

The Actuarial Profession
making financial sense of the future

Momentum Conference 2010
Gordon Morrison



**The 'climate change'
Industrial revolution:
does it matter to actuaries?**

10th December 2010

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A new industrial revolution?

- Driven by ...
 - Energy scarcity
 - Energy security
 - Resource depletion
 - Climate change
- Characterised by ...
 - First revolution to be global in nature
 - Long-term time horizons
 - Inter- and intra-generational considerations
 - effects all companies

What I am going to talk about?

Subject	Talk	Actuaries
• Science		
– Pure Science	No	No
– Climate Models	No	???
– Model Uncertainty	No	???
• Economics of Climate change	No	Yes
• Climate Policy response		
– Advice	No	Yes
– Activism	No	???
• Actuarial Subject Disciplines	No	Yes
• Investment Opportunities	No	Yes
• Risk	Yes	Yes

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Profession's mission statement

- *“To support our members throughout their careers so they have the skills, attributes and knowledge appropriate for the evolving needs of the UK financial sector primarily as quantitative risk professionals”*
- So, at the very least, risk has to be ‘quantified’ – even if it is subsequently ignored as insignificant and/or irrelevant
- What are the risks?
- What questions are posed?
- How do actuaries and the Profession stack up to these challenges?

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What are the risks?

- Frequency / intensity of weather events
- Access to resources – energy, water
- Insurability of enterprise
- Rapid product redundancy
- Scale and longevity of subsidies
- Impact of regulatory change
- Developing classes of litigation
- Geopolitical



Business models and financial dynamics of companies will change

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Example questions?

- Given the existing and increasing pressure on resources, climate change is there a limit to growth
- How would a limit to growth effect (if at all) your –
 - long term investment return models
 - your view on the likely effect on inflation
 - the likely effect on discount rates
 - and the knock-on effects of solvency and capital adequacy
- Do our employers/clients' investment strategies take account of the risks and opportunities
- Those of you involved with Solvency II, do you address these issues.

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Example questions (cont)

- Have you considered what impact publicly available information on the scientific and economic analysis of and policy response to climate change has on the way in which your duty of care towards asset owners should be discharged?
- Have you incorporated a quantitative assessment of the potential impact of climate change into your asset/liability modelling process? Does it change if there is -
 - no change in average global temperatures in 2050;
 - a +2% increase in average global temperatures by 2050; and
 - a +5% increase in average global temperatures by 2050.

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How do actuaries and the Profession stack up to these challenges

- More questions and background material can be found at the Resource and Environment Group website
- HSBC, Linklaters and Railpen designed a 77 question investment risk audit in November 2009 that pose yet further challenges to the Profession
- And how do we stack up

???

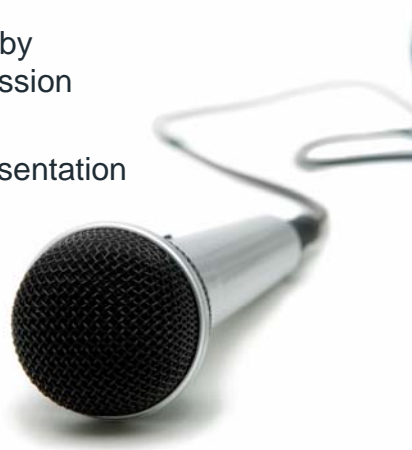
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Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

The views expressed in this presentation are those of the presenter.



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