

# Climate Financial Risk Forum: Session 2 Guides

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## Introduction

The Climate Financial Risk Forum (CFRF), jointly established by the Prudential Regulatory Authority (PRA) and Financial Conduct Authority (FCA) published its first guide in June 2020.<sup>1</sup> The purpose of this guide is to help firms understand the risks that arise from climate change and to provide support on how to integrate these risks into strategy and decision-making processes. A Milliman paper summarising this guide can be found [here](#).

Subsequently on 21 October 2021, the CFRF published its second round of guides (Session 2 Guides)<sup>2</sup> to help the financial sector develop its approach to addressing climate-related financial risks and opportunities. The Session 2 Guides cover risk management, scenario analysis, disclosure, innovation and climate data and metrics, and build on the initial CFRF guide (from June 2020).

The Session 2 Guides consist of 10 different outputs spanning more than 250 pages. This paper summarises the key messages from the Session 2 Guides.

## Risk management

### RISK APPETITE STATEMENTS

This guide contains an overview, as well as some sector-specific advice chapters, including a chapter for the insurance industry. The guide offers example practices from firms, leading thinking and industry papers. However, the guide does stress that it is not intended to be a benchmark for best practice.

The overview section emphasises that risk appetite is key in order to align understanding of both the level and type of risk that is accepted in pursuit of a business strategy. Whilst some firms include their climate metrics within the entity or Group risk appetite statements (RASs), other firms have taken a different route and have a standalone climate/ sustainability /Environmental, Social and Governance (ESG) RAS. However, the CFRF says that good practice is to align the approach for addressing risk appetite within the RAS with that followed for existing risk categories.

Whatever the approach taken, climate RASs should include the following risks: transition risk and physical risk, and the alignment to net zero, temperature targets and other relevant scientific climate targets. Additionally, an individual (or team, as appropriate) should have responsibility for ensuring there is a holistic view of climate risk.

Ongoing enhancements to risk appetite include incorporating findings from scenario analysis and the ability to cascade RAS metrics into business practices, financial and operating plans etc.

The first step in creating a climate-related RAS is to identify the exposure to climate-related risks, and then secondly to consider the approach for defining the RAS for those exposures. With respect to insurance-specific features or considerations, the impacts of climate risks can be put into two categories:

- **Traditional business risks** consist of those climate risks that materialise via changes to risks captured in existing categories, resulting in higher losses. Examples include catastrophe risk, reinsurance default, reserving, legal or asset-side risks.

<sup>1</sup> FCA (3 November 2021). Climate Financial Risk Forum (CFRF). Retrieved 25 October 2021 from <https://www.fca.org.uk/transparency/climate-financial-risk-forum>.

<sup>2</sup> Bank of England. Climate Financial Risk Forum. Retrieved 4 November 2021 from <https://www.bankofengland.co.uk/climate-change/climate-financial-risk-forum>.

- **New risks and opportunities** include transitional risks that are proportionate to the carbon intensity of the underlying activity. They could relate to an insurer's own emissions footprint or those associated with their assets or liabilities. Examples include regulatory conduct risk or legal risk, reputational risks or strategic risks.

The guide describes the key RAS considerations as follows:

- The RAS should be used to articulate the risks to pursue or avoid
- It may be quantitative or qualitative, but must be supported by limits
- It may apply a strategic approach, e.g., a "no harm" approach
- The RAS can be defined hierarchically, for example, the top layer may consist of general principles with more concrete measures defined at risk-taker level

The guide suggests that firms should assess whether they need new RASs for climate-related risks. For example, firms should consider whether or not the existing RASs capture carbon-intensive activities, whether they capture risks materialising over different time horizons and whether they capture all risks arising from climate change.

Where climate risk impacts established risk factors, existing metrics may be used. Firms should assess the sensitivity of these metrics to climate factors. Examples of metrics include the carbon intensity of the asset, the carbon footprint of the underlying counterparty, scenario Value at Risk (assets metrics) and average loss, shortfall, severity and frequency of weather events and increase in excess mortality (liability metrics).

With respect to thresholds, where climate risk factors impact existing risk measures that have defined limits, no changes may be needed to the thresholds if these limits are already aligned with the risk tolerance objectives (for example, capital impact). The guide also suggests that thresholds may become "harder" over time for carbon-intensive businesses where the business's understanding of the metric develops over time.

