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Resource & Environmental Issues: A Practical Guide for Pensions Actuaries

Andrew Claringbold and Evie Calcutt

Agenda

- Climate change, environmental issues and resource constraints
- Risk Alert
- Relevance to pensions actuaries
- Resource and Environment Issues: A Practical Guide for Pensions Actuaries



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Resource and Environment Issues: A Practical Guide for Pensions Actuaries

by the Relevance of Resource and Environment Issues to
Pension Actuaries working party

Robert Hails (Chair), Jake Attfield, Evie Calcutt, Ruairi Campbell,
Andrew Claringbold, Laura Duckering, Stuart Gray, Scott Harrison,
Claire Jones, Stephan Le Roes, Nick Spencer

18 July 2017



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Climate change, environmental issues and resource constraints

The headlines

- Warming of the climate is “unequivocal” (IPCC Fifth Assessment Report – 2014)
- Paris COP21:
 - Goal of keeping below 2°C average global temperature rise
 - Aspiration to keep to 1.5°C
 - “Non-binding commitments”
- “40m people live in UK areas with illegal air pollution” (Guardian, April 2017)
- We live in a finite world: constraints on key resources represent a significant risk to future growth.



Risk Alert: Climate-Related Risks, 12 May 2017



Risk Alert:

Climate-Related Risks

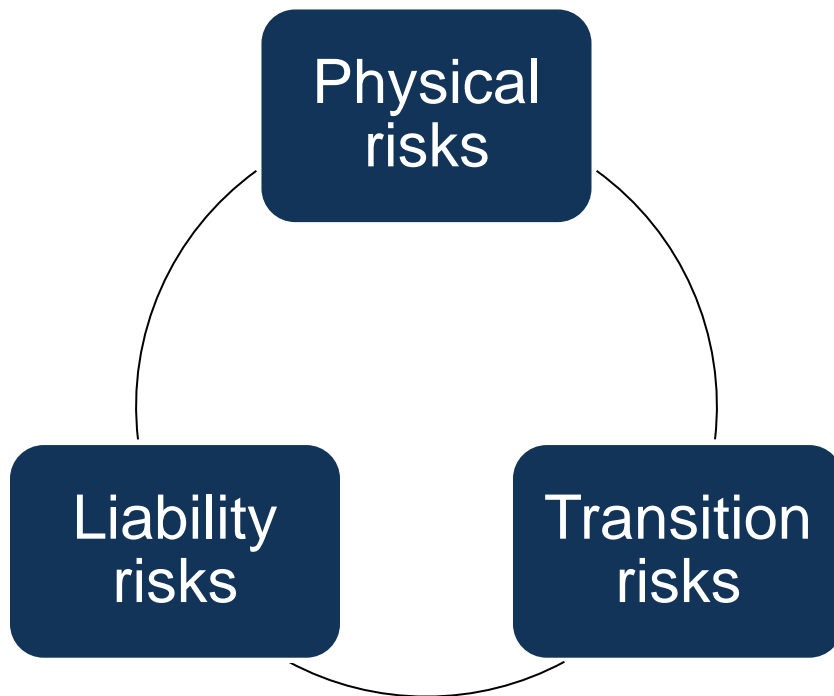
Key message:

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.

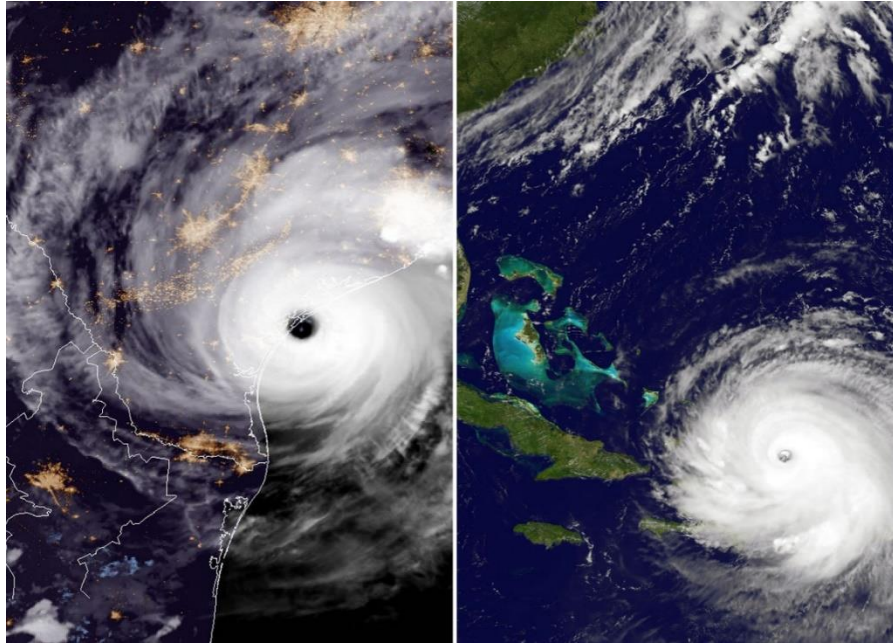
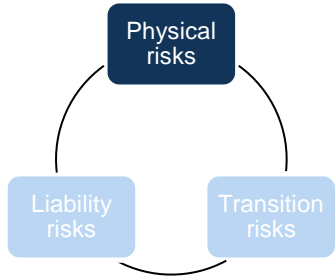


