8.2 MANAGEMENT OF CLIMATE-RELATED RISKS AND OPPORTUNITIES

Climate-related risk management

Important notice
This unit is part of a package of learning materials designed to support understanding of foundational concepts relating to climate-related financial disclosures. These learning materials do not constitute application or regulatory guidance for the preparation of climate-related financial disclosures and are not intended to represent legal or professional advice. We encourage you to seek your own professional advice to find out how the *Corporations Act 2001* (Corporations Act) and other relevant laws may apply to you and your circumstances, as it is your responsibility to determine your obligations and comply with them.

The company featured in this case study is entirely fictional and presented for illustrative purposes only. It is not intended to represent any real business, past or present. Any resemblance to actual entities is purely coincidental. Different entities have different climate-related risks and opportunities, and so this scenario may not be relevant for your entity.

Key topics

- Climate-related risk management processes
- Integrating climate-related risk management into entity risk management

Relevance for climate-related disclosures

In this unit, you will learn about climate-related risk management processes and considerations for establishing them. It includes a case study for a hypothetical mid-sized entity to illustrate how these considerations could be applied in practice.

Overview

Climate-related risk management encompasses how entities identify, assess, prioritise, and monitor climate-related risks and opportunities and how these processes are integrated into their overall risk management processes.

Existing risk management processes may need to be adjusted to reflect and account for the characteristics of climate-related risks and opportunities.

The case study is designed to illustrate key concepts related to climate-related risk management. It is a hypothetical example involving a fictional mid-sized fabric and garment manufacturer, grounded in real-world climate-related risk management practice. It will give you practical insights into:

- climate-related risk management processes
- integration of climate-related risk management into entity risk management.

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Understanding climate-related risk management

Climate-related risk management encompasses the processes and policies used to identify, assess, prioritise and monitor climate-related risks and opportunities. It incorporates considerations such as:

- the inputs and parameters used, e.g. data sources
- any use of climate-related scenario analysis to identify and assess risks and opportunities
- how the nature, likelihood and magnitude of risks and opportunities are assessed
- whether and how these risks and opportunities are prioritised
- how these risks and opportunities are monitored.

Identifying, assessing and prioritising climate-related risks and opportunities[1]

Your entity may need to adapt its standard processes for identifying, assessing and prioritising risks and opportunities to consider climate-related risks and opportunities. Below are some standard aspects of risk identification, assessment and prioritisation and how they might be adapted for climate-related risks and opportunities.

1. Risk appetite

What it is: Risk appetite is the level and type of risk an entity is willing to take or tolerate to achieve its goals.

Why it matters: Climate-related risks may affect what kinds of risks an entity is comfortable with.

Things to consider: You may need to revisit and possibly revise your entity's risk appetite to reflect climate-related risks and opportunities – such as investing in low-carbon technologies or preparing for stricter regulations.

2. Time horizons

What it is: While many entities plan on a two- to five-year basis, climate-related risks and opportunities often unfold over much longer time periods.

Why it matters: Some climate impacts may not emerge for 10 or more years, but decisions made today can affect an entity's exposure to these long-term risks.

Things to consider: You may need to consider extending your planning and risk assessment timelines to include short-, medium-, and long-term risks and opportunities.

3. Risk identification and assessment methods

What it is: Traditional methods may overlook climate-related risks, especially those that are complex, uncertain or interconnected across multiple areas of the entity.

Why it matters: Climate-related risks can affect multiple parts of an entity at once and may not follow historical patterns.

Things to consider:

Your entity should consider using scenario analysis to explore different climate futures (see Module 7), involving cross-functional teams to identify risks that might otherwise be missed, and applying broader risk prioritisation criteria. These include assessing:

- vulnerability (how exposed the entity is to unpredictable events)
- speed of onset (how quickly a risk, such as severe flooding, could impact operations).

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4. Risk tools

What it is: Risk tools such as hazard maps, climate forecasting models, and scenario analysis can identify and help assess climate-related risks.

Why it matters: Traditional risk tools may need to be enhanced or supplemented to capture the full scope and uncertainty of climate-related risks.

Things to consider: Evaluate whether your current tools are sufficient, or if you need new ones, to capture the full picture of climate-related risks.

