

INNOVATION AND SUSTAINABILITY IN PENSION FUNDS MANAGEMENT

9 April, 2024

SANTIAGO, CHILE

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CLIMATE CHANGE: INVESTING IN THE REAL WORLD

Do we like numbers and models too much?

Mike Clark, Founder Director, Ario Advisory, (UK)

Uncertainty? We see no uncertainty! *Or systemic risk...*



Q: How might we manage this uncertainty?

A: Scenarios

- Climate change will have a significant financial impact on pension funds (and other financial institutions)
 - When, how, how much? **We just don't know...**
- How can we best plan for our fund's future, and make it **resilient** in the face of this huge uncertainty?
- **Scenarios** are a set of plausible futures to frame decision-making
 - and they need to be **real world** scenarios
- Making a **Transition Plan** seems wise

Some recent history

A good start, but...

- TCFD: Taskforce for Climate-related Financial Disclosures
 - Recommendations include the use of scenarios
- NGFS: Network for Greening the Financial System
 - Central banks and financial supervisors
 - NGFS scenarios
- But...

Imagine you are a fiduciary of this pension fund...and also a climate scientist

Annualised Climate Change Impact on Portfolio Returns – to 5, 15 and 40 Years⁴

Scenario	Timeline (years)	Current Asset Allocation ⁵	Target Asset Allocation ⁶
1.5°C	5	-1.7%	-1.5%
	15	-0.5%	-0.4%
	40	-0.2%	-0.2%
1.6°C	5	-0.2%	-0.1%
	15	0.0%	0.0%
	40	0.0%	0.0%
4°C	5	0.2%	0.1%
	15	-0.7%	-0.6%
	40	-1.1%	-1.0%

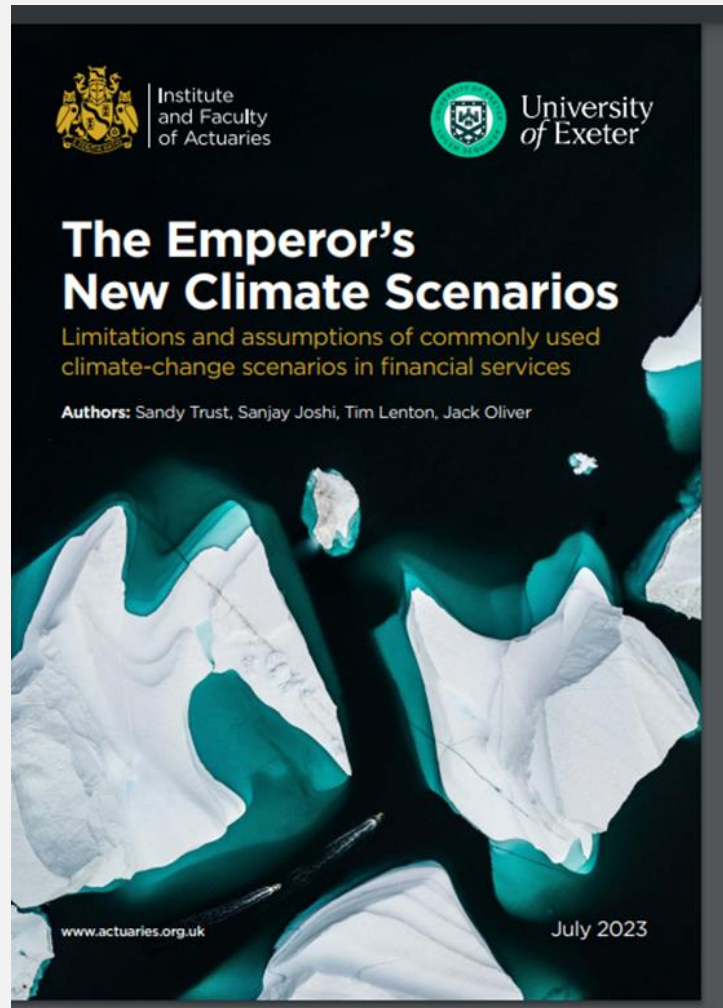
Source: a UK pension scheme

Quick Question

As a fiduciary, do you think your investment goal to accommodate climate change is:

1. portfolio decarbonisation
2. real world decarbonisation
3. risk management for resilience?

