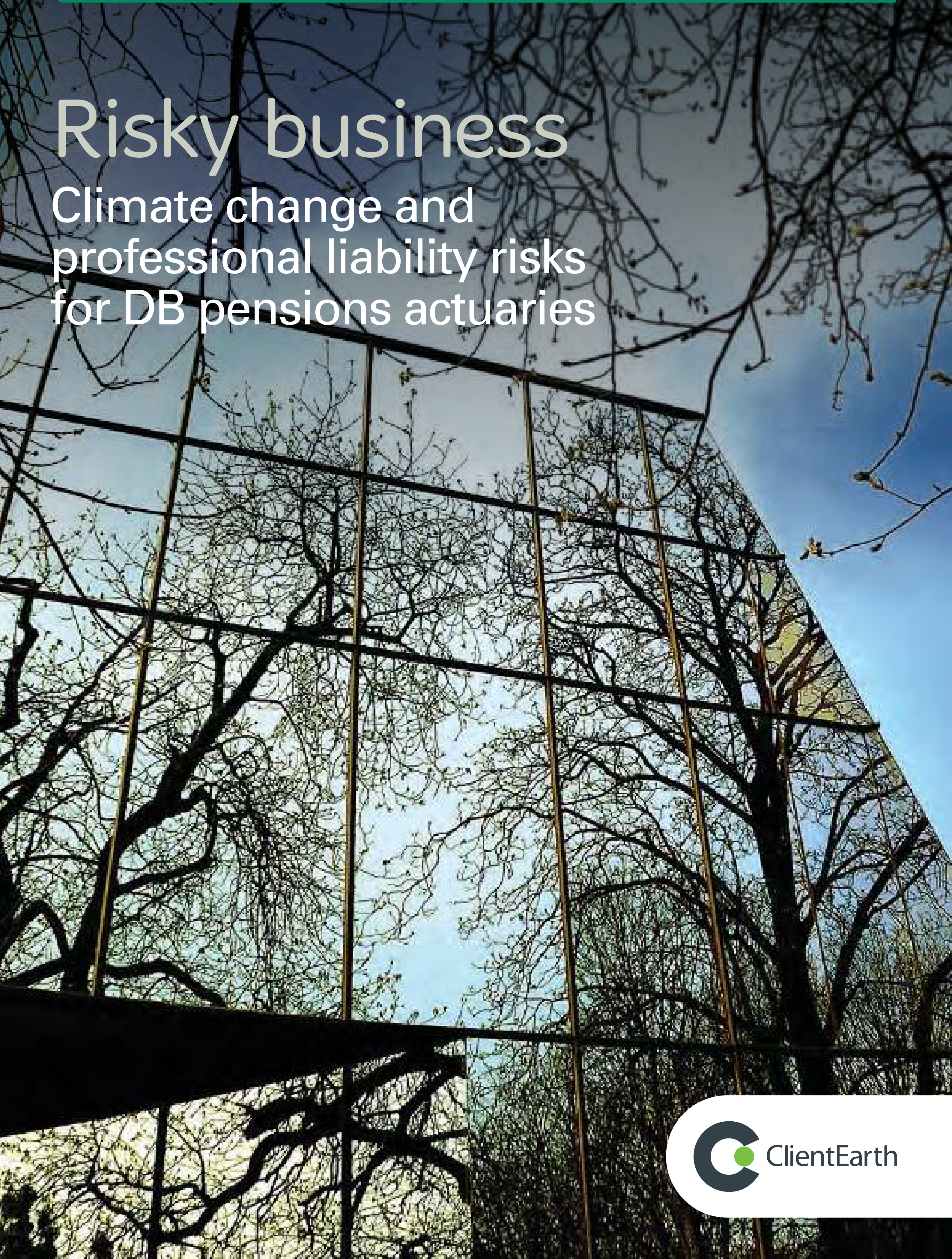
November 2017

Risky business

Climate change and professional liability risks for DB pensions actuaries



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ClientEarth is Europe's leading environmental law organisation.

We are lawyers working at the interface of law, science and policy. Using the power of the law, we develop legal strategies and tools to address major environmental issues.

Today's investment decisions will affect the planet for decades to come. Our Company and Financial Project uses the law to drive greater integration of climate-related financial risks into the management decisions of influential economic actors.

Our aim is to minimise the risk to the economy and to investors from climate change and to support a rapid shift of capital toward green investments.

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Contents

Abbreviations

- BoE – Bank of England
- DB – Defined Benefit
- ESG – Environmental, social and governance
- FRC – Financial Reporting Council
- IFoA – Institute and Faculty of Actuaries
- PPF – Pension Protection Fund
- TCFD – Task Force on Climate-related Financial Disclosures
- tPR – the Pensions Regulator
- UK – United Kingdom

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Climate risk in UK defined benefit pension schemes

Climate change is creating significant and material financial risks and opportunities for many investors, now and into the future. This is accepted wisdom for major market actors and financial regulators alike.

> "Investors can no longer ignore climate change. Some may question the science behind it, but all are faced with a swelling tide of climate-related regulations and technological disruption."
>
> **BlackRock, 'Adapting Portfolios to Climate Change' (2016)**

> "A wholesale reassessment of prospects, as climate-related risks are re-evaluated, could destabilise markets, spark a pro-cyclical crystallisation of losses and lead to a pe rsistent tightening of financial conditions: a climate Minsky moment."
>
> **Mark Carney, Governor of the Bank of England, 'Resolving the Climate Paradox' (2016)**

Despite the clear signals, action by the UK's multibillion pound defined benefit (DB) pensions sector to address these risks has been slow. While a select group of leaders are busy setting the new industry standard, the majority are lagging.

