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Climate change - time to get strategic

CIPFA

February 2019

Sandy Trust, Grant Thornton
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Agenda

- How did we get here?
- Your profession expects…
- Taking action
- Climate scenarios

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How did we get here?

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1. Today's atmosphere is unprecedented in human history, pre-history and beyond

Olduvai stone chipping tool – 1.8 million years old

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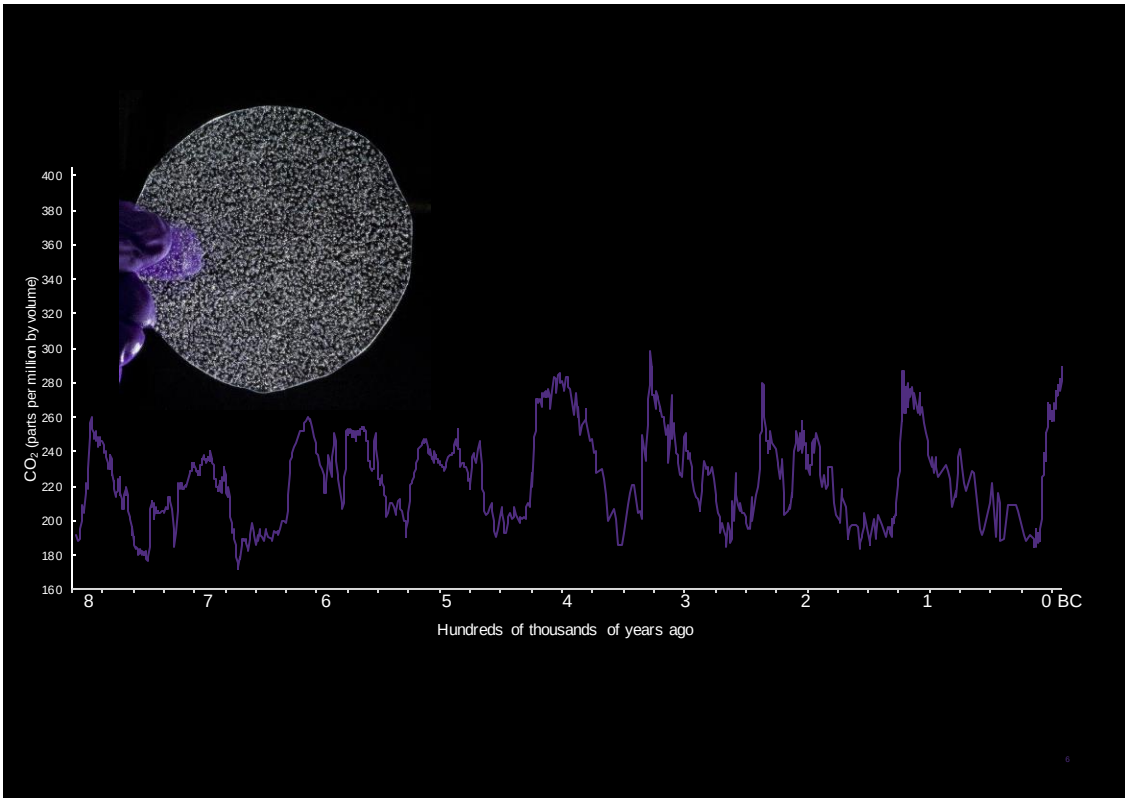

