Transition Planning

Guidance for staff

Sustainable Business Council | WBCSD Global Network

XRB | Te Kāwai Ārahi Pūrongo Mōwaho EXTERNAL REPORTING BOARD

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Working draft

This guidance is a working draft. This means that you can provide your feedback, suggestions for improvement, or requests for clarification to us at **sustainability@xrb.govt.nz**.

This document was created by the Sustainable Business Council (SBC), in partnership with the External Reporting Board (XRB) and with support from SBC member Aurecon.

The XRB is an independent Crown entity that develops and issues reporting standards on accounting, audit and assurance, and climate, for entities across the private, public, and not-for-profit sectors.

SBC is an executive-led membership organisation that mobilises over 130 ambitious businesses through advocacy, collaboration and connection, driving towards a future where business, people and nature thrive together.

SBC would like to offer particular thanks to Aurecon for offering its support in the development of this resource.

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About

This guide is for staff involved in coordinating or leading the transition planning process in their organisation. The document assumes that the 'why' and 'what' of transition planning are already understood by the reader. It covers the thinking and related business processes to develop a transition plan, as well as the drafting of the transition plan itself.

Other guidance notes available from the suite of transition planning publications are shown below.

Guide for directors, which uses the four pillars framework of governance.

Transition planning – An overview covers what climate transition planning is, and how it can help organisations transform deep uncertainties into an actionable long-term strategy.

The guide for executives covers executives' objectives and responsibilities over the transition planning process, and includes practical guidance on how to apply familiar tools to plan, lead and execute under high uncertainty.

Important note

These guidance notes focus on the climate transition planning process. For guidance about *disclosure* related to the Aotearoa New Zealand Climate Standards (NZ CS), visit the XRB's website.

Navigation

This document is long as it is designed to provide detailed support for staff leading transition planning processes. It is not intended to be read cover to cover. Rather, it is a reference to come back to at different stages during a transition planning process.

Need to know

pages 5 - 10

This section provides the framing for leading staff to engage with transition planning, and to engage with others in their organisation about transition planning.

Process overview

pages 10 - 19

This section provides the proposed transition planning process with the rationale for each of the main steps, the expected outputs and intended outcomes, a summary of the sub-steps and some conditions for success.

'How to' guidance

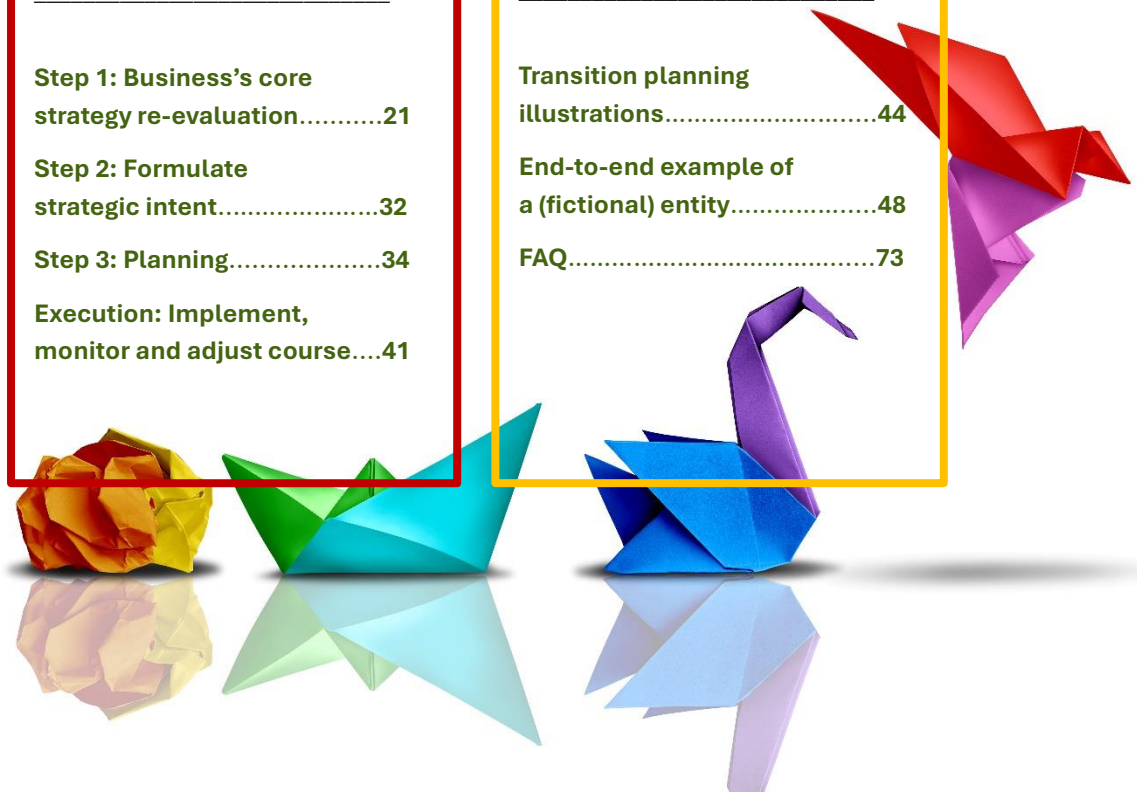
pages 20 - 42

This section provides practical suggestions and tools to support staff implementing their transition planning process.

Examples and FAQ

pages 43 - 78

Appendices include illustrations of transition planning applied to a range of entities, as well as a fictional end-to-end example where the suggested process is applied. Finally, some additional information to answer some frequently asked questions.



Transition planning: A staff member's "need to know"

> A transition plan is "an aspect of an entity's overall strategy that describes an entity's targets, including any interim targets, and actions for its transition towards a low-emissions, climate-resilient future".
>
> *NZ CS 1 Climate-related Disclosures*

Transition planning is about informing your organisation's long-term strategy under high uncertainty, and identifying the best actions to take to position the organisation to survive and thrive in a deeply changing world.

Transition planning is a collective endeavour that necessitates the active participation of the entire workforce to achieve successful outcomes. The goal is to embed the transition into core business processes and strategy.

For a primer on transition planning, see Transition Planning – An Overview.

What is specific to transition planning?

The main features of strategic planning processes:

- **Long timeframes**: This means greater uncertainty and greater changes in the operating environment. However, greater foresight also brings benefits.
- **Adaptive strategy**: Timing is critical, and finding the early plays that position your organisation to win in widely different futures will be key to survival.
- **Interrogating assumptions more deeply**: Many features of the current operating environment are taken for granted today but might not be true tomorrow. Robust and challenging scenario analysis is needed.

As a result, transition planning can highlight blind spots in existing processes and shorter-term strategic planning.

An adaptive strategy better enables a business to manage systematic uncertainties, and better position the organisation in a volatile, uncertain, and complex future.

Why is transition planning relevant to your business and you?

Regardless of your role, it is likely to include aspects of transition planning:

- **A vehicle for internal discussions:** Transition planning opens up opportunities to engage across the business about the long term. It is an opportunity to break down silos and open up discussions on how to improve the business. It will result in a plan that engages the wider organisation in prioritisation and action. Can you think of issues or opportunities that never get properly addressed because of more immediate priorities?
- **Improving resilience, including financial stability:** Transition planning is about making the business better prepared for the future so it can survive and thrive in a quickly changing world. Risk management capability and the ability to seize opportunities need to improve across the board. Individual insights are invaluable for informing a robust risk management approach. Do you want to invest your time and efforts in a business that has no future, or can you play your part so it does?
- **Operations:** Transition planning is about being proactive in adapting practices and anticipating future impacts. Most functions in a business can play a role in both identifying what might need to change, and coming up with options that are fit for purpose.

A scalable approach

The processes and methods described in this guidance are fundamentally about structured thinking and enabling discussions between people across an organisation. They do not require expensive modelling or other input to provide valuable insights.

This means they can apply to both small and large organisations, as the resource costs scale with the complexity of the business. This also means that businesses can start small and evolve their existing processes progressively.

Buy-in from leadership is critical

Regardless of the current maturity of your organisation, transition planning is not the responsibility of any single person. The sustainability officer might be responsible for reporting what the organisation is doing but they cannot implement the changes by themselves.

This is why leadership buy-in is critical, and the first task of a sustainability officer is to build it. This requires a team effort and finding internal agents of change to help.

As an organisation progresses through its transition planning journey, the group involved should grow. Having a visible and dispersed group of individuals that support, influence and drive change is critical for the rest of the organisation to embrace change and deliver on the transition plan.

Figure 1 provides an overview that could be useful to set clear expectations upfront.

Figure 1: Climate transition planning roles by function

	Directors	Executives / Management	Sustainability officer (SO)	Support functions (finance, risk, strategy, etc)
Entity's core strategy re-evaluation	Approve the case for change, engaging in governance and oversight	Enable case for change (resources and cross-functional collaboration)	Enrols and coordinates others across the organisation to build the business case for change	Support SO in building the case for change
Formulate strategic intent	Co-develop and approve the strategic intent	Co-develop the strategic intent	Support	Support
Planning	Approve the transition plan	Accountable for the development of the transition plan	Co-ordinate	Support

Source: Transition planning – a guide for directors | Chapter Zero

Responsibilities, functions, roles

Responsibilities

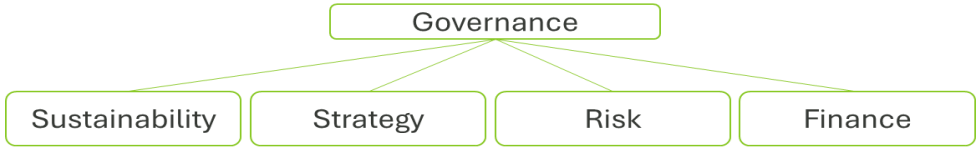
Within an organisation, we distinguish between three key responsibilities when it comes to transition planning.

Directors (see directors' guide)	Directors are required to 'act in good faith and in the best interests of the company'.[1] Directors should focus on sustainable value creation over time, rather than short-term profit maximisation. As guardians of a business's long-term value, their role is paramount in guiding long-term strategy, questioning management and directing the business.
Executives (see executives' guide)	Senior management plays a critical leadership and oversight role in transition planning. Connecting the business's strategy and operations, executives need to work with the Board to develop the long-term strategy, and operationalise it through strategic planning. Executives will be accountable to the Board for the development of the transition plan, and for its implementation and integration into daily operations.
Staff (this guide)	'Staff' is used in this guide as a blanket term for all other participants in the transition planning process. The roles and responsibilities will likely vary depending on each business's situation and will be allocated accordingly by the executives.

[1] Companies Act 1993 No 105 (as at 30 September 2024), Public Act Directors' duties – New Zealand Legislation

Functions

The key functions for each role in transition planning:



Depending on the organisation, responsibilities and functions will be distributed differently. Not all companies will have dedicated risk, strategy and sustainability functions, or they may be housed within the same team or role.

Sustainability officer ('SO')

This work often starts with the Sustainability officer (SO), whose first role in climate transition planning is to inform, educate and get buy-in from the Board and the executive leadership team.

An SO is often operating across all functions of the organisation, which means they are well positioned to play a coordination role.

Additionally, as the subject matter expert, the SO provides critical inputs at all steps of the process, ensuring the challenges are well understood by all participants and the solutions drafted are fit for purpose.

The published disclosures are just the tip of the iceberg, and most of the value an SO adds is to test and improve the robustness of the underlying work that informs business strategy.

Strategy function

When an organisation has personnel dedicated to strategy, they should be involved in the transition planning process. Ideally, they should already be involved through the scenario analysis process. Their role is to help the business articulate how its business model and strategy might change to address its climate-related risks and opportunities (and/or other systemic risks). They then provide inputs and facilitate inputs from others (including directors and executives). They might be the best-placed people to drive the process depending on the business. (See also FAQ.)

Risk function

Like the strategy function, staff dedicated to risk management should be involved in transition planning (as they should have been during the scenario analysis). They work with the sustainability officer to identify if the current risk management processes are fit for purpose, to suggest improvements and integrate them into the overarching risk management framework. They support the progression of the process by applying their know-how and expertise in risk management to risks, but also to opportunities.

Finance

The finance function helps establish the starting point of any transition pathway (i.e. assets value, debt, operating cash flow, etc), key future milestones (i.e. assets management schedule, contracts renewals, etc), and the potential financial impacts of different solutions. It provides the financial boundaries of the transition plan, as well as solutions to finance an ambitious transformation of their organisation. The role of the finance function being to prioritise competing demands for funding and finance, it will be a key determinant of the extent to which internal capital deployment and funding decision-making processes are aligned with the transition strategy.

Collaboration for successful transition planning

Internal collaboration is a key success factor for transition planning. Diverse perspectives and expertise from across the business results in a more credible, resilient and effective transition plan. Illustrated below is how different teams can contribute to a transition success:

- **Risk Management:** Integrate climate risks into the enterprise risk management processes. Review enterprise risks in light of how climate change might affect your organisation and its operating environment.
- **Asset Management:** Consider how to implement transition planning through, and align with, your asset management plans.
- **Sales & Marketing:** Timing is key for a successful transition, and customers provide invaluable insights on the evolution and pace of key trends. Prepare new or existing markets for a successful uptake of the business's new offerings, or ensure customer retention as the business transitions.
- **Operations:** Adapt practices, assets and activities. Assess implementation challenges and possible solutions.
- **Human Resources:** Cultivate a culture aligned with the long-term strategy through recruitment, training and incentives.
- **Information Technology (IT):** Ensure digital systems are planned ahead to manage new data and processes, collaborating with other departments to implement supportive technologies.
- **Value Chain:** Work with suppliers, and critically assess procurement and sourcing decisions to align with transition objectives.
- **Communications/Corporate Affairs:** Create effective communication that clearly articulates the 'why' and the value of this transition.
- **Health and Safety:** Consider how the impact of climate risks could impact the safety and wellbeing of staff.

Sustainability officer and transition planning

This guide assumes that sustainability officers are usually leading, or at least starting, this work. Of course, it depends on the business, so this part could be relevant for other roles creating internal momentum.

Climate transition planning needs 'doers'

For many organisations, the person who initiates the climate transition planning process may be the sustainability officer. For them, the first task is to inform, educate and build buy-in a shared 'why' across the leadership team and, ultimately, the Board.

Once governance agrees with the task at hand, the sustainability officer has an important role as a subject matter expert, and even 'coach' throughout the process.

Being a sustainability officer faced with the significant task of driving climate transition planning can be daunting. It is key for them to identify people within their organisation they can enlist to support, influence and drive change with them. (See step 1 in the detailed guidance section.)

Other relevant staff in an organisation include managers, planners and doers. Their collective task is to ensure that detailed business planning and implementation align with the strategic intent set by the Board and executive team.

The sustainability officer must identify the teams/functions/individuals to be involved in transition planning and negotiate their involvement.

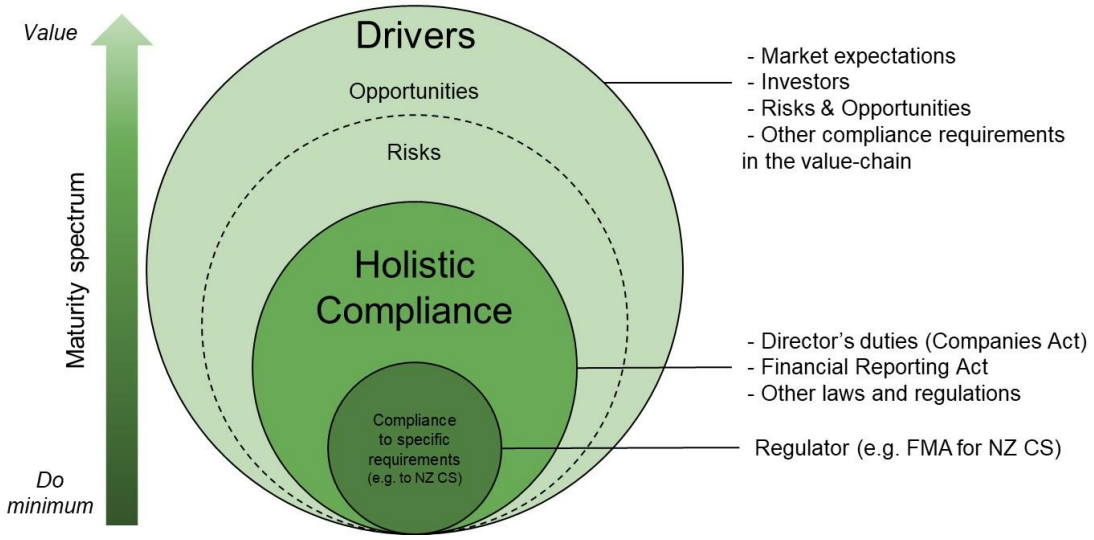
Transition planning involves a lot of changes – that might start with your own mindset and how you view your role

For sustainability officers, it is important to acknowledge that **their role is rapidly evolving**, from a focus on reputation and ensuring compliance, to sustainability-related regulation, to a more strategic role to help organisations navigate sustainability challenges.

Figure 2 illustrates the spectrum of a businesses' maturity in relation to sustainability, ranging from a focus on compliance with discrete requirements, to a recognition of sustainability as a source of opportunities.

The role of sustainability officers will be different depending on their organisation's business maturity.

Figure 2: The evolving role of sustainability officers

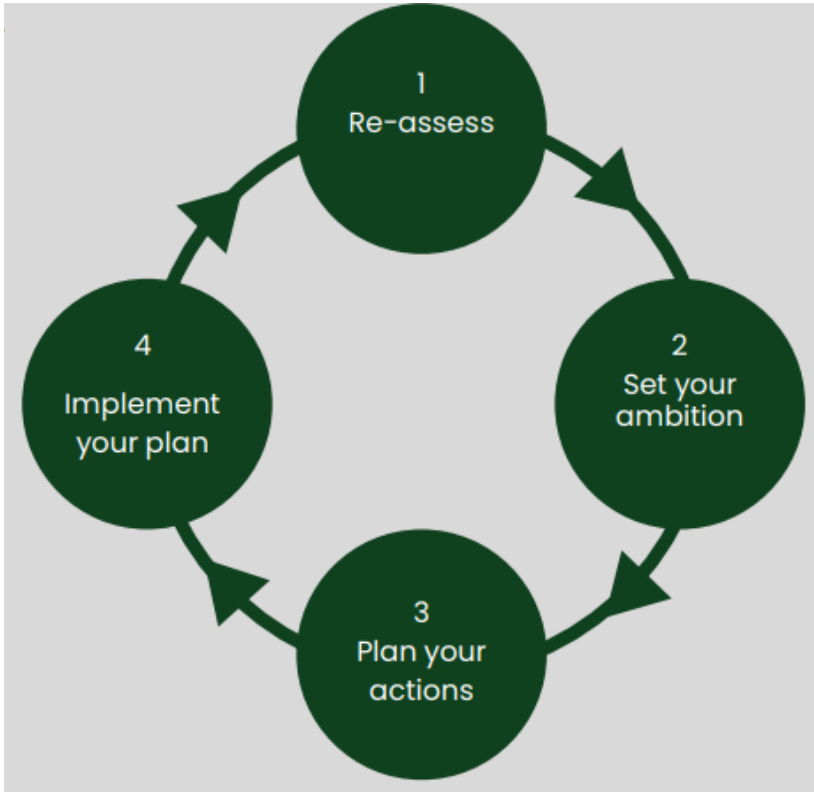


The transition planning process at a glance

Figure 3 below is a simplified representation of a transition planning cycle process, created by the UK Transition Planning Task Force (TPT).

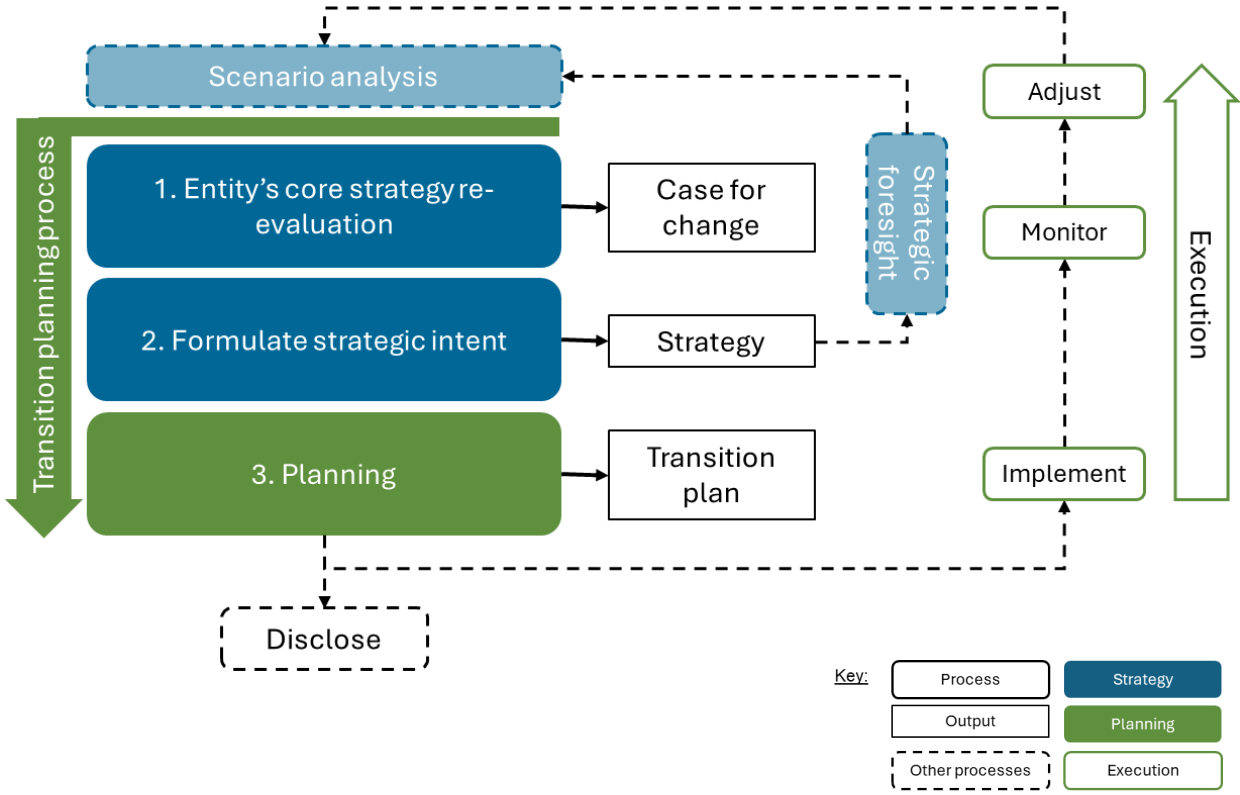
Figure 4 represents the proposed approach to transition planning with its three main steps in context with other processes (scenario analysis, strategic foresight, and disclosure) and forming a continuous improvement loop with the execution of the business strategy. It comprises the same four main steps (i.e. three steps plus execution) and is therefore aligned with the UK TPT, albeit with slight rewording (see explanations in the **FAQ**), the intent being to avoid some common misunderstandings.

Figure 3: UK TPT representation of the transition planning process



Source: Transition Planning Cycle – UK TPT

Figure 4: The transition planning process



Source: Transition planning – a guide for directors | Chapter Zero

Summary of step 1: A business's core strategy re-evaluation

Why this step matters

The purpose of this step is to identify and articulate the business imperative to undergo transition planning, re-evaluate its strategy through a climate lens, and create a 'case for change'. This allows the business to answer questions such as the following:

- How well are we set up for success in an uncertain future impacted by climate change?
- What could we change to be prepared and resilient?

Key outputs

A business's 'case for change' is the story that connects the business's purpose and vision with why it needs to transition, and what needs to change. Importantly, it does not need to say *how* the business should change, or *what* it needs to change to – that is the focus of the next step. This is about coming to a collective agreement on the problems before jumping to solutions.

Another output is the stocktake of required roles and responsibilities, and of the inputs used in transition planning. This step is also an opportunity to resolve any gaps or quality issues with previous work used as inputs.

Key outcomes

Done well, this step assembles the evidence required to build the business case, get buy-in, enrol suitable people, properly resource the rest of the process, and set the foundations for the strategic thinking in the next step.

What this step involves

Action	Description
1.1 Enlist key business functions	Before investing considerable time and effort towards transition planning, take the time to ensure you have cross-business buy-in and the capabilities you need across governance, strategy, finance and risk functions.
1.2 Test transition planning inputs	Quality transition planning outputs require quality inputs. Ensure your current-state inputs (e.g. business model, value chain) and future-state inputs (e.g. climate scenarios, climate-related risks and opportunities) are well understood, tested and robust, to ensure you start off on the right foot.
1.3 Test foundational assumptions	Some important assumptions are often overlooked by entities in the strategy renewal process. Transition planning requires a business to put greater focus on foundational assumptions due to the systemic and wide-reaching nature of climate risk. Foundational assumptions are the services or conditions (mostly outside of a business's control) on which the business relies to exist, operate and generate sustainable revenue. Many of these assumptions could be rendered invalid in some or all climate-related scenarios. Applying a systematic process to make important assumptions explicit helps minimise blind spots.
1.4 Build the case for change	The case for change is the cohesive narrative that connects a business's purpose and vision with possible futures, in turn identifying why change is needed and where. This case for change is what compels action. What this story is, and how you tell it, is important for success.

