

Investing in a changing climate



A guide for trustees to address climate change

The Local Authority Pension Fund Forum is a voluntary association of 52 public sector pension funds based in the UK which manages assets of over £90 billion. It exists to promote the investment interests of local authority pension funds, and to maximise their influence as shareholders while promoting corporate social responsibility and high standards of corporate governance among the companies in which they invest.

This guide was written, compiled and edited by Bridget Boule and Yvonne Halsey with contributions from Tessa Younger and the engagement team at PIRC Ltd. For further information, please contact TessaY@pirc.co.uk

Published by LAPF Forum
© LAPF Forum September 2010

Acknowledgements

We extend our sincere appreciation to the stakeholders and experts who provided advice and comments on LAPFF's draft report of this guide. We are particularly grateful to Christoph Harwood of Marksman Consulting and Sean Kidney of the Climate Bonds Initiative who provided advice and feedback. We would also like to thank all of the LAPFF member funds who provided input into the drafting process.

Table of contents

Page

4	LAPFF statement on climate change
5	Where do I start? A simple guide for trustees to start addressing climate change
6	Chapter 1 - Context <ul style="list-style-type: none">- The global context- The UK context- The relevance for trustees
9	Chapter 2 - Climate change policy formation <ul style="list-style-type: none">- Methodology- Formulation of a climate change policy
12	Chapter 3 Evaluating exposure to climate risk <ul style="list-style-type: none">- Why ensure a fund's climate exposure is evaluated?- Where does the responsibility lie?- How can a fund's exposure to climate risk be evaluated?
18	Chapter 4 Tools for addressing climate risk <ul style="list-style-type: none">- Voting shares- Collaboration- Company engagement- Engagement with government- Carbon footprinting

Page

24	Chapter 5 Investment opportunities <ul style="list-style-type: none">- Technology- Fixed income asset classes- Green funds- Commodities (carbon markets)- Real estate- Opportunities linked to regulation- Adaptation
27	Chapter 6 Questions for trustees <ul style="list-style-type: none">- Questions to ask fund managers- Questions for trustees to ask themselves
30	Appendix: <ul style="list-style-type: none">- Scientific overview
31	References



LAPFF statement on climate change

LAPFF recognises the impacts that climate change is likely to have on the global economy and society as a whole. It is LAPFF's view that the scale of these impacts is such that a proactive and precautionary approach is needed in order to address them.



As long-term investors, LAPFF members are aware that the risks and opportunities associated with climate change may have a material impact on the financial performance of their portfolios.

The Forum believes that companies have a unique role to play in addressing the challenges posed by climate change, not only because they are emitters of greenhouse gases, but also as they are providers of short and long-term solutions to decarbonising the economy and adapting to climate change. The LAPFF mission is to 'promote the investment interests of local authority pension funds, and to maximise their influence as shareholders while promoting corporate social responsibility and high standards of corporate governance amongst the companies in which they invest'. In line with this mission, the Forum aims to encourage companies to incorporate relevant considerations into their business strategy and to identify and disclose related performance indicators including appropriate long-term emissions targets. In so doing, the Forum's aim is to reduce the carbon footprint of the companies in which its members invest.






Companies will be exposed to risk if they are unprepared for the potential impacts associated with climate change. Such impacts include direct physical changes in the form of more extreme weather conditions and other impacts such as legislative measures enacted by government, reputational risk and overall systemic market risk. The degree to which a company is prepared for these changes will impact the company's bottom line and, therefore, shareholder value.

Our members are interested in maintaining the long-term health and efficiency of global capital markets which are underpinned by sound underlying economics. We believe that climate risk has the potential to disrupt this goal. As such, our members are committed to addressing climate-related risk where it exists at investee companies and membership of the Forum provides a contribution to this effort. Members are also interested in investment opportunities afforded by a low-carbon future which increase diversification and provide long-term returns around a low carbon future.

LAPFF's approach will be evidence based, pragmatic and based on collaborative engagement, focusing on research, corporate engagement, AGM voting recommendations, engagement with fund managers, collaboration with other investors and government lobbying activities. The Forum sees collaboration as a useful tool for engagement as it maximises the collective influence of a large shareholding. The Forum believes that by pooling its expertise, shareholding and resources with that of other investors it is able to exert a greater influence than it would be able to on its own and in so doing extend its influence beyond the UK. The Forum is an active member of investor networks such as the UN Principles for Responsible Investment as well as the Investor Network on Climate Risk.

Where do I start?

A simple guide for trustees to start addressing climate change.

<p>1 The starting point: formulating a policy</p> <p>A policy directs a fund's actions and will form the basis of its decisions regarding climate change. Things to include:</p> <ul style="list-style-type: none">● an understanding of the context in which a fund operates● the potential risks it faces● its responsibility as a shareowner● how the fund intends to act	<p>Ask yourself:</p> <ul style="list-style-type: none">- What is my fund's policy on climate change?- What can I do to ensure it is implemented?	<p>For more on policy go to Chapter 2</p> <p>Page 9</p> 
<p>2 Evaluating your fund's ability to deal with changes</p> <p>To deal with the challenges that climate change presents, it is necessary to evaluate a fund's ability to deal with potential positive and negative impacts. Trustees can start by:</p> <ul style="list-style-type: none">● improving your fund's own energy consumption and business travel● using your fund manager to analyse risk exposure	<p>Ask your fund manager:</p> <ul style="list-style-type: none">- How do your investment decisions take account of the climate change considerations in the fund's policy?- Do you or could you include climate change risks into your regular discussions with companies?	<p>For more on evaluation go to Chapter 3</p> <p>Page 12</p> 
<p>3 Take action</p> <p>Once a fund has established a policy and has assessed its ability to deal with changes, next a fund can use simple tools to begin to take action on climate change through its activities. To do this, trustees can:</p> <ul style="list-style-type: none">● vote shares based on climate change policy● vote shareholder resolutions on climate-related issues● collaborate with other investors● look for investment opportunities	<p>Ask your fund manager:</p> <ul style="list-style-type: none">- What is your voting record on ESG?- What processes do you use to identify climate change investment opportunities?	<p>For more on tools go to Chapter 4</p> <p>Page 18</p>  <p>For more on opportunities go to Chapter 5</p> <p>Page 24</p> 
<p>4 Monitor performance</p> <p>Keep reviewing your fund's performance by asking questions of yourself and your fund managers.</p>	<p>Ask yourself:</p> <ul style="list-style-type: none">- Am I asking the right questions to ensure the effective management of investment-related climate risk?	<p>For more questions go to Chapter 6</p> <p>Page 27</p> 

Chapter 1

Context

Climate change has emerged as one of the most pressing issues facing humankind so much so that the UK government has stated its belief that climate change is “one of the gravest threats we face, and that urgent action at home and abroad is required”¹.

The Local Authority Pension Fund Forum (LAPFF) has for a number of years recognised the responsibility investors have in being part of this process by conducting research and engagement on behalf of its members regarding issues relating to climate change. However, the Forum does not act alone and its role is only a part of its member funds’ wider strategies to address climate change as an investment concern. This guide aims to help trustees to act on behalf of their funds to address the related risks and opportunities presented by climate change. As part of this, it highlights to trustees the new methods being developed for fund managers to use in analysing climate-related issues in their portfolios.

LAPFF acknowledges that views on climate change and of climate science are in flux. This guide, therefore, focuses on what is relevant for trustees and companies, including government legislation, industry initiatives and investment opportunities. Rather than focus on the science itself, this guide aims to frame the role of trustees in light of the rapid developments taking place at both a national and international level.

The global context

The international community is operating according to a general consensus that restricting the global average temperature increase to two degrees Celsius would minimise disastrous climate shifts. On a global level, evidence shows that in order to keep temperature increases within the two degree range, greenhouse gas (GHG) concentrations need to be stabilised in the range of 440-550ppm CO₂e² (currently about 430 ppm CO₂e – see Appendix A for more details).

Given this wide range and the uncertainty of how temperatures may vary within it, there is a strong need for policies and global agreements that encourage stabilisation within the lower part of this range.

International efforts towards a global agreement have had limited success to date, but a continued focus on reaching a stabilisation level remains, as evidenced by the 2009 Copenhagen Accord endorsing a 450ppm CO₂e target.

Additionally, at the 2009 G8 Summit, leaders agreed that an 80% reduction in GHG is needed by 2050 to limit global warming to two degrees.

At a European level, the European Union Emissions Trading Scheme (EU ETS) is binding legislation that attempts to establish a market for emissions. Companies in certain sectors already face compliance costs through this scheme. The UK government has also backed a movement to get the whole of EU to reduce its emissions by 30%.