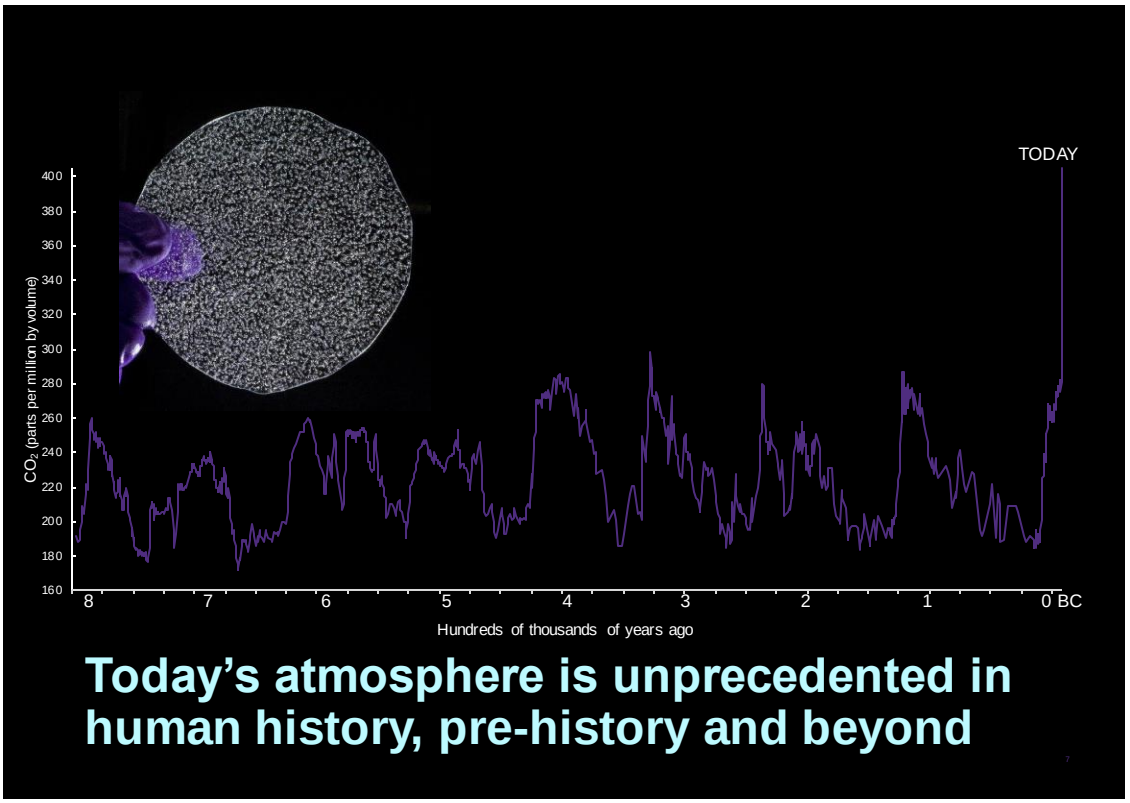

3. We are already experiencing physical and transition risks, which will increase

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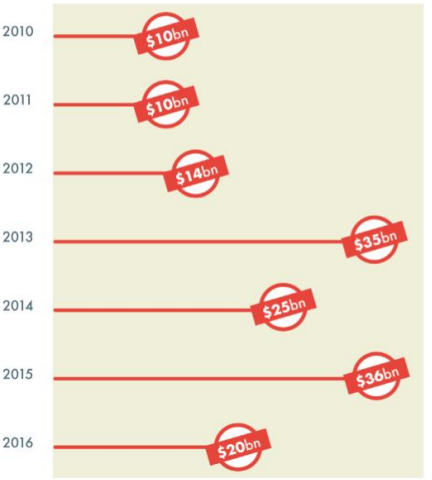
Transition risks

RWE Share Price

Euro electric sector write downs



Source: Carbon Tracker, 2020 Vision, September 2018

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Climate risk and capital markets

Financing sustainability – a once in a civilisation opportunity?

Sources:
1 Carbon Tracker, Mind the gap: the $1.6 trillion energy transition risk, March 2018
2 Four Twenty Seven, Deutsche Asset Management, Measuring Physical Climate Risk in Equity Portfolios, November 2017
3 New Climate Economy, The Sustainable Infrastructure Imperative, October 2016
4 Climate Central, Mapping Choices: Carbon, Climate and Rising Seas, November 2015

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Three types of climate risk were outlined by Mark Carney in 2015

- In his 2015 speech, "Breaking the tragedy of the horizon", Mark Carney described three categories of risk arising from climate change, these being **physical, transition and liability risks**.

- These risks were further outlined by the actuarial profession in a risk alert to all actuaries in May 2017.