Key roles and their involvement

Role	Involvement
Director	Approves case for change
Executive	Ensures cross-organisation support
SO/Staff	Enrols and co-ordinates across the organisation to build the business case for change

Find the detailed guidance for step 1 on page 21

Conditions for success

1. **Openness to changing the business's current processes in key functions to embed climate-related risks and opportunities.** Support from the top and designating champions in each function is key.
2. **Acknowledgement that some climate-related risks are external and uncontrollable, and yet can be anticipated,** is an important starting point to conversations about a transition planning process.
3. **Going deep when listing the assumptions on which the existing strategy relies.** While the future is uncertain, we know the operating environment will be very different. Start from the climate scenarios your organisation has developed. A properly mapped value chain helps identify dependencies.
4. **Having a strong and well-articulated case for change** is key to providing a business's leadership the confidence to champion it across the organisation.

Summary of step 2: Formulate strategic intent

Why this step matters

Planning for all eventualities over the long term under high uncertainty is not possible nor useful. Focusing first on what is known (including known unknowns) enables the drafting of a direction of travel, as well as some rules of engagement, so an organisation can plan accordingly.

In practice, the best value proposition in a fast-transitioning world (e.g. in a 1.5°C scenario) will rarely be the same as that in a world exposed to above 3°C of global warming. Beyond the differences in terms of physical impacts, the operational environment of the business will be very different in both potential future states of the world. Plus, the future will never play out as set out in any given scenario.

This step is aligned to typical organisational strategy setting exercises, with the addition of the climate change lens and looking further into the future. Ideally, this step should be integrated in the business's existing strategy process.

Ultimately, the business is able to answer questions such as the following:

- What is our vision of thriving and surviving in the uncertain future?
- What strategic choices can we make now to best position ourselves?

Setting a clear and concrete strategic direction while facing deep uncertainty is challenging. While businesses might be accustomed to demonstrating some tactical flexibility to adjust to shifting markets, the idea of multiple possible strategic directions at once can be unsettling.

Key outputs

The key output of this stage is a business's 'strategic intent', which sets the long-term direction for a business. Broadly, a strategic intent describes the following:

- Long-term objectives that define the business's vision of a climate-resilient organisation, recognising that the vision of success could be different across climate scenarios.
- The options that can be implemented now (i.e. no-regrets options).
- The strategy(ies) to adopt regarding existing operations, markets, assets, etc.
- The identification of options with critical uncertainties to monitor, and how they relate to decision points down the line.
- Acknowledgement of unknown unknowns, and how the business builds adaptive capacity to respond.

The expression of the strategic intent is made possible by the insights gathered during the previous steps and the scenario analysis process.

Key outcomes

Once a business has articulated its strategic intent, the staff start drafting the details of the transition plan, working on the sequencing, dependencies, lead time, financing, etc.

Therefore, it is crucial for a business's leadership to provide as much clarity on the strategic intent as they can to the rest of their organisation. Failing to do so (for example, by providing a vision that is considered too generic, only providing operational targets, or not disclosing information) could lead to a business getting stuck in an infinite iteration loop – too many variables, an inability to look at long enough time horizons, difficulties in collaborating across teams around poorly defined objectives, decision paralysis, etc.

Key roles and their involvement

Role	Involvement
Director	Co-develops and approves the strategic intent
Executive	Co-develops the strategic intent
Staff	Supports the development of the strategic intent

What this step involves

Action	Description
2.1 Envision success in different futures	Setting your objective or 'vision of success' is an important step in any strategy setting exercise. However, for many businesses that vision of success is likely to be different in each climate scenario. The goal for most businesses is to define enough strategic direction to enable action while keeping its options open, and pre-positioning itself to pursue its opportunities and manage its risks across the range of potential outcomes explored in its scenarios. To do this, businesses can explore what the business's long-term value proposition(s) could be in the different possible worlds, as this will provide insights to express its strategic intent.
2.2 Generate and refine strategic options	Once a business has a better understanding of the vision(s) of success it could aim for, it can start charting the pathway to getting there by: 1. developing a longlist of options – entities should use a systematic process to identify these options 2. defining criteria to assess these options 3. refining the longlist to a shortlist of options to take forward.
2.3 Express your strategic intent	Directors define the 'strategic intent' to start the journey and preparations while keeping options open. This should provide enough direction for planners to start drafting a transition plan in the next step.

Conditions for success

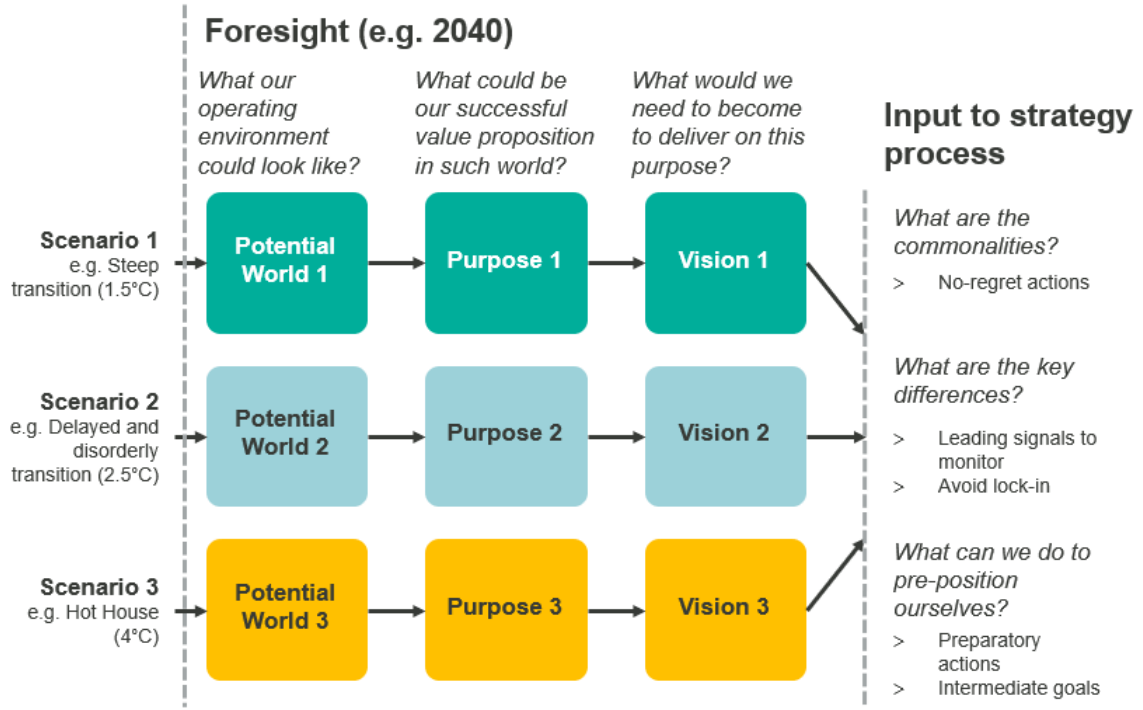
1. **Hands-on involvement from leadership is key.** Directors and executives must believe in and own their vision for the organisation.

2. **Preparatory work and facilitation largely determines the added value of this step.** Consider using an experienced strategy facilitator to support the envisioning exercise.

3. **The goal is to start from potential future versions of the world, and work back to what the business would need to become**, and therefore what would need to change from its current state (Figure 5). Starting from the business's current state in the first instance would result in a much narrower view of potential futures.

4. **Clarity among participants** that the selection criteria should be set with a long time horizon in mind, and that the options won't be very detailed at this stage.

Figure 5: Looking ahead



Source: Transition planning – a guide for directors | Chapter Zero

Find the detailed guidance for step 2 on page 32

Summary of step 3: Planning

Why this step matters

Drafting a transition plan is translating the strategic intent into an action plan.

The value of planning is to check feasibility, help manage priorities, identify dependencies, anticipate ways to avoid lock-ins and seize opportunities, and to optimise costs.

Ideally, this step is integrated into the business's existing planning process and, where applicable, transition plan elements are integrated into existing plans.

Ultimately, the business answers questions such as the following:

- When do we need to make which decision?
- Is our plan aligned with the timing of expected risks and opportunities?
- Is this draft transition plan financially sustainable for the business?

Key outputs

The business's transition plan sets the actions different staff and teams across the entity take to deliver on its strategic intent.

Note that it is not necessarily a single document and is ideally embedded into several business function plans or sub-plans.

Given the uncertainty of a future impacted by climate change, the transition plan should be regularly updated as the business learns more. It is not a 'one and done' process.

Key outcomes

A well thought through transition plan:

- enables collective coordinated action in the same direction across the business
- provides confidence in the feasibility and viability of the business's strategy
- helps navigate uncertainty by linking decision points and signals to monitor.

What this step involves

Action	Description
3.1 Communicate the strategic intent to the wider organisation	Successful transition planning requires the different levels in a business to plan and act in a way that is aligned with the strategic intent. Communication and change management should start happening early in the process to bring people along. For some people this will be the first time they hear how climate change is impacting the organisation, and how this is anticipated to affect everyone within it.

3.2 Map out milestones, risks, opportunities and uncertainties on a timeline

The main challenge of transition planning is to align many actions – with many dependencies, among many uncertainties – while planning for several directions at the same time. To be actionable, manageable, and communicable, these actions might need to be split into several projects, by business unit, business centre and functions.

To find the flexibility to keep a project moving forward, references (such as milestones, constraints, and a direction of travel) on a timeline help to provide a starting point. In an adaptive strategy, timing is everything. Therefore, the first task for a business's planners is to identify key milestones, both internal and external, and position them alongside potential risks on a timeline. Then they identify the lead time for critical options so they can use retro-planning to set decision points.

3.3 Develop a detailed transition plan

The timeline, with elements mapped against it, acts as the 'backbone' of the transition plan. It is then the role of planners across the business to develop the detailed plan, with the objectives being the following:

1. Sense-check the feasibility of the transition plan: Is there a practical pathway to get the business where it wants to be in time? This includes dependencies, sequencing, indicative costing, risk appetite and revenues.
2. Avoid lock-ins (or be able to identify those that can't be avoided well in advance).
3. Optimise the plan (cost-effectiveness, flexibility, timeliness, etc).

3.4 Assess the financial implications of this plan

Once the costing estimates of the remaining options have been refined during the planning process, the business can explore the implications for revenues, costs, capital needs, and what the options would mean for the business's financial situation. This exercise prompts not only financial questions, but also strategic ones that should be discussed within the strategy function of an organisation.

Ultimately the objective is to **identify sustainable financial solutions to enable the business's transition.**

The objective is *not* to develop overly detailed business plans for all potential projects, as the uncertainties around future costs would render it a wasteful exercise.

Key roles and their involvement

Role	Responsibility
Director	Approves the transition plan
Executive	Accountable for the development of the transition plan
Staff	Develops the detailed transition planning

Conditions for success

1 Communication and culture change must come from, and be embodied by, leadership.

2 Understanding across the organisation that transition planning is a collective co-creation exercise, not just a side project that only the planners or project manager are responsible for. The business's leadership should make clear their expectation that all functions provide proper support to the planners. This includes aligning incentives and accountability.

Find the detailed guidance for step 3 on page 34, as well as illustrative examples from page 47

Summary of the Execution phase: Implement, monitor and adjust

Why this phase matters

Once the transition plan has been created, the implementation, monitoring and iteration cycle can start. However, transition planning likely involves significant changes for the organisation, as well as significant uncertainties along the way. Therefore, investing in culture and processes to have some built-in adaptability and resilience is important.

Then the plan must be useful, so it is updated to stay relevant. Ultimately, the business answers questions such as the following:

- Are we on track to deliver our vision of success?
- Are our assumptions still valid?
- What do we need to change?

Key outputs

A transition plan truly embedded in an organisation's day-to-day operations results in KPIs, monitoring, accountability lines and other processes aligned with the long-term strategic intent.

The execution should be supported by appropriate adjustments in structure, processes, capability and leadership, to elicit an organisational culture aligned with the strategy. Some call it a 'transition work programme'.

Key outcomes

The intended outcome is increased resilience and adaptability for the organisation, and the better navigation of risks and seizing of opportunities.

What this phase involves

Action	Description
Ensure change is implemented across the right organisational layers	As a strategic response to disruption, transition planning likely requires organisational and process change, and increased capacity for flexibility and innovation. As part of the implementation of transition planning, a business must consider how its systems (e.g. policies, processes, technologies), capabilities (e.g. people, skills, knowledge), structures (e.g. roles, teams, reporting) and leadership drive the change required.
Put people and organisational culture at the centre of change	No matter how strong the strategic plan, its efficacy is held back without an enabling culture. The way a business operates internally both shapes and reflects its culture. Using change management principles and processes can help achieve positive change.
Monitor and iterate the transition plan	While businesses will have developed a series of leading indicators to monitor to inform future decisions, the progress of the transition plan itself must be monitored. Ideally, the inclusion of climate into a business's strategy and processes keep progress top of mind across the organisation.

Key roles and their involvement

Role	Involvement
Director	Provides oversight on transition plan delivery Sets the culture
Executive	Accountable for the delivery of the transition plan Provides support to empower staff to deliver the plan Leads the culture by example
Staff	Delivers the actions Keeps the transition plan up to date Continuously improves internal processes so they stay fit for purpose

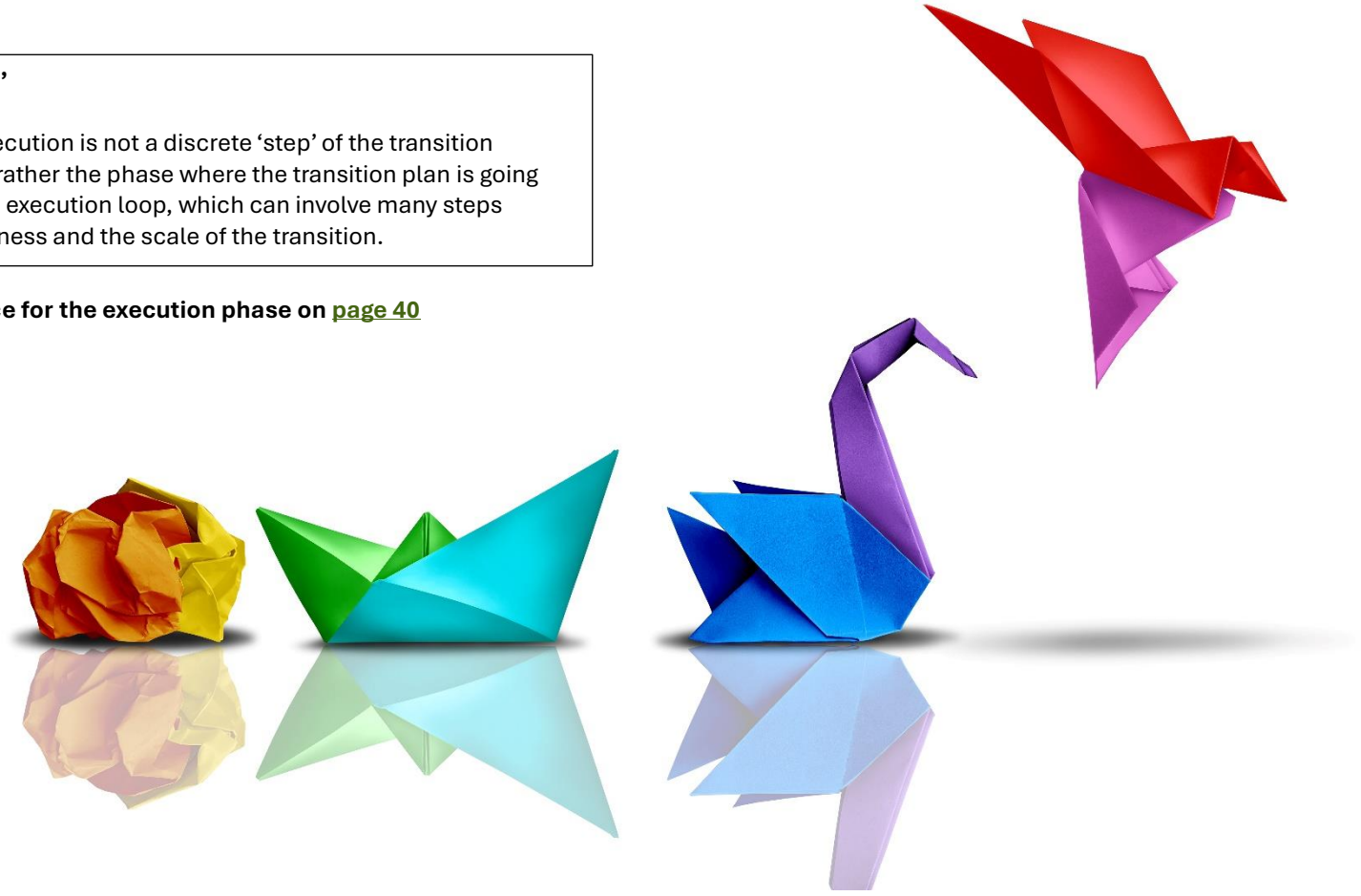
Conditions for success

1. Leading by example to get buy-in and achieve the change needed.
2. Continuously asking if what is done aligns with the long-term strategic intent.
3. Practising strategic foresight to iterate on the strategic intent.

Note: 'Phase' vs 'Step'

As per Figure 4, the execution is not a discrete 'step' of the transition planning process, but rather the phase where the transition plan is going through the business's execution loop, which can involve many steps depending on the business and the scale of the transition.

Find detailed guidance for the execution phase on page 40



Detailed guidance

Note regarding strategy development:

Transition planning is fundamentally a strategy development exercise with a climate and systemic risks spin. **Businesses should ensure they enrol the proper capabilities to make the most of the exercise, and ensure that the process they follow is tailored to their circumstances.**

This guidance uses only the simplest and most common strategy tools, but beware of simplistic strategy practice. On one hand, simple tools are a good starting point. On the other hand, these tools are the oldest, and the proliferation of strategy frameworks (akin to new perspectives) is a sign of their limitations, and that new approaches were needed to overcome those limitations.

Step 1: Core strategy re-evaluation – Building the case for change

Staff objectives

This step aims to answer the following questions:

- How well are we set up for success in an uncertain future impacted by climate change?
- What could we change to be prepared and resilient?

To answer these questions, the organisation must clearly articulate the case for change: why there is a need to transition, and what needs to change.

Depending on where on its climate transition journey as an organisation sits, the staff's role may be to initiate developing the case for change, and to bring their leadership on board. In other circumstances, where leaders are driving the case for change, practitioners play a support role and provide input instead. This is not a full business case though, as the opportunities are explored during the second main step of the process, and the costs assessed during the third main step.

Regardless of where you start from, the end goal for developing a case for change is to have a common understanding of the issues and a commitment from the business to produce a transition plan.

What should be top of mind

To make the most impact, the following points should be top of mind for staff in this step:

- **Climate transition planning is not any single person's role**. Enlisting people across your organisation to collaborate on a sound case for change is an important pre-condition.
- **Build links with the existing [strategy/management systems]**: This not just about compliance, but also about improving the business's strategy, which touches other parts of the business. This means linking with existing processes, such as the strategic cycle, risk management, budget planning, asset management, etc.
- **Set realistic objectives and carefully scope the work**: Sometimes starting small and targeted (i.e. 'bottom-up') is a good way to demonstrate the value of the exercise for the whole business. Sometimes starting with an overview (i.e. 'top-down') better highlights the strategic relevance.
- **Understand your stakeholders' "what's in it for me?" and sharpen your narrative accordingly.** If you need to convince decision-makers in your organisation to get on board with climate transition planning, consider how you build and communicate the case for change in a way that resonates with them.
- **Take the time to meet people where they are.** Acknowledge it will be a journey, and that many people within the organisation are meeting this for the first time. Change management techniques are not there to enforce change, but to ensure you don't lose people along the way.

How to – Practical guidance and useful tools

The following sections detail the four main actions supporting an entity's core strategy re-evaluation:

1.1 Enlist key business functions

1.2 Test transition planning inputs

1.3 Test foundational assumptions

1.4 Build the case for change

1.1 Enlist key business functions

Transition planning is a strategy renewal with a wide scope. So, before investing valuable time and resources, the business must assess if it is adequately equipped to both undertake the process and to reap the benefits.

Transition planning is about embedding climate risks, opportunities, and uncertainties into an entity's strategy. So, governance, strategy, risk management and finance functions[2] should be deeply involved. Table 1 captures the key business functions that should be involved. The **guide for executives** provides detail on the expectations from key functions, and why it may involve a change from the usual practices in the context of climate.

Transition planning is not an individual staff member's responsibility, but rather is something the business must solve collectively. This means building a cross-functional team that will help building the case for change and conduct the strategy re-evaluation.

Table 1: Overview of functions and roles

Function	Role in climate transition planning
Governance	Creates the organisational buy-in, leading from the top
Strategy	Integrates transition planning into the existing strategy renewal process
Risk	Ensures climate risk (and opportunities) are a part of enterprise risk management
Finance	Embeds transition planning in capital decision making

Getting these functions on board early can be useful as they may be able to:

- champion the case for change at a potentially more senior level in the organisation
- give unique perspectives on the state of the organisation that may not be available elsewhere.

The 'Amoeba Map': A visual aid to identify who to approach, when and how

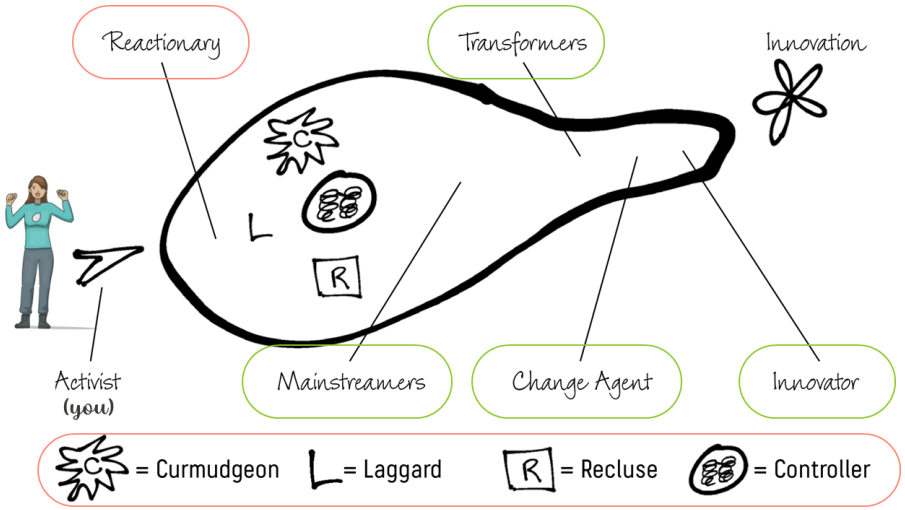
When building a team around a change initiative, it's important to understand both the functions people work within, and any beliefs and behaviours that may help or hinder climate transition planning efforts. This knowledge helps you choose who to engage with, and how you engage with them.

The **Amoeba Map** (Axel Klimek, Alan AtKisson), set out in Figure 6, can help you do this. An amoeba is a single-celled organism, and in this tool your organisation is that single cell. However, when you look closely, you see it is actually made up of different parts, representing different people within your organisation, with a range of traits that may either foster change, or hinder it.

The activist (you) is calling their attention to the need for change. You are bringing this foreign material – the need for transition planning – into your organisation and working to process this into a functioning transition plan.

[2] In this guidance we refer to 'functions'. In larger entities, a function (such as strategy or risk management) may represent whole teams. In others, it may only be part of one person's role. This guidance aims to accommodate both ends of the spectrum.

Figure 6: Illustration of Amoeba Map (adapted from A. Klimek, A. AtKisson)



Importantly, it is the whole cell that must go through the process of transition planning. The cell contains potential helpers to build and share the case for change. Some people within your organisation might resemble the archetypes below.

Amoeba part	About them
Change agents	They understand new ideas and feel strongly about promoting them. They also understand people, communication and strategies for change.
Innovators	They lead the charge on ideation and often get very invested in their new project. Innovators offer unique perspectives when developing the case for change.
Transformers	They hold a position of respect or authority within the social environment. If they endorse and adopt an idea, others follow their lead. Transformers help formalise and elevate the case for change.
Mainstreamers	Mainstreamers follow the Transformers' lead, as well as each other. They 'go with the flow' and contribute to the collective momentum of engaging buy-in to the case for change.

There may also be some people or parts of your organisation who are not so fond of the idea of transition planning. These people might be described as below.

Amoeba part	About them
Curmudgeons	The committed pessimists and complainers. They don't believe change will succeed – and if it does, it will not make anything fundamentally better.
Laggards	Laggards are people who simply like things the way they are. They are reluctant to adopt a change or a new idea because they are comfortable with what they already know.
Reactionaries	Reactionaries oppose the change, reacting strongly against it, including from sincerely held good intentions.
Recluses	Recluses simply remove themselves from the process. They have other interests and priorities and tend not to get involved in the messy business of trying to implement change.
Controllers	The people who make the ultimate decisions about what happens. Controllers can certainly help a change process accelerate, but they can stop it dead if they see risks, costs or other impacts they don't like.

