

Why are regulators talking about climate change and what you can do about it?



The social and economic changes caused by the COVID-19 pandemic have had a significant impact on our lives over 2020. It has been argued, however, that the changes we have seen over 2020 pale in comparison to the expected impact that climate change will have on our societies and economies¹. Scientists predict that we have just over 10 years to act on climate change before the damage to the planet is irreversible². With this in mind, regulators are looking to the financial services industry to better understand the challenges posed by climate risk, including a transition to a low-carbon economy.

Introduction

The aim of this briefing note is to provide a “beginner’s guide” to climate risk for Irish insurers. It includes a high-level introduction to climate-related risks and information on what the Central Bank of Ireland (CBI) and European Insurance and Occupational Pensions Authority (EIOPA) are currently doing in relation to climate risk, in addition to an overview of the approach taken by regulators in the UK.

We also provide some information on what Irish insurers are currently doing in relation to climate-related risks and what additional steps could be taken to increase understanding and monitoring of climate-related risk exposures.

Climate risk has financial implications for insurers. Climate-related risks are non-diversifiable risks that may have a financial impact on insurers’ revenues, claims and expenses, assets and liabilities and capital and financing to varying degrees. Therefore, it is important to ensure that the insurance industry is resilient to these risks.

What are climate-related risks?

Climate risk relates to the risks associated with the impacts of climate change. Like any risk exposure, climate-related risks can be split into risk sub-modules. Figure 1 includes a list of the different types of risks associated with climate change.

FIGURE 1: GLOSSARY OF CLIMATE RISK SUB-MODULES

RISK	DEFINITION
Physical risk	Physical risks are risks associated with the direct impact of climate change. Physical risks can be divided into two further categories, acute and chronic. Acute physical risks are event-driven, including increased severity of extreme weather events such as cyclones, hurricanes, or floods. Chronic physical risks arise from longer-term shifts in climate patterns,

e.g. sustained higher temperatures that may cause rising sea levels or heatwaves.

Transition risk Transition risks arise from the transition to a low-carbon, greener economy. This transition could result in large changes in value of certain assets or higher costs of doing business. Regulation and reputation risks can also arise as a result of this transition.

Subsets of transition risk include regulation risk and reputation risk. Regulation risk is the risk that a change in regulations or legislation introduced to combat climate change will affect an organisation. Reputation risk concerns the damage to an organisation’s reputation from its response, or lack thereof, to climate risk.

Liability risk The risk that arises from people or businesses seeking compensation from the organisation for losses they may have suffered from physical or transition risks, including insurance liability risk. For life insurers, this could include increased mortality or morbidity risks.

Litigation risk is a subset of liability risk. It can be defined as the risk that legal action can be taken against the company for failure to disclose climate risks properly, or failure to mitigate impacts and ensure resilience.

Sourced from <https://www.tcfhub.org/resource/a-user-guide-to-climate-related-financial-disclosures/> (adapted)

Sometimes it can be difficult to link the specific climate-related risks to a tangible risk exposure for a specific insurer. For example, a unit-linked insurer may not have a material exposure to the physical or liability risks associated with climate change. However, unit-linked insurers may be exposed to transitional risks associated with their own portfolio of shareholder investments and also the transitional risks

¹ <https://www.businessinsider.com/bill-gates-coronavirus-warning-climate-change-worse-than-covid-2020-8?r=US&IR=T>

² <https://www.un.org/press/en/2019/ga12131.doc.htm>

associated with policyholder investments. This could manifest as reputation or regulatory risk if unit linked investments were considered to be “ungreen” or as a reduction in policyholder demand. There has been a lot of focus in the pensions sector recently in relation to sustainable investment and this is likely to impact the insurance sector in the future.

Central Bank of Ireland

The CBI has been vocal about the move towards a climate resilient financial system at recent events and has made it clear that climate change and the transition to a low-carbon economy has been rising rapidly on its agenda of priorities³. It has emphasised that the financial system has to play a key role in the transition to a low carbon economy. In order to facilitate the transition into sustainable investments, it has highlighted the need for a common definition of what is “green” and for clear and consistent disclosures from businesses.

In February 2020, the Director of Financial Stability at the CBI spoke at the Irish Fiscal Advisory Council’s annual conference, setting out what the CBI is doing in the area of climate change and why⁴. He noted that Ireland is host to the second largest investment fund sector in the euro area, with total assets greater than €5 trillion and “how these financial companies invest will matter for the global transition to a low-carbon economy”. The transition of our financial sector to a low carbon economy will have a key part to play in the global transition.