1. **Physical Risks (eg flood, wildfire, drought etc)**
   - the risks arising from potential degradation to physical assets

2. **Transition Risks (eg stranded assets)**
   - risks related to the potentially rapid reduction in the market value of, or income generated by, assets

3. **Liability Risks**
   - risks relating to parties who have suffered damage or losses from the effects of climate change and seek compensation

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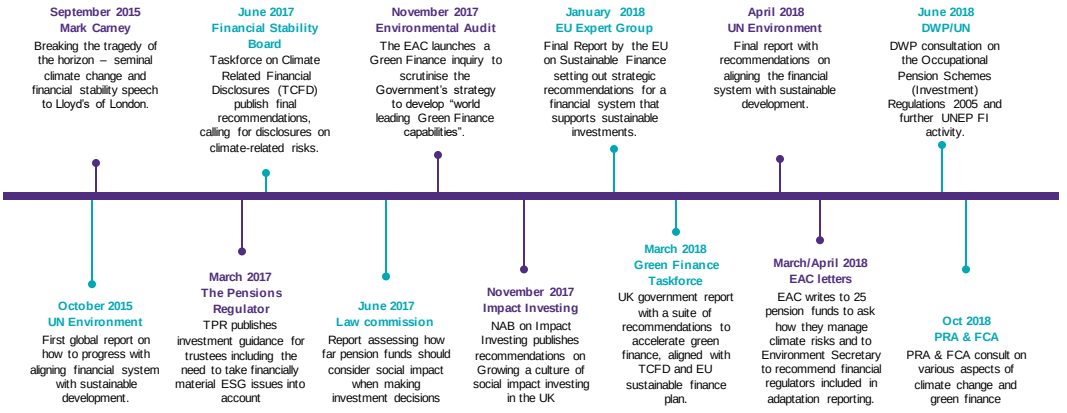
ESG/climate are rapidly entering regulation

A selection of key regulatory policy and corporate initiatives are shown below. The pace is now remarkably swift for regulators and firms and individuals which fail to recognise theimportance and magnitude of this change risk far more than just their reputation if they are slow to adapt.



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Investors have differing, complex attitudes to the environment but education is a critical barrier

Delegated Responsibility. Environmental issues are important, particularly as they impact businesses. Asset managers and corporates have an obligation to address environmental issues. The role of the asset owner is seen as less critical.

Change drives Change. Asset owners are prepared to act, but policy uncertainty and poor data reduces their willingness to take action to address environmental issues

Environmental Optimism Asset owners are the catalyst for change and positive action can address environmental risks. Capital markets offer potential solutions to environmental problems, but the finance industry needs to evolve its methods and asset owners must be more accepting of change.

Presumed Integration. Risk mitigation is critical, as is stability of the financial system, but the environment is a less relevant consideration. Understanding what investee companies are doing is important, but asset owners are already integrating consideration of the environment, so there is no need to do more.

Source: What gets in the way: Barriers to consideration of the environment in institutional decision making. Masters dissertation, Simon Jones

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In pensions, the IFOA has generated a number of guides around climate change

Date	Item	Brief notes
2013	Resource Constraints: sharing a finite world.	Research paper on implications to economic growth of finite resources
2014	IFOA Resource & Environment Board convened	Formal intro of board to IFOA governance
Nov 2015	Policy briefing for COP 21	Application of risk management techniques to climate change
Jan 2017	Intergenerational fairness bulletin on climate change	Launch of IFOA series with climate change as leader
May 2017	Risk Alert on climate change	Alert to all actuaries to consider climate risk
July 2017	DB Pensions Practical Guide	Guide to support actuaries in how to consider this risk in their advice
2018	Sustainable Development Goals initiative	International competition on how actuaries can support SDGs professionally
2018	DC Pensions Practical guide Economic assumptions practical guide	DC Pensions Q1 Life and GI guides next
2019	Further practical guides planned	Climate change basics, Life, GI, Investment

15

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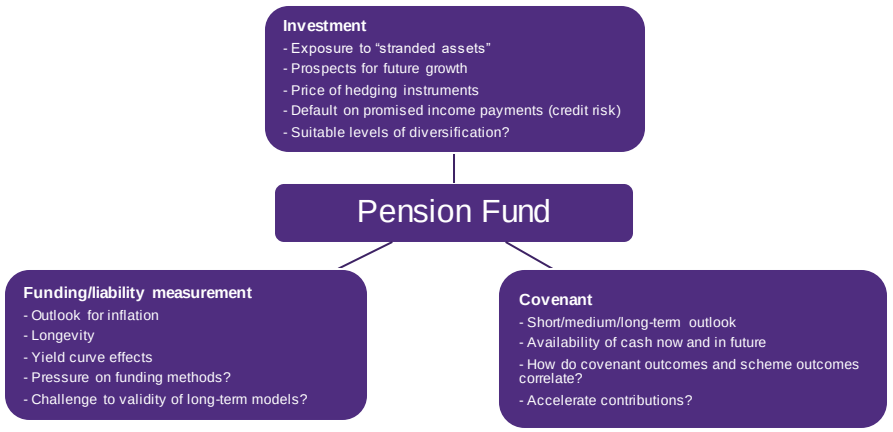
Taking action