Remember that the purpose of this taxonomy is not to apply value judgement on people, but to help you plan your engagement strategically (e.g. timing and approach).

As you consider your own organisation and build out your Amoeba Map, ask yourself these questions:

- As someone involved in initiating this transition planning case for change, are you a Change Agent? Or are you an Innovator?
- If you're an Innovator, do you have the skill and discipline to play the Change Agent role?
- If you don't have decision makers involved yet, who are the Transformers, and what will convince them to endorse climate transition planning and the case for change?
- Who are the Reactionaries, and how are they likely to oppose you? What can you do to reduce their impact? (Note that trying to 'convert' a Reactionary is often a risky strategy. You might be able to do it, but you might also simply alert the Reactionary to your plans.)

For each role in the Amoeba, plan how to communicate with them, what support you need to secure first, what preparatory work will help, and when is the best time to engage.

If the task appears unsurmountable, consider what might be the minimum viable product, with a better chance of success, to pilot in your business.

Conditions for success

1. Be intentional with who is involved in the development of your case for change, ensuring that you get sufficient cross-organisational representation and that all team members are working toward a common goal.
2. Consider how leadership can be involved to support internal engagement on transition planning.

1.2 Test transition planning inputs

Quality transition planning outputs require quality inputs. Entities must ensure its current state inputs (e.g. business model, value chain) and future state inputs (e.g. climate scenarios, climate-related risks and opportunities) are well understood, tested and robust to ensure it starts off on the right foot.

The primary role of staff in this step is to support the development and collation of the following inputs set out in Table 2.

Table 2: Inputs for transition planning

Current state inputs	Future state inputs
■ The entity's current business model and strategy (NZ CS para 16(a)) ■ The entity's greenhouse gas emissions throughout the value chain (scopes 1, 2 and 3) (NZ CS 1 para 22 (a)) ■ The climate resilience of the entity's current strategy and business model (NZ CS 1 para 16 and BC36) ■ Value chain inputs and outputs	■ The entity's climate-related scenarios (NZ CS 1 para 13) ■ Critical uncertainties (generated through the scenario analysis process) ■ The entity's climate-related risks and opportunities assessment (NZ CS 1 para 14) and their anticipated financial impacts (NZ CS 1 para 15) ■ Existing decarbonisation and/or adaptation plans

If some of these key inputs are missing, or in need of an update to be fit for purpose, consider using **XRB's staff guidance on entity scenario development**.

Some staff may be brought into the process of testing and refining these inputs. If so, further information on testing your inputs is provided below.

Ensure climate-related scenario analysis is an effective input

Scenario analysis is a fundamental prerequisite for transition planning.

However, it is not uncommon for the scenario analysis process to 'run out of steam' towards the end, especially during its first iteration. Sometimes the last step, to 'assess strategic resilience', is not done well as decision makers are not sufficiently primed to the necessity to change the business model or strategy.

Those charged with transition planning may also not have been closely involved in scenario analysis. The **scenario quality checklist** helps newcomers check the quality and robustness of the business's climate scenario process. **Positive questioning** can also help identify gaps collaboratively.

For a reminder of the key questions that would have been asked and answered during scenario analysis, see page 42 of the XRB's **entity-level scenario analysis guidance.**

Ensure climate risk assessment is a useful input

There are many reasons why previous climate risk assessments could be unfit for a valuable transition planning process. It might have been done with a different focus in mind, different time horizons, a specific method, etc. This can lead to the following common limitations:

- Overreliance on modelling and projections leading to a focus on quantifiable but marginal risks (e.g. 'warmer temperatures leading to the need to invest in A/C'; or 'a -3% in outputs or sales').
- The characterisation of risks is too high level (e.g. 'weather events') so doesn't allow for clear identification of the potential effects on specific assets or activities.
- Focusing only on direct risks, ignoring the cascading effects that are especially important with climate.
- Approaching risks in isolation without looking at interactions and overlaps.

These issues should be addressed from the start, as they undermine the case for change by understating the risks for the business.

Explore blind spots that could not be investigated during the scenario analysis process

Moreover, the scenario analysis process might have surfaced issues requiring further investigation that could not reasonably be conducted in parallel. The start of transition planning is a good opportunity to go back to those areas seen as important to the entity's own transition, but not yet fully explored.

This could be anything that involves double-checking the assumptions made by participants during the scenario analysis, such as:

- assessing the potential impacts of tipping points for the entity's value chain
- a technology scan to better assess the actual progress of a set of technologies
- market research on parts of the value chain
- talking with key customers and/or suppliers.

Conditions for success

1 Reframing previous work, such as risk assessment and scenario analysis, with the objective of developing the case for change helps revisit it with an open mind.

1.3 Test foundational assumptions

The assumptions underpinning an entity's current business model and strategy must be explicitly stated. This includes a specific focus on foundational assumptions, which are often implicitly assumed as true but could be challenged in climate-related scenarios. A systematic process is required to keep our cognitive biases in check.

Foundational assumptions are the services or conditions, mostly outside a business's control, on which the business relies to exist, operate and generate sustainable revenue. That climate change challenges these assumptions is the very basis of a case for change.

Articulate the assumptions underpinning the current business model and strategy

> "The future cannot be researched because it does not exist." *Kjell A. Nordström*

We can only make assumptions about the future. Every strategy is based on a set of assumptions or a vision of how the future will unfold. What distinguishes a good strategy from a poor strategy is the quality of the assumptions upon which it is built. Therefore, clarifying and challenging these assumptions is paramount to the strategic re-evaluation.

As noted in paragraph BC41 of NZ CS 1:

> "The implications of scenario analysis for the entity's business model and strategy should be, due to the nature of climate change itself, profound and of critical strategic relevance to the entity."

In other words, an entity that discovers – following the scenario analysis process – that climate change will be of minimal inconvenience for its strategy, business model and operations, has likely not considered the scenario and its implications in enough detail, and is at risk of misleading its stakeholders.

Robustly interrogating the assumptions underpinning the entity's business model, strategy and operations is one way to avoid this.

Businesses which do not already systematically track the set of **strategic assumptions** they use for their current strategy can refer to methods such as **SAST**.

In the context of transition planning, many assumptions would be rendered invalid in some or all climate-related scenarios due to both the long-term view and the systemic nature of climate change.

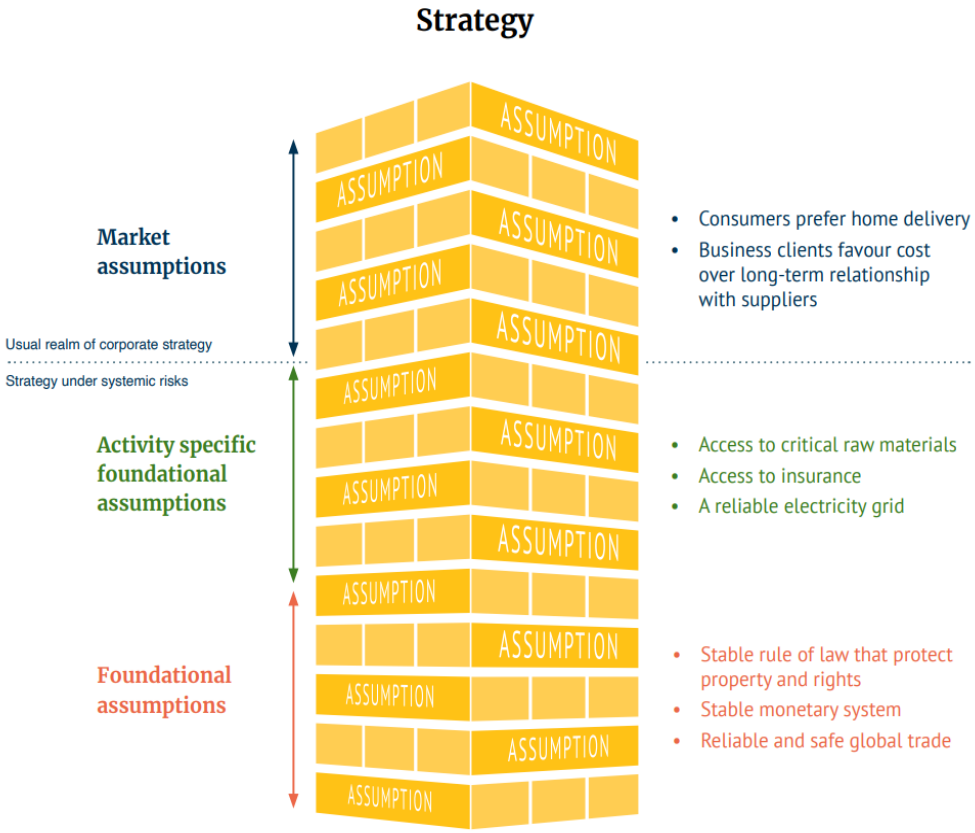
Foundational assumptions are aspects that have been relatively stable over the past few decades, and therefore have not been the focus of corporate strategy. Corporate strategy tends to focus on market forces, such as competition, technology, consumers and regulation, however, systemic risks, such as climate change, require diving deeper as illustrated by

. Further examples of foundational assumptions are captured within Table 3.

The **Pax Romana** as an historical analogy: Political stability encouraged money lending and allowed long-distance trade to boom. Sea commerce thrived and goods were flowing from and to as far as India and China. Rome built 50,000 miles of new roads that eased the movement of troops, information and goods. Water flowing through Roman aqueducts allowed cities to prosper. Most of the business owners at the time probably assumed that such conditions would persist. And yet, in just 12 years of Commodus' reign, their operating environment changed drastically as the economy collapsed.

A more contemporary example would be the Covid-19 pandemic and its sudden impact on trade which challenged many businesses assumptions.

Figure 7: Foundational assumptions as building blocks of corporate strategy



Source: Protecting New Zealand's competitive advantage | Chapter Zero

Table 3: Examples of foundational assumptions

Foundational assumptions relevant for most entities	Business-specific foundational assumptions
▪ Abundant and affordable energy (currently enabled by fossil fuels) ▪ Democracy, enabling the rule of law that protects property and rights ▪ Regulation allowing a business's operations ▪ A functioning, globalised finance system allowing easy access to credit and potential investors ▪ A stable monetary system ▪ A continuously growing economy ▪ A reliable and safe global trade system	▪ Access to critical raw materials (animal feed, rare earth elements, coffee, fertilizer, soil, etc) ▪ A reliable electricity grid ▪ Access to insurance ▪ Free trade agreements/supply chain ▪ Predictable seasons (frosts, snow, glacial meltwaters, monsoons) ▪ Continued growth in a particular market (e.g. housing)

See also the fictional end-to-end example provided in appendix.

Note that some of the critical services that are part of a business's operational context can be services provided by nature, as per the example below.

Real-world example:

An Asian hydro-electricity corporation built many facilities based upon two foundational assumptions: that there would always be glacial melt waters; and that there would be a predictable monsoon season each year. These strategic assumptions are no longer valid.

One way to identify a business's foundational assumptions is to start by listing all the key inputs and outputs to the business's activities and, for each of these, *map their own dependencies*. This includes physical flows but also financial (e.g. capital, insurances) or human (e.g. employees, customers).

If a business has already **mapped its value chain** (as advised in the XRB's scenario analysis guidance), this process should be straightforward. For example, the point at which the value-chain representation stops implies an assumption was made (e.g. 'we will always be able to get insurance'; 'we can procure steel on the market'; 'we can procure shipment services from A to B').

In each scenario, identify which foundational assumptions are challenged and the potential consequences for the entity

After identifying the foundational assumptions, the goal is to assess to what extent (if any) the entity can still rely on those assumptions in its own climate scenarios.

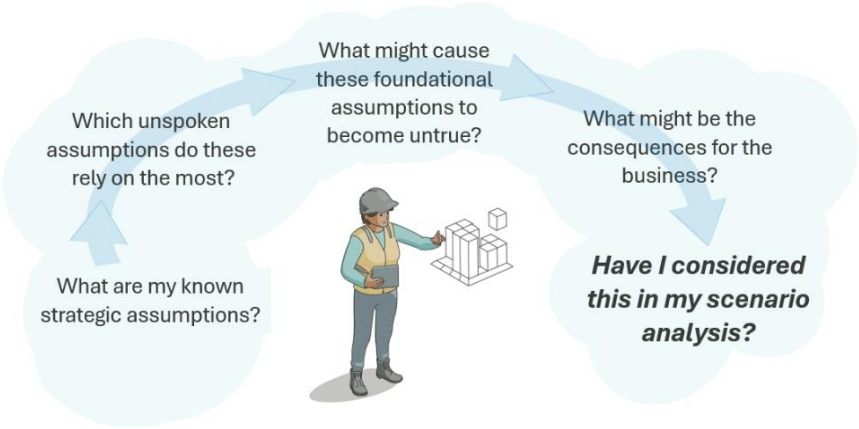
For example:

A scenario consistent with limiting global warming below 1.5°C implies that fossil fuel consumption is limited and phased out (whether by regulation, market pressure, or technological breakthroughs). The key strategic implication is that the business will not be able to rely on abundant and cheap fossil fuels, creating a rationale for change. If the business's operations require access to abundant and cheap energy, the need to rely on hypothetical new technology or economic tipping points (green hydrogen cost, price, and capacity of batteries, etc) makes it a critical uncertainty for the business's future. However, the business can assess that, in such scenario, it will still be able to rely on other services, such as the rule of law, a functional finance system, etc, without which a successful transition would not be possible.

A scenario consistent with global warming of greater than 3°C implies that fossil fuels continue to be widely used, but also that the physical impacts of climate change generate food crises, climate migration and catastrophic weather events that will strain the financial system, insurance availability, democracy, and infrastructure, on which the business relies.

Support from your executive team will help in conducting this strategic exercise. Alternatively, staff may choose to facilitate or take part in a session with key stakeholders to test assumptions. The session would require participants to step through the following line of questioning set out in Figure to unpack how their climate scenarios might impact their foundational assumptions.

Figure 8: Testing your foundational assumptions



A shared map of the business' value chain helps channel this conversation in a systematic and robust manner.

For such a session, ideally you want a diverse group of stakeholders who have collective oversight of what happens across the whole organisation, and some stakeholders in the room that have influence on the outcome of the climate-scenario and transition planning processes.

Depending on the outcome of this inputs testing, there may be a need to revise your scenario analysis, including updating your scenarios and risk and opportunity register.

Conditions for success

1. The strategic assumptions underlying the business's current strategy should be explicit. Seek support from the strategy function if needed.
2. Having a business's value chain properly mapped makes the identification of what the business relies on to operate much more straightforward.
3. To be useful, scenarios need to be challenging enough. The list of foundational assumptions provided can be used as a litmus test – if none of these are challenged in the climate scenarios, this is a sign the scenarios might need to be reconsidered.

1.4 Build the case for change

Once the business has identified the assumptions critical for its strategy, business model and operations, it can build the case for change by documenting and synthesising its exposure and vulnerability to potential shifts in those foundational assumptions.

The case for change is the cohesive narrative that connects an entity's purpose and vision with the reasons why change is needed, and where it is needed. This case for change compels action. What this story is, and how you tell it, is important for success.

Use existing business tools to make your case for change more robust and compelling

There are many business and strategy tools that could be leveraged. When applying these, consider your organisation as it is today, then put it '2050' under each climate scenario. How do you think would it fare? How does that compare to today? Some examples include the following:

- SWOT (Strengths, Weaknesses, Opportunities, and Threats) is an inward-looking technique to analyse these four aspects of your business.
- PESTLE analysis identifies and evaluates how Political, Economic, Social, Technological, Legal, and Environmental factors impact business operations.
- Porter's Five Forces helps to identify the main sources of competition in your industry or sector. This tool is generally used retrospectively, but could be applied to each of the climate scenarios, and it is useful to put yourself in the shoes of competitors or key suppliers to stay a step ahead.

The strategy function in your organisation might be familiar with these tools, so lean on them to support you to build it out in a way that aligns with your organisation.

Tailor the case for change for your audience

The reality check here is that you're dealing with **humans and change.** This will be uncomfortable – at some times more than at others, and for some people more than for others.

It is important to meet your audience where they are at in order to build buy-in. Coming in with complex data, negative outlooks on a climate future, or a story of a massive, unachievable task ahead is unlikely to land well.

Instead, consider yourself a **sense maker** to unpack the complexity of the issue, and to explain more easily what areas are likely to be different in the future, and why. Use specific examples and pose questions to get your audience thinking.

For example, you can start by using headlines of actual events and ask questions such as: How might our customers change their behaviour if this event happens every year?

Example:
Flash floods in Valencia, Spain, 2024
What if this type of flood happens every year? Who will be able to afford cars or insurance? Who will even want to own a car in these conditions? How will people travel in this future? What does it mean for us?

Image courtesy of X user @GerryHassan

Another technique to meet the audience where they are at is to build your narrative around "what's in it for me?", which changes depending on your organisation's different internal stakeholder groups. For example:

- Governance might want to understand what it will mean for shareholders, the licence to operate, future growth, etc. Use the **Directors' guide** and **Executives' guide** to further understand their interests in transition planning.
- The strategy function might want to understand if delivering on the organisation's strategy and vision is at risk.
- The risk function might want to understand the capability of the organisation to mitigate risks and associated costs.
- The finance function might want to understand what it means for the bottom line and long-term financial stability.

To help understand your audience further, you could undertake a 'Persona' exercise. In this exercise, you step into the shoes of your audience, answering questions such as the following:

- What day-to-day activities do they do to meet their priorities?
- How might these priorities/activities be impacted by climate change?
- What are they concerned about in their professional capacity?
- How are these concerns potentially worsened by climate change?
- Are there any experiences similar to climate change which this person has been through (e.g. Covid-19)?
- Does it make sense to approach this person early or later in the process of getting your case for change accepted?
- What actions might this person need to take as part of transition planning?
- How can you get this person on board with supporting transition planning? What's in it for them?

Prepare for these discussions and test your messaging with one of your Amoebae Map-identified teammates to help shed unnecessary detail for the particular audience you are targeting.

How to communicate the case for change

The act of storytelling is just as important as the story (the case for change) you tell. Again, how you approach this depends on who you are talking to – in some cases, building buy-in might be more effective 1:1 to start with, or it might be better to do a formal presentation to a group.

Your Amoeba Map-identified teammates and advocates can contribute by providing useful feedback, having some of those conversations on your behalf, or maybe presenting alongside you.

Those real-life examples of what has happened already in the business can help to bring more meaning to the case for change. "Remember when the Auckland floods happened, and we thought if this happens again in the future we should..."

Don't be afraid to share messaging more than once. Remember the **Rule of 7**, which originally comes from marketing, that a message must be received at least seven times, in seven different ways, for it to be "heard" and for it to ultimately result in the desired behaviour change.

Case for change and capital providers

While this guide focuses on making the case for change internally, some businesses might also want to think about how to bring capital providers along. Both equity and debt providers might need to be considered.

Conditions for success

1. Achieving buy-in from decision makers on the value of embedding climate change into a business's strategy is key. Getting hands-on involvement from a business's leadership (e.g. writing of pre-mortems in climate scenarios) can help shift perspectives about climate change.
2. Human beings tend to overestimate their ability to manage risks. Acknowledgement that some climate-related risks are external and uncontrollable will usefully frame the transition planning process.
3. Having a strong and well-articulated case for change is key to providing a business's leadership with the confidence to champion it across the business.

Additional tools or methods to consider:

In his book *Using scenarios: scenario planning for improving organizations*, Thomas J. Chermack suggests a series of exercises with templates to highlight that each scenario will present unique threats and opportunities, as well as potential strategies to either take advantage of opportunities or compensate for threats.

See also the **fictional end-to-end example provided in appendix**.

Step 2: Formulate strategic intent

"As for the future, your task is not to foresee it, but to enable it." *Antoine de Saint-Exupéry.*

*Important: Note that the role of non-executive employees in step 2 is to support the business's leadership. More detailed guidance is in the **Directors' guide** and the **Executives' guide**.*

Staff members' objectives

To be meaningful and result in the proper integration of climate change into the business's core strategy, the strategic intent must be defined and agreed at the governance and executive levels.

If the leadership is not willing, or does not make the time to engage with this process, it probably means the case for change still requires work.

The role of staff members during this step is to start, enable and support the process. Their main objectives are to:

- provide the inputs necessary for a high-quality and efficient process
- ensure the output of the process is useful and actionable, so staff can then progress the detailed planning.

What should be top of mind

The responsibility for selecting and committing to a strategic intent sits with the executive team and the Board as part of their strategic responsibilities.

However, staff members can support the work of executives and the Board in this phase by facilitating workshops, providing necessary inputs and information, and playing a coaching role. Use the insight you have from being closer to operations and to the climate change context to inform your organisation's strategic intent.

This strategic intent should be made up of four components:

1. **Long-term objectives:** What is your vision of a climate-resilient business in the future? Does it change between scenarios?
2. **Strategic choices:** What are the choices you will make to achieve your long-term objectives?
3. **Strategic approach:** What strategy will your organisation adopt in reaching these long-term objectives?
4. **Uncertainties and triggers:** What factors, both internal and external, does your organisation need to monitor to make decisions about what choices and strategies to adopt to achieve the long-term objectives?

Remember, while transition planning in the specific context of climate change is new, strategy re-evaluation is not. Understanding the current practice regarding strategy in your organisation will help enable this work.

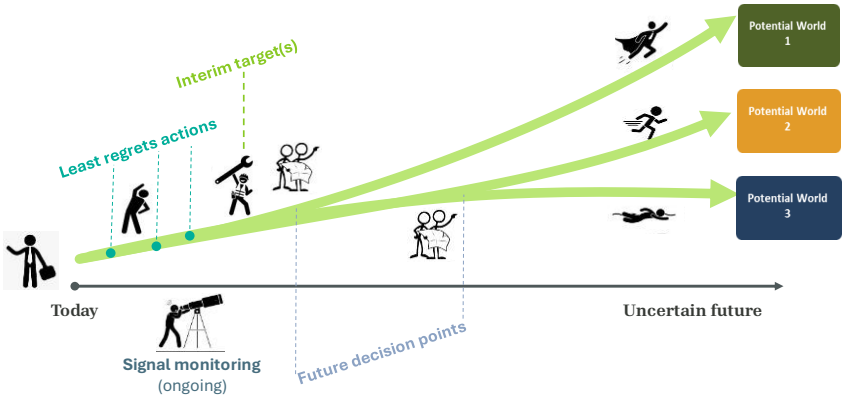
Key considerations for supporting staff during this step:

- How can you best facilitate for the executive and Board to efficiently engage in this process?
- How can you ensure that your executives and Board stay committed to the 'why' of this work?

The strategic intent

Once the four key components have been defined as clearly as possible, together they form the strategic intent. Figure Below is a simplified representation of how these components come together to enable the entity to start planning its transition journey.

Figure 9: Business analogy of the strategic intent



In Figure 9, the business, building on its scenario analysis, has envisioned what it might need to become to deliver a value-proposition relevant to the various worlds it might end up operating in. From there, it is trying to chart a course to bring it closer to these potential destinations (value-propositions).

It has already decided to implement some changes that will be helpful for the journey, or will help it be ready for its future transformations (no-regrets options) and set interim targets reflecting how it wants to pre-position itself ahead of big choices.

It has identified the signals it would need to monitor remaining uncertainties, which over time inform the most likely destination. Key milestones where significant decisions must be made are pre-identified. With this, the leadership has provided enough direction to prompt the business into action, with eyes wide open to navigate uncertainties.

Conditions for success

1. Robust preparation is necessary to ensure leadership perceives the process as a high added-value exercise and a good use of their limited time.
2. Finding a balance between letting the strategic discussion unfold freely, while upholding sufficient guardrails for the output to be useful for the next step.

Additional tools or methods to consider:

Capability and Maturity
Capabilities and Competences (capability-based strategy)
Flexibility Framework
Quality, Time, Cost & Flexibility
Time Framework
Strategic Choice Approach
Strategic Assessment Model
Conflict Analysis

See also the **fictional end-to-end example provided in appendix**.

Step 3: Planning

Important: Note that this step is not about planning for each climate scenario, nor planning for a specific climate scenario. The role of the climate scenario is to uncover the key uncertainties, risks and opportunities that the transition plan must factor in to be robust.

Staff members' objectives

The value of planning is to check feasibility, help manage priorities, identify dependencies, avoid lock-ins, seize opportunities, and optimise costs.

This step aims to answer the following questions:

- When do we need to make which decision?
- Is our plan aligned with the timing of expected risks and opportunities?
- Is this draft transition plan financially sustainable for the business?

Drafting a transition plan is about translating the strategic intent into an action plan. Staff play a key role in-putting essential details to the plan, which ensures it is actionable. Staff leading this activity are effectively planners, who are incorporating numerous factors from across the business to produce a coherent and complete output. Input that spans across the strategy, governance, risk, and finance groups is needed.

