

Governance and climate change risk

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- The adaptation to and management of climate change risk should focus on those elements that can be controlled in the context of those factors that cannot.
- Adaptation governance provides a framework that supports the decision-making process.
- This article identifies ten common elements that must be considered and monitored to enable adaptation governance.

A framework to manage climate change risk and meet good governance and disclosure requirements is integral to any effective adaptation response to climate change.

Climate change risk framework

The framework depicted in Figure 1 recognises that:

- climate change risk occurs at the intersection of hazard, vulnerability and exposure; and
- although, to a large degree, the timing, magnitude and frequency of a hazard is beyond a single organisation's control, how exposed and vulnerable that organisation is to a hazard is a function of corporate decision-making.

The adaptation to and management of climate change risk should focus on those elements that can be controlled (the controllable characteristics of exposure and vulnerability) in the context of those factors that cannot (uncontrollable hazards).

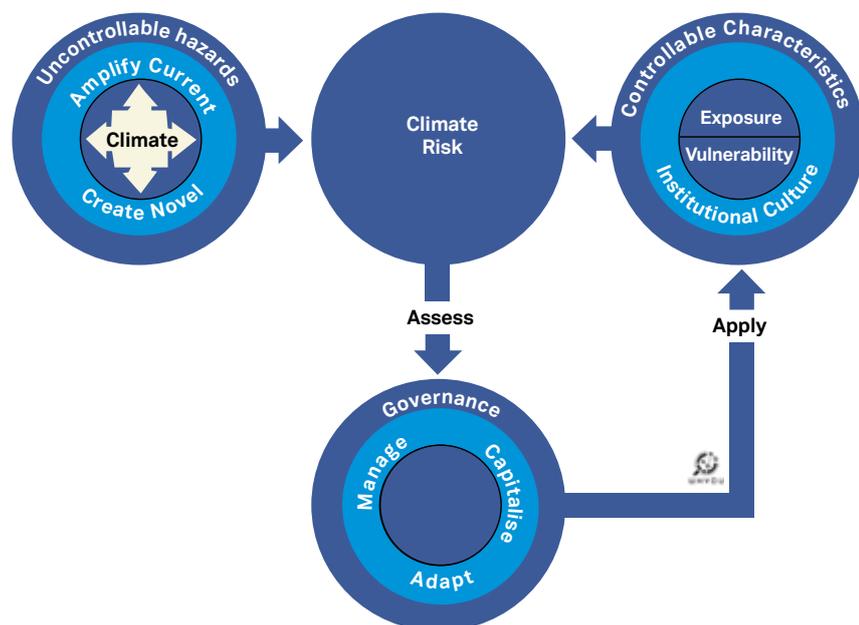
Uncontrollable hazards

Hazards typically arise either as a direct function of physical climatic events (ie, climatic hazards) or as a human response to the potential for or actual physical climatic damage (ie, non-climatic hazards).

Climatic hazards can perpetuate over time as slow-moving physical processes such as sea level rise, or as a one-off event such as a tropical cyclone. Climatic hazards are a non-controllable element of climate change risk. The scale of action required to curb climatic hazards, for instance through the reduction of greenhouse gas (GHG) emissions, means that physical hazards are beyond any single organisation's control. The long duration of greenhouse gases currently resident in the atmosphere and ocean also means that regardless of action change is locked into the system: sea levels will continue to rise for millennia even if GHG emissions cease today.

Non-climatic hazards are the result of a broad range of human-induced actions that ultimately arise in anticipation of, or in response to, physical climatic hazards. For example, onerous adaptation regulation, hostile legal precedence, reduced finance availability, insurance risk and changing consumer sentiment are already becoming well-recognised non-climatic hazards. As a reflection of human-created and controlled systems it is arguable that some non-climatic hazards can be influenced to a degree by human activity such as political lobbying or marketing. However, from a practical and commercial perspective very few businesses maintain the political or market access required to influence political and market processes and trends in any meaningful way or time-scale.