16

Decision makers should think about the framework for considering climate risk



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Investors have a limited number of actions they can take

Divest	• Remove exposure to potentially compromised investments • Strong external lobby • Focus only on equities?
Tilt	• Revised market indices offer options for passive investors • Can bias portfolios positively and negatively • Investment in assets aligned to transition, e.g. renewable energy
Mandate	• Structure mandate to explicitly address climate risks • Ensure all investment processes are aligned with climate considerations • Additional requirement to existing mandates?
Engage	• Asset ownership conveys responsibilities on investors • Engagement can influence corporate behaviour • Will we see more active investors in future?

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Equity funds that address climate risks are evolving as investors become more sophisticated

Exclusion based funds

Ex-coal and ex-fossil fuel indices

Blunt tool

Meet divestment criteria, but is divestment the solution?

e.g. MSCI ex Coal Index

Low carbon funds

Funds track indices which are optimized to some measure of carbon risk

Measures include: reserves, emissions, revenues

Aim for sector neutrality to limit tracking error

e.g. MSCI Low Carbon Target Index

Factor based, ESG funds

Deviation from market cap indices

Funds combine factor based equity exposure with ESG overlays

ESG factors may be only climate related (e.g. LGIM Future World Fund) or broader (e.g. Schroder Sustainable Multi Factor Fund)

Product evolution is aligned to changing investor requirements

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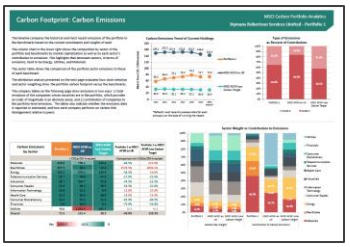
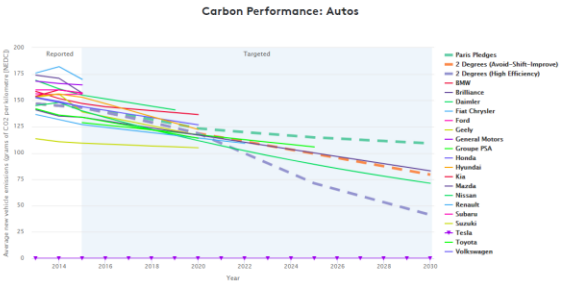
Tools exist to help investors assess risk exposures

Carbon footprinting



- Benchmarking
- Identify companies to engage with
- Allow comparison of different strategies

Transition Pathway Initiative



- Can help identify companies who are risk of not adapting
- Identify companies to engage with

Source: http://www.lse.ac.uk/GranthamInstitute/tpi/the-toolkit/

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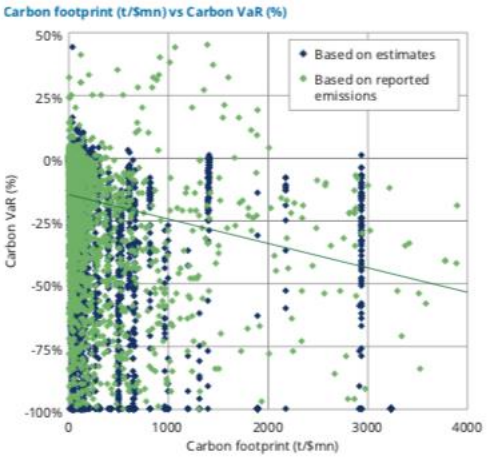
But the tools and thinking employed within the industry are getting increasing sophisticated

- Data quality varies betw een providers
- Measurements of carbon risk are backw ard looking and do not take into account strategic actions of companies
- Schroders "Carbon VaR" is an example of developing thinking in risk assessment
- Accounts for carbon pricing and policy risk



Source: Schroders Investment Management, as of December 2016.

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We also need to think more holistically, for example, considering longevity impacts

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.

Liabilities -12%

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.

Liabilities -4%

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.