Misconceptions about the implications of climate risk are persistent within the industry.[1] The financial implications are often poorly understood and, for many trustees, climate change is still sidelined as just another 'ethical' or 'non-financial' issue. Others turn a blind eye altogether, or hope asset managers or advisers have it covered. In doing so, they may be exposing scheme funding to excessive risk, breaching core legal duties and facing significant liability risks as a result.

Climate risk is a professional liability risk for pensions actuaries

In light of this new reality, actuaries working in the UK's DB pensions sector must now consider how climate risk affects the advice they are providing to their clients. Quickly evolving industry practice and recent publications issued by the Pensions Regulator (tPR)[2] and the Institute and Faculty of Actuaries (IFoA)[3] indicate that actuaries too may now face increasing reputational, legal and ultimately commercial risks if they do not.

To best serve their clients and minimise any potential liability, DB pensions actuaries will need to understand how climate risk impacts their existing legal and professional duties.

If a scheme's financial position deteriorates because of a failure to consider or manage climate risk, actuaries may become a prime target for costly and reputationally damaging litigation. Even before loss crystallises, actuaries who fail to consider climate risk may face increased risks of regulatory investigation and sanctions.

This paper aims to draw these issues to the attention of actuaries, trustees and the broader investment community. Its objective is to improve visibility and clarity about legal issues relating to climate risk for actuaries, and to ensure that climate risk is better managed by the UK's DB pension sector. Ultimately, this will better protect workers' pensions, strengthen the UK's financial stability and minimise some of the worst impacts of climate change.

Climate risk: what is it?

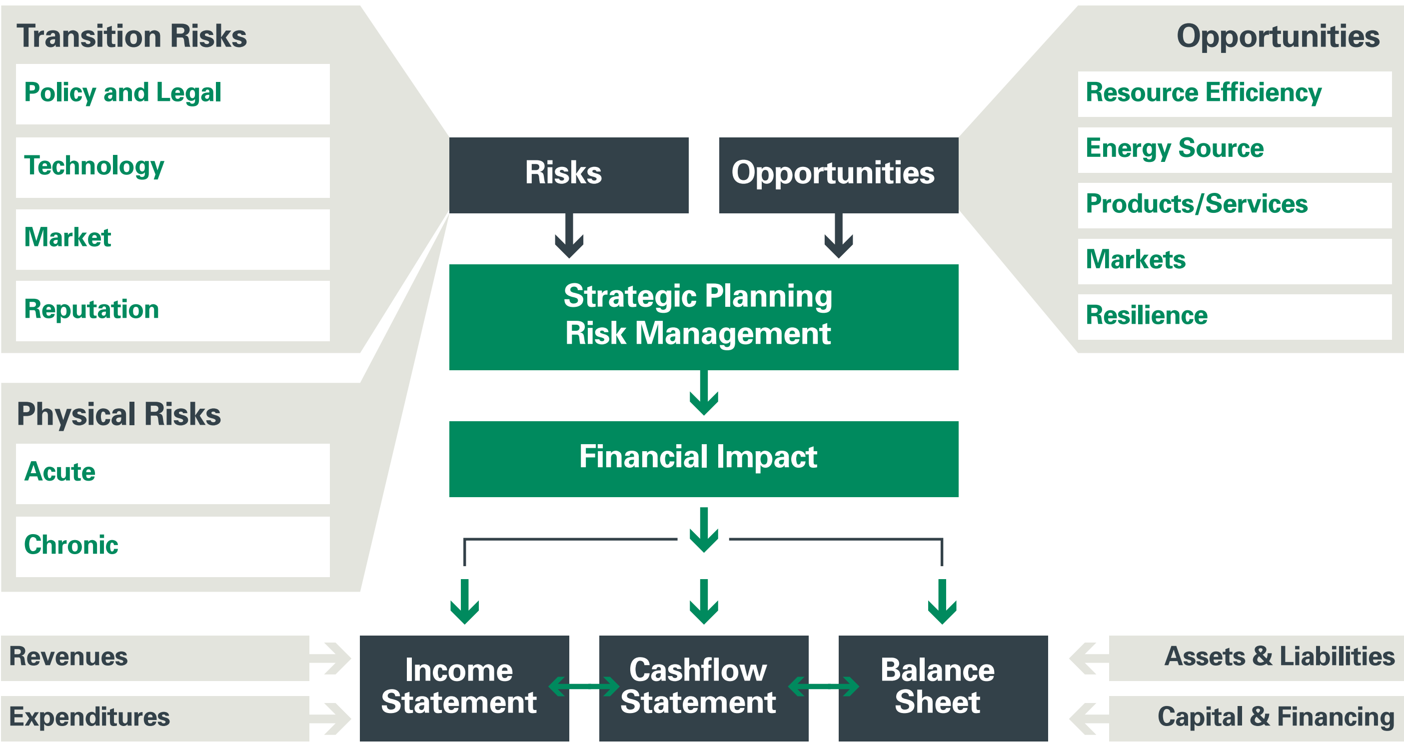
It is now widely accepted that climate change will create physical, social and economic disruption on an unprecedented scale. With roughly 1°C of global warming already driven by human activity, the physical impacts of climate change are being felt now.[4] Droughts are becoming more extreme, storms are increasing in severity and sea levels are rising. These impacts are projected to increase dramatically into the future, even under the most optimistic scenarios.[5]

