



Society of Actuaries in Ireland

Putting the Life Co balance sheet under the ESG microscope

15 May 2020

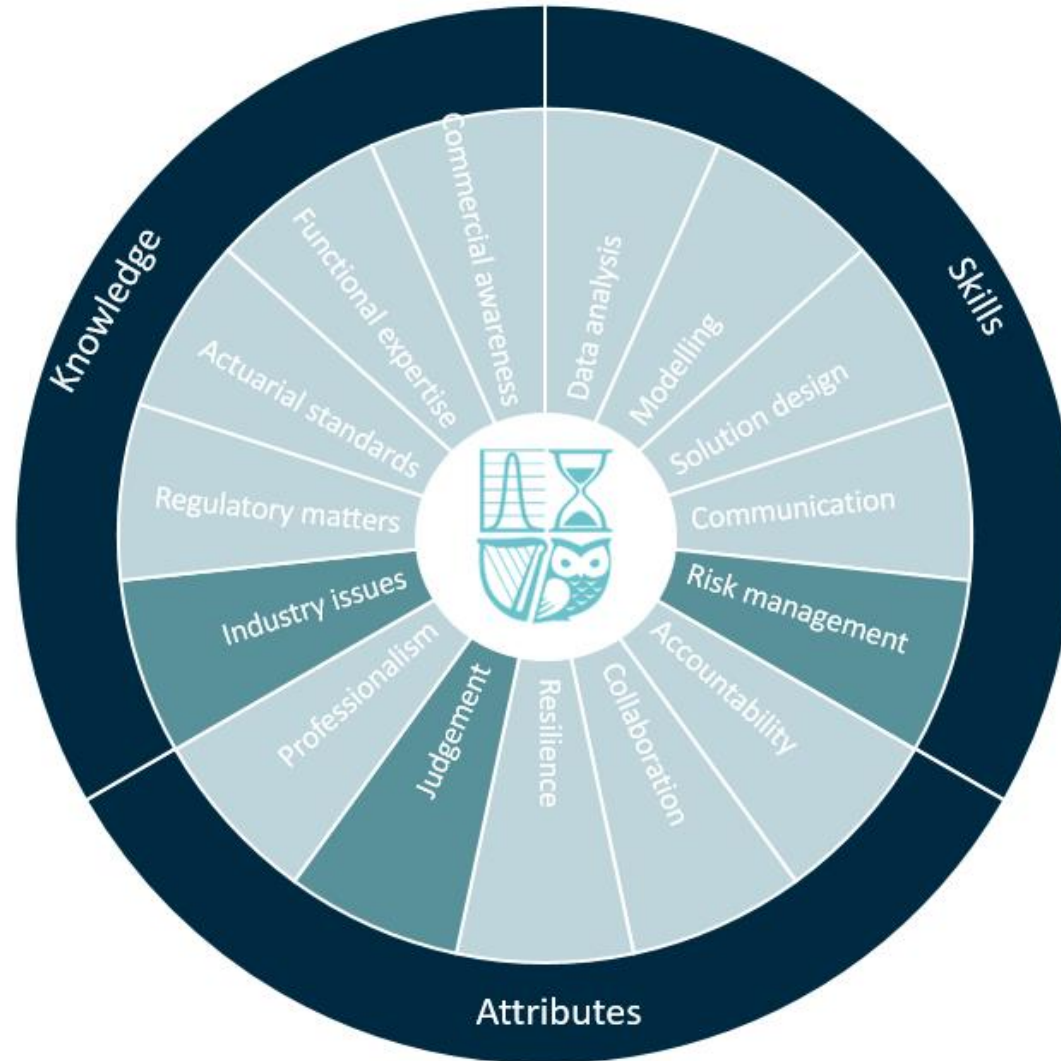
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SAI Competency Framework





Questions

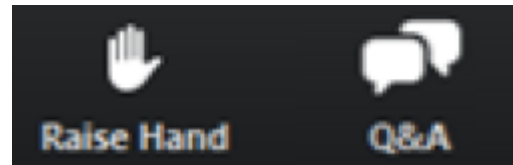
Please click on the Hands Up icon
to ask a question

and

wait to be unmuted

or

Use the Q&A function



Today's agenda



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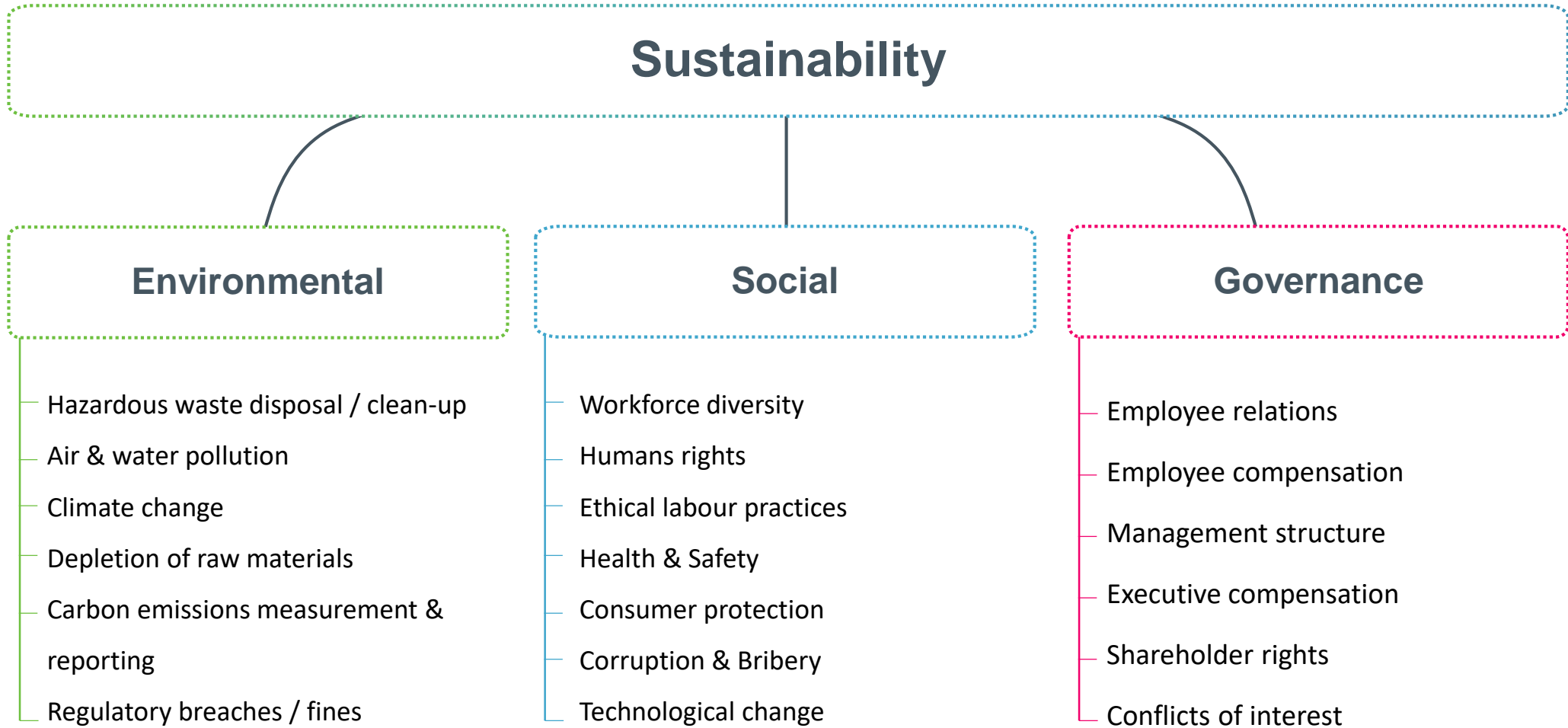
For and on behalf of Hymans Robertson LLP.

What we'll cover

- 1 What is ESG and why do we care?
- 2 Making the link between ESG risks and the LifeCo balance sheet
- 3 Constructing scenarios for climate change
- 4 Putting it into practice
- 5 Steps firms can take

What is ESG and why do we care?

What are ESG risk factors?



Real world examples – “E”: Water usage

The Guardian

Indian traders boycott Coca-Cola for 'straining water resources'

Campaigners in drought-hit Tamil Nadu say it is unsustainable to use 400 litres of water to make a 1 litre fizzy drink



▲ Water usage by Coca-Cola and PepsiCo in India was highlighted after low rainfall in the region. Photograph: Tengku Bahar/AFP/Getty Images

The Guardian

Indian officials order Coca-Cola plant to close for using too much water

Mehdiganj plant at centre of protests accused of extracting too much groundwater and releasing pollutants above limits



closure order at India's environment court. Photograph: Reuters

THE WALL STREET JOURNAL.

BUSINESS | ASIA

Coca-Cola Closes Plant in India

Activists had campaigned against facility, claiming it depleted groundwater in region and hurt local agriculture

By *Preetika Rana*
Feb. 10, 2016 11:42 am ET

PRINT TEXT 2

NEW DELHI—Coca-Cola Co. has closed a bottling plant in north India that activists had campaigned against, signaling challenges the U.S. beverage giant faces as it seeks to expand in the world's second-most populous nation.

Real world examples – “S”: Labour practices

BBC NEWS

Primark and Sports Direct named for underpaying staff

8 December 2017



Primark had to repay £231,973.12 mainly due to charging staff for uniforms

INDEPENDENT
UK'S LARGEST QUALITY DIGITAL NEWS BRAND

H&M shamed and fined for not paying staff minimum wage

The Swedish company is one of 37 caught and fined by HM Revenue & Customs for breaking the law

Simon Neville | Thursday 15 January 2015 02:00 |



The Guardian

Rana Plaza: one year on from the Bangladesh factory disaster

last year's disaster people blamed the factory owners, owners, or the government - but isn't the real culprit our demand for cheap clothing?



