# Action on Climate:

# **A Practical Guide for Fiduciaries**



"Climate change is a 'threat multiplier'...because it has the potential to exacerbate many of the challenges we already confront today – from infectious disease to armed insurgencies – and to produce new challenges in the future. "

Chuck Hagel, former Defense Secretary

"I think it's the existential threat of our day. Once you see it as having catastrophic impact, any economic argument follows that, because you're not going to have an economy."

Robert E. Rubin, former Treasury Secretary









### **About this Toolkit**

This toolkit is the product of two input meetings, or "charrettes," held in New York City and in Oakland, California in late 2014. A total of eighteen trustees, staff, and fiduciaries from mid-sized institutional investors (including endowments, foundations, religious investors, and Taft-Hartley funds) participated in the charrettes. At these meetings, the project team gathered information from these participants about what is important to them when considering changes to their policies and portfolios. Their feedback has shaped the formation of this toolkit.

This toolkit is not meant to be read cover-to-cover, but rather to be used as a resource as your fund undergoes an internal process to take action on climate change. Signposts indicate which sections are relevant to which audience: endowments, foundations, or pensions. Feel free to print and copy any sections of the toolkit for use in meetings with trustees, investment managers, or investment consultants.

This project has been spearheaded by Responsible Endowments Coalition and the SEIU Capital Stewardship Program, with support from the Institute for Responsible Investment at Harvard University and the Croatan Institute. This report was made possible thanks to generous support from the V. K. Rasmussen Foundation.

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Final responsibility for the content of this report lies with the Responsible Endowments Coalition (REC) and the Service Employees International Union (SEIU).

#### Disclaimer

This report is provided for information purposes; it does not constitute investment advice nor is it a solicitation to make any particular investments.

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**Responsible Endowments Coalition** (REC) is the leading voice for responsible investment in higher education in the United States. REC educates and empowers students and campus communities on over one hundred campuses

nationwide to encourage their institutions to incorporate environmental and social issues into investment practices. REC also trains the next generation of leaders on the importance of understanding money in creating change.

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# Introduction and context

Over the last three decades, people and governments around the world have recognized climate change as an issue of increasing urgency. Increases in large storms, droughts, and other problems have already been linked to climate change. Consensus has emerged that substantially stronger action is required to slow human-induced climate change and mitigate its effects. To date, however, and despite the urgency, actions taken to mitigate climate change and prepare for its consequences have been limited.

In recent years, investors have been both the objects of climate advocacy and important stakeholders wrestling with how climate change should affect their investment strategies. Advocates insist that investors need to account for their contributions to climate change, and to prepare for a necessary shift to a low-carbon economy, which will transform investment portfolios.

Founded by student organizers at Swarthmore College in 2011, the fossil-fuel divestment campaign began by targeting university endowments and has now gained national momentum. This advocacy has extended to foundation endowments, retail investors, and pension funds.¹ Investors of all kinds are facing substantial demands from stakeholders to address investments in the largest coal, oil, and gas companies. Some high-profile investors have responded to these calls: Stanford University has divested its endowment from direct holdings in coal companies, Yale University has engaged its money managers on climate risk, and the Rockefeller Brothers Fund announced its plan to divest from all fossil fuels in September 2014². Advocacy has pushed an even larger set of investors to address climate change and its potential consequences more actively, even if they do not choose divestment as a solution.

Institutional investors — perhaps because of their need and capacity to manage portfolios over longer time horizons for multiple generations of beneficiaries — have taken the lead in exploring how to recognize the possible effects of climate change across entire investment portfolios. They are looking for ways to protect portfolios from risks associated with climate change, from the policy risks associated with carbon pricing to the physical risks associated with changing weather patterns and intensity. And they are exploring new investment opportunities likely to emerge from a transition to a sustainable and low-carbon economy.

But investors can also struggle to integrate a long-term macro-trend, like the systemic effects of climate change, into their existing investment strategies. Day-to-day challenges of portfolio management can

challenge. This is especially true for those under resourced in climate and other ESG areas.

make it hard to take on long-term issues, no matter how important these may be. Due to funding concerns and managing current volatility in the capital markets, defined benefits can find climate risk a daunting

Large investors like Stanford University (with a \$21.5 billion endowment and dozens of employees dedicated to endowment management) have the advantage of substantial resources at their disposal to examine the effects of climate change on their investments. Unlike these investors, small and medium-sized endowments, pension funds, and foundations do not have large internal staff teams. These institutional investors may have outsourced their investment management entirely, or have one or two internal team members. They face particular challenges implementing climate change strategies while respecting fiduciary responsibility and investment strategy, but the long-term issues that arise from climate change will affect them too, and their beneficiaries and stakeholders are raising the issue on campus lawns and at quarterly meetings.