Liabilities +5%

Source: https://www.bymans.co.uk/media/uploads/ClubVita_Booklet_UpdatedStats.pdf

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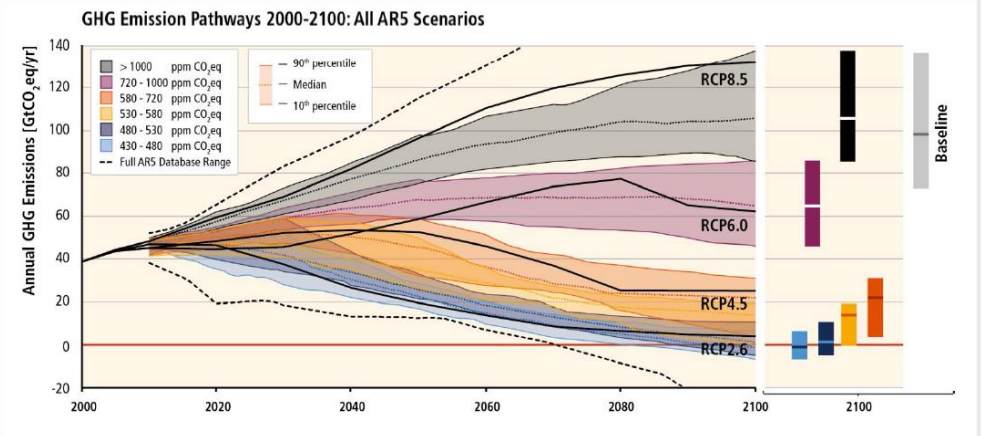
Introduction to climate scenarios

Emissions scenarios

Figure 1: **Emissions scenarios reviewed in the Fifth Assessment Report of Working Group 3 of the IPCC. Scenarios are grouped according to their CO_2 equivalent concentrations in the year 2100 (see colour legend).**[ix] Source: IPCC Fifth Assessment Report Working Group III Figure 6.7[2]



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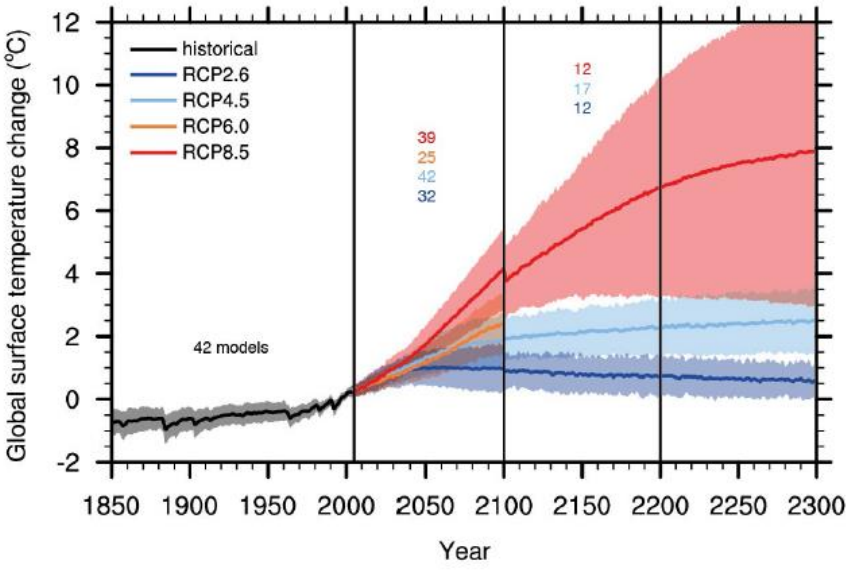
Lead to temperature scenarios



