

# Managing risk in the LGPS – a spotlight on climate risk



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Climate change is one of the main sources of risk for pension schemes, with potential implications for future inflation, investment returns and longevity. LGPS funds, with their open-ended timescales and investments in return seeking assets, are arguably more exposed to climate risk than most pension schemes. Understanding the risks posed by climate change within funding is therefore critical.

However, understanding how the Fund's risk and return characteristics might be influenced by climate risks is really challenging. Existing economic models are limited in their ability to represent the global complexity of the issue and to incorporate uncertain human factors potentially amplifying feedback loops.

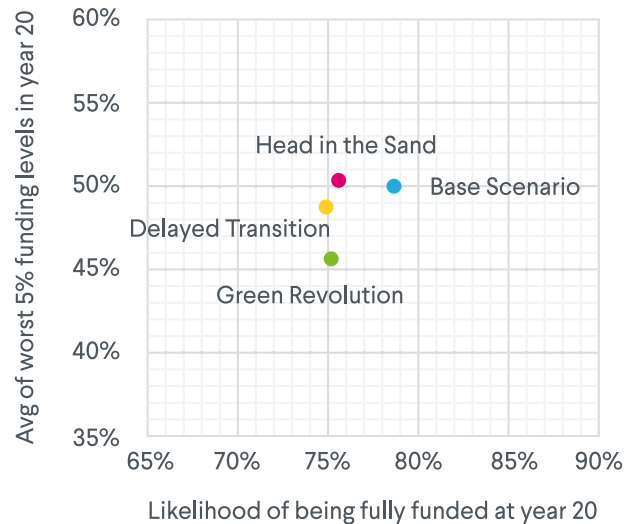
When faced with something like climate change – where the full range and likelihood of outcomes is unknowable – we can use scenario analysis to assess the risk. We model a handful of plausible ways in which the world (and financial markets) could be affected by climate change and explore the outcomes for your fund. At the [seventh webinar](#) in our risk management series, we explored our latest thinking on climate scenarios and what actions funds can take in response to climate risk.

### Current approach

Scenario testing is an effective way for LGPS funds to test how resilient funding strategies are to climate risk. At the most recent valuations, we modelled three scenarios differing by how the world might respond to climate change. These were:

- 1 **Green revolution:** Immediate action, with particular focus in the first five years but impacts felt for longer.
- 2 **Delayed transition:** Action beginning after a five year delay, ramping up in the following five years.
- 3 **Head in the sand:** No action for ten years, followed by piecemeal responses and increasing physical effects from climate damage.

All three scenarios were intended to be “difficult” so in each one we assumed a period of disruption and uncertainty leading to volatility in financial markets. Despite imposing these significant stresses, the impact on risk metrics of these three scenarios was generally modest. In the example below (based on a real fund), the two risk measures were ‘worse’ by 4-5% compared to the base modelling (blue dot) – arguably not enough to warrant a change in funding strategy.