The UK context

In order to fulfil the UK’s role in stabilising global emissions, climate change has been given a high priority by the UK government. The implementation of the Climate Change Act in 2008, the UK Low Carbon Transition Plan in 2009 and the Energy Act 2010 are pieces of legislation that set out the way the UK government aims to steer all members of society towards a low carbon economy.

The Climate Change Act lays out legally binding targets to reduce emissions by at least 80% by 2050, and reductions in CO₂ emissions by at least 26% by 2020 (1990 baseline)³. The Energy Bill focuses on delivering aspects of the UK Low Carbon Transition Plan, relating to decarbonising the power sector and delivering energy efficiency to homes and business. To achieve this, the Act looks to focus on technology such as carbon capture and storage (CCS) and to address the efficiency and fairness of energy markets⁴. Future plans may also include a green investment bank to generate funding for investment into low carbon projects.



The relevance for trustees

Institutional investors are often viewed as 'universal owners' and, as such, the performance of their portfolios is tied to the performance of the markets, economies and sectors they invest in as much as that of individual companies. This vested interest in the general long-term health of economies provides a strong case for addressing issues that are systemic in nature – particularly for passive managers whose fortunes are tied up with those of the market. To a large extent exposure to climate change and its impacts is systemic in nature. It has the potential to impact a broad range of sectors and the value at risk from climate change can be of the same magnitude as that of other investment risks⁵. All managers, both passive and active, are exposed to risks associated with climate change which makes it an area of concern for trustees.

Given this link between the performance of a fund and that of the markets, stock picking alone cannot address potential systemic risks. Instead, issues such as climate change, to an extent, must be dealt with by ensuring the general health of markets and economies. Engagement with governments is one way that a fund can do this. More information about government engagement is provided in Chapter 4.

In addition, although seen as a long-term issue, companies acting proactively to address future value at risk from climate change may preserve value in the present – with studies showing that on average over 50% of a company's present value resides in its ability to generate cash in 10 years and onwards.⁶

Opportunities also exist for companies and investors in specific investments through developing new products or services or in gaining a competitive advantage by anticipating legislative changes. It is, therefore, important that fund managers pick those companies who are well placed to deal with climate-related risks and can identify and capitalise on climate-related opportunities.

This section provides a brief overview of some of the investor risks.

1) Legislative risk

Governments will respond to climate change by changing the legislative environment in which companies and investors operate. Such changes may, in turn, pose risks for those who are not prepared for them. Related legislation is constantly evolving at a UK, EU and global level.

In the UK, the Carbon Reduction Commitment, will impact certain funds through their direct property holdings. In addition, government targets to reduce emissions may impact certain sectors – eg, coal-fired power stations.

In the US, the Securities & Exchange Commission's (SEC) interpretive guidance regarding disclosure relating to climate change recommends companies warn investors of any risks that climate change may pose to the business. Such risks could, for example, include new laws or international treaties limiting CO₂ emissions which in turn may increase company operating costs.

Example: The Carbon Reduction Commitment

The Carbon Reduction Commitment is a cap and trade scheme aimed at providing incentives for non-energy intensive organisations in the public and private sectors to reduce their carbon emissions. It is a mandatory scheme which will tackle CO₂ emissions not already covered by EU ETS and other agreements.



2) Physical risk

Many companies may face physical risks associated with climate change either directly or indirectly. Property in coastal areas has been identified as extremely vulnerable due to the increased risk and frequency of extreme weather events. Businesses operating in floodplains and other areas prone to flooding may also suffer property value reduction. Extreme weather events are a known business risk as was the case with Hurricane Katrina in the US where insured losses were estimated to be between USD 40 billion and USD 55 billion⁷. According to the IPCC, extreme weather events such as hurricanes may become more frequent as the earth's temperature changes.

3) Litigation risk

Failure to address climate change may also result in increased exposure to litigation risk on behalf of communities or individuals who may have suffered as a result.

Example: Incorporating Climate Risk - Swiss Re

Insurance company, Swiss Re, has long anticipated increasing litigation related to climate change.⁸ They note that the speed at which climate change has become a topic for collective legal actions is comparable to that of the litigation related to the dangers of asbestos, but it is anticipated that liability related to climate change will develop even faster. To address this, Swiss Re has included litigation related to climate change in its emerging risk framework.



4) Reputational risk

As global awareness of climate issues increases, the public perception of a company's reputation can be negatively or positively affected by its approach to addressing climate change. An inability to address climate change may create reputational risks for companies and, by extension, the funds who own them. The way that climate-related risk is addressed is therefore an increasingly important factor in improving reputation and protecting long-term value. Such increased public scrutiny may even extend to a fund's investment decisions.

5) Opportunities

While much of this section focuses on the disruptive impacts of climate change, investors may benefit from investing in companies and funds that capitalise on mitigation and adaptation opportunities. Clean technology provides one of the means by which the impacts of climate change may be mitigated. Additionally, many companies are looking for technological advances or innovations that will help society to adapt to the changes already taking place. Chapter five examines some of these investment opportunities in more detail.



Chapter 2

Climate change policy formation

This section provides guidance for funds to address risks and opportunities by incorporating a consideration of climate change into their investment policy or statement of investment principles (SIP). It aims to provide direction not only for those funds who have yet to address climate change, but also for those who wish to take the next step in addressing climate-related risk.

Methodology

While the LAPFF policy statement provides a general approach to the investment implications of climate change, each individual member fund should take its own view on how it sees addressing climate change as part of its fiduciary responsibility and how this is reflected in its investment, risk management and engagement strategies. LAPFF considers it important for a fund to state its view on these issues by formulating a policy on climate change or including into its SIP. This step-by-step guide can be used to formulate a climate change policy or SIP.



Formulation of a climate change policy

Step 1: Context

As a first step, a trustee may decide to examine the context in which they operate and how climate change may be impacting the fund. Ultimately, this is the evaluation point for trustees that will frame all further steps. Here they decide the importance of addressing climate change. Consideration may be taken of the legal and regulatory background as well as the attention wider society is giving the topic.

“LAPFF recognises the impacts that climate change is likely to have on the global economy and society as a whole. It is LAPFF’s view that the scale of these impacts is such that a proactive and precautionary approach is needed in order to address them.”

From the LAPFF Statement on Climate Change

Some funds may decide at this stage to incorporate an acknowledgement that human activities are part of the cause as well as some recognition of the consequences climate change may have.

“...we accept the broad scientific consensus that greenhouse gas emissions from human activities are a critical contributor to changes in the world’s climate...”

Institutional Investors Group on Climate Change⁹



Step 2: Risks

As a next step, LAPFF encourages trustees to set out whether or not they consider climate change to be a potential material financial risk that could affect the value of the fund.

There is a perception that basing investment decisions on non-financial factors, such as climate change, comes at the cost of financial return and, therefore, is not in line with its fiduciary duty. A statement such as *“we believe that non-financial factors should not drive the investment process at the cost of financial return”* while relevant, gives the impression that considering non-financial factors does drive the investment process at the cost of financial return. It need not be either one or the other.

Considering environmental, social and governance (ESG) matters is increasingly seen as part of a fund’s fiduciary duty, insofar as the impact that they may have on financial returns, particularly over the long-term. This is supported by a recent report by the United Nations Environmental Programme Finance Initiative (UNEP FI) which makes the case that not considering ESG risk could be a breach of fiduciary duty.¹⁰ LAPFF would recommend a fund address this aspect of its fiduciary duty by ensuring its SIP acknowledges that in some circumstances climate change does pose a potential risk which needs to be monitored like any other risk.

Trustees may choose to alter the language used in their SIP so that climate change is seen as a potential financial risk rather than a potential cost to address.

Examples include:

“...believes that other financially material risks including, but not limited to, corporate governance, climate change, pollution and other environmental issues, need to be considered and controlled. Our active fund managers are required to consider these risks.”
The Environment Agency¹¹

“The Pensions and Trusts Committee believes that environmental, social and governance issues can affect the financial performance of companies and that it has a responsibility to take these issues seriously and where appropriate, to act upon them.”
Lothian Pension Fund¹²

Step 3: Responsibility

Regardless of whether or not a fund views climate change as a potential financial risk, LAPFF recommends that a fund should state whether it regards it as part of its responsibility as an active shareholder to utilise its ownership in a way that addresses climate change. Many trustees who may not view climate change as a financial risk still see it as a global issue that the fund should address by encouraging corporate responsibility.