Rescue workers trapped under rubble at the Rana Plaza building after it collapsed, in Savar, Dhaka on April 24 last year. Photograph: © Andrew Biraj/Reuters

Real world examples – “G”: Risk management

BUSINESS INSIDER

Over 1,500 California fires in the past 6 years — including the deadliest ever — were caused by one company: PG&E. Here's what it could have done but didn't.

Morgan McFall-Johnson Nov 5, 2019, 2:52 PM



Chris and Nancy Brown embraced while searching through the remains of their home, leveled by the Camp Fire, in Paradise, California, on Nov. 8, 2018. (AP Photo/George F. Mobley)



UTILITIES

PG&E, owner of biggest US power utility, files for bankruptcy

PUBLISHED TUE, JAN 29 2019-5:05 AM EST | UPDATED TUE, JAN 29 2019-9:02 AM EST

REUTERS

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KEY POINTS

- The owner of the biggest U.S. power utility has filed a motion seeking court approval for a \$5.5 billion debtor-in-possession financing, it said in a statement.
- PG&E listed assets of \$71.39 billion and liabilities of \$51.69 billion, in a court document filed in the U.S. Bankruptcy Court for the Northern District of California.

BBC NEWS

PG&E: California power firm to pay \$13.5bn to wildfire victims

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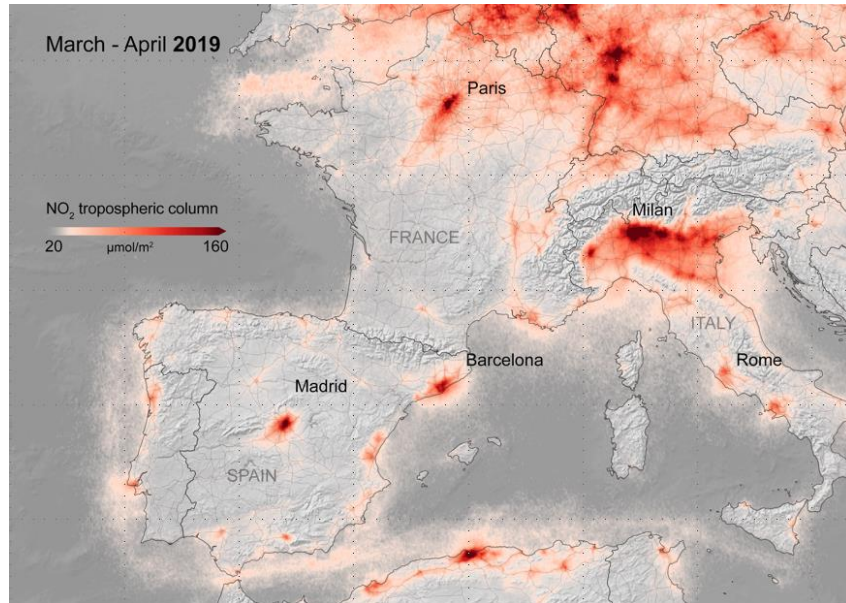
EPA

The Camp Fire killed scores of people and caused billions of dollars of damage



Making the link between ESG risks & the LifeCo balance sheet

Climate change in today's media



Source: European Space Agency

Coronavirus: Don't bail out airlines, say climate campaigners

By Roger Harrabin
BBC environment analyst

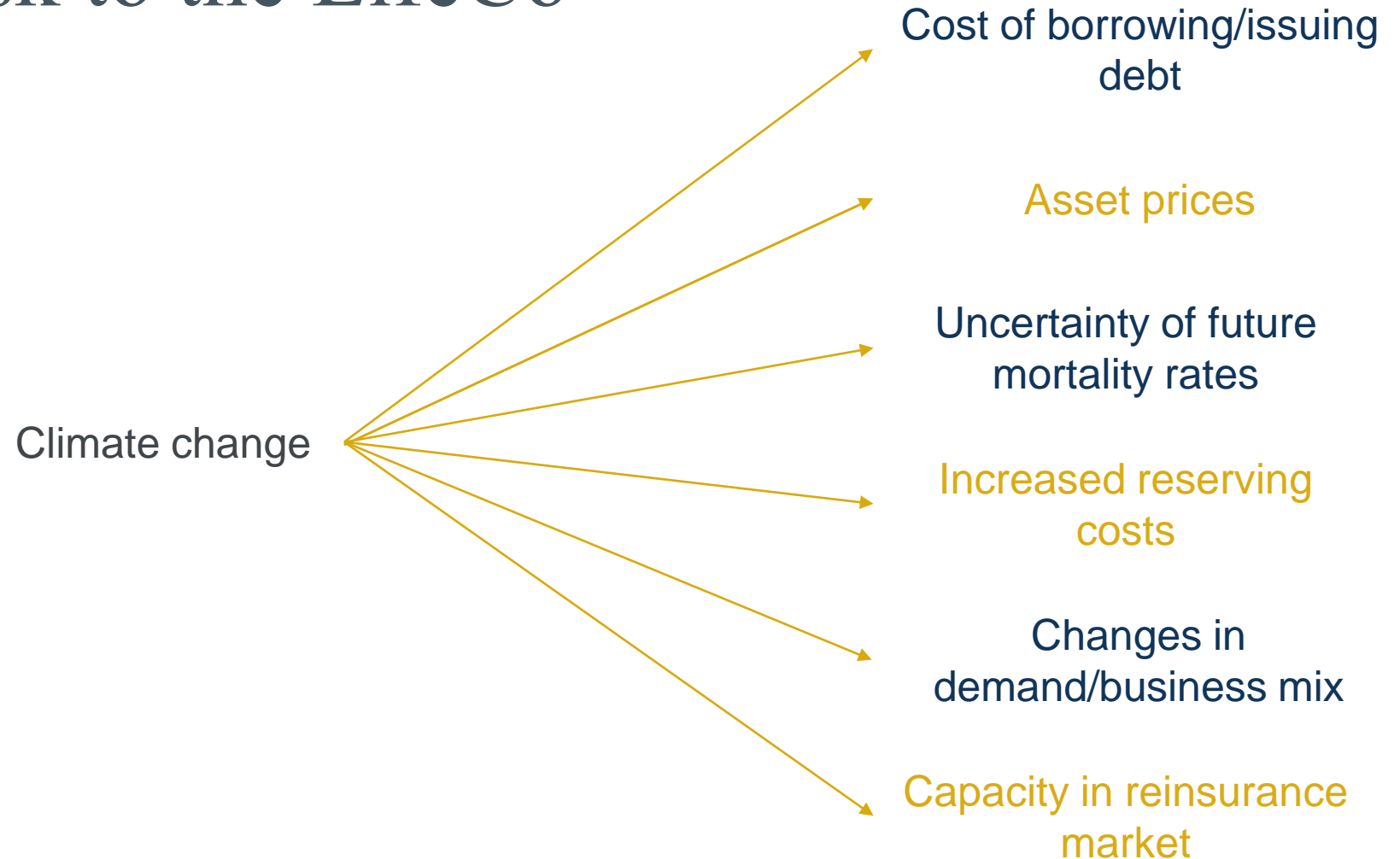
🕒 6 April 2020

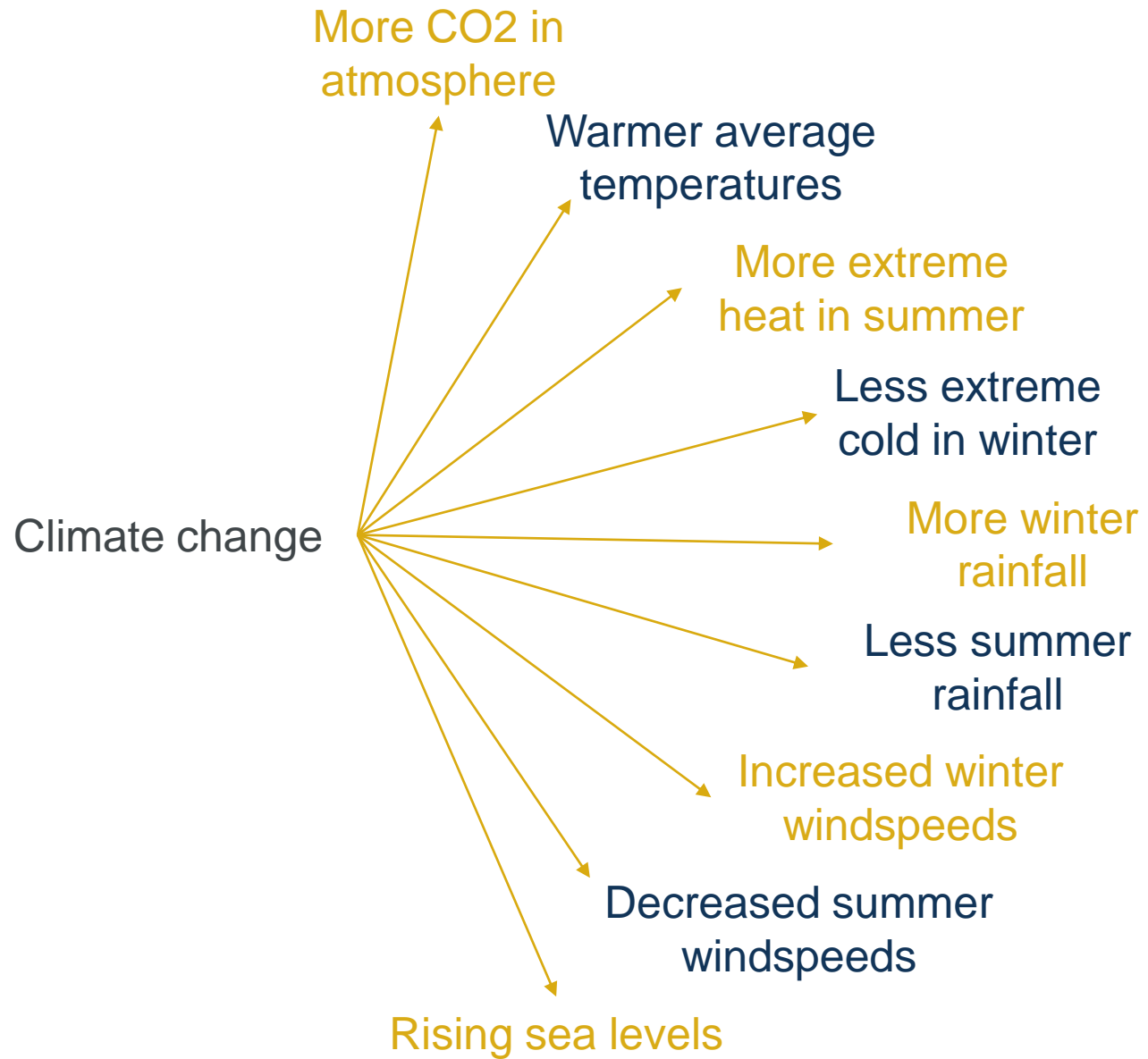
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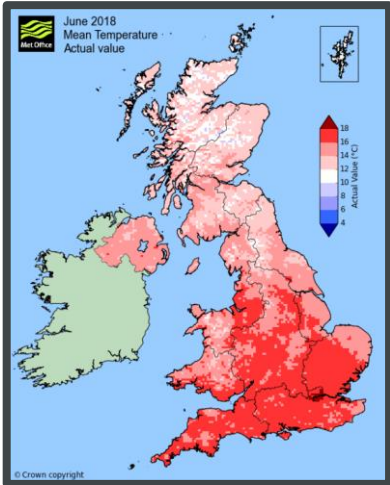
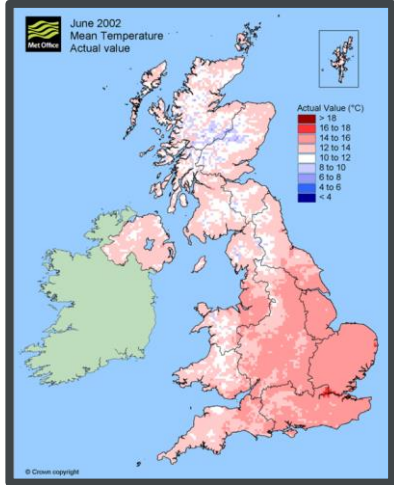
Coronavirus pandemic