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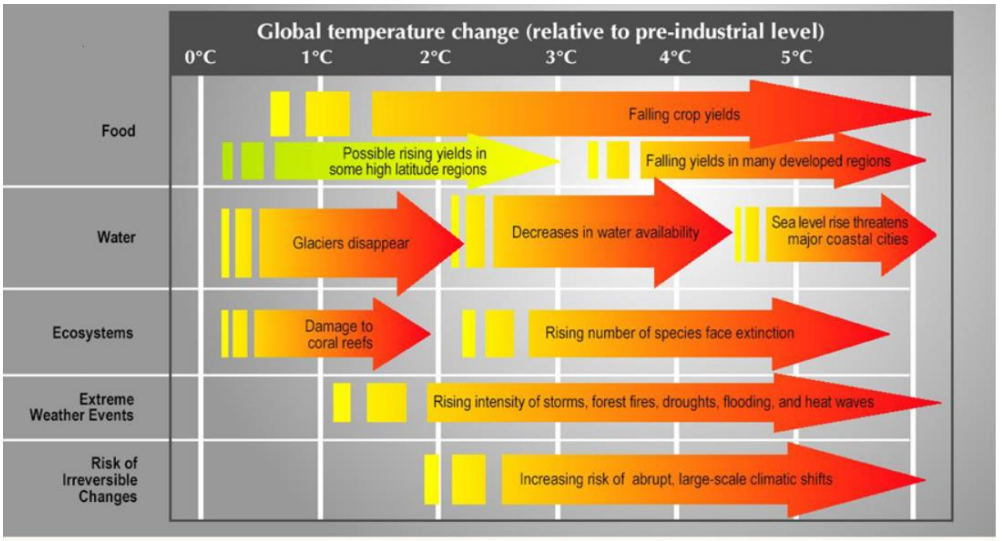
And serious implications for our life support systems



C = Celsius; CO_2 = Carbon Dioxide
Source: Adapted from the *Stern Review on the Economics of Climate Change.*

Source: http://www.challengetochange.org/climate.htm

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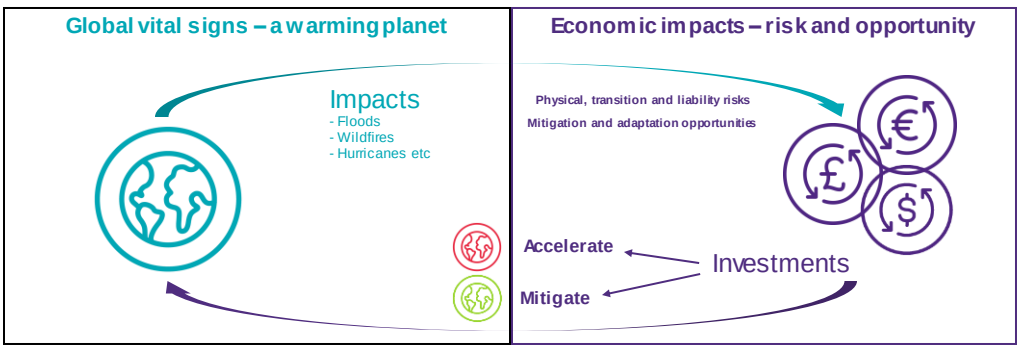
The complex interaction between physical climate risk and economic impact



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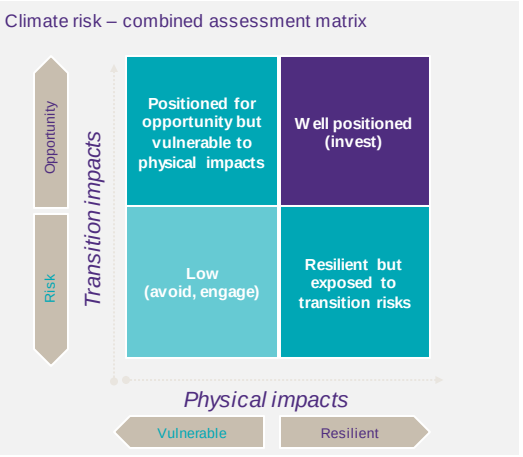
Indicating a need for a combined assessment of risk and opportunity



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Questions?

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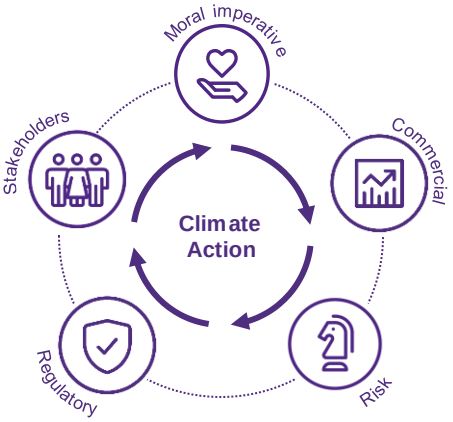
5 reasons to act now on climate change



Understand → **Assess** → **Act**

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