

Beyond reporting: The strategic role of scenario analysis in managing climate-related risks and opportunities

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Scenario analysis is more than just a 'reporting' requirement. It plays an important role in shaping an entity's strategy and direction of focus for managing climate-related risks and opportunities

Scenario analysis is essential when it comes to managing climate change risks because of the significant uncertainty in the scale of climate impacts and breadth of potential regulatory responses (e.g., introduction of carbon pricing or new energy efficiency laws). In the face of unprecedented upheaval, strategic planning and risk responses that rely on historical data alone are redundant.

Mandatory climate scenario analysis reporting in Oceania

| Australia | New Zealand |
|---|---|
| For entities required to prepare climate-related financial disclosures in accordance with the <i>Corporations Act 2001</i> , the Act requires an entity to perform scenario analysis (using both a 'low' (1.5°C) and a 'high' (well exceeding 2°C such as 2.5°C or higher) global warming scenario) to assess the climate resilience of the entity's strategy and its business model to climate-related changes, developments and uncertainties, taking into consideration the entity's identified climate-related risks and opportunities. | A climate reporting entity must describe the scenario analysis it has undertaken to help identify its climate-related risks and opportunities, and to better understand the resilience of its business model and strategy. This must include a description of how an entity has analysed, at a minimum, a 1.5°C climate scenario, a 3°C or higher climate scenario and a third climate scenario relevant to the entity. |

In Oceania, regulators have introduced new mandatory climate reporting standards that include the requirement for entities to conduct and disclose elements of climate scenario analysis. Its purpose is to assess the resilience of an entity's strategy and business model to climate-related changes and uncertainties. It can also be used to inform the identification of climate-related risks and opportunities. Although the disclosure requirements are slightly different between Australia and New Zealand, the bulk of the scenario analysis work is substantively similar across jurisdictions.

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Scenario analysis acts as a vital strategic compass for navigating the uncertainties of climate-related impacts.

Mathew Nelson

Partner, Climate Change and Sustainability Services, Ernst & Young, Australia | Board Member, Australian Accounting Standards Board



Scenario analysis disclosures

| Australia | New Zealand |
|---|---|
| <p>Under the Australian Sustainability Reporting Standards (ASRS) and the New Zealand Climate Standard (NZCS), entities must disclose:</p> <ul style="list-style-type: none">▶ A description of scenario analysis that has been undertaken (including disclosure of inputs, methods and assumptions)▶ How the scenario analysis process has been conducted <p>ASRS also specifies factors to consider in determining the approach to scenario analysis, including:</p> <ul style="list-style-type: none">▶ Assessing the entity's circumstances, in particular the entity's exposure to climate-related risks and opportunities and the skills, capabilities and resources available to the entity for the scenario analysis▶ Selecting inputs and making analytical choices about how to perform scenario analysis so that the entity can consider all reasonable and supportable information that is available to the entity at the reporting date without undue cost or effort▶ Acknowledging that the approach an entity uses for scenario analysis is likely to change over time | <p>NZCS also requires disclosure of how the scenario analysis process was conducted, including:</p> <ul style="list-style-type: none">▶ The role of the governance body and management in scenario process▶ Whether modelling was undertaken and, if so, which model was used and why |

Climate resilience assessments

| Australia | New Zealand |
|--|--|
| <p>Entities must use scenario analysis to assess their climate resilience, and it can also be used to inform the identification and rating of climate-related risks.</p> <p>ASRS requires an entity to disclose its assessment of its climate resilience as at the reporting date. The disclosure needs to address the implications for the entity's strategy and business model, the key areas of uncertainty in the assessment and the entity's adaptive capacity to climate change over the short, medium and long term.</p> <p>ASRS does not require an entity to disclose the results of its scenario analysis; instead, requires the entity to disclose its interpretation of those results.</p> | <p>Entities must analyse their climate resilience as part of scenario analysis, but NZCS does not require entities to disclose their climate resilience assessment. Instead, under NZCS, entities are required to disclose how they will position themselves as the global and domestic economies transition towards a low-emissions, climate-resilient future.</p> <p>NZCS only requires entities to disclose a description of the process they have undertaken to conduct scenario analysis.</p> |



What is climate scenario analysis?

