions (Adapted for Cities)</b>
<b>Governance</b>	<p>Describe mayor and council's oversight of climate-related risks and opportunities.</p> <hr/> <p>Describe management's role in assessing and managing climate-related risks and opportunities.</p>
<b>Strategy</b>	<p>Describe the climate-related risks and opportunities the city has identified over the short-, medium-, and long-term.</p> <hr/> <p>Describe the impact of climate-related risks and opportunities on the strategy and financial planning of the city's businesses.</p> <hr/> <p>Describe the resilience of the city's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p>
<b>Risk Management</b>	<p>Describe the city's processes for identifying and assessing climate-related risks.</p> <hr/> <p>Describe the city's processes for managing climate-related risks.</p> <hr/> <p>Describe how processes for identifying, assessing and managing climate-related risks are integrated into the city's overall risk management.</p>
<b>Metrics and Targets</b>	<p>Disclose the metrics used by the city to assess climate-related risks and opportunities in line with its strategy and risk-management process.</p> <hr/> <p>Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 GHG emissions and the related risks.</p> <hr/> <p>Describe the metrics used by the city to manage climate-related risks and opportunities as well as performance against targets.</p>

## Benefits of Applying the TCFD Framework

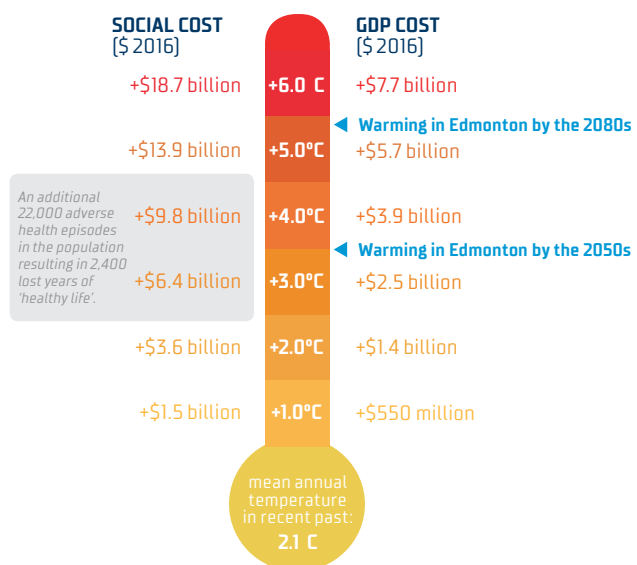
Some of the benefits of applying the TCFD framework to municipal operations might include:

- enhancing data collection and sharing to improve decision-making and enable comparability across local governments
- using cross-functional teams to integrate climate change considerations into existing risk assessment processes and build internal capacity for managing climate risks
- quantifying climate-related information in financial terms, such as infrastructure investment needs and the costs of inaction, health and other social costs, economic growth potential from clean-economy investments, and the creation of “green” jobs
- integrating climate-related risks and opportunities into operational budgeting and long-term capital planning to allocate resources where needed
- enhancing access to government and other sources of external funding for green infrastructure and projects, as well as attracting new investors and businesses by creating climate-resilient smart cities
- building public awareness of climate change impacts, and enhancing local support for action

### Edmonton’s Assessment of Climate Change Impacts

The City of Edmonton took an evidence-based quantitative approach to their vulnerability and risk assessment as part of its 2018 Adaptation Strategy and Action Plan. This assessment helped define Edmonton’s adaptation needs by identifying the areas of highest vulnerability. It estimated climate impacts to the City could increase by CAD \$8 billion by 2050, potentially lowering the City’s GDP by CAD \$3.2 billion from today.

FIGURE 2. SOCIAL AND ECONOMIC LOSSES



“In April 2019, Vancouver became the first Canadian city to include disclosure guided by TCFD principles in its annual financial report. We hope this disclosure serves as a foundation for future reporting, both here and in other cities. Most of all, the reporting has been enlightening. TCFD reporting mapped out the City’s various public climate-risk policies and discussions and centralized them in one document. This will help us build stronger funding proposals, incorporate climate risk into decision-making across the organization, and bolster the business case for investment in Vancouver.”

– Patrice Impey, General Manager & Chief Financial Officer, Finance, Risk & Supply Chain Management, City of Vancouver

### TCFD Alignment with Current Canadian Municipal Climate Reporting

The TCFD framework aligns with existing municipal climate change mitigation and adaptation assessment and reporting frameworks. Many cities across Canada currently report climate change-related information, including GHG emissions.

Cities are applying voluntary reporting frameworks, such as:

- the FCM and the ICLEI Canada’s PCP<sup>8</sup> program
- ICLEI Canada’s BARC<sup>9</sup> program.

**While many cities are currently disclosing climate related information, few cities in Canada are publishing climate related information in their mainstream financial reports or effectively linking it to financial impacts.**

At present, more than 400 cities in Canada are involved with the PCP program at various levels (i.e., milestones).<sup>10</sup> In addition, many medium- and larger-sized Canadian cities also report using CDP’s GHG reporting program for cities,<sup>11</sup> which is based on the internationally recognized GHG Protocol for Cities standard.<sup>12</sup>

8 FCM. Partners for Climate Protection Program. (<https://fcm.ca/en/programs/partners-climate-protection>)

9 ICLEI Canada BARC Program. (<https://icleicanada.org/barc-program>)

10 FCM. Partners for Climate Protection Program. (<https://fcm.ca/en/programs/partners-climate-protection>)

11 ICLEI Canada BARC Program. (<https://icleicanada.org/barc-program>)

12 CDP for Cities Program. ([www.cdp.net/en/cities](http://www.cdp.net/en/cities))

Table 2 below provides an overview of the predominant voluntary climate change-related reporting platforms being used by cities in Canada and how they align with the TCFD framework. To the extent cities are already reporting under the existing reporting frameworks, significant additional efforts to comply with the TCFD recommendations may not be required, particularly for cities in Canada that have already achieved Milestone 3 or above within both the PCP and BARC frameworks. More details on current climate-reporting frameworks in Canada and how they align with the TCFD recommendations can be found in [Resource IV](#).

**TABLE 2: OVERVIEW OF THE CURRENT MUNICIPAL SUSTAINABILITY AND CLIMATE REPORTING LANDSCAPE**

	<b>Sustainability / Climate Report</b>	<b>CDP Cities Platform</b>	<b>ICLEI and FCM PCP Program</b>	<b>ICLEI BARC Tool</b>
<b>Purpose</b>	Platform that allows cities to report on sustainability and/ or climate-action efforts.	Platform that allows cities to disclose climate change efforts, including governance structure and risks, to investors and other key stakeholders.	Milestone-based climate change mitigation-focused program / framework which supports municipalities in identifying and addressing sources of GHG emissions.	Milestone-based climate change adaptation-focused program / framework which supports municipalities in developing mitigation capacity.
<b>Reporting categories</b>	Programs, initiatives, and progress relating to issues such as energy use and efficiency, water consumption, waste creation, urban planning and greenery.	Governance and data management, strategy, hazards (risks) and adaptation actions, opportunities, and GHG emissions.	GHG emissions inventory, targets and corresponding GHG emission-reduction action items / plans.	Adaption planning, including climate research, vulnerability and risk assessments, targets and goals, and implementation plan.
<b>Mandatory or voluntary?</b>	Voluntary	Voluntary	Voluntary	Voluntary



	Sustainability / Climate Report	CDP Cities Platform	ICLEI and FCM PCP Program	ICLEI BARC Tool
<b>Users</b>	<ul style="list-style-type: none"> <li>• City council and staff</li> <li>• General public</li> <li>• Community organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Investors and resource providers</li> <li>• City council and staff</li> </ul>	<ul style="list-style-type: none"> <li>• General public</li> <li>• City council and staff</li> <li>• Community organizations</li> </ul>	<ul style="list-style-type: none"> <li>• General public</li> <li>• City council and staff</li> <li>• Community organizations</li> </ul>
<b>Alignment with TCFD?</b>	<p>No standardized format for these reports exists across cities in Canada.</p> <p>The degree of alignment with TCFD recommendations depends on format of report utilized by each respective municipality.</p>	<p>Generally well-aligned with the four TCFD recommendation areas and includes considerations related to both transitional risks and physical risks.</p> <p>Does not include a materiality assessment or require cities to quantify potential economic impacts from climate change but rather uses qualitative rankings of risk (e.g., high, medium or low impact).</p>	<p>Focused on GHG emissions and their reductions; less focused on physical risks.</p> <p>Alignment strong in terms of the metrics and targets recommendation area.</p> <p>Includes some focus on climate-related governance and strategy information.</p>	<p>Significant focus on physical risks; covers areas of risk management, strategy and governance.</p> <p>Does not include transitional risks nor emphasize quantitative metrics and target-setting.</p> <p>Does not require cities to quantify potential economic impacts from climate change but rather uses qualitative rankings of risk (e.g., high, medium or low impact).</p>

An aerial photograph of a city skyline, likely Montreal, with a semi-transparent white text overlay. The text reads "Overcoming Barriers to Implementing the TCFD Framework". The city features a mix of modern skyscrapers and older buildings, with green trees in the foreground.