Figure 1: Climate change risk governance framework



Controllable characteristics

How exposed and vulnerable an organisation is to climate change risk is determined, to a large degree, by the capacity and willingness of that organisation to undertake relevant risk management and adaptation action.

Exposure and vulnerability

The susceptibility of an organisation to a hazard is determined by its exposure to that hazard and the propensity or predisposition of that organisation — its vulnerability — to be adversely affected. Exposure can arise in a physical way — such as the location of its premises on a flood plain — and in a non-physical sense, through for example, legal and regulatory risk. It can reflect proximity to one hazard or any number that individually may be benign but cumulatively significant. Examples of organisational control include moving an asset exposed to risk, or opting not to operate in a jurisdiction due to unfavourable regulations.

Vulnerability represents how an organisation responds to a given stimulus and whether it can cope with, or capitalise on, the conditions. Thus, vulnerability represents the susceptibility of a system to harm, not the harm itself. In this regard it

reflects the in-built characteristics of an organisation and as such can be tweaked or managed.

Institutional culture

Having the capacity to reduce the exposure and vulnerability of an organisation to climate change hazards does not necessarily equate with a willingness to do so. Lack of knowledge, levels of uncertainty, poor communication and pre-existing values and beliefs, as well as inevitable short and longer-term planning tensions, are associated with climate risk management inertia. It is not so much the technical elements that constrain adaptation, rather the cultural environment which envelopes it. Addressing how and the degree to which such factors exert themselves within both formal and informal institutional culture is critical to the effectiveness of risk management or governance efforts.

Climate change risk management, capitalisation and adaptation

Risk management and climate change adaptation are both undertaken to maximise the outcomes of future uncertain events. They are inter-related and as such feed into each other as an organisation learns how to better cope

with and capitalise on climate change risk, both in its own right, and as a risk multiplier. Their success is underpinned by the effectiveness of an overarching governance framework that oversees four critical actions in dealing with climate change: manage, capitalise, adapt and disclose.

Manage

Risk management is a process of continuous improvement in preparedness, response and recovery practices. It is informed by risk assessment, which in turn is derived from a combination of hazard and vulnerability assessments. A hazard assessment identifies the extent to which current and future climate change could impact an organisation's value chain. A vulnerability assessment analyses an organisation's inherent characteristics and how these could enable it to cope with impacts. It is at the intersection of these two assessments that climate change risk is determined.

Capitalise

The negative connotations of risk and the detrimental effect that climate impacts can have on organisations undermines the simple fact that with uncertainty comes opportunity. Appreciating and addressing climate change is still relatively novel, giving early adopters the potential to gain first-mover advantage over their competitors. Forward-thinking organisations will recognise and capitalise on new markets and climate-related products while reducing climate-related risks to their own operations. Potential benefits include business continuity, cost savings, regulatory anticipation, increased regulatory influence, enhanced reputation and increased competitive advantage.

Adapt

Along with risk management, adaptation is a proactive change-process tailored to reducing vulnerability and increasing resilience.¹ It is also a process of continuous learning where outcomes and mechanics evolve as lessons are learnt from past actions and knowledge