Management is accountable for the development of the plan under the Board's oversight. Executives ensure that cross-organisation collaboration is happening to develop the plan. They also must iterate with the Board when the planning surfaces new insights that might impact the strategic intent, such as the effectiveness and feasibility of the plan.

Ideally, this step is integrated in the business's existing planning process, and transition plan elements can be integrated into other existing plans.

What should be top of mind

- **Focus on the big picture:** A transition plan should be cohesive, with its component actions clearly and logically serving the strategic intent.
- **Divide and conquer:** Like any complex project, identifying the most efficient ways to divide it into manageable chunks is likely to be necessary. Starting with a subset (e.g. a specific activity or business unit) provides an opportunity to learn, test approaches and tools, improve, and showcase what could look like a useful output for your business, saving precious time and resources. Create a process that could be replicated by other teams.
- **Build strong foundations to empower others:** While coordination is important, the success of a transition is measured by the extent to which the rest of the organisation is owning it. Therefore, leading staff should focus on building the tools, systems and processes to be used by others to draft and iterate their own plans. Defining a common structured approach enables the collation and management of interfaces.
- **Track and manage interdependencies:** While business units or services focus on what they know best, leading staff must track and find ways to manage interfaces between those. This is to ensure the overall transition plan stays internally consistent over time.
- **Track the level of uncertainty or flexibility:** Transition plans synthesize a lot of information, so it is easy to lose track of what are facts, what is an assumption, what can be changed, or what is fixed. Tracking requires internal systems and processes, but enables quick iterations.
- **Avoid surprises and maintain engagement with leadership:** This part of the process can spread across a longer timeframe. Secure check-ins with executive representatives to ensure the work in progress is aligned with their expectations and is valuable to them. In practice this should be less about updates than about making decisions or removing roadblocks to maintain momentum.

3.1 Communicate the strategic intent to the wider organisation

Please refer to the **Executives' guide** and to the **fictional end-to-end example provided in appendix**.

3.2 Map out milestones, risks and opportunities on a timeline

The main challenge of transition planning is to align many actions, with many dependencies, among many uncertainties, and planning for several potential outcomes at the same time. To be actionable, manageable, and communicable, these actions need to be split into several projects by business unit, business centre and functions.

The planners' role is to find the flexibility to keep a project moving forward, but they need references as a starting point – milestones, constraints, and a direction of travel. In an adaptive strategy, timing is everything. Therefore, the first task for an entity's planners is to identify key milestones and position them alongside potential risks on a timeline. Then they identify the lead time for critical options so they can use retro-planning to set decision points.

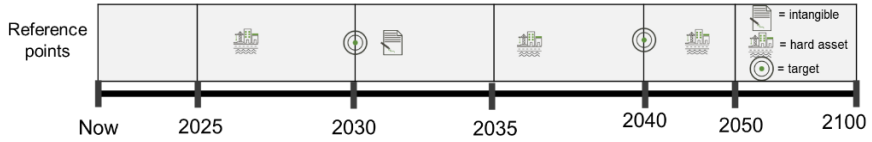
Key milestones

A starting point for planners is noting milestones which provide useful signposts to base the plan on. These milestones include events such as key assets' end of life, end of major contracts/policies, refinancing deadlines, or dates at which a regulation will enter into force. Therefore, many key inputs will likely come from existing business planning documents, such as asset management plans, budget planning, procurement plan, a long-term plan for local government, etc.

Considering the long-term nature of transition planning, it can be a mix of certainties and best guesses.

Figure illustrates an entity's key milestones plotted along a timeline. It distinguishes key decisions relative to physical assets, intangibles, and position-relevant targets or commitments the entity has made. Many of these will likely already be tracked by most entities, although not always in a centralised way.

Figure 10: Key milestones plotted on a timeline



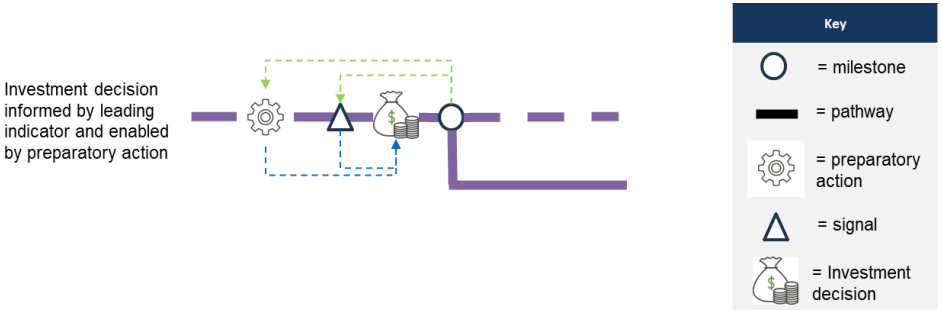
These milestones represent important points in time related to investment decisions. They are not necessarily a decision, as some would likely require a decision to be made well in advance (such as an asset replacement).

The importance of these milestones for an entity's transition should not be underestimated as they usually represent the best, and least costly, opportunities for an entity to pivot. For example, a business plan to replace an emission-intensive asset with a low-emission one is unlikely to stack up economically if the fossil fuel-running asset still has a lot of life left and is not under a mandated phase out. But if the low-emissions alternative is compared to a new replacement fossil-fuel asset, the business case is on a more equal footing. Even if the economics of the low-emissions option are still seen as unfavourable, the gap is easier to justify by factoring in the climate-related risks, such as the fossil fuel option's exposure to becoming a stranded asset. This does not mean than an entity should necessarily wait until the milestone to reduce its emissions, but knowing the date can inform an action plan to start in advance to make the best case for lower-emission options.

Targets set by leadership can also be used as reference points, although they are rarely enough to support detailed planning for specific actions.

Figure illustrates the relationships between milestones, investment decisions, signals and preparatory actions, and how they can inform the pathway an entity decides to take.

Figure 11: Illustration of transition planning logic



Note that one milestone can be relevant for several decisions. For example, the replacement of a production asset might be a milestone for market considerations (demand for the products), as well as for emissions reduction (technology and fuel change). This would mean that if the leading indicators (or signals) reflect a quick downward trend for the product's future demand, the entity might decide to not reinvest in the production asset, leading to a phase out of emissions. Conversely, if the future demand appears strong, the decision will be about alternative low-emissions production assets. Note that leading indicators can be anything (e.g. physical, social, economic).

Deep dive in Dynamic Adaptive Policy Pathways (DAPP):

The approach presented in this guide is inspired by the DAPP methodology used in adaptation. Albeit simplified for a business context, it draws on the same principles of preparing for several potential future paths and relying on signals and triggers to inform decisions. **Read more on signals and triggers in this National Science Challenges publication**, which also addresses the use of scenarios to test pathways sensitivity. (See **more DAPP references in appendix**)

When are the risks expected to crystallise, and how does it align with an entity's milestones?

Another important layer of information for transition planning is to place expected risks and opportunities on a timeline, then to look at how they overlay with the entity's reference points.

This should be done in a way that maintains the information that the risks and opportunities expected to crystallise are contingent upon a certain number of critical uncertainties – for example, by scenario. If scenarios include several critical uncertainties, consider establishing a risks and opportunities timeline for each critical uncertainty, as an intermediate step to facilitate transition planning and decision making.

Some risks may not crystallise at specific points in time, but rather over months or years. Identifying the entity's expected response to risks helps to understand its risk appetite through tolerance thresholds. For example:

- An entity with a very low risk appetite for a given type of risk might decide to plan as if the risk for a given asset to be stranded was crystallising at the earliest point of the range. This would translate in a timeline for this risk that would be narrow and early.
- Conversely, an entity with a lower risk aversion, which is able to be more reactive to a risk, would use a wider time range.

At this point, the risk function might need to flesh out the details for some risks. For example, knowing there will be more disruptive weather events in a given scenario is one thing, but defining an unacceptable threshold for the entity, and when this threshold might be crossed, is another level of detail.

This information about when an entity must be ready to meet given risks is critical to plan risk mitigation actions accordingly. That also means that the risk register can include tangible actions the entity could put in place to avoid or mitigate those risks.

This overlay of a risk timeline with a milestones timeline provides useful insights about the entity's level of exposure to climate-related risks, and its mitigation options. This should provide a clear view of when the entity needs to be ready for climate-related risks (i.e. has put in place the associated mitigation). Then, the entity needs to make choices regarding its appetite for preparatory steps when the risks are conditional to critical uncertainties. So, is the entity ready to take some risk mitigation actions, even if a risk is highly uncertain, to improve its position if that risk crystallised? Or does action need to be conditioned by a pre-determined trigger event or indicator?

Answering these questions requires a back-and-forth conversation between planners and the entity's risk function. It will be informed by risk appetite, estimated costs of preparatory steps, the lead time required for the risk mitigation actions, and the overlay of the strategic intent.

When are the opportunities expected to materialise, and how do they align with an entity's milestones?

Like climate-related risks, overlaying climate-related opportunities is useful to make the most of a transition planning exercise, as they might be the main reason to invest in transition planning. In this context, the business development and strategy function(s) would need to support planners to define a similar set of information as that generated for risks:

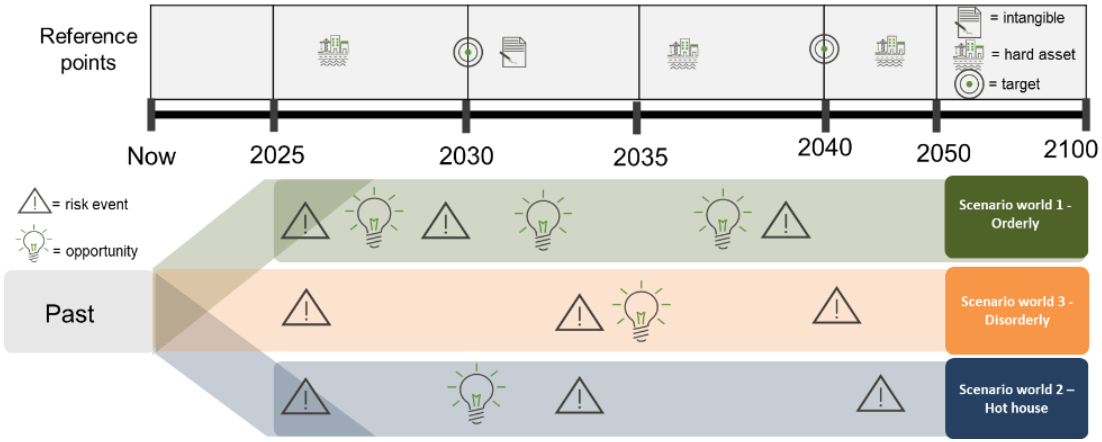
- When is a given opportunity expected to materialise?
- Which critical uncertainty does an opportunity depend on?
- What must happen for the entity to position itself to seize the opportunity?
- Which preparatory steps can be taken to test the opportunity?
- How much lead time?
- Which leading indicators will drive decision making related to the opportunity?
- Which pathways are mutually exclusive?

Reference points, risks, and opportunities overlayed on a timeline forms the backbone of an entity's transition plan

As illustrated in Figure 1, once reference points, risks and opportunities are overlayed on a timeline, the first series of insights is provided, including:

- if the actions needed are significantly different between scenarios, or if they are just timed differently (e.g. phase out of fossil fuel assets)
- timeframes and sequencing of decision making
- discrepancies between risk appetite and any current asset management plan(s) indicating that faster action might be needed
- milestones that present early learning opportunities.

Figure 1: Overlay of key milestones, risks and opportunities on a timeline



Reality check: Opportunities vs dependencies, resilience, and the law of parsimony

The fact is that too many transition plans to date are based on unproven technologies. This is a problem when there is no alternative path, and therefore what could be seen as a potential opportunity becomes a dependency on which the business is betting everything. While some

businesses could have the risk appetite for such a path, it needs to be a conscious choice. In most cases, businesses will want to hedge their bets.

That's where Occam's razor (also known as 'the law of parsimony') can prove a useful guiding principle: **The least dependencies, the better is a transition plan.** It will be more resilient, less risky and more adaptable.

3.3 Develop a detailed transition plan

The timeline with elements mapped against it acts as the 'backbone' of the transition plan. It is then the role of planners across the business to develop the detailed plan, with the following objectives:

- **Distil intent into a set of actions** for each part of the business's operations. This means investment projects, but also changes in processes, procurement policies, etc.
- **Sense-check the feasibility of the transition plan –** is there a practical pathway to get the business to where it wants to be, within the required time? This includes dependencies, sequencing, indicative costing, risk appetite and revenues.
- **Avoid lock-ins** (or flag those that can't be avoided well in advance).
- **Optimise** the plan (cost-effectiveness, flexibility, timeliness, etc).

To remain workable and useful across the business, the transition plan likely needs to be organised according to categories, such as by asset type, risk category, market, type of action (emissions reductions, adaptation to physical risks, partnerships, etc) or by location (site, jurisdiction, and so on). The best approach will obviously vary from one business to another.

For the transition plan to be kept up to date, it must be useful across the whole organisation. An entity would benefit from defining its use cases before the plan is fully developed. Note that bridges between different parts of the plan should be expected (otherwise it would just be a case of developing different strategies and plans in isolation). This is the added value of holistic transition planning – enabling synergies and providing consistency.

Conditions for success

1. **Make it useful:** The transition plan needs to be developed in a way that connects with the business's internal processes, improving them by bringing added value. If it's not useful it won't be used and will quickly become redundant.
2. **Start with a subset:** Pushing change for everything all at once is unlikely to be successful. Define a subset of the business to start with to quickly learn what works and what doesn't. Having something tangible and valuable to show to other parts of the organisation will help get them on board.
3. **Phasing:** The work plan would usually benefit from being organised over multiple workstreams and/or multiple years.

*See the **transition planning illustrations** and the **end-to-end example** in the appendixes for further details.*

3.4 Assess the financial implications of the plan

Important note from the XRB:

This step differs from NZ CS 1 disclosures 12(b), 15(b) and 16(c). However, 'how much' and 'how will its transition be financed' are questions the entity needs to answer for itself in its transition planning, and might be of interest to primary users.

Furthermore, anticipated financial impacts can be an important component of a transition plan rationale, as the goal is to avoid financial impacts from risks and to realise the financial impacts of opportunities.

Guiding question: "Is this draft transition plan financially sustainable for the entity?"

As a reminder, the options deemed unaffordable would have already been cut during the shortlisting process.

The objective here is to **find sustainable financial solutions to enable the entity's transition.** It is **not** to develop overly detailed business plans for all potential projects, as the uncertainties around future costs would render it a wasteful exercise. Now that the costing estimates of the remaining options have been refined during the planning process, the business can explore questions about revenues, costs, capital needs, and the implications for the entity's financial situation. The guiding question for this step is: **"Is this draft transition plan financially sustainable for the entity?"**

Overlaying the financial implications of the transition plan (investments, costs, revenue changes, etc) will provide useful insights:

- **Capital:** Is the investment schedule financially affordable? Or do we need to spread our investment more? Do we have to make tough choices and adjust our risk appetite?
- **Expenditure:** Are operating cost savings enough to justify higher upfront capital expenditure, enabling a faster, more ambitious transition with other benefits? Are temporary cost increases sustainable, or do we need to take more risks and plan to progress faster? Should we plan to exit faster from some positions to free up operating costs for other growth opportunities?
- **Revenue:** Are we developing new sunrise markets fast enough to compensate for the revenue losses of other sunsetting markets? Or do we need to start earlier and invest more aggressively?
- **Assets:** When is the optimal strategy for this specific asset, considering this draft plan? Should we close it or divest earlier? How would removing this asset from our books impact our financial position? Is it better to invest in assets we own or to use alternatives (e.g. PPA, lease)?
- **Liabilities:** Is there a point where the debt burden is too high? How could we reduce our borrowing while still achieving the projects we need? Do we need external finance and what is the best options in this context?

These are financial but also strategic questions, so while the planners will be working with the financial team to explore the numbers associated with the different pathways, this step is expected to raise strategic discussions for the strategy function of an entity.

As a starting point, the focus should be on the resource requirements and benefits of the most certain actions (no-regrets and preparatory).

To streamline this iterative process, it is useful for the finance team to provide indicative ranges and budget pools to the planners. This is why it is advisable to involve the finance function early on. Emphasis on the level of uncertainty involved is particularly important as finance teams are more used to dealing with precision. Similarly, the long-term time horizons being brought into the discussion are likely to be much longer than typically used in financial planning.

This implies that internal discussions (between the finance, strategy, and risk teams) about the proper use of discount rates are important. A blind use of discount rates across such time scales would understate the financial significance of future risks and opportunities until it is too late to prevent them.

Entities should not immediately discard options or pathways they cannot afford 'on balance sheet'. It is likely that other entities, suppliers or even customers will face similar challenges, and partnerships could be a way to overcome financial barriers, as well as sharing risk taking and sourcing external finance.

Note here that financial institutions are also developing innovative new transition finance products and their own transition plans. They might have their own incentives to reduce their risks, as well as some transition finance objectives to realise their opportunities.

The Business-as-usual counterfactual trap

When making an investment decision, it is common to compare it to the counterfactual of doing nothing. This is to answer the question 'Would this project put the business in a better situation than not doing it?'.

However, when discussing the financial implications of a transition plan, some important distinctions should be kept in mind:

- **The counterfactual cannot be an absence of action**: Indeed, the transition plan is about the long-term survival of the business. Assuming that no capital deployment decisions will be made while the operating environment is changing is unrealistic. Comparing different pathways is more useful. This could include a counterfactual pathway (e.g. one that assumes a continuation of the current investment plan or strategy, or one that replicates past decisions), but it would need to be tested through the different climate scenarios the business developed to account for risks such as stranded assets.
- **The hidden cost of risks**: Over a long period of time, some risks will eventually become reality. The resulting impacts will vary depending on the risk management and adaptation measures taken. When considering the financial implications of a transition plan, those impacts should be considered. Additionally, not managing some risks might means accepting a higher weighted average cost of capital (WACC).
- **A transition plan is more than the sum of its components**: Assessing the financial implications of each components of a transition plan present the risk of missing the value of critical enablers without which the outcomes could be widely different. While some degree of division might be needed to manage the complexity of a plan, some aspects need to be assessed as a group, especially when it comes to risk management and adaptation (i.e. a series of measures can be expected to result in a given level of risk, without being able to attribute a level of efficacy to each individual action).
- **The value of flexibility**: Hedging risk and retaining flexibility presents an intrinsic strategic value, even if it appears as a cost with no clear return. For example, expenses on preparatory actions present an immediate cost but are done to lower some risks. Similarly, research and development spending might open new options in the future.

Balancing funding, finance and strategy

As stated, businesses should expect iterations during this step to reach a balance between funding needs, finance constraints and strategic imperatives. Here are some examples to illustrate this point:

- A food manufacturing business identified a market risk for one of its current activities, in some of its scenarios. The plant produces an intermediate for some of its other products, resulting in lower costs and higher margins for these products. Initially, the plan was to wait until 2030 to decide whether to end the activity. However, based on its analysis of the financial implications of its transition plan, the business decided to sell the plant. By doing so, it accepted increased costs by externalising this production, but the lump sum capital inflow from the sale will enable the development of new products without relying on external finance. Additionally, this production was not central to the business's core strategy.
- Facing a potential insurance retreat or insolvency, a business can decide to move early toward self-insurance and invest the saved operating costs into its risk mitigation programme. However, this has implications for the financial profile of the company.

Execution: Implement, monitor and adjust course

Staff members' objectives

Now that a transition plan exists, the implementation, monitoring and iteration cycle can start.

The overall objective is to avoid the main risk of plans: not translating into action and meaningful changes.

This will involve:

- progressively expanding the scope of the plan, applying the learnings and building on early successes
- building the required capability
- continuously refining the understanding of how climate change could influence your operating environment, and the available options to best position the business
- embedding the transition into internal processes
- monitoring progress and ensuring proper accountability for internal targets.

What should be top of mind

- **This is a marathon not a sprint**: Transition planning is about the long-term, so continuous improvement of the strategy and practices is more important to improve a business's prospects than chasing the latest reporting framework.
- **The enduring relevance and effectiveness of a transition plan relies on embedding it into internal processes**: The big picture strategy needs to translate into practical day-to-day operations to endure and deliver. This includes ensuring visibility at Board level on a regular basis.
- **Scoring is as important as playing the long game**: Starting with the easy wins is key to getting traction, while progressing on deeper changes is needed for meaningful and durable impacts. It is important to work with the executive(s) to agree on the high priority, high impact actions and ensure they have resources allocated to them. Having a combination of quick wins and major shifts in progress helps maintain the momentum as headwinds will inevitably appear at some point.

Practical guidance

Multi-year planning

As the old saying goes, "Rome was not built in a day". The same goes for your business, and the processes and capabilities built over the years won't be transformed to include climate in a single year.

While building the case for change (**step 1**), the current situation was mapped. Steps 2 and 3 generated a better view of the direction, including actions the business will take. To enable implementation, a more granular transformation plan might be useful to map how each team, function, internal process or product can be reasonably expected to progress over the next few years. Many templates of **transformation maps** are available online. The **maturity scale in the guidance for directors** could be helpful too.

Practising foresight

While planning is needed, businesses should not overly rely on it. They should ensure they practise foresight as a habit to keep up with the rate of changes.

For companies, the use of **corporate foresight** is justified by:

- the high mortality of companies that are faced by external change[3]
- the need to explore and develop new business fields when the current business field(s) become(s) unprofitable
- the difficulty of (leading to the lack of) making decisions under uncertainty.

Quick wins

In practice, that might mean focusing on targeted improvements rather than iterating the whole exercise every year for the sake of reporting.

For example:

- Improving the business's understanding of climate-related risks is identified as the most important ahead of a strategy renewal.
- Starting with improvements in a specific business function (e.g. risks, finance, strategy, operations).
- Focusing on implementing changes across functions but for a subset of the business (e.g. a business unit, or operations in a specific area).

These choices will best be informed by a combination of these criteria:

a) **Value added for the business**: Where can this work deliver the most value? To ensure the business keeps dedicating the appropriate resources to this work, it needs to continuously demonstrate its value.

b) **Ease of change**: Where can we deliver visible change the fastest? To maintain momentum and create a positive association in people's minds about change, concrete positive results must be delivered.

c) **Meaningfulness**: What will achieve the greater impact? To maintain engagement and motivation (including your own!) it is important the efforts involved are associated with a meaningful purpose.

Major shifts

More fundamental changes take more time to implement, and there will be a longer lead time before they deliver their full impact. However, longer-term efforts make the difference in a business's survival and future prospects.

This time dimension should be very carefully considered though, as the pace of change in the business's operating environment is increasing, along with the associated disruptions.

These major shifts should not be aspirational work that is kicked down the road. A continuous focus on how to shorten the timeframe to implement these changes is required. The longer it takes for internal change to unfold, the greater the gap will become with the operating environment.

Iterating

Iteration should be embedded as a normal part of the internal processes feeding a living transition plan. Annual reviews of the transition plan are unlikely to be an efficient and sustainable approach in the long run. More regular check-ins will be needed as part of embedding the transition into the core business, as well as some focused deep dives to progress on certain aspects.

When iterating transition planning, significant changes should be considered a sign of a good process addressing uncertainties and adapting assumptions to the reality. Conversely, little changes might be a sign that not enough is happening, as no one can accurately predict how the future unfolds.

[3] For example, a **study** showed that the life expectancy of a Fortune 500 company is below 50 years, because most companies are unable to adapt their organisation to changes in their environment. Climate change is expected to reduce this corporate 'life expectancy'.

Appendices

Appendix A: Transition planning illustrations

Appendix B: Fictional example

Appendix C: Frequently asked questions

Appendix A: Transition planning illustrations

The following pages provide examples of how organisations might think about climate transition planning. These examples are high level only, aimed at illustrating how the planning elements come together and what the outputs could look like.

Example A – Mapping asset management, risks, opportunities, options, signals and decisions points

In this example, the business has defined emission reduction targets for 2030 and 2040. A major energy asset is coming up for replacement in 2026, then a major long-term energy contract is coming up for renewal in 2031.