The impacts of climate change are not just physical. Efforts to address and adjust to its effects are fundamentally reshaping economies. Decisive actions by governments, companies and civil society, combined with sharply declining renewable energy costs and shifting consumer preferences are rapidly accelerating the transition to a low carbon economy.[6] For companies and industries that cannot or do not adjust, falling share prices, asset write-downs and bankruptcies are an immediate reality.[7]

Beyond impacts at the firm or even portfolio level there is also concern that climate risk may have systemic impacts, causing a drag on growth and financial returns across the global economy – particularly where action to address its physical impacts is not accelerated.[8]

These trends have real and obvious consequences for investors – particularly those with long-term investment horizons and liabilities, like many DB pension schemes. Significant work is now being undertaken by many organisations to better understand and manage the financial impacts[9] and to integrate these insights into financial analysis, portfolio design and investment strategy.[10]

Figure 1 Climate-Related Risks, Opportunities and Financial Impact



Source: TCFD (2017)

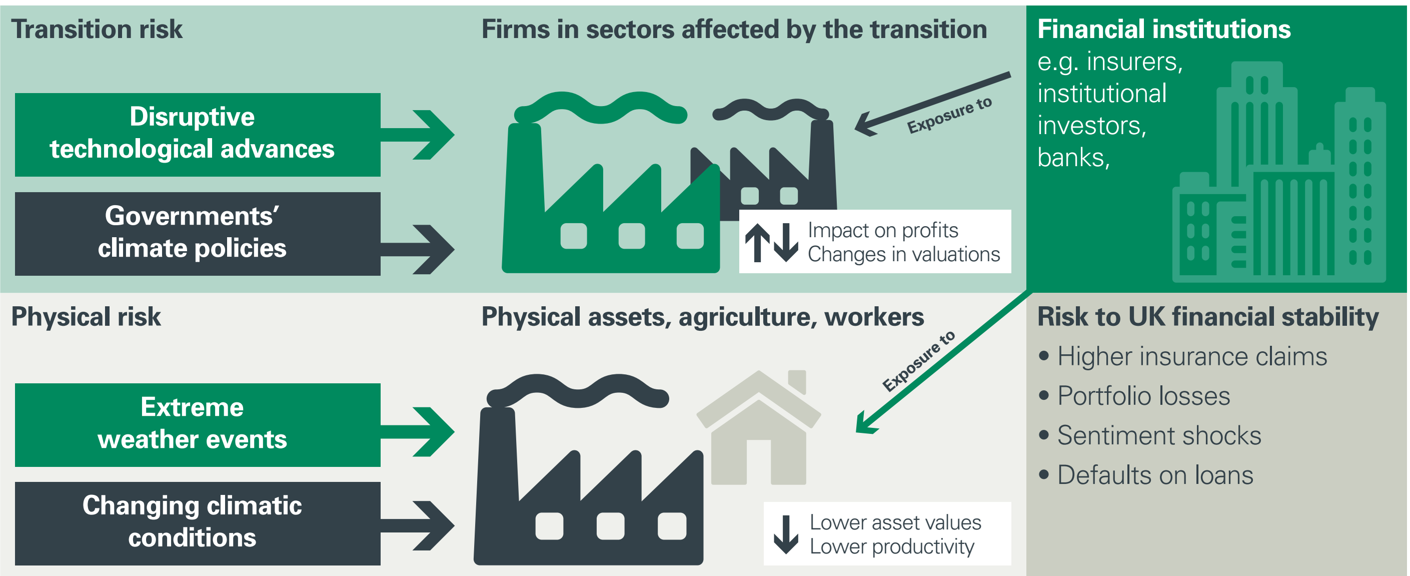
Explainer: a climate risk taxonomy

The most widely adopted taxonomy to describe climate risk, now adopted by the Bank of England (BoE) and the industry-led Task Force on Climate-related Financial Disclosures (TCFD), divides climate risk into two broad categories – physical risks and transition risks:

Physical risks refer to risks arising from the direct physical impacts of climate change. These may be driven by specific events, including increased severity of extreme weather events, or by longer-term shifts in climate patterns, including sea level rise or chronic heatwaves. The financial impacts of these risks could include losses from damage to assets and supply chain disruption; reductions or disruption to production capacity; increased operating and input costs; and increased insurance premiums.

Transition risks refer to risks arising from the transition to a low-carbon economy. Extensive policy, legal, technology, and market changes to address mitigation and adaptation requirements related to climate change are well underway. They are already having financial impacts. Policy changes and new regulation are driving write-offs and balance sheet impairments; disruptive technology is creating new competitive pressures; and consumer demand for low-carbon and sustainable products is shifting markets.

Figure 2 Primary channels for climate-related financial risks



Source: Bank of England (2017)

The new reality: defined benefit pension schemes in the UK must consider and manage climate risk

The key objective for trustees of DB pension schemes is to pay the benefits that have been promised to scheme members. To meet their legal obligations, trustees of DB pension schemes must ensure there is a robust and integrated approach to identifying, assessing, monitoring and addressing risks that might threaten this objective.

As set out in tPR's Code of Practice on Funding Defined Benefits, these risks must be addressed across three separate strands – 'investment', 'funding' and 'the employer covenant'.[11] Climate risk will likely have implications for all three of these strands, which trustees may need to consider as part of their overall risk management approach and materiality assessments.

Where climate risk is a material risk for a scheme, this will have corresponding implications for the legal duties of trustees, as well as the legal and professional duties of their advisers – including actuaries. When providing advice to pension scheme trustees, actuaries must understand their clients' legal duties and provide their advice accordingly.[12]

In order to discharge their own legal duties, actuaries should have a clear understanding of the implications of climate risk for the legal duties of the trustees across all three separate strands of risk. These are discussed in further detail below.