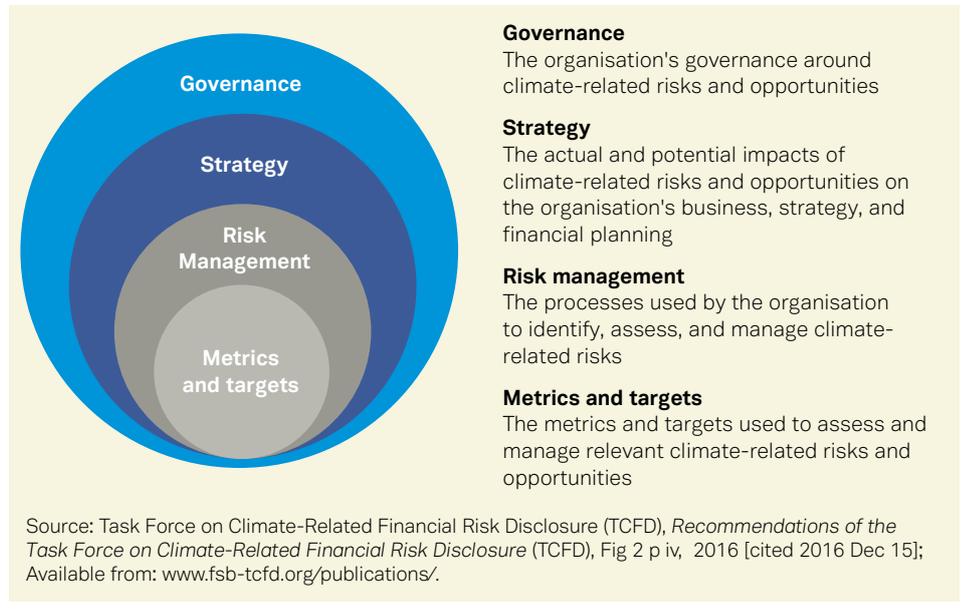
is enhanced. It differs from risk management in that it incorporates a longer-term and broader view of risk that has deeper structural implications for organisations. Adaptation recognises unpredictability as an inherent characteristic of the future. Where risk management invokes action specific to current known risks, adaptation builds the capacity of an organisation to cope with and capitalise on both future known and unknown events. In this way, effective adaptation enables an organisation to efficiently deal with, learn from and potentially transform itself as a result of a climate event or disturbance. Adaptation and risk management are inextricably linked, with each informed by the other and adaptation providing the base from which risk is managed. Adaptation can be incremental or transformational. Incremental adaptation involves extending actions and behaviours that already are in place. Due to its stepwise nature it involves minimum political and financial risk and is more malleable to change. Transformational adaptation is much more disruptive with activities that change the very core of a system itself.²

Disclose

As any auditor will attest: ‘it is not enough to do the right thing, one must also be seen to be doing the right thing’. Disclosure is the process where organisations show interested parties their current risk exposure and management practices. Interested parties include investors, financial institutions and regulators — and they all may have specific reporting needs. Disclosure exposes both good and bad practice and can either embellish or reduce non-climatic risks such as access to insurance and finance.

While regulatory obligations exist under Australian law and practice to disclose material financial exposure to environmental risk,³ guidance of how climate risk fits into these requirements has been lacking. Up until now, even if it is undertaken, climate-related disclosure has been predominantly relegated to the pages of the Corporate Social Responsibility

Figure 2: Core elements of recommended climate-related financial disclosure



(CRS) report. There are an estimated 400 climate-related disclosure frameworks currently in existence worldwide,⁴ and consequently the absence of a standardised framework has hindered the preparation, presentation and interpretation of climate-related information for report authors and consumers alike. Current frameworks have also predominantly focused on the measurement and reporting of greenhouse gases (carbon risk), as opposed to the risks that climate change poses to an organisation's business model.

Recent disclosure initiatives have the potential to alleviate reporting gaps and failings,⁵ enabling interested parties to compare across and within industry and institutions — climate risk exposure, management and governance. Of these initiatives, the most salient is the Taskforce on Climate-Related Financial Risk Disclosure (TCFD). The TCFD was established by the G20 in December 2015 to ‘develop a singular, accessible framework for climate-related financial disclosure’ (p iii).⁶ Its recommendations, released in December 2016, apply to both financial and non-financial organisations and are structured around four operational themes: governance, strategy, risk management and metrics and targets (Figure 2).

While disclosure is voluntary the TCFD also recommends its inclusion in financial filings in order to ‘ensure that appropriate controls govern the production and disclosure of the required information’ (p 14),⁷ for example, review by the chief financial officer and, where appropriate, audit committee. Whether the TCFD recommendations are widely adopted remains to be seen. Certainly, the TCFD recommendations garnered statements of support⁸ from taskforce members (for example, Swiss Re, UBS, Barclays, BHP Billiton) and other institutions have intimated ‘reasonable’ adoption of the recommendations (for example, ANZ Banking Group).⁹

Climate change adaptation governance

The extremely dangerous nature of climate change is characterised by the scope and scale of its potential impacts and the inherent uncertainty it presents. Recognising that multiple futures are possible underlies the need for robust decision-making frameworks that can respond as issues and information emerge over time. Climate change adaptation governance is paramount in this regard.

