Identifying your climate change risks and opportunities

Climate change risk assessment: what do you need to know? | March 2022

pwc

For many organisations, the climate-related disclosures journey can seem a complex and complicated undertaking. That's understandable given this is the first time certain organisations in New Zealand have been asked to incorporate climate change as a new risk type, and it's an undertaking that affects many parts of the organisation. Furthermore, it can be difficult to know where to start without fully understanding how it will unfold.

PwC's climate change and risk experts have developed this guide to assist organisations in understanding what's required to undertake climate change risk assessment, and how to manage these within their existing risk processes.

In October 2021, legislation was passed, giving the External Reporting Board (XRB) the mandate to develop standards – aligned with the Task Force on Climate-related Disclosures (TCFD) – as part of a climate-related disclosures framework. The final standard is expected in December 2022.

If you are interested in getting up to speed with the basics of climate-related disclosures first, please refer to our guide on how to get started on climate-related disclosures.

The recommendations of the TCFD are organised into four pillars; Governance, Strategy, Risk Management and Metrics & Targets as seen here. The Strategy pillar of the TCFD asks for a **description of** the climate-related risks and opportunities. However it's the Risk Management pillar that asks organisations to describe **how** they identify, assess and manage climate-related risks. It's that 'how' that this guidance will focus on, prompted by the XRB's February 2022 summary of submissions received following consultation on the draft *Aotearoa New Zealand Climate Standard 1: Climate related Disclosures (NZ CS 1) on Governance and Risk Management*.

Climate change risk assessment explained

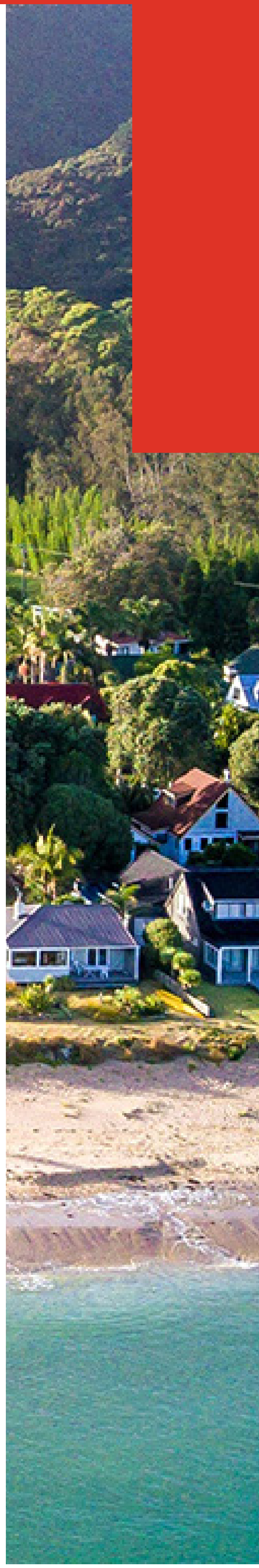
As clearly outlined most recently in the Intergovernmental Panel on Climate Change's (IPCC) February 2022 Working Group II report, the world faces unavoidable multiple climate hazards with global warming of 1.5°C, even if global warming is limited to 1.5°C. This presents financial risk to the global economy, hence the importance of the TCFD's recommendations in driving improvements and greater reporting of climate-related financial information.

The TCFD cites three benefits of better disclosure:

1. To more effectively evaluate climate-related risks to organisations, suppliers and competitors
2. To better inform decisions on where and when to allocate your capital
3. To strengthen strategic planning through better evaluation of risks and exposures over the short, medium and long term

Ultimately a climate change risk assessment underpins and informs all subsequent climate change risk management activities.

This assessment should identify the most significant risks to your organisation, and across the value chain[1]. Climate change risk assessments can vary in the level of detail applied, the scope of this guidance does not extend as far as the level of detail required for scenario analysis (i.e. exploring alternative possible future states to build narratives around assumptions, logical relationships and driving forces of changes over time).



1 Value chain – 'The upstream and downstream life cycle of a product, process, or service, including material sourcing, production, consumption, and disposal/recycling. Upstream activities include operations that relate to the initial stages of producing a good or service (e.g., material sourcing, material processing, supplier activities). Downstream activities include operations that relate to processing the materials into a finished product and delivering it to the end user (e.g., transportation, distribution, and consumption).' XRB, 2021

Steps to identify the climate-related risks to your organisation

A first step is to identify physical and transition climate-related risks, which are defined as:

Physical risks

- **Acute** – risk from increasing frequency and severity of weather events.
- **Chronic** – risk from longer term changes in weather patterns and other climate impacts.

Transition risks

- **Policy and legal** – risk from emerging regulation aimed at addressing climate change or from litigation.
- **Technology** – risk from emerging technologies aimed at supporting the low carbon transition or adapting to climate impacts.
- **Market** – risk from shifting supply and demand curves as economies react to climate change.
- **Reputation** – risk of damage to brand value and loss of customer base from shifting public sentiment on climate change.