Source: BBC News

Linking climate risk to the LifeCo balance sheet







UK mean daily temperatures
June 2002 vs. June 2018
Source: Met Office

Climate change

More CO₂ in atmosphere

Warmer average temperatures

More extreme heat in summer

Less extreme cold in winter

More winter rainfall

Less summer rainfall

Increased winter windspeeds

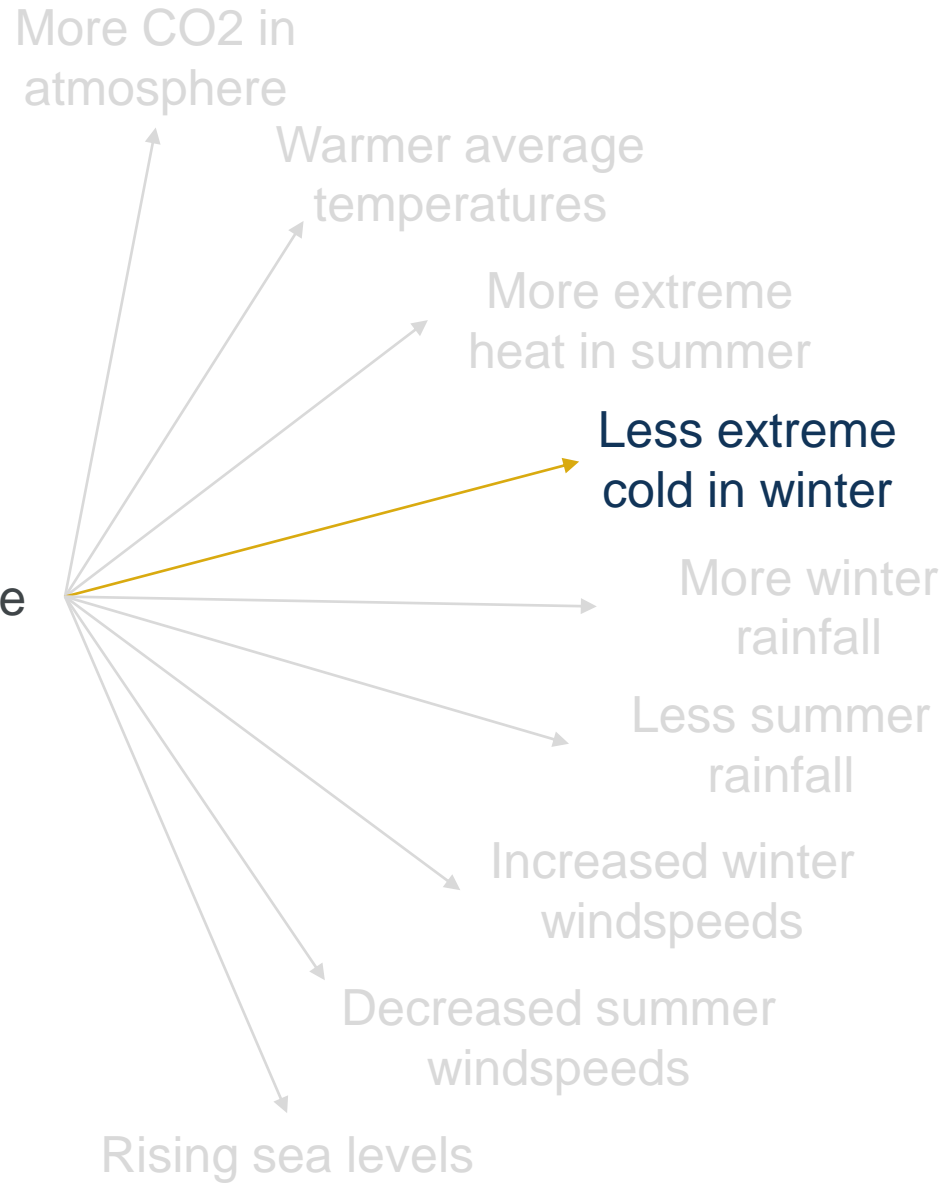
Decreased summer windspeeds

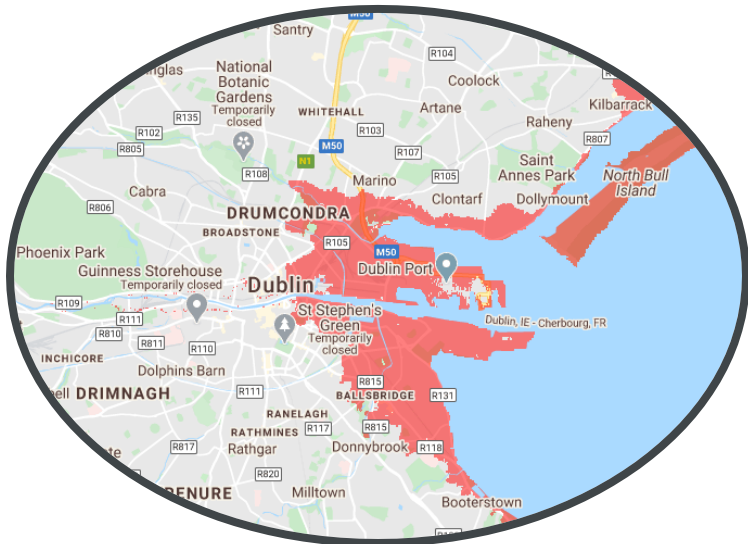
Rising sea levels



Hyde Park, London – February 2019
Source: ITV News

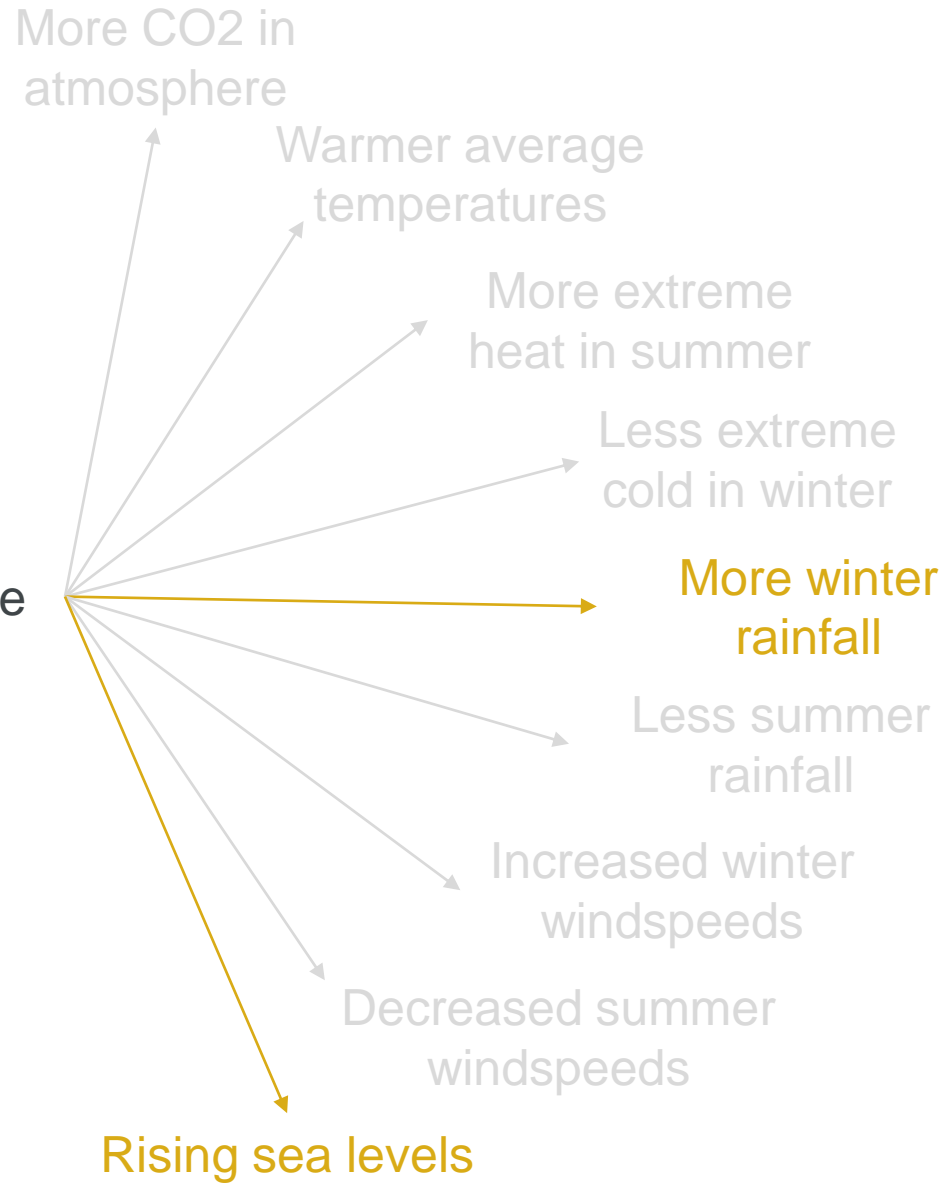
Climate change





Land projected to be below annual flood level in 2050
 Mid-range projection
 Source: *Climate central*
<https://www.climatecentral.org>