Investment

When making investment decisions, trustees of DB pension schemes must act in the best interests of scheme members.[13] In doing so, they must act prudently[14] and take into account factors that are financially material to investment performance – regardless of whether or not that factor might sometimes be regarded as an environmental, social and governance (ESG) issue.[15] In relation to climate risk, this requirement was the subject of a legal opinion by Keith Bryant QC and James Rickards in November 2016.[16]

They concluded that:

> "If the risks associated with climate change are financially material to a particular investment decision then it is clear, we think, beyond reasonable argument that the law permits and requires the trustees to take those risks into account when making that investment decision."

Climate risk is now widely viewed as a financially material factor by many investors. This is the view taken by the Institutional Investors Group on Climate Change (IIGCC), whose members represent over £20 trillion in assets.[17] It is supported by equivalent views in recent reports by investment managers and consultants, such as BlackRock,[18] Mercer[19] and Schroders.[20] Recent guidance provided by tPR also states that climate change is a risk that 'could be financially significant both over the short term and the longer term'.[21]

"Most investments in pension schemes are exposed to long-term financial risks, which may include risks around long-term sustainability. These can relate to factors such as climate change, responsible business practices and corporate governance. We expect you to assess the financial materiality of these factors and to allow for them accordingly in the development and implementation of your investment strategy."

The Pensions Regulator, 'A Quick Guide to Defined Benefit Investment' (2017)

Photo credit: www.negativespace.co

Investment (continued)

In light of this mounting evidence, there is now clearly an emerging consensus that trustees must, at the very least, consider whether climate risk has material financial implications for their scheme. If it does, they are legally required to address it. Depending on the particular structure of the scheme, this may include considering climate risk when:

- **Setting** investment beliefs and preparing a SIP;
- **Determining** strategic asset allocation;
- **Selecting, mandating and monitoring** the activities of investment managers; and
- **Undertaking or directing** stewardship activities.[22]

Because climate risk is projected to have economy-wide and systemic financial impacts over the coming years and decades, it must also be considered as a portfolio-wide, strategic issue. This means that pension scheme trustees may not be able to discharge all legal duties for managing climate risk simply by delegating management of that risk to external managers, who only manage a portion of the portfolio, often over relatively short time periods.

Photo credit: Lou Goetzmann

How big a risk/return impact could climate change have on a portfolio, and when might that happen? Our investment modelling has demonstrated the following:

1. Climate change, under the scenarios modelled, will inevitably have an impact on investment returns, so investors need to view it as a new return variable.

2. Industry sector impacts will be the most meaningful. For example, depending on the climate scenario which plays out, the average annual returns from the coal sub-sector could fall by anywhere between 18% and 74% over the next 35 years, with effects more pronounced over the coming decade (eroding between 26% and 138% of average annual returns).

3. Asset class return impacts could also be material – varying widely by climate change scenario. For example, a 2°C scenario could see return benefits for emerging market equities, infrastructure, real estate, timber and agriculture. A 4°C scenario could negatively impact emerging market equities, real estate, timber and agriculture. Growth assets are more sensitive to climate risks than defensive assets.

Mercer – Investing in a Time of Climate Change (2015)

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Funding

All DB pension schemes are subject to an overarching 'statutory funding objective', which requires them to have 'sufficient and appropriate assets to cover their technical provisions' – being the amount required, on an actuarial calculation, to provide for the scheme's liabilities.[23]

According to tPR, funding risk is the risk that the actuarial and other assumptions used to calculate the scheme's technical provisions (and any recovery plan) are incorrect and liabilities exceed assets in the future by a greater amount than anticipated.[24] Under UK pensions law, these assumptions must be chosen prudently and must take into account a margin for adverse deviation.[25] They should also take into account the strengths of and risks to the employer covenant and the scheme's investment strategy.[26]

Ultimately, the responsibility for choosing the methods and assumptions used for these purposes rests with the scheme trustees.[27] However, the trustees must take advice from the scheme actuary on the assumptions to be used,[28] and the trustees should have 'good reasons if they decide not to follow the actuary's advice'. [29] As a consequence, where climate risk is not explicitly addressed in a scheme's investment strategy, or where climate risk is a major source of covenant risk, a more prudent funding approach may need to be taken.[30]

Employer covenant

One of the defining characteristics of DB pension schemes is that the amount that a scheme member is ultimately paid does not directly depend on the performance of the investments.

Instead, the sponsoring employer makes a contractual promise to pay a certain amount upon the member's retirement. This 'employer covenant' represents the extent of the employer's legal obligation and financial liability to the scheme over the course of the scheme's lifetime.[31]

Because the employer is effectively underwriting other risks facing the scheme, the relative strength of the covenant is one of the key considerations for trustees (and their advisers) in setting a funding strategy. The most important element of the covenant assessment will typically be an assessment of the employer's financial strength and its ability to contribute cash to the scheme when required.[32]

Climate risk will be significant for many employers, particularly those exposed to transition risk (e.g., fossil fuel-based industries, energy-intensive manufacturers, and transportation activities) and physical risk (e.g., agriculture, transportation and building infrastructure, insurance, and tourism).[33] Major credit ratings agencies are now including an assessment of climate risk in their credit ratings for companies that they identify as being exposed to these risks. Trustees must ensure that they or their appointed covenant assessors do the same.

"Carbon transition poses significant risks for the oil and gas industry. Under our baseline scenario for considering the credit implications of reducing greenhouse gas emissions, the oil and gas industry faces significant risks compared to the past."