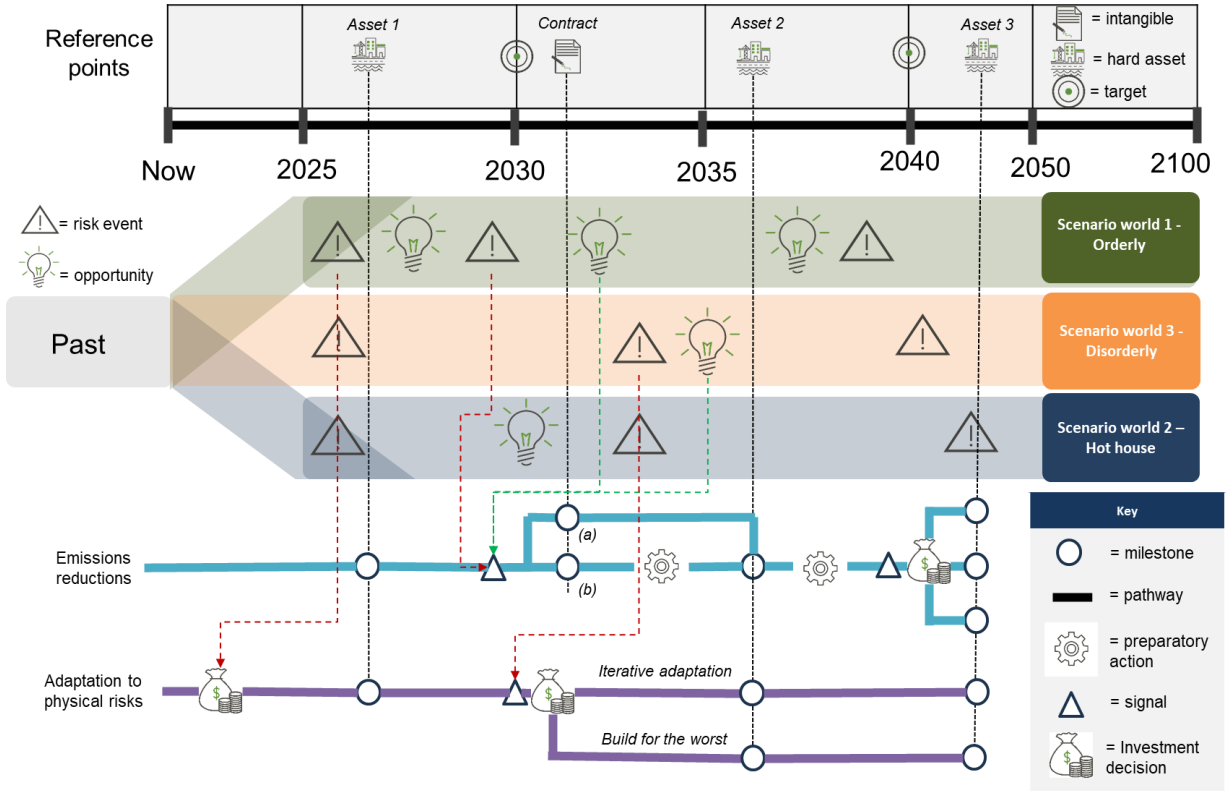
Starting with the emissions reductions planning (turquoise line), the only way to achieve the 2030 target is to replace asset 1 with a non-fossil fuel alternative at the replacement milestone in 2026.

Then, the business will monitor energy market trends to decide between the two potential options considered viable for its energy contract (2031). Pathway (a) represents a mixed gas and electricity Power Purchase Agreement, externalising the management of infrastructure changes needed for a progressive shift to electricity. Pathway (b) represents a renewal of the existing gas supply contract, which will require the entity to conduct the preparatory steps (i.e. permitting and investments in grid infrastructure) to enable the electrification of asset 2.

Note that the leading signal (triangle) is linked to a market opportunity (lightbulb) expected to materialise around 2032 in the business's orderly transition scenario (in green), but also in its disorderly scenario (in orange), although later in 2035. It is also linked to a risk specific to the orderly transition scenario (e.g. regulation).

Then, by 2045, the business would need to switch its final asset to renewable energy sources. They have identified three potential options but can't pick one at this point. Due to lead times, the latest an investment decision needs to be made is 2040. This decision is expected to be informed by a combination of leading signals and preparatory work (technological trials and market research) that can be expected to start as early as 2038.

Figure 13: An example of transition planning representation



Monitoring for signals allows the business to be responsive if the R&Os materialise earlier or later than anticipated. By building in lead time for preparatory actions before the investment is required, the business can respond at pace, reducing risks and responding to opportunities.

The business represented its plan to adapt to climate-related physical risks distinctly (purple line on figure 13). Some level of adaptation is required in every scenario, which drives the first investment decision represented. Some risks are expected to crystallise between 2030 and 2035 in both the disorderly and Hot House scenario. The business identified a set of leading signals to determine if the world's emissions are on track to avoid this category of risks or not. If indicators show the world is heading toward an orderly transition, the business will continue to adapt but at a small, iterative scale. Otherwise, it will assume that climate-related physical risks will become significant, which leads to a much more stringent adaptation pathway.

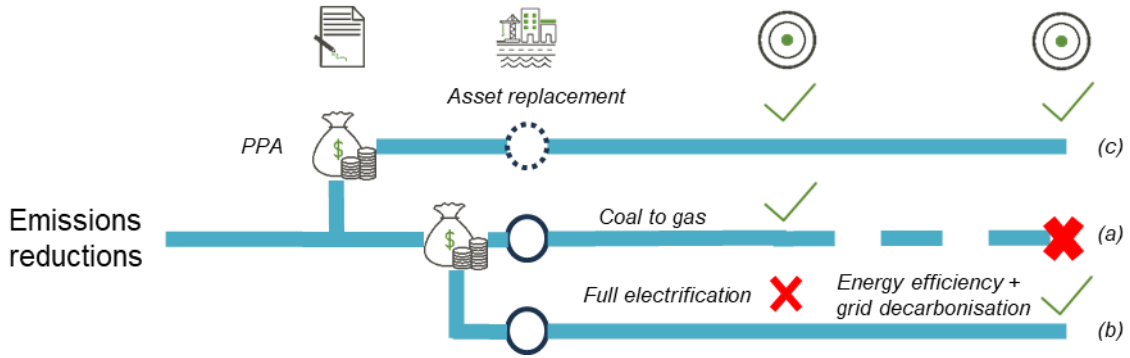
Note that the assets replacement milestones are represented on the adaptation line because these assets will need to be built differently depending on the level of physical risks (e.g. indoor vs outdoor industrial boiler).

Similarly, some risks and opportunities might be relevant only for some aspects of a transition plan.

Note that the split mitigation/adaptation is just an example and won't always be the most relevant. For example, an airline could map its plan using domestic and long-haul aviation markets to help develop a clear plan for when it will/won't keep pursuing various emerging technologies for both markets across battery electric, hydrogen and sustainable aviation (bio)fuel.

Example B – Looking far enough in the future to avoid carbon lock-in and identify a new opportunity

Figure 14: Illustration of the value of looking long-term to avoid lock-in and assess pathways



In this example, during the planning step, the team identified that option (a) would allow the business to meet its intermediate emissions reduction target ahead of time (e.g. switching from coal to gas), but would create a carbon lock-in and the business won't be able to achieve its long-term target. Plus, regulatory risk could crystallise too early in the asset life in two scenarios, making it a stranded asset. Therefore, the option was considered not viable despite being the most economically attractive in the short term.

They also identified that the full electrification option (b) would require more initial investment (CAPEX) and cost more in the short term (OPEX), but would put the entity on a path to achieve its long-term target more cost-effectively in the long run. However, that would mean having to reassess its medium-term emissions target.

The contract renewal for the energy supply creates an opportunity to consider a third pathway by externalising its energy supply through a Power Purchase Agreement. This would require investing two years earlier and would be more expensive in the long run, but would allow the entity to achieve both medium- and long-term targets while externalising some of the risks.

Example C – A general insurer overexposed to the personal motor vehicles insurance

In another example, during scenario analysis the team identified that its key current market that makes up most of its revenues, personal motor vehicle insurance, is challenged in all three scenarios explored. The team is therefore planning how to pivot into other markets. Parametric insurance is a potential new market to replace some revenue. This insurer expects it to perform well in at least two scenarios, and better than motor vehicle insurance in all three scenarios.

It decides to start investing now in developing the processes and capability for parametric insurance, as well as testing this market by approaching specific clients, and starting pilots. It then plotted major contract renewals, reinsurance commitment milestones, and associated regulatory approvals still awaiting decisions.

Major uncertainties remain, making it very difficult to predict how fast the motor vehicle insurance market is going to wind down. However, this insurer's modelling indicates that, once it starts, it could unfold very quickly, with rising physical impacts cascading into increased premiums and reduced purchasing power (through inflationary pressure, new necessary spending for customers, etc), ultimately driving major changes in car ownership and travel habits.

Monitoring early signals is therefore key to a successful transition, and this insurer decides to invest in greater capability to better understand and anticipate trends.

It also decides to provision capital to invest in commercial development to diversify into other mature insurance markets. A specific effort is put on expanding into other countries to improve resilience to major weather events impacting on many assets in the same location.

Example D – A MIS manager exploring how climate change could fundamentally change the need for products and services

A manager of managed investment schemes acts as an intermediary for retail clients to hold diversified investment portfolios. The current approach is to follow a passive investment strategy to cut the costs of deciding which securities to invest in. It takes the form of index investing (i.e. seeking to replicate and hold a broad market index or indices).

Using the 'problem to solve' framework, the MIS manager considers the underlying customer needs are currently fulfilled by index investing. They identify the primary needs as investing with relatively low risk (currently achieved through diversification), providing a decent return (i.e. not trying to beat the market but not wanting to fall behind). Their intent is to hold for a long period of time as this investment is to cover their long-term needs (e.g. pensions). Index investing is currently a good fit for these needs, but this could change relatively quickly with the multiplication of systemic threats, such as climate change. The attractiveness of low fees (enabled by passive investing) reflects the customers' desire to not erode their capital, meaning that higher fees could be acceptable if it is associated with lowering the risks.

Diversified investment funds have dynamic holdings, and the real-world assets that sit under their portfolios (i.e. the facilities, infrastructure, etc, connected to the investees) are geographically dispersed, and the universe of events affecting them is extremely broad.

Therefore, trying to assess a portfolio's climate-related risks by analysing the specific risks of every single security appears too onerous to this MIS manager. As data improves and more investees provide climate-related information, it might become an option to consider, but the decision was made to start with a higher-level, more cost-effective approach.

Considering that climate change poses a systemic threat, the MIS manager took a systems view, starting with specific concentrations in its various portfolios. They questioned how climate change risks could cascade into financial risks in specific jurisdictions like the United States (representing a significant portion of

the securities in many of its portfolios), or for specific securities, like the big technology companies, which represent most of the growth in many of its portfolios.

The MIS manager is aware these risks are largely outside of their control. Plus, passive funds are limited to a specific index or predetermined set of investments, so few, if any, changes are allowed. Thus, investors are locked into those holdings, no matter what happens in the market.

For the MIS manager, the value in understanding the climate-related risks and opportunities of the products and services is to inform their internal processes, what their primary users should know about climate-related risks, and anticipate future demand shifts from their customer segment.

One of the MIS manager's take aways is that focusing on the emissions intensity of the portfolio is far from sufficient, and knowing that some investments have a positive climate impact is not providing insights on their resilience to many climate systemic risks. They are increasingly concerned by cascading impacts in terms of social stability and customers' purchasing powers, which could result in massive shifts in markets behaviour.

In practice, the immediate decisions taken are to a) commission a collective work within the sector to better inform customers about climate-related risks related to passive investment for the main indexes, and b) explore further what future investment products could fit with the value-proposition of long-term investments resilient to climate change trends.

Example E – A bank not moving away from exposed sectors, focusing instead on better managing climate risks

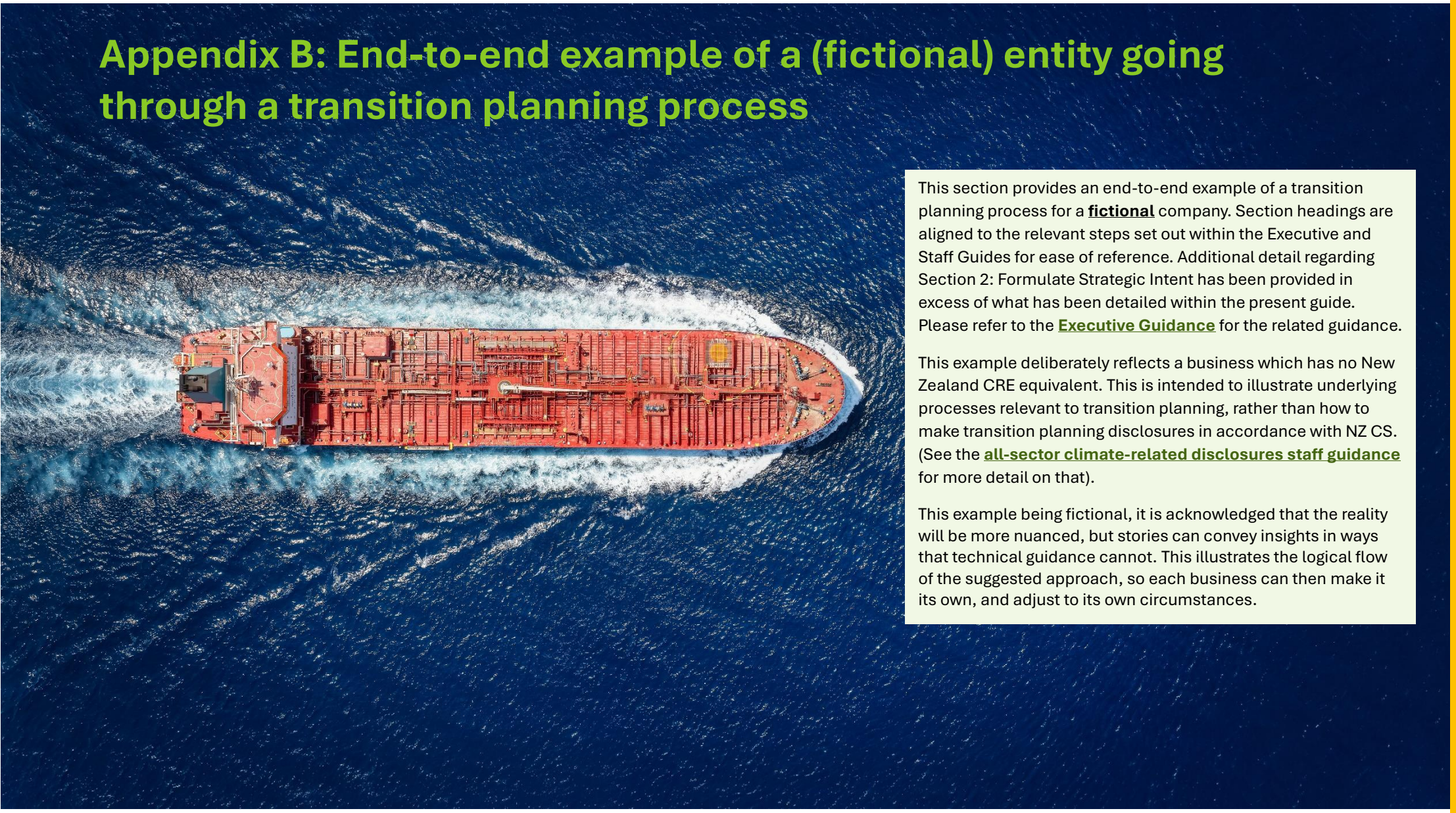
In another example, during scenario analysis the team identified that the two key current markets that make up most of its revenues – residential and agricultural mortgage loans – are challenged in all three scenarios explored. It is therefore planning how to pivot into other markets. It considers that vertical integration into insurance is a potential new market that could shore up revenue losses it would otherwise expect – a shift that performs well in at least two scenarios. This is part of a longer-term plan to support its customers to manage their risk by enabling them to invest in electrified and resilient homes (i.e. replacing fossil-fuelled appliances and heating sources with low-emission electric alternatives, and investing in rainwater tanks and backup batteries for emergencies). This also involves incentivising electrification and resilience through loan product innovation and credit risk criteria. The bank plans to pilot a range of low interest finance products to help people switch out petrol cars/gas stoves/etc, and make resilience upgrades, including through innovative revenue-sharing models with insurers, reinsurers, local government, and local iwi.

The bank's team has already completed prior analysis to inform properties to which they consider they will no longer provide loans, because they are expected to be part of a managed community retreat. They have begun planning how to support the individuals who will need to relocate, in conversation with Government.

The team is also beginning to look at potential business model changes and is monitoring signals around different capital requirements and new liquidity challenges. If these materialise, they will accelerate further work on business model innovation, and potentially either move more heavily into, or away from, its investment arm. The bank has also stopped lending to a range of other more marginal markets as it considers them to present too much transition risk given the return. Moving away also helps the bank remain focused on the residential and agricultural mortgage markets to manage associated risks more closely.

The bank plots these various actions, risks, opportunities and key milestones on a timeline that includes a series of targeted general insurance acquisitions, the development of new climate risk and data-sharing capabilities, and new financial product development and trialling. The timeline also includes where the bank needs its emissions to be by 2030 given existing emissions reduction targets covering financed emissions, and key dates for expected risks to underlying mortgaged properties that are most vulnerable.

Appendix B: End-to-end example of a (fictional) entity going through a transition planning process



This section provides an end-to-end example of a transition planning process for a **fictional** company. Section headings are aligned to the relevant steps set out within the Executive and Staff Guides for ease of reference. Additional detail regarding Section 2: Formulate Strategic Intent has been provided in excess of what has been detailed within the present guide. Please refer to the **Executive Guidance** for the related guidance.

This example deliberately reflects a business which has no New Zealand CRE equivalent. This is intended to illustrate underlying processes relevant to transition planning, rather than how to make transition planning disclosures in accordance with NZ CS. (See the **all-sector climate-related disclosures staff guidance** for more detail on that).

This example being fictional, it is acknowledged that the reality will be more nuanced, but stories can convey insights in ways that technical guidance cannot. This illustrates the logical flow of the suggested approach, so each business can then make it its own, and adjust to its own circumstances.

Introduction to UNS Inc

UNS Incorporated is a New Zealand logistics company specialising in long-haul international sea shipping.

Its key assets include container ships and bulk carriers, as well as access agreements and some land assets relating to transhipment hub terminals across the globe.

It employs more than 1,000 people from 30 nationalities, with a ground presence in 10 countries (including New Zealand, Australia, China, and in the USA, EU and Asia).

In addition to the diversified clients for its **container** ships, it has large customers in the mining, energy, dairy and forestry sector for its **bulk** fleet.

UNS's historic business is in the bulk transport of raw resources, starting with one ship carrying coal from the South Island to the North Island in the 1920s. It expanded during World War II, carrying coal and ore from New Zealand and Australia to California. After the war it expanded further as a pioneer in exporting timber logs to Japan for reconstruction. From the 1970s it diversified and heavily invested in several container carriers while the global trade of goods was booming with globalisation.

This family business, although an NZX-listed company now, has maintained a culture of innovation and risk-taking throughout its life. This has allowed it to survive and thrive, despite its modest size, in a highly competitive sector where economies of scale are paramount. Being first, and taking calculated risks to cater for nascent markets' needs, is in its DNA.

Ship and port infrastructures are not built quickly and are long-life assets, so every investment must consider a balance between current and future demand.

UNS's current business model and strategy

UNS's current strategy is to connect its customers to the global shipping network.

UNS can't compete with large players in price and volume on the main sea shipping routes but has a competitive advantage by providing flexibility and tailored shipping solutions for its customers. These customers are either remote from the main shipping routes or have specialty needs that competitors focused on volume and price can't accommodate.

This position led UNS to invest in general-purpose, medium-sized vessels that can be modified, instead of large, specialised ships. It also secured key land assets in 10 key hubs of the global shipping network so it can manage special handling, loading, and unloading operations, and reconfigure ships' capabilities accordingly.

Risk management culture

UNS considers itself more advanced than most companies in risk management culture, as it deals with regional geopolitical crises regularly, plans for maritime piracy on some routes, and severe weather events are a core part of the business.

It has recently experienced climate impacts in the form of rising insurances costs and the flow-on effects of disruptions to global sea trade. It knows these trends are not linear and that some tipping points could completely disrupt its business model. In particular, it is concerned that if it cannot maintain insurance over its vessels and/or if its clients cannot maintain shipping insurance over their cargo, long-haul shipping may become uneconomic. Moreover, it could quickly reshape customers' needs and expectations.

The strategy and risk management teams have flagged that the existing tools and processes do not factor in climate-change related risks well, and will need to be adapted.

Governance and leadership

Bob is the CEO of UNS. He is climate aware, but top of mind for him is his legacy as he sees how fast the world is changing around him. He doesn't want to be the leader who failed to prepare this century-old company to navigate the storms accumulating on the horizon.

He is supported by a Board willing to focus on the long-term success of the company, and by a team of executives who understand that success in shipping is about the long game.

Capital providers and shareholders

UNS works with global capital providers specialised in the marine sector. It will have to bring them along, as well as its shareholders, to maintain their support as it transitions the business.

Step 1.1 Enlisting key business functions

Enlisting key business functions within UNS was not difficult due to sufficient maturity within the organisation. However, the full extent of transition planning was not completely understood. A number of drivers caused Bob and his team to get underway with the task at hand.

- When his sustainability officer came to explain what the requirements were for climate-disclosures, he saw them as an opportunity to finally take the time to think about long-term strategy as he finds himself having to react to external events far more often than he used to. He decided to champion the work and got approval from his Board before he asked his senior leadership team to get onboard.
- He talked to them individually to make his expectations clear, and to highlight the work's importance for him, the Board, and the long-term prospects of UNS. This included his chiefs of finance, operations, risks, and strategy officers.
- In the background, UNS's sustainability officer had been developing content to help Bob in his communications, and to help other key team members understand transition planning and what would be required of them.

Step 1.2 Testing transition planning inputs

Scenario analysis – A leadership woken up by Climate Change scenarios

Bob is used to navigating the uncertainties of a fast-changing world and manages to stay one step ahead of the major competition. However, climate change is something he doesn't know how to approach. He knows it's different to anything he has experienced so far, and that's one of the things that keeps him up at night.

He took a personal interest in the climate scenario analysis process that was conducted last year within his organisation. He challenged his teams to think outside of the box and come up with challenging scenarios.

They landed on four scenarios revolving around the critical uncertainties of a globalised vs a fragmented world, and the temperature outcomes from global warming.

They also identified drivers of change that they want to account for in all scenarios: The rise of artificial intelligence and automation, the end of the low-interest rate era, and global remilitarisation.

Note: These are not the full scenarios developed by UNS. The full scenarios are narratives with several time horizons, logical causality links and includes how other players are expected to react to change. This is simply an overview for reference to put in context UNS's decisions during the transition planning process.

Scenario 1 – Sea shipping ushers the global transition: A globalised world maintained below +1.5°C.

- **Geopolitics**: US and China avoid the Thucydides Trap and manage to collaborate on global problems. New Zealand remains well connected globally and a number of tensions play out around key minerals relevant to the energy transition, particularly given Australia's strong turn towards a renewable energy powerhouse and its ramp up in mining, solar and EV manufacturing.
- **Global trade** is maintained and sea shipping is the backbone of the international transition, particularly as long-haul aviation is restricted and there is a need to transport more material than ever to supply the global economy transformation at pace.
- **Physical impacts**: Moderate sea-level rise impacts a third of UNS's terrestrial assets in the long run. Insurance costs and damages from extreme weather increase, while increased disruptions to trade reduce overall shipping efficiency.
- **Transition impacts**: Consumption of goods decreases significantly as people move towards more durable purchases and face high inflation while the economy is investing heavily in transformation, and carbon border taxes result in countries refocusing inwards on domestic production. This all results in a significant reduction of trade volume.

At the same time there is an increased stream of high-value specialised items such as solar panels, EVs, e-bikes, electric buses and other electric and low-emissions appliances.

Economies of scale being key for low-emissions fuels to be economic, the volume of shipped ammonia increases rapidly. As a third of the world's shipping fleet is dedicated to the transportation of oil, the transition results in a major shift for the industry.

Strict regulations, carbon taxes and customers' expectations result in the need to revamp ships to use low-emissions fuels. Long-haul shipping sees a short-term ramp up in green ammonia (produced with green hydrogen) as governments globally support pilots, green shipping corridors and fuel production efforts. This leads to the mass adoption of green ammonia in the short and medium term as a key fuel and engine type, with many ships retrofitted. In the medium to long term, solutions are found for long-haul electric battery shipping, ultimately becoming the technology of the future across residential and a range of other sectors. Hydrogen technologies ultimately serve a small number of commercial niches, with retrofitted ships ultimately replaced with battery power. The transport of material, while booming, is subject to significant disruption with many overseas markets shifting preferences away from animal agriculture-derived dairy towards lower cost, lab-grown alternatives, logs staying in NZ, and coal trade being banned.

- **Automation**: AI's continued developments compensate for the productivity losses of the global trade architecture. Ships require smaller crews and are more efficient. Traceability of products allows high confidence in sustainability credentials. Automation is critical to stay competitive in every sector.

Scenario 2 – Two blocks competing in the transition race: A polarised world limiting global warming at +2.5°C.

- **Geopolitics**: The world is polarised between a western block and a China-led block. The Asia-Pacific region is the main area where this conflict is expressed, with several Asian countries not aligned with China. This hinders cooperation on global issues like climate change, and security issues are taking priority. But it also results in increased competition around key technologies, accelerating transition progress in some areas. Conflicts for resources are present, but are reined in within the respective blocks and through maintained global trade.
- **Global trade** is still possible but subject to significant disruptions in the Asia-Pacific and Middle East regions. At times when tensions rise, disruptions escalate to the point of naval blockades and country-supported piracy, leading to unprecedented delays. Climate change's physical impacts are also a major source of disruptions. The Strait of Hormuz and the Red Sea becomes too dangerous to navigate, and commercial shipping retreats significantly due to a lack of economic insurance availability. In the medium term there is a drop off in EV exports out of China.
- **Physical impacts**: Extreme weather events are less predictable, more frequent and more intense. This has direct impacts on shipping assets but also indirect impacts, such as sudden fluctuations in the demand for

shipping services when entire regions are cut off for several weeks. Food insecurity is high. The capacity of navigation choke points, such as the Panama Canal, is reduced. More frequent fires in New Zealand lead to periods of decreased forest product supply, flood damage to port infrastructure is more common, and journey times are slowed due to more regular periods of heavy rain, large swells and poor sea conditions.