## USE CASES

This guide builds on the previous RAS document, and aims to provide guidance on integrating a RAS into a firm's risk management processes, again with a specific chapter regarding insurers.

Similarly to the guidance given on the RAS, in order to support firms' assessment of climate-related risks, the guide suggests considering climate risks in the context of the following categories:

- **Traditional business risks:** Where higher losses may materialise within existing risk categories.
- **New risks related to carbon-intensive activities:** Where transition risks may emerge in relation to a firm's emission levels and the emission associated with its assets and liabilities.
- **Strategic risks:** Where climate risks alter the overall risk level associated with a firm's long-term planning.

Note that here strategic risks are separated out from new risks related to carbon-intensive activities.

This guide provides examples of the above risk categories for property casualty (P&C) and life and health (re)insurers separately, due to the differences in contract length and/or renewal term structure of the business typically underwritten by these two sectors.

It is recommended that P&C firms may wish to consider the following traditional business risks:

- **Future uncertainty:** It is not yet clear to what extent or how quickly the frequency and severity of natural catastrophes will increase. In light of this uncertainty, cover limits may become inadequate due to unforeseen increases in extreme tail events.
- **Scenario analysis and future management actions:** When conducting scenario analysis, firms tend to assume that climate liabilities can be reduced through management actions as the associated risks worsen (either by reducing exposures or increasing premiums). However, these management actions may have other consequences, such as the reputational risk associated with reducing exposure via refusal of coverage, or sharply increasing premiums for existing policyholders.
- **Customer impacts:** In response to future increases in the financial risks associated with climate change, it is likely that P&C insurers will seek to reduce exposures and/or increase premiums as described above. However, where the possibility of a widening protection gap is identified early (for example, when a particular geography is likely to experience levels of flooding that would render properties uninsurable), preventive measures may be taken. For example, insurers could provide novel policies which reward policyholders for taking action to offset the risks posed to their insured assets by climate change.

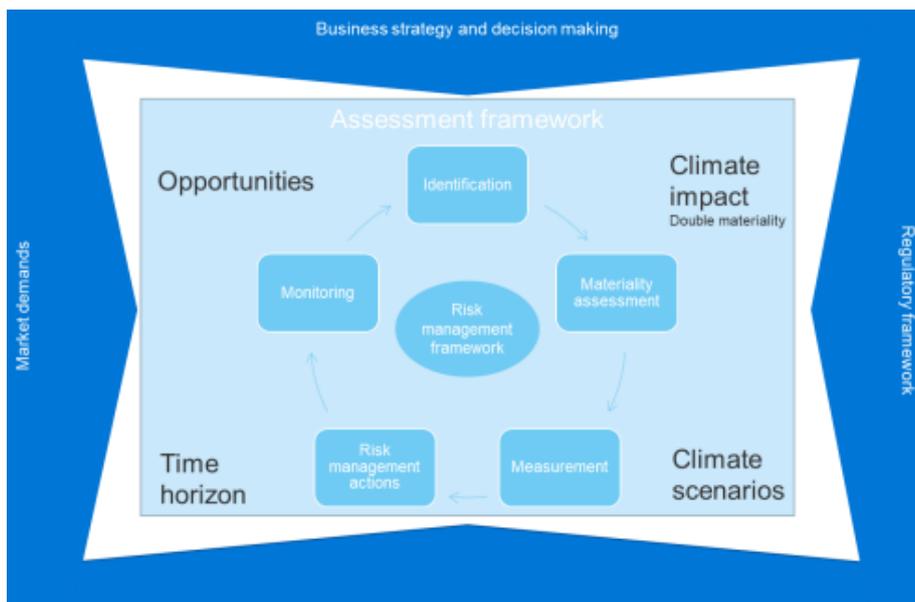
Life and health insurers may wish to consider the following traditional business risks:

- **Asset investments backing long-term liabilities:** Life and health insurers' asset portfolios may be subject to climate-related risks. These risks could be physical, such as the risk posed to property portfolios by natural catastrophes, or transitional, such as the impact of changes in consumer sentiment and regulation. Firms should consider assets' current and future exposures to climate-related risks. For example, a firm's current emissions profile, in which an insurer has an equity, should be taken into account, but insurers should also consider the quality of plans for moving towards a cleaner emissions profile. This analysis can then be used to inform risk appetite and manage exposure.
- **Customer impacts:** Climate change and its associated physical and economic impacts may lead to protection gaps in life and health insurance for certain regions. However, climate change may also have an impact on existing risks considered by life and health insurers, such as mortality risk. Firms writing or holding annuities may also wish to consider the desire of annuitants to have their pension incomes supported by a sustainable investment strategy, and the impact of customer dissatisfaction if this preference is not met.