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Risk Alert: Climate-Related Risks, 12 May 2017



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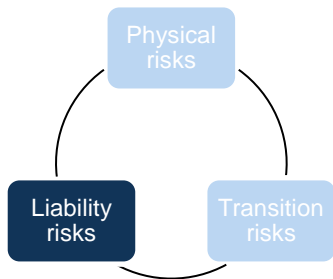
“AccuWeather predicts economic cost of Harvey, Irma to be \$290 billion”

AccuWeather, 10 September



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Risk Alert: Climate-Related Risks, 12 May 2017



Just 90 companies caused two-thirds of man-made global warming emissions

Guardian, 20 November 2013

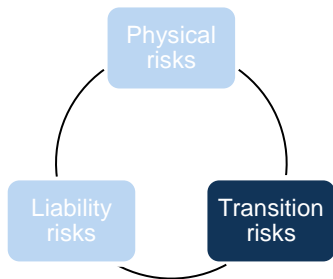
California coastal communities sue 37 fossil fuel companies for 'knowingly contributing to climate change'

Independent, 1 August 2017



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Risk Alert: Climate-Related Risks, 12 May 2017



- Changing government policy
- Disruptive technologies
- “Stranded assets”

“If progress continues at the same pace as the last 10 years then the transition risks for companies and investors could well crystallise within the next 10 years.”

Professor Lord Stern, May 2017



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Relevance to pensions actuaries

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.

- Climate and resource risks are starting to be felt now, even though the most serious direct impacts may not emerge in next 20 years.
- “Tragedy of the horizons”
- What about transition risk?
 - Asset re-pricing
 - Significant shift in government policies
- Can we, and should we, take account of these risks in funding advice?



Relevance to pensions actuaries

- Regulatory context and guidance



- Pensions press coverage

Fossil fuel investing a risk to pension funds, says Ed Davey

Telegraph, 6 December 2014

UK pension funds launch climate change 'toolkit'

IPE, 11 January 2017

Over 80% of LGPS schemes omitted climate risk from investment strategies

Pensions Age, 8 May 2017



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A practical guide for pensions actuaries

- Financial assumptions
- Mortality assumptions
- Covenant assessments
- Integrated Risk Management



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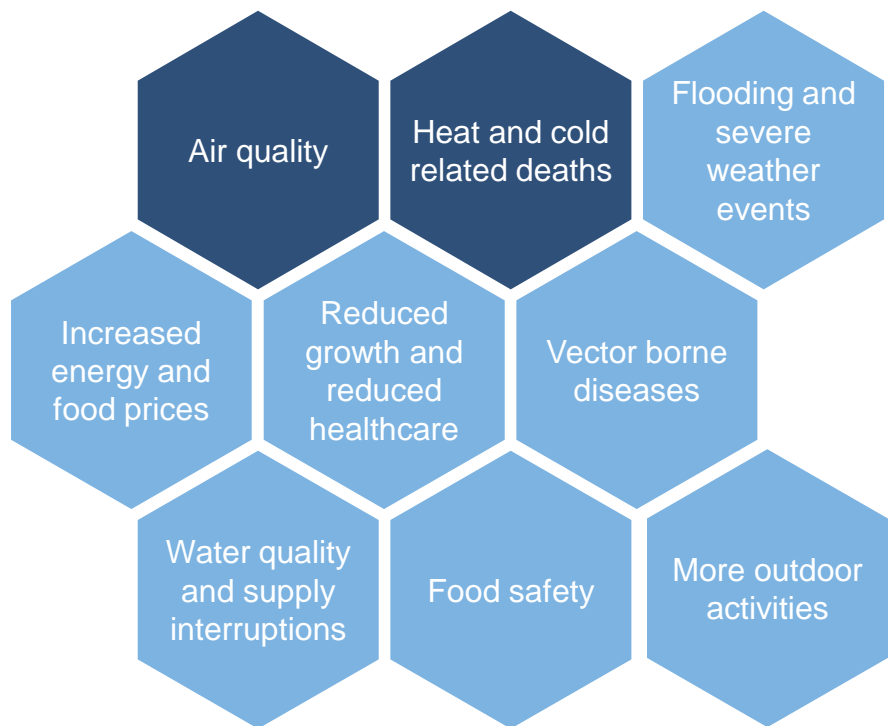
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Financial assumptions