NZCS defines a 'climate-related scenario' as "a plausible, challenging description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces and relationships covering both physical and transition risks in an integrated manner. Climate-related scenarios are not intended to be probabilistic or predictive, or to identify the 'most likely' outcome(s) of climate change."¹

Scenario analysis is defined as "a process for identifying and assessing a potential range of outcomes of future events under conditions of uncertainty".²

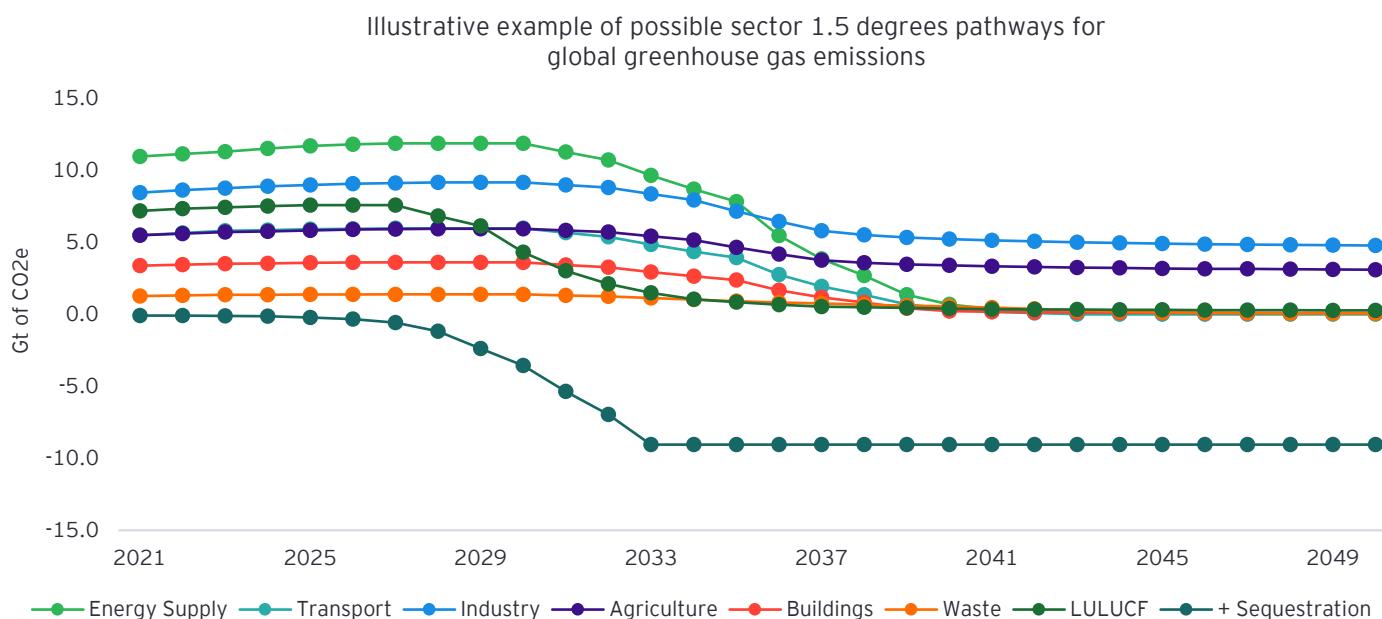
While most organisations are familiar with using scenario analysis for strategy planning, climate scenario analysis requires us to grapple with different concepts.

The practice of climate scenario analysis has evolved considerably and continues to do so. Even before the Task Force on Climate-Related Financial Disclosures (TCFD) was implemented, climate scenario analysis was being used as a mechanism to understand the potential scale of risk in a highly uncertain - and potentially apocalyptic (4C or higher temperature rises) - future.

Since then, global action at the government and corporation level has become less uncertain, helping to narrow the range of likely scenarios in terms of emissions and climate outcomes. Today, the futures typically considered in climate scenario planning are in worlds where temperature increases are in the range of:

- ▶ 1.5°C-2°C - low side temperature scenario
- ▶ 2.5°C-4°C (or even greater) - high side temperature scenario

We're also seeing increasing alignment around what these scenarios will look like - what policies will be in place and what technologies will be deployed.