# Overcoming Barriers to Implementing the TCFD Framework

While there are many benefits to aligning with TCFD, cities may also encounter several challenges when implementing the TCFD recommendations. Examples of potential barriers and suggestions for how to overcome them can be found below.

## **Work in Montreal on Critical Infrastructure Interdependencies**

The resilience of critical infrastructure, in the context of their complex interdependencies, has been studied at the Centre Risque et Performance (CRP) at Polytechnique Montréal since 2004. Initial research work followed the 1998 ice storm in southern Québec and eastern Ontario that caused widespread damage to critical infrastructure, including the Montréal region. The electricity, telecommunication, natural gas and transportation network were disrupted for days, creating a crisis situation for public safety officials and cascading impacts with other essential services.

Between 2004 and 2017, the CRP worked with local infrastructure and City of Montréal authorities to develop a methodology for diagnostic and preventative analysis of cascading failure effects and mapping resource needs of urban systems. This work has placed Montréal at the cutting edge in this field.

The methodology developed by the CRP resulted in the creation of the DOMINO tool, a web application designed to manage the spread of domino effects resulting from the failure of a given critical infrastructure. Starting in 2018, with the support of Public Safety Canada, the DOMINO tool is being tested in a more regional climate change adaptation context in collaboration with the Ouranos Consortium, the École nationale d'administration publique du Québec and the Québec Department of Public Security. These pilot projects may help prove the viability of the DOMINO tool and the CRP methodology for application in other Canadian cities and regions.

Further information is available at: [www.polymtl.ca/centre-risque-performance](http://www.polymtl.ca/centre-risque-performance)

- Departments within a city often communicate using different terms and vocabulary, making it difficult to create a common understanding of climate-related information. For example, energy professionals may speak about energy efficiency in terms of savings in gigajoules, while a city planner may focus on dollars saved.
  - Energy, environment and/or sustainability department staff have an opportunity as the resident experts to share their knowledge and invite others into the conversation.
  - To help bridge language barriers between departments, city staff can leverage the terms and language outlined by the TCFD to create a shared understanding. The finance department is experienced in analyzing and communicating various types of information across departments and can help in this regard.

“For several years, Montreal has been reporting on the impacts of climate change, as well as our progress to address related risks – although this has been largely qualitative to date in terms of the information provided. While the City of Montreal has positioned itself as a leader in addressing climate change, the work done in the context of the TCFD for Cities project, with guidance from CPA Canada, was a trigger for the importance of good disclosure of information related to the financial risks and impacts for a city.

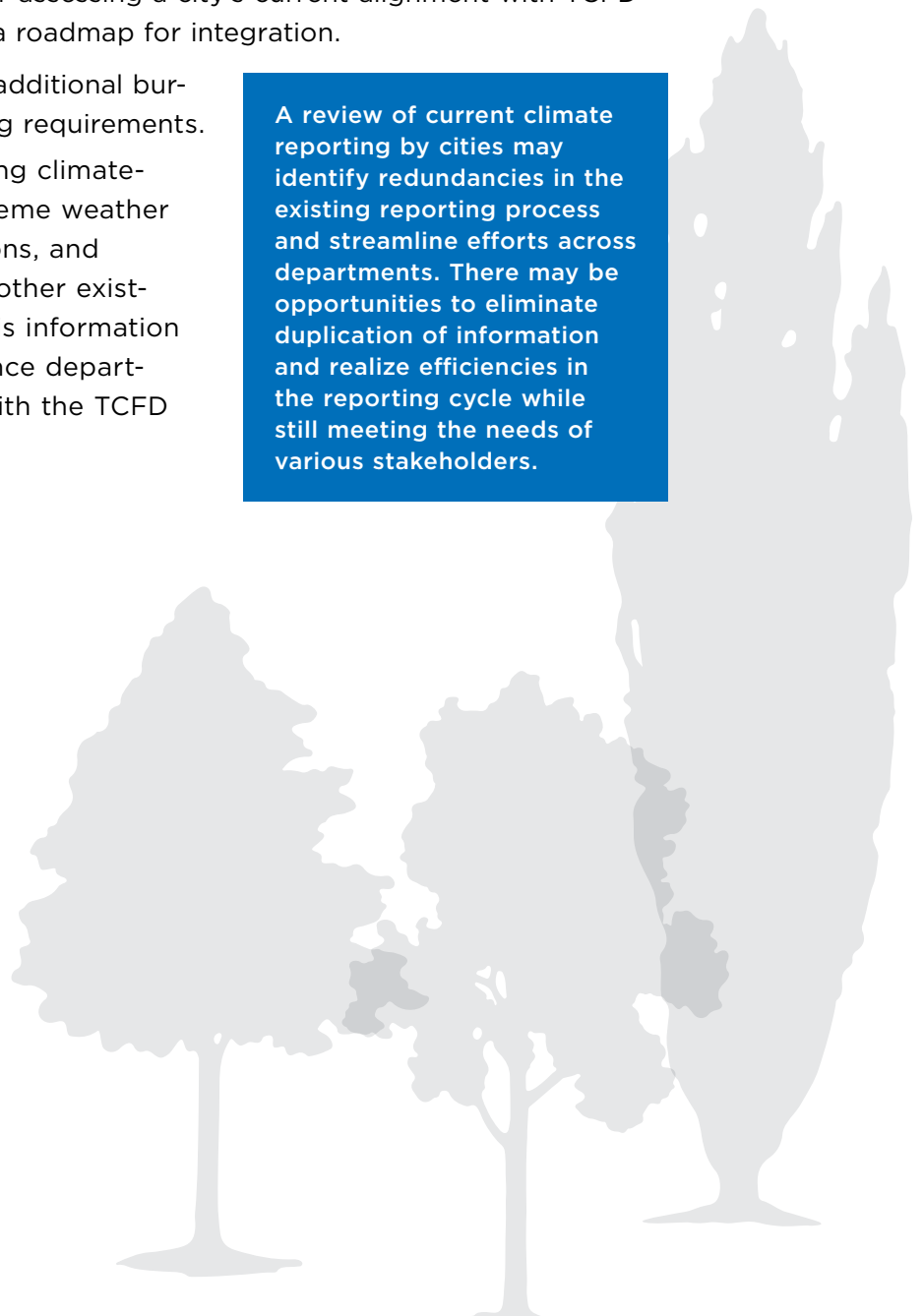
Through our participation in the Working Group, the City of Montreal has become more mature in its governance related to climate change, and has established a basis for the assessment of financial risks, as well as costs, that may be incurred due to climate change in order to better manage these risks. In addition, the City of Montreal recognizes the benefits from our participation in this ground-breaking work as it may eventually be considered by investors and other business partners, as well as by various provincial and federal governments as part of their grant funding programs.