- Market-based financial assumptions may not reflect R&E risks
- Should market-based assumptions be adjusted?
- Lots of uncertainty about the impact of R&E issues on market variables
- Research commissioned to help better understand potential impact on:
 - Investment returns
 - Market yields / inflation expectations
- More to follow!



UK Mortality: Sources of Risk and Opportunity



Increasing Mortality

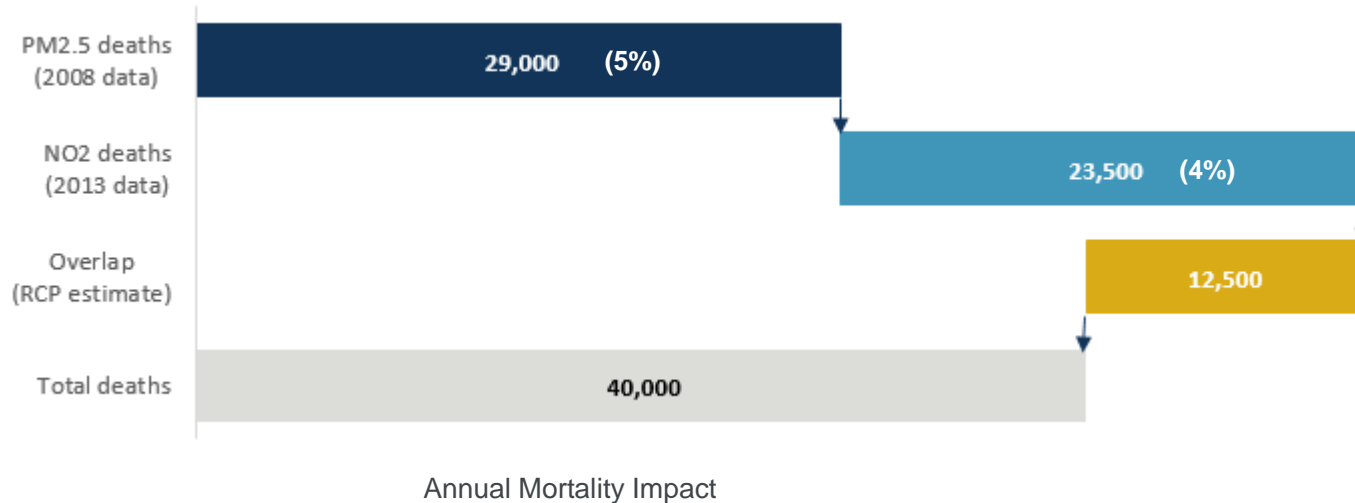
- Lower economic growth
- Higher energy prices
- Higher food prices