The strategic risks are similar for life and non-life firms. An example given in this CFRF guide is the setting of targets for net zero greenhouse gas (GHG) emissions. (Re)insurers setting such targets for their operations and/or portfolios will necessarily be constrained in terms of their capacity for covering or investing in high-emissions sectors.

The section of this guide regarding insurers ends by providing an example of a framework for incorporating additional time horizon elements into risk appetite statements and tolerances.

FIGURE 1: EXTERNAL INFLUENCES



1. **Establish the assessment framework:** Align risk management approaches to short-term and long-term strategies, engage with customers' and stakeholders' demands for disclosures, collect data for monitoring required metrics, perform scenario analysis.
2. **Risk identification:** Identify climate-related risks in the context of the firm's business and existing risk profile, including traditional business risks, new climate risks and strategic risks.
3. **Materiality assessment:** Assess the materiality of identified risks with reference to scenario analyses.
4. **Measurement:** Assign existing or novel metrics to identified risk exposures.
5. **Management actions:** Plan actions to keep exposures within established thresholds, up to a long-term horizon.
6. **Monitoring:** Implement regular monitoring to detect changes in the risk environment. Adjust over time if needed.

## CLIMATE RISK TRAINING

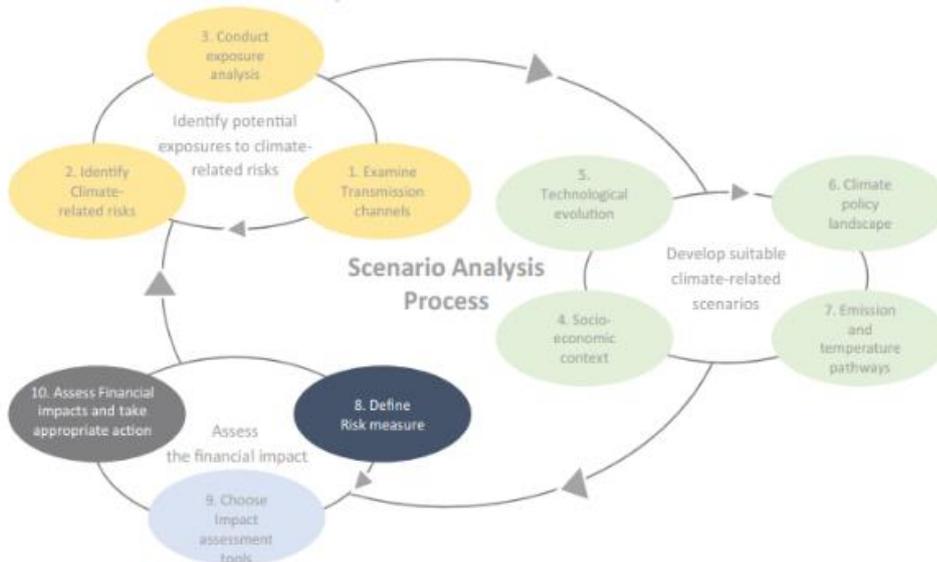
This guide provides examples of successful practice on how to construct a suitable climate risk training programme. The CFRF advises that this training could be integrated into existing training (for example ESG or sustainability training), or delivered independently. The recommended core curricular elements of such a training programme are as follows:

- **ESG and climate:** Overview of ESG and the science behind climate change.
- **Climate strategy:** Outline the firm's strategy and existing planning pertaining to climate.
- **Introduction to climate risk:** Transition/physical risks, key risks for the firm.
- **First line of defence:** Communicate firm's climate risk appetite and risks to firm's portfolios, provide business case studies, outline role of first line in managing climate risk.
- **Second and third lines of defence and climate risk:** Outline role of second and third lines in managing climate risk.
- **Climate risk reporting and regulatory landscape:** Explain state of regulatory landscape and how it is likely to change, outline reporting and disclosure requirements.
- **Climate risk data:** Overview of available climate data, explain how the firm collects and analyses climate data.
- **Climate risk scenario analysis:** Overview of climate scenario analysis and how the firm uses outputs.
- **Climate risk models:** Explain modelling used by the firm and summarise results.