“The Fund is committed to ensuring that the companies in which it has a shareholding adopt sound principles of corporate responsibility, particularly in relation to environmental and employment standards. The Fund will utilise the shareholding wherever possible, through the voting policy and engagement, to exert influence on those companies falling short of acceptable standards.”
West Yorkshire Pension Fund¹³



Step 4: Action

The next step is to outline how the pension fund intends to act on climate change. This could be through the investment process, the relationship with fund managers, through voting or engagement strategies, membership of external organisations or collaboration with other investors. It is particularly important that a fund's approach is included either in its policy or SIP. Where appropriate, the fund's approach should become part of the contract with its fund manager.

A fund may wish to disclose its membership of organisations such as LAPFF, the Carbon Disclosure Project and the United Nations Principles for Responsible Investment (UNPRI) or its compliance with international conventions or principles. The following are examples of how some funds have done this.

“ The fund will pursue a policy of constructive engagement with companies on issues which are consistent with the fund's fiduciary responsibilities. Each fund's overriding obligation is to act in the best financial interests of the members of the funds. The fund will collaborate with other like-minded investors to pursue company engagement. ”

Lothian Pension Fund

“ As a general principle, votes will be used to protect shareholder rights, to minimise risk to companies from corporate governance failure, to enhance long-term value and to encourage corporate social responsibility... The authority is actively developing corporate governance partnerships as it believes this will maximise the influence of shareholders, will lead to best practice and will promote high standards on a global basis. ”

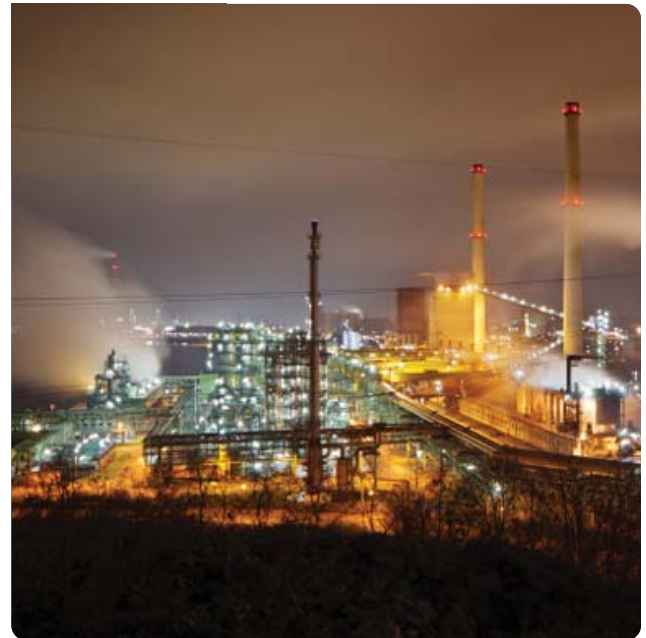
West Midlands Pension Fund¹⁴

“ Each fund manager has been requested to report ... on the extent (if any) to which social, environmental and ethical considerations are taken into account in the selection, retention and realisation of investments. ”

Aberdeen City Council Pension Fund¹⁵

Step 5: Review and update

As scientific predictions, regulatory responses, direct and indirect risks and opportunities associated with climate disruption change over time, it is important that a fund updates its policy accordingly. As part of this review, trustees and fund managers should assess the progress they have made against the objectives stated in their SIP.



Chapter 3

Evaluating exposure to climate risk

Once a fund's climate change policy has been formalised, the next step for trustees and those they delegate to (fund managers and investment consultants) is to ensure that their fund's exposure to climate risk is being measured and managed.

This chapter outlines why it is important for trustees to ensure that their fund's exposure to risk is being measured. It then looks at who is responsible for ensuring that this takes place. Finally, it covers some ways that exposure can be measured.

Why ensure a fund's climate exposure is evaluated?

1) It could be part of their fiduciary duty

In 2009, a UNEP Finance Initiative report explored the possibility

“ that it may be an unlawful breach of fiduciary duties for pension fund trustees... to fail to consider ESG considerations where there is a material nexus between investment value and an ESG consideration.”¹⁶

It was written as a follow-up report to the 2005 *Freshfields Report*¹⁷ which provided a legal framework for integrating ESG factors into the decisions made by institutional investors and challenged the traditional view that considering ESG factors in investment decisions conflicts with a fund's fiduciary duty.

The report highlights the fact that taking climate risk into account in an investment portfolio is very different to the process of screening companies and sectors to create a portfolio based on ethical criteria. While negative screening may breach fiduciary duty, the UNEP FI report shows that identifying areas where ESG factors could impact the value of a fund is actually part of a fund's fiduciary duty.

2) Not evaluating it could be a material omission

Failing to identify material risks associated with climate change may expose a portfolio to a level of risk that is unacceptably high. When a financial risk is identified, it is incorporated into investment decisions as it may affect the value of the fund. The potential effects of climate change may also be considered a material risk and a failure to recognise and incorporate related analysis could be seen as a material omission.

That climate change has the potential to harm future financial returns makes it a risk. All risks, financial and non-financial, may be identified and managed in different ways but they are all important.

3) To help them to identify opportunities

In addition to potential financial risks associated with climate change, there are also numerous opportunities. Opportunities may exist for investee companies through improving efficiencies, by anticipating regulatory changes or by gaining competitive advantage through the introduction of new products or services. Investment opportunities may be found in mitigation technology such as renewable energy, funding mechanisms such as green bonds, or adaptation technologies. Analysing a fund's exposure to climate risk may also highlight low-risk companies which could represent valuable investments for the future.





Where does the responsibility lie?

Ultimately, trustees bear the responsibility for their fund's exposure to climate change and the possible impact this may have on the fund's performance and long-term value. The role of consultants is a key step in this process and asset owners should ask their consultants for advice when selecting managers as well as pushing them to integrate such issues as a matter of course in their investment manager research.

When delegating responsibility, eg, to fund managers, it is the role of trustees to communicate any mandate regarding climate change¹⁸. Although some research indicates a majority of UK asset managers say they consider climate risks in their due diligence process^{19,20}, a number of fund managers report certain barriers to incorporating climate change risks and opportunities into their investment analysis²¹.

Cited barriers include the passive approach of trustees, a lack of guidance from trustees and lack of time. Trustees have an important role to play if fund managers do not factor climate risk into their analysis because too few clients ask them to do so. Trustees must encourage their fund managers to evaluate climate change and to ensure this material issue is being addressed.

Dialogue and engagement with fund managers is paramount to ensure responsible management of climate change within a fund's portfolio.



To do this, trustees can:

- address expectations at the request for proposal and contract stage;
- request that environmental considerations are provided in regular reports, for example, annually or quarterly, rather than sporadic one-off reporting;
- request that responsibility for addressing climate change is integrated in all investment mandates not just via a designated ESG manager;
- include the ability to assess and report on 'extra-financial' issues such as climate change in the fund manager's annual performance review.

A pension fund is exposed to risks, not just through its investments but also within its own structures. In examining the portfolio's exposure to climate risk, trustees and managers may want to look internally and examine their own operations. This may be important when considering the fund's reputation. Funds could include internal consideration of climate risk into their policy on climate change.

How can a fund's exposure to climate risk be evaluated?

Assessing and managing a fund's exposure to climate change, once recognised as significant, is a challenge. As noted in the introductory chapter exposure to the impacts of climate change is to a large degree systemic. Also, the numerous impacts are difficult to quantify. This section outlines three possible ways for a fund to evaluate its exposure to risk.

1) Mandate fund manager evaluation of climate issues

One of the most important roles that trustees can play in addressing climate change is to encourage their fund managers to take account of climate risk. One of the ways of doing this is to ask relevant, targeted questions of their fund managers such as those presented in Chapter six.

Trustees interested in incorporating environmental issues into the investment decisions may, in part, base their choice of fund manager on their ability to evaluate these risks and opportunities. It is advisable to do this from the very beginning at the Request for Proposals (RFP) stage and include it in the manager's legal contract from its implementation. Following through on the inclusion of climate change considerations in investment manager agreements is easier than altering a manager's mandate once they have been selected. A key conclusion of the UNEP FI Fiduciary II report was:

“where trustees integrate ESG issues into their decision-making, ESG issues should be embedded in the legal contract between asset owners and asset managers, with the implementation of this framework being governed by trustees via client reporting”²²



The Environment Agency Pension Fund has done this as highlighted in the following example.

Example: The Environment Agency

Given its objective to aim 'to protect and improve the environment and to promote sustainable development', the Environment Agency Pension Fund (EAPF) has been incorporating environmental risks into its investment decisions for a number of years. In 2008, EAPF went through the process of selecting three new global equity fund managers, and the criteria included the ability to take account of financially material ESG issues. In order to do this, the selection process included the following steps²³:

- 1) At the 'Expressions of Interest' (EOI) stage, integration of ESG issues was one of seven key criteria used to decide which would be invited to 'Request for Proposals' (RFP).
- 2) The shortlisted managers were presented with a ten-point recipe of what information to present to the selection committee. These included:
 - The use of research/engagement/voting on corporate environmental responsibility and wider issues in this mandate
 - reporting on the fund's financial and environmental performance
- 3) Following the RFP stage and the final selection of fund managers, the final contract stated that the appointed manager:
 - should integrate and manage financial risks and opportunities that arise from sustainability and environmental issues (eg, climate change).
 - will be expected to manage assets in accordance with the agency's statement of investment principles, corporate governance and environmental overlay strategies and reporting requirements.

EAPF has applied this policy by taking direct action to ensure the fund managers it continues to employ are in the best position to address ESG issues in their portfolio. Such choices have a wider impact on the overall market.

Once selected, fund managers should conduct a thorough risk analysis that looks not only at physical and regulatory impacts, but also takes account of political, social and market changes and how this will affect the economy as a whole.

Reporting by the fund manager is also fundamental to ensure trustees understand all of the risks that their fund is exposed to and how these issues are being managed. Reporting could include emissions exposure, the effect of longer term trends, such as expected future carbon prices, company engagement, business strategy as regards climate change and specifics on reporting and reduction of emissions, including product and/or supply chain, where relevant.

2) Conduct a sector specific evaluation

To approach the task of evaluating a portfolio's climate risk, a trustee or fund manager may choose to take a sector based approach. Because risks and opportunities associated with climate change are not equally material across all sectors, there are a number of approaches that can be taken to identify the sectors most at risk. Sectors can be chosen by indentifying those:

- with medium to long-term R&D programmes²⁴, one approach used by LAPFF.
- most relevant to a portfolio. Having a low carbon-footprint does not mean that a company is not exposed to risk; the insurance industry being a case in point. As such, a fund may choose sectors on a case-by-case basis.
- sectors which may be exposed to climate legislation through their high GHG emissions or carbon footprint. According to research analysing the combined carbon footprint of UK equity investment funds, the main contributors to the direct carbon footprint of a portfolio are utilities, basic resources, construction & materials, oil & gas and food & beverage sectors²⁵.
- 'owning or operating large fixed assets with long asset life times that require significant capital investments and/or have high operational costs'²⁶. Using this criterion, the following sectors have been identified: electric utilities, oil & gas, real estate and water utilities.
- identified by the FTSE4Good Index or other similar index as 'high impact' sectors²⁷.



While identifying high-risk sectors can be useful, no sector is likely to be unaffected by the potential effects of climate disruption due to the systemic nature of the risk. Whether this impact is direct or indirect, a company's long-term success will, in part, be defined by its ability to manage risks and recognise opportunities. As such, it may also be useful to measure an individual company's performance in dealing with sector-specific risk in comparison with its peers to identify 'winners'. Winners will be those companies who are best-prepared to deal with changes and most able to recognise and take advantage of options for best market positioning. It has been estimated that, there is an opportunity for up to 80% value creation for those companies who are proactive and well-positioned ('winners') but potential for 65% of value to be at risk for those companies who are unprepared for changes.²⁸ One of the ways to identify potential 'winners' and 'losers' is to use the core indicators of best practice outlined in Chapter 4.

3) Quantify climate risk

In addition to the methods suggested above, trustees may seek out ways to quantify climate risk. It makes sense, given the potential risk to investment returns, to want to put a numeric value on climate risk. There are a number of organisations that undertake climate risk assessment. This section aims to provide information regarding measuring the carbon footprint of a portfolio and stress testing.

It is important to note that this is a developing area and methodologies are constantly evolving. As these research methods are honed, the value of such services will potentially increase.

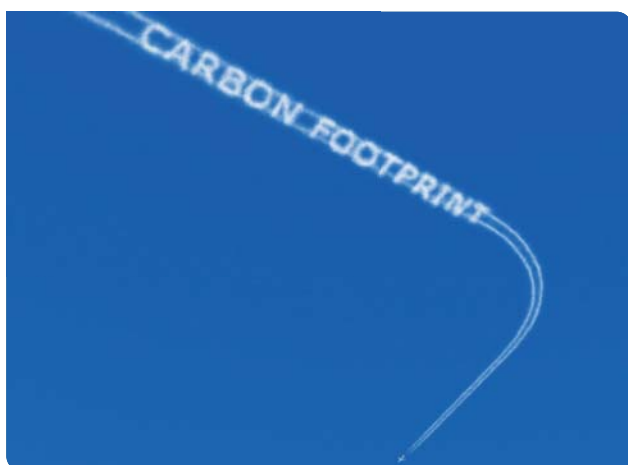


Measuring the carbon footprint of a portfolio

One technique employed to quantify climate risk is to measure the carbon footprint of a portfolio. This can be done by calculating all the GHGs emitted by each company in a portfolio (measured in CO₂-equivalent - CO₂-e) and weighting the value in proportion to its percentage of the total holdings in the portfolio.²⁹ The use of the term carbon risk here is based on this carbon equivalent measurement. The weighting adjustment takes into consideration a given holdings proportion in the fund rather than the number of shares held. This allows the carbon footprints of all funds to be comparable regardless of the size of the fund.

Once a fund's footprint has been measured, the associated carbon cost can be reasonably estimated using the current or estimated carbon price. Chapter 4 provides more detail on what can be done with a carbon footprint once it has been measured.

If a fund decides to remove high carbon assets from a portfolio, studies have shown that this does not necessitate a loss in financial performance. No link between a high carbon footprint and superior financial returns was found when the carbon footprint of 185 UK equity funds was examined³⁰. Fund managers may, therefore, reduce exposure to carbon risk without sacrificing investment returns. This research also revealed that in the US, the sectors with the highest exposure to carbon risk were (in order) utilities, oil and gas, industrial goods and services, food & beverages and basic resources.



Understanding carbon price dynamics

Economists and politicians have heralded the creation of carbon markets as an important tool in reducing global GHG emissions. The success of these markets is based primarily on the carbon price.

In turn, understanding the dynamics affecting the carbon price is key for investors to understand and address climate risks and opportunities in their portfolio. The EU ETS is one mechanism whereby the price of carbon is determined through government rationing and trading of carbon. However, here are many other factors which could and do affect carbon pricing. These include:

- Carbon taxes (eg, fuel taxes)
- Government support for low carbon fuels/technology (eg, subsidies for renewable energy)
- Direct regulation on specific sectors
- Consumer demand shifts

Stress testing

Due to the complexity of factors behind putting a price on carbon some analysts are looking to take a more detailed look at a portfolio's current and future exposure to carbon risk beyond that evaluated initially via a carbon footprint. One method is to look forward and analyse the portfolio against a set of future assumptions.

One approach currently being developed to undertake such analysis is to 'stress test' a portfolio against future scenarios. This involves testing against a set of reasonable assumptions for the future. For example, one scenario could assume that the UK government will take an aggressive approach to tackling climate change by putting tighter regulation in place for emissions from specific sectors while creating subsidies for others. Understanding this as one of drivers of a carbon price one could assume that such regulation puts upward pressure on the input prices for some industries and downward pressure on others. Such dynamics could, for example, affect the share price in carbon-intensive industries negatively and positively for renewable energy companies.

The assumptions could also place upward pressure on the carbon price which will, in turn, have an effect on the industries not directly affected by regulation. Using the assumption of a high carbon price, the carbon cost of a portfolio can then be calculated by multiplying the expected carbon price by the carbon footprint of the portfolio as a whole, or of each company or each sector within it. This is one way that the percentage of a portfolio that is exposed to high carbon risk can be evaluated³¹.

It is worth noting, that stress testing should look at a range of assumptions and not the carbon price alone. In order to provide an accurate stress test, all regulatory aspects and factors affecting the carbon price (see example on previous page) should be analysed.



Future risk and the current valuation of assets

The value of a company's assets is important in valuing the company as a whole. Yet a change in climate patterns could completely change the future value of these assets.

One example of this is for railways. Expensive rail infrastructure is built by assuming a set of reasonable assumptions for the future. However, temperature increases could cause rail lines to buckle more frequently, thus potentially requiring more frequent line replacement. Such circumstances could completely alter the future value of existing rail infrastructure in the UK.

Such cases demonstrate the importance of forward-looking methods of assessing risk such as stress testing.

4) Evaluate internal risk

Pension funds, particularly those linked to local authorities, may be expected by their members and the public to address issues of public concern, such as climate change. Trustees can enhance their fund's reputation by addressing the implications of climate change within a number of the fund's internal activities. Some of the issues to focus on may include:

- business travel (eg, by decreasing air travel)
- energy efficient buildings
- energy efficient technology (eg, the use of low energy equipment in office environments)

Chapter 3 summary: Evaluating a fund's exposure to climate risk



Chapter 4

Tools for addressing climate risk

Chapter 3 looked at some of the ways that a fund's exposure to climate risk can be measured. Chapter 4 aims to outline some of the tools that are available to address climate risk once exposure has been evaluated.

The use of these methods can be viewed as a progression towards best practice starting with voting of shares, progressing to collaboration with other investors and then to individual engagement with companies and government. Finally, those funds who regard climate change as a particularly important issue may find a carbon footprint useful in their analysis and decision-making processes.

While many of these tools may be accessed via membership of organisations such as LAPFF, it is important that trustees, and the fund managers they designate, are proactive in maximising their own influence by utilising these practices in accordance with the approach set out in their SIP.



Voting shares

When a fund's SIP or climate change policy commits the fund to voting its shares, its voting guidelines should incorporate how the policy will be applied. This may be done using internal research or be outsourced to an external provider. To retain consistency, it is important that the voting guidelines of any appointed third party (fund manager or voting service provider) coincide with the fund's climate change policy or SIP.

Proxy voting enables funds to exert their influence as shareowners. To ensure this is effective, funds should ensure they are able to vote all the shares they hold, even those held in pooled vehicles or index funds. Trustees can assist with this process by engaging with their fund managers to emphasise the importance of voting.

Given that there is rarely a specific resolution relating to climate change (except in the case of shareholder resolutions, see below), one of the most common ways for a fund to apply its policy on climate change to a resolution at a UK company's annual meeting is on the proposal to receive the report and accounts. As indicated below, voting decisions may be based on the achievement of specific best practice indicators or on an analysis of a company's discussion of material risks.

In 2010, the SEC released guidance on potential climate risks for funds to use in their proxy voting analysis. This guidance refers specifically to the impact of legislation and regulation; international accords; indirect consequences of regulation or business trends, and physical impacts of climate change.³² While the guidance was drawn up for analysing US company disclosure, funds can apply similar analysis across all holdings in a portfolio and link it to voting in their global holdings. They may also incorporate advice provided by global collaborations such as the UN PRI or others.



Shareholder resolutions

Shareholder resolutions are a fairly rare form of engagement in the UK and have usually been viewed as a 'last resort' if engagement with a company is unsuccessful. Despite their infrequency, they can be an effective tool for escalating engagement and are increasingly being regarded as an integral part of an engagement strategy. For example, in 1997 LAPFF members co-filed the first social issue shareholder resolution in the UK at Shell. In early 2010, other shareholder groups filed climate-related resolutions at Shell and BP's AGMs regarding tar sands projects in Canada.

In the North America, shareholder resolutions are a far more commonly-used tool, often employed to initiate dialogue with companies in order to affect change. Climate change is a major focus of North American shareholder resolutions; in the 2010 proxy season a record 101 climate and energy-related resolutions were filed with 88 US and Canadian companies. While many funds may not be in a position to file or co-file shareholder resolutions, it is important that they vote on them in accordance with their policies on climate change. As such, a comprehensive set of voting guidelines will include a specific reference to shareholder resolutions and how the fund intends to deal with them. When funds are managed externally, trustees are responsible for ensuring that managers apply voting guidelines.

Example: The LAPFF approach to shareholder resolutions in the US

The number of shareholder resolutions relating to climate change filed at North American company AGMs increases year on year. To date, these have targeted a range of sectors including oil and gas, finance, electric power and forestry. LAPFF tends to focus on companies in sectors with which it is currently engaging which has included the oil and gas and transport sectors. In addition, guidance is taken from INCR as part of LAPFF's identification of relevant resolutions. LAPFF alerts have been issued to members with voting recommendations on a number of related shareholder resolutions.

Collaboration

Collaboration with other investors can be a useful approach to engagement with both companies and government. It can reduce the time and resources required for individual engagement campaigns. For both small and large funds, collaborative initiatives can provide an opportunity to extend the scale and geographic reach of their influence particularly when undertaken with investors in other global markets. For small funds this could also enable them to engage with companies and governments in a meaningful way despite limited resources.

The LAPFF approach to collaboration

LAPFF, aside from being a collaborative group itself, has joined a number of collaborative initiatives which have been valuable in extending its influence globally. For example, many opportunities for collaborative engagement are identified via groups such as the Investor Network on Climate Risk (INCR) and the UN PRI. Such collaborative initiatives have included targeting US companies and the US SEC. In the UK, LAPFF has also collaborated with other investors on high profile issues such as palm oil investments. Globally, LAPFF joined the Forest Footprint Disclosure (FFD) project to address the issue of deforestation which is one of the largest single contributors to global GHG emissions.

Company engagement

Constructive engagement with companies is an effective and widely-used tool for addressing climate risk. The aims of engagement are to work with a company to improve performance against best practice, to manage risk effectively and to capitalise on potential opportunities. LAPFF's view is that effective engagement should aim to initiate a productive dialogue so that long-term relationships can be built with companies.

The first step in identifying appropriate companies for engagement is to establish relevant criteria. This may be based on an analysis of a particular sector or on particularly egregious issues.

Within a given sector and across the range of companies, core indicators can be used to analyse and compare performance. The table opposite is an example of a basic template. It provides indicators for assessment of performance; however, analysis of these core indicators is only effective if they are viewed within the wider context of sector-specific issues.

Such indicators are only proxies for best practice and should be used in conjunction with a qualitative assessment of a company's reporting particularly when it comes to business strategy. The integration of material financial and non-financial issues into business strategy may be a key factor in determining a company's ongoing success. In line with best practice, company reporting should therefore include information on which financial and non-financial risks a company believes are material to its business. For UK companies, an assessment of this may be undertaken by examining the company's business review.

When a pressing issue arises that may pose significant climate risk, a fund may decide to go beyond those issues identified by a pre-existing template, to address a specific issue as shown by the following example.

Example: LAPFF engagement regarding sustainable palm oil

In 2008, the Forum's attention was drawn to critical reports highlighting the extensive deforestation occurring in order to produce palm oil, a common ingredient in foods and healthcare products. The deforestation in Indonesia alone has been said to account for 1% of global GHG emissions. The Forum recognised the relevance of the issue but given the fragmented market place and lack of a clear target engagement group, decided to approach the issue by raising it in ongoing engagement with food and drink companies. This enabled the Forum to understand the industry and companies' perspectives before coming up with an engagement strategy. As a result, the Forum is furthering work on the issue through engagement with members of the umbrella organisation of producers, buyers, traders and NGOs – the Roundtable on Sustainable Palm Oil (RSPO). The Forum has met with NGOs and individual member companies and, in collaboration with other investors, continues to engage with the RSPO to learn more about the industry. While utilising this approach, the Forum has also developed a more traditional set of company engagement targets which it continues to pursue.



Core indicators of best practice

Area	Details	Indicator
Disclosure	Policy	<ul style="list-style-type: none"> - The company has a policy on climate change - The policy is comprehensive
	Data	<ul style="list-style-type: none"> - CO₂ emission data is provided - Data is broken down by direct (scope 1) and indirect (scope 2 &3) emissions. - Other GHG emissions (or CO₂e) are disclosed. These could include supply chain or product emissions - Energy consumption is included in the data
	Public awareness	<ul style="list-style-type: none"> - The company has responded to the Carbon Disclosure Project (CDP) and the response is available to the public - The response is complete / informative - The company has responded to other industry-specific questionnaires and initiatives. - The company is a member of relevant industry associations which address climate change
Targets	Completeness	<ul style="list-style-type: none"> - There is an emissions reduction target in place. - There is an energy-use reduction target in place - Targets are set at group-level - The base year is disclosed - The target year is disclosed - New targets are published before old ones expire
Group strategy	Board addressing climate change	<ul style="list-style-type: none"> - The company set out how it sees climate change and related implications could affect its business strategy in a negative or positive way - Board level responsibility for sustainability issues identified and governance structures disclosed - Thorough identification and analysis of climate-related risks and opportunities including a financial analysis of costs implications or revenue gains - Company presents a discussion on the materiality of climate-related risks and potential competitive advantage that can be gained through exploiting opportunities - Executive remuneration is linked to emission/energy targets - Climate risk is included as a regular board reporting item - Group reports on the results of response to climate change – ie, any costs imposed by changes made, expenditure savings related to energy efficiency measures, product design improvements etc.
Performance	Improvements	<ul style="list-style-type: none"> - Improvements have been made - Progress is reported in the context of targets - The company is on course to achieving targets - Targets have been achieved
	Context	<ul style="list-style-type: none"> - New targets are set if current ones are met, even if they have not expired - New targets are more stretching than previous ones.

Engagement with government

Although company operations are the source of a large percentage of global emissions, companies act to maximise profits and respond to consumer demand within the legal framework set for them. Therefore, it is important that engagement takes place not only with companies but also with the government and policy-makers setting this legal framework. In addition, given that a large proportion of a universal owner's performance is affected by the overall health of the market, it is important that investors are involved in informing the legal framework that dictates how markets operate. This can help to ensure that the legal framework is set up in a way that reduces the risks associated with systemic threats such as climate change. Associated action can, therefore, include writing letters, liaising with government and opposition representatives and responding to relevant consultations.

Lobbying can be effective both on a one-to-one scale, and as part of a collaborative initiative. There are ongoing opportunities for individual funds to join such collaborations through investor organisations such as the UNPRI, LAPFF, the Investor Network on Climate Risk (INCR) and the Institutional Investors Group on Climate Change (IIGCC).

The LAPFF approach to lobbying government

Engagement with policy makers can take place at a national and international level in order to achieve one of a number of objectives:

- Gain greater certainty on boundaries of current/planned legislation
- Push for more or less stringent legislation
- Support for new legislation on climate change

LAPFF has lobbied government directly, for example, by meeting with the environment minister to discuss climate change disclosure in the UK and supported the Aldersgate Group in its lobbying of government to implement mandatory reporting of GHG emissions. LAPFF also joined other investors in writing to the US SEC chairman, urging the SEC to improve disclosure of climate change-related risks in the context of disclosure of material environmental, social and governance risks, in securities filings. Subsequently, the SEC released new interpretive guidance on climate disclosure.

Carbon risk assessment

In the previous chapter, conducting a carbon footprint and stress testing were identified as ways to approach measuring carbon risk. The following section sets out a variety of ways that these assessments can be used to take action to manage climate risk effectively.

Use it to enhance engagement with companies

By measuring the carbon footprint of a company or sector and testing it against future scenarios, a quantitative measure can be applied to company activities and a more tangible assessment made of likely financial positioning in the future. Choosing to engage with a company regarding identified potential risk areas may help steer its actions to mitigate impacts. Company engagement can take place with or without conducting a full carbon footprint, but doing so may make engagement more effective.

Additionally if a stress test finds a given investment will not be profitable in a future scenario trustees could tell companies that, according to their estimates, they will not be holding the company's stock in five or ten years time.

Use it to inform investment decisions

Carbon footprinting provides a quantitative analysis for assessing risk. Quantitative assessments are valuable as they can be used in the regular risk identification process and, therefore, to inform the investment selection process. Without a quantification of an otherwise qualitative risk, it is difficult to link impacts of climate change to financial performance.



Use it to enhance engagement with fund managers

Trustees can also use carbon footprints and scenario testing to augment their fund manager engagement. As fund managers are responsible for managing risk, they may be well placed to use this method of identifying risk and its results. Carbon footprinting and stress testing can provide fund managers with a way of forecasting risks which may not have been identified through regular processes.

Use it to identify appropriate hedges

One way to balance a portfolio's exposure to high-risk companies and sectors is to invest in appropriate low carbon hedges.

A hedge could exist in any asset classes and could, for example, be an investment in a company benefiting directly from the opportunities relating to climate change, such as renewable technology. Alternatively, an equity hedge may have nothing to do with mitigating climate change, but instead involve investment in companies with minimal exposure to risks, ie, risk-neutral. Risk-neutral companies, while still exposed to climate-risk indirectly, are those which are far less likely to be adversely impacted by changes in regulation and the carbon price. It should be noted that this does not mean some companies are free from all risks relating to climate change. Most companies are likely to be either directly or indirectly exposed to climate risk. However, for some sectors the risks are comparatively less, and within them there may be some virtually risk-neutral companies.



Keep it up to date

The key concept in a world with a changing climate is that of change: changing weather patterns, changing scientific forecasts and changing political opinions. Given all these uncertainties it can be difficult for trustees and fund managers to keep up to date with the consequences such changes could bring.

One of the ways to keep up with such developments is to ensure that carbon footprints are reviewed regularly and that they are used to monitor ongoing potential risk.

While it may be difficult to adapt to changes in weather patterns or scientific predictions, such changes are reflected in political opinions, legislation and the carbon price. Where legislation or the carbon price changes over time, these new parameters can be tested against a portfolio on an ongoing basis to monitor alterations in exposure to varying risk.

Chapter 4 summary box: Tools to address climate-risk

Voting shares

- Ensure climate-policy is reflected in voting policy
- Vote on relevant shareholder resolutions

Collaboration

- Can save resources and time
- Collective influence may be more effective
- Extends geographical influence
- Groups include UN PRI, INCR

Company engagement

- Use best practice core indicators
- Aim to build long-term constructive relationships
- Be mindful of sector-specific issues
- Where relevant, engage through a group

Engagement with government

- Encourage long-term certainty in regulatory framework

Carbon risk assessment

- Enhance company engagement
- Inform investment decisions
- Enhance fund manager engagement
- Use a hedge
- Keep it up to date

Chapter 5

Investment opportunities

Chapter 4 summarised some of the tools available for trustees and fund managers to address climate-related risk in their portfolios. This chapter goes beyond risk implications to look at the potential opportunities associated with climate change.

With the global economic downturn experienced in 2008/09, there has been much debate over what investment strategies should be pursued in the future. There are an increasing number of voices supporting an economic strategy that will steer the economy in a different course.

“ If we simply try to recreate what went before...we will find that we end up with exactly the same problems again, only more intractable. ”
Lord Smith³³

The proposition of creating a new low-carbon economy based on clean technology is gaining traction; such an economy could provide jobs and reduce energy security fears. While the formation of this economy will be steered mostly by policy-makers and government, its creation could lead to opportunities for both companies and investors. This chapter describes some of the opportunities that are relevant for investors.

Technology

As a first step, energy efficiency will play a major part in reducing emissions in the UK and throughout the world. Because much of the technology to reduce emissions already exists, this is seen as the 'low hanging fruit' (the easiest and cheapest way to reduce emissions) and, therefore, provides opportunities for investing in companies who are researching and developing related technologies.

The next stage is to provide cleaner energy for the remaining demand. Clean technology is seen as one of the central features of a low-carbon economy and as an industry that will create jobs and investment opportunities. Renewable energy is the primary focus and may receive a great deal of investment in the UK given that the government has committed to producing 30% of its electricity from renewable sources by 2020³⁴.

While renewable energy is seen as the ultimate goal, there are some technologies which will assist in reducing emissions during the transition to a low-carbon economy. While controversial, technologies such as clean coal and carbon capture and storage (CCS) are areas with short-term potential as an investment opportunity.

There is also an opportunity for companies themselves to make investments into relevant energy saving technologies. Doing so can result in long-term cost savings and provide an opportunity to gain a competitive advantage within a context of potential future legislation that demands lower emissions.

Fixed-income asset classes

In order to avoid significant global climate disruption, it is estimated that approximately USD10 trillion will be needed to be spent on low-carbon technology over the next decade³⁵. One proposal for generating such funding is for governments and international finance organisations to issue climate-themed bonds. Such bonds could be aimed at institutional investors and the proceeds would be ring-fenced for investment in low carbon projects such as renewable energy technology³⁶ or energy efficiency measures. There are many methods for structuring green bonds so that they are stable and attractive to investors. Asset managers who wish to benefit from stable climate-related investment opportunities can look to such fixed income asset classes.

Although there is still much speculation over how funding instruments such as green bonds will work in practice, and their effectiveness, their issue is not merely theoretical. For example, in April 2010, the International Finance Corporation issued a USD 200m fixed-rate green bond. The proceeds of these bonds will be invested in renewable energy, energy efficient, and other climate-friendly projects in developing countries.³⁷ The World Bank issued its first green bonds in 2008 and since then has issued an equivalent of over USD 1.5 billion in green bonds³⁸. Such developments show the increasing appetite for using such instruments to generate funding for climate-related technology.



Green funds

A large number of investment managers have capitalised on the interest the investment community has displayed towards environmental issues such as climate change by creating funds focussed on green investments. Many funds exist employing a variety of investment approaches. Some are directly aimed at identifying investments that are well positioned to tackle macro issues such as climate change. Others are focussed on a range of specific environmental issues. Some investment managers select their own investments while others use external research providers or one of a growing number of climate-specific indices. Investors can take advantage of such funds to divert some of their investment towards some of the opportunities presented by addressing climate change without using limited resources to research each one individually. Lists of green funds are published regularly by various industry bodies^{39, 40}.

Climate change indices

A number of climate related indices have been developed to rank the top performing companies. Some of these include:

- FTSE Environmental Opportunities Index
- FTSE KLD Global Climate 100 Index
- Barclays Global Carbon Index
- HSBC's Global Climate Change Index

Using such indices can realise high investment returns; for example, back-testing HSBC's index has shown projected returns of 125% from a 2004 base.⁴¹

Commodities - carbon markets

Just as gold or platinum are traded as commodities, carbon markets represent an opportunity for investors to benefit from the trading of carbon. This can be done through exchange-traded funds such as iPath Barclays Capital Global Carbon Index Total Return (BGCITR).

The BGCITR includes two carbon-related credit plans: European Union Emission Trading Scheme Phase II and Kyoto Protocol's Clean Development Mechanism. It expects to incorporate new global carbon-related credit plans as they are developed⁴². While such funds are still small, much of their importance, as well as that of the carbon markets, will be determined by the results of international climate change negotiations. Regardless of future developments, carbon markets are likely to be an important instrument in addressing climate change as well as a potential investment option.

Real estate

Many pension funds have direct ownership of property, which as an asset class has its own risk/opportunity profile. This includes legislative concerns such as the obligations of the carbon reduction commitment (see Chapter 1). However, actions to address the affects of climate change through property holdings can also result in an attractive investment outcome. For example, improving the energy efficiency of a building has the potential to enhance its value. The INCR 'action plan' suggests that asset owners:

“ Improve the energy performance of real estate portfolios and investments. Studies demonstrate that enormous opportunities exist to improve building energy efficiency while enhancing the value of real estate assets. Accordingly, we will:

- Aim for a 20% reduction over a three-year period in energy used in core real estate and regular reporting on measures taken and actual energy performance.
- Incorporate green building standards (such as LEED and Energy Star) as a factor in making investment decisions.”⁴³



Opportunities linked to regulation

The risks associated with legislation are noted and detailed throughout this guide. Along with these risks, there is also the potential for numerous opportunities to arise through changing regulatory requirements. Such opportunities may be present as a result of government incentive schemes. It is important that fund managers recognise the sectors and specific companies that are able to use these incentives.

For example, as part of the UK government's plans to promote investment in low-carbon opportunities, it established the UK Innovation Investment Fund. The fund was set up to invest in key areas where Britain has a competitive advantage including low carbon technology⁴⁴. Other plans to generate investment for clean technology include the creation of a 'green investment bank'.⁴⁵

Another example is the 'renewable heat incentive', created to provide households and businesses with incentives for buying their electricity from renewable sources. For small businesses, feed-in tariffs represent an opportunity for them to generate their own low carbon electricity and feed it back into the grid and make money. There are also

numerous lobbying activities taking place against fossil fuel subsidies which, if effective, could change the incentive structures of the energy industry.

Given the UK government's commitment to addressing climate change, it is possible that many opportunities will continue to arise for investors. Given the transient nature of policies and policy instruments, it is also important for trustees and fund managers to keep up to date with international and national policy developments to identify new opportunities.

Adaptation

Some of the effects of climate change are seen as inevitable and, therefore, adaptation to these effects is seen both as a necessity as well as an opportunity. Adaptation opportunities for companies include creating better insulation and cooling systems in buildings in response to the wide variation in temperature anticipated, developing technology to improve water efficiency in response to water shortages and building better flood defences on flood-plains and coasts.

Chapter 5 summary box: Investment opportunities

1) Technology

- Energy efficiency
- Renewable energy

2) Fixed income asset classes

- Green bonds

3) Green funds

- Opportunities-focussed funds
- Climate-related indices

4) Commodities

- Carbon markets
- EU ETS

5) Real estate

- Improve energy efficiency of direct property holdings
- Incorporate green building standards into investment decisions

6) Opportunities linked to regulation

- Identify sectors and companies that may benefit from government incentives

7) Adaptation

- Identify technology that will cope with changes in the future

Chapter 6

Questions for trustees

The previous chapters set out ways for trustees to approach climate change and presented tools to use in addressing the associated risks and opportunities for a fund.

Given the significance of the relationship that trustees have with their fund managers, and their important role in tackling the issue of climate change, this chapter presents a list of questions for trustees to ask fund managers.

Regular questioning of those who are delegated responsibility, whether fund managers, internal managers, private equity managers or investment consultants, will hold them to account and push the issues higher up the agenda.

As noted in Chapter three, surveys of investment managers have found that few are incorporating reporting on environmental social and governance matters throughout the investment process. Full consideration to these concerns would include their incorporation within asset allocation, portfolio valuation and due diligence. Additionally, the survey results show clearly that client demand can drive the level of reporting and the significance attached to environmental issues.

This final chapter focuses on specific questions that highlight all the issues discussed throughout the guide which trustees can put to those delegated responsibility for managing the funds' investments. These questions may be asked throughout the relationship from awarding the initial contract, ongoing analysis of performance and ultimately in the decision of whether to retain specific managers or consultants.

These questions and their answers serve the purpose of:

- raising the significance of the possible impact of climate change on a funds' portfolio;
- fostering an understanding of how material environmental consideration are handled by money managers;
- being ahead of the curve on managing climate risks and capitalising early potential returns that may enhance a fund's long-term value;
- gauging a fund's progress on tackling climate change over time. Periodic posing of the questions can mark improvements or changes in the fund's approach to climate risks and opportunities.

In addition, this chapter presents a set of questions for trustees to ask themselves which will help them to determine their own progress in dealing with the implications of climate change for their fund.





Questions to ask fund managers

- 1 How do investment decisions take into account the sustainability considerations in the fund's published SIP?
- 2 Do you consider climate change to be a potential material risk for the companies in which you invest?
- 3 Do you or could you include climate change risks into your regular discussions with companies?
- 4 Do you incorporate a company's approach to climate change when evaluating its corporate governance?
- 5 What is your voting record on ESG issues at invested companies?
- 6 How will you implement my fund's voting guidelines and will there be any issues in exercising voting rights when an investment is held within a pooled investment?
- 7 Do you consider any climate-related risks to be material to investment decisions? If yes:
 - a) How do you identify these?
 - b) Do you have systems in place to monitor and mitigate these risks?
 - c) Are you developing quantitative measurement techniques?
 - d) How do you stay abreast of the regulatory environment in the markets in which you invest?
- 8 What percentage of the fund is exposed to risk through investment in 'high-impact' sectors (eg, oil and gas, utilities, mining and transport)?
- 9 What are the ways you communicate your climate change analysis to your clients? Do you provide monitoring reports on an annual or quarterly basis?
- 10 Do you have any expertise available internally to assess carbon-risk? Is this something that you would consider undertaking going forward?
- 11 How could quantitative analysis of risk such as a carbon footprint inform investment decision-making now or in the future?
- 12 How could you use a carbon footprint in your discussions with companies?
- 13 Through what processes do you identify investment opportunities related to climate change?
- 14 Have you considered alternative assets such as carbon-trading or clean technology? Is this something on the horizon?
- 15 Would you consider the use of 'hedges' to moderate potential climate-risk in the future?



Questions for trustees to ask themselves

- 1 Has your fund considered incorporating climate change into the statement of investment principles?
- 2 Are there voting guidelines in place that address climate change where applicable?
- 3 Do the voting guidelines include a provision for shareholder resolutions?
- 4 Is it possible for shares held in pooled vehicles to be voted to reflect the funds voting guidelines and policy on climate change?
- 5 Is the fund exposed to climate-related legislation such as the Carbon Reduction Commitment (CRC)?
- 6 How can I collaborate with other investors to lobby government or engage with companies in order to extend the influence of the fund?
- 7 How can I press investment consultants to benchmark fund managers' capabilities in assessing risk and rewards attributable to climate change?
- 8 How is the ability to evaluate carbon risk incorporated into the fund manager selection process?
- 9 If internally managed, are staff and managers trained in respect of climate risk due diligence and in reviews of corporate governance practices?
- 10 If established, how is the mandate to evaluate carbon risks incorporated into the fund manager's contract?
- 11 Where climate risk is not being addressed by fund managers, what steps are being taken to change this?
- 12 How does the fund assign responsibility for the material impact of climate change? If delegated to the fund manager how is this communicated?