¹ Aotearoa New Zealand Climate Standard 1 Climate-related Disclosures (NZ CS 1), Appendix A

² See AASB S1 General Requirements for Disclosure of Sustainability-related Financial Information, Appendix A and NZ CS 1, Appendix A



What is climate scenario analysis? (cont'd)

However, even once we gain agreement on what a scenario looks like, an infinite number of pathways exist to get there. For example, scientists can estimate the total greenhouse gases ('GHG') that can be emitted globally to achieve a 1.5 degrees outcome. But they can't tell us when or where in the economy those emissions should occur or how the global GHG budget should be "fairly" split between countries. Global Climate Models (GCMs) can also provide insights on the changes in the future climate under different levels of GHGs in the atmosphere, however they can't accurately predict climate tipping points or the cascading impacts from these climatic changes

For companies seeking to use "off-the-shelf" climate scenario analysis to inform strategic response and risk management, this is a problem. Pathways to net zero and

therefore business strategies will change depending on future developments, such as, whether the energy sector transition occurs more quickly or slowly, the degree to which policies incentivise nature-based sequestration and penalise certain sources of GHG emissions, or whether unanticipated climatic tipping points or cascading impacts create additional business risks.

We need to identify signals which will indicate which pathways are more likely to eventuate and which signals will tell us when a previously modelled pathway is no longer possible. We can then plan to use those signals to trigger a reassessment to our scenario analysis and business strategy processes, as the actual climate pathway comes more certain.

How do you use climate scenario analysis beyond disclosure purposes?

Consider the potential implications of different pathways to your organisation. Climate scenario analysis can provide vital information on an entity's exposure to climate-related risks and opportunities, which can then inform strategic planning and capital allocation decisions. Climate scenario analysis can be used as a thought experiment to help you work through how your business would or should respond to climate challenges. If a certain pathway emerges, how will this impact your commercial strategy, market opportunity, revenues and costs? What potential business constraints could emerge? What type of market disruption would broaden your opportunities? You can model different plausible and challenging pathways, just like any other forecast input, to understand the consequences of extremities to your strategy.

Identify the signposts you will use to trigger different actions. Which drivers are most relevant to your organisation? How will you measure and receive timely information on those drivers? Which ones mean your current climate risk and opportunities assessment and resiliency planning is no longer sufficient and which might create new risks and opportunities? At what point will you need to refresh your business strategy? What will be the likely financial implications?

Provide confidence to investors and financial institutions. These key interpreters of your disclosures about scenario analysis and resilience are using them to judge risk, identify strategic alignment and guide investment decisions. They

are looking for evidence that you have a good understanding of climate-related risk and opportunities, how your resilience would be impacted if there is a shift from one pathway to another - and what are your ambitions and adaptation plans and how are they reflected in your management and strategic responses.

Where climate change risks are significant, investors will want robust scenario modelling that assesses the scale of the impacts under different pathways to be performed. Investors will be trying to establish where your organisation is positioned relative to competitors. So, you will need to consider how your scenario relates to the key outputs of widely-recognised domestic and international scenarios, such as carbon price or climate flood models, which would be used for comparative purposes. Investors will look at the potential impact on your financials if, say, the carbon price gets to \$300 a tonne. You may need to share the information material to decision-making, including high-level assumptions and quantifications used in the analysis.

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We need to understand the organisational implications of the many different possible pathways to net zero.

Emma Herd

Co-lead, EY Net Zero Centre | Partner, Climate Change and Sustainability Services, Ernst & Young, Australia



How is scenario analysis expected to evolve?

Scenario analysis can range from qualitative scenario narratives to sophisticated quantitative modelling. The method selected will be informed by an entity's circumstances relating to the extent of exposure to climate-related risks and opportunities and the skills, capabilities and resources available to perform scenario analysis. Over time, where climate-related risks and opportunities exist and they are material to the entity, it is expected that scenario analysis will become more sophisticated and industry norms will develop for better comparability. The expectation is that entities will develop their capability in performing scenario analysis and therefore many entities will move towards more advanced approaches to scenario analysis over time, progressively using more detailed qualitative and then quantitative information to support that assessment. However, in any given reporting period, the scenario analysis method selected needs to be appropriate to the entity's circumstances. For instance, under ASRS, an entity is required to use an advanced quantitative approach to scenario analysis if it has a high degree of exposure to climate-related risks and opportunities and it has access to the necessary skills, capabilities and resources.

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Your scenario analysis process should consider how investors will assess the resilience of your strategy and business based on your reporting.