Climate change



Climate change

More CO2 in atmosphere

Warmer average temperatures

More extreme heat in summer

Less extreme cold in winter

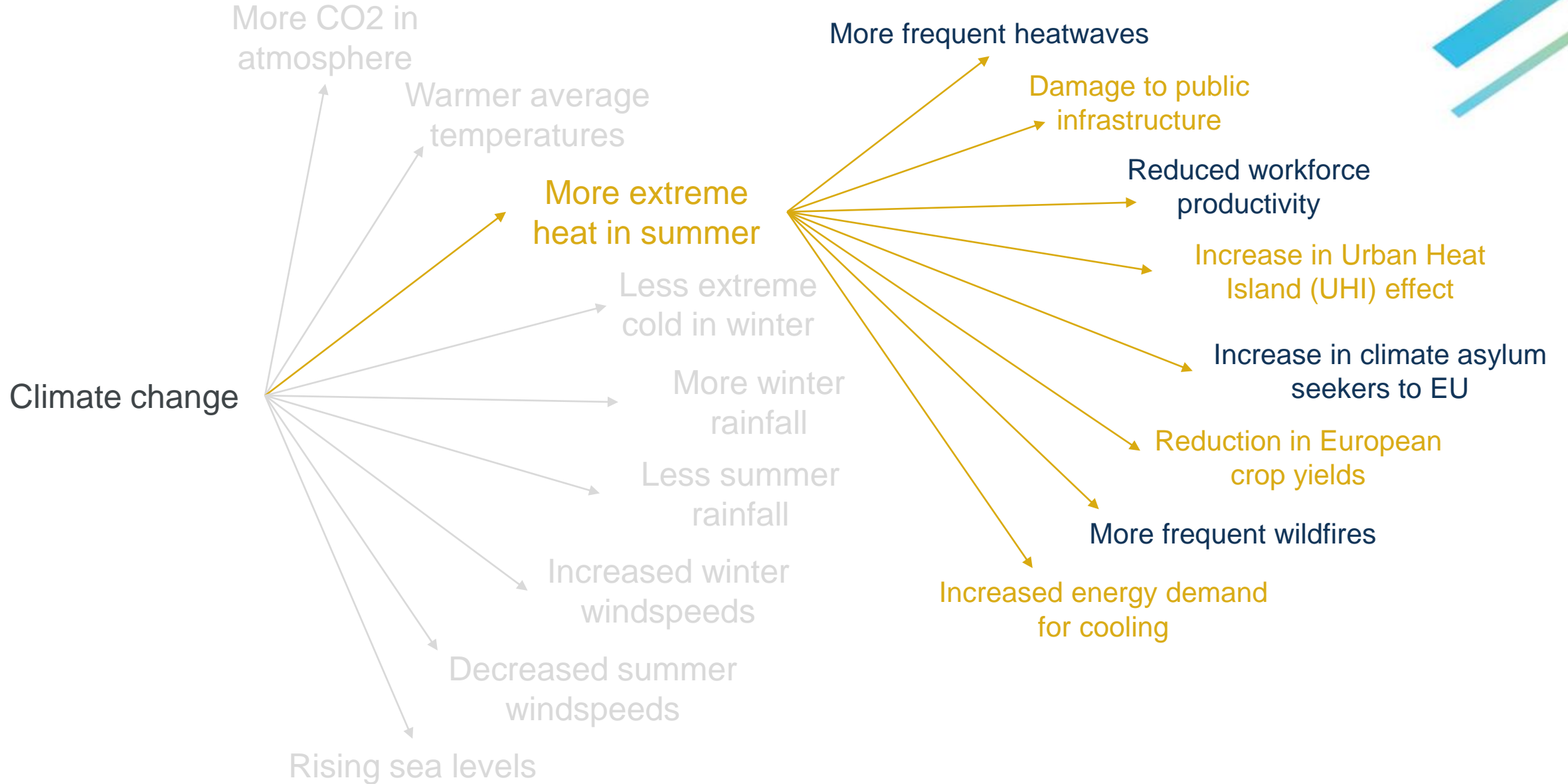
More winter rainfall

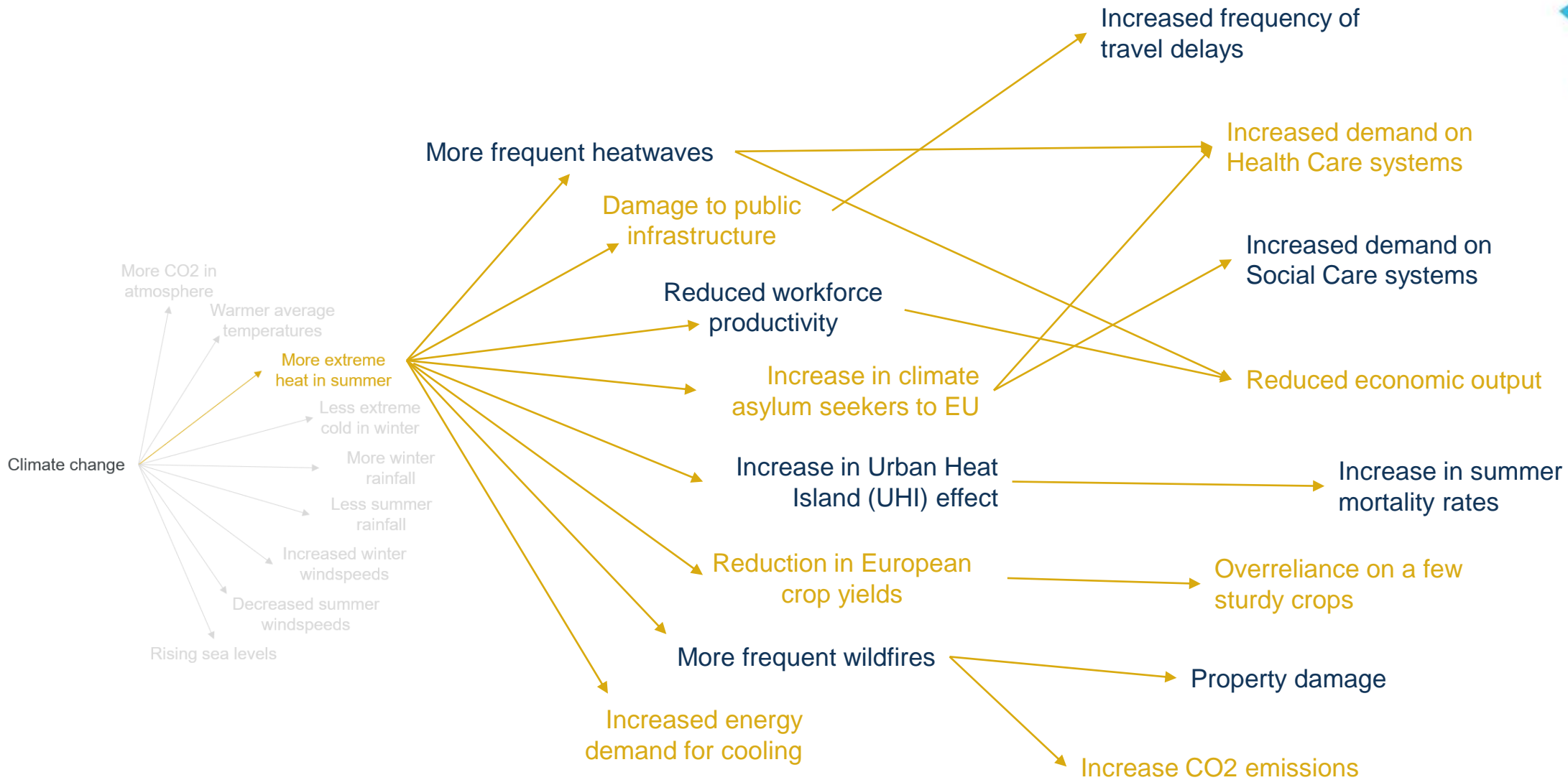
Less summer rainfall

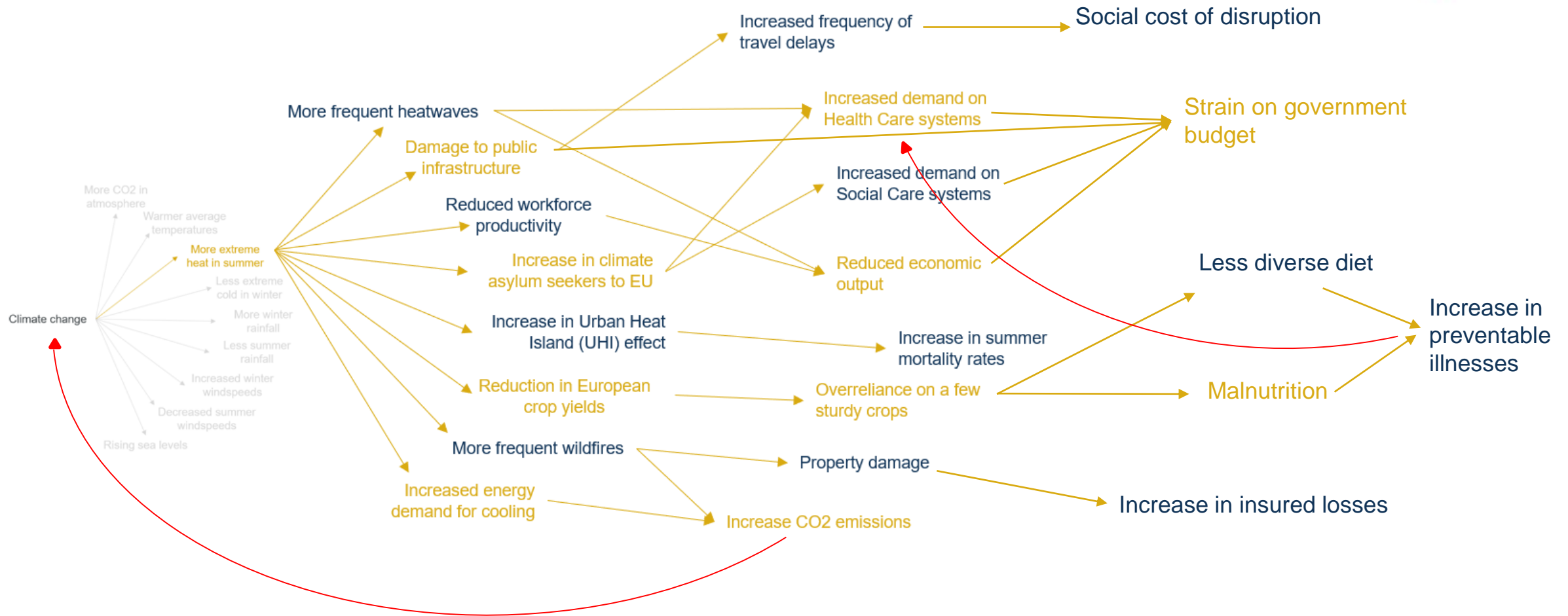
Increased winter windspeeds

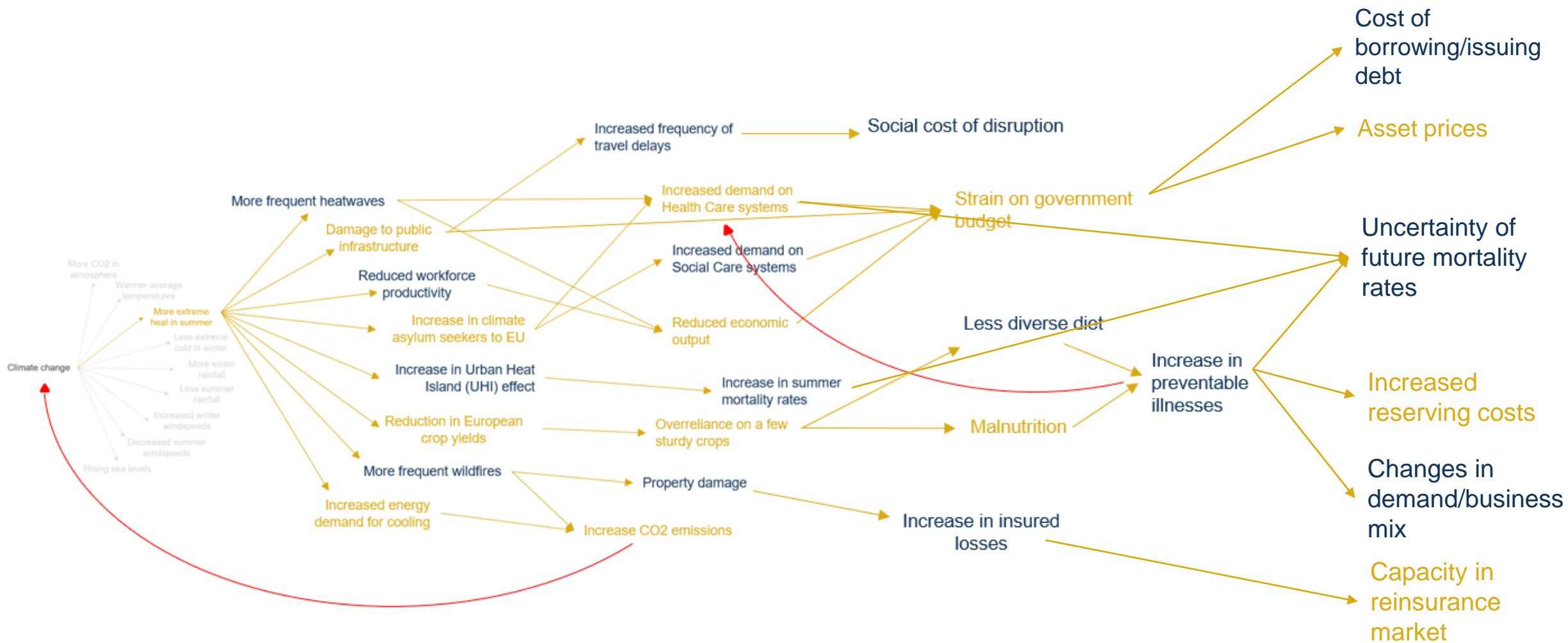
Decreased summer windspeeds

Rising sea levels

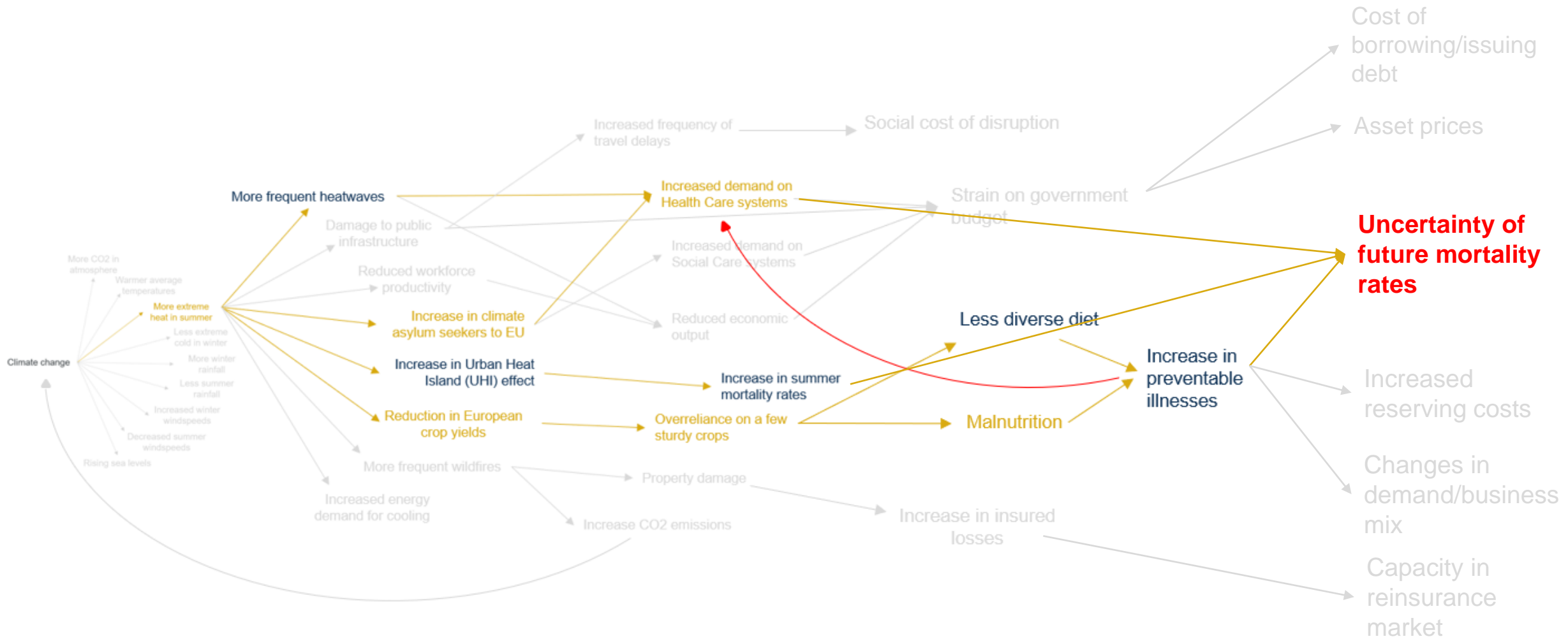






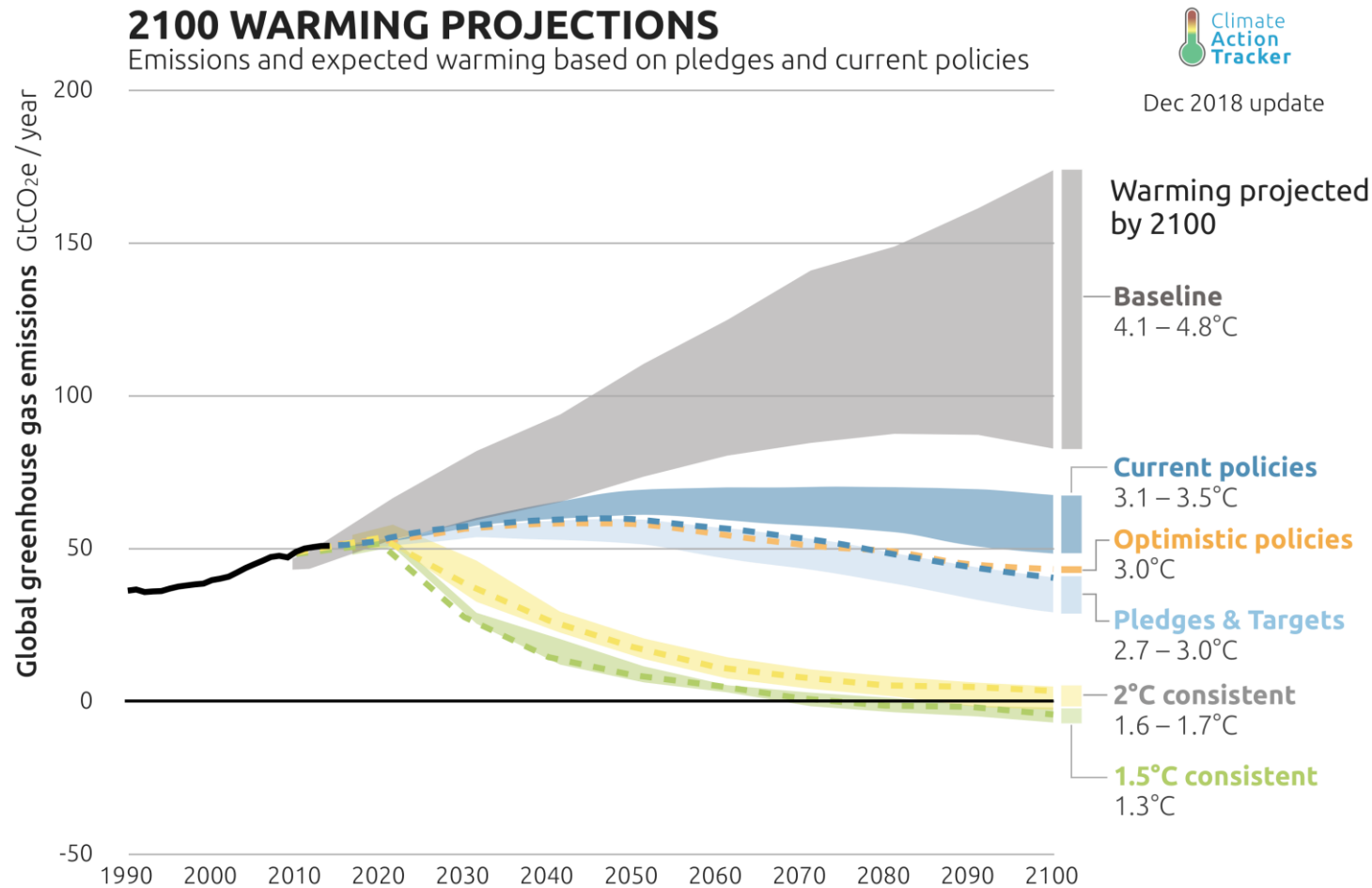


Source: Hymans Robertson – for illustrative purposes only



Constructing scenarios for climate change

What do the scenarios mean for insurance companies?



For modelling purposes, the important issue is not the temperature pathway, but the nature of the policy response