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**

- 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.
- TCFD may be seen as placing an additional burden on current municipal reporting requirements.
  - Cities may already be reporting climate-related information (e.g., extreme weather hazards or risks, GHG emissions, and other relevant data) through other existing reporting frameworks. This information can be leveraged by the finance department to support alignment with the TCFD recommendations.

A review of current climate reporting by cities may identify redundancies in the existing reporting process and streamline efforts across departments. There may be opportunities to eliminate duplication of information and realize efficiencies in the reporting cycle while still meeting the needs of various stakeholders.



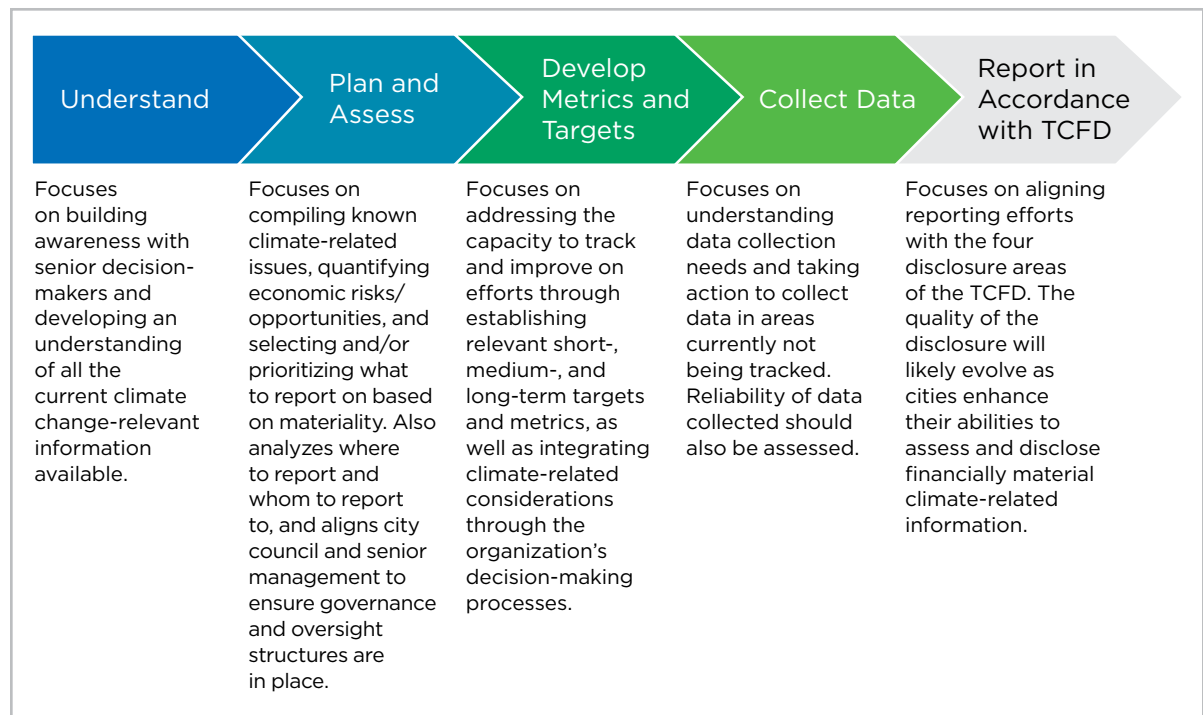


# A Process Framework for Applying TCFD to Cities

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**





“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

## 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)

## 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.

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

Table 1 – TCFD Recommended Disclosures - Continued

TCFD Recommended Disclosures	City of Vancouver Disclosure	
<b>Strategy</b>		
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.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	<a href="#">Climate Risk in Vancouver: 2019-2022 Capital Plan</a>
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	<a href="#">Climate Adaptation in Vancouver: 2018 Budget and Five-Year Financial Plan</a>
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	<a href="#">Climate Risk in Vancouver</a>
<b>Risk Management</b>		
Disclose how the organization identifies, assesses, and manages climate-related risks.	a) Describe the organization's processes for identifying and assessing climate-related risks.	<a href="#">Climate Adaptation in Vancouver: 2019-2022 Capital Plan</a>
	b) Describe the organization's processes for managing climate-related risks.	<a href="#">Climate Risk in Vancouver</a>
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	<a href="#">Climate Adaptation in Vancouver</a>
<b>Metrics and Targets</b>		
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.	<a href="#">Vancouver's Climate Metrics and Targets</a>
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	<a href="#">Vancouver's Climate Metrics and Targets</a>
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	<a href="#">Vancouver's Climate Metrics and Targets</a>

## Leverage Existing Efforts

Canadian cities already engaged in voluntary GHG emissions measurement and reporting and/or adaptation planning (through frameworks such as PCP, BARC and/or CDP) can build on their existing efforts in order to make enhanced climate-related financial disclosures in accordance with the TCFD. As cities mature with respect to their climate change-related data collection, analysis and understanding, a greater focus on quantifying the economic impacts through climate-scenario analysis will help to further align the city with TCFD and enhance the city's strategic decision-making.

## Assess Materiality

The TCFD recommends organizations determine materiality for climate-related issues consistent with how they determine the materiality of other information included in their financial filings.

### **The Importance of Materiality Assessments**

The TCFD strategy and metrics and targets recommendations are subject to an assessment of materiality, while the governance and risk management recommendations are to be provided irrespective of a materiality assessment.


CPA Canada's publication [Disclosing the Impacts of Climate Change - A Process for Assessing Materiality](#) sets out a process and considerations to assist financial report preparers in making this determination for climate-related matters. While the intended audience for this guidance is public companies, cities may also be able to adopt the process.

### **Understand Organizational Boundaries for Reporting Purposes**

Cities will need to assess their organizational boundaries (both geographically and in terms of responsibilities) as they relate to assessing the climate risks and opportunities of:

- owned municipal assets and service delivery
- infrastructure assets and services managed by other external stakeholders (e.g., water and power utilities, telecommunications, healthcare providers and emergency services)

This has implications for external reporting. For example, does the boundary selected for reporting non-financial performance metrics (e.g., GHG emissions) align with the basis on which financial information has been prepared?

A photograph of a city skyline at sunset, with various skyscrapers and buildings silhouetted against a warm, orange and yellow sky. The foreground is dark, suggesting a park or green space.

# Climate-related Financial Disclosures and Accounting Standards

Climate-related issues may affect the application of accounting standards as set out in the *CPA Canada Public Sector Accounting Handbook (PSA Handbook)*, resulting in additional disclosures and/or recognition or measurement of climate-related items, transactions or events. Further, when preparing a city's annual report, preparers may consider the Public Sector Accounting Board's (PSAB) Statements of Recommended Practice (SORPs) when determining whether climate-related disclosures are necessary.

As such, it is important for cities and their finance departments to ask key questions about climate-related risks and events which may have implications on a city's financial statements. For example:

- impairment or damage due to climate-related events (e.g., increasing frequency and severity of extreme weather) may require a write-down of assets or affect assets' useful lives
- recognition / measurement considerations related to investments in and upgrades of critical infrastructure (e.g., roads, bridges, dams, levees, sewers and drainage systems)
- increases in the significance and number of asset retirement obligations if city-owned sites are contaminated or do not meet environmental standards as a result of increasing frequency and severity of extreme weather (e.g., flooding causing site contamination)
- changes in insurance liabilities and premiums due to increasing climate-related damage payouts
- increased cost of capital if credit rating agencies do not see a city building climate resilience into its long-term planning and operations
- increased provisions related to service disruption
- potential going concern implications of climate-related impacts, such as those outlined above

CPA Canada's publication, [Climate-related Risks and Events: Questions to Ask Under Existing Public Sector GAAP and SORPs](#) provides further guidance on how climate-related issues might impact recognition, measurement and/or disclosures required in financial statements.



### City of Toronto GHG Disclosure

In June 2019, the City of Toronto released its [TransformTO: Climate Action for Healthy, Equitable, and Prosperous Toronto - Implementation Update 2017 and 2018](#). Toronto has also publicly released staff reports summarizing the results of climate change risk assessments across multiple sectors and risk-reduction actions being taken. In addition, Toronto discloses its GHG and climate adaptation status in CDP (formerly known as the Carbon Disclosure Project).