Appropriate governance tracks climate risk management and adaptive action against a dynamic evidenced-

based environment. It facilitates the integration of new knowledge and informs the elements that must be considered and monitored to enable adaptation and guides how these should be applied. The nascent stage of adaptation governance means that very little guidance exists as to what these elements are. The contextual nature of climate change also precludes the application of a 'one size fits all' approach. Nonetheless, ten common elements have been identified. These, when premised on a deliberate process that ensures consistent organisation-wide consideration,¹⁰ can form the basis of effective governance. In this regard, organisations should clearly state how they will undertake or respond to¹¹:

1. Legal and regulatory risk — What laws and regulations are relevant to the organisation and how might they be altered to consider climate change? How will the organisation keep abreast of legal precedence as it emerges?

2. Risk transfer systems — Is the organisation's current risk transfer system (for example insurance, insurance linked securities) likely to change as climate change unfolds — how will the organisation predict and respond to this?

3. Value chain — How is the organisation embedding climate change considerations throughout the value chain?

4. Finance — What resources are the organisation willing to spend on managing climate change and what emerging financial reporting requirements may arise?

5. Risk assessment frameworks — What risk assessment framework will the organisation use, what information will they track and what are the triggers for review?

6. Information sources — What information is being used for decision-making? What are the key information sources, for example, consultants, government, universities, CSIRO?

7. Carbon risk — what is the organisation's exposure to carbon risk? Do the adaptation actions consider a carbon-constrained world (for example,



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any reliance on carbon intensive adaptation in the future is likely to be more expensive due to an eventual price on carbon)?

8. Reporting and disclosure — How often will the organisation report on climate change, what disclosure framework will they follow and why?

9. Capacity — What organisational capacity is required to consider climate change effectively? Will expertise be outsourced, in-house or a combination of the two? What professional development is required for staff to maintain effective control of this issue?

10. Institutional arrangements/ collaboration — How can the organisation influence governmental and societal responses to climate change risk (for example, through peak bodies, public-private partnerships)? What are the benefits and risks associated with collaborating with other organisations in this regard?

Application of the above ten elements enables an organisation to see how vulnerable and exposed it is to climate hazards. However, without a system that measures the application of these elements, their value is limited. The design of a set of adaptation governance indicators tailored to these ten elements provides a platform for measurement that allows an organisation to monitor and

improve its performance over time. It also provides a platform that triggers review at predefined performance levels and the occurrence of significant events, such as the release of major scientific reports. The incorporation of indicators within a specific organisational mechanism such as a climate change risk standard ensures risk awareness amongst relevant officers and standardised application organisation-wide.

Adaptation governance is not about the specific adaptation measure but the system and framework that supports the decision-making process. It is critical that elements are addressed and decisions made not in isolation but in the context of the whole. Failing to do so may result in maladaptive decisions.¹² For the decision-making process to be truly robust, it must also be legally sound. That is to say that the decision-making process must take into account the legal risks associated with or arising from that decision. Climate-related legal risk typically refers to the risk that accompanies a decision that is either affected by climate change, or a decision that will affect climate change. It specifically concerns the risk arising from legal duties and obligations as they relate to matters of climate change. In the broadest sense, it is the effect of legal uncertainty on achieving the decision-maker's objective. This means that where an outcome is expected and some element of legal uncertainty is introduced, the risk is that the outcome will not be what was expected.

To adequately respond to climate legal risk, the decision-making framework must encourage and support proactive, as opposed to reactive decision-making. Rather than simply responding to issues as they arise, decision-makers must seek to anticipate not only changes in potential hazards but also regulatory changes, changes in statutory powers and obligations, and be cognisant of an ever-increasing body of legal precedence. Litigation, particularly in the USA and Australia but progressively throughout the world, demonstrates that corporations that fail to adequately deal with climate legal risk through their decision-making

processes risk becoming increasingly exposed to multiple types of legal actions from a number of quarters.

