CPA CHARTERED PROFESSIONAL ACCOUNTANTS CANADA

Sustainability Reporting Alert

CLIMATE-RELATED SCENARIO ANALYSIS

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CPA Canada's series of Sustainability Reporting Alerts (the **Alerts**) introduce concepts within sustainability disclosure and assurance standards. The Alerts are meant for preparers and auditors of sustainability information, typically CPAs or other sustainability professionals.

The International Sustainability Standards Board **(ISSB)** issued the first two International Financial Reporting Standards **(IFRS)** Sustainability Disclosure Standards (the **Standards**) in June 2023. IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information **(IFRS S1)** and IFRS S2 Climate-related Disclosures **(IFRS S2)** are effective for annual reporting periods beginning on or after January 1, 2024. Transitional relief in IFRS S1 allows an entity to disclose information on only climate-related risks and opportunities (as set out in IFRS S2) in the first year it applies IFRS S1 and IFRS S2. IFRS S1 and IFRS S2 disclosures are meant to be complementary to both IFRS accounting standards and other generally accepted accounting principles and will form part of an entity's general purpose financial reports.

Sustainability disclosures are not yet required in Canada; however, the Canadian Sustainability Standards Board (**CSSB**) is working to advance the adoption of sustainability disclosure standards in Canada. For more information see www.frascanada.ca/en/cssb. Until the sustainability disclosures are required, the Standards may be applied voluntarily.

As we move to a financial reporting landscape that considers sustainability-related disclosures, CPAs will play a key role in transforming climate and other sustainability-related data into high-quality, investor-focused information.

The preparation and reporting of climate-related scenario analysis, as defined under IFRS S2, is not a new concept as it was a key recommendation of the Task Force on Climate-related Financial Disclosures (**TCFD**). Climate-related scenario analysis enables entities and users of general-purpose financial reports to understand the resilience of an entity's strategy and business model to climate-related changes, developments and uncertainties, taking into consideration the entity's identified climate-related risks and opportunities.

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This Alert is intended to help readers enhance their knowledge of climate-related scenario analysis and introduce the disclosure requirements as defined under IFRS S2 on this topic. This Alert is not a "how-to" guide for preparing a climate-related scenario analysis, but rather focuses on the following frequently asked questions:

1. What is climate-related scenario analysis?
2. Why should an entity conduct a climate-related scenario analysis and why is it important for stakeholders?
3. What are the requirements in IFRS S2 for conducting climate-related scenario analysis and the related disclosure requirements?
4. What are some of the challenges associated with climate-related scenario analysis?
5. How does climate-related scenario analysis interact with IFRS Accounting Standards?

What is climate-related scenario analysis?

Scenario analysis is a process for identifying and assessing the potential implications of possible future states under conditions of uncertainty. It is used in a forward-looking assessment of risks and opportunities to allow for an understanding of the resilience of a company's strategy and business model under a range of hypothetical situations.

A scenario is a hypothetical construct that is not designed to deliver precise outcomes. Therefore, it should not be confused with, or compared to, financial forecasts, which are typically modelled using historical data and forward-looking trends. Scenarios do not provide a comprehensive view of the future but represent an analysis of 'what-if' questions to simulate how entities would perform if certain events occurred.

Using scenario analysis in a climate change context, or climate-related scenario analysis, is useful as it helps entities and stakeholders understand how climate-related risks and opportunities could evolve and impact their business over an extended time horizon. Climate scenarios are alternative perspectives of how the future might unfold and are an appropriate tool with which to analyze how driving forces may influence future emission outcomes and warming pathways, and their potential impact on an entity's strategy and business model. The possibility that a scenario will occur as modelled is unlikely.

Climate-related scenario analysis incorporates known climate-related risks and opportunities and can help identify additional climate-related risks and opportunities. Climate-related risks are grouped into two categories: physical and transition risks. Physical risks arise from hazards caused by climate change that include both acute events (e.g., floods, fires, extreme heat) and chronic conditions (e.g., gradual increases in the Earth's average temperature, and rising sea levels). Transition risks include macro changes in the economy, regulation, consumer behaviour and technology, among others, driven by the movement toward a lower carbon economy. Climate-related opportunities refer to the potential positive effects arising from climate change

for an entity that could reasonably be expected to affect the entity's prospects. Efforts to mitigate and adapt to climate change can produce climate-related opportunities for an entity.

Why should an entity conduct a climate-related scenario analysis and why is it important for stakeholders?

Climate change is increasingly becoming a key business factor that investors are focused on and climate-related scenario analysis is more than just a compliance exercise; it is a useful tool that may identify new risks or opportunities. The uncertainty related to when and how climate-related risks and opportunities may manifest can make it difficult for entities and users of their general-purpose financial reports to understand the potential impacts of climate change on their strategy and business model to help make meaningful business or investment decisions.

For entities and their key stakeholders, such as investors, it is important to be able to evaluate the implications of climate-related risks and opportunities on the business. The use of climate-related scenario analysis is an important tool to stress test current strategies against different scenarios, to inform future strategic planning, to implement risk management strategies, and to develop appropriate contingency plans. Similarly, the reporting of climate-related scenario analysis helps investors and other stakeholders understand the resilience of the entity's strategy and business model to climate-related changes, developments and uncertainties, taking into consideration the entity's identified climate-related risks and opportunities.

Climate-related scenario analysis helps entities to:

- identify risks and opportunities across the business to inform strategic, operational and financial planning through the integration of climate-related scenario analysis into Enterprise Risk Management (ERM) processes
- prioritize identified risks and opportunities, to focus on the most material factors to develop mitigation and strategic actions
- stress test current strategies against various future outcomes, assess the resilience of the business plan, and develop more rapid response plans in case of future shocks
- effectively allocate capital by identifying opportunities and weaknesses across the business
- respond to questions from investors, lenders and insurers on the company's resilience to climate change

  and

- meet future reporting requirements

What are the requirements in IFRS S2 for conducting climate-related scenario analysis and the related disclosure requirements?

General

Given the importance of climate-related scenario analysis and increased investor needs, IFRS S2 requires an entity to use climate-related scenario analysis to assess its climate resilience, using an approach that is commensurate with its circumstances (further discussed below).

IFRS S2 broadly aligns with the TCFD recommendations, but in some cases requires additional or more detailed information to be disclosed. For entities that have prepared a climate-related scenario analysis using the TCFD recommendations, this resource published by the ISSB provides a general comparison between the requirements under IFRS S2 and the TCFD recommendations.

Reporting requirements under IFRS S2 related to climate-related scenario analysis can be found under two sections within the Standard: Strategy and Risk Management. The preparation of a climate-related scenario analysis can help inform management of the resilience of its current strategy and in turn, insight into the risks and opportunities of its current strategy. From a risk management perspective, entities need to disclose whether and how climate-related scenario analysis was used to identify, assess, prioritize and monitor climate-related risks and opportunities (paragraph 25(b) of IFRS S2), which is a distinct requirement from the use of such in assessing an entity's climate resilience, as further described below.

Assessing an entity's circumstances

Under the Strategy pillar, paragraph 22 of IFRS S2 requires an entity to use climate-related scenario analysis to assess its climate resilience, using an approach that is commensurate with its circumstances. The entity is required to use an approach to climate-related scenario analysis that enables it to consider all reasonable and supportable information that is available to the entity at the reporting date without **undue cost or effort**. To assess its circumstances, an entity must consider the following:

a. the entity's exposure to climate-related risks and opportunities (paragraphs B4–B5 of IFRS S2) and

b. the skills, capabilities and resources available to the entity for the climate-related scenario analysis (paragraphs B6–B7 of IFRS S2)

This assessment may result in different types of climate-related scenario analysis being performed, from a simpler, qualitative analysis, to a more quantitative or technically sophisticated analysis. For example, if an entity has a high degree of exposure to climate-related risk, then a more quantitative or technically sophisticated approach to climate-related scenario analysis would generally be considered appropriate for the entity and users of its general-purpose financial reports. However, it should be noted that a quantitative analysis may also benefit from a robust qualitative discussion to complement that quantitative analysis, so they are not mutually exclusive. The ISSB recognizes that an entity's circumstances may change over time and an entity is required to assess

its circumstances each time it carries out climate-related scenario analysis and adjust as necessary. Further, the ISSB acknowledges that the scenario analysis process will be iterative and the skills and capabilities of the entity may develop over time, and in turn drive refinement of the analysis. Lastly, for the avoidance of doubt, if an entity has significant resources, it is assumed that it can invest in acquiring the skills and capabilities required, however, judgment will be necessary in assessing the level of investment that may be required. Entities should monitor for additional developments/interpretations from the ISSB on how these criteria should be applied.

Determining the approach, inputs and scenarios used in the analysis

A key component in the climate-related scenario analysis process is determining the approach, inputs and scenarios to use, as consideration must be given to the number of scenarios, the sources of the scenarios and the inputs and assumptions to be used.

As an example, depending on the entity's circumstances, it may begin with two scenarios, distinct from each other. These two scenarios would typically be at opposite ends of the spectrum of possible increases in global temperatures, as one would incorporate risks associated with transitioning to a lower carbon economy (lower average temperature rise), whereas the other would incorporate physical risks associated with a higher temperature rise (with little action to transition). However, multiple scenarios allow entities to analyze the impacts of a diverse range of assumptions that result in different outcomes and develop a better understanding of potential exposure to risks and opportunities.

In addition to beginning the climate-related scenario analysis with a smaller number of scenarios, some entities may also consider simplifying or reducing the inputs used in the scenarios. For example, an entity may start with a smaller set of risks, e.g., those that are material and for which data is available. Another example may be that an entity may want to qualitatively assess what business unit or part of its operation is most susceptible to climate risk, and then perform a quantitative scenario using input from that geographic location or business unit. This targeted approach could be helpful in the beginning, and more business units could be added over time as the entity's skills and capabilities develop.

Generally, the scenarios chosen will model how revenues, costs and earnings are impacted under each scenario. Climate scenarios can either be exploratory or normative in nature, and their use will depend on the objective of the climate-related scenario analysis.

- Exploratory scenarios examine a range of plausible future states, based on potential trajectories of economic, social and physical drivers. They are used to test an entity's resilience to climate-related risks based on projected change or as extrapolations of past trends.
- Normative scenarios describe a specified outcome (e.g., reaching net zero emissions) and work backward to develop plausible pathways from this specified future state to the present state, and the actions required to achieve this future state.

There is no single pathway to a particular scenario outcome. Rather, different combinations of driving forces and assumptions will result in different plausible pathways. Different pathways reflect uncertainties that usually relate to the timing of policy actions (e.g., orderly or disorderly pathways), climate model dynamics, economic conditions, energy use and available technologies. When selecting scenarios, organizations should aim to understand the underlying assumptions of a scenario.

Companies may use either existing publicly available scenarios (e.g., Intergovernmental Panel on Climate Change (**IPCC**), International Energy Agency (**IEA**), Network for Greening the Financial System (**NGFS**) or other published scenarios) or develop their own scenarios. Publicly available scenarios are typically developed by governmental or international research bodies. In addition, entities could consider scenarios that may be more widely used by certain industries as using them may lead to greater comparability.

Appendix A presents some of the more well-known scenario families that are publicly available. These scenarios may sometimes have limitations (e.g., on data granularity, the scope of physical risks considered, etc.) or may not be adapted to provide sufficient sector analysis or company-specific outcomes. An entity may therefore choose to develop its own set of climate-related scenarios, which can be tailored to company-specific risks and opportunities, and key drivers and uncertainties most relevant to planning and decision tools. Developing in-house scenarios is a resource and time-intensive process that can require a multi-year commitment as well as subject matter expertise (in-house or external).

Disclosure requirements

To provide meaningful insight, an entity must provide sufficient disclosure to allow a user to understand the entity's assessment of its climate resilience (paragraph 22(a) of IFRS S2). This includes the following:

- the implications, if any, of the entity's assessment for its strategy and business model, including how the entity would need to respond to the effects identified in the climate-related scenario analysis
- the significant areas of uncertainty considered in the entity's assessment of its climate resilience and
- the entity's capacity to adjust or adapt its strategy and business model to climate change over the short, medium and long term

In considering financial impacts, entities should consider how their strategy may adapt to minimize risks/maximize benefits.

In addition, to further understand the entity's analysis, it must provide sufficient disclosure regarding the inputs used, key assumptions made and the reporting period in which the climate-related scenario analysis was carried out (paragraph 22 (b) of IFRS S2). This is similar to the types of disclosures required under financial reporting and should allow a user to gain an understanding of

the process and what basis was used for the entity's assessment of its climate resilience. An entity shall disclose:

- the key inputs used:
  - which climate-related scenarios the entity used for the analysis and the sources of those scenarios
  - whether the analysis included a diverse range of climate-related scenarios
  - whether the climate-related scenarios used for the analysis are associated with climate-related transition risks and opportunities or climate-related physical risks
  - whether the entity used, among its scenarios, a climate-related scenario aligned with the latest international agreement on climate change (i.e., the Paris Agreement)
  - why the entity decided that its chosen climate-related scenarios are relevant to assessing its resilience to climate-related changes, developments or uncertainties
  - the time horizons the entity used in the analysis
  - what scope of operations the entity used in the analysis (for example, the operating locations and business units used in the analysis)
- The key assumptions made in the analysis, including:
  - climate-related policies in the jurisdictions in which the entity operates
  - macroeconomic trends
  - national- or regional-level variables (for example, local weather patterns, demographics, land use, infrastructure and availability of natural resources)
  - energy usage and mix
  - developments in technology