## Scenario analysis

The scenario analysis chapter builds on the work in the previous CFRF scenario analysis chapter included in the 2020 Guide. This had presented practical guidance on how to use scenario analysis to assess climate-related financial risks to inform firms' strategy and business decisions.

FIGURE 2: END-TO-END CLIMATE SCENARIO ANALYSIS PROCESS



The 2021 Guide provides further guidance for banks, insurance and asset managers on:

- Exploring key elements, and challenges, to consider when conducting climate scenario analysis
- How to evaluate transition and physical risk impacts using scenario analysis
- The use of scenario analysis to explore alignment with the Paris Agreement
- Potential areas for future development

These areas are explored through a series of case studies throughout the chapter. The chapter also provides results from the 2021 Global Association of Risk Professionals (GARP) global Climate Risk Management Survey.

## GARP GLOBAL CLIMATE SURVEY RESULTS

The survey results provide information on current market practices as they relate to climate scenario analysis. It's worth noting that, of the firms surveyed, only around 70% of them had undertaken some form of climate scenario analysis, with only around 65% of these firms conducting this analysis in 2021.

In most cases, for those firms that had undertaken climate scenario analysis, the motivation to do so was to identify risks and assess the financial impacts of climate change. Firms used a range of third-party scenarios to perform their analyses, although almost half of firms responded that they were using bespoke internal scenarios. Additionally, many firms reported using external parties to help them develop and build scenario analysis capability.

Financial firms reported using scenario analysis to help evaluate their risk positions, and hence acted as a result. Reported areas were the firm's risk management framework, portfolio compositions, disclosures and organisational strategy. The most common areas where action was actually taken were to improve disclosures and a change in risk management.

## CASE STUDIES

The case studies provided in this chapter are summarised below.

- **Case study 1:** Outlines the experience of NatWest in identifying relevant macroeconomic scenarios to use at the start of its scenario analysis journey.
- **Case study 2:** Evaluates climate transition risk for sovereigns and points out that climate scenarios can be integrated while continuing to acknowledge limitations and uncertainties in the underlying reference scenarios.
- **Case study 3:** Describes the application of Network for Greening the Financial Systems (NGFS) scenarios to evaluate transition risk in a corporate lending portfolio for a bank, particularly where the client is a multinational oil and gas company.
- **Case study 4:** Repeats case study 3 but this time considers the physical risk impact, noting that not only "direct" impacts were considered in this case study.
- **Case study 5:** Sets out an approach used by an investment manager to investigate the impact of climate change on specific asset classes and macro variables.
- **Case study 6:** Describes how RSA<sup>3</sup> has started its scenario selection journey by analysing extreme weather scenarios and identifying three trends with business implications of particular interest.
- **Case study 7:** Describes how RSA has used the increased frequency of heavy rainfall, snowpack, ice jams and windstorms in Canada to offer better insurance protection to this market.
- **Case study 8:** Additionally, RSA Canada partnered with OPTA (an external data provider) to enrich data for pricing weather and escape of water perils.
- **Case study 9:** Describes a UK Climate Change Flood Model released by JBA in 2018 to assess risk under a future climate scenario

## CLIMATE RISK PRODUCT PROVIDERS DATABASE

Along with the scenario analysis chapter, the CFRF has also provided a database of climate risk data providers, tools and products. The database has been created to serve as an illustrative list of current climate risk offerings, highlighting the variety and scope of what is currently available in the marketplace.

The information presented in the database covers a range of product types including:

- Models
- Data sets
- Ratings
- Hazard maps
- Frameworks

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<sup>3</sup> The RSA analysis described was performed prior to RSA's takeover, and relates to the former UK-listed group with extensive general insurance operations in UK, Scandinavia and Canada as well as other territories.

## Disclosures

### CASE STUDIES ON CLIMATE ACTION

This guide contains three case studies setting out the actions being taken by firms with regards to climate change and their associated climate reporting. For each firm, the case studies cover details on the trigger for enhancing climate actions, the people and processes involved, the tools and data used and the key challenges and benefits.

The case studies cover Abrdn (a global asset manager), Barclays (a major global bank) and the International Business of Federated Hermes (Federated Hermes, a global asset manager specialising in responsible investment).

A common theme across the three case studies is the challenge of developing a robust approach to climate risk in light of the incompleteness and novelty of data sets and methodologies. Despite this challenge, all three firms are increasingly integrating climate risk considerations across the business.

An interesting observation from the Abrdn case study is the timeframe for developing a report aligned to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). It took Abrdn two years to prepare its first TCFD report, which was published in 2020. In the following year, Abrdn followed up with a more extensive second report. With the upcoming requirement for all firms across the UK economy to prepare TCFD-aligned reports within the next few years, this case study highlights the importance of forward planning in this area.

A challenge experienced by Barclays was the work to quantify client emissions, as it is often the case that company-level disclosures do not provide sufficiently robust data to be used as a primary source, and therefore this requires combining external information with internal assumptions. A similar challenge is also highlighted by Federated Hermes, alongside a lack of standardised metric methodologies.

Federated Hermes acknowledged that, despite the challenges experienced, it has seen clear benefits from the actions it has taken. This includes having an investment team that is well equipped to integrate consideration of climate risks and opportunities, an acceleration in the allocation of capital to activities and infrastructure that will support the transition to net zero carbon emissions and enabling a clear articulation of its approach to climate change to clients.

All three firms highlighted the benefits of setting up climate change working groups to collaborate across the business, and having resources dedicated to climate change.

As climate approaches evolve, two important points that should be common across all firms are highlighted: the importance of starting somewhere and iterating the approach over time, and the need to involve staff across the business to ensure credibility and coherence.

In all three case studies, through the actions taken, the firms have developed a better understanding to their climate risk exposures and the opportunities that may arise from climate change. These case studies illustrate the positive action that is underway across the financial sector.

### MANAGING LEGAL RISK

As climate disclosures become mandatory, accurate information and analysis on matters that firms have not previously had to report on will be required. This guide therefore addresses the current challenges for firms in a shifting environment, discusses the litigation risks that arise in the event of misreporting or reporting failures and sets out best practice options for reporting during this changing period.

### Challenges of climate-related reporting

With around 20 existing or incoming regulatory reporting requirements in the UK which capture ESG factors, and the various additional voluntary standards, the landscape for climate disclosure is an increasingly crowded space. In addition to company-level disclosures, product-level disclosure requirements will also apply in the EU and, in due course, in the UK. Similar requirements are also incoming across other markets, including the US, Hong Kong and Singapore.

There is a concern across many financial institutions about disparities between the current pace of change around the world in relation to climate-related disclosure requirements, and the data and reporting methodologies needed to fulfil those requirements. Particular challenges include:

- **The lack of comparable, reliable data.** This is essential for reporting to be meaningful. However, based on current availability, information will be based on aggregated information that has been developed in inconsistent ways.
- **The reliability of data from data analytics providers.** Products offered by data analytics providers are often described as "black boxes," and there is concern around vendors not yet being willing to stand by the quality of the data they are providing.
- **Materiality.** Materiality is challenging to assess, given the long-tail and potentially fat-tail nature of climate risks, and the dependency of outcomes on many external factors. This may pose challenges around achieving director engagement with climate change information compared to traditional financial information.
- **Scenario analysis.** Scenario analysis is more typically used for internal strategy or discussions with regulators, and therefore incorporating this analysis into public disclosures will be a learning curve for firms. At present, firms are generally intending to include at most a high-level disclosure on this topic.
- **Metrics.** To date, voluntary TCFD reporting has been largely qualitative, and therefore the move towards quantitative reporting of metrics risks creates the impression of precision, when in reality most metrics will be based on incomplete data.

### Litigation risks

Failure by a UK-listed company to disclose a climate-related risk in its annual report could potentially involve a range of corporate liabilities under UK law, and multiple liabilities could arise in relation to a single disclosure failure.

As such, firms are increasingly aware of, and concerned about, the potential for litigation in relation to climate-related disclosures. Such litigation risk exists not only in a firm's home jurisdiction but also potentially any jurisdiction in which its investors are based.

For example, public companies may be liable under US law for disclosures if they include a materially false or misleading statement, or if the disclosure omitted material facts. Having said that, the burden of proof would be high, such as proving intent to deceive and the connection between reliance placed on incorrect information and an economic loss.

### Best practice options for reporting

To manage the litigation risk outlined above, clear disclosure on approaches, methodologies and limitations of data and metrics will be key. Firms are likely to want to include appropriate disclaimers in their reporting to represent any challenges and limitations encountered when obtaining and analysing climate-related data.

Current issues with disclosures can be approached as follows:

1. **Form of report.** The general view is that inclusion of TCFD disclosures within strategic reports is not desirable, and generally a supplement to the annual report would be an appropriate form for TCFD reporting.
2. **Precise, accurate and verified disclosures.** Disclosures may be subject to scrutiny from a wider range of stakeholders than annual reports. They should therefore be written in a way that is clear to the layperson, caveated where necessary and verified.
3. **Methodology.** Transparency around the challenges encountered when obtaining and aggregating climate data is likely to be an important part of disclosures. Firms may wish to create internal methodology records regarding their approaches to obtaining and processing climate data.
4. **Metrics.** A short statement noting the data issues underlying disclosed metrics will be an important part of reporting, given the risk of creating a false impression of precision or completeness of data.
5. **Disclaimers.** Disclaimer language used in TCFD reporting should accurately reflect areas of concern. The form of the disclaimer should be considered carefully to avoid being considered a "legal boilerplate."
6. **Materiality.** More guidance may be required on the extent to which materiality assessments should reflect the financial impact on a firm itself, the impact of the firm's activities on the climate or as a component of the wider systemic risk posed to financial markets.

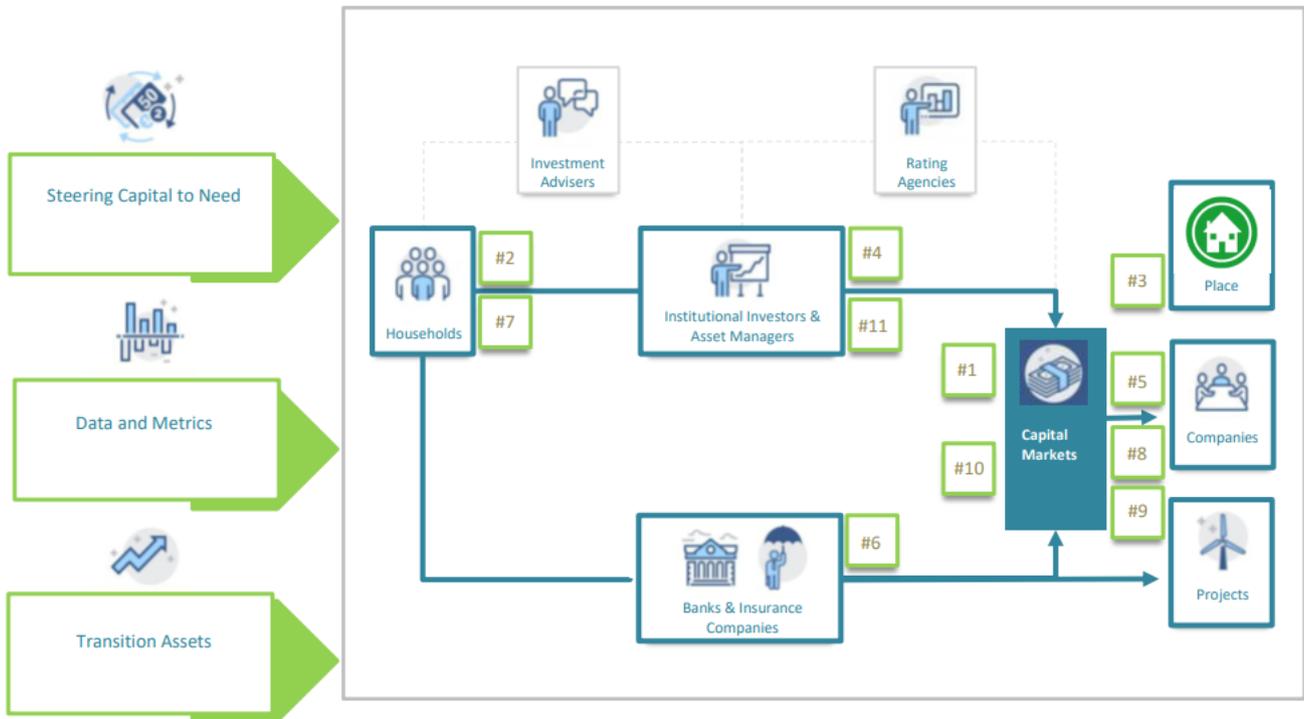
- 8. **Governance.** Board members should be provided with sufficient time and opportunities to engage with climate change, given the new and potentially challenging nature of the topic. Firms should consider the frequency with which the board and relevant committees consider climate change and related disclosures, and the need for upskilling and training within the business.
- 9. **Accounting and auditing issues.** The information generated through any TCFD process may be of relevance to auditors, given their role in reviewing financial statements. It is considered that auditors need to improve their assessments of climate-related risks when undertaking audits, and should provide more challenge to firms in this area.
- 10. **Assurance.** Some firms intend to use third-party assurance, but a challenge is the lack of accepted methodology resulting in nothing detailed to assure against. It is especially important to be clear about what level of assurance has been provided in relation to disclosures.