Table 1 shows examples of how transition and physical climate-related risks might be assessed.

Table 1: Assessing climate-related risks

Characteristics	Potential approaches	Possible metrics
Transition risk: technology		
The role of different technologies and solutions is often unclear – they may work differently over time, in various situations, and for different purposes. Many of these technologies are new and still evolving, and their success depends on a mix of market trends, economic factors, and government policies, which are all closely connected.	› Review technology maturity and readiness for use › Evaluate costs and benefits of key technologies › Assess internal capabilities to support these technologies › Identify dependencies like funding or policy support › Use scenario analysis to explore how technologies might evolve and impact the entity	› Assess financial performance of technologies (e.g. cost, return on investment, payback period) › Evaluate product development efficiency and cost › Measure time to market and research and development success › Compare capabilities with industry peers › Track collaboration outcomes and patent activity
Physical risk: chronic		
Some climate impacts, like sea level rise, unfold over very long timeframes. Impacts can grow in unexpected and sometimes irreversible ways due to tipping points. The effects vary depending on the type of event and where it happens.	› Consult climate experts (e.g. meteorologists, oceanographers) to gain informed insights into evolving climate risks › Use scenario analysis to explore long-term climate impacts for your entity › Apply hazard maps and catastrophe models to assess location-specific risks and potential damages	› Estimate financial impacts on revenue, costs, assets and insurance coverage › Track changes in operating and capital expenditure › Monitor shifts in market and consumer behaviour.

Integrating climate-related risks and opportunities into risk management processes

The following considerations may be relevant for integrating climate-related risks and opportunities into entity risk management processes: [2]

1. **Working together across departments**
   Climate-related risks and opportunities often affect many parts of an entity, so it is important that different teams and departments collaborate when managing them.
2. **Thinking long-term**
   Climate-related risks and opportunities can unfold over years or decades. Entities should look beyond their usual short-term planning to manage climate-related risks and opportunities.
3. **Matching the effort to the risk**
   The level of effort to manage climate-related risks and opportunities should reflect their likelihood and potential impact on your entity.
4. **Being consistent**
   Use the same approach across the entity so everyone is on the same page when identifying and managing climate-related risks and opportunities.
5. **Starting with four key steps**
   - Build understanding: make sure people across the entity know what climate-related risks and opportunities are and why they matter.
   - Map your processes: identify which parts of your current risk management need to be updated.
   - Update your risk and opportunity categories: add climate-related risks and opportunities to your existing list of risks and opportunities.
   - Adjust your tools and methods: use or adapt tools like scenario analysis, hazard maps, and forecasting to better assess climate-related risks and opportunities.
6. **Prioritising smartly**
   When deciding which climate-related risks and opportunities your entity might prioritise, consider not just how likely and impactful they are, but also how vulnerable your entity is and how fast the risk could materialise.

Three lines of defence

To integrate climate-related risk across an entity, it may be helpful to consider the structure of risk management processes. A model for this is the 'three lines of defence' framework developed by the Institute for Internal Auditors.[3] The board may set the entity's risk appetite, identify key risks and provide ongoing oversight. Climate risk management processes may then be integrated across the three lines of defence outlined below.

1	**First line of defence – operational management** Senior management and employees directly manage risks, lead risk-related activities and align with the entity's risk appetite.
2	**Second line of defence – risk and compliance functions** Risk and compliance functions provide specialised oversight, support, and monitoring of risk management processes.
3	**Third line of defence – independent assurance** Internal audit and similar assurance functions assess risk management across the entity.

Points to consider

Below is a checklist of some potential considerations for establishing climate-related risk management processes:[4]

- Are climate-related risks and opportunities factored into your entity's overall evaluation of risks and opportunities across short-, medium-, and long-term timeframes? Are these timeframes tailored to suit your entity's specific characteristics – such as its sector, size, and investment cycles?
- Does your entity use multiple climate scenarios to support its assessment of climate-related risks and opportunities?
- How frequently are climate scenario analyses conducted? Is the frequency appropriate given your entity's exposure to climate-related risks?
- How does your entity ensure that its climate response is proportionate to the climate-related risks and opportunities it faces?
- Is climate-related risk integrated into your entity's 'three lines of defence' of risk management and its Enterprise Risk Management (ERM) Framework?
- Has your entity allocated adequate resources – such as personnel, systems and technology – to manage material climate-related risks effectively?