If you are one of these investors, this Toolkit is for you — an investor concerned about the future of your fund and the future of the world, or a pension plan fiduciary whose overriding focus is the financial interests of your beneficiaries and the long-term interest of your plan. This Toolkit will help you take climate change into consideration with your fund while respecting concerns about fiduciary duty and investment performance.

### **How to Use This Toolkit**

This Toolkit is intended to help investors examine climate change from different angles. It explores various interconnected approaches: integrating climate change into your investments; reducing your portfolio's carbon intensity, investing in climate solutions, divestment; engaging with corporations, and engaging with policymakers. Each tactic has its advantages and disadvantages. Not all of them will be right for every investor. The aim here is not to advocate a particular approach; it is to support you in making decisions that make sense for your fund and institution.

At the core of this Toolkit are:

- A decision-making process you can customize for your fund, including how to work with consultants, managers, and legal counsel
- An implementation guide for your strategy

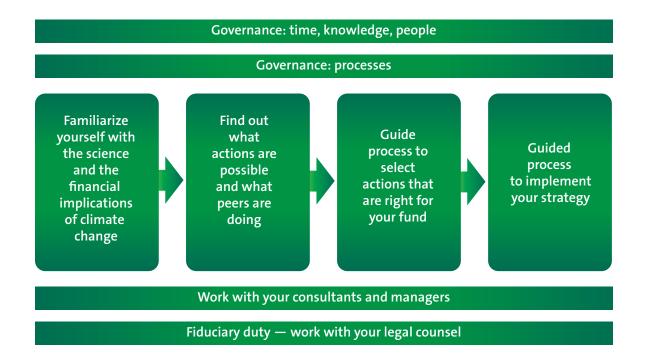
To support you in these processes, we provide information on:

- The science and impacts of climate change
- The financial implications of climate change
- Fiduciary duty and climate change
- American workers, workplace hazards, health, jobs, and climate change
- Available actions and examples of what peer investors are doing.

For each of these you can find a high-level summary in the main part of the Toolkit, with more detail in appendices.

### A governance approach

The overall **path** we suggest an investor follow is set out in the chart below. We take a governance approach. This outlines steps to follow and questions to ask, while taking account of the resources available to the investor – in terms of time, knowledge, and people. Throughout the process, ensuring that you act in accordance with fiduciary duty remains crucial.





# Climate science: in brief

- The UN Intergovernmental Panel on Climate Change's Fifth Assessment Report concluded that 'human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems'. Continued emissions of greenhouse gases will 'increase the likelihood of severe, pervasive and irreversible impacts for people and ecosystems.'<sup>3</sup>
- NASA notes that 'The current warming trend is of particular significance because most of it is very likely human-induced and proceeding at a rate that is unprecedented in the past 1,300 years.'4
- NASA studies show that the average global temperature on Earth has increased by about 0.8°
   Celsius (1.4° Fahrenheit) since 1880. Two-thirds of the warming has occurred since 1975, at a rate of roughly 0.15-0.20°C per decade.<sup>5</sup>
- Carbon dioxide concentrations in the atmosphere have now reached 400 parts per million (ppm), compared with the 350 ppm scientists consider to be a safe level.<sup>6</sup>
- The UN finds that if emissions continue to rise at the current rate, impacts by the end of this century are projected to include a global average temperature 2.6–4.8° Celsius higher than at present, and sea levels 0.45–0.82 meters higher than at present.
- A scientific report commissioned by the World Bank concludes that the impacts of a 4 degree temperature rise are 'potentially devastating: the inundation of coastal cities; increasing risks for food production potentially leading to higher under and malnutrition rates; many dry regions becoming dryer, wet regions wetter; unprecedented heat waves in many regions, especially in the tropics; substantially exacerbated water scarcity in many regions; increased intensity of tropical cyclones; and irreversible loss of biodiversity, including coral reef systems.'<sup>7</sup>

- According to the National Academies of Science, each degree of warming will produce:
  - 200-400% increases in the area burned by wildfire in parts of the western US
  - 5-15% reductions in the yields of crops as currently grown
  - 5-10% changes in precipitation across many regions
  - 3-10% increases in the amount of rain falling during the heaviest precipitation events.8
- Climate change will likely not proceed in a linear fashion. There could be sudden 'tipping points' at which change accelerates and consequences become irreversible.9
- · According to the Department of Defense, 'Global climate change will aggravate problems such as poