Assessing physical climate risks in pension fund investments

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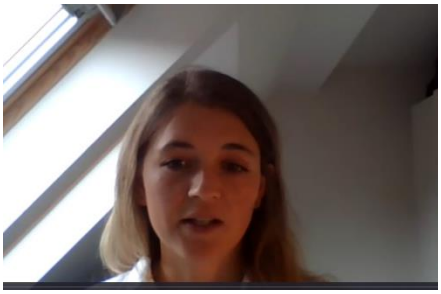
Pensions for Purpose's quarterly 'all-stakeholder' event for the Paris Alignment Forum, sponsored by Redington and Invesco.

The Paris Alignment Forum runs quarterly events which are open to all members. In our third event of 2022, Danielle Boyd, Investor Practices Senior Programme Manager, The Institutional Investors' Group on Climate Change (**IIGCC**) and Marion Maloney, Head of Responsible Investment and Governance, Environment Agency Pension Fund (**EAPF**) discussed the importance of assessing physical climate risks in pension fund investments.

Keynote address

A recording of the keynote address will be uploaded to the event post **here**.



Danielle Boyd, IIGCC

The path to net zero

Danielle explained that much of IIGCC's work had focused on helping asset owners and asset managers move towards net zero, with a focus on decarbonisation. IIGCC were central to establishing the **net zero asset managers' initiative** and also offered support to asset owners with their **Paris-aligned investment initiative**. Danielle was encouraged by the huge growth in the number of firms who had committed to net zero over the past few years and the increased understanding of the role that institutional investors have in driving the climate transition.

Adaptation and resilience against climate change

Asset owners and asset managers have an important role in encouraging organisations to adapt and become more resilient against extreme weather events. The IIGCC had set up a working group (co-led by Marion Maloney of EAPF) considering what it meant to contribute to adaptation to become more resilient and what were the practical steps that investors could take to implement this.

Danielle expected there to be a growing focus on adaptation and resilience at **COP 27** this year. The sixth IPCC (Intergovernmental Panel on Climate Change) **report** was clear: rapid decarbonisation was required in the coming years (without which temperatures were being forecast to rise above 1.5 degrees by as early as 2040), and we need to strengthen our resources against climate change even within a 1.5 degree scenario. The report recommended investment in climate adaptation resources, such as early warning systems.

We continue to see the impact of extreme weather conditions around the world. For example, Pakistan has had severe flooding leaving many homeless and many lives lost. Over the summer the wildfires in Europe were difficult to get under control.

The IIGCC's latest work built on work already completed and they are developing guidance for investors which will focus on how investors can understand climate risk within their portfolios and the steps they can take to mitigate these risks. The guidance will also suggest ways to aggregate the risks across an investment portfolio.

Source: IIGCC

The IIGCC has already published background documents on this topic, shown in the slide above. These provide excellent resources for pension funds. Links to the full documents are shown below:

- **Navigating climate scenario analysis** – a guide for institutional investors.
- **Understanding physical climate risks and opportunities** – a guide for investors.
- **Addressing physical climate risks** – key steps for asset owners and assets managers.
- **Building resilience to a changing climate** – investor expectations of companies on physical climate risks and opportunities.

Danielle wanted to cover three key areas:

- How does physical climate risk impact investment portfolios? Why should investors consider the opportunities as well as the risks?
- What action can investors take now, in their role as shareholders, to engage with companies?
- How was the IIGCC looking to broaden the guidance to other asset classes, thinking beyond financial risk management and the role of investors to support wider system resilience?

How does physical climate risk impact investment portfolios?

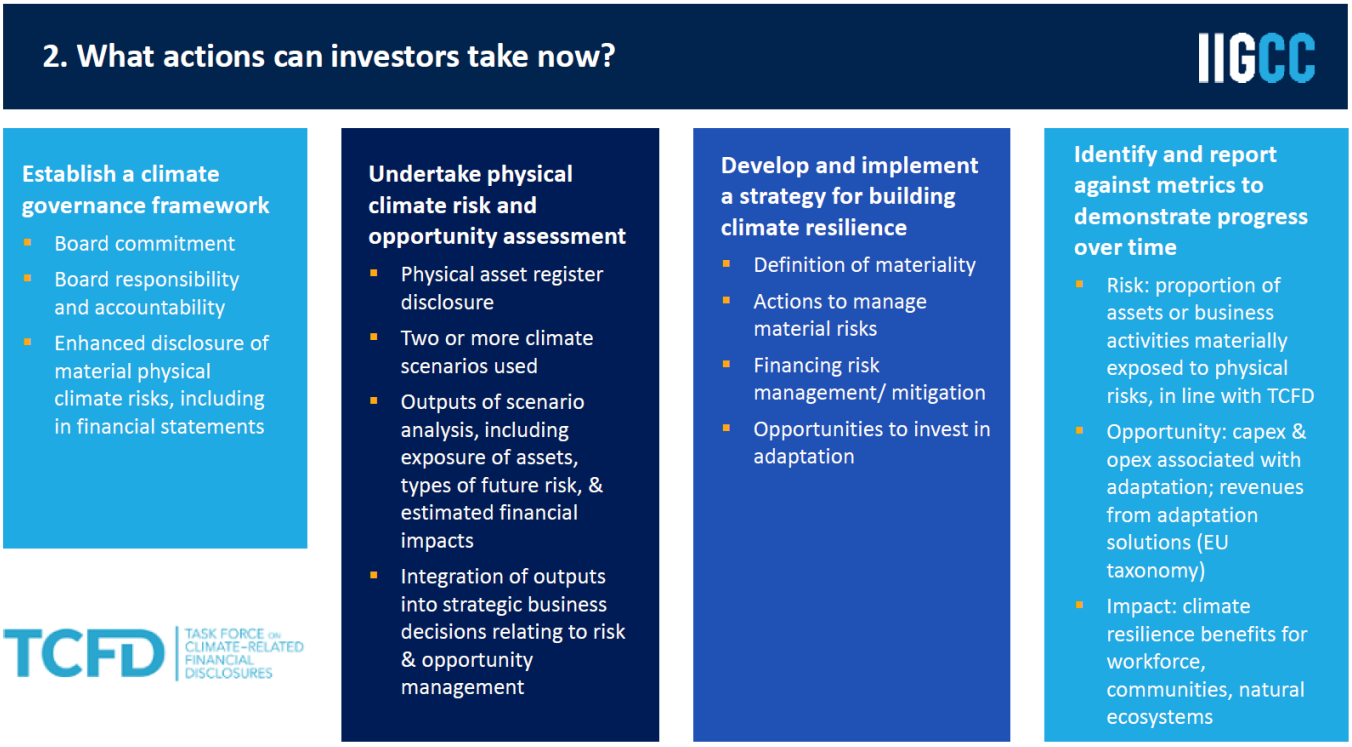
There were both acute hazards such as floods and heatwaves, and chronic hazards such as longer-term changes to rainfall and temperature. These were beginning to impact credit risk, market risk, operational risk, underwriting risk and liquidity risk. The recent flooding in Pakistan, for example, was beginning to affect pricing and labour market pressures.

Pension funds were now being required to report on physical climate risks under new regulations for TCFD-aligned reporting, and the EU sustainable finance regulations. This includes reporting on how business processes will be impacted by these risks.

What action can investors take now?

The first step was to look closely at the investment portfolio to understand where these risks might be. Pension funds can also consider the levers that they have as investors, as shareholders or as bondholders. There remained some difficult questions around how to define these risks, their materiality and practicality around data, even when performing a basic risk assessment on a portfolio, but there were still some first steps that investors could take.

One of the key levers was engagement. The IIGCC document (**Building resilience to a changing climate**) provided an off-the-shelf tool for investors to use as a guide to engagement. It sets out core expectations on companies, minimum expectations and outlines a list of questions to ask. A lot of the data required is not yet available because of a lack of disclosures and this needed tackling.



Source: IIGCC

There were four headline actions that companies should be taking (shown above). These mapped across to the four recommendations on TCFD. Danielle picked up on the third headline (develop and implement a strategy for building climate resilience): a lot more work needed to be done to flesh this out, for example on transition planning. Companies needed to be transparent on the materiality of risks and the action that they plan to take, e.g. expanding insurance, undertaking due diligence, increasing capital reserves. It also reinforced the need for companies to consider the opportunities as well; for example, the ability to offer new products and services, in infrastructure and healthcare.

The guidance also listed a set of questions that investors can put to the companies in which they invest. For example:

- Who is responsible for identifying, assessing and managing the physical risks associated with a changing climate.
- Does your Board oversee the management of physical climate risks? If so, how?
- How do you identify climate-change-related risks and opportunities?
- What datasets do you use to understand these risks?

Danielle encouraged asset owners to begin conversations with companies on this topic. IIGCC is keen to hear from investors about the responses they are getting from company boards.

How is the IIGCC looking to broaden the guidance?

The IIGCC is preparing a more comprehensive framework for investors, broadening the asset classes that can be considered and offering advice on what investors could introduce regarding their own processes, for example strategic asset allocations and targets to support the resilience goals.

The guidance will help investors define resilience goals, address asset, portfolio and system risks, and utilise levers to enhance resilience. A discussion paper will be released by the IIGCC and they are keen to hear feedback from the investment community. Danielle encouraged Paris Alignment Forum members to share the document, to join their working group, to trial some of the recommendations and to let the IIGCC know what works and what doesn't.

The pension fund's perspective

Marion Maloney, of the Environment Agency Pension Fund (**EAPF**), shared EAPF's experiences, the risks and opportunities presented by physical climate risks, and gave a call to action to Paris Alignment Forum members.

Marion Maloney, EAPF

Why has EAPF been interested in this topic over recent years?

First, the pension fund's employer bodies were involved in dealing with the challenges of physical climate risks in their day jobs, so they fully appreciate that it is a growing issue. This is being reinforced by scientific forecasts, which are predicting a 1.5 degree warming by 2040. Marion had read different research that suggested we would reach this milestone well before then. The UK had seen the hottest day on record this summer and temperatures of 40 degrees or more were now 10 times more likely to occur, because of climate change.

When Marion joined the EAPF team in 2018, she wrote a strategy paper on physical climate risks. She included a photo of a bridge in Yorkshire, used by the Tour de France, which had a massive hole following flooding, to make the point about physical climate risks. Yet she has come to realise that there are many more significant changes happening internationally. In Indonesia, for example, they are being forced to move their capital city from Jakarta to Borneo (10,000km away), because they are experiencing a 10cm rise in sea levels. Marion predicted emigration on a massive scale because of this growing risk.

Assessing the risks in their portfolio

As a fund, EAPF had been looking to reduce their emissions for some time, but however much they reduce their emissions, they are still exposed to the change in climate. They have carried out modelling exercises but, unsurprisingly, the conclusion was that, as temperatures rise, the fund will become more and more exposed to physical climate risks.

EAPF now asks every asset manager they meet, how they are managing physical climate risk. Some managers have been transparent about their investments. For example, one manager admitted that the risk of flooding when they invested was 1 in 1,000 years, yet they have already seen two such events occurring. Another has written to all their clients explaining that rainfall has been 40-60% higher than historic levels, which is impacting agricultural investments (albeit the manager has mitigated against these risks insofar as they could).

Over the past year, EAPF wanted to invest in sustainable forestry. They received three proposals. When asked how they were assessing physical climate risks, the first manager admitted they were not yet looking at this. The second was investing in a part of Europe that was already water stressed. They had considered physical climate risks and had bought some water permits, but Marion's concern was that forestry wouldn't be a priority for water as the area became more stressed in the future. The third manager was able to share reports around the physical risks in the area in which they were investing and was able to demonstrate that there was sufficient water to support a forestry investment there. Unsurprisingly, EAPF invested with the third manager.

Marion stressed that investors needed to be asking the right questions, especially for longer-term investments.

Engagement with boards

Prior to the COVID pandemic, EAPF committee members had attended a number of AGMs of companies in their portfolio, to raise questions such as:

- Are you scenario-planning for the future?
- How many hours has your board spent discussing physical climate risk issues?

Those who attended found it extremely interesting and engaging. The range of responses was varied. For example, the Chair of a water company acknowledged that, 10 years ago, no-one discussed physical climate risks. Now it was raised at every single board meeting. This included water-resource planning and flood-risk planning.

National Grid were another good example. In 2007, there was massive flooding in the South-West with half a million consumers losing their electricity supply when the sub-station was flooded. As a consequence, National Grid put into place a 14-year programme to improve resilience. This involved increasing the heights of the sub-stations.

Other companies would give the impression of dealing with physical climate risks, for example, citing the purchase of a fleet of electric cars. This meant they were muddling the issues of dealing with climate adaptation and dealing with climate change mitigation (reducing their emissions).

Since working with the IIGCC working group, the EAPF had approached organisations collectively, asking around 50 international companies how they were dealing with physical climate risk and their resilience. This included the mining sector, energy, food production and utilities who were analysed as being most at risk in the future. Some were more engaged than others on this topic, but a number continued to conflate mitigation and adaptation.

Marion's conclusion was that there was a whole lot more to be done!

Considering the investment opportunities

In 2009, at COP15, many developing countries had been promised £100bn of investment to tackle climate change. In Glasgow, at COP26, these countries were still asking for that funding to be distributed. Even in Europe, many countries would need massive investment to address physical climate risks. Such investment had traditionally been done by the public sector but there were a growing number of opportunities emerging for private sector capital.

The EAPF approached their asset managers to establish how much of their portfolio was invested in climate adaptation and resilience. Only one asset manager could provide a figure for that. They remain one of the leaders on this agenda.

10% of EAPF's fund is invested in climate solutions. Marion would like to get to a point where she can review the portfolio and immediately identify the investments in climate adaptation. This is linked to the limited availability of suitable investment products. She has been keen to allocate more to climate adaptation and resilience, over the past year, but only two investment products have had a focus on the new investment opportunities in this area. We need much more choice.

A call to action

Asset owners: when considering net zero, don't just focus on reducing emissions. Look also at how the fund will be facing a changing climate (the adaptation agenda). Look at biodiversity: there is commonality between biodiversity and adaptation because both require location-specific data. Yet at present more data is available on biodiversity than on physical climate risk. Every time the fund meets with an asset manager, ask them about climate risk. Marion is of the view that regulatory reporting requirements around physical climate risk will become more onerous, so be prepared.

Asset managers: we need much more data. Take note of the IIGCC's investor expectations document. Start engaging with companies, demand the data, and pass it on to your clients so that we all end up with a better understanding of the physical risk being faced as well as the investment opportunities that may lie ahead.

Q&A – moderated by Karen Shackleton

Karen Shackleton, Pensions for Purpose

How do these factors interact? A supporter pointed out that one of the hardest things to assess was how all these different factors interacted, not just on the physical risk side but also on the transition side. Danielle acknowledged that there was further to go on this. The IIGCC hoped that the new physical climate risk framework, being developed, could be integrated with the net zero investment framework. Marion cited some examples of organisations who were providing some useful data but agreed that it was still quite niche.

What strategic investment decisions could be made? A consultant was interested in what strategic decisions could be made by a pension fund to address climate adaptation and resilience, outside of climate solutions. Marion replied that they don't make strategic decisions such as "don't invest in Florida because it will become too hot". At a strategic level, they still wanted to maintain their strategic asset allocation, they still want to invest in the same asset classes, but in the underlying investments they were asking probing questions about climate adaptation and resilience. It was about challenging asset managers and ensuring that they were thinking about physical climate risks and were aware of the materiality of these risks in their investments. However, they were still investing in an approach which was truly global, and across all asset classes, rather than taking an exclusion approach.

Breakout room discussions

During the breakout room discussions, moderated by forum sponsors Invesco and Redington, Paris Alignment Forum members discussed three questions:

1. What are your thoughts about the IIGCC framework for mitigating physical climate risks? Is this something you would consider adopting?

2. How do you assess physical climate risks in your portfolios?

3. What additional information or data would you need to make investment decisions to reduce exposure to physical risk?

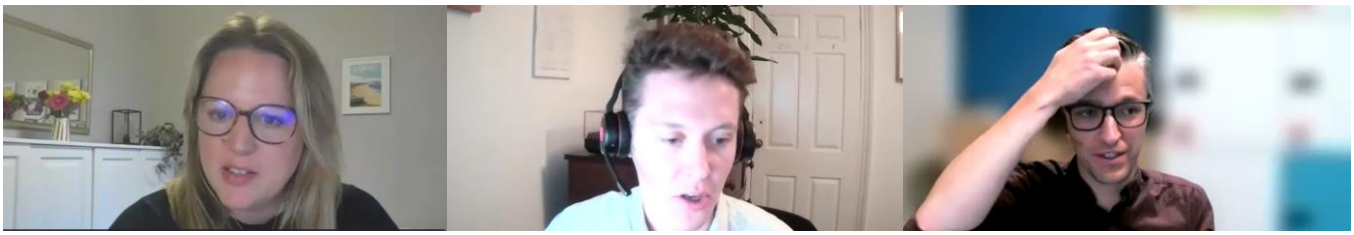
Invesco *moderators: Conor Hartnett, Melina Leprince-Ringuet and James Sieyes*

Some of the points raised when discussing these questions included:

Question 1 – what are your thoughts about the IIGCC framework for mitigating physical climate risks? Is this something you would consider adopting?

- This framework was a good first start.
- Asset managers typically get questions from asset owners/advisers on ESG more broadly, none of these questions tend to focus on physical climate risks. There are almost too many topics, so you can't get around topics like flooding and extreme heat: there is a difficulty in balancing client meeting agendas, where ESG is often an afterthought and climate is a specific consideration under the 'E', and where there are also 'S' and 'G' reporting issues to juggle. Reporting requirements have certainly ramped up as clients' knowledge builds and we all collectively evolve.
- Some asset managers felt there was a need to consider the economics of the relationship, when requests for information came in. One manager observed that they needed to hire people to manage the questions coming from asset owners/advisers, as well as experts within investment teams, but there is an imbalance between their costs and the flows coming from pension schemes.
- The sense was that science-based scenarios needed to incorporate physical climate risks.

- Some managers had seen improvements from different data providers, but it was a question of acting now rather than waiting for perfect data.
- It was noted that the IIGCC recommendations overlap with the TCFD framework, and a large portion of the document relates to investee companies. The framework felt like an extension of TCFD which takes up a lot of resource already. However, despite this being yet another layer to consider, it was helpful that both were environment oriented. Pulling this all together was the challenge.
- There is a difficulty when applying the framework to other asset classes due to their heterogeneity. Yet we need more harmonisation on how the market looks at this.
- Many of those present felt they were "a long way off" adopting the framework/questions set out in the report. Not many pension funds were talking about this – were they going to be willing to embrace another framework?
- Pension funds can engage with a list of high emitters but who do they engage with on physical risk – where in the value chain do you start? The 'minimum expectations' in the framework were still way above where we are today.
- There was a dearth of information and products that actually met the needs and expectations of asset owners. Pension funds hear from managers that it is a costly exercise, so the economics need to change. This was a chicken and egg situation, which consultants faced too.
- An interesting comparison was made to Diversity, Equity and Inclusion (DEI) data requests. One asset manager said they now receive a lot of diversity-based questions on their investment teams, even though it's been about five years since that became topical. They expected physical climate risk questions will follow a similar slow burn.
- The forthcoming release of the 'IIGCC's Discussion Paper: Working Towards a Climate Resilience Investment Framework' is designed to be a sister framework to the Net Zero framework. It looks at broad asset classes, adaptive capacity, sovereign bonds and the use of proceeds, resilience bonds etc.



Redington moderators Laura Bampfylde, Conor Grovestock, and Jack Robertson

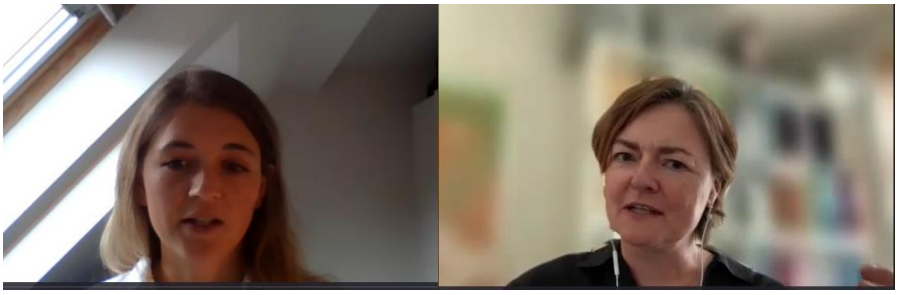
Question 2 – how do you assess physical climate risks in your portfolios?

- There was a feeling that the focus should be on governance structures: how asset owners and asset managers assess and manage these risks, because acute risks were unpredictable.
- Asset managers needed to bring physical climate risks to the attention of asset owners.
- There was a need to look at asset managers' data and processes, and examples of engagement (which were outlined as a good way to demonstrate competence). There were data providers that are able to assess but it is early days.
- There was a need to alter the approach and set expectations based on the asset class and the availability of data. Equities have been at the vanguard: it is more easily quantifiable to demonstrate shareholder engagement, proxy voting and concrete improvement.
- Assessing physical risks in real estate was considered to be more straightforward. Emerging market managers were also getting better at incorporating data like physical risk and the data quality was improving.
- One agriculture-focused asset manager observed that assessing physical climate risk was implicit within their investment philosophy. Others covering Asia, South Africa and Africa, also felt these risks were baked into their investment processes because of their geographical focus.
- On the private debt side, companies tend to be smaller so have fewer resources to collect data and disclose on physical risks. There are more challenges on data availability. From an investor perspective, this means that engagement is often about education.
- There were concerns that there would end up being two or three providers that the market depended on… and a desire for a physical risk assessment on a standardised basis.
- The key focus for asset owners was to push asset managers. Asset managers are driven by clients, so this is the way to drive change.

Question 3 – what additional information or data would you need to make investment decisions to reduce exposure to physical risk?

- Asset managers struggled with the resource demands of data requests. They needed to understand the economics behind the request before applying time and effort delivering the data. There was a growing demand for ESG data from asset owners and this was increasing in granularity over time. There was a trickly balance to be found between client demand and available resources.
- The lack of data was a challenge. There was variability in terms of the data that companies were prepared to disclose. More data would be disclosed if government regulations required this.
- Technology was needed! For example, working with Google Earth to look at geospatial potential around mining areas to map and bring economics of scale and transparency to the data set.
- The heterogeneity of data across different asset classes presented challenges, especially in private markets: for example, private lending to SMEs where the organisation would not have the bandwidth to provide this information. Data on key metrics was a good place to start, but it was hard to standardise this across managers/data providers/portfolios.
- This in turn led to issues over how to deal with problem areas – would excluding them result in a bias towards larger companies?
- It was important to think about these risks from a sector perspective particularly in those regions with a high concentration in one sector, for example, a flood in 2012 in Thailand where there was a high concentration of micro-chips. This led to dependencies in the supply chain.
- Some pension funds were looking at impact of changing climate on how long members might live and the changing environment.
- There was a link to the insurance sector. They are used to analysing climate risks such as flooding. There may be tools and metrics that insurance companies use that could be helpful in terms of thinking about physical climate risks in a pension fund portfolio. Corporates could use flood analysis (as used by insurance companies) and this could be a good place to start.
- One of the suggestions was to consider the "top 5" highest risk holdings. However, whilst this type of list is useful for emitters, it is more distributed for physical risk. Nonetheless, it might be a good place to start.
- There was a need for "decision-useful" information. There was a concern that it could lead to divestment from companies/government debt in certain geographies deemed at high risk.

Final remarks



Danielle Boyd, IIGCC *Marion Maloney, EAPF*

Danielle Boyd commented that there had been a wide range of suggestions and comments. It reinforced the point that asset owners needed to prioritise those areas that would have the biggest impact or add the most value. She hoped that pension funds and asset managers would start using some of the IIGCC's recommendations in their guidance papers.

Marion Maloney observed that the working group's discussion had focused on how much data was needed. She realised that many were still much earlier on their journey. We were still at the stage of making sure this was raised as an issue, in conversations with companies. Many asset managers were taking the risks into account when deciding on investments, but this wasn't being shared with asset owners. Her parting comment was that a 1.5-degree scenario in Europe and the US equated to a 2.3 degree increase in average temperatures in Asia. A 2-degree world equated to a 3 degree increase in Asia. We need to act fast because the impact will be dramatic.

If you would be interested in joining or participating in the Paris Alignment Forum, please contact **Karen Shackleton**.