Further reading

This unit is not intended to provide general guidance on risk management processes. For further information on risk management, there are risk management frameworks including (but not limited to):

- Committee of Sponsoring Organizations of the Treadway Commission (COSO) enterprise risk management (ERM) framework
- International Organization for Standardization (ISO) standard ISO 31000:2018 Risk Management – Guidelines

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Case study - Climate-related risk management for a mid-sized fabric and garment manufacturer

Introduction

This case study may help you reflect on how climate-related risk management might be applied within your entity. The scenario is intended to prompt considerations of processes for identifying, assessing, prioritising, and monitoring climate-related risks and opportunities, and how these may be integrated into entity risk management processes. This scenario does not describe real events or a real entity but is grounded in realistic climate-related risk management processes for entities.

Sector:	Apparel manufacturing
Entity:	Mid-sized fabric and garment manufacturer
Location:	Victoria
Core content:	Climate-related risk management

What is the scenario?

ZA Textiles is a mid-sized manufacturer specialising in eco-friendly fabrics and garments. ZA's board recognises the entity's understanding of climate-related risks and opportunities is limited and actions should be taken to better manage these risks and opportunities. ZA decides to undertake a strategic initiative to embed climate considerations into its Enterprise Risk Management (ERM) framework.

What is the response strategy?

Build understanding of climate-related risks and opportunities

- Senior management was upskilled on climate-related risks and opportunities, their importance and relevance to the organisation

Map and refine risk management processes

- Reviewed organisational risk management processes and where climate-related risk could be considered
- Established a Climate Risk Committee with cross-functional representation, reporting to the CFO and Board of Directors

Gather more climate-related information

- The entity considered its climate-related risks and opportunities and the potential financial impacts on operations, supply chain, and changes in customer demand

Update and identify climate-related risks and opportunities

- Utilised the scenario analysis, potential financial impacts, broader contextual information, considerations of time horizons and information on relevant hazards – to inform a climate risk assessment
- Identified key physical risks (e.g. heatwaves, water scarcity) and transition risks (e.g. carbon pricing, supply chain decarbonisation)
- Considered future internal audit of climate-related risk management processes

Climate-risk integration and planning

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- Integrated climate-related risks into its risk register and embedded climate-related risk into quarterly risk reviews
- Explored mitigation measures for each key climate-related risk, both physical and transition risks across the organisation's operations and supply chain

What are some potential business impacts?

Strategic and financial

- Upskilling of senior management and staff on climate-related risks and opportunities
- Increased capacity to identify, assess and prioritise climate-related risks and opportunities

Operational

- Identification of physical and transition risks highlighted vulnerabilities in the organisation's operations and supply chain
- Climate risk assessment prompted the organisation to consider mitigation measures to improve the organisation's resilience to extreme weather and natural disasters, supply chain shocks, and policy, technology, and market changes

Market and stakeholder

- Reputational benefits from effective management of climate-related risks and opportunities

Governance

- Improved management of climate-related risks and opportunities at a board and senior-management level
- Updated risk processes to embed climate-related risks.

Key takeaways

- Climate-related risk management is how entities identify, assess, prioritise, and monitor climate-related risks and opportunities.
- To integrate climate-related risk management into an entity's risk management framework, existing processes may need to be adapted to account for the special characteristics of climate-related risks and opportunities.

Sources

[1] Task Force on Climate-related Financial Disclosures (2020) *Guidance on Risk Management Integration and Disclosure* (PDF 5.1 MB)
[2] Task Force on Climate-related Financial Disclosures (2020) *Guidance on Risk Management Integration and Disclosure* (PDF 5.1 MB)
[3] The Institute of Internal Auditors (2024) *The IIA's Three Lines Model - An Update of the Three Lines of Defense* (PDF 881 KB)
[4] World Economic Forum (2019) *How to Set Up Effective Climate Governance on Corporate Boards Guiding Principles and Questions: Insight Report* (PDF 1.7 MB)