Note 24 of Toronto's [2018 Audited Consolidated Financial Statements](#) includes unaudited information on GHG emissions targets and reporting:

***“Greenhouse Gas (GHG) Emission Reductions (unaudited). Toronto’s climate action strategy (TransformTO) lays out a set of long-term, low-carbon goals and strategies to reduce local GHG emissions, and improve our health, grow the economy, and progress social equity. Under this strategy, Toronto’s targets are to reduce GHG emissions from the 1990 levels by 30% by 2020, 65% by 2030 and 80% by 2050. Subsequent to December 31, 2018, Toronto has released its 2016 inventory on community-wide GHG emissions which indicates that GHG emissions in Toronto were 33% lower in 2016 than in 1990.”***



# Resource Toolkit

## Resource I: Background on TCFD

The TCFD is a private-sector-led initiative supported by the G20 that was established in 2015 as a way for the financial and insurance sectors to better understand the risks and opportunities of investing in companies as it relates to the potential impacts from climate change on their future operations. In the past two years, the framework has gained the support of nearly 800 organizations, including over 340 investors and financial firms responsible for around \$34 trillion in assets under management.<sup>13</sup>

### TCFD Recommendation Areas

The TCFD provides a framework that includes considerations and recommendations across four overarching areas:

1. Governance
2. Strategy
3. Risk Management
4. Metrics and Targets

#### 1. Governance<sup>14</sup>

Governance focuses on an organization's governance structure for managing climate-related risks and opportunities. In particular, it looks at how senior decision makers oversee and integrate these risks and opportunities into decision-making processes, and how management effectively oversees these areas.

**FIGURE R1: TCFD FRAMEWORK AND RECOMMENDATION AREAS**



Source: Recommendations of the Task Force on Climate-related Financial Disclosures: Final Report

<sup>13</sup> Financial Stability Board, 2019. Task Force for Climate-related Financial Disclosure: Progress Report. ([www.fsb-tcfid.org/publications/tcfid-2019-status-report](http://www.fsb-tcfid.org/publications/tcfid-2019-status-report))

<sup>14</sup> As the language of the TCFD is directed at public companies, it needs to be altered to fit a municipal context. For example, under Governance, the TCFD recommendation is to "Describe the board's oversight of climate-related risks and opportunities." Cities do not have boards, but they have a comparable governing structure – city council. Governance recommendations in a municipal context will include both council and the city's management. The other three areas of the recommendation are applicable as written to cities.

## 2. Strategy

Strategy centers on the identification and evaluation of climate-related risks and opportunities in the short-, medium- and long-term. One of the key TCFD recommendations is for organizations to assess and disclose the resilience of their strategy, taking into consideration multiple climate scenarios, including a 2°C or lower scenario. The TCFD recognizes that this type of analysis is complex. At inception, scenario analysis may be a simplified qualitative exercise that evolves over time into a more robust, quantitative analysis.

## 3. Risk Management

Risk management seeks disclosure of the organization's processes for identifying, assessing and managing potential climate-related risks. The TCFD also recommends climate-related risks eventually be incorporated into an organization's enterprise risk management process.

## 4. Metrics and Targets

Metrics and targets includes disclosing the organization's key metrics to monitor climate-related risks and reporting on progress toward climate-related goals.

## Risks and Opportunities

The TCFD recommends organizations identify, evaluate, manage and disclose their material climate-related risks and opportunities, including potential financial impacts.

The TCFD defines both physical and transitional climate-related risks. Physical risks can be acute (e.g., a hurricane or massive flood) or chronic (e.g., sea-level rising). Transitional risks are related to changes in government policy, legal requirements, technological advancements, and market shifts that occur in order to mitigate climate change risks.

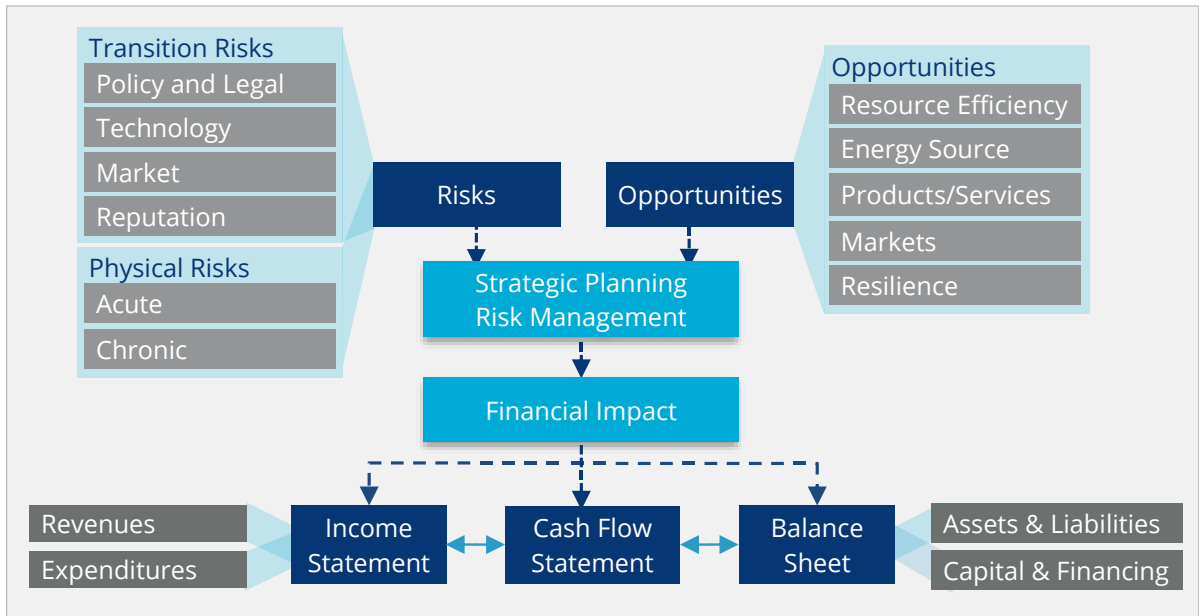
Examples of transitional risks and opportunities include, but are not limited to:

- **Policy:** Carbon tax, government incentives and investments in clean technologies, and green building policies.
- **Legal:** Litigation that arises for insufficient disclosure around material financial risks or failure of organizations to adequately address climate change. Examples of climate-related litigation include lawsuits filed against Pacific Gas & Electric Corporation for the damage caused by the California wildfires.<sup>15</sup>
- **Technology:** Advances to current and/or new innovations, such as renewables, storage and massive electrification of transit.

<sup>15</sup> Insurance Journal, 2019. Thousands of Lawsuits Demanding PG&E Pay for Damages from Wildfires. ([www.insurancejournal.com/news/west/2019/02/05/516827.htm](http://www.insurancejournal.com/news/west/2019/02/05/516827.htm), 2019.)

- **Market:** Shifts in supply and demand of products and services due to government policies, technology and consumer behaviour.
- **Reputation:** Risk to brand, customer support and community social licence.

**FIGURE R2: OVERVIEW OF FINANCIAL IMPACTS OF CLIMATE RISKS AND OPPORTUNITIES**

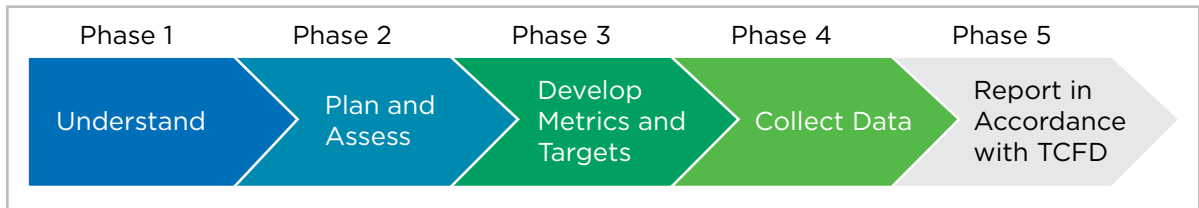


Source: Recommendations of the Task Force on Climate-related Financial Disclosures: Final Report<sup>16</sup>

## Resource II: TCFD Process Framework for the Finance Department

Figure R3 below provides a process framework for financial report preparers to understand, plan, assess and disclose in accordance with the TCFD recommendations. This process framework can also be used by a city’s budget and capital planners to help them understand, plan, assess, and budget for climate-related opportunities and risk-mitigation efforts.