Two parties matter most

Governments
(Policy Response)



Carbon tax, cap and trade, behavioural change, infrastructure investment

Corporates
(Market/Technology Response)



Evolve business practices, reduce carbon dependencies, develop new technologies

People
(Societal Response)



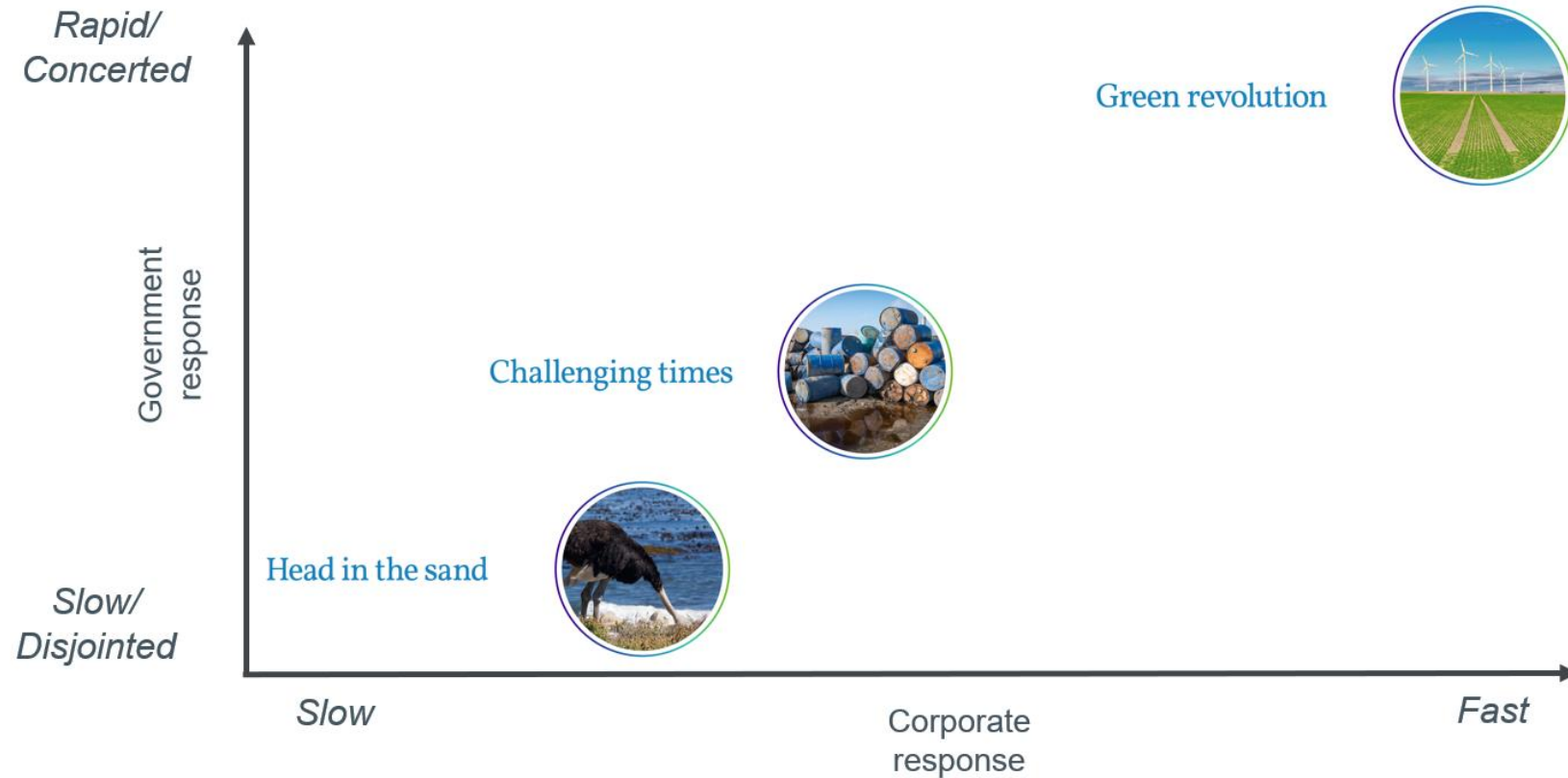
Press for change, but ultimately act through others

Environment
(Climate Change)



Climate feedbacks provide signals that inform others

Defining future scenarios



Pace of response used to define future scenarios

What do the scenarios mean?

Head in the sand



A range of disastrous outcomes resulting from a total lack of response to climate risk.

