



Report on Resilience First Webinar

22 September 2020

‘The Climate Emergency: changing behaviours through insurance’

in conjunction with the London Climate Change Partnership

Speakers:

Professor Jason Lowe, Principal Fellow and Head of Climate Services, Met Office

Julia Elizabeth King, Baroness Brown of Cambridge, Chair of the Adaptation Committee, Committee on Climate Change.

Philip Songhurst-Thonet, Senior Director, Control Risks

Chair:

Professor Chris Rapley CBE, University College London

Key Messages

- *What we've seen so far.* Global warming varies across the planet, with the global average temperature rise reaching around 1°C above pre-industrial levels. Patterns of rainfall have also changed, and sea levels have risen by 16cm or more (1). The UK has experienced changes in mean climate and climate extremes, with the temperature of the hottest day of the year increasing by 0.8°C or more and the precipitation on extreme wet days by 17% when comparing a recent decade with the period 1961-1990 (2).
- *What we can expect to see in the future.* The amount of future global warming this century depends on the amount of greenhouse gases that the world emits over coming decades. Datasets such as UKCP project a range of potential warming that extends from around 1.5°C to more than 6°C, with the lower temperature corresponding to rapid reductions in greenhouse gas emissions, and the highest corresponding to increases in emission rates compared to today. Estimates of the global warming from current policies suggest a central estimate of warming around 3°C. Higher temperatures typically drive more severe climate impacts.
- Looking at the UK scale we project a greater chance of hotter, drier summers and warmer, wetter winters. Focusing on a specific example location we estimate that the probability of experiencing an extremely hot summer (similar to or warmer than summer 2018) has risen from <5% in 1981-2000 period to around 50% or more by the middle of the century.

- *What tools we have.* Climate science can provide tools to help policy makers and businesses plan for future weather and climate hazards, taking account of differences from place to place. Recent improvements include better observational datasets covering longer periods with better spatial coverage, improvements in the skill of seasonal forecasting for the months ahead, and better projections for longer term climate change. One of the most exciting recent developments in climate science has brought together an understanding of both the hazard and the vulnerability in order to be able to articulate better the risk of particular impacts.
- The risks associated with climate change will become more expensive. By 2050 in the UK, even in a low-adaptation scenario, damage from flooding is likely to double. New flood defences will be essential but costly while simple low-cost measures like moving stock to higher floors will help for some businesses.
- Supply chains will be affected by climate change in other countries. In the Sahel, parts of India and Australia, for instance, heat-stress thresholds may be exceeded in 10-30 days per year, preventing safe external work. Companies with workers or suppliers in these regions should take this into account. Supply chains should be diversified and even self-sufficiency is a risk.
- Productivity may fall as a result of overheating, especially as more people will be working from home and many of our existing homes overheat even in a normal summer. Temperatures of over 47°C have been recorded in some London flats in summer 2018. Companies should be aware of staff wellbeing. High temperatures - or flooding - will also affect the rail and road systems, and therefore staff movements.
- There are transitional risks: will products be saleable in a low-carbon world? The move away from petrol/diesel cars is a case in point. A change in consumer behaviour or demand e.g. clothes for warmer weather can be expected to generate separate pressures.
- There are also reputational risks if, for instance, undue pressures were exerted on staff in hot climates with resulting fatalities.
- A change in the language of what constitutes a risk should be considered. A 2°C rise is not an item for a risk register as it is almost a certainty. Good planning will aid adaptation to 2°C of global warming but the possibility of 4°C of warming, and the extremes of temperature distribution, should go on to the risk register.
- The insurance industry has a very important role to play. Flood Re, for instance, is working with insurers so that people to 'build back better' where previously they were only funded like-for-like replacement of property damage. Now businesses and individuals will be able to build in flood resilience measures with insurance funding. This is a very important development.
- The insurance sector is now awash with data but even so it is very difficult to forecast precisely what is going to happen many years into the future. Yet, the sector needs certainty in order to underwrite and price risks. The cost to the industry is mounting: in 2017-19, the industry paid out \$219bn in claims from climate-related disasters, twice as high as in the previous decade. Hence, the issue is a high priority.
- The need for companies to have the right environmental, sustainability and governance measures in place is key to ensuring risks are well managed and insurance cover is adequate.
- The insurance industry needs to remain profitable and will not underwrite risks it does not fully understand. The Covid-19 pandemic has been a rising-tide crisis. Climate change is the same and now is a great opportunity to emerge greener and more resilient than ever before.