Moody's, 'Oil and Gas Industry Faces Significant Credit Risks from Carbon Transition' (2017)

Actuaries' professional and legal duties

As trusted advisers to DB pension schemes, with clear professional duties, actuaries in the UK must now understand the implications of climate risk, consider how it affects their work and advice, and clearly communicate this to their clients. In light of the emerging consensus about the financial materiality of climate risk, failure to do so is also increasingly likely to be a breach of an actuary's professional duties and legal duty of care.

Actuaries' professional duties and climate risk

All actuaries engaged by DB pension schemes must provide their services in accordance with the relevant pensions legislation and regulations, and any applicable technical and professional standards.[34] The most stringent requirements will apply to actuaries who are appointed to perform functions reserved for the 'Scheme Actuary',[35] but many will also apply to actuaries providing other consulting services. To the extent that climate risk is a financially material risk for a scheme, this may have direct implications for how actuaries perform their professional duties – a point highlighted by a number of recent IFoA publications.

IFoA Risk Alert: Climate-Related Risks (May 2017)

- 'Actuaries should ensure that they understand, and are clear in communicating, the extent to which they have taken account of climate-related risks in any relevant decisions, calculations or advice.'
- 'All investors should consider the potential implications of climate-related risks on their invested assets.'
- 'Institutions with long-term liabilities (e.g. life insurers, re-insurers and pension funds) should evaluate and manage the impact of changing patterns of temperature and disease on mortality.'
- 'Institutions with unfunded or partially funded liabilities should evaluate and manage the impact on the covenant of the sponsor or other funding bodies.'[36]

How technical and professional actuarial standards are applied in practice will, of course, be context specific. It is beyond the scope of this paper to outline all of the instances where climate risk might be relevant to their application. By way of illustration, however, a number of examples of relevant standards and suggested interpretations of potential climate risk implications are set out in **Table 1 (opposite)**.[38]

Resource and Environment (R&E) Issues: A Practical Guide for Pensions Actuaries (July 2017)

'As for any area of risk, the funding implications of R&E issues are affected by the covenant and investment implications and vice versa. For example, a scheme that is actively managing R&E risks to its investments and has a sponsor with relatively low exposure to R&E risks, may conclude that no adjustments are needed to the current financial assumptions. Conversely, scheme actuaries may want to suggest a more prudent funding approach in schemes where mitigation of R&E risks is not explicitly addressed in trustees' investment strategy or where R&E is a major source of covenant risk.'[37]

Table 1 – Examples of relevant standards and suggested climate risk implications	
Standard (Paraphrased)	**Suggested climate risk implications**
TAS 100: Principles for Technical Actuarial Work	
Actuaries must use assumptions that are appropriate and models that are fit for purpose (principles 3 and 4).	Where relevant, and proportionate to the nature, scale and complexity of the work, assumptions and models must be adapted to address climate risk (e.g. impact of changing patterns of temperature and disease on mortality).
Communications must include explanations of any significant limitations of models used (provision 4.5).	If assumptions and models do not address climate risk because of technical limitations, and this limitation is significant and material, this must be disclosed in communications.
Communications must state the nature and significance of each material risk or uncertainty faced by the entity in relation to the technical actuarial work and explain the approach taken to the risk (provision 5.5).	If climate risk is a material risk or uncertainty for the scheme in relation to the technical actuarial work, this must be stated.
TAS 300: Pensions	
Communications must explain how the return on assets assumed in a recovery plan compares with the return that can be expected from assets invested according to any stated investment strategy (provision 9).	Where material, communications must explain the extent to which climate risk has been considered in the expected return on assets under a stated investment strategy and in the return on assets assumed in a recovery plan.
The actuary's report must contain a description of the risks to the financial position of the scheme and any actions taken to mitigate them (provision 15).	If climate risk is a material risk for the financial position of the scheme (including in relation to the strength of the employer covenant and investment strategy) this must be described in the actuary's report.
The Actuaries' Code	
Actuaries must take care that the advice or services they deliver are appropriate to the instructions and needs of the client, including the legal duties and other rules which may govern the matter, having due regard to others, such as members of a pension scheme (principle 2.4).	Actuaries must understand the legal duties of the trustees to consider and manage the scheme's exposure to climate risk – including trustees' duties to invest the scheme assets prudently, taking into account factors financially material to investment performance, and to consider and manage funding and covenant risk.
Actuarial Professional Standards: APS P1	
The actuary must be familiar with any relevant legislation and regulatory guidance including codes of practice relevant to their work (standard 1).	Actuaries must be familiar with the guidance and codes of practice relating to climate risk issued by tPR and relevant publications issued by IFoA.
If a scheme actuary has any material concerns about the way the trustees are fulfilling their duties and responsibilities they should share their concerns with the trustees (standard 4.2).	If a scheme actuary is concerned that the trustees are not adequately considering climate risk, they must share this concern with the trustees.

Climate liability: are actuaries at risk?

With climate change receiving increased interest and scrutiny from regulators and investors alike, actuaries who fail to consider and take into account climate risk in their work and advice now face increasing risks of legal liability and regulatory sanctions.

Legal liability

As the financial impacts of climate risk become an increasing reality across the economy, litigation risk is also rising. Recent years have already seen an increase in climate-related litigation being brought before the courts.[39] While pension schemes have so far largely escaped attention, where climate risk materialises and threatens scheme funding, litigation is sure to follow. When it does, actuaries, along with other professional advisers, may become a prime target for parties that have suffered loss – including scheme members, employer sponsors, trustees, the PPF and any insurers standing behind these actors.