Global crop failures, influx of new diseases, severe temperature fluctuations resulting in harsh flu epidemics. Antibiotic resistance rises as new discoveries are limited.

Challenging times



Some adaptation achieved. "Peak oil flow" is reached constraining economies of the future.

Increasing fuel prices, constrained government finances, difficulty obtaining access to imported foods. More/less severe for lower/higher socio-economic groups.

Green revolution



Rapid technological advances leading to positive adaptation to climate change.

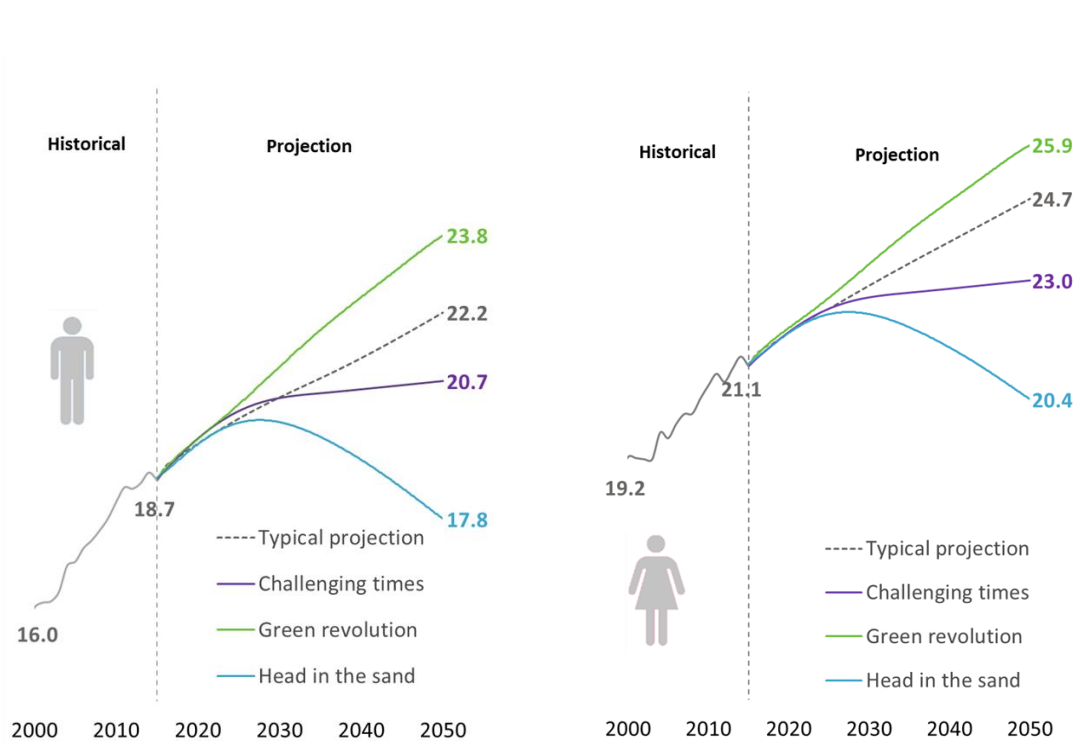
Healthier lifestyles prevail (walking, cycling etc), diets improve with less processed food consumption, homes protected against extreme temperatures.