Developing a list of risks can be tricky and will require climate science expertise to help guide the thinking as it evolves. Organisations such as the TCFD provide examples of climate risks, presented as the risk and its associated potential financial impact[2]. However these risks need to be relevant to your organisation and not generic. The following resources may be useful to inform thinking around how the risks could manifest at your organisation:

- Reports by the IPCC outline the scientific, technical and socio-economic knowledge on climate change, its impacts and risks, and options for mitigation. The most recent report includes an assessment of risks in New Zealand.
- New Zealand's National Climate Change Risk Assessment gives a country-wide view of the physical risks from climate change.
- The Climate Change Commission's analysis on a low emissions future for Aotearoa, provides insight into how New Zealand's energy, land use, transport and regulatory environment could evolve.
- The National Institute of Water and Atmospheric Research (NIWA) constructed New Zealand climate change projections and a summary of likely impacts. NIWA also offers an online tool with temperature and rainfall projections.
- Some local governments have produced detailed climate projections for their region, available through The McGuinness Institute's online catalogue.

When developing the list it may help to think of risks in terms of the factors that cause the risk, and the impact on your organisation's objectives should those risks occur. For example, ***If an organisation does not*** *adapt to meet changing consumer desires,* ***there is a chance that*** *expectations around climate activity may not be met* ***which may result in*** *an erosion of brand/shareholder value.*

As with all aspects of risk management, it's important that relevant staff are involved in the climate change risk assessment. This captures knowledge of their part of the organisation in the risk identification work, and their potential future capacity as risk owners. This is particularly important for climate change risks as they touch many different areas across an organisation. Typically, the Risk team would be able to coordinate the production of the climate change risk assessment in a similar way to other risk categories.

2 Appendix 1 of Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures

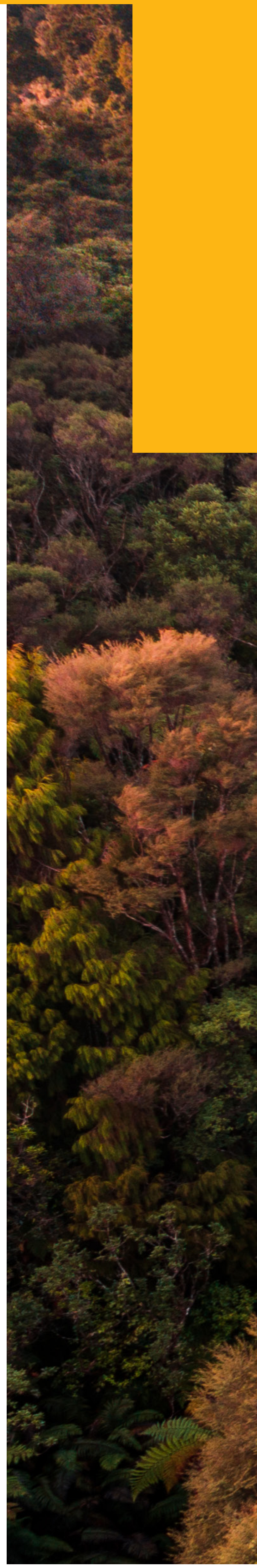
Managing climate risk through existing risk management frameworks

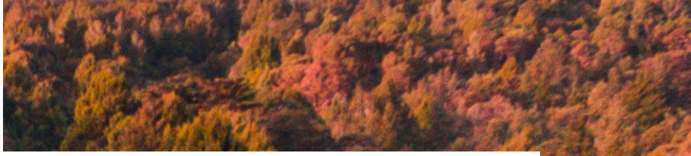
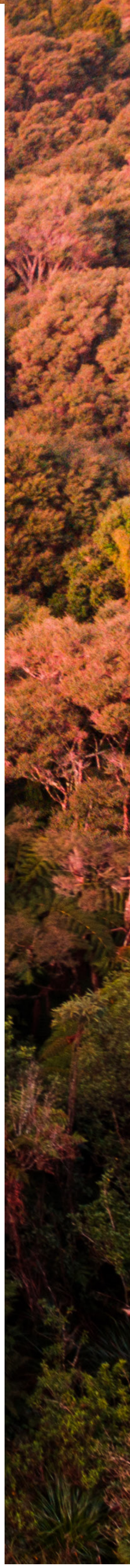
Your organisation will need to actively manage climate change risks and periodically refresh them to identify any new risks, which may emerge from changes to your organisation or through external factors, such as new regulations.

End to end process once high level risks have been identified:

1. Determine the various causes and consequences of those risks to deeply understand how they may occur at your organisation and what the impacts will be.
2. Assign risk ownership to a person with sufficient mandate and authority to monitor and manage the risk, and implement mitigation measures as needed.
3. Assess/measure the magnitude and velocity of the risk over your specified time horizons.
4. Determine appropriate level of exposure for each risk, and implement mitigation plans where required.
5. Report risk information (trends, progress of mitigation plans, emerging risks and issues arising) to internal forums with jurisdiction for climate change risk.
6. Draft the climate-related disclosure and have this independently verified as being fair and accurate.

A fit-for-climate change risk assessment methodology is essential to enable a well informed view of key risks, and enable robust discussions on how these need to be managed.



Your organisation may already have a risk management framework that includes methodology and tools to assess and measure strategic and operational risks – such as assessing likelihood and impact across a range of dimensions (financial, continuity, people, environment, regulatory and brand).

There are extra assessment criteria you should consider to ensure that the full nature and extent of climate risks can be assessed. These include setting and assessing:

- **Time horizons**: consider multiple time horizons rather than a single one. The TCFD suggests and the XRB is likely to require short, medium and long term horizons to be considered – it's for your organisation to determine what these are. Think about time horizons that are differentiated from each other – noting that climate risks will manifest over time horizons of up to, and beyond 10 years.
- **Velocity**: how fast an exposure can impact an organisation. It is the time that passes between the occurrence of a climate change event and the point at which the organisation first feels its effects. It is helpful to understand velocity when developing mitigation strategies.

Future extreme weather events and human responses to climate change are highly uncertain. It is important not to ignore or deprioritise potentially important risks because of uncertainty around their impacts.

There is a range of literature and views on the assessment criteria and no one-size-fits-all approach – so it's critical to determine and agree the right assessment methodology for your organisation.

These additional assessment criteria will need to be considered in the overall rating of climate risks. The rating exercise will not be an exact science, although it should be as accurate as is possible with all the information that is presently available. Where assumptions and estimates are used, these should be clearly documented and reconfirmed or updated periodically.

Once you have an agreed list of risks and their magnitude, think about whether you are comfortable with the risk exposure of each and whether a mitigation plan is needed to progress to a level you are comfortable with. These plans will become a cornerstone of your climate change response and be closely linked to your strategic goals. In addition, these plans should explain how decisions are made to mitigate, transfer, accept or control those risks. The XRB specifically requires transparency in this regard.

You will need to identify which risks need to be prioritised in terms of management response. Looking at the relative significance of climate change risks to each other and to other organisational risks, even when you have detailed measurement information, may not provide you with a clear order of materiality. It's important to allow your leadership the opportunity to reflect on those risks and reach a collective agreement on prioritisation. This step should allow for judgement to be applied.

Keep this information live and include it in the regular cycle of management reporting. Establish governance mechanisms (where they don't already exist) to provide a formal structure and clarity around what is needed. Ultimately the risk information needs to be included in the climate statement, however the XRB has yet to provide clarity on the precise presentation requirements.

Making the most of opportunities

Opportunity identification is often facilitated by the climate change risk assessment process. Some organisations find it helpful to identify climate-related opportunities at the same time, for example recognising a quick move into green technology is a competitive opportunity, rather than the risk of acting later. Appendix 1 of the TCFD's implementation guidance provides examples of climate-related opportunities and associated potential financial impacts.

Both the TCFD and the draft XRB standard prompt a discussion of identified climate-related opportunities (alongside risks) within the Strategy pillar, in the context of how an organisation may evolve its strategy to seize opportunities while managing risks. As mentioned above – the Risk Management section of each is focused on the processes for the identification, assessment and management of climate-related risks.

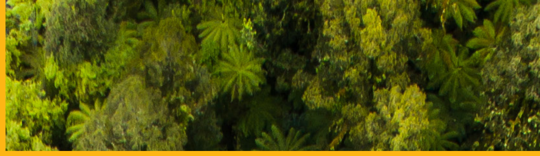
Conclusion

Undertaking a climate change risk assessment is a key step that will enable your organisation to progress its climate-related disclosures journey. Work will be required to develop and maintain a list of physical and transition climate risks that is bespoke to your organisation, and some climate change expertise is likely to be required. That said, familiarising with some of the climate change resources detailed on page 4 is a good place to start.

Although this is a relatively new risk type for many organisations, in our experience, existing risk processes are typically suitable for ongoing management of climate-related risks, subject to some amendments such as time horizon.

Once an organisation has identified its most material climate risks, it may be appropriate to undertake more detailed assessment using scenario analysis.

A requirement of the Strategy pillar of the TCFD is that organisations describe the resilience of their strategy, ‘taking into consideration different climate-related scenarios’. Therefore the next instalment of our guides will focus on organisations' evolving maturity of understanding climate risk, via use of scenario analysis, and how you use the output to understand the impact on strategy.




How PwC can help?

Sources of risk and complexity associated with sustainability and climate change are constantly emerging and present both major challenges and tremendous opportunities for business. More than ever, businesses are being judged by their customers, employees, society and investors on how they deal with these issues.

PwC helps businesses to look at the bigger picture, by striking a balance between staying competitive, driving innovation and preserving our natural environment.

We have the resources and expertise to assist you and your organisation to stay ahead of the curve. We can support your organisation to develop climate change risk assessments, and respond to the challenges and opportunities that a transition to a low carbon future represents, as we all work together to create a sustainable, environmentally responsible Aotearoa.

Sustainability and Climate Change

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