Climate change is a potential source of risk to financial stability. The CBI recognises that becoming resilient to this source of risk is not an easy task. A lot of the CBI’s work to date has focused on understanding the two main categories of climate risk: physical and transition risks.

In September 2020, the CBI issued a Climate & Emerging Risk Survey to the insurance sector. The objectives of the survey are to capture the level of awareness of the risks amongst insurance companies, to identify the potential exposure to the risks and to collate possible actions to manage/mitigate the risk. The CBI plans to analyse the responses submitted and provide feedback on its key observations. This exercise will highlight areas of potential vulnerability on which to focus future engagement with the industry and provide relevant guidance.

In early November 2020, the CBI’s ‘Director of Financial Regulation: Policy and Risk’ delivered a speech to Sustainable Finance Ireland’s third annual ESG Day⁵. He noted that “assessing, pricing and appropriately managing climate-related

³ <https://www.centralbank.ie/news/article/speech-vasileios-madouros-towards-a-climate-resilient-financial-system-05-november-2019>

⁴ <https://centralbank.ie/news/article/speech-vasileios-madouros-climate-change-the-financial-system-and-the-role-of-central-bank-28-february-2020>

⁵ <https://www.centralbank.ie/news/article/speech-sustainable-finance-changing-regulatory-landscape-gerry-cross-3-november-2020>

⁶ [risks is a key priority for the insurance sector. It is important that these risks are included in the risk management and strategic planning of insurance firms” and he noted some of the recent publications from EIOPA in relation to the use of Own Risk and Solvency Assessments \(“ORSAs”\) in assessing a company’s climate risk exposure. In addition, he announced that the CBI is in the process of establishing a centralised Climate Change unit, reflecting the importance the CBI is placing on its role in relation to climate risk and the financing of a sustainable economy more generally. The CBI has also recently added a “Sustainable Insurance” section to its Insurance Newsletter⁶.](https://www.centralbank.ie/docs/default-source/regulation/industry-market-sectors/insurance-reinsurance/solvency-</p></div><div data-bbox=)

The CBI is also a member of the Network for Greening the Financial System (NGFS), a voluntary group consisting of 66 central banks and supervisors from across the world who are committed to sharing best practices and contributing to the development of climate and environment-related risk management. In June 2020 the NGFS released a series of climate-related publications, including a document on the different climate scenarios⁷ that central banks and supervisors should be considering, with an aim of providing a common reference framework. Another such publication was a technical document⁸ which details possible avenues for further work by central banks, including adding climate risks to their macroeconomic models and forecasting tools.

It is likely that we can expect more prescriptive rules from the CBI in respect of how (re)insurers can integrate climate-related risks into their risk management framework in the future, in particular if the Irish regulator looks to the UK for example.

Prudential Regulation Authority

Whilst the UK is no longer part of the European Union, Irish and European insurers and regulators may be guided by some of the steps taken by the financial sector in the UK in relation to climate change, in particular as the Bank of England has been leading the way globally.

In the UK, the Prudential Regulation Authority (PRA) has already set out clear expectations⁹ that companies must:

- Appoint a “Senior Manager” to take lead responsibility for climate change risks
- Include climate change risks within their governance framework
- Formally consider climate change within their risk management framework

[ii/communications/insurance-quarterly-news/the-insurance-quarterly---december-2020.pdf?sfvrsn=6](https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2019/ss319)

⁷https://www.ngfs.net/sites/default/files/medias/documents/820184_ngfs_scenarios_final_version_v6.pdf

⁸https://www.ngfs.net/sites/default/files/medias/documents/climate_change_and_monetary_policy_final.pdf

⁹ <https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2019/ss319>

- Conduct regular scenario analysis covering a range of timescales
- Disclose information about climate change risks

In December 2019, the PRA issued a discussion paper, “the 2021 biennial exploratory scenario (BES) on the financial risks from climate change”. This has implications for the granularity of climate risk reporting and publicises the intention for compulsory disclosures from 2025. More information on this can be found in [this](#) Milliman briefing note¹⁰ summarising the main implications of the PRA’s proposed approach for insurers.

On 8 March 2019 the PRA and Financial Conduct Authority (FCA) hosted the first meeting of the jointly established Climate Financial Risk Forum (CFRF). The CFRF have produced a guide 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. More detail on this guidance can be found in [this](#) Milliman briefing note¹¹.

EIOPA

EIOPA has published various papers and statements aimed at encouraging companies to disclose the impact of climate change on their business. In September 2019, EIOPA responded to a request from the European Commission to integrate climate-related developments into the scope of the Solvency II framework, and also presented the findings of its public call for evidence by publishing a paper “Opinion on Sustainability Within Solvency II”¹². In this paper, EIOPA considers the practical challenges of the inclusion of climate change risk in the calculation of the capital requirements under Pillar I, which has a one-year outlook. Due to the longer time horizon of climate change risk, it may not be appropriate to capture this in a one-year Value at Risk measure such as the measure underlying the Solvency Capital Requirement calculations. Though EIOPA does not recommend changes in the timeframe of regulatory capital requirements, it encourages the use of complementary tools such as scenario analysis and stress tests to include climate change as a risk and the one-year time horizon or where timing is unpredictable. Such analysis should be embedded in the company’s risk management, governance and ORSA.

In December 2019, EIOPA published a preliminary discussion paper outlining its plans to carry out a focused analysis of the sensitivity of insurers’ balance sheet to climate change related

transition risks in advance of a workshop organised for February 2020. The main objective of this work is to assess key financial risks embedded in insurers’ asset portfolios in relation to the transition to a low-carbon economy¹³. EIOPA is clear to point out that the paper presents preliminary results and methodologies for discussion only, and that the ideas, methodology and results outlined in the paper are not final and should not be considered to represent EIOPA’s position on the issues covered in the paper. However, the paper represents an important starting point in terms of analysis of the insurance industry’s exposure to climate-related risks.

More recently, in June 2020, EIOPA published the “Second Discussion Paper on Methodological Principles of Insurance stress testing”¹⁴ which specifically focuses on two discussion points, one of which is climate change. This paper is a follow-on from the publication of the first discussion paper on the principles of insurance stress testing which introduced stress testing of emerging risks with a specific reference to the risks stemming from climate change.

The paper proposes a step-by step approach to assess climate-related risks, beginning with an assessment of current exposures, complemented by a forward-looking assessment of the potential changes in business models and the possible impacts on policyholders. This provides insurers with a “how-to” guide to implementing a climate-based stress test in their ORSA – something many insurers have struggled with to date.

In October 2020, EIOPA released a consultation paper on the draft opinion on the supervision of the use of climate change risk scenarios in ORSA.¹⁵ The consultation process will close on 5 January 2021. In this consultation paper, EIOPA sets out its expectations to supervisory authorities on the supervision of the integration of climate change risk scenarios by (re)insurers in their ORSAs, applying a risk-based and proportionate approach. The consultation paper proposes that supervisors require (re)insurers to integrate climate change risks in their system of governance, risk-management system and ORSA, to assess climate change risk exposures in the short term and to also assess the longer-term risk of climate change, using forward-looking scenario analysis. Supervisors should expect (re)insurers to take a broad view of climate change risk exposures and to identify material climate change risks for their business. Milliman has published a [briefing note](#)¹⁶ summarising the main impacts of the consultation paper.

Since the analysis of climate change risks is a relatively new field for the insurance sector, the paper recognises that the

¹⁰ https://uk.milliman.com/-/media/milliman/pdfs/articles/financial_risks_arising_from_climate_change.ashx

¹¹ <https://uk.milliman.com/-/media/milliman/pdfs/articles/cfrf-guide-summary.ashx>

¹² https://www.eiopa.europa.eu/sites/default/files/publications/opinions/2019-09-30_opinionsustainabilitywithinsolvencyii.pdf

¹³ https://www.eiopa.europa.eu/sites/default/files/events/climate_risks_sensitivity_analysis_workshop_discussion_paper.pdf

¹⁴ https://www.eiopa.europa.eu/sites/default/files/publications/consultations/eiopa-bos-20-341_second-discussion_paper-methodological-principles-for-stress-testing.pdf

¹⁵ https://www.eiopa.europa.eu/content/consultation-draft-opinion-supervision-use-climate-change-risk-scenarios-orsa_en

¹⁶ <https://uk.milliman.com/-/media/milliman/pdfs/2020-articles/articles/11-9-20-climate-scenarios-in-orsa-cp-v1.ashx>

approaches to scenario analysis of climate change risk may need to evolve over time. The scope, depth and methodologies of quantitative (scenario) analyses of climate change risk can be expected to evolve, as modelling approaches advance, and (re)insurers gain more experience. As a result of these advancements in climate change risk scenario analyses, EIOPA may further develop the supervisory expectations. This will ensure a degree of standardisation, so that the ORSA reflects own risks and the need for some level of consistency.

The consultation paper also includes the results of information gathered from supervisory authorities in relation to current practice in respect of climate change risk. The results show that, currently, only a small number of companies include climate-related risk scenarios in their ORSA, with the paper citing 13% as the upper limit of the proportion of companies that currently include climate-related risks in their ORSA.

The paper also includes some information that may be of use to (re)insurers in addition to supervisors. It tackles the issue surrounding the parameterisation of climate change risks and includes a mapping of climate change risks to prudential risks for life, health and non-life insurers. It also provides some guidance on developing and including climate change risk scenarios in the ORSA.

Furthering its sustainable finance agenda, EIOPA launched a discussion paper in December 2020 on the methodology for integrating climate change into the SCR standard formula, focusing on natural catastrophe underwriting risk¹⁷, which will be of interest to non-life insurers.

On 17 December 2020, EIOPA released its opinion on the 2020 review of Solvency II¹⁸ which proposes that Solvency and Financial Condition Reports (SFCRs) should include references to “sustainability risks and ESG and climate change related issues”.

What are (re)insurers currently doing?

Some Irish (re)insurers are now beginning to reference climate risk in their risk appetite statements, strategy and business plans and it is recognised that climate-related risk could be a significant risk in the future. Some Irish insurers have also started to mention climate risk in their public SFCRs. Following the recent publications from EIOPA and the CBI, it is likely that climate-related risk has been noted as a risk in some (re)insurers’ 2020 ORSAs. However, there is no evidence to suggest that the current practice in Ireland is any different from

the practice across Europe, with the majority of companies not yet including climate-related scenarios in their ORSAs.

For many smaller insurance companies in Ireland, climate risk remains an “emerging risk”. Emerging risks usually include risks and major trends that could affect the insurance sector over the medium to long term.

Looking to larger insurers and subsidiaries or international groups a lot more detail and research has gone into managing climate change and the risks associated with it. Many of the larger insurers have followed the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD) and included separate disclosures in relation to climate change. While the forms these reports take can vary, there has been a lot more engagement by large international insurance groups to disclose climate risk exposures in their annual reports. Examples include Aviva’s climate-related financial disclosure¹⁹, Zurich’s white paper on managing the impacts of climate change²⁰ and Allianz’s sustainability report²¹.

What more could (re)insurers be doing?

In the future we anticipate that there will be increased engagement from insurers in relation to climate risk exposures. For most companies, this is likely to be driven initially by regulatory requirements from the CBI and EIOPA.

In the short to medium term, companies should begin to incorporate climate-related risk into their current risk management framework. Climate risk should be incorporated in the same way as other risks and split into various submodules such as physical risk, transition risks and other risks associated with climate change such regulatory and legal risks.

This includes incorporating climate-related risks into risk management policies, risk appetites and risk tolerances and monitoring exposure. As an example, companies could monitor transition risk exposure based on the extent to which assets held within an insurer’s portfolio are at risk of being stranded or at risk of value erosion.

Insurers should also consider the interactions with the climate relates risk exposures in their investment portfolio and the Prudent Person Principle (PPP) under Solvency II. This is considered further in [this](#) Milliman briefing note²².

¹⁷https://www.eiopa.europa.eu/content/eiopa-launches-discussion-paper-methodology-integrating-climate-change-standard-formula_en

¹⁸ https://www.eiopa.europa.eu/content/opinion-2020-review-of-solvency-ii_en

¹⁹ <https://www.aviva.com/content/dam/aviva-corporate/documents/socialpurpose/pdfs/climate-related-financial-disclosure-2019-report.pdf>

²⁰ <https://www.zurich.com/-/media/project/zurich/dotcom/industry-knowledge/global-risks/docs/zurich-climate-change-whitepaper.pdf?la=en&rev=e32221a1557a48baaea7398c7dabe442>

²¹https://www.allianz.com/content/dam/onemarketing/azcom/Allianz_co_m/sustainability/documents/Allianz_Group_Sustainability_Report_2019-web.pdf

²² <https://ie.milliman.com/-/media/milliman/pdfs/2020-articles/articles/10-23-20-climate-change-and-the-prudent-person-principle-v1.ashx>

External providers of ratings for equities and corporate bonds can be useful in providing data or ratings. Some providers and metrics that insurers are using are outlined in Figure 2.