**FIGURE R3: TCFD PROCESS FRAMEWORK FOR FINANCE DEPARTMENT**



<sup>16</sup> Financial Stability Board, 2017. Task Force for Climate-related Financial Disclosure: Final Report. ([www.fsb-tcfid.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf](http://www.fsb-tcfid.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf))

Each phase is described further below, along with key questions to consider as part of moving through each step.

## **1. Understand – Identify Existing Data and Information**

This phase focuses on understanding all the relevant climate change information currently available and identifying the stakeholders of such information, both within and outside the organization.

Key questions to ask:

- What type of climate information does the city currently disclose, what reporting methods does it use, and who are the target audiences?
- Who in the city has climate expertise and knowledge?
- Which city departments are currently integrating climate-related information into their decision-making? Which are not?
- What types of non-public climate-related information does the city have? Which parts of this information could be useful to decision makers?
- What other types of data or information is needed in order to assess the financial materiality of climate-related risks and opportunities?
- What is the current budget for climate-related programs, including mitigation and adaptation efforts?
- How is climate change being assessed and included in capital planning?
- Are there future expected revenues and/or costs related to climate change risks and opportunities?
- What data sources are currently available as well as required to help project and plan for near- and longer-term climate-related costs and revenues?

## **2. Plan and Assess – Evaluate Information Needs of Stakeholders and Conduct Materiality Assessment**

In order for cities to report in alignment with TCFD, city staff will need to compile and evaluate an inventory of climate-related issues that currently impact or may impact the cities' operations, service offerings, finances and key stakeholders in the future. A gap analysis is critical in completing this step, comparing against the data points collected in Phase 1.

Cities will need to assess their primary stakeholders as well as where and how (i.e., in what format) they should report material climate-related information to satisfy key stakeholder requirements. Cities will also need to establish buy-in with city council and senior management to ensure that expectations are aligned and that appropriate governance and oversight over reporting is in place.

Key questions to ask:

- Where should a city report its climate-related information?
- Who are the city's primary stakeholders of climate-related disclosures, both internal and external?
- What are the information needs of the identified key stakeholders?
- What format(s) for climate-related information is best received by the primary stakeholders?
- Are city management's and city council's expectations aligned on climate disclosure?
- What are the city's reporting objectives? Based on these, what should be reported?
- What are the city's potential climate-related risks and opportunities? Which ones will have the most impact on the city and its ability to operate?
- How are climate-related risks integrated into enterprise-wide risk management processes? Are they being assessed the same as other risks?
- What information is financially material to report?
- Do senior management and council understand which climate-related risks are potentially material?
- What are the future expected costs for climate initiatives based on different climate scenarios?
- How do expected costs compare to current? How can any gaps be addressed?

### 3. Develop Metrics and Targets

Once a city has identified its most relevant climate-related risks and opportunities, it should consider the actions needed to adequately address them. Establishing relevant short-, medium-, and long-term targets and metrics will help track progress toward meeting key objectives. Some commonly reported metrics currently helping cities effectively manage climate change include GHG emissions, energy usage, water consumption and waste production.

Key questions to ask:

- How will the city measure material risks over time to ensure they are aligned with the city's overall risk tolerance?
- What are the city's important climate-related goals and objectives?
- What climate-related information are users of reports most interested in?



- What are the key performance indicators (KPIs) needed to measure the city's progress over the short-, medium-, and long-term in relation to its goals and objectives?
- Are the targets (i.e., levels and benchmarks) realistic?
- Is there alignment with other operational targets?

#### 4. Collect Data

After a city determines its metrics and targets, it should assess whether it is effectively collecting the required data to measure progress toward these targets. Data may be located in disparate places within the organization. Internal collection processes and systems may need to be developed to efficiently report on metrics and KPIs.

Key questions to ask:

- Is the city currently collecting the relevant data?
- Where are the data gaps that should be addressed in the future?
- What is the internal process to review and verify the collected data?
- Are controls in place to ensure appropriate selection and calculation methods are used for relevant metrics and targets?
- Are metrics and targets subject to internal procedures and, where appropriate, independent assurance by an external auditor?

#### 5. Report in Accordance with TCFD

At this phase, cities have an understanding of their climate-related governance structure and oversight, strategy, risk management, and metrics and targets. Cities at this point are well-positioned to report in accordance with the TCFD's recommendations. The quality of the disclosures will likely evolve over time as cities enhance their abilities to report on material climate-related information.

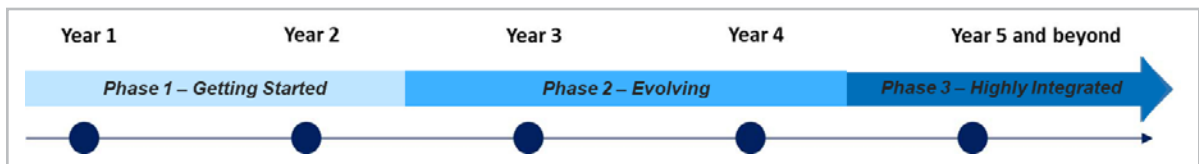
Key questions to ask:

- Is material information included in the city's financial report(s)?
- Is the information reported consistent with other public reports?
- Should the report(s) be reviewed or assured by an external auditor?
- Are we confident that the presentation is fair and balanced?
- Are there any omissions or misstatements in how the information is presented?
- Who is responsible for signing off on the report(s)?
- Have the necessary sign-offs been obtained in order to publish the report(s)?

## Resource III: TCFD Maturity Assessment Framework for Cities

Resource III provides a Maturity Assessment Framework to help cities align with the TCFD recommendations. This includes a set of considerations to help determine a city's progress toward adopting the TCFD recommendations. A city can use the roadmap below to determine which steps to take in order to advance their alignment with the TCFD recommendations and integrate climate-related risks and opportunities into decision-making.

**FIGURE R4: TCFD IMPLEMENTATION ROADMAP**



### Maturity Assessment Framework – Description of Phases

The three phases in the Maturity Assessment Framework are provided to help cities assess their current status and determine the steps required to move toward the next phase under each of the four TCFD recommendation areas. It is recognized that cities may be more advanced in different phases for each of the recommendation areas (e.g., Governance may be at the “High Integration” stage, but Metrics and Targets may be at the “Getting Started” stage). An overview of the three phases and key objectives for each phase is described below.

#### Phase 1 – Getting Started

Cities are beginning their TCFD journey. The main objectives of this phase are to:

- increase awareness and engagement on climate-related risks and opportunities across departments and functions
- develop and enhance data collection for assessing potential climate change impacts

## Phase 2 – Progressing

Cities at this phase are continuing to increase awareness but are starting to focus on embedding climate change into city planning and decision-making processes. The main objectives of this phase are to:

- provide information to decision makers on climate-related risks and opportunities
- begin integrating climate change information into the city’s strategy, capital planning, budgetary decisions and operations
- undertake assessment of climate change impacts on the city
- relate the city’s reporting and disclosures to the TCFD recommendation areas

## Phase 3 – High Integration

Cities are routinely integrating climate change into their decision-making processes. Awareness and collaboration across departments and functions is high. The main objectives of this phase are to:

- integrate climate risks, opportunities and impacts into decision-making processes
- use qualitative and quantitative climate information and scenarios to inform decisions
- proactively develop plans to mitigate climate risks and seize opportunities
- put controls in place to ensure appropriate selection and calculation methods are used for relevant metrics and targets
- subject metrics and targets to internal procedures and, where appropriate, obtain independent assurance by an external auditor
- align disclosures closely with the four TCFD recommendation areas

Table R1 below provides a further breakdown of the three major phases by each recommendation area.