Putting it into practice



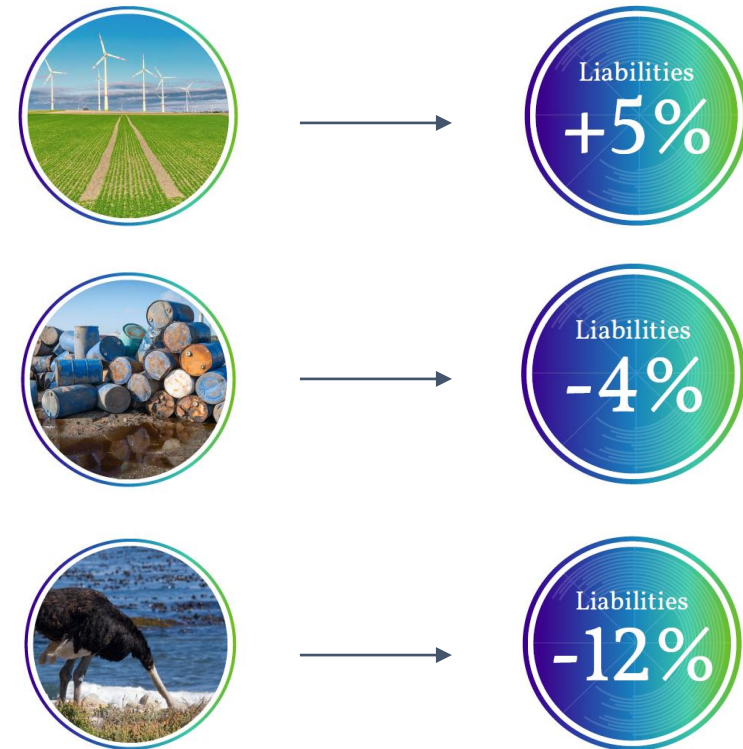
What does this mean for longevity?

Impact on period life expectancy at age 65



Projections as per Club Vita's paper "Hot and Bothered" (calibrated to historical data up to 2015).

Impact on annuity portfolio liabilities



Key economic & financial variables

Challenging times



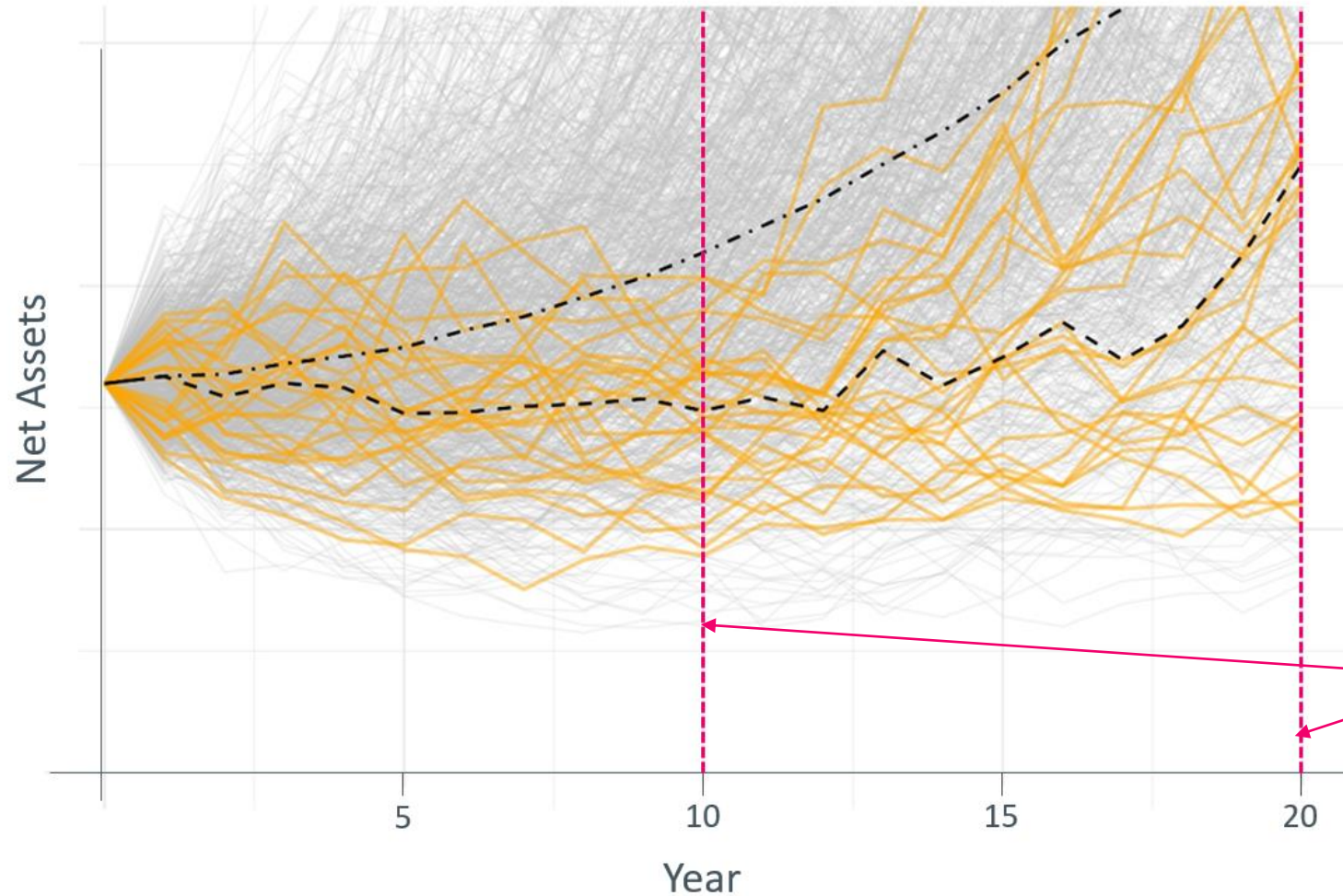
| | 3 years | 10 years | 20 years |
|-----------------------|---------|----------|----------|
| GDP growth | ↔ | ↓ | ↓ |
| Inflation | ↔ | ↑ | ↑ |
| Global equity returns | ↑ | ↓↓ | ↓ |
| Credit spreads | ↔ | ↑↑ | ↑ |
| Nominal gilt yield | ↑ | ↓ | ↓ |
| Real gilt yield | ↔ | ↓↓ | ↓ |

...and do the same for other scenarios

Apply scenario constraints to raw output



Challenging times

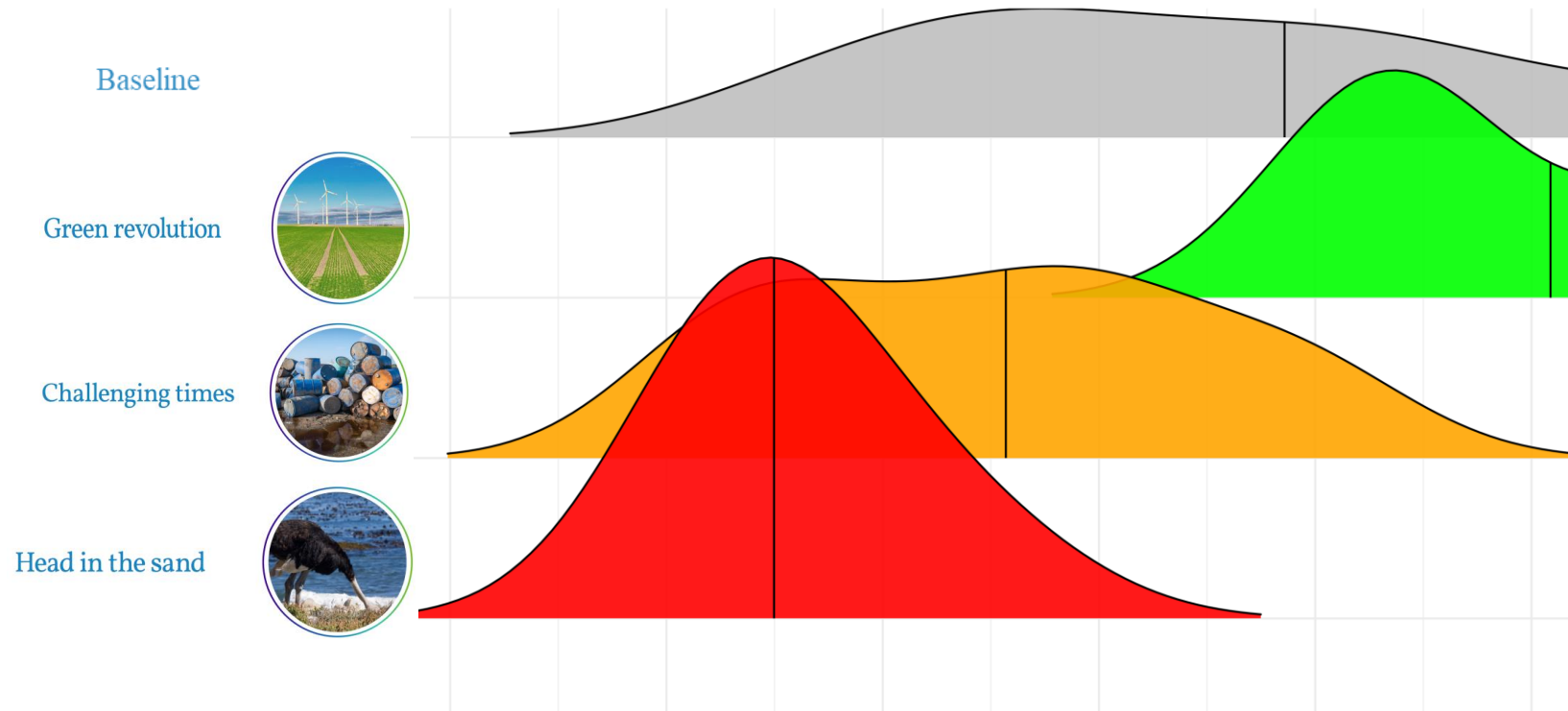


- . - . - . Median outcome
- Climate scenario outcomes
- - - - Median of climate scenario outcomes