'Climate change litigation has moved from theoretical to real, as companies globally are increasingly being investigated and fined for failing to appropriately disclose the risks posed to their businesses by climate change' **Herbert Smith Freehills (2017)**

Actuaries have clear legal duties of skill and care

Just like other professionals, actuaries advising DB pension schemes will owe legal duties to their clients to conduct their work with 'reasonable' levels of skill and care.[40] In certain circumstances, scheme actuaries may also owe some of these duties directly to third parties, such as the scheme members or the employer sponsor.[41] Where actuaries fail to meet the relevant standard, they may be subject to claims for breach of contract or negligence.

Where a claim is brought against an actuary for a breach of a duty of care, the standard that will apply will generally be that of 'the reasonable skill and care of an ordinary skilled person carrying out the same engagement'.[42] This is a deliberately flexible standard that has been held by the courts to evolve and develop in line with changing regulations, professional standards and industry practice. [43]

Ultimately, the content of the relevant standard of skill and care that will apply in any particular circumstance will be a matter for a court to decide. However, in relation to climate risk, the current direction of travel for actuaries advising DB pension schemes is clear. Climate risk features heavily in recent guidance provided by the tPR,[44] the IFoA has now directly drawn its members' attention to the issue,[45] and actuaries and consultants are already updating their advice to clients accordingly.[46] These are all clear indicators of an emerging industry standard, which actuaries must be aware of in order to confidently discharge their legal duties.

In particular, the Actuaries' Code makes clear that:

'actuaries must take care that the advice or services they deliver are appropriate to the instructions and needs of the client, including the legal duties and other rules which may govern the matter, having due regard to others … such as members of a pension scheme.'[47]

Accordingly, actuaries have clear professional duties to understand their trustee clients' legal duties, including in relation to climate risk, and to take this into account in their own advice where it is relevant. This in turn will require careful consideration of climate risk implications for the application of existing professional and technical actuarial standards **(see Table 1)**. These professional duties will also be directly relevant in determining whether an actuary has adequately discharged their legal duty of skill and care to the required standard.

While historically, examples of actuaries being held liable by the courts for breaches of these duties have been limited, with funding difficulties now becoming a reality across the sector, the risk of litigation generally is clearly rising. Where financial losses can be linked to climate risk factors and an actuary has failed to consider and advise on these issues, they may become a potential target for recovery.

Regulatory sanctions

Across the UK, regulators for the financial sector and associated professional services are increasingly taking action to address failures to consider climate risk by those they regulate.[48]

Where they are failing to act, civil society is stepping in to provide additional oversight – identifying and reporting firms or organisations that are lagging behind.

For actuaries who fail to consider and act on climate risk, in accordance with relevant legal and professional standards, there is now a growing risk of regulatory intervention. The IFoA and Financial Reporting Council (FRC) both operate disciplinary schemes that apply to UK actuaries.[49] Where they identify misconduct, which may include failure to comply with the relevant standards, they can impose a range of sanctions, including termination or suspension of membership, or the issuing of fines.[50]

In light of the guidance issued by tPR, the increasing focus of the IFoA on climate risk issues and quickly evolving industry practice, there is now some risk that a failure to consider climate risk could fall short of the standard required by the relevant disciplinary scheme. As awareness of the implications of climate risk for actuarial work continue to develop, this risk is likely to increase. Even where the FRC or IFoA do not make a finding of misconduct, a referral or opening of an investigation can have significant reputational and commercial impacts for individual actuaries and firms involved.

Whistleblowing obligations

In addition to their other duties, actuaries advising a pension scheme must also report certain breaches of the law to tPR.[51] Potentially, this could include a failure by the trustees to consider climate risk. If an actuary fails to comply with their whistleblowing duties, they may be subject to a fine by tPR.[52] In order for this duty to be activated, the actuary must have reasonable cause to believe that there has been a breach of the law; and that the breach is likely to be of 'material signif icance' to tPR.[53] Guidance by tPR explains that 'material significance' includes, among other things, whether assets of the scheme are being appropriately safeguarded and whether other schemes may be affected[54] – both factors where climate risk may be relevant.

Photo credit: www.negativespace.co

Liability hypothetical

Rigz 'R' Us Occupational Pension Scheme

2017

Rigz 'R' Us is a multinational company listed on the main market of the London Stock Exchange.

Its primary business is manufacturing and wholesaling components used in offshore oil rigs. It operates a defined benefit occupational pension scheme that is now closed to new members (Scheme). The Scheme is operating with a significant deficit and a recovery plan has been put in place by the trustees.

Taking into account advice provided by the Scheme actuary and their investment consultant, the trustees have adopted a funding strategy and an investment strategy that allocates a significant proportion of the Scheme's portfolio to return seeking assets. Taking into account advice from a covenant assessor, they form a view that the employer covenant is relatively strong and adopt a recovery plan to restore the scheme deficit within 10–15 years, through a combination of investment returns and modest employer contributions. None of the funding strategy, investment strategy or assessment of the employer covenant consider climate risk explicitly and none of the Scheme's advisers raise it as an issue with the trustees.

2022

Over the past five years, the combined impacts of government regulation, decreasing costs of renewable energy and changing consumer demand in the transport sector have resulted in sustained low oil prices. As with the coal industry before it, oil industry growth has stalled, new exploration and capex has been dramatically reduced, and many companies reliant on the industry are poised on the edge of bankruptcy – including Rigz 'R' Us.