**TABLE R1: DETAILED DESCRIPTION OF PHASES BY TCFD RECOMMENDATION AREA**

<b>Governance</b>		
<b>Phase 1 – Getting Started</b>	<b>Phase 2 – Progressing</b>	<b>Phase 3 – High Integration</b>
<p><b>City Council</b></p> <ul style="list-style-type: none"> <li>• City council is informed at least annually about:           <ul style="list-style-type: none"> <li>– the city’s key climate-related risks and opportunities</li> <li>– how these risks and opportunities may impact the city in the near-, medium- and long-term</li> <li>– any initiatives currently underway to help address these issues, and progress on climate-related goals/targets.</li> </ul> </li> <li>• City council is informed of climate-related risks and opportunities as part of its oversight of the city’s strategy, budgetary and capital planning.</li> <li>• City council is presented with information about climate-related issues when reviewing and deciding on strategy, policies, budgets and capital expenditures.</li> </ul>	<p><b>City Council</b></p> <ul style="list-style-type: none"> <li>• City council continues to be informed at least twice a year about key climate-related risks, opportunities, impacts, and city initiatives and progress toward goals and targets.</li> <li>• Climate-related risks and opportunities are being considered in relation to other (non-climate) areas.</li> <li>• City council is informed and has begun to include climate-related issues as part of its oversight of the city’s strategy, budgetary and capital planning.</li> <li>• City council forms a sub-committee to oversee climate-related issues.</li> <li>• As city council begins to consider climate-related issues as part of its review of the city’s strategy, budget and capital planning, it begins to develop a process for including climate in its decision-making.</li> <li>• Council begins to monitor and consider the city’s progress on climate-related goals and targets as part of its review of the city’s strategy, budget and capital planning.</li> <li>• The city begins to disclose how council is integrating climate-related information into its decision-making.</li> <li>• The city starts to publicly disclose the types of climate-related information council receives.</li> </ul>	<p><b>City Council</b></p> <ul style="list-style-type: none"> <li>• City council is continuously informed by all relevant departments about key climate-related risks, opportunities, impacts, and city initiatives and progress on goals and targets.</li> <li>• City council is reviewing climate-related risks and opportunities when reviewing other (non-climate) areas.</li> <li>• City council is not only informed but also considers climate-related issues as part of the city’s strategy, budgetary and capital planning.</li> <li>• City council’s sub-committee on climate-related issues receives regular updates from city management. The sub-committee provides information to the rest of city council and ensures climate-related issues are being integrated into council’s decision-making.</li> <li>• City council considers climate-related issues as part of its review of the city’s strategy, budget and capital planning.</li> <li>• A framework is established for how city council considers climate in its decision-making process.</li> <li>• City council evaluates the city’s progress toward its goals/targets on climate initiatives as it is reviewing strategic plans, budgets and capital expenditures.</li> <li>• The city is disclosing publicly the types of climate-related information council is receiving and how it is integrating this information into its decision-making.</li> </ul>

Governance		
Phase 1 – Getting Started	Phase 2 – Progressing	Phase 3 – High Integration
<p><b>City Management</b></p> <ul style="list-style-type: none"> <li>• Management is informed at least annually about:               <ul style="list-style-type: none"> <li>– the city’s key climate-related risks and opportunities</li> <li>– how these risks and opportunities may impact the city in the near-, medium- and long-term</li> <li>– the initiatives currently underway to help address these issues, and any progress on achieving climate-related goals / targets.</li> </ul> </li> <li>• The city has assigned climate-related responsibilities to management staff or committees.</li> <li>• Management provides information to city council on climate-related issues and initiatives.</li> </ul>	<p><b>City Management</b></p> <ul style="list-style-type: none"> <li>• Management continues to be informed at least twice a year about key climate-related risks, opportunities, impacts and city initiatives and progress on goals and targets.</li> <li>• Management begins to receive both qualitative and quantitative information useful for decision-making.</li> <li>• The city starts to establish a process to inform management about climate-related issues.</li> <li>• Management continues to provide information on climate-related issues to city council and its sub-committees.</li> <li>• Climate-related responsibilities are assigned to managers and committees.</li> <li>• Department heads are coordinating and discussing climate risks and opportunities together.</li> <li>• Climate-related risks and opportunities are being integrated into the city’s strategy, budgetary and capital planning processes.</li> </ul>	<p><b>City Management</b></p> <ul style="list-style-type: none"> <li>• City management is continuously informed by all relevant departments about key climate-related risks, opportunities, impacts, and city initiatives and progress on goals and targets.</li> <li>• Management receives both qualitative and quantitative information on climate issues to inform decision-making.</li> <li>• The city continues to refine and improve its process for keeping management informed of climate-related issues.</li> <li>• Management continues to provide information to city council and sub-committees on climate.</li> <li>• Climate-related responsibilities are assigned to managers or committees.</li> <li>• Department heads are not only coordinating and discussing climate risks and opportunities together, but they are also applying a similar process to the way they integrate climate-related opportunities and risks into their decision-making processes.</li> <li>• Climate-related risks and opportunities continue to be further integrated as part of the city’s strategy, budgetary and capital planning processes.</li> </ul>

## Strategy

Phase 1 – Getting Started	Phase 2 – Progressing	Phase 3 – High Integration
<ul style="list-style-type: none"> <li>The city has determined short-, medium- and long-term climate-related risks and opportunities.</li> <li>The city has begun to identify the potential impacts of these risks and opportunities.</li> <li>There has been preliminary disclosure of climate-related risks and opportunities for the city.</li> </ul>	<ul style="list-style-type: none"> <li>The city continues to identify its short-, medium- and long-term climate-related risks and opportunities.</li> <li>The city has identified the potential impacts of these risks and opportunities, and has started to assess the impacts.</li> <li>The city has begun to undertake climate scenario analysis. At this phase, analysis may be more qualitative.</li> <li>Initial insights from scenario analysis are beginning to be included in decision-making processes.</li> <li>The city enhances its disclosures to include potential impacts of identified near-, medium- and long-term risks and opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>The city continues to re-evaluate and revise its short-, medium- and long-term climate-related risks and opportunities.</li> <li>The city continues to identify and assess the potential impacts of these risks and opportunities.</li> <li>Climate risks and opportunities are assessed based on financial materiality.</li> <li>Scenario analysis becomes more quantitative.</li> <li>Insights from scenario analysis are integrated into decision-making processes.</li> <li>The city continues to improve its disclosure of climate-related risks and opportunities to include potential impacts of identified near-, medium- and long-term risks and opportunities.</li> </ul>

## Risk Management

Phase 1 – Getting Started	Phase 2 – Progressing	Phase 3 – High Integration
<ul style="list-style-type: none"> <li>The city has started to develop a process for identifying and assessing climate-related risks.</li> <li>An initial prioritization of risks has been completed.</li> <li>Departments within the city are becoming informed about climate-related risks.</li> <li>Initial ways to mitigate and manage risks have been discussed.</li> <li>The city has started to disclose its climate-related risks.</li> </ul>	<ul style="list-style-type: none"> <li>The city has refined its process for identifying and assessing climate-related risks.</li> <li>The city has established a process for prioritizing climate-related risks and has prioritized current climate risks.</li> <li>The city has identified ways to mitigate and manage prioritized climate-related risks.</li> <li>Climate-related risk mitigation and management efforts are starting to be implemented.</li> <li>Climate-related risks are being considered in the city's enterprise risk management framework.</li> <li>Departments within the city are beginning to identify, assess and manage climate-related risks.</li> <li>The city is disclosing its climate-related risks and is starting to discuss how it is managing these risks.</li> </ul>	<ul style="list-style-type: none"> <li>The city continues to refine and improve its process for identifying and assessing climate-related risks.</li> <li>Climate-related risks are being prioritized and incorporated into the city's overall risk management framework.</li> <li>A process for managing climate-related risks has been established.</li> <li>Climate-related risk mitigation and management efforts are being implemented.</li> <li>Departments within the city are identifying, assessing and managing climate-related risks.</li> <li>The city is disclosing its climate-related risks and how it is managing these risks.</li> </ul>