The Emperor's New Climate Scenarios



- Many of the models used to predict economic damages for the hot house world **are too benign**
- We may have **seriously underestimated** rate at which earth is warming
- Carbon budgets could be **much smaller than we think**

Loading the DICE against pension funds



- Following some investment consultants' advice, pension funds have informed members that **global warming of 2-4.3°C will have only minimal impact on their portfolios**
- **Huge disconnect between what scientists expect and what pensioners/investors/financial systems are prepared for**
- Wealth-damaging correction, **Minsky Moment, cannot be ruled out, and is virtually inevitable**

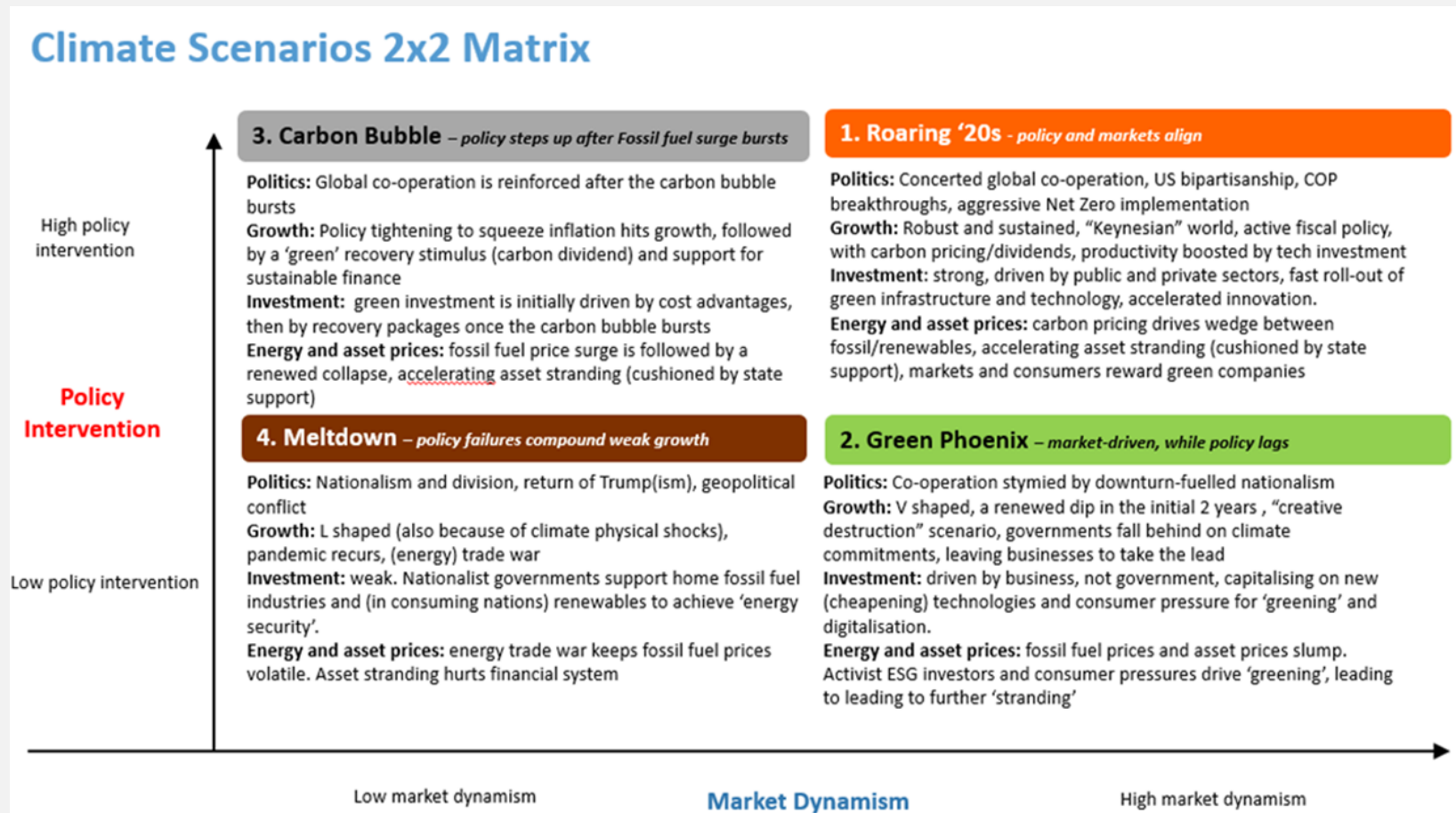


Scenarios

A well-used strategic planning tool

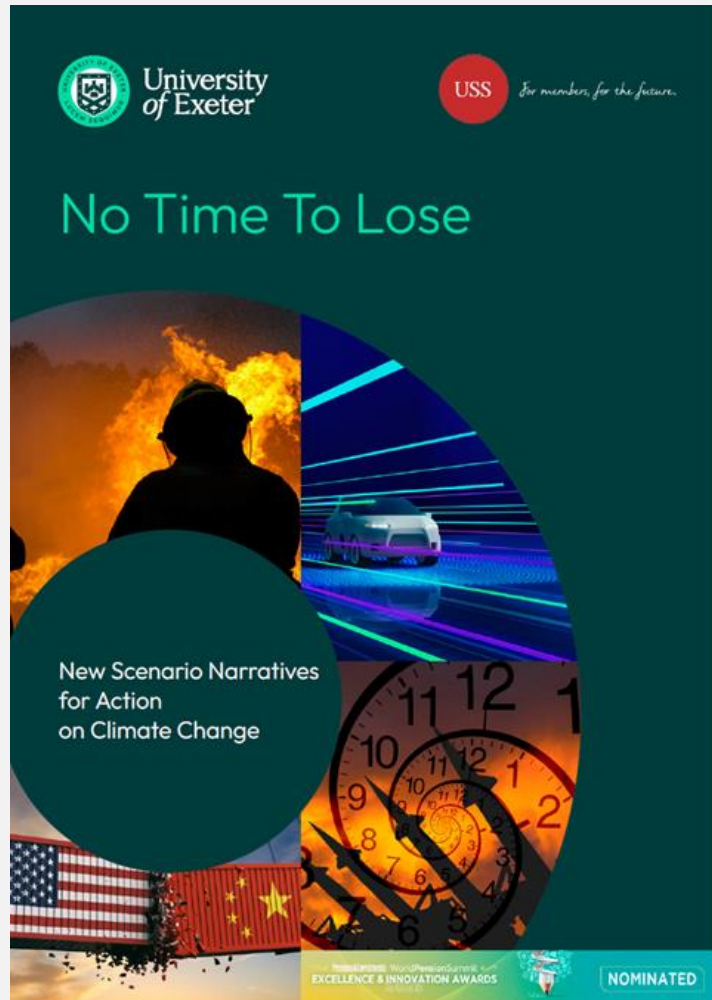
- What factors have the highest uncertainty and impact for investors?
- Climate change? No, the path for the next 5-10 years is reasonably clear (yes, *weather* is less certain)
- We suggest these factors may be considered:
 - Policy, regulation (non-financial, also financial)
 - Markets
- How easy is it to model the real world: mass migration, market prices, stranded labour, election outcomes, energy policy, citizen behaviour...?

What might narrative scenarios look like?



Source: RWCS (Real World Climate Scenarios)/Mark Cliffe

A large UK pension fund is using narrative scenarios



“We aim to lead in the development of this new approach that is less focused on precise estimation and more on understanding how real-world dynamics could play out in a complex world where climate risks cannot be looked at in isolation from political, economic, and technological factors.”