Historically many companies referencing the TCFD for climate disclosure have chosen to report their climate-related scenario analysis results qualitatively. However, IFRS S2 is likely to create a more disciplined approach to climate-related scenario analysis and entities may strive for quantification as they progress along their climate-related scenario analysis journey. That being said, the type of disclosure will be circumstance-specific and be determined by the most appropriate way to disclose information.

Finally, an entity is expected to update its climate-related scenario analysis in-line with its strategic planning cycle (e.g., every three to five years). Thus, it is acceptable for entities to disclose the same climate-related scenario analysis findings in consecutive reporting periods if they do not conduct a climate-related scenario analysis annually (paragraph B18 of IFRS S2). However, entities are required to perform a resilience analysis annually to reflect updated insight into the implications of climate uncertainty for the entity's business model and strategy (e.g., to reflect changes in legislation, carbon taxes and any related government announcements in the reporting period).

What are some of the challenges associated with climate-related scenario analysis?

Before thinking about the specific challenges associated with climate-related scenario analysis, preparers must first understand what a climate-related scenario analysis is. It is imperative that all levels of an organization understand the purpose and complexities of climate-related scenario analysis, including management and those charged with governance. As the analysis should not be viewed simply as a compliance exercise, but as an effective tool in assessing the entity's climate risks and opportunities and its climate resilience, input from those charged with governance will help drive effective scenario analysis. Climate-related scenario analysis can be a resource-intensive exercise and having a good understanding of this throughout the organization can help build capacity over time.

Some of the more specific challenges in preparing climate-related scenario analysis centre on data gaps and the skillset to perform the analysis. These include:

- **lack of historical data:** A key challenge in understanding the business impacts of future climate risks is the lack of sufficient historical data on loss from previous climate-related events. Most entities are not currently tracking business performance tied to different climate variables such as the use of energy during extreme temperature days or capital equipment damage during heavy wind events.
- **interaction of many variables:** As entities aim to understand climate hazards, they are confronted with a variety of different hazards to model. The interaction of different climate hazards can have complex and non-linear impacts. For example, if an area of an entity's operations has wildfires and flooding in subsequent years, the cumulative operational impact will likely be higher than the sum of the impact from each event assessed independently. Interaction of different transitional factors are also difficult to predict, such as policy/regulatory changes.
- **time horizons:** Current practices for enterprise-wide risk assessments follow shorter timeframes compared to climate-related scenario analysis. For most entities, their budgeting/financial planning will cover three to five years in the future, with the latter time horizon for those purposes considered to be long-term. Further, enterprise risk management systems tend to also focus on the short to medium term, making the integration difficult. This contrasts with the time horizons required for climate-related scenario analysis as climate risks are likely to become more pronounced over longer time horizons. When defining climate-related time horizons, entities may expand their analysis beyond traditional planning periods to fully capture the impacts of climate change. IFRS S2 does not specify time frames for short, medium and long term given that the timing of climate-related impacts on businesses will vary. However, entities might consider factors such as the life of assets and risk horizons for the sectors and geographies in which they operate.
- **data modelling inconsistencies:** There has been a recent expansion in models for climate-related scenario analysis which use a variety of data points, assumptions and algorithms. To date, guidance on climate-related scenario analysis has been more directional than

prescriptive, resulting in inconsistencies across modelling agencies. As a result, model results are difficult to compare across entities and this could impact the usefulness of scenarios as a tool for investor decisions.

- **quantitative information:** While publicly accessible data for qualitative scenario analysis exercises, such as exposure mapping and risk identification, exist, significant gaps remain for quantitative analysis. Information on adaptive capacity, vulnerability to physical risks and interrelationship of climate change impacts and financial metrics varies widely. As a result, there is significant expert knowledge and judgment required to bridge the data gaps necessary in performing quantitative climate scenario analysis.
- **resource requirements:** As mentioned, climate-related scenario analysis is a resource-intensive exercise – both in skilled labour as well as systems and tools that facilitate the processing of large volumes of data.

These are but a few of the many challenges associated with climate-related scenario analysis, however the information that comes out of such a strategic exercise contributes to a broad picture of how an entity's resilience may be impacted. The fact that extensive judgment and uncertainty exists also means that robust disclosure is necessary for the scenario analysis to be meaningful.