- **Transition impacts**: The polarisation has knock-on effects on mass consumption similar to a +1.5°C scenario as the two blocks' economies grow apart, albeit this happens more progressively and later, resulting in the higher +2.5°C temperature outcome.
- **Automation**: In this scenario, AI developments are even faster than with global cooperation, and are also a greater source of risk as AI remains unregulated, and each side engages in proxy cyber wars to test each other's capabilities and challenge the status quo. This makes AI a powerful but risky tool for businesses.

Scenario 3 – A poorer and fragmented world: A regionalised world where global warming is limited to +2.5°C.

- **Geopolitics**: US and China fall into the Thucydides Trap, resulting in a global conflict marking the end of a rules-based global order. Beyond the initial confrontation, both the US and China recentre on themselves. Regional conflicts break loose without the balance of global diplomacy, usually over resources such as water access or fishing rights.
- **Global trade:** The world is fragmented into multiple regional trade areas as conflicts make long-distance trade too risky and uncertain. Each region is facing local issues and heightened physical impacts, resulting in trade disruptions. Supply chains are shorter and simpler. Reactivity and adaptability are key as demand and navigation routes fluctuate and shift unpredictably.
- **Transition impacts**: Emissions continue relatively unabated throughout the short term, before a sudden change in the global political landscape comes as traditional political parties are marginalised due to social unrest stemming from strong inflationary pressure, and as the physical impacts of climate change grow increasingly apparent. This ushers in a harsh and disruptive transition in the 2030s. A strong but ultimately uncoordinated policy programme of regulations, market instruments, bans and incentives creates disruption to all industries in all major trading locations and New Zealand. The period from 2030 to 2040 is particularly difficult, leading to broader economic difficulty and a global downturn. Fossil-fuelled shipping remains in place until the 2030s, when an attempt to ramp up green ammonia and electric battery-powered shipping is ultimately fruitless and global shipping demand falls away.
- **Physical impacts**: Extreme weather events are less predictable, more frequent and more intense. This has direct impacts on shipping assets but also indirect impacts, such as sudden fluctuations of the demand for shipping services when entire regions are cut off for several weeks. Food insecurity is very high as entire regions suffer simultaneous extreme weather events without being able to rely on food excess from other regions.
- **Automation**: Progress of AI, while it explodes in the short term, slows significantly after that due to the collapse of international collaboration.

Scenario 4 – Out of control: A segregated and conflicted world at more than >+3°C

UNS's own exploration of the physical impacts of such a scenario, and the cascading effects on society through food insecurity, water access, mass migrations and wars, lead to the conclusion that its strategy would be unable to succeed in the realities of such a world.
This scenario is used to inform UNS's risk management processes (to identify site-specific risks and plan for the worst when investing in adaptation measures) but is not a focus of UNS's strategy renewal.
This scenario is also a good reminder to UNS of the importance to do its part in reducing emissions and accelerating the transition. It will be presented to incoming members of the Board and personnel in positions of leadership across UNS to embed climate change in a common culture within the organisation.

GHG emissions inventory

UNS's GHG emissions inventory could use improvement, but the picture it paints is good enough to provide useful insights:

- Most of its scope 1 emissions are from its fleet fuel consumption.
- Scope 2 emissions are small in comparison to scope 1 and 3.
- Scope 3 emissions estimates highlight that most of these are from the (estimated) carbon content of its freight, with two sectors representing the vast majority of these emissions (mining and dairy).

Additional inputs

Relevant work already conducted by UNS

UNS already has several relevant pieces of work:

- An emissions reduction plan that includes an international technological scan tracking the current costs, advantages and challenges of the various decarbonisation technologies for sea freight.
- An adaptation plan mapping the needs of its different assets to be more resilient to the physical risks of climate change.
- An up-to-date representation of its value chain.
- An existing risk register.

Deeper understanding of climate change risks and opportunities

UNS understands that, beyond the physical risks of acute weather events and chronic shifts in weather patterns, significant and potentially sudden changes could be triggered from certain temperature outcome thresholds. In addition, tipping points are possible in society and the economy with very high, sudden impacts for incumbent businesses.

Over the years, Bob has honed his **questioning skills**, asking concise, directed, clear, neutral, open questions. Before starting the strategy renewal process, he arranged a meeting with the individuals who participated in the scenario analysis process, asking:

- "If you were to play devil's advocate, what would you say about this scenario?"
- "If you could start again, which aspect would you explore further?" or "If you had more time, what would you have done differently? What would you have liked to add?"
- "What assumptions are we making in this scenario?"
- "If you were in [supplier, customer, competitor]'s X shoes, what would you say in reading these scenarios?"

Then, through follow-up questions such as "why is that?", "what could we have missed, then?" etc, he identified climate tipping points as a blind spot. He understands that tipping points tend to be absent in commonly used scenario archetypes, however, he wanted to get a grasp on what these tipping points could mean for UNS operations, as they could precipitate change and be particularly relevant for his business.

UNS commissioned research on how each of these tipping points could impact its operations or customers, especially the physical tipping points that could be triggered in its two +2.5°C scenarios, and the socioeconomic tipping points that could be triggered in the +1.5°C scenario. Bob made it clear that he was not interested in any modelling nor overly quantitative work – he was only interested in identifying risks and trends to inform UNS's long-term strategy.

(See **Tipping points in the climate system - Wikipedia**, and **Global Tipping Points |1.7.2 Recommendations (global-tipping-points.org)**

Step 1.3 Testing foundational assumptions

Bob asked the question: "Which assumptions do we take for granted that might no longer be true in a climate changed/transitioning world? What does UNS need to operate, generate sustainable revenue, protect its assets, and finance itself?"

UNS decided to explore these questions for the whole company, for each profit centre (Asia-Pacific, Atlantic, Middle East) and for each business unit (containers and bulk).

The foundational assumptions underpinning the current business model and strategy for the whole company are:

a) Operations and assets:
- There is a global supply chain to connect UNS Inc's clients to.
- UNS Inc can purchase ships and associated technologies produced abroad, subject to potential delays in getting them.
- Sea shipping lanes are safe enough.
- Weather events are predictable enough to keep vessels safe.
- Business interests are protected by the rule of law.
- There are enough safe harbours along the way for vessels to get the assistance and supply they need.
- Fossil fuel to operate ships is reliably available around the world around the current price.

a) Revenues:
- UNS customers continue to receive international demand for their products.
- New Zealand and Australia export significant volumes of resources all over the world.
- The container shipping market continues to grow and be UNS most profitable segment and the main source of revenues.

a) Costs/finance
- UNS can raise capital from international markets, at a low interest rate.
- Cargo can be insured at a reasonable cost.
- Transfer operations are cheap and reliable.
- Fuel cost variations can be managed.

More detailed lists have been developed by the profit centre and business units (e.g. 'Taiwan remains accessible'), but these are the common foundations on which UNS relies today.

The main challenge is that UNS's current business model is not end-to-end, creating a strong dependency on others' decisions in the value chain. The significant market share for the Australia-New Zealand area also creates a dependency on how these economies fare and interact with the rest of the world. As ships are capital-intensive assets, they require specific financing solutions and specialised capabilities to be built.

UNS's main markets involve three or four major competitors, and no new major entrants are expected. It is anticipating further consolidation in the industry as the larger players continue to buy up some of the more innovative entrants into niche markets.

Step 1.4 Building the case for change

Identification of strengths, weaknesses, opportunities, and threats

UNS started this exercise by looking inward

In light of the scenario analysis exercise and learnings from reviewing its inputs and foundational assumptions, UNS tested its current position and strategy in each of the scenarios. They decided to start with a **SWOT analysis** as it is a familiar tool across the organisation.

To inform this SWOT analysis, each director was asked to write a **pre-mortem** explaining why UNS would go out of business by 2030 in each of the three scenarios retained, and compile the possibilities.

Executives' involvement in the SWOT analysis ensured that the rationale for change was coming from the higher levels of the organisation, and helped challenge executives' mental models by envisioning the failure of the current strategy.

These are the **weaknesses** identified:

- Dependency on the rest of the supply chain to complete customers' goods shipping journey.
- Dependency of the bulk carriers business unit on some sectors, such as dairy and forestry exports from NZ, and mining in Australia.
- Dependency of the container carriers business unit on maintained high demand for customers' goods.
- Dependency of the container carriers business unit on Asia-Pacific trade.
- Half the fleet is less than 15 years old (out of a 35-year lifespan), all with fossil fuel propulsion.
- High exposure of terrestrial assets to sea level rise and increasing extreme weather events.

But not all is bleak as UNS could leverage some **strengths**:

- UNS is already in the business of specialty shipping services, providing flexibility and adaptability to its customers.
- Ships are assets that can be redeployed, bringing some flexibility and resilience.
- UNS has a diversified fleet which can adapt to market needs.
- UNS has a culture of innovation and continuous improvement.
- Experience in self-insurance for some ships and cargo.
- Strong and long-term relationships with major customers that are also trying to manage their climate-related risks.
- Existing experience with NZ and Australian companies to revamp and modify existing ships for special needs.

The main **external threats** identified are:

- rising interest rates
- rising damages and insurances costs
- rising frequency, scale and duration of supply-chain disruptions
- rising security incidents
- regulations on GHG emissions in some key exclusive economic zones (i.e. territorial waters)
- a race to have a renewable propulsion fleet, which UNS would lose due to its small size and location far from the global shipyards
- unprecedented shifts in shipping demand (type, volume, locations).

However, the threats of change can be turned into **opportunities**:

- Reduced demand for consumers goods would stop the race for economies of scale in the sector, safeguarding UNS's competitiveness.
- A more uncertain world will value service flexibility and reliability.
- A rapidly changing world also means high-growth opportunities and a reshaping of the current status quo, which a medium-sized adaptable company like UNS will be well equipped to seize.

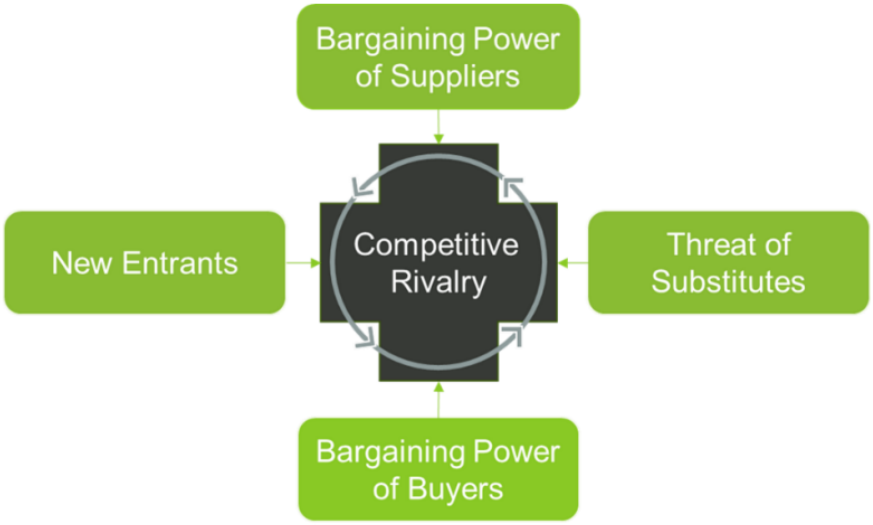
Environmental scan

Next, UNS took an outward look with an environmental scan. UNS knows it is not the only fish in the sea and wants to anticipate actions from competitors, customers, suppliers and other stakeholders.

Because of UNS's current strong dependency on other actors in the value chain, assessing how these players will react and adapt to the various scenarios is key to UNS's strategic positioning.

UNS is familiar with using Porter's **five forces framework** to analyse its sector (and its key clients' sectors), although usually in a backward-looking way. Aware that looking in the rear-view mirror won't be useful here, Bob directs staff to apply the tool in a forward-looking manner for each of the climate scenarios. The resulting view, while speculative, is used as a foundation to prevent an 'all-else equal' fixed mindset: Other actors will adapt too.

Figure 2: Porter's five forces framework



Among the many elements surfaced by this environmental scan, key insights identified were related to the following topics:

Competition and value-chain ecosystem

- **Propulsion technologies**: Uncertainty regarding the adoption of new technologies across electric, green ammonia, methanol and hybrids, and wind-assisted technology. A fragmented approach across competitors could slow investment and the decarbonisation progress. UNS will need to partner at a global scale, maybe outside its sector, to stay on course.
- **Value-chain vertical integration**: Large players are expected to expand their vertical integration further to cover the value-chain end-to-end. Smaller services providers will be less resilient to climate-related risks (e.g. weather events, insurance costs, regulation) and might be pushed out of the market or absorbed by large players. For UNS, this would mean losing (or paying more for) access to some parts of the supply chain. UNS's own vertical integration appears a necessity long term. This is also another good reason for UNS to focus on bulk, rather than the more complex container supply chain.

Market opportunities:

- **At-sea infrastructure**: Construction of offshore windfarms, decommissioning of oil and gas offshore assets, creation of logistic infrastructures in neutral international waters to allow trade in a divided world, giant floating algae farms, sea mining, etc. Many potential future needs would require some of UNS's skillsets and experience in commissioning, owning, and operating at sea infrastructures.
- **Emergency services**: Retrofitting ships to include on-board water desalinisation plants, energy production capacity, or even mobile factories to produce critical goods in-situ. This allows for quick deployment, anywhere in the world, to provide emergency relief in the wake of acute weather events. This could be either turnkey ships sold to multinational coalitions, or an insurance service provided to countries.
- **Energy and building sectors**: In a transitioning world, or in a world that needs to adapt to new climate conditions, these two giant sectors will be booming and require special shipping needs (oversized and high-value items).

While this outward view produced useful insights for UNS, this work can be supplemented and made more robust by commissioning further research targeted at specific parts of the supply chain or specific customers' sectors.

UNS will also engage directly with key customers and partners to discuss climate-related scenarios and cross-check if they are on the same page – looking for any gaps, what is top of their mind, what would be their expected needs in these potential futures, etc.

The case for change

Together, these insights highlight the need for change to both the strategy and several UNS internal processes.

For example, under the current investment plan, UNS started the engineering work for two new container ships, but in light of the scenario analysis, an immediate consequence is that this will be put on hold.

The current strategy involved making targeted investments in major port developments to ensure a strategic presence where the rest of the industry was developing. However, it relied on UNS being aligned with the rest of the sector development, which might not be true if it moves away from container shipping. UNS' strategy might not be able to rely on the rest of the sector for growth and development.

Another finding is that UNS's current risk assessment processes, especially for long-term decisions, are ill-suited as they have been focusing mainly on future demand projections by the industry, and on geopolitical risks in specific areas. UNS needs to improve its inclusion of climate-related physical risks and their cascading effects on demand and interest rates. It also needs to consider geopolitical risks from a global perspective, instead of solely focusing on choke points such as the Strait of Hormuz.

Note these are just examples of the main takeaways, not the full case for change. Also of note is that it doesn't need to describe what the change will look like at this point of the process. The goal is just to identify where change might be needed and scope the work to define what it should look like.

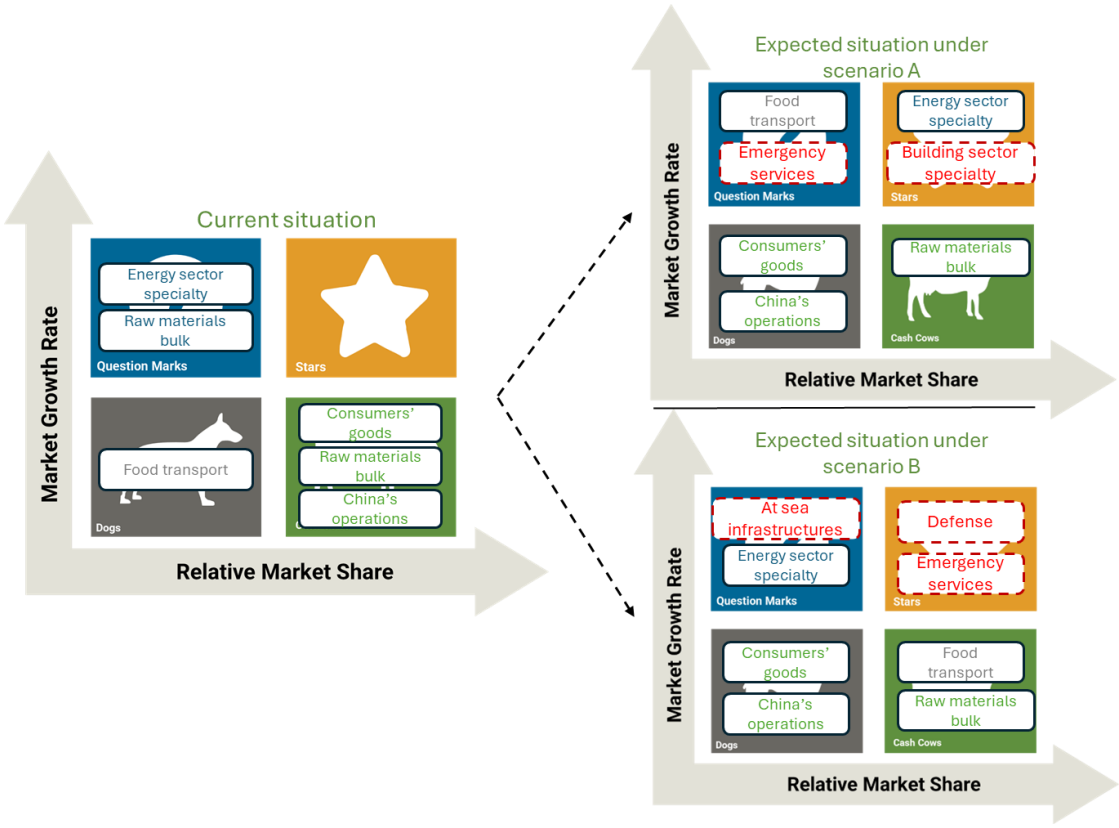
With this case for change, Bob now has all he needs to engage with his Board to discuss UNS's long-term strategy in a world changed by climate (step 2). It will also be an important input when engaging UNS's capital providers and bringing them along.

Step 2.1 Envisioning success in different futures

Bob and the UNS Board ask themselves: "What would the ideal 2050 UNS look like in each of the scenarios?", "What would be our value-proposition in each of these potential worlds?"

Using another familiar tool for UNS management, the **BCG matrix**, UNS took note of how each of its current business activities and markets are expected to evolve depending on the scenario. Some of the specific opportunities previously identified were also overlaid on the matrix to visualise how they would fare in different scenarios.

Figure 16: Illustration of UNS's use of the BCG matrix



Based on this, UNS's strategy leaders were asked to do the opposite of a pre-mortem, by **envisioning what UNS's success story could be in each of the scenarios**.

(The table below is for illustrative purposes only. The important takeaways are the commonalities and differences between these scenarios, summarised after the table.)

What could success mean for UNS in each climate scenario?
Scenario 1 – Sea shipping ushers in the global transition: A globalised world maintained at +1.5C UNS in 2050 has grown exponentially to fulfil the rising demand for sea shipping. Most of the marine shipping sector has done the same, which meant UNS could keep relying on the global supply chain and benefit from its economies of scale. As the volume of consumer goods decreased, UNS entered an extraction strategy for its existing container carrier ships, and then shifted its strategy in this segment towards transporting higher-value products requiring extra care and/or extra security. The main catalysts for growth in this segment have been the energy sector (wind turbines, solar and energy storage components) and the building sector (prefabricated homes produced in mega-factories). Most of the growth of the business happened in the transport of minerals to fuel the global economy's transition, and of food to manage the disruptions from climate change. UNS managed to maintain access to the latest technological innovations for its ships in terms of efficiency, automation and low-emissions propulsion. UNS managed its land assets through a mix of extraction strategy for the ones deemed too exposed to rising sea level, investments in managed retreat for assets in key hubs, and new future-proof investments in the areas with promising future prospects. This means UNS had to make significant investments. This was possible as the finance sector kept operating, and demand for investment opportunities in companies with credible transition plans was high. UNS's increased capabilities in risk management enabled the development of trusted self-insurance to reduce operating costs. UNS had to invest in the latest AI tools and services developed for the marine transport and logistic sector just to stay on par with its competitors.
Scenario 2 – Two blocks competing in the transition race: A polarised world at +2.5C UNS invested early in land infrastructure to be present in western or non-aligned countries with the resources needed by Western Bloc countries to reindustrialise, as trade with China became less reliable and tensions increased. An early signal was Europe's race to ramp up domestic armament production following the war in Ukraine. UNS entered an extraction strategy for its assets and business activities in China. UNS could still rely on a functional, albeit fragmented, supply chain for its operation, allowing it to focus on its core business. UNS's capabilities in ensuring secured transport to specific requirements led it to work closely with the defence industry. This allowed it to benefit from the latest technologies in AI and at-sea security, with significant co-benefits for the rest of its business. Similarly, UNS's focus on food transport, paired with its ability to navigate in high-risk zones, was key to its success as food crises multiplied due to climate change. UNS developed capabilities to respond to the emerging needs born out of the physical impacts of climate change, such as the ability to transport power generation and clean water production infrastructure across the world when climate events hit. They are now an important component of many countries' resilience plans. UNS partnered with companies with offshore infrastructure experience to develop logistic hubs at sea in international waters. While UNS's investments in clean propulsion didn't seem to pay off in the medium term as GHG emissions became a lower priority, they still brought benefits in terms of lower running costs, flexibility, and lower dependence on an increasingly unreliable supply of fossil fuels. With geopolitical tensions high, and each bloc on a Cold War footing, funding was easy to come by as marine transport was so strategically essential.

Scenario 3 – A poorer and fragmented world: A regionalised world at +2.5C
Many of UNS's competitors faced significant cost pressures as the demand for consumer goods plummeted. They found themselves with costly assets too big and maladapted for the demand, without the benefit of economies of scale.
UNS could no longer rely on the global supply chain and had to invest to manage its operations end-to-end.
UNS spread its investments in a range of small but strategically located islands with the intent to develop and use them as logistic hubs for its fleet to operate in various regions in a flexible and integrated way, and to shelter its vessels during acute climate events.
UNS's focus on food transport, paired with its ability to navigate high-risk zones, was key to its success as food crises multiplied due to climate change.
Commissioning new vessels has become more difficult, so UNS invested in revamping capabilities with partners in Australia and NZ, which allowed it to transform the fleet's excess and inadequacy issue into an opportunity.
With interest rates being high and available finance being low, UNS had to rely on local finance centres and self-funding, which limited its ability to grow.

Scenario 4 – Out of control: A segregated and conflictual world at more than +3C
Not considered viable for UNS to operate.

This exercise highlighted key commonalities and differences between the scenarios.

In all scenarios, UNS is looking at:

- an overcapacity of container ships
- heavy investments in land assets
- increasing insurance costs
- a need to procure new vessels, but difficulties in doing so
- increased security needs
- a booming demand for food transport
- a need to stay close to the latest AI developments.

The key differences between the scenarios inform UNS on what it needs to monitor and what preparatory work might be useful.

These few questions summarise the key uncertainties uncovered that UNS needs to monitor:

1. **How much global supply chain disaggregation to expect?**
   This informs how much UNS needs to invest in its independence.
2. **Where should UNS locate its transport hubs in the future?**
   This informs UNS's investments in land assets.
3. **What will drive the need for marine transport in the future?**
   This informs UNS's vessel capabilities requirements.
4. **How much can we rely on global finance?**
   This informs UNS's investment plan.

Some of these questions were already on UNS's radar, but more as part of its regular environment scan than as 'make-or-break' signals that would dramatically change UNS's direction of travel.

The risk management team is charged with identifying indicators to monitor these trends.

2.2 Generating and refining strategic options

Generate a longlist of strategic options and assess them

Considering the challenges presented by such a raft of changes and uncertainties, Bob and the Board wanted a wider range of potential options than what they could come up with themselves.

The goal was not to single out a 'best option' but to **build a portfolio of strategic options** that would be explored further without committing to a specific pathway. This is consistent with an adaptive strategy.

They framed the options generation exercise using the 'problem to solve' approach. (See the executive guide, p. 24.)

UNS's customers are not buying 'sea shipping'. What they are really buying is: "Safely carrying heavy and/or large volumes of goods over long distances, as

cheaply and reliably as possible". While 'sea shipping' is today's answer to this need, it might change in the future. Similarly, 'sea shipping' might become a good answer to new problems.