FIGURE 2: EXAMPLE DATA SOURCES OR PROVIDERS USED TO MEASURE CLIMATE CHANGE EXPOSURE IN ASSET PORTFOLIOS

COMPANY	METRIC	DATA PROVIDER OR PARTNER	DESCRIPTION
AXA ²³	Carbon intensity	Beyond Ratings	Carbon footprint, expressed in tonnes of equivalent CO2/gross domestic product (“GDP”), for sovereign debt.
Legal & General ²⁴	Total Carbon Footprint	Trucost ESG Analysis (S&P Global) and Bloomberg	Carbon footprint of Legal & General’s portfolio expressed in tonnes of equivalent CO2 per £1 million revenues.
Aviva ²⁵	Alignment of investment portfolio to the International Energy Agency’s 2-degree Celsius scenario level	Paris Agreement Capital Transition to Assessment (PACTA) model developed by 2Degrees Investing Initiative	Assesses extent to which the utilities sector exposure of Aviva’s corporate credit and equities funds are aligned to the 2-degree Celsius climate warning trajectory target by 2023.

For more detailed information on climate-related risk metrics you can refer to our recent briefing note on “[Risk metrics for climate change](#)” that sets out which metrics are best to use for climate change risk monitoring.

In terms of building climate risk into financial planning and a company’s ORSA, the EIOPA documents mentioned above set out a step-by-step approach on how best to achieve this, in particular the EIOPA document entitled “Second Discussion Paper on Methodological Principles of Insurance stress testing”²⁶.

²³ https://www-axa-com.cdn.axa-contento-118412.eu/www-axa-com%2F667045c2-cc3c-4f65-a888-18753c463d9c_axa2019_ra_en_climate_report_2.pdf

²⁴ <https://www.legalandgeneralgroup.com/media/2959/tcdf-final-mar2019.pdf>

Finally, there are a number of general principles worth highlighting when identifying and discussing appropriate climate risk metrics and considering scenario testing:

- Historical data is rarely relevant: metrics must be forward-looking in order to capture the evolving nature of climate risks.
- Time horizons matter. Metrics should reflect estimation of risks over different time horizons to reflect the long-term nature of climate risks.
- Climate change is an emerging risk, where best practice is developing. As such, some risks such as transition risk may have a “red” status (if using a traffic light system to define whether a risk is currently within risk appetite) as firms begin to assess exposure in line with risk tolerance and take actions to reduce climate risk exposure.

Conclusion

Recently the CBI, alongside other regulators and industry bodies, has become more vocal about the challenges that the financial services industry, including insurers and other financial institutions, will face due to climate-related risks. EIOPA has started to prepare discussion documents relating to climate risk stress testing, and climate risk disclosures are increasingly becoming a part of insurance companies’ financial disclosures.

With this in mind, companies should be considering how best to measure and monitor their climate risk exposures. The ORSA seems like the logical place for companies to begin to consider climate risk exposure and this aligns well with comments from the CBI and EIOPA. However the time line of the ORSA may not be appropriate for modelling some of the longer-term risks associated with climate change.

In addition, companies should consider how to integrate climate-related risk into the wider risk management framework. While not explicitly addressed in this note, we also expect more insurers to publish climate-related financial disclosures in the short to medium term. With all this in mind, we expect to see increased focus on climate-related risk exposures in the coming year and into the future.

²⁵ <https://www.aviva.com/social-purpose/climate-related-financial-disclosure/>

²⁶ https://www.eiopa.europa.eu/sites/default/files/publications/consultations/eiopa-bos-20-341_second-discussion_paper-methodological-principles-for-stress-testing.pdf

How Milliman can help?

Milliman can assist you with various aspects of your climate-related risk management, including advice on:

- Assessing climate-related risk exposure
- Incorporating climate-related risk into your risk management system
- Climate-related risk reporting and KRI's
- Incorporating climate-related risk into your ORSA
- Best practice in relation to climate-related risk financial disclosures
- Climate-related risk modelling

For further information, please contact your usual Milliman consultant or those below.

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