Source: Hymans Robertson

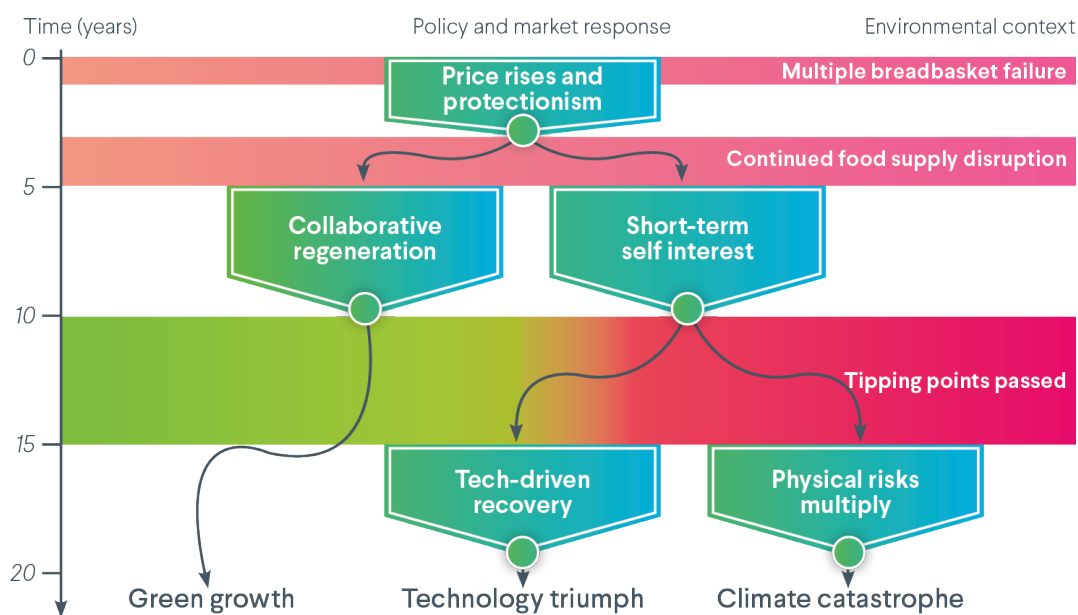
One of the reasons for the underwhelming impact of these scenarios is that we're applying stresses to the whole range of future outcomes, even those that were already positive. While we get changes in individual projections, the overall picture isn't very different.

With this approach, we tend to focus on the “middle” of the range of future outcomes. For example, if we want a 70% chance that our strategy will succeed, we're implicitly accepting that in 30% of cases it will fail – sometimes badly. Since climate change could make these bad outcomes much worse, it makes sense to look at them in more detail even if we regard them as unlikely. This is why we have developed new climate scenarios to dig into the downside risks in greater detail.

## Latest developments in our approach

We believe that the most effective way to better understand the downside risks involves using a narrative-based approach. This type of approach focuses on concrete scenarios which could happen in the world, rather than purely considering models (although models are still used!). The narrative scenarios are designed to be used alongside the existing scenarios to give a fuller picture on the range of risks.

For example, we have created a scenario beginning with a shock to the food system – a simultaneous breadbasket failure. Climate change can interrupt the food system in several ways. This leads to immediate effects which are severe and occur in the first 1-3 years of the scenario timeline.



Source: Hymans Robertson

After this initial shock, numerous pathways are possible, eg countries across the world could become either more or less willing to collaborate. As a result, we have identified three outcomes – green growth, technology triumph and climate catastrophe – which our scenarios outline in some detail. For further information on each scenario please see our [briefing note on the new scenario approach](#).

This narrative-based exploration of the downside risks has the following benefits:

- Decision-makers find it easier to understand how climate change could (potentially) have material impacts on their balance sheet;
- Differing beliefs and views of key stakeholders can be explored and gathered to aid decisions on what scenarios to explore;
- It provides useful prompts to possible actions that funds can take to manage climate risk.

These actions can include rebalancing the asset portfolio to better reflect the risks, and actions to play a role in reducing those risks, which include impact investing and stewardship.

The new approach only considers downside risks so on its own it is not suitable for setting funding strategy. However, combining it with our current scenario testing which considers the whole range of outcomes gives a fuller picture of the risks posed by climate change and helps users factor these into funding strategy decisions.

## Risk management: action for funds

As well as the actions on the asset side, there are many other ways in which LGPS funds can manage climate risk. This can include:

- 1 Capturing and incorporating beliefs** - capturing varying views and beliefs of all stakeholders, agreeing on scenarios to model, creating engagement.
- 2 Modelling and analytics** - output from core modelling plus extreme scenarios to aid funding strategy and to stress test key risk metrics.
- 3 Risk governance** - objective setting, training, disclosure and regulatory compliance - including incorporating climate scenario results into TCFD disclosures.

If you would like to know more about scenario modelling and the actions LGPS funds can take to help manage climate risk, please contact [Greer Flanagan](#) or your usual Hymans Robertson Consultant.