Pip Best

Partner, Climate Change and Sustainability Services Leader, Ernst & Young, New Zealand

Approaches to conducting scenario analysis

| 1. Qualitative | 2. Qualitative | 3. Quantitative | 4. Quantitative | 5. Quantitative |
|--|---|--|--|--|
| <i>Top-down using reference scenarios</i> | <i>Top-down using bespoke scenarios</i> | <i>Top-down using reference scenarios</i> | <i>Bottom-up using reference scenarios</i> | <i>Bottom-up using bespoke scenarios</i> |
| Purpose | | | | |
| Assesses likelihood and severity using enterprise risk criteria for comparability | Assesses resiliency of the business against specific stressors | Uses macroeconomic indicators to develop climate-adjusted growth projections | Assesses individual investments/sectors based on assumptions on impacts | As per Option 4, but using refinements to reference scenarios bespoke to the organisation |
| Outputs | | | | |
| High-level qualitative disclosures on climate risk. Informs selection of risks for more detailed analysis. | Provides theoretical stress test and elicits resiliency insights. | Comparable portfolio level disclosures. Helps identification on the magnitude of impacts. Limited level of resolution and ability to understand individual risk drivers. | Asset and activity-level visibility to support investment decisions. Enables more detailed impact analysis and identification of risk drivers. Provides comparability. | Enables in-depth exploration of sensitivities to certain stressors. Tests specific assets and activities for resiliency. |



Frequently Asked Questions

Who do we need in the room?

Strategic thinkers from all parts of the organisation, including people who understand your business, climate science, technology risks, customer and investor expectations, climate policy and the technical nuances of climate scenario analysis as well as the disclosure requirements in the standards. You're looking for a very broad set of skills and likely some external expertise to facilitate the process or add capability where knowledge gaps may exist.

How often do we need to update our climate scenario analysis?

Under ASRS, disclosing a climate resilience assessment is required every reporting period, but you don't necessarily have to revisit climate scenario analysis each time. Under ASRS, new climate scenario analysis is needed - as a minimum - whenever you update your strategic plan (i.e., in line with your strategic planning cycle). NZCS is not as prescriptive.³ Having signposts or a minimum frequency indicating when scenario analysis should be refreshed will reduce risks of relying on outdated analysis.

Investors will be keen to understand when you're going to update your planning and assessments. Rather than having them continually asking about this, it's a good idea to publish your triggers and/or timing for strategy updates.

What time horizons should we consider?

An entity will need to consider short, medium and long-term considerations based on the strategic horizons of your organisation. The longest term you should consider depends on whether or not you're taking a multi-generational approach - and the life of your assets or products. For example, banks with 30-year mortgages should be looking beyond 2050. This will be a significantly different economy than we operate in today, dominated by robust carbon pricing and clean energy industries.

What sort of scenarios should we use? Australian or global? Generic or business specific?

It depends on the nature of your business and the purpose of the analysis. If you have a global footprint, then using country specific pathways aren't going to produce the

insights you need. For some businesses, generic pathways make sense, such as global banks or energy companies and these provide comparability. But, for example, local oil & gas or power generation companies, global scenarios would not be appropriate if they don't consider the countries specific pathways for the sector to decarbonisation. Scenario analysis will be a journey. Depending on an entity's circumstances, it can be used in early years to qualitatively identify impacts and vulnerabilities, which can then be analysed in more detail, including developing quantification methods.

Do we need a one-for-one relationship between financial and climate reporting?

No. Climate elements don't necessarily produce a definitive or immediate effect on balance sheet or P&L items. But be aware this is a unified reporting requirement - you're not doing climate reporting in isolation. Meaning, it's important to achieve coherence between climate and financial statements. Also, investors must be able to understand how your climate information relates to the financial information being reported.

Where do we get the right data to support quantification?

A range of data sets is available from global and domestic institutes, scientific agencies and portals. Some are very high level, such as global hot spot maps. Others support the quantification of specific risks. All come with their own methodologies, assumptions, limitations and uncertainties. The key is to find a data set appropriate to your scenario narrative and business context, with uncertainties you understand and that are appropriate for your purpose.

³ Although NZ Climate Standards do not specify the frequency for performing scenario analysis, the External Reporting Board's Climate-related Disclosures: Staff Guidance: Guidance for All Sectors, May 2023, states that "Scenario analysis is not a one-time process, as entities typically refresh their scenarios and conduct their scenario analysis as part of their strategic planning cycle" (page 36).