Where decision-makers are truly confident that the information they have is complete and accurate, and they are certain how the law treats the obligations in respect of those facts, then they can confidently make appropriate decisions, thereby minimising legal risk.

Conclusion

Climate change risk is complex and ever-changing. The risks are broad and can be accentuated by other risks and mega-trends. Responding in an ad-hoc manner is poor practice that potentially does little to reduce the exposure of organisations and their officials to a range of climate-related risks. Indeed, a lack of appropriate action due to a false sense of security can actually amplify risks. The sheer scope and inter-relationships of climate change risk and the rapid development of climate-related knowledge necessitate an adaptation governance layer that is responsive to change in a holistic manner. Organisations need to give considerable attention to the creation and maintenance of such a layer. The key attributes of the system framework include mechanisms for identifying triggers for change, ongoing resourcing, the development of key performance indicators and an organisational commitment to recognise climate change as an organisation-wide issue.

Implementing adaptation governance also requires an ongoing commitment to review. Without reviewing and monitoring the adaptation governance system there is a risk that specific adaptation actions will be out of date. Reactive decision-making for climate change adaptation is likely to be ineffective over the long term and potentially presents new risks for an organisation. Given the complexities and rapid emergence of regulations, evolving information and market responses, implementing adaptation governance is the only way an organisation can truly maintain an effective response. ■

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Notes

- 1 Adger WN, et al, 'Assessment of adaptation practices, options, constraints and capacity', in *Climate Change 2007: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Parry ML, et al, eds, 2007, Cambridge University Press, Cambridge, p 717–743.
- 2 Denton F, et al, *Climate-resilient pathways: adaptation, mitigation, and sustainable development*, *Climate change*, 201, p 1101–1131.
- 3 For example, ASX Corporate Governance and Principles and Recommendations 7.4, ss 299 and 299A of the *Corporations Act 2001* and ASIC Regulatory Guide 247
- 4 Task Force on Climate-Related Financial Risk Disclosure (TCFD), *Recommendations of the Task Force on Climate-Related Financial Risk Disclosure* (TCFD), 2016 [cited 2016 Dec 15]; Available from: www.fsb-tcfid.org/publications/.
- 5 For example, see the Sustainability Accounting Standards Board (<https://library.sasb.org/climate-risk-technical-bulletin/>).
- 6 Task Force on Climate-Related Financial Risk Disclosure (TCFD), *Recommendations of the Task Force on Climate-Related Financial Risk Disclosure* (TCFD), 2016 [cited 2016 Dec 15]; Available from: www.fsb-tcfid.org/publications/.
- 7 Task Force on Climate-Related Financial Risk Disclosure (TCFD), *Recommendations of the Task Force on Climate-Related Financial Risk Disclosure* (TCFD), 2016 [cited 2016 Dec 15]; Available from: www.fsb-tcfid.org/publications/.
- 8 Task Force on Climate-Related Financial Risk Disclosure (TCFD), *TCFD Recommendations Report Launch — Statements of Support*, 2016 [cited 2016 Dec 15]; Available from: www.fsb-tcfid.org/wp-content/uploads/2016/12/Statements-of-Support-All.pdf.
- 9 ANZ, *Submission to the Senate Economics References Committee Inquiry into carbon risk disclosure*, 2016 [cited 2016 May 10]; Available from: www.anz.com/resources/8/0/808d7cea-f04d-48c8-bb59-089c29ac4167/carbonrisksubmission2016.pdf?MOD=AJPERES
- 10 Consistent application could be ensured by 'mainstreaming', ie integrating climate change considerations into operational and strategic decision-making
- 11 Burton D, *Triggers for change: Kingborough Council Climate Change Adaptation Implementation Plan: Adaptation Governance*, 2013, Climate Planning, Australia.
- 12 Maladaptation occurs where an adaptation action results in unforeseen negative consequences, for example, building a sea wall may protect coastal assets but undermine the integrity of a beach.