In comparison to many of its peers, which considered and adopted funding and investment strategies that addressed climate risk, the Rigz 'R' Us Scheme has also done badly. It has a multimillion-pound shortfall and appears unable to pay members their promised pensions. The Pension Protection Fund is poised to step in to cover some of the shortfall; however, many members' entitlements are above the relevant cap and they are likely to suffer significant losses.

Due to the public interest issues raised, tPR opens an investigation into the administration of the scheme and identifies, among other things, that the scheme funding advice may have been deficient. TPR refers the scheme actuary to the FRC disciplinary scheme, which identifies that the actuary has failed to consider a range of climate-related risks to the scheme covenant and investment strategy in providing their advice – despite guidance from tPR and IFoA risk alerts highlighting these issues. The FRC issues the scheme actuary with a reprimand.

In an attempt to recover some of their losses and respond to growing public and employee pressure regarding the health of the scheme and the companies' performance, Rigz 'R' Us and the Rigz 'R'Us Scheme jointly commence legal proceeding against a wide range of advisers and asset managers for the scheme – including against the scheme actuary.

They claim that by failing to consider the implications of climate risk when providing their advice, the actuary breached their contractual duties to provide their services with due skill and care. As evidence of the expected standard, the claimants present expert opinions from other actuaries that advised on climate risk; guidance and risk alerts from the IFoA and tPR; and industry publications from other firms.

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Action points: rising to the challenge, managing the risk

To minimise the risks of any regulatory sanctions, legal liability and reputational damage, actuaries advising DB pension schemes must now understand, and be clear in communicating, the extent to which they have taken account of climate risk in any relevant decisions, calculations or advice. **To best protect themselves and their clients, investment consultants advising UK DB pension fund clients should consider the following action points**:

1

Understand climate risk and its financial implications – see, for example:

- **Bank of England**, 'The Bank of England's Response to Climate Change' (2017)
- **Task Force on Climate-related Financial Disclosures**, 'Final Report' (2017)
- **BlackRock**, 'Adapting Portfolios to Climate Change' (2016)
- **Mercer**, 'Investing in a Time of Climate Change' (2015).

2

Carefully consider implications of climate risk for assumptions and models used in actuarial work. IFoA is increasingly providing materials to assist members on these issues.

3

Where relevant, clearly communicate to trustees any limitations of assumptions or models in relation to climate risk.

4

Consider and document whether climate risk may be a material risk to the scheme, due to its impact on investment, funding or the employer covenant. If appropriate, raise it with the trustees, covenant adviser and / or investment consultants.

5

Consider the extent to which climate risk should be reflected in the funding assumptions if it is not otherwise adequately addressed elsewhere.

6

Include liability limitation or coverage clauses which explicitly address climate risk in contractual and professional indemnity insurance documentation.

7

Remain vigilant for breaches by trustees of their legal duties in relation to climate risk, and, where relevant, report this to tPR, in accordance with whistleblowing duties.

Photo credit: Yannis Papanastasopoulos

Endnotes

1 See, e.g, Mercer, 'European Asset Allocation Survey' (2017), 29.

2 See, e.g, the Pensions Regulator, 'A Quick Guide to Defined Benefit Investment' (August 2017), 2; the Pensions Regulator, 'Regulatory Guidance, DB Investment: Investing to Fund DB' (March 2017) 23.

3 See, e.g, IFoA, 'Resource and environment issues: A practical guide for pensions actuaries' (2017); IFoA, 'Risk Alert: Climate Related Risks' (12 May 2017).

4 NASA, 'Global Temperature', https://climate.nasa.gov/vital-signs/global-temperature/ (accessed 14 August 2017); UK Met Office, 'Global climate in context as the world approaches 1°C above pre-industrial for the first time', (2015).

5 See Intergovernmental Panel on Climate Change, 'IPCC Fifth Assessment Report – Climate Change 2014: Synthesis Report' (2014); Christiana Figueres et al. 'Three Years to Safeguard our Climate', Nature (28 June 2017).

6 See Task Force on Climate-related Financial Disclosures, 'Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures' (June 2017); Bank of England, 'The Bank of England's Response to Climate Change' (June 2017).

7 See Moody's, 'Oil and gas industry faces significant credit risks from carbon transition' (2017); Wood Mackenzie 'Positioning for the future: benchmark upstream corporate carbon emissions and value at risk' (2017); International Renewable Energy Agency, 'Stranded assets and renewables: How the energy transition affects the value of energy reserves, buildings and capital stock' (2017).

8 See Cambridge Institute for Sustainability Leadership, 'Unhedgeable risk: how climate change sentiment impacts investment' (2015).

9 See Cambridge Institute for Sustainability Leadership, 'Unhedgeable risk: how climate change sentiment impacts investment' (2015); Simon Dietz et al., 'Climate value at risk of global financial assets', Nature: Climate Change (2016); G20 Green Finance Study Group, 'Enhancing environmental risk assessment in financial decision-making' (2017).

10 See, e.g, Mercer, 'A climate for change: a trustee's guide to understanding and addressing climate risk' (2005); Mercer, Climate change scenarios – implications for strategic asset allocation' (2011); Institutional Investors Group on Climate Change (IIGCC), 'Climate change investment solutions: a guide for asset owners' (2015); , 'Adapting portfolios to climate change: implications and strategies for all investors (September 2016); Mercer 'Investing in a time of climate change' (2015); Mercer, 'Climate Change Investment Risk Management for US Public Defined Benefit Plan Trustees' (2016).