## Metrics and Targets

Phase 1 - Getting Started	Phase 2 - Progressing	Phase 3 - High Integration
<ul style="list-style-type: none"> <li>Emissions are being disclosed.</li> <li>The city has started to report on other metrics, such as energy use.</li> <li>Climate-related targets are being established.</li> </ul>	<ul style="list-style-type: none"> <li>The city continues to disclose its emissions as well as other key climate-related metrics.</li> <li>Initial targets are publicly disclosed.</li> <li>Progress and evaluation (e.g., year-over-year comparisons) on metrics are disclosed.</li> <li>The city makes early disclosure on how it plans to meet its targets.</li> <li>Progress on metrics and targets is beginning to be incorporated into decision-making processes.</li> <li>Targets are starting to be aligned with the city's strategy and risk management processes.</li> </ul>	<ul style="list-style-type: none"> <li>The city continues to disclose its emissions and other key climate-related metrics, including exposure of the city's specific physical locations and infrastructure to extreme-weather events.</li> <li>Targets are enhanced and publicly disclosed.</li> <li>Progress and evaluation (e.g., year-over-year comparisons) on targets are disclosed.</li> <li>Plans for how the city intends to meet targets are disclosed.</li> <li>Progress on metrics and targets is being fed back into decision-making processes.</li> <li>Targets are aligned with the city's strategy and risk management processes.</li> <li>Controls are in place to ensure appropriate selection and calculation methods are used for relevant metrics and targets.</li> <li>Metrics and targets are subject to internal procedures and, where appropriate, independent assurance by an external auditor.</li> </ul>

## Resource IV: Municipal Climate Reporting Frameworks in Canada

Resource IV, including Table R2 below, provides a brief description of key voluntary climate-related frameworks being used by Canadian cities and a comparison of how each framework aligns with the TCFD recommendation areas. It also highlights where cities may be able to leverage existing reporting material to align with TCFD.

### Partners for Climate Protection (PCP)

Co-developed / managed by FCM and ICLEI Canada, PCP is a voluntary, milestone-based GHG mitigation-focused program and framework helping cities in Canada develop their GHG emissions baselines, set targets to reduce GHG emissions, and develop and implement mitigation plans.

PCP is a well-established and subscribed program in Canada, with 402 cities of all sizes and at various milestones (45 cities at Milestone 5 – the highest level).

### **Alignments**

- Strong with the “metrics and targets” recommendation area.
- Includes some focus on “governance” and “strategy.”

### **Gaps**

- No risk-related disclosure explicitly required.
- Governance only established at a high level and lacks specific accountability and responsibility.
- Does not address physical climate and transitional risks.

### **Building Adaptive and Resilient Communities (BARC)**

Developed and managed by ICLEI Canada, the BARC is a voluntary, milestone-based climate adaptation-focused program and framework helping cities in Canada develop their adaptive capacity and implement plans to reduce the impacts of climate change through adaptation.

To date, approximately 70 cities across Canada have aligned themselves with the BARC framework at various milestone stages.

### **Alignments**

- Emphasizes risk identification and understanding, particularly when it comes to physical climate risks.
- Requires cities to strategically plan mitigation actions for risks.
- Includes elements of governance in the framework.

### **Gaps**

- Strong emphasis on physical risks.
- Transitional risks not well-addressed.
- Quantification of financial impacts of climate change as well as scenario analysis not explicit requirements of the framework.

## CDP Cities

CDP Cities is a global, voluntary climate change reporting program and framework that includes both mitigation and adaptation considerations.

CDP leverages a questionnaire across several categories, including governance and data management, strategy, hazards (risks) and adaption, opportunities, GHG emissions, and water.

It has an investor-focused audience and is largely subscribed to by medium to large cities in Canada with capacity and interest in international benchmarking and alignment.

## Alignments

- Covers all four recommendation areas of the TCFD.
- Focuses on both risks as well as opportunities.
- Balances transitional risks with physical risks.

## Gaps

- Lacks standard financial language (e.g., refers to climate risks as “hazards”).
- Reported information not subject to materiality assessment.
- Does not require cities to conduct a quantitative assessment of the financial impacts of climate change.
- Cities qualitatively categorize risk as “high, medium or low.”
- Scenario analysis used only within the context of GHG emissions.