Decreasing Mortality

- Improved air quality
- Milder winters

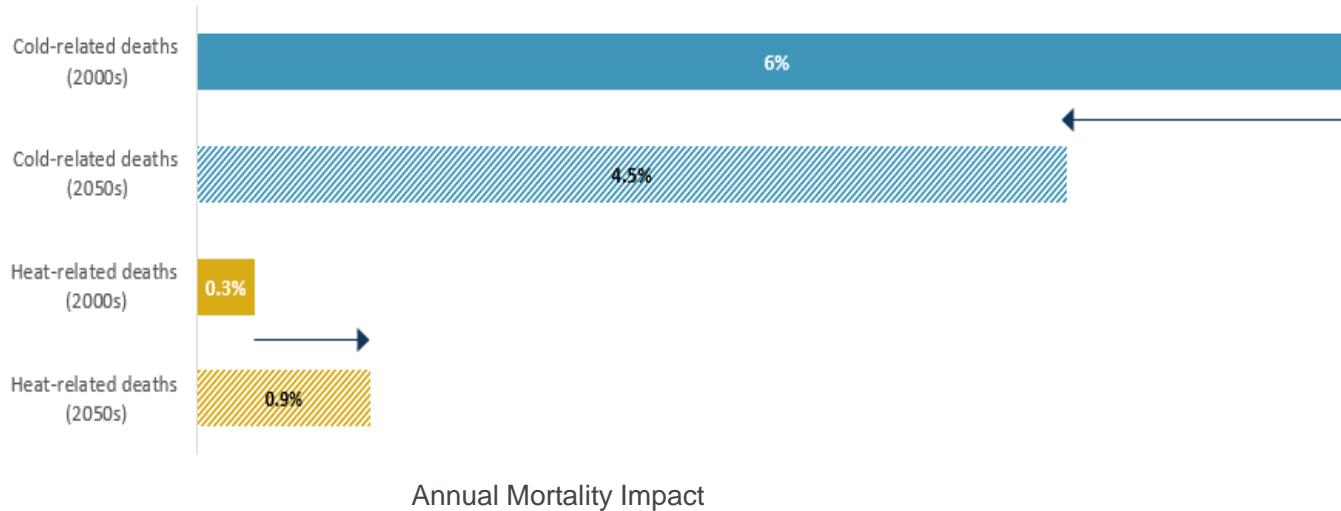


UK Mortality: Air Quality



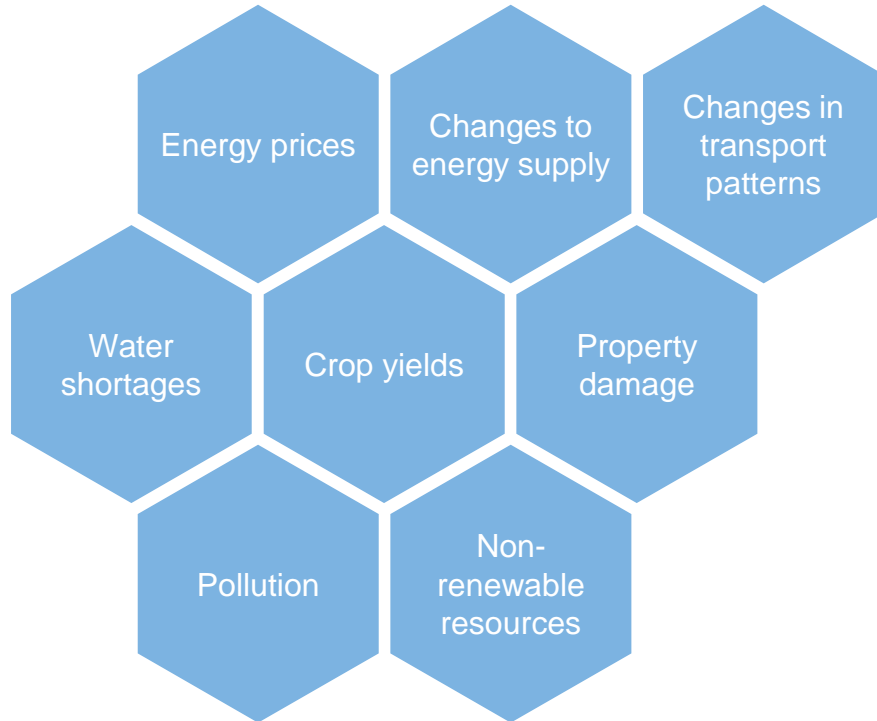
- Wide uncertainty bars around these figures
- May be equivalent to shortening life expectancy by 6 months
- Scope for significant improvements

UK Mortality: Temperature related deaths



- Projections have many sources of uncertainty
- Less impact than air quality in short-medium term?
- Will vary by region