Appendix

Scientific overview

What is climate change?

The term 'climate change' refers to changing global weather patterns which are assessed and predicted by scientists. Global weather patterns are influenced by global average temperatures which, in recent years, have been increasing.

Professor John Holdren, science advisor to President Barack Obama, has commented that the term 'global warming' gives the impression that rising temperatures are the primary concern; in reality, changes in precipitation, extreme weather events and sea level rise could be far more devastating.

The phrase also gives the impression that changes are global and therefore uniform⁴⁶. Instead, changes are far more likely to occur at a local level with the specific impacts and severity differing widely for each region. While these terms have gained worldwide use, the term 'climate disruption' is perhaps more accurate.

What is causing climate change?

The concentration of greenhouse gas emissions (GHGs) in the atmosphere is important in determining the earth's temperature because these gases absorb infra-red radiation and thereby trap heat. Atmospheric GHG concentration is currently recorded at 430 ppm CO₂e which is higher than they have been at any time in the last 650,000 years⁴⁷.

The sharp increase in the atmospheric concentrations of carbon dioxide and other GHGs covered in the Kyoto Protocol since the industrial revolution has caused scientists to believe that humans could be a part of the cause of earth's rising temperature. Activities such as the burning of fossil fuels emit huge levels of carbon dioxide (CO₂). Other activities such as agriculture and land use emit methane and nitrous oxide.

Why is climate change concerning?

The precise impacts of climate change are difficult to predict especially at a local level. The results of the earth's atmosphere becoming warmer are not only longer and hotter summers but a disruption of the balance of the delicate climate system across the globe causing more extreme events and less predictability.

Recognising the difficulty in making definitive predictions, the International Panel on Climate Change (IPCC) was set up in 1988 to provide decision-makers with an objective source of information. The IPCC conducts extensive research, and models different projections to estimate

future impacts of climate change under different scenarios. In 2007, the IPCC published the Fourth Assessment Report and some of its findings are summarised below, together with input from other organisations:

Figure 1. Projected impacts of climate change

- It is more than 90% *certain* that precipitation will increase in high-latitude areas. The UK Climate Impacts Programme (UKCIP) also estimates that summer precipitation will decrease almost everywhere in the UK⁴⁸.
- It is *very likely* that hot extremes, heatwaves and heavy precipitation will become more frequent. The unusually hot European summer of 2003 resulted in approximately 22,000-35,000 heat-related deaths across Europe⁴⁹.
- It is more than 60% *certain* that precipitation will decrease in subtropical land regions. The IPCC has estimated that for some countries in Africa, rain-fed agricultural yields could decrease by up to 50% by 2020⁵⁰. This will place a further food stress on a continent that is home to a quarter of the world's hungriest people.
- It is *likely* that typhoons and hurricanes will become more intense with larger peak wind speeds and heavier precipitation. Besides, the visible damage to infrastructure and people, extreme weather events also spread waterborne diseases and cause damage to crops and coral reefs.

Some effects of climate change may in themselves trigger further releases of GHGs. Such feedback loops could result in the climate reaching a tipping point where irreversible change occurs. Feedback effects are uncertain and difficult to quantify so most are not factored into the latest climate projections. One example is that warming temperatures cause wetlands to dry and permafrost to melt, both of which release methane.

References

- 1 <http://programmeforgovernment.hmg.gov.uk/energy-and-climate-change/>
- 2 IPCC, 2007. Climate change 2007: synthesis report.
- 3 DEFRA, <http://www.defra.gov.uk/ask-defra/contacts/index.htm>
- 4 DECC, 2010, <http://www.decc.gov.uk/assets/decc/legislation/energybill>
- 5 Carbon Trust, 2008. 'Climate change – a business revolution?'
- 6 IBID
- 7 Towers Perrin, 2005 'Hurricane Katrina: Analysis of Impact on the Insurance Industry'
- 8 Swiss Re, 2009, 'The globalisation of collective redress: Consequences for the insurance industry', http://www.swissre.com/rethinking/liability_dynamics/impact_of_collective_redress.html
- 9 IIGCC, 'Investor Statement on Climate Change'
- 10 UNEP Finance Initiative, 2009, 'Fiduciary Responsibility'
- 11 The Environment Agency, <http://publications.environment-agency.gov.uk>
- 12 Lothian Pension Fund, <http://www.lpf.org.uk/lpf/invest/princip/princip.html>
- 13 West Yorkshire Pension Fund, <http://www.wypf.org.uk/Members/WYPF/Investments/Principles.htm>
- 14 West Midlands Pension Fund <http://www.westmids-pensions.org.uk/pdfs/sip1.pdf>
- 15 Aberdeen City Council Pension Fund , http://www.accpf.org.uk/investment/inv_principles.htm
- 16 UNEP Finance Initiative, 2009, 'Fiduciary Responsibility'
- 17 UNEP Finance Initiative and Freshfields Bruckhaus Deringer. 2005. 'A legal framework for the integration of environmental, social and governance issues into institutional investment'
- 18 UNEP Finance Initiative, 2009, 'Fiduciary Responsibility'
- 19 IIGCC, 'Investor Statement on Climate Change Report 2009'
- 20 Ceres, 2010, 'Investors Analyze Climate Risks and Opportunities: A Survey of Asset Managers' Practices'
- 21 Preparing for the Storm, 2009, Fair Pensions; 'Pension Fund Trustees and Climate Change: one year on', ACCA
- 22 UNEP Finance Initiative, 2009, Fiduciary Responsibility
- 23 The Environment Agency , <http://www.environment-agency.gov.uk/static/documents/GblEqtyRev.pdf>
- 24 Enviro, 2005, 'LAPFF commissioned study on climate change'
- 25 TruCost, 2009, Carbon risks in the UK Equity funds
- 26 Acclimatise, Henderson Global Investors, Insight Investment, Railpen Investments, USS. 2009. 'Managing the Unavoidable'.
- 27 ACCA and GRI. 2009. 'High-impact Sectors: The Challenge of Reporting on Climate Change'.
- 28 Carbon Trust, 2008, 'Climate change – a business revolution?'
- 29 Trucost, 2009, 'Carbon Risks in UK Equities'
- 30 Trucost, 2007, 'The Trucost Carbon Footprint Ranking of UK Investment Funds'
- 31 Christoph Harwood, 2009, Marksman Consulting LLP, 'Climate Change Investing'
- 32 SEC, 2010. Interpretive Guidance on Climate-related Risk Disclosure
- 33 The Green Alliance. 2009. 'From Crisis to Recovery'
- 34 DECC, 2009, 'The UK Low Carbon Transition Plan'
- 35 Iggo, C. 2010. 'Climate Bonds: a major new Asset Class' from 'Clean Investor 2010'.
- 36 Climate Bonds Initiative, <http://climatebonds.net/>
- 37 IFC, 2010, <http://www.ifc.org/>
- 38 <http://treasury.worldbank.org/cmd/htm/WorldBankGreenBonds.html>
- 39 <http://www.eiris.org>
- 40 http://www.ethicalinvestors.com/fund_directory.php
- 41 <http://www.guardian.co.uk/money/2007/nov/11/cash.climatechange>
- 42 <http://www.ipathetn.com/GRN-overview.jsp>
- 43 <http://www.incr.com/Page.aspx?pid=202>
- 44 <http://www.dius.gov.uk/>
- 45 DECC. 2010. http://www.decc.gov.uk/en/content/cms/legislation/energy_bill/energy_bill.aspx
- 46 Holdren, J. P., 2007. http://belfercenter.ksg.harvard.edu/files/uploads/2007_11-6_Forum_%28NXPowerLite%29.pdf
- 47 Stern, Sir N, 2007, Stern Review
- 48 UIKIP, 2009, UK Climate Projections: Briefing Report
- 49 Defra, Met Office Hadley Centre. 2005. 'Climate change and the greenhouse effect'
- 50 IPCC, 2007. Climate change 2007: synthesis report.

www.lapfforum.org
info@lapfforum.org



Text printed on FSC Greencoat Silk 130gsm, 80% recycled post-consumer fibre, 10% TCF (Totally Chlorine Free) virgin fibre
10% ECF (Elemental chlorine free) fibre