Mirko Cardinale, USSIM

Transition Planning for Pension Funds

Report commissioned by UK Government



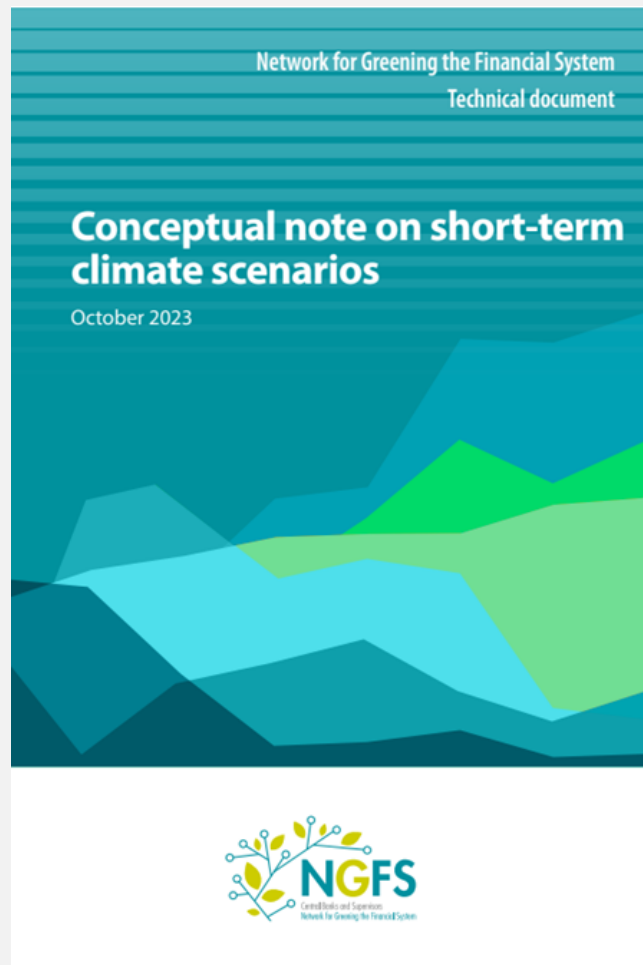
- **EEIST's Risk and Opportunity Analysis (ROA)**
- **The Role of Scenario Analysis**
- **Official Climate Scenarios**
- **The Importance of Challenging Typical Assumptions**
- **Developing "Decision-Useful" Climate Scenarios**

Transition Principles

Shifting the paradigm for decision making

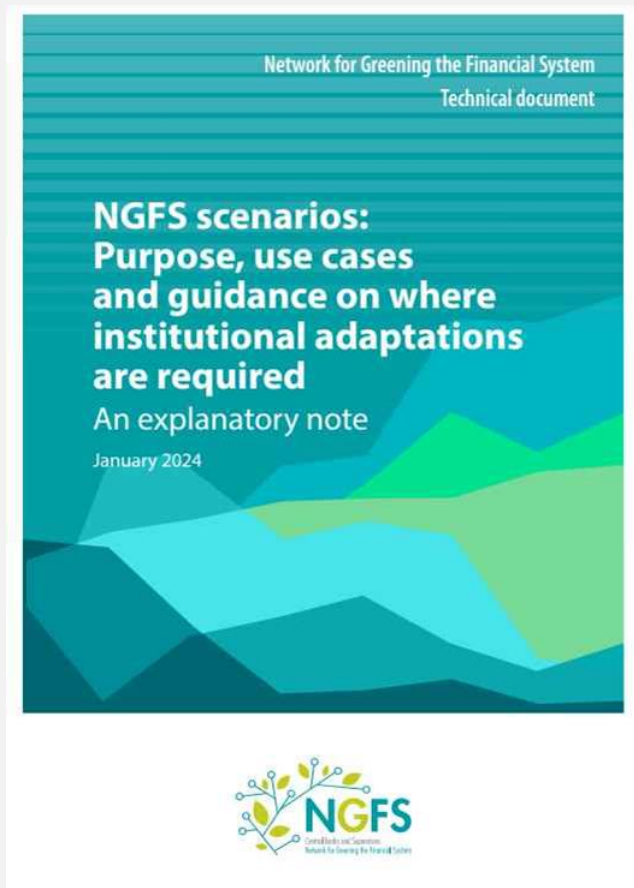
TRADITIONAL PRINCIPLES	TRANSITION PRINCIPLES
Backward-looking	Forward-looking
Official scenarios	Bespoke scenarios
Risk	VUCA
Climate in isolation	Climate “systems thinking”
Linear	Non-linear
Trends	Shocks
Optimisation	Adaptive
Numbers	Narratives
Caution	Opportunity
Market	Peers