Assess outcomes at time points of interest

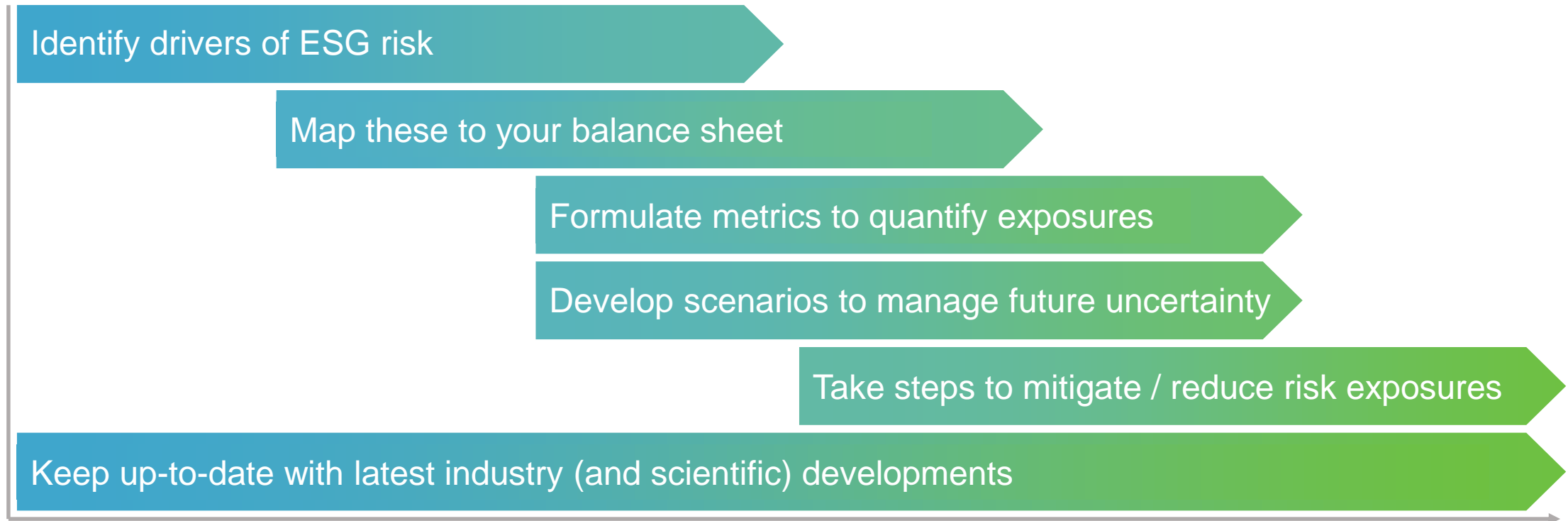
And compare the outcomes between scenarios

Illustrative distribution of outcomes



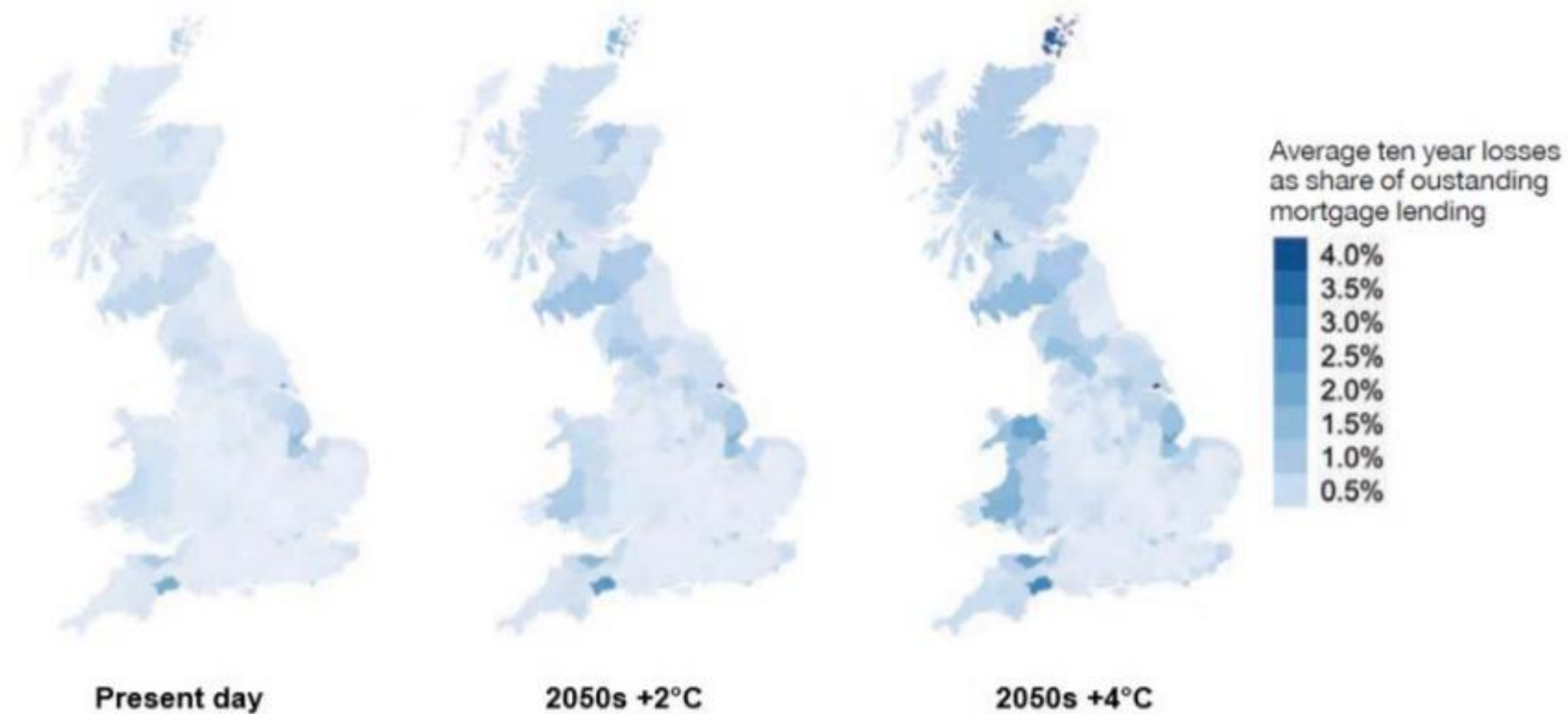
Steps firms can take

What steps can firms take now?



Taking a proportionate and phased approach to incorporating ESG

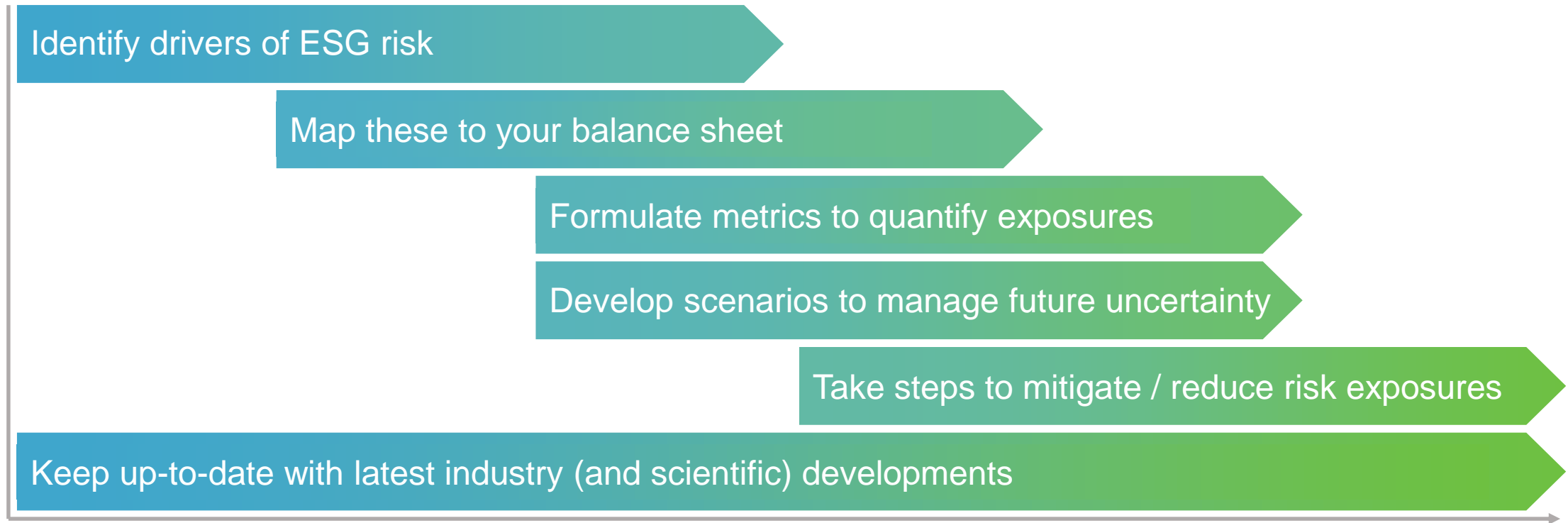
Climate change and house prices



Ten-year average losses from flood across local authority districts in Great Britain.

Source: "An annuity is a very serious business: Part 2" - speech by David Rule of the PRA, April 2019

What steps can firms take now?



Taking a proportionate and phased approach to incorporating ESG

Thank you

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