## Innovation

This guide focuses on identifying and sharing actionable innovation opportunities to mobilise financial capital and steward an economy-wide transition to meet climate targets of net zero. The chapter illustrates, with a series of short video talks, practical pilots and emerging and active innovation activities across the sector. It also provides commentary on where sector innovation gaps remain. The 11 case studies provide seek-to-illustrate examples of leading-edge activities which are exemplary of innovation and could be scaled and replicated by others.

The diagram in Figure 3, taken from the guide, shows the three main innovation actions impacting the industry and illustrates the flow of financing from the different stakeholders in the economy. The numbers in the diagram correspond to the case studies.

FIGURE 3: INNOVATION ACTIONS



## CASE STUDIES

The case studies provided in this guide fall under one of three main categories with the following aims:

### 1. Expand financing into the real economy

Case studies 1-6 achieve this aim by either increasing the supply side of finance, directing investments to climate solutions, or by building capacity and capabilities on the demand side of finance through developing blended financial models.

### 2. Finance transition assets

Case studies 7-9 are concerned with scaling up investment into building retrofit and how finance can support the structural changes needed in the maritime and agriculture sectors to transition to net zero.

### 3. Improve the use of data and metrics

Case studies 10 and 11 investigate how to transform the transparency of industry data and alignment of portfolios with climate goals.

## Expand financing into the real economy

**Case study 1** looks at the creation of long-term asset funds (LTFAs) under a new authorised fund regime to enable UK- authorised open-ended funds to invest more efficiently in long-term private market assets. This is innovative in that it allows investors, particularly defined contribution (DC) pension schemes, to more confidently invest in illiquid assets. If successful, LTFAs could help support the UK's economic recovery and wider climate goals by facilitating significant investment of capital into appropriate private market assets.

**Case study 2** looks at expanding the green or climate bond market through the introduction of sovereign green bonds issued by the UK government and the development of local climate bonds to allow retail savers to have the opportunity to support ESG projects. A model produced by Abundance Investments suggests these actions could raise billions of pounds across 400 local authorities.

**Case study 3** illustrates how blended financial models provide significant potential for scaling investment into "place-based" transitions to net zero. This is achieved by using local authorities (places) and public funding to support and leverage a flow of private capital to meet the significant investment requirement to achieve net-zero cities and regions.

**Case study 4** shows how rethinking institutional investment for real world impact can be achieved by challenging the convention of investing to maximise risk and return based on traditional asset classes, but rather seeking to optimise investments for desired outcomes; considering risk, return and real world impact.

**Case study 5** describes investing funds into venture capital assets and climate solutions as a means to deliver long-term social, economic and environmental goals. Phoenix Venture Capital Partners has made use of the changes in insurance permitted-links to allow policyholders to invest in venture capital with a green or ESG theme. A key question here is how to scale up the impact from hundreds of millions of pounds to billions.

**Case study 6** outlines Barclays' Sustainable Impact Capital Programme, which invests in fast-growing, innovative and environmentally focused companies that are helping accelerate the transition to net zero. This programme is an example of an innovating bank financing model in that it builds value not only by providing capital but also gives the entrepreneurs access to the wider Barclays financial ecosystem. This then enables the companies to scale up, enter new markets and build more value.

## Finance transition assets

**Case study 7** explains that while there is no single financing solution to solve the structural challenges of retrofitting the UK's building stock, many initiatives are being undertaken to deliver the level of investment required. New initiative are being developed through the Coalition for the Energy Efficiency of Building (CEEB), established in 2019 by the Green Finance Institute, to support householders investing in retrofitting their homes. Widespread effort is needed to finance energy efficiency and deliver systemic improvement in building quality.