Covenant: Sources of Risk

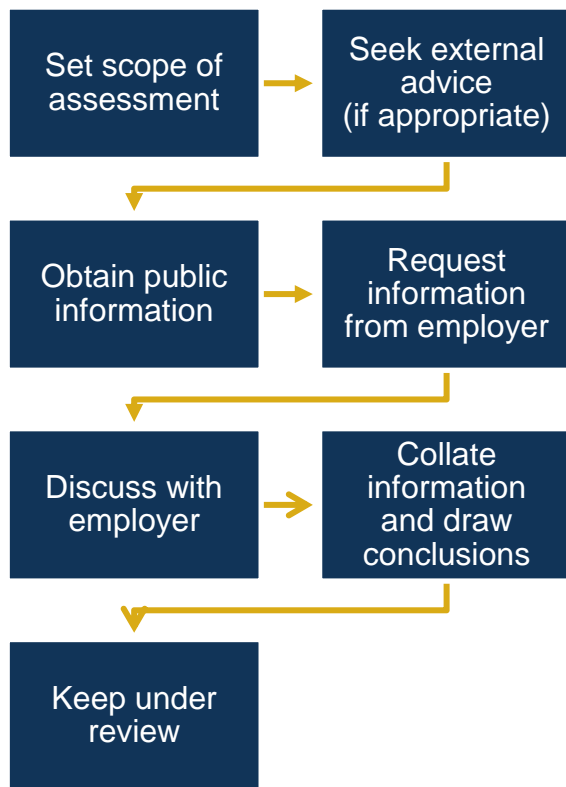


Example: Supermarket

- Increasing transport costs may encourage localisation of supply chains and distribution networks
- Changing transport patterns could make out-of-town stores less popular
- May face economic and legislative pressure to reduce energy use in stores and depots
- Consumers may demand greater efforts to reduce packaging and food waste throughout the supply chain
- Changing temperature and rainfall patterns may affect food availability and prices
- Ability to deliver food with lower inputs and less environmental impact may become a key factor in competitive success



Trustee covenant assessment: process



- May require greater emphasis on longer term, more qualitative information about risk management and business resilience
- Risks will vary considerably between companies
- R&E and covenant expertise not typically possessed by Scheme Actuaries
- Scheme Actuaries can
 - Help formulate questions
 - Critically review answers
 - Allow for risks in funding advice



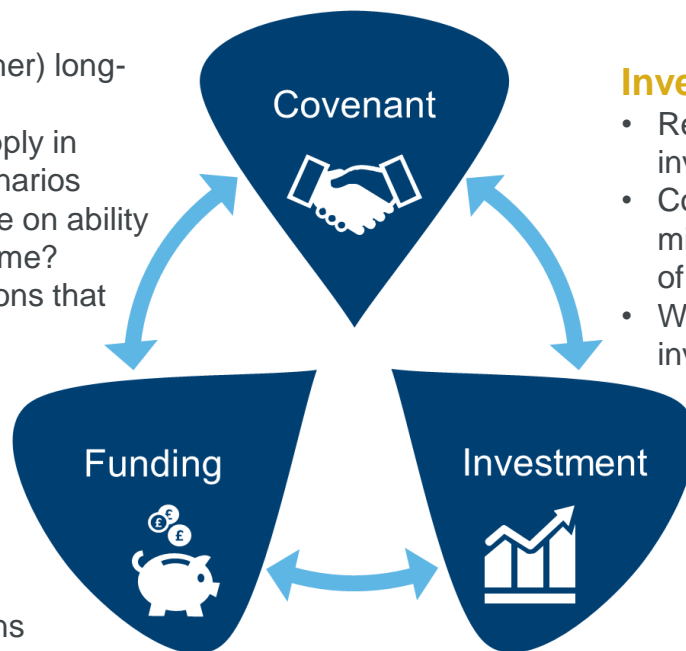
Integrated Risk Management

Covenant

- Identify R&E related (and other) long-term risks
- Consider which risks may apply in different climate change scenarios
- What impact would they have on ability of Company to support scheme?
- Are there any mitigation actions that can be taken?
- Monitor KPIs

Investment

- Review current approach to R&E within investment processes
- Consider what actions can be taken to minimise risk/ maximise opportunities of R&E
- What are the potential implications for investment returns and risk?



Funding

- Review assumptions and Recovery Plan based on long-term covenant
- Review range of mortality assumptions considered
- Consider impact of different climate change scenarios on funding



Next Steps

- More detailed reports on Mortality and Covenant
- Results of scenario analysis
- What can you do?
 - Learn more about R&E risks so can discuss with clients
 - Encourage trustees to raise R&E issues with covenant adviser
 - Find out how clients are addressing R&E risks in investment processes
 - Review whether your models and documentation incorporate R&E risks adequately
 - Use scenario analysis to explore uncertainty
 - Help trustees include R&E risks in their IRM approach



Questions

Comments

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