Climate change information note – Part 1

The Actuarial Society's Climate Change Committee will release a series of information notes over the coming months with the aim of outlining the impact that climate change has on the industry. Before releasing these, we will publish the content for review and comment by interested parties. In the first of this series, we look at existing guidance and initiatives before delving a bit deeper into how climate change impacts financial services institutions, specifically insurers by looking at how this risk fits in with their Enterprise Risk Management (ERM) framework.

We thank all the contributors of this content which were mainly members of the Climate Change working group under ASSA's ERM committee.

Introduction

The World Economic Forum (WEF) has in its annual survey "Global Risks Report[1]" included climate change for many years, and its assessed significance as a global risk has been climbing on both the likelihood and severity ladders. In the 2024 report "Extreme weather events" ranks 2nd on likely impact (severity) over a 2-year period and 1st over a 10-year period. Interestingly over the 2-year horizon the impact of "Extreme weather events" ranks 2nd only to "Misinformation and disinformation", which means that these issues could easily crystallize as climate related risks and events. What is useful about the WEF analysis is their conceptualisation of the interactions of something as transversal as climate change with diverse area of society, biodiversity, and economies and business. Indeed, many of the direct nodes of counter-influence, such as the dilemma poor countries are facing in relation to transforming to greener economies while attempting to address structural and other impediments to addressing poverty, rank high in its own right. Taking all these factors into account, the WEF has in a recent report called climate change "a near term planetary emergency".

Existing guidance and initiatives

The Institute and Faculty of Actuaries (IFoA) has issued guidance on climate change, dealing with the ethical and professional responsibilities of actuaries in their work. It highlights the far-reaching implications of climate change and sustainability considerations and presents various considerations in terms of their Code of Conduct that actuaries should consider when performing their duties. Amongst others this includes the need to not be influenced by bias, conflicts of interest or undue influence of others when considering the impacts of climate change. Furthermore, the guidance emphasizes the need to communicate appropriately as to the how climate change considerations have been factored into their work.

ASSA under the Enterprise Risk Management committee commenced its own investigations through a working party set up in 2019, with terms of reference broadly covering guidance to our practitioners, disclosure, and an investigation into the production and publication of a South African climate change index. Through this working party, which has now been constituted as an independent committee, ASSA also has had active liaison and task force membership with the International Actuarial Association's Climate Risk Task Force, which has produced eight papers in recent times on climate change and is currently completing its mandate.

The South African regulatory authorities have also initiated its approach in a number of areas, with the Prudential Authority Supervision Department actively driving various workstreams on this topic. The

[1] WEF_The_Global_Risks_Report_2024.pdf (weforum.org)

Prudential Authority has also recently issued guidance to firms in the financial sector on climate change[2, 3].

The South African Reserve Bank's biennial common scenario stress test in 2021 considered the impact of a drought scenario on the banking industry (large banks) for the first time and is currently busy assembling feedback from selected insurers and systemically important financial institutions on specific climate scenarios. In a separate initiative, a climate survey has been sent out to the insurance industry, to gather essential information about the industry's approach and position. Numerous regulations around the globe have been published, and various regulatory activities have built momentum over recent times, with tight deadlines imposed by regulators in some jurisdictions such as the UK and EU.

Many firms, even private ones, are now making climate related disclosures in their financial statements and other disclosures. The International Financial Reporting Standards (IFRS) Foundation introduced IFRS S1 and IFRS S2 as part of its International Sustainability Standards Board (ISSB) initiatives, which are designed to provide a global baseline for sustainability disclosures. These standards aim to enhance and unify sustainability reporting. IFRS S1 focuses on general requirements for sustainability-related financial information, establishing guidelines on how to disclose information that is useful to investors in assessing an entity's enterprise value. IFRS S2 is specific to climate-related disclosures, building on the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. While IFRS S1 and S2 are not directly replacing TCFD, they are built upon and expand the TCFD framework. The IFRS standards incorporate TCFD principles and aim to provide more comprehensive, standardized, and comparable sustainability and climate-related disclosures.

We will explore these disclosures in more detail in the second release in this series.

Climate risk and Enterprise Risk Management

Climate change risks are broadly grouped into physical, transition, and liability risks. Since the risks are transversal in nature (meaning to say, it crystalises through other financial and non-financial risk taxonomies), firms have various approaches available to them in terms of the incorporation into risk management.

A firm's approach to the incorporation of climate related risks into its ERM framework must therefore be appropriate and consistent with its wider approach, and proportional. The ERM approach to climate related risks should also take cognisance of the potential opportunities that may emerge from the effect of these risks on the markets, competitors, products, and other aspects relevant to the business of the firm.