So, they asked high-level questions to a selection of their most innovative and future-minded staff:

1. Which transborder long-distance problems will our customers need to solve in these three potential futures?
2. How might we solve these potential future problems?
3. How do we continue to survive and thrive while reducing our greenhouse gas emissions and building resilience in the context of systemic change?

They passed on the ideas raised earlier in the process, but they made it clear that they were expecting these to be refined and new ideas added.

They opted to leave out economic considerations at this stage as any estimate about costs or revenues would be too resource intensive and subject to too many uncertainties, and the time horizons were considered are long. All they asked for was an order of magnitude for the required investments.

In parallel, UNS commissioned several pieces of research to get insights it didn't have in-house about some parts of the supply chain. These are the food sector, conflicts likely to be worsened by climate change, and a technology scan on artificial intelligence applications relevant for its operations.

Executive decisions: UNS's executives framed the organisation's strategic options ideation process. In doing so, they signalled which were the main long-term problems UNS would have to solve to become climate resilient. They also provided clear and realistic expectations around economics, and provided the resources for further exploration of areas of long-term interest.

Assessing strategic options:

Then, UNS set some high-level criteria to sort and assess the options:

- Time horizon.
- Value the option may generate or protect for the entity.
- Resilience value (i.e. risks the option helps mitigate).
- Flexibility/commitment (i.e. if we are wrong, how hard is it to pivot?)
- Scale of investment required.
  e.g. more than 100% of UNS current assets base, > 50%, > 10%, < 10%.
- Challenge/complexity/uncertainty (*e.g. 'blue sky' requiring a major external technology breakthrough outside of UNS's reach, 'ambitious' requiring UNS partnering with many others, 'innovative' within UNS's reach with some partnership, or 'in-house').*
- Fit with scenarios (i.e. in which scenario does this option work? Does it fit in a pathway leading UNS to its long-term goal?)
  e.g. small iterative improvement options leading to short-term wins but missing a net zero goal (carbon lock-in) would be filtered out here.

This led to a shortlist of options that the UNS Board was keen to explore further by asking the following questions:

- Which are the most attractive in each scenario?
- Which are most attractive across all scenarios?
- What contingencies could protect attractive options in scenarios in which the option is weak?
- How could options be combined?
- What steps are needed to move to a higher value, more resilient strategy?
- What would our competitors' reactions be?
- How could we defend our intellectual property involved with this option?
- What new or existing collaborations could accelerate the realisation of these options?
- How can we develop our capabilities in a timely manner?
- Which business model would be possible?

UNS doesn't have to pick one solution right now, but just enough direction to start the transition planning process.

Executive decisions: *UNS's executives agreed on the criteria to use when assessing strategic options.*

Step 2.3. Expressing the strategic intent

At this point, Bob and his team have successfully developed vision statements for what UNS might look like in the future, and a shortlist of options to help to achieve this. Now is the time to start transforming all these insights into tangible actions and send the proper signals internally, then externally.

Where risk management and strategy split – at the crossroads

Before doing so, Bob and UNS's Board needed to have a conversation about how they weigh the likelihood of the scenarios' events. Having challenging and diversified scenarios is useful to identify risks and gain insights, but scenarios are not predictions of the future, nor does it mean that UNS defines a strategy for each and just waits to see which scenario eventuates (none of them will).

For example, an honest discussion revealed that most of UNS's leadership believes that a +1.5 scenario is of low likelihood (10% seemed to be the consensus).

This meant they won't hold off investments in physical risks adaptation, and they will make such investment with higher potential temperature outcomes in mind (including some of the tipping points being triggered). This also meant UNS won't bet on a rapid shift in clean propulsion due to the expected continued slow pace of regulation.

Despite this, UNS got valuable insights from its transition scenario because curbing emissions will require drastic changes in any scenario. These changes are just delayed in the warmer scenarios.

For example, they:

- expect some jurisdictions to condition access to their market around increasingly stringent emissions requirements
- identified specific opportunities tied to renewable energy and the shipping of prefabricated housing that UNS could leverage
- are acutely aware of social tipping points and how fast they can shift the operating environment.

Another implication is that options expected to perform well under scenarios 2 and 3 might be considered 'no-regrets', even if they don't perform well in a +1.5C scenario.

Similarly, they decided early in the process that they will use the insights from the 'Hot House' scenario for UNS's physical climate-related risk management decisions, but would disregard it for setting UNS strategy. This is because a risk management approach is about planning for the worst, and the physical climate effects observed have been stronger than scientists expected so far. Conversely, strategy is about making choices and UNS doesn't see a sustainable way forward in a Hot House scenario.

These are strategic calls the UNS leadership is ready to make at this point as a calculated risk.

Executive decisions: UNS's executives' strategic view has been informed by scenarios, but that doesn't mean they have to fit their strategic thinking into these exact scenarios. Here, they collectively decided that UNS's strategy cannot rely on unproven technological breakthroughs leading to breaking economic tipping points and resulting in a rapid diffusion at scale of low-emissions technologies. UNS will position itself to pivot accordingly if that happens, but does not feel comfortable making it the core of its transition plan.

The strategy palette: The right approach to strategy depends on the environment

UNS's operating context since the 1980s was favourable to a classical approach to strategy – steady growth allowed it to use forecasts for investment planning. When a crisis hit, the strategy was mostly to stop investments, cut costs, and wait until 'normality' was restored.

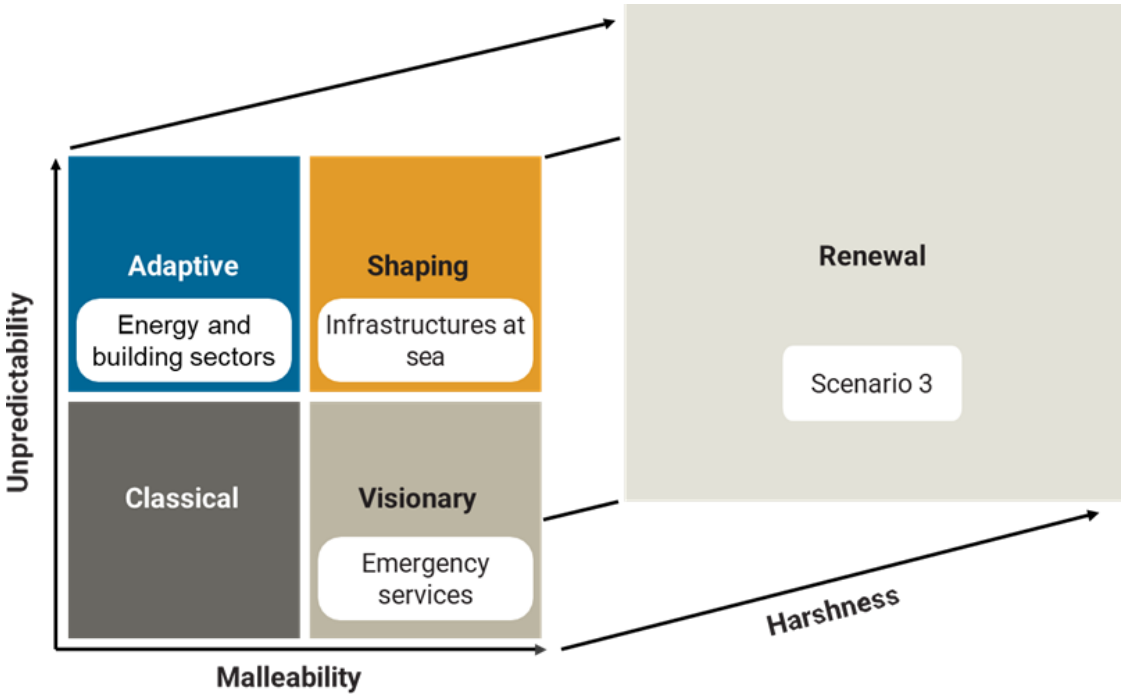
Looking back at UNS's longer history, and further into the history of commercial navigation, it is obvious to Bob that this period of globalisation, even with its rapid changes and periodic downturns, was in fact prosperous enough to allow success with minimal use of strategy and without much emphasis on robust risk management practices. This limited the need to think outside the box and use the whole palette of strategic options.

Bob doesn't think that a transitioning world and/or a changing climate will be as lenient on business leaders.

Looking at the **strategy palette**, Bob sees that UNS will need to apply multiple strategy approaches, either over time or over different parts of the business.

Overall, he expects most of UNS will need to follow an adaptive strategy, with some specific opportunities where bolder shaping (e.g. 'infrastructures at sea') or visionary strategies (e.g. 'emergency services') might be more relevant. The third scenario ('a fragmented world') involving significant conflicts would require a renewal strategy (characterised by two distinct phases – survival and pivot to growth).

Figure 17: Illustration of UNS's use of the strategy palette



Sources: Henderson (1970), Lockridge (1981); Nadler & Tushman (1994, 1995); Abell (1999); Wiltbank et al. (1006); Reeves et al. (2011, 2012, 2015).

No-regrets options

First, some options improve UNS's position in any scenario, and can therefore be planned and implemented regardless of the direction the future takes.

UNS leadership is seeking to avoid two potential pitfalls:

1. **Lock-in:** Some options can appear as 'no brainers' in the short term, but could represent hidden costs in the form of stranded assets or extra costs if the organisation must change direction.
2. **Timeliness and right sizing:** An option that is a good idea in all scenarios doesn't necessarily provide information about the best time to implement it, nor how much of it the organisation should commit to.

In the case of UNS, reducing its commitment to container ships and investing in bulk capacity appears a good option in all three scenarios. However, the marine transport sector is compounded by the '**shipping cycle**' and, due to the capital-intensive nature of ship investments, the wrong timing could prove disastrous for UNS (aka "being right too early is as bad as being wrong").

There is also the fear of future decarbonisation rules. Ordering a ship with propulsion technology that is ultimately not part of a decarbonised future would cause premature obsolescence.

But at least the improved long-term direction clarity can support the organisation by positioning it to be opportunistic, and by avoiding wasting resources on projects that are not aligned with the long-term plan.

UNS's leadership can indicate its appetite to diversify and expand the bulk fleet, so UNS's employees can look for related opportunities (e.g. acquisition of cheap assets) and redirect its business development efforts accordingly.

The detailed list of no-regrets options is used in transition planning, but in terms of the strategic direction for UNS, it can be summarised as follows:

A) Resilience to the physical impacts of climate change and their social and geopolitical cascading effects:
   - future proofing robustness of ships (e.g. hull, early detection of dangerous objects)
   - future proofing of some land assets and value extraction from the ones that can't be adapted
   - ship security improvement
   - freezing investments in China and its sphere of influence
   - development of alternative routes to major choke points
   - reducing dependency on fossil fuels.

B) Risk management of transition impacts:
   - reducing emissions at a greater rate than competitors
   - diversification from dairy and forestry sectors
   - freezing of investments in the consumer goods segment (container ships)
   - developing close partnerships to access new ship technologies (propulsion, AI) in a timely way.

C) Capability and/or business development:
   - food transport with an emphasis on food security services
   - emergency services to develop (e.g. ships specialised in the displacement of assets, such as energy generation, potable water production or mobile factory for fast reconstruction)
   - capability development in at-sea infrastructures.

D) Many aspects from the current strategy remain relevant and are even reinforced:
   - emphasis on flexibility and adaptability rather than optimisation
   - retained focus on raw mining material sector
   - activity centred to cater for Australia and New Zealand customers
   - continued development toward self-insurance.

Executive decisions: UNS's executives decided which options are resourced and implemented, or explored in the short term.

Remaining uncertainties, and preparing UNS for timely future decisions

While this list of no-regrets options is already significant for UNS, it doesn't predetermine specific timings, scale, or how to prioritise them. Setting targets can do this (e.g. 'reduce emissions by 30% by 2030'), and they provide a more useful direction while leaving the flexibility needed for the transition planning to sort out the practicalities and rationalisation of them.

However, key uncertainties remain as already identified earlier:

1. **How much global supply chain disaggregation to expect?**
   This informs how much UNS needs to invest in its independence.
2. **Where to locate the transport hubs relevant for UNS in the future?**
   This informs UNS investments in land assets.
3. **What drives the need for marine transport in the future?**
   This informs UNS vessels capability requirements.
4. **How much can we rely on global finance?**
   This informs UNS's investment plan.

Note that these questions are clearly associated with decisions to be made in the future.

While UNS's risk management function has already been tasked with developing lead indicators related to these questions, they still need to be associated with clear decisions, and some preparatory steps to put UNS in the best possible position when the time comes to make the decisions.

These can be summarised below as:

A) Technology:
- low-emissions technologies – technology scan
- artificial intelligence – partner with start-ups and dedicate a UNS pilot ship to test AI applications relevant to international shipping
- complementarity between airships and ships – white paper supported by an assessment of the barriers and limitations of airships
- reinforce existing partnerships with shipyards in Australia, and test their vessels' revamping capabilities.

B) Business development and new capabilities:
- explore potential partnerships with local actors from the oil and gas sector to leverage their capabilities on at-sea structures – offshore renewables but also shipping hubs, storage, etc
- emergency services – white paper on what the market could potentially look like, its needs, potential solutions and explore business models.

C) Adaptation:
- adaptation assessment for eight of the 10 hubs in which UNS has land assets
- geopolitical risks assessment to inform the selection of future hubs locations, give a better idea of how future global shipping lanes may look, and explore alternative routes to current choke points.

D) Markets:
- research on specifics about the food sector
- market research on offshore structure construction to identify potential bridgehead niches for UNS
- market research on the construction sector trends and what it means for construction material shipping
- actively pursue contracts in the defence sector, regardless of margins.

E) Finance:
- explore options to finance the range of projects that UNS will have to fund, from innovation to adaptation
- reinforce local partnerships in the finance sector by informing them about UNS long-term intents and how they can support it.

This is just a start. As UNS gains more insights, promising options will be tested further (pilots), some options will be abandoned, and new ones will emerge.

Executive decisions: UNS's executives agreed on the key uncertainties that UNS would need to prepare for and how this will be resourced.

Together, the strategic direction, the commitment to the no-regrets options, the identification of the preparatory steps to take, and clarity about future decisions and how to inform them, provide the necessary starting point for the organisation to begin taking action.

Now, UNS must work across the organisation to iron out the details – this is the transition planning (step 3).

3.1 Communicating the strategic intent

Bob is confident the people working at UNS understand that change is constant in business, but he is also aware he has been immersed in this process for a while and there is a high risk his employees misunderstand where all this comes from. His main communication goal is to provide a compelling case why the status quo cannot continue.

He also wants to ensure the message is not received as an immediate disruption like a reorganisation announcement, but as a long-term play that will involve everybody.

He opts to communicate in person with each part of the organisation, in a very open way so he can answer questions and explain the rationale behind these decisions.[4] He was also transparent when the answer to a question was, "We don't know yet", and explained how UNS intended to address uncertainties.

It was important to him to communicate the challenge climate change represents for UNS while noting the leadership does not intend the organisation to be a sitting duck – he says it is proactively preparing to manage the storm.

Bob also decided to launch a company-wide initiative to gather ideas from the bottom up. This consisted of asking targeted but open questions to different units, drawing on their hands-on expertise and practical insights. A co-benefit would be to warm up UNS for change and send the signal to employees that they will be an active part of it, not a collateral.

Finally, while UNS has already engaged regularly with its main capital providers, and its closest partners, it needs to communicate its strategic intent to its shareholders and a wider range of stakeholders more generally.

3.2 Mapping key milestones, risks, and opportunities along a timeline

Key milestones

UNS planners worked with all parts of the organisation to identify UNS's key milestones, although they didn't start from a blank page as some were already tracked, albeit not in a centralised way.

These milestones represent key decision points – e.g. UNS expects three ships to reach their end of life by 2030, at which point the company must have new ships ready. They must order the ships in 2027 at the latest, meaning the design specifications must be defined by then, which in turn require making strategic decisions about the markets UNS will pursue. These decisions must be informed by insights acquired through other actions, and so on…

Another set of reference points are the objectives or targets defined by UNS leadership. For example, "Reducing UNS's GHG emissions faster than competitors" is clearly a moving target, but from the first iteration of the plan, it is possible to infer a current target for UNS based on the sector current state.

However, the planning goes beyond intermediate targets to ensure that the planned actions to reach these do not result in a lock-in situation for UNS, but instead set the organisation on a path of actions to reach its long-term goals.

[4] See for example **https://www.scientia.global/dr-michael-beer-transforming-organisations-with-honest-conversations/**

3.3 Mapping out milestones, risks and opportunities on a timeline

UNS's planners went back to the scenarios to place the potential risks on an indicative timeline. This gave them an idea of when UNS needed to be ready to face these risks, which therefore helped them prioritise actions accordingly.

Unfortunately, many of the risks appear to already be viable concerns, especially when taking the upper bounds of the latest science. Regardless, the objective is to prioritise, so they worked with UNS's risk management team to refine what was an acceptable level of risk and when the level of risk for UNS was expected to be too high.

Each risk in the risk register is linked to tangible actions UNS could put in place to avoid, mitigate or at least monitor the risk.

For the risks specific to certain scenarios, the planners discussed with the risk management team if some preparatory steps could be taken (e.g. piloting technologies, designing solutions, financial arrangements) and they translated the steps into detailed plans that included the dependencies and contractual arrangements this would require.

Then, considering the high level of uncertainty about climate-related risks, they linked these with the leading indicators UNS monitors, and defined how early an action must be triggered.

A similar approach was used for opportunities, with planners working in conjunction with the business development team to get an idea of the time horizons for identified opportunities. They also discussed what was needed to test these opportunities and bring them to fruition.

For example, emergency services in response to catastrophic climate events could be explored right away. The differences between scenarios are about the scale of this market and the business model's viability, but it is a need that already exists and will only grow in all scenarios, including a +1.5C scenario.

Conversely, the market opportunities related to the construction sector (mega-factories of prefabricated housing requiring new transport capabilities) are less certain and are not expected to materialise in the short term in any scenario.

3.4 Assess the financial implications of this plan

Once the planners drafted a high-level transition plan for UNS, it was time to get into the financial aspect of it to start answering questions about revenues, costs, capital needs, and what it would mean for UNS's financial situation.

Some options from the longlist were excluded due to their expected financial implications. This is about assessing how the financials interact – e.g. ideally, UNS would start investing now in AI, low-emissions propulsion, and adaptation projects, and each of these projects would be a sound investment in the long run. However, UNS cannot afford all these investments added together – it must spread its investments over a longer period and limit its commitment in new technologies to a given amount. This resulted in a different transition plan, but also in clear budget pools to inform UNS trade-off decisions.

The work with the UNS finance team was challenging, considering the uncertainties and time horizons involved, so Bob was glad to have involved his CFO in the process from the beginning.

Now that UNS has renewed its long-term strategy, and done its planning, the real journey begins with the execution phase.

One of the challenges for Bob is to embed the transition deeply enough in the business so the strategy endures and delivers its full value, while also creating momentum and positive feedback loops for the people engaging with it.

4 Execution

Putting people and organisational culture at the centre of change

While Bob believes that UNS culture is ahead of its competitors when it comes to flexibility and innovation, he is realistic that keeping the company's culture aligned with the strategy is paramount. He knows it is easy to lose track of that during difficult times, and he can see the challenges piling up on the horizon.

Bob believes shaping an organisation's culture must be embodied consistently by leadership. The fact that Bob communicated the work done on climate in person to individual teams already sent an important signal: This work matters a lot to UNS leadership.

That was a good start, but to ensure consistency he reviewed the incentives of his top executives, aligning remuneration packages with long-term objectives and their embodiment of the company's purpose and values.

He asked the HR team to make the contribution to UNS's transition plan a key focus of their processes, which led to including it in annual reviews, as well as recruitment communications and processes.

Bob, being an innovator, knows that fear of failure is the number one barrier to an organisation's innovation capability, so he created an award for people who tried something new, especially if the project failed. This is to display to the rest of UNS that failure is a normal part of innovation, and what matters is to try new things at a small scale, and learn from it.

Ensure change is implemented across the right organisational layers

The way an organisation operates internally contributes to shaping its culture, and is a reflection of it. Bob knows that for UNS's strategy to be successful, people would need to work more across the organisation rather than in silos by team or business units.

So, every manager had their team objectives linked to the UNS strategy, and these objectives were aimed at supporting other teams rather than being individualised.

The risk management processes of the different business units and profit centres need to be more closely integrated, and to share more information and resources. While this is an initial effort, the moves are expected to bring wider benefits than supporting the strategy, especially with artificial intelligence developments resulting in productivity gains, cost savings, better risk mitigation, etc.

The need to reinforce the risk management processes, to test new technologies, to investigate new markets, and to develop internal capabilities in adaptation and artificial intelligence, all led to organisational changes. Bob used change management techniques from previous organisational changes to manage this.

For example, a new function, 'strategic resilience partnerships', was created to build the relationships UNS will need to respond to the future challenges. It will also manage a range of small pilot initiatives to test long-term options ahead of major investment decisions.

Another function, 'research and innovation coordination', was created, not to discharge the rest of the organisation from innovating, but to support and coordinate innovation projects and develop the platform and processes to enable them. It also conducts the various research needed to inform UNS's strategic decisions.

Monitor and iterate

Monitoring

While UNS has already developed its leading indicators to monitor how critical uncertainties (e.g. technologies, geopolitics) evolve (see steps 2.1 and 3.3), it must also monitor the progress of the transition plan itself.

For UNS, this took the form of reviewing business objectives and targets for the various business units and functions, so they are aligned with the long-term objectives.

For example, for the next two years UNS will do the following:

- The business development team will aim to sign a significant (5% in volume) long-term contract in the food sector, and to reduce the relative share of freight of dairy and forestry products while increasing the share of other bulk products from New Zealand or Australia.
- The new partnerships team objectives are to develop technological partnerships in clean propulsion, AI, insurance services, and at-sea infrastructure.
- The finance team will aim to develop the processes and systems for UNS to be ready for self-insurance to become the norm (more than 50%) rather than the exception.
- The risk team is tasked with developing the tools necessary for UNS's port managers to identify which assets are worth adapting and to which standards. It has also been tasked with setting up the systems to better monitor in house the geopolitical and market risks.
- Etc...

Achieving these internal sub-objectives – or not – will inform the overall progress of UNS toward its intended direction. If some objectives are not achieved, this tells UNS it might need to pivot, try a different approach, or invest more resources to catch-up, for example.

Iterating

Fast forward two years, UNS's journey is ongoing. Those years have already seen significant changes not yet perceptible to an external eye looking only at UNS operations and physical assets, but they are tangible for the people working within the business.

UNS did not iterate the whole transition planning process on a yearly basis. It instead opted for continuous improvement led by the intrinsic needs of the business. Reporting is seen as a way to document the progress of this work, but is not the driver anymore. UNS now has a good enough understanding of its priorities to plan the next aspects on which it will focus to improve its transition plan over time.

UNS progressed its insurance capabilities rapidly, but this has been slowed down by regulations in some jurisdictions. It had to review its objectives to reflect this overlooked dependency.

UNS's efforts in exploring and developing partnerships beyond its sector were fruitful, even if not in the way it initially expected:

- It found that the oil and gas industry was not yet seriously considering applying its skillset into other sectors. The margins it is used to with its core activity meant that any other project would be the lowest priority, with great risks for UNS.
- However, it identified and developed an opportunity to partner with electric vehicle producers that were facing a chokepoint to export.
- Another related potential long-term opportunity opened as the shipping industry is considering **offshore charging stations** to electrify long-haul shipping. EV manufacturers are integrating vertically to secure their batteries' value chain, which intersects with both UNS's willingness to develop into infrastructures at sea, and UNS's involvement in shipping critical minerals used in making batteries.
- Regarding AI, UNS quickly found out that this evolves way too fast and there are too many red herrings to keep up and plan ahead without investing massively in internal capability. However, it leveraged its position in value chains considered strategic by the Australian Government to join a public-private partnership between the Australian Department of Defence, AI research labs, and private companies willing to test use cases for new technologies.

Inflation and interest rates increases have strained investments in new ships, but UNS approached some large finance institutions interested in UNS's proactive and ambitious approach to transitioning, which led to long-term partnerships on that front. This resulted in reducing UNS's exposure to some financial risks.

Marketwise, UNS's diversification efforts into the food and mining sectors, and away from dairy and forestry, are progressing as intended without alienating existing customers. It has already learnt a lot about the challenges and what is valuable for food sector customers, and will keep adjusting its approach.

Security for ships remains driven mostly by the insurance providers, not by customers. It has not proven to be a major commercial differentiation point to date, but this remains an important trend to follow for UNS nevertheless.

Looking further, UNS has started to commission studies on how to future proof its ships for likely climate conditions, as several of its ships will reach the age where significant retrofits are needed.

It also investigated and confirmed its intuition that orders for new ships with low-emissions propulsion will present a bottleneck which could prevent achieving its targets. Once again, UNS's new connection with car manufacturers in Asia could prove useful as some bought and invested in shipyards in their efforts to overcome their own shipping bottlenecks.

As a pilot, a ship is scheduled to undergo a deep retrofit two years from now.

UNS is doubling down on its monitoring of tipping points as the **AMOC** ocean current system is slowing down faster than expected just two years ago, and this would drastically change navigation conditions and routes toward Europe.