**Case study 8** looks specifically at enabling structural change within the "hard to abate" maritime sector. Citi along with other global shipping banks developed a framework for assessing and disclosing the climate alignment of ship finance portfolios. The "Poseidon Principles" of assessment, accountability, enforcement and transparency uses financial transactions to drive climate-positive behaviours in the maritime industry.

**Case study 9** gives an example of an assessment framework for the agriculture sector used to support the measurement of climate, environmental and land-use impacts. The “Global Farm Metric” led by NatWest Group and Sustainable Food Trust (SFT) is a flexible solution for measuring sustainability metrics such as biodiversity and energy use across various primary farming activities, enabling effective financing strategies to support the transition to a net zero agriculture sector.

### Improve the use of data and metrics

**Case study 10** outlines how the lack of access to trusted data is a critical blocker to net zero opportunities and demonstrable impact. The CFRF suggest that open data standards should be implemented to build trust in commercial and open data. Open data standards deliver cohesion and interoperability to unlock metric-based innovation and reduce the burden of reporting as standards are continuously developed. They rapidly expand proven sector trust frameworks and help the finance sector to direct finance towards areas with the greatest impact.

**Case study 11** suggests that there is a need, over the next 25 years, to reallocate trillions of pounds in capital to align with climate goals. This would be achieved by "stewarding the economy" toward net zero through targeted capital allocation to optimise the impact on the speed and success of the broader transition. To make informed capital allocation decisions, investors need to be able to quantify the impact of their current portfolios and the benefits of changing capital allocation with the use of scenario analysis and data.

## Climate Data and Metrics

As noted by the Central Bank and the NGFS in their May 2021 progress report on bridging data gaps, reliable and comparable climate-related data, and consistent and relevant climate-related metrics, are crucial for financial sector stakeholders to properly price and manage climate-related risks.

In November 2020, the CFRF noted the importance of progress in the development and understanding of climate data and metrics and established a thematic workstream to address the topic as a cross-cutting element of the Forum’s 2021 agenda. The Forum’s cross-cutting work has resulted in several key insights, discussed below.

### A range of climate-related metrics across five different use cases

The CFRF identified that a wide range of climate-related metrics are currently used by financial institutions for differing purposes. These metrics were best organised into a cross-cutting metric on engagement and the four primary use cases below:

- Transition risk
- Physical risk
- Portfolio decarbonisation
- Mobilising transition finance

### Climate-related data gaps best addressed at a granular level

The need to address climate-related data gaps is widely recognised, for example in the recent report by the Financial Stability Board. Efforts to address these gaps are being taken forward by a range of organisations, both in the UK (e.g., by the Centre for Greening Finance and Investment) and internationally (e.g., by the Network for Greening the Financial System).

### The need for forward-looking financial metrics

In line with guidance from the TCFD, metrics also differ to the extent they are historical or forward-looking, and climate or financial in nature. As models and tools evolve, the contrast between climate-related metrics, such as carbon intensity, with measures of the financial impact on the valuation of assets under a "well below" 2°C transition is becoming more apparent.

### Frameworks and metrics to address systemwide risks are a key area for development

CFRF members noted financial firms are joining the "Race to Zero" and expectations from regulators to understand the systemwide risks from climate change are becoming increasingly relevant. The risks are far-reaching in breadth and magnitude, uncertain yet foreseeable in nature and require actions today to address future financial risks. In addition, various evidence indicates that future impacts from climate change will be minimised through an early and orderly transition to a net zero economy.

## How Milliman Can Help

Milliman has a number of consultants and principals with expertise within the area of managing climate change-related risks. We are currently helping our clients through:

- Performing a gap analysis of implemented measures versus the requirements in SS3/19
- Providing training for board members and senior management
- Designing a road map for implementing climate change factors into existing risk management frameworks
- Updating existing risk management frameworks to include climate-related considerations
- Facilitating workshops to aid climate risk identification within existing key risk exposures and provide a framework for performing climate risk assessments
- Developing scenario analysis tools to calculate climate-adjusted default probabilities

If you have any questions or comments on this paper, or on any other issues relating to managing climate change risks, please contact any of the consultants below or your usual Milliman consultant.



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