11 Occupational Pensions Scheme (Investment) Regulations 2005 SI 2005 No 3378, reg 4(2); The Pensions Regulator, 'Code of Practice on Funding Defined Benefits' (July 2014).

12 The Actuaries' Code makes clear that 'actuaries must take care that the advice or services they deliver are appropriate to the instructions and needs of the client, including the legal duties and other rules which may govern the matter, having due regard to others … such as members of a pension scheme': IFoA, The Actuaries' Code, v 2.0 (2013), [2.4].

13 UK Law Commission, 'Fiduciary Duties of Investment Intermediaries' (2014), chapter 6.

14 Pensions Act 1995, s 36; Occupational Pensions Schemes (Investment) Regulations 2005 (SI 2005/3378, reg 4.

15 The Pensions Regulator, 'Regulatory Guidance, DB Investment: Investing to Fund DB' (March 2017).

16 Keith Bryant QC and James Rickards, 'The legal duties of pension fund trustees in relation to climate change' (2016).

17 See Institutional Investors Group on Climate Change (IIGCC), 'Climate change investment solutions: A guide for asset owners' (2015).

18 BlackRock 'Adapting Portfolios to Climate Change: Implications and Strategies for all Investors (September 2016).

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20 Schroders 'Responding to climate change risk in portfolio management' (2015).

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22 See, e.g. Mercer, 'Climate change scenarios – implications for strategic asset allocation' (2011); Institutional Investors Group on Climate Change (IIGCC), 'Climate change investment solutions: a guide for asset owners' (2015); BlackRock, 'Adapting portfolios to climate change: implications and strategies for all investors (September 2016).

23 Pensions Act 2004, s 222.

24 The Pensions Regulator, Regulatory Guidance on Integrated Risk Management (December 2015), 3.

25 The Pensions Regulator, Code of Practice No.3, Funding Defined Benefits (July 2014), [114].

26 The Pensions Regulator, Code of Practice No.3, Funding Defined Benefits (July 2014), [91], [117].

27 Occupational Pensions Schemes (Scheme Funding) Regulations 2005 SI 2005 No 33777, reg 5(1).

28 Pensions Act 2004, s 230(1)(a).

29 The Pensions Regulator, Code of Practice No.3, Funding Defined Benefits (July 2014), [115].

30 See, e.g, IFoA, 'Resource and environment issues: A practical guide for pensions actuaries' (2017), 7.

31 The Pensions Regulator, Code of Practice No.3, Funding Defined Benefits (July 2014), [61]; The Pensions Regulator, Regulatory guidance for defined benefit schemes: assessing and monitoring the employer covenant (2015), 11.

32 The Pensions Regulator, Regulatory guidance for defined benefit schemes: assessing and monitoring the employer covenant (2015), 25.

33 Task Force on Climate-related Financial Disclosures, 'Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures' (June 2017), 26.

34 Pensions Act 2004, s 230(3); The Occupational Pension Schemes (Scheme funding) Regulations 2005, reg 15.

35 Pensions Act 1995, s 47(1)(b); Pensions Act 2004, ss 224, 225, 230(1); The Occupational Pension Schemes (Scheme Funding) Regulations 2005, regs 2, 7, 15.

36 IFoA, 'Risk Alert: Climate Related Risks' (12 May 2017).

37 IFoA, 'Resource and environment issues: A practical guide for pensions actuaries' (July 2017), 7.

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38 In considering the application technical actuarial standards in particular circumstances, actuaries will need to take into account the principles materiality and proportionality set out in the relevant standards: see FRC, TAS 100: Principles for Technical Actuarial Work, pages 1; 2; FRC, TAS 300: Pensions, page 2.

39 See, Peter Seley, 'Emerging Trends in Climate Change Litigation', Law 360, March 7, 2016; Taskforce on Climate-Related Financial Disclosures, 'Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures' (June 2017) 5.

40 See Jackson & Powell on Professional Liability (8th Ed, 2017), [18-015, 18-017].

41 Contracts (Rights of Third Parties) Act 1999, s 1(1)(a); Jackson & Powell on Professional Liability (8th Ed, 2017), [18-023-029].

42 There have been very few cases where the standard of care applicable to actuaries has been considered. Recent authoritative commentary suggests that contemporary courts will be most likely to apply an approach consistent with the standard applied for other professionals (see Jackson & Powell on Professional Liability (8th Ed, 2017), [18-036]); see, e.g: Bolam v Friern Hospital Management Committee [1957] 2 All ER 118.

43 See Jackson & Powell on Professional Liability (8th Ed, 2017), [18-036].

44 The Pensions Regulator, 'Regulatory Guidance, DB Investment: Investing to Fund DB' (March 2017).

45 (IFoA) 'Risk Alert: Climate Related Risks' (12 May 2017).

46 See, e.g, Lane, Clark and Peacock, 'A guide to climate-related risks: climate change and the implications for pension schemes' (August 2017).

47 IFoA, The Actuaries' Code, v 2.0 (2013), [2.4].

48 See, e.g, Bank of England, 'The Bank of England's Response to Climate Change' (June 2017).

49 IFoA 'Disciplinary Scheme' (Effective 1 June 2016); FRC, The Actuarial Scheme (December 2014).

50 FRC, The Actuarial Scheme (December 2014), Appendix 1.

51 Pensions Act 2004, s 70.

52 Pensions Act 2004, s 70(4); Pensions Act 1995, s 10.

53 Pensions Act 2004, s 70(2).

54 The Pensions Regulator, 'Code of Practice 01: Reporting Breaches of the Law (2015); see also IfoA, 'Whistleblowing: A Guide for Actuaries (February 2015).

Notes

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