NGFS starts to move towards the real world



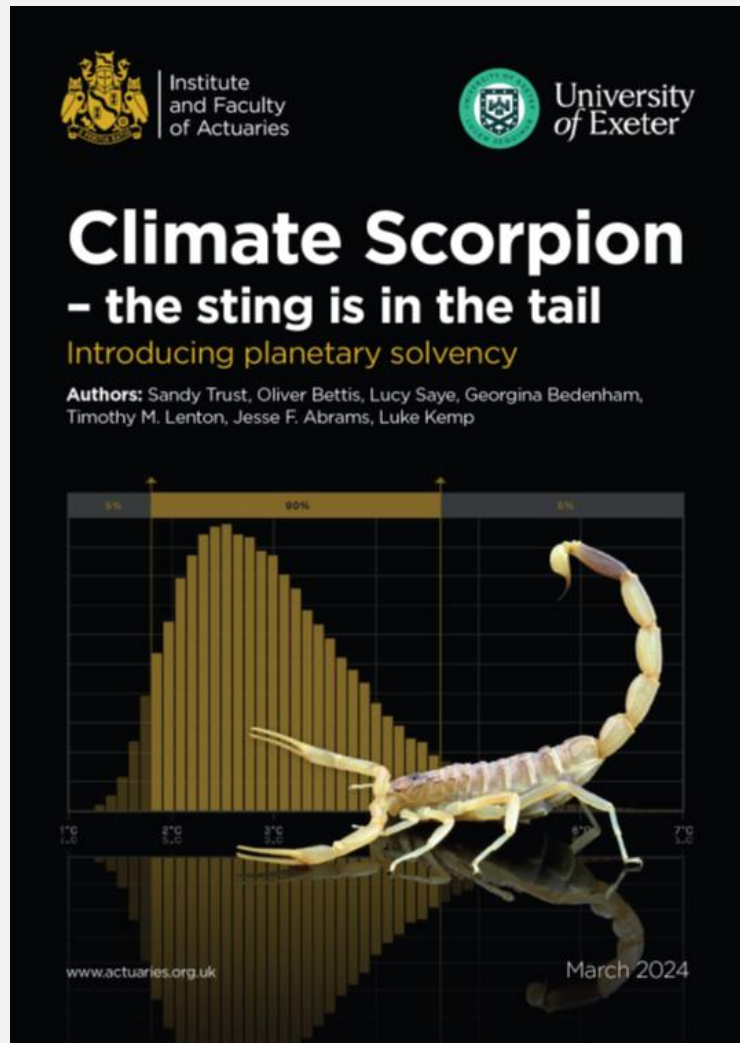
- **3-to-5-year scenarios**
- **5 scenarios: 3 OK, 2 fails**
- **Timeline relevant to board strategy decisions *today***
- **Financial supervisors manage financial risk, but businesses (fiduciaries too!) seek opportunity (“good risks”)**
- **End of NGFS’ scenario work in sight as we “go local”?**

NGFS moves further towards the real world



- “the NGFS scenarios do not account for every potential implication of climate change”
- “scenario users should seek to tailor their analyses to suit their needs”
- Users to consider: “tipping points, physical impacts [when not captured at present], societal impacts [migration], compound risks, technology, policy changes, financial system dynamics”