The objectives of managing climate related financial risks can be summarised as:

1. To understand the risks and opportunities that may arise from a changing climate.
2. To ensure well-informed decisions as they pertain to the core risks of the firm (e.g. underwriting, investment, product development and lending function).
3. To implement proportional governance, risk management, scenario analysis, and disclosure practices.

[2] https://www.resbank.co.za/en/home/publications/publication-detail-pages/prudential-authority/Climate-related-risk/2024/G1-Insurers-Climate-Guidance-Risk

[3] https://www.resbank.co.za/en/home/publications/publication-detail-pages/prudential-authority/Climate-related-risk/2024/G2-Insurer-Climate-Guidance-Disclosure-for-Insurers

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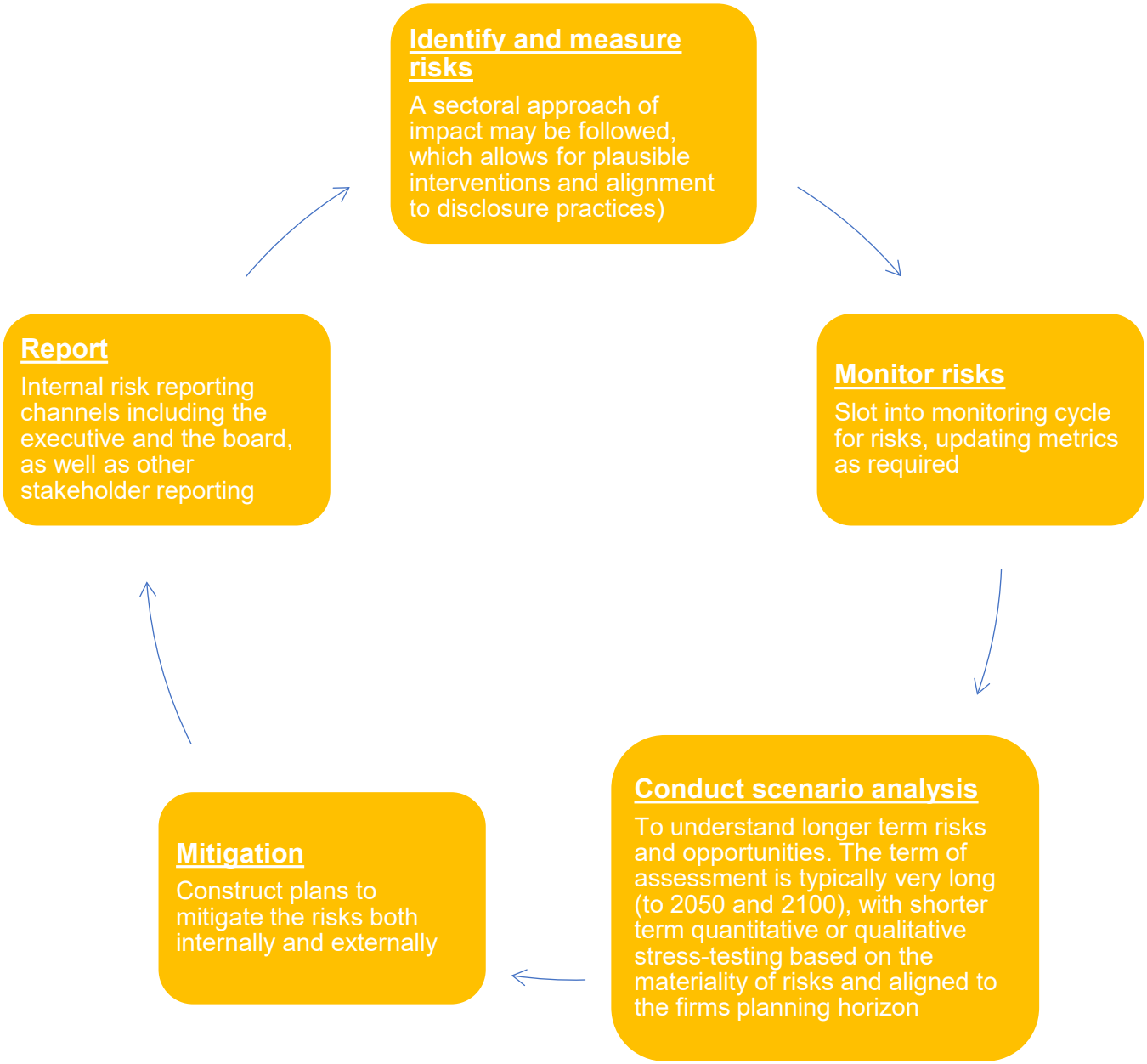
Climate related risks can affect firms across all elements of business, including:

1. The customer, whether these are individuals or organisations
2. Operations and business continuity, both through changing technology in the wake of transitioning to a greener economy, and climate related events
3. Products, since market norms may change (both a risk and an opportunity)
4. Disclosures
5. Pricing
6. Provisioning and reserving
7. Capital modelling and requirements
8. Risk management
9. Reinsurance and other mitigation strategies
10. Operating model
11. Shareholders and other stakeholders
12. Employees
13. Suppliers
14. Regulators and regulations
15. Financial soundness and profitability

It is therefore imperative that early actions are taken to allow the management of the risks (and opportunities) to become part of the business-as-usual practices. Despite the broad impact potential of climate related risks, the management of this class of risks can follow normal practice:



Besides the general best practices for risk management related to climate change risks, banks and insurers should integrate climate change risks into governance, the risk-management system and Own Risk and Solvency Assessment (ORSA)/Internal Capital Adequacy Assessment Process (ICAAP), similar to all risks undertakings are or could be exposed to. Integration of climate change risk in the ORSA needs to be performed in the short- and long-term[4]. Many supervisors are recognising the importance of their role in addressing climate risks, in line with their mandates to ensure the safety and soundness of firms and the insurance sector as a whole[5].

[4] https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion-on-climate-change-risk-scenarios-in-orsa.pdf

[5] IAIS: Issues Paper on Climate Change Risks to the Insurance Sector

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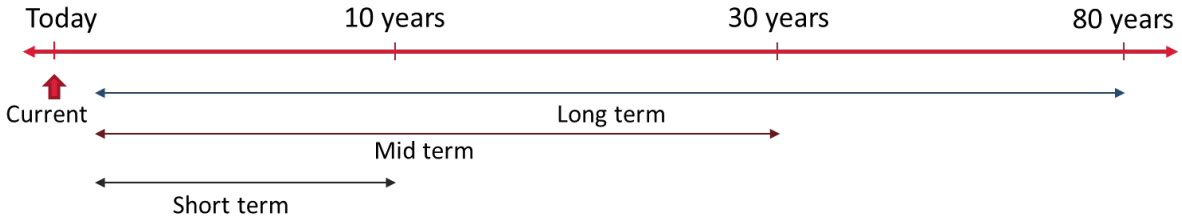
The time horizon for climate risk is expected to be longer than those currently being considered during the normal business practice. The timelines below show the expected short-, mid- and long-term horizons that are typically used in the assessment of climate risk.



Institutions should firstly assess climate change risk in the short term. Climate change is affecting the frequency, severity and distribution of extreme weather events and natural disasters. Not only physical risk, but also transition risk can arise in the short term. Institutions should also assess the long-term risks of climate change. Best practice is to use scenario analysis to inform the strategic planning and business strategy.

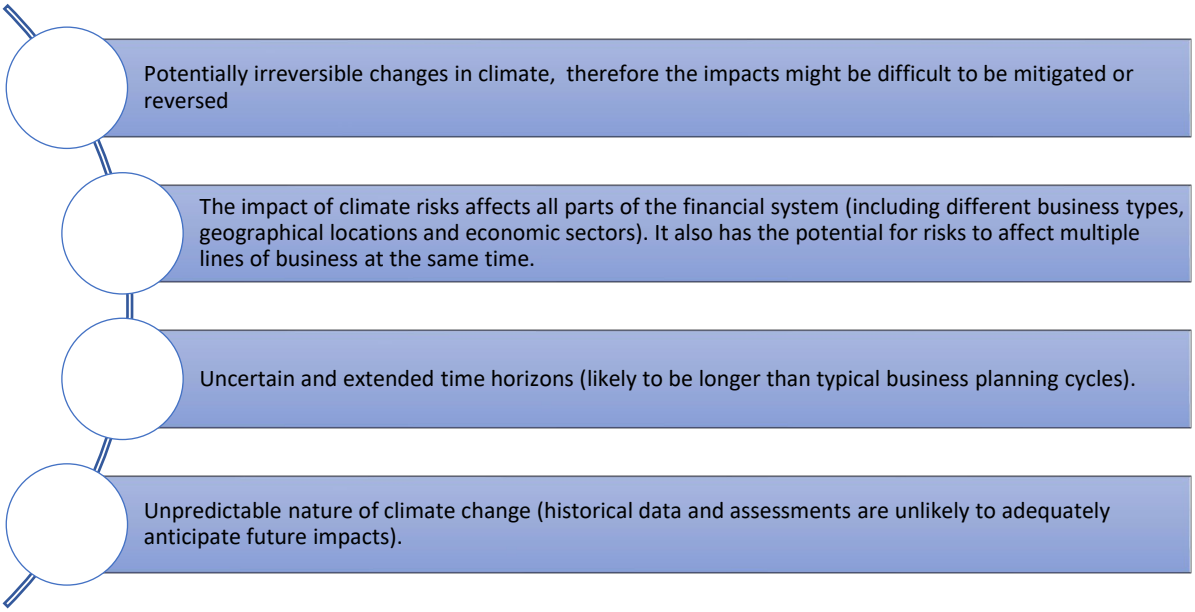
Scenario analysis is typically useful if:

1. the effect of a variety of impacts should be captured that are interrelated and can interact positively or negatively with each other.
2. possible results are very uncertain, will have an impact in the medium to long term and the potential disruptive effects are significant.
3. historical trends and data sets do not provide a good prediction of future trends (e.g. rapid or disruptive changes).

Good literature is available to assist with the formulation and execution of scenario analysis and planning, and using the results to identify how the firm should respond strategically and tactically (e.g., NGFS).

Any policies and procedures, with regards to managing climate risks, developed under the risk management framework should clearly outline the roles and responsibilities of business lines and risk functions (e.g. Line 1 defences and Line 2 defences).

The financial risks related to climate change have unique features that distinguish them from other financial risks. This requires a more a strategic approach to the management of these risks. Some of these features include:



Therefore, an integrated approach to climate risks should be taken across the different business lines (such as underwriting, investment, product development and lending functions).

Enterprise Risk Management

An ERM framework would require institutions to address all relevant and material risks (more so for insurers and banks as this is required for solvency purposes[6]).

Institutions will need to understand the interaction between climate risks and their business activities, including any compounding effects with other risks. The main risks to consider and potential impact due to climate risk typically are:

Credit Risk

- potential increase in defaults on loans due to adverse climate events.
- potential decline in collateral value of assets.

Market Risk

- potential re-pricing of financial instruments affecting the value of securities held on an institution's balance sheet.

Operational Risk

- supply chain disruptions; or
- forced facility closures.

Underwriting Risk

- potential increase in insured losses because of more frequent and/or extreme weather events.

Liquidity Risk

- increased demand for liquidity to respond to extreme weather events; or
- difficulties in liquidating assets that were negatively impacted by climate risks.

Reputational Risk

- affecting an institution's ability to attract and retain customers (or employees).

[6] ICP 16 - Enterprise Risk Management (ERM) for Solvency Purposes

Risk Identification

Scenario analysis, with both a short- and long-term time horizon, can be a useful tool for informing the risk identification process. The Financial Stability Board TCFD has delivered a stand-alone report on the use of forward-looking scenario analysis[7], which could be a useful tool for supervisors seeking to build awareness and capacity of insurers in their market.

The ORSA or ICAAP are appropriate frameworks to consider and record the material impact on capital adequacy of climate risks (even for institutions that are not required to complete an ORSA or ICAAP).

Risk Monitoring

Monitoring climate risks requires both a qualitative and quantitative approach. It also relies on developing metrics to measure and monitor the unique effects of climate risks on each institution. Geospatial metrics are particularly useful assess portfolio exposures to geographical areas with higher (or lower) climate risk.

To monitor climate risk effectively, a variety of data and models sources will be needed (internal, external and publicly available). These data sources (and the resultant metrics) should be updated regularly to ensure appropriate information is available for decision-making purposes.

In many cases, it would be advantageous to procure assistance from external climate risk experts to better understand the impacts of climate change.

Conclusion

Climate change risks are different to risks we have faced in the past. However, there are existing ERM frameworks, processes and analysis that can be extended to incorporate these risks. It is not necessary to "re-invent the wheel" for climate change risks, but rather to "refine it" (with the appropriate assistance of climate experts). There is a significant amount of resources (guidance, position papers, tools, view-points, and other materials) already available and more becoming available everyday as the importance and necessity of incorporating climate change risk increases.

In the second information note we will have a closer look at the requirements for climate-related disclosures and the impact this has on the financial services industry.

[7] https://www.fsb-tcfd.org/publications/final-technical-supplement/