Key takeaways

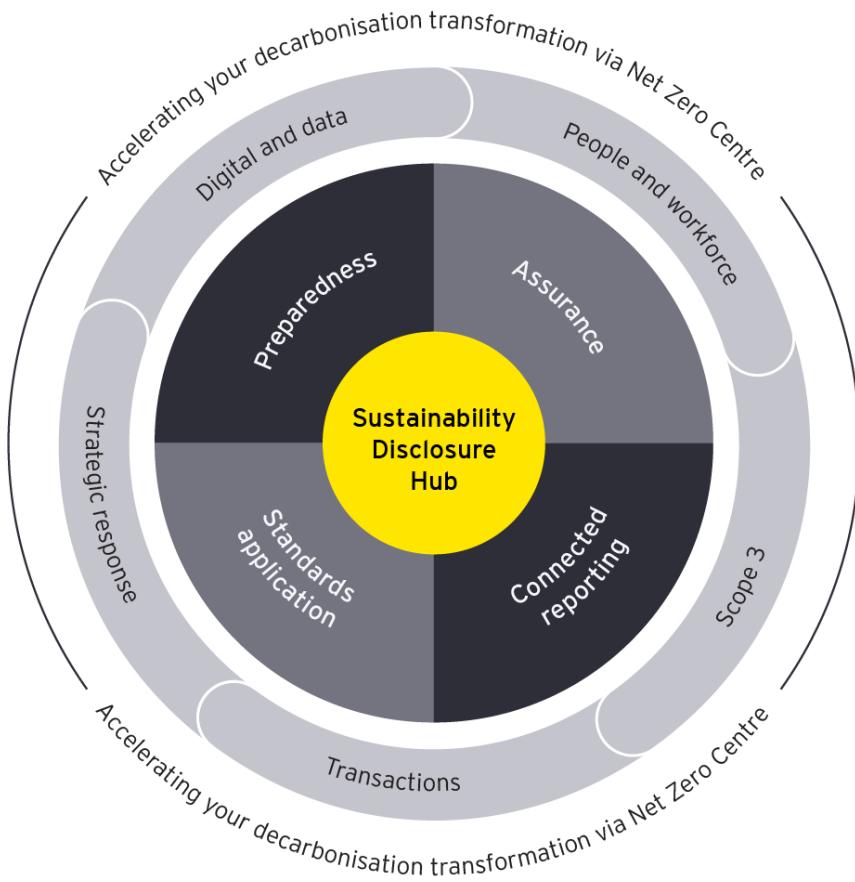
- ▶ Scenario analysis is an essential strategic tool when it comes to managing the uncertainty associated with climate-related impacts.
- ▶ Entities captured by the new climate reporting standards will be required to disclose how they go about climate scenario analysis, and use it to assess their resilience and can use it to help identify their climate risks and opportunities.
- ▶ A scenario represents one pathway that could take us to a certain temperature rise outcome. There are infinite pathways that could take us to the same temperature rise – and signals can be identified that indicate which pathway is most likely to eventuate. This can also be used as an indicator that the business strategy needs to be refreshed.

Beyond supporting disclosure compliance, climate scenario analysis offers organisations vital information, enabling them to:

- ▶ Consider the implications of different climate change pathways to the organisation, including risks, opportunities and financial impact.
- ▶ Identify the signposts that will trigger the need for different strategic actions or adaptations, as the actual pathways become clear.
- ▶ Provide confidence to investors and financial institutions that the entity has a good understanding of risks and opportunities, and a plan for adapting to different pathways.

Sustainability Disclosure Hub

The EY Sustainability Disclosure Hub offers practical guidance to assist companies across the region prepare for mandatory reporting of climate and sustainability-related reporting.



Headed by Oceania market-leading financial and non-financial reporting professionals, the Sustainability Disclosure Hub brings together EY capability locally and across the globe – coupling financial and non-financial reporting strategy, readiness and assurance capabilities that have an intimate knowledge of the work of the [International Sustainability Standards Board](#) (ISSB) and local market insights, including the development of the climate-related disclosure requirements by the [Australian Accounting Standards Board](#) (AASB) and New Zealand's [External Reporting Board](#) (XRB).

The Sustainability Disclosure Hub collaborates closely with the EY Net Zero Centre, which helps EY clients to make the right decisions at the right times and set themselves on a pathway for success in a net zero economy.

Please reach out to our Sustainability Disclosure Hub team to discuss what the requirements mean to you.

Contact us

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