Climate Scorpion: the sting is in the tail



Applying actuarial principles to the risks of climate change

Recommendations:

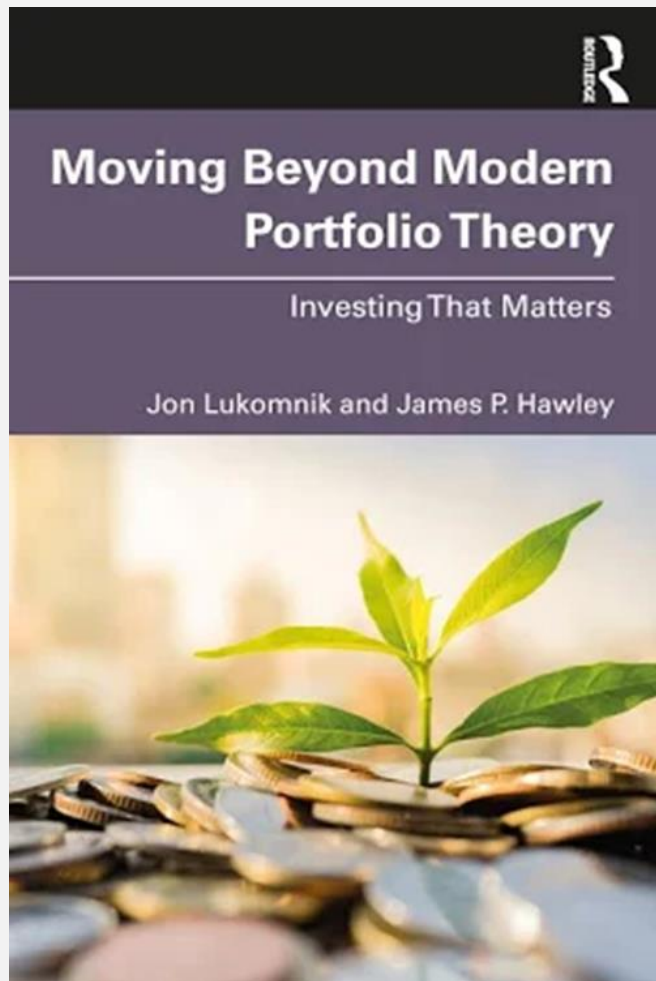
1. Carry out a **realistic risk assessment** of climate change as a matter of urgency, and act on it
2. Educate and take action on **positive tipping points** in the economic system
3. Develop a **Planetary Solvency** framework to support human prosperity, now and in the future



How confident are you about the assumptions in the scenario modelling?

- Are you comfortable with the assumptions used by your advisers and/or investment manager in the model?
Pension fiduciaries own those assumptions.
- What aspects of the real world has the model *omitted*?
- Does the output feel *realistic*? Ask a climate scientist!
- How do our investment beliefs embrace the real world?
- Ensure *qualitative issues* are discussed where risk drivers are not susceptible to quantitative modelling.
- Can we ever model uncertainty well?

Exposing Modern Portfolio Theory's (MPT) limitations in the real world - (it's only a *theory*)



- Sustainable finance's two main purposes: “providing adequate risk adjusted returns to investors and directing capital to where it is needed in the economy”
- Risk is specified as volatility in market prices, yet *Modern Portfolio Theory has no interest in the real world source of that volatility, that risk*

Might pension fiduciaries start to think like this?

A valid approach: implications for government

- We invest for our beneficiaries
- Government climate mitigation policy is weak, and shows little sign of strengthening
- Perhaps we should increase our focus on investments that will benefit from adaptation, and pay less attention to mitigation?
- We can make it clear to governments that mitigation is primarily their job - not ours - through policy measures that shape the real economy in which we invest
- We will make it clear that finance can only do so much, ...*even with excellent financial regulation*

“Pension funds can only deliver the pension promise if governments act forcefully through policy to reduce GHG emissions”

For your consideration

**What might you decide to do
(differently?) tomorrow?**

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THANK YOU