How does climate-related scenario analysis interact with IFRS Accounting Standards?

Questions often arise about whether the assumptions in the climate-related scenario analysis should be the same assumptions that are used for other areas of financial reporting such as impairment tests of goodwill and other intangibles, property, plant and equipment, or even expected credit loss analysis for loans, etc.

The answer to this is not straightforward. Paragraph 23 of IFRS S1 requires that data and assumptions used in preparing the sustainability-related financial disclosures shall be consistent – *to the extent possible considering the requirements of IFRS Accounting Standards or other applicable* [generally accepted accounting principles] *GAAP* – with the corresponding data and assumptions used in preparing the related financial statements. As a result, entities should certainly consider the information that is generated from climate-related scenario analysis. However, because the scenarios are hypothetical, it is unlikely that any one scenario would represent an appropriate basis for preparing the financial statements. Thus, there may be legitimate differences from data and assumptions used in performing impairment tests for financial reporting purposes and those used in climate-related scenario analysis. For example, value-in-use estimated in accordance with guidance in International Accounting Standard 36 (**IAS** 36) – *Impairment of Assets* (effective as of the date of this publication) restricts entities from considering certain improvements or enhancements to assets that may have been built into scenario analysis. Further, inputs into climate scenarios used by the entity may not align precisely with the market participant assumptions that would be used in assessing the fair value less costs to sell an asset. In addition, the time horizons used in the analyses can be drastically different; climate scenarios may assess risks and opportunities on a longer-term

basis than what is material for impairment testing, for example. Accordingly, entities should carefully consider the assumptions and outcomes of scenario analysis, but it is likely not possible to simply use the scenario analysis itself for impairment testing under IFRS.

Similar considerations would apply to other areas such as expected credit losses, asset retirement obligations (decommissioning), useful lives and a host of other estimates relevant to financial reporting. While scenario analysis may give insights into these estimates, it is very unlikely to be the sole input into those estimates.

Paragraph 21(b) of IFRS S1 indicates that entities shall provide information in a manner that enables users to understand the connections between the sustainability-related financial disclosures and other general purpose financial reports published by the entity (such as its related financial statements) and therefore where there are differences between scenarios used for impairment testing and for climate-related scenario analysis, appropriate disclosure should be considered.

International Accounting Standards Board (IASB) projects

The IASB has commenced a project to consider climate-related and other uncertainties in the financial statements, which may result in additional accounting guidance and standard setting.

Where can I find more information on this topic?

Guidance

IFRS S1: ISSB-2023-A – Issued IFRS Standards

IFRS S2: ISSB-2023-A – Issued IFRS Standards

TCFD: https://www.tcfdhub.org/scenario-analysis/

Climate Financial Risk Forum: https://www.bankofengland.co.uk/climate-change/climate-financial-risk-forum

Office of the Superintendent of Financial Institutions (OSFI) Draft Standardized Climate Scenario Exercise: Standardized Climate Scenario Exercise – draft for consultation (osfi-bsif.gc.ca)

Bank of Canada: https://www.bankofcanada.ca/wp-content/uploads/2021/11/BoC-OSFI-Using-Scenario-Analysis-to-Assess-Climate-Transition-Risk.pdf

Scenario sources

IEA World Energy Outlook: https://www.iea.org/topics/world-energy-outlook

NGFS Scenarios Portal: https://www.ngfs.net/ngfs-scenarios-portal/

Government of Canada Coupled Model Intercomparison Project Phase 6 (CMIP6) climate scenarios: https://climate-scenarios.canada.ca/?page=cmip6-scenarios

Appendix A: Common examples of publicly available climate scenarios for physical and transition risks

Risk category	Scenario family	Scenarios	Time horizon coverage
Physical	Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP)	RCP2.6 RCP4.5 RCP6.0 RCP8.5	Up to 2100
	Intergovernmental Panel on Climate Change (IPCC) Shared Socio-Economic Pathways (SSP)	SSP1-1.9 SSP1-2.6 SSP2-4.5 SSP3-7.0 SSP5-8.5	Up to 2100
Transition	International Energy Agency World Energy Outlook (IEA WEO)	Net Zero Energy 2050 (NZE) Announced Pledges Scenario (APS) Stated Policies Scenario (STEPS)	Up to 2050
	Network for Greening the Financial System (NGFS)	Net Zero 2050 Below 2°C Divergent Net Zero Delayed Transition Nationally Determined Contribution Current Policies	Up to 2100

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