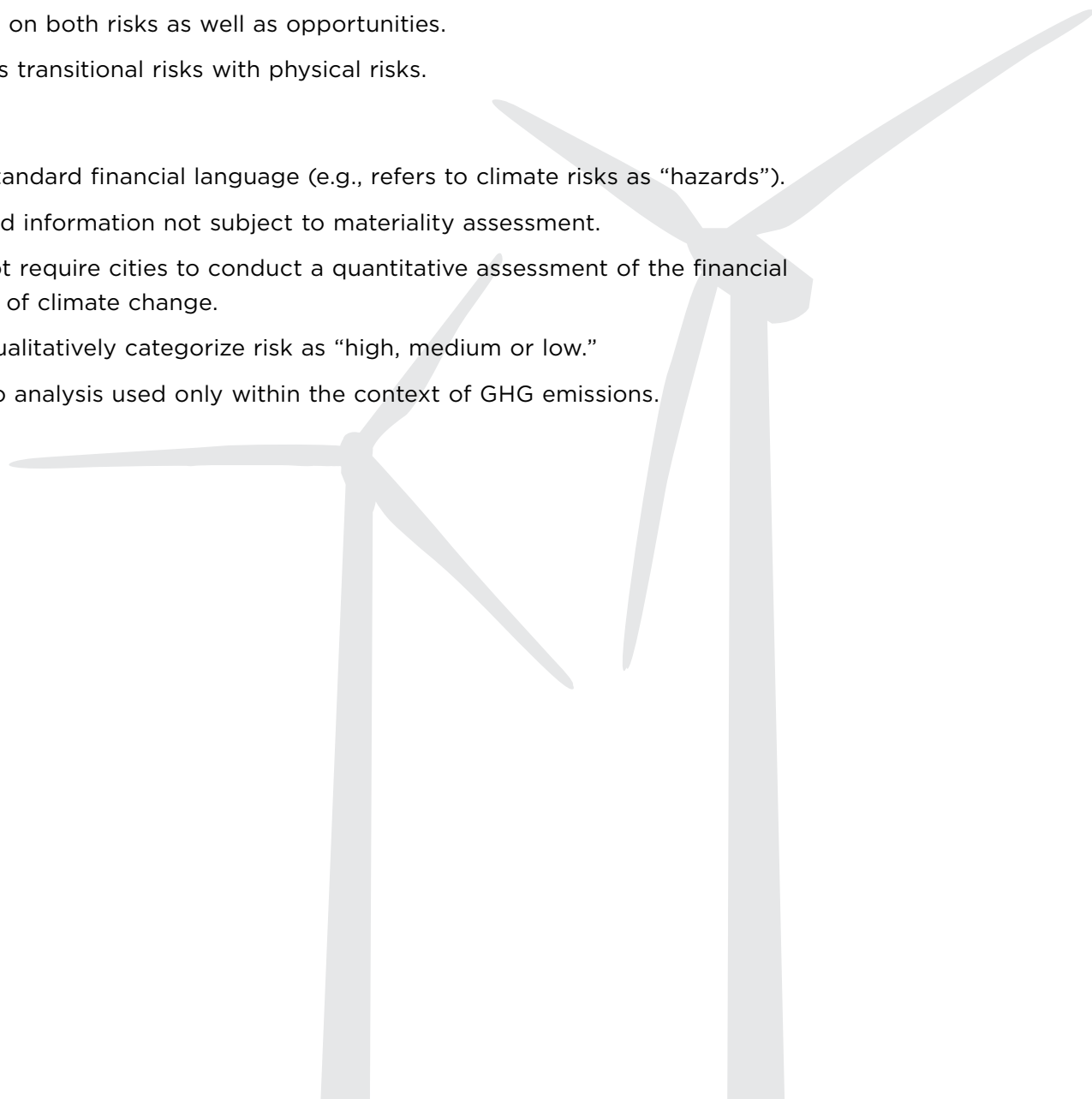


TABLE R2: COMPARISON OF TCFD, CDP, PCP AND BARC FRAMEWORKS

		<p>Adaption 3.0 asks whether the <b>mayor or city council has committed to adapting to climate change</b> across the geography of their city.</p> <p>Adaption 3.1 asks whether the <b>city council has published a climate-change adaptation plan.</b></p>	<p>Milestone 2 includes a <b>council resolution on an emission target.</b> However, description of oversight of the plan does not appear to be a requirement.</p>	<p>Milestone 1 <b>requires council to pass a resolution on adaption.</b> It also requires stakeholder identification and the creation of a Community Charter. It is unclear whether council's responsibilities and accountabilities are included in the Community Charter.</p> <p>Milestone 4 <b>requires approval and support from council.</b> However, description of oversight of the plan does not appear to be a requirement.</p>
		<p>Governance and Data Management 1.1 asks to <b>describe how the city manages overall responsibility for climate-change mitigation</b> (e.g., emissions reduction) and <b>adaptation</b> (i.e., climate-risk reduction).</p>	<p>Milestone 3 requires <b>naming the department / organization responsible for the plan and action.</b> However, specific accountability does not appear to be a requirement.</p>	<p>Milestone 1 requires <b>building a climate-change adaption team</b> and <b>identifying an adaption champion.</b></p>
<b>Strategy</b>	<p>Describe the climate-related risks and opportunities the city has identified over the short-, medium-, and long-term.</p>	<p>Strategy 8.3c asks cities to provide <b>details of their total city-wide baseline scenario target</b> (e.g., GHG emissions), including projected business-as-usual emissions.</p>	<p>Milestone 1 includes a <b>10-year business-as-usual forecast</b> relating to emissions. Other short-, medium-, and long-term risks/opportunities do not appear to be a requirement.</p>	<p>Milestone 2 requires <b>research on the impacts of climate change and how different service areas will be affected.</b> It is unclear whether this research entails short-, medium- or long-term impacts.</p>

<b>Strategy</b>	Describe the impact of climate-related risks and opportunities on the strategy and financial planning of the city's businesses.	Climate Hazards 2.3 asks cities whether they have considered that <b>climate change could negatively impact the ability of businesses to operate successfully.</b>	Milestone 3 includes a <b>description of costs and funding sources</b> for the emission plan. Business impacts do not appear to be included in the Milestone.	Milestone 3 examines <b>financing and budget considerations required</b> for the plan. It also identifies <b>possible drivers and constraints</b> . However, it does not mandate any quantification of impacts (i.e., assigning a dollar value to potential impacts).
	Describe the resilience of the city's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	<b>No evidence of requiring</b> cities to describe resilience or to attempt scenario analysis (aside from GHG forecasting).	<b>No evidence of</b> requiring cities to describe resilience or to attempt scenario analysis (aside from GHG forecasting).	Milestone 2 requires a <b>vulnerability and risk assessment</b> to determine sensitivity to climate change, adaptive capacity, consequences and likelihood of impacts.
<b>Risk Management</b>	Describe the city's processes for identifying and assessing climate-related risks.	Climate Hazards 2.0b asks cities to provide <b>details on their climate-change risk or vulnerability-assessment methodology.</b>  Climate Hazards 2.1/2.1a asks cities whether they have a <b>process for updating / revising their city's climate-risk or vulnerability assessment.</b>	Risk disclosure <b>does not appear to be required.</b>	Milestone 1 takes an <b>initial look at the impacts of climate change.</b>  Milestone 2 initiates <b>research and a more comprehensive review of climate risks and opportunities.</b> Quantification does not appear to be a requirement of this risk / opportunity review.
	Describe the city's processes for managing climate-related risks.	Climate Hazards 2.1/2.1a asks cities whether they have a <b>process for updating / revising their city's climate-risk or vulnerability assessment.</b>  Strategies 8.1 and 8.4 ask cities to provide details <b>on how they are managing emissions to achieve their targets</b> (i.e., local and city-wide levels).	Risk disclosure <b>does not appear to be required</b> in any capacity.	Milestone 3 identifies <b>potential options and actions</b> on adaption.

<b>Risk Management</b>	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the city's overall risk management.	Integration of risks <b>does not appear to be required.</b>	Risk disclosure <b>does not appear to be required.</b>	<p>Milestone 4 <b>implements the adaptation plan</b> developed earlier.</p> <p>Milestone 4 <b>develops mechanisms and funding</b> to implement the plan and address risks.</p>
<b>Metrics and Targets</b>	Disclose the metrics used by the city to assess climate-related risks and opportunities in line with its strategy and risk management process.	Cities are asked to disclose metrics relating to local emissions, city-wide emissions, energy and water.	Milestone 1 <b>includes a description of emission intensity values</b> or coefficient values for all energy types, including electricity. It is unclear whether these align with strategy and risk management.	Milestone 3 <b>determines appropriate baseline and indicator data.</b> It is unclear whether these align with strategy and risk management.
	Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 GHG emissions and the related risks.	Local Emission (6.0 to 6.10) and City-wide Emissions (7.0 to 7.103a) <b>ask cities to disclose information</b> related to Scope, 1, 2 and 3 emissions.	Milestone 1 <b>requires a summary of either the city's corporate or community emission inventory,</b> as well as a 10-year forecast.	<b>It is unclear</b> whether baseline and indicator data in Milestone 3 include emissions.
	Describe the metrics used by the city to manage climate-related risks and opportunities, and performance against targets.	<p>Governance and Data Management 1.4a asks whether <b>goals and targets are being integrated into the city's master plan.</b> Strategy 8.0 asks cities whether they have <b>specific GHG reduction targets</b> for their local operations. Strategy 8.3 asks whether they have a <b>specific GHG reduction target</b> at a city-wide level.</p> <p>Energy 9.2a asks cities whether they have <b>specific energy reduction targets</b> for their local operations.</p>	<p>Milestone 2 requires a <b>description of targets, including baseline year, target year</b> and percentage change from baseline year.</p> <p>Milestone 3 requires a <b>description of the activities that will help achieve the target reduction.</b></p> <p>Milestone 5 requires a <b>quantification of the GHG reduction impact of each measure</b> outlined in the local action plan.</p>	Milestone 3 requires the establishment of a vision and objectives along with goals. It is <b>unclear whether goals are quantitative.</b>



## Resource V: Supplementary Information and Resources

Source	Title (hyper linked)	Publication Date
CPA Canada	<a href="#">Disclosing the Impact of Climate Change: A Process for Assessing Materiality</a>	2019
CPA Canada	<a href="#">Climate-related Risks and Events: Questions to Ask Under Existing Public Sector GAAP and SORPs</a>	2019
CPA Canada	<a href="#">Webinar - Scenario Analysis and TCFD Climate Risk Disclosure: The Next Frontier in Corporate Reporting?</a>	2019
CPA Canada	<a href="#">Investor Interviews on Climate Disclosure and Decision-making: Key Findings</a>	2019
CPA Canada	<a href="#">Task Force on Climate-related Financial Disclosures: Overview</a>	2018
TCFD	<a href="#">Task Force on Climate-related Financial Disclosures: Status Report</a>	2018
TCFD	<a href="#">Task Force on Climate-related Financial Disclosures: Final Report</a>	2017
Insurance Bureau of Canada	<a href="#">The Economic Impacts of the Weather Effects of Climate Change on Communities</a>	2019
Sustainability Accounting Standards Board (SASB) and Climate Disclosure Standards Board (CDSB)	<a href="#">TCFD Implementation Guide</a>	2019



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