Regarding adaptation investments for UNS's land assets, the volatile geopolitical environment is making it hard to identify which hub UNS should future proof or not. The geopolitical assessment didn't provide any no-regrets location.

Meanwhile, the adaptation assessments of the sea shipping hubs were commissioned to three different service providers. Each used different methods and returned widely different results, highlighting the uncertainties of the numbers provided, and raising doubts about any of the recommendations.

Bob and the UNS Board decided to postpone any further large investments in adaptation. They won't reach their associated target but cannot afford to get these critical investments wrong. Bob tasked his new in-house climate experts (chief climate officer) to find a way forward on this.

However, the adaptation assessment helped identify the most exposed choke point of their inland supply chain (e.g. road or rail access to port). UNS will engage with local Councils and other major stakeholders in the area to present their findings and discuss how to coordinate the necessary adaptation work and how to finance it.

The two prospective white papers regarding airships synergies and emergency services ships have not been prioritised but are planned to start next year, if UNS managed to find the right capabilities to answer its questions. In addition, UNS will seek to explore further the reality of the potential for offshore charging stations.

Finally, while some historic shareholders have exited UNS, as expected (either because it exceeded their risk appetite, or because they didn't believe in the benefits of the updated strategy), Bob was pleasantly surprised by the amount of interest from new investors, which he understand as reaping the benefit of leading on the transition front.

As UNS matures in its understanding of climate impacts, and continues to adapt to new developments in its operating environment, it will keep informing stakeholders through its disclosures.

These will likely evolve quickly year on year, but Bob and his Board frame that as a testament to the pace of their progress and their nimbleness, not as a negative outcome.

Summary, and UNS considerations in relation to disclosures

Important note: The content below is NOT an exhaustive UNS disclosure. This is NOT to be used as a template as it might not be appropriate for an entity's specific facts and circumstances. This is only intended to illustrate the judgements an entity may have to make when translating the insights gained from the transition planning process into a public-facing disclosure.

This part focuses on "how an entity will position itself as the global and domestic economy transitions towards a low-emissions, climate-resilient future" (NZ CS 1 paragraph 10). See our guidance for all sectors addressing the full set of NZ CS disclosures.

Now that UNS has embarked on its transition journey, it needs to inform its external stakeholders (primary users, but also other capital providers, suppliers, partners, etc.).

UNS's transition planning is complex – it could branch out in several potential directions and contains sensitive strategic information.

The concerns are two-fold:

1. **Strategic sensitivity**: UNS's leadership would prefer to keep its plans confidential, having some legitimate concerns about commercially sensitive information being exposed to competitors. At the same time, it wants to demonstrate action and competence to its customers and partners.
2. **Balancing clarity and transparency**: UNS does not want to confuse its stakeholders with an overwhelming amount of information, or by muddying the water with too many hypotheticals. It doesn't want to mislead or obfuscate either.

UNS is required to provide information that is **relevant, accurate, verifiable, comparable, consistent, and timely**.

In exercising its judgement, UNS opted for a progressive approach for its disclosure. For example, providing detailed information about the future markets it is investigating would not be relevant to its primary users as no material decision has been made yet and things could evolve significantly by the time a decision is made.

UNS also doesn't want to give the false impression that it is pursuing two or three widely different directions for the company, as it would not be a fair presentation – it is simply keeping its options open.

However, UNS still wants to showcase that it is taking concrete action and is preparing for different futures by addressing the range of climate-related risks and opportunities. It opted to disclose information such as the following:

- **Overall strategic positioning:** UNS intends to leverage its existing competitive advantages to navigate the transition and position itself to seize the opportunities from various scenarios. It will investigate opportunities to reduce its dependency on other actors within its value chain and keep its costs competitive.
  a) Moving forward, UNS expects to refocus on the bulk shipping that is expected to perform well in all scenarios, while investments in the container carriers segment will be paused.
  b) UNS is committed to reducing its emissions faster than the current IEA Announced Pledges Scenario (APS) for marine transport, joining international R&D partnerships to stay at the forefront of technologies and make better informed investment decisions for its fleet.
  c) UNS's approach to adaptation is to assume severe physical risks to future proof its operations, but to be cautious regarding the timing of its investments.
  d) UNS will diversify its markets to reduce its exposure to specific sectors and open its strategic options.
  e) UNS will also pilot new offerings for nascent markets in which it can leverage its existing capabilities.
  f) Finally, continuous innovation will remain front and centre for UNS.

- **GHG emissions:** 96% of UNS's scope 1 and 2 GHG emissions are from fossil fuels used in its ships, so UNS is closely monitoring low-emissions propulsion technologies and fuels, and is committed to reducing its emissions faster than the rest of its sector. The main challenge for UNS is access to these technologies, so it is investing in developing close partnerships with a portfolio of technology developers and shipyards to position itself for pre-orders. UNS's rationale for such investments is to maintain access to key markets for its customers, and that any strategy involving ambitious emissions reductions performs well in all scenarios.
- **Adaptation to climate physical risks (land assets):** UNS has conducted physical risk assessments for all its land asset sites, and identified solutions to ensure they remain safe and operational in the short to medium term. A first package of projects has already been approved for a total of NZD$30 million. This consists of future proofing new assets, replacing the old ones as per UNS's asset management plan (e.g. cranes designed to sustain stronger hurricanes, elevation of critical installations such as transformers and railways, reinforcement of docks). UNS's approach to adapting to physical risks is to design its assets for the climate expected in the most challenging scenario (+4°C). UNS is monitoring climate science publications related to the more significant physical risks, including climate tipping points, and will make further investment decisions in the future. This is currently expected to represent additional investments of NZD$50-100 million over the next five years.
- **Adaptation (ships):** UNS has also evaluated its fleet exposure to a worsening climate and identified that 80% of its ships (representing 90% of the fleet value) could be reinforced appropriately to withstand sea conditions expected in a +2.5°C scenario. The older ships are considered fit for a +1.5°C world and are not expected to face harsher conditions by the end of their lives. This does not factor in potential AI developments that are expected to improve ships' travel safety by improving the prediction of dangerous weather events. Finally, security at sea is expected to deteriorate further, and UNS intends to seize the opportunity to differentiate itself from its competitors by providing greater reliability, and decreasing insurance costs for all. It will invest in equipment such as electronic jammers against drones, and will offer options for private security details for its customers with sensitive cargo needing to cross dangerous waters.
- **Adaptation (sea routes)**: UNS will redirect its efforts away from a few sea routes that are deemed too unreliable (Red Sea), uneconomic (Panama Canal due to climate-induced capacity reduction) or are expected to face competition from alterative new routes (Artic Sea). Its current operations remain unchanged for now and UNS will continue to monitor these trends.
- **Adaptation (business model)**: UNS intends to capitalise on its recent experiment in self-insurance to reduce costs, but also to provide new forms of services and contracts that would not be possible with typical insurance contracts. UNS has signed its first reinsurance contract this year, an indication of its developing credibility in this field. It expects that its partnerships with an oil and gas company and an Australian shipyard will open BOO (build own operate) opportunities for UNS.
- **Artificial intelligence:** UNS has earmarked NZD$7 million for its AI R&D partnership, including tests on a pilot ship, over the next three years. AI is expected to contribute to costs savings, efficiency gains (with an emissions reduction benefit), vessels and cargo safety, and ship and crew security.
- **Markets risks:** UNS is actively diversifying its markets. This materialised in the acquisition of its first bulk ship able to transport grains, and the signing of a storage access contract in major ports in Africa, Europe and the US. The signing of a first multi-year contract in the defence sector is also of strategic significance.
- **Business development:** UNS has doubled its spending on market research (NZD$1 million) to inform its long-term positioning and market diversification investments. In addition to the investments in low-emissions propulsion technologies and AI, it created an innovation fund (NZD$10 million over four years) to explore and test innovations supporting UNS's transition plan. While small compared to other costs items on the UNS balance sheet, the fund illustrates UNS's commitment and a ramp up in activity to better position UNS in the long run.

- **Addressing value-chain risks**: UNS expects the consolidation of the rest of the sector to continue with significant vertical integration. To maintain UNS's ability to deliver value to its customers and remain competitive, it will actively seek to bridge the gaps in its value-chain control. It partnered with large actors to co-invest in joint infrastructures, and also negotiated long-term access contracts. The total cost is expected to represent NZD$150-200 million over the next five years, which is well below the estimated cost of the risks to UNS, and is expected to generate new revenues (estimated EBITDA ranging from NZD$15-20 million).
- **Overheads:** UNS's wages budget increased by 3% (on top of inflation) to reinforce its risk management system, business development and innovation capabilities.
- **Financing:** UNS has successfully secured NZD$50 million in sustainable finance to support its transition plan, and is supported by strong partner lenders who can support the NZD$250 million investment needed to replace or deep retrofit three ships by 2030. UNS is willing to be an early mover to 1) attract capital at lower cost, and 2) enable a more progressive investment schedule that could be supported by the new sources of revenue.

UNS, having opted for an adaptive strategy, doesn't have a fixed plan to reach its long-term objectives. Instead, it has developed several strategic options, each with its own pathway. These options will be tested and refined ahead of major investment decisions. Leading indicators (list provided) will be monitored to assess how the suitability of these options evolves over time.

Note that UNS chose to not publish a visual summary of its transition plan, considering it would be either too complicated, or could be misleading for its primary users if it was too drastically simplified.

Appendix C - Frequently asked questions

FAQ content

a) How does this guidance differ from existing transition plan guidance documents?

b) Why is there slightly differing wording for the main steps of the transition planning cycle?

c) What are the differences between transition planning, an emissions reduction plan, and an adaptation plan? How do they relate to each other?

d) What if the business's strategy cycle is not aligned with transition planning disclosures timing?

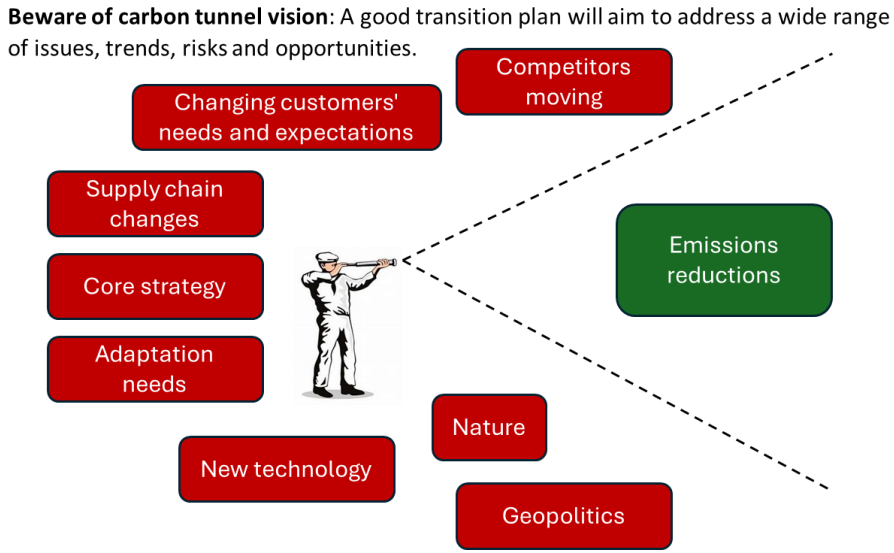
e) What are Dynamic Adaptive Policy Pathways (DAPP) and why are they relevant to business transition planning?

How does this guidance differ from existing transition plan guidance documents?

Other transition planning guidance exists, issued by a broad range of sources, including by investor groups setting expectations for potential investees' companies.[1] An example is the United Kingdom's Transition Planning Taskforce (UK TPT).

Most of this existing guidance, particularly that which predates the UK TPT, focuses on how to disclose an entity's plan to deliver on its existing emissions reduction target. This objective is quite narrow – it assumes a single scenario and focuses on one dimension (emissions reductions), leading to 'transition plans' being something that describe how an entity is going to reduce the emissions of its current operations. A shorthand for this type of approach is 'carbon tunnel vision' (Figure 18).

Figure 18: Carbon tunnel vision



It also worth noting the term 'carbon tunnel vision' can also refer to a focus solely on climate, with no consideration for other important and connected crises like nature or inequalities. This is why this series of guides assumes that, while climate is the starting point, other systemic risks are incorporated in the proposed approach.

In the specific context of NZ CS, it is critical to understand that an emissions reduction or net-zero plan does not meet the definition of a transition plan. Entities should beware of carbon tunnel vision and think about climate-related risks more widely. This guidance aims to address the limitations of narrow approaches through the following:

- **A greater focus on resilience:** Focusing on an emissions reduction target matching pathways that limit warming to +1.5°C ignores other scenarios in which climate change is not curbed rapidly. Rather, to protect an entities' interests, building resilience to climate uncertainties is critical.
- **Factoring in locked-in adaptation needs:** An emissions-focused approach does not address the physical risks of climate change that are already locked in, or anticipate broader societal adaptation. Adapting to locked-in climate change is as important as emissions reductions.
- **Encouraging a system perspective not assuming all else is equal:** Climate-related scenario analysis highlights that some critical assumptions (such as how goods or services are produced and delivered, market demand, supply chains, infrastructure, etc) are subject to deep uncertainty. Drastic changes in entities' operating environments are to be expected, and iterative approaches that assume the continuation of business as usual are misleading for both entities and primary users.
- **A long enough view to address the risk of carbon lock-in:** Aiming to achieve a succession of intermediate targets encourages an incremental improvement logic.[3] Climate change (and other systemic risks) require a longer-term strategy than most entities are used to developing, particularly if they are to avoid carbon lock-in and/or stranded assets.

- **Bespoke and strategic instead of generic and exterior:** Targets set under a narrowly focused transition plan tend to be set at the beginning of the process, based on aspirations, market pressures or global trends, and are not truly embedded within an entity's specific situation or long-term strategic needs. Targets are useful to guide and monitor a strategy implementation, but they cannot define a strategy by themselves.

In addressing the limitations of available material, this guidance seeks to align to both the original purpose of the Task Force on Climate-related Financial Disclosures (TCFD) in addressing the systemic risk posed by climate change, and the purpose of NZ CS, which is to "*support the allocation of capital towards activities that are consistent with a transition to a low-emissions, climate-resilient future*" (paragraph 2, NZ CS 1).

For financial institutions, an additional limitation of taking an emissions reduction-focused approach is the tendency to focus on the transition of its customers, investee companies, and/or other key external parties. While these are important considerations, this approach can miss the financial institution itself altogether in the transition. This can lead to not enough focus on the core strategic considerations for the entity's own business model and strategy. For example, a bank supporting its customers to transition and reduce their emissions will be an important part of its transition plan, but it should also consider how its wider business model and strategy will be impacted by climate change.

Of note are **GFANZ's recommendations related to transition plans' implementation strategy,**[4] which mention leveraging new products and services (rec. 1), "*embed[ding] the financial institution's net-zero objectives and priorities in its core evaluation and decision-making tools and processes to support its net-zero commitment*" (rec.2), and establishing policies and conditions to define business boundaries in line with the institution's net-zero objectives (rec.3).

Why is there slightly differing wording for the main steps of the transition planning cycle?

These are minor adjustments, and the suggested process described in this guidance is well aligned with the UK TPT cycle. However, we observed some common misunderstandings that we wanted to address, benefiting from hindsight – this guidance being published after the UK TPT documentation.

- **'Reassess' → 'Entity's core strategy re-evaluation'**

  We wanted to emphasise that this is a deep strategy exercise about the core business, not a simple assessment of existing targets or an 'add-on' on the side.

- **'Set your ambitions' → 'Formulate strategic intent'**

  We wanted to avoid this step being misconstrued as simple target setting as it requires significant leadership involvement. Plus, this could support a mistaken view of the Strategy Formulation process, which doesn't start from 'aspirations' or ambitions set out of nowhere, but from the Paramount Challenges that an organisation is facing (here, climate change and other systemic risks).

- **'Plan your actions' → 'Planning'**

  We wanted to avoid limiting this step to the entity's transition plan actions alone. This is broader and also includes identifying dependencies (i.e. outside of an entity's control) and financial planning.

- **'Implement your plan' → 'Execution'**

  We wanted to make clear that this is not about implementing a side plan, but about applying the existing business's execution processes to deliver on the reviewed strategy.

What are the differences between transition planning, an emissions reduction plan, and an adaptation plan? How do they relate to each other?

Emissions reduction plan

The typical scope of emissions reduction plans is **a list of actions an organisation intends to take to reduce the GHG emissions of its current operations**.

See the main blind spots of emissions reduction plans under the previous question of this FAQ.

Adaptation plan[5]

UNFCCC refers to an adaptation plan as "*changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change*". This is a broad definition that should theoretically cover the scope of 'transition planning' as described in the present guidance.

However, in practice, most of the focus of adaptation plans so far has been on the risks presented by the most direct physical impacts of climate change. This means that most adaptation plans will focus on answering the question: "**How do we adapt to climate-related physical risks?**"

Is transition planning a combination of emissions reduction and adaptation plans then?

Not quite. Having developed an emissions reduction plan and/or an adaptation plan definitely provides valuable input to a transition plan. However, while it would be tempting to assume that emissions reduction plans cover transition risks and an adaptation plan covers the physical risks, the reality is set out below:

- Many climate-related risks don't fall neatly into one category or the other, especially the risks born out of the **cascading effects** of climate change. (See Figure 20 for a simple example about mosquitoes in Paris.)
- The **interactions between risks** are as important as the individual risks themselves.[6]
- **Socioeconomic risks** can be missed when using only a physical vs transition lens. However, how customers, competitors, suppliers, investees, lenders, government, and society at large might react can lead to significant and non-linear risks for an entity.
- Climate-related risks (i.e. "The potential negative impacts of climate change on an entity") can come from the **conjunction of climate with other factors**, or have root causes other than climate but worsened by climate.
- Similarly, **other forces or drivers** can influence how society reacts to physical and transition risks.
- They can miss any interaction at all with the entity's business model and strategy.

A holistic long-term strategic approach identifies efficiencies and helps avoid maladaptation, compared to a siloed approach separating out emissions reduction (see Figure 14 in example B).

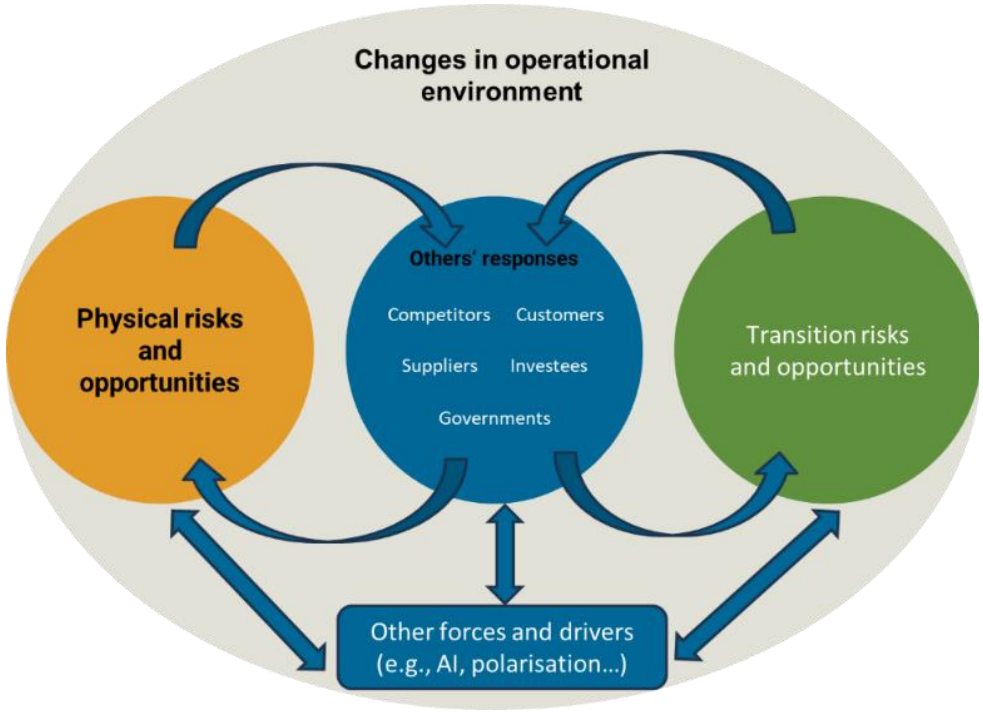
For example, an adaptation plan can identify what needs to be done to increase the climate resilience of five sites, but the transition planning process

[5] ISO 14090:2019 - Adaptation to climate change — Principles, requirements and guidelines
[6] The Global Risks Report 2023 18th Edition – World Economic Forum

would highlight that one of the sites is going to be discontinued in a few years (consistent with an extraction strategy) because its production won't match demand in any scenario. Therefore, it won't be adapted.

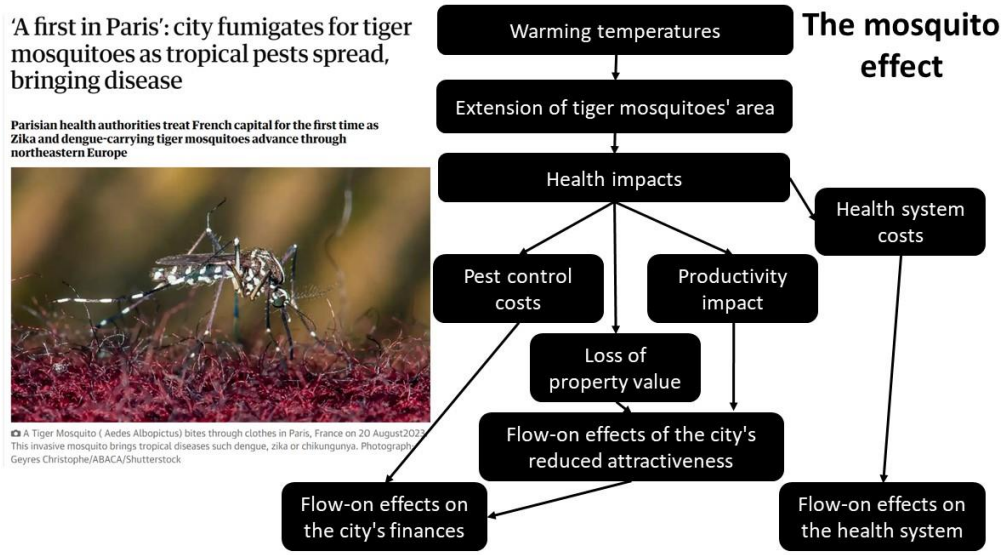
Similarly, while an emissions reduction plan developed in isolation might list a project to decarbonise a coal boiler, the strategy developed during the transition planning process might have identified that, in the future, the entity expects to be able to produce without needing process heat.

Figure 19: How climate change impacts an entity's operating environment.



See also Figure 1 of the **transition planning overview guide** showing how the transition planning builds on the emissions reduction plan, and adaptation plan.

Figure 20: A simple example of cascading effects of climate change.



What if the business's strategy cycle is not aligned with transition planning disclosures timing?

Many businesses have an existing multi-year strategy cycle with an established strategy, and might not have the resources available to revisit the current strategy before the end of the execution period.

However, a strategy is never supposed to be fixed, and if it ignores facts or emerging trends that pose a strategic risk (i.e. a risk to the strategy delivering on its objectives), then it will fail. Therefore, while organisations can earmark more resources in some years to overhaul their strategy, there is always space to adjust course as the operating context evolves.

In practice, even out of cycle, a business can still work on:

- how to better factor climate-related risks and opportunities into its next strategy overhaul
- improving its existing processes to better manage climate-related risks and opportunities (e.g. risks management system, reinforcing governance's grasp of climate, working on the next budget or investment decision making process).

As a reminder, the disclosure requirements are not requirements to do any specific work, but about disclosing in a proper way what is happening within an entity with regard to climate-related risks and opportunities.

What are Dynamic Adaptive Policy Pathways (DAPP), and why are they relevant to business transition planning?

DAPP is a framework to evaluate policy robustness and adaptiveness under deep uncertainty. The approach combines adaptive planning and adaptive pathways concepts.

While it has been developed with policies and adaptation infrastructures, for example, in mind, many of the key concepts can be transferred to a business context.

This resource provides a high-level introduction to DAAP and links to other resources: **Dynamic Adaptive Policy Pathways (DAPP) – Uncertain Futures – Decision making using scenarios.**

The publication of reference in the scientific literature is: **Dynamic adaptive policy pathways: A method for crafting robust decisions for a deeply uncertain world - ScienceDirect** Marjolijn Haasnoot, Jan H. Kwakkel, Warren E. Walker, Judith ter Maat, Global Environmental Change, Volume 23, Issue 2, 2013, Pages 485-498, ISSN 0959-3780.

In New Zealand, several organisations are using DAPP to inform their decisions (e.g. **Auckland Council**) and the research is active in this field:

- **Climate change adaptation through an integrative lens in Aotearoa New Zealand** (2023)
- **Dynamic adaptive pathways planning for adaptation: lessons learned from a decade of practice in Aotearoa New Zealand** (2025)

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