- The insurance industry needs to have in place proper products to incentivise climate resilient behaviour and disbenefits to discourage behaviour that does not mitigate for the impact of climate change. But insurance companies cannot do this on their own: there needs to be, first of all, a cross-industry approach and, secondly, assistance from government.

The speakers answered a series of questions from the participating audience.

The full video recording can be found [here](#).

References and Notes (posted by speakers and participants):

1. For traceability, this comes from various IPCC reports but in particular the IPCC 1.5SR (2018) and the IPCC SROCC (2019). The speaker is using here the 16cm rise from 1902 to 2015 but if one adds the extra five most recent years at around 3.6mm/yr, it takes us closer to 18cm, hence the statement of approaching '20cm'.
2. www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/state-of-uk-climate/soc_supplement-002.pdf

www.ukclimaterisk.org/ccra-research/

www.ukclimateresilience.org

www.meshclimate.net/

Article: 'Telling the boiling frog what he needs to know: why climate change risks should be plotted as probability over time.' Simon Sharpe.

Speakers' Biographies

Professor Chris Rapley

Professor Chris Rapley CBE is Professor of Climate Science at University College London. He is a Fellow of UCL and of St Edmund's College Cambridge, a member of the Academia Europaea, Chair-elect of the European Science Foundation's European Space Sciences Committee, Member of the Advisory Board of the UK government's Clean Growth Fund, Patron of the Surrey Climate Commission, and a member of the UK Science Museum Group's Science Advisory Board. He has an MA in Honours Physics from Oxford University, an MSc in Radio-Astronomy from the University of Manchester, a PhD in X-ray Astronomy from the University of London, Honorary DSc's from the University of Bristol and the University of East Anglia, and Honorary Professorships from Imperial College London and the University of East Anglia.

Professor Jason Lowe

Professor Jason A Lowe has over 20 years' experience as a climate researcher and research leader, contributing to over 200 publications on a diverse range of subjects relevant to both climate mitigation and adaptation. Jason is Head of Climate Services at the Met Office and recently led the UKCP18 project which developed innovative new climate scenarios for the UK, and is now being used extensively in the latest UK Climate Change Risk Assessment. Internationally, Jason has contributed to all three working groups of the Intergovernmental Panel on Climate Change, and many UN climate reports.

Jason is the scientific co-ordinator of EUCCP which is examining how to better use climate projection information, and leads the Met Office science in a new joint UKRI-Met Office

programme on climate risks and resilience. He also works closely with government departments such as BEIS and Defra – and set up a new approach for the translation of climate science to policy relevant information within the Met Office. His particular research interests include: thresholds and linearity of the climate system; development and constraint of climate scenarios; sea-level rise; climate impacts and risk; and communication of climate for policy. In addition to his Met Office role, Jason is also Chair in Interdisciplinary Climate Research in the Priestley International Centre for Climate at the University of Leeds.

Julia Elizabeth King, Baroness Brown of Cambridge

Baroness Brown is an engineer, with a career spanning senior engineering and leadership roles in industry and academia.

Her interests include climate change adaptation and mitigation and the low-carbon economy. In this area she currently serves as: Vice Chair of the Committee on Climate Change and Chair of the Adaptation Sub-Committee; non-executive director of the Offshore Renewable Energy Catapult; Chair of the Carbon Trust. She was non-executive director of the Green Investment Bank, she led the King Review on decarbonising transport (2008), and she was the UK's Low Carbon Business Ambassador from 2008 to 2018.

Julia is also passionate about ensuring every young person in the UK has an outstanding science education. She chairs STEM Learning, a not-for-profit company committed to supporting science teachers and getting industry and business engaged with STEM in schools.

She is a Fellow of the Royal Academy of Engineering and of the Royal Society, and was awarded DBE for services to higher education and technology. She is a crossbench Peer and a member of the House of Lords European Union Select Committee.

Philip Songhurst-Thonet

Philip Songhurst is a Director in Control Risks and responsible for leading risk, resilience and security consulting across Europe, Middle East, and Africa. In this role he advises multinationals and government organisations on strategic risk, governance, resilience, and transformational change.

A continued area of focus for Philip is the organisational risk and opportunities brought about by digitization, data analytics and technological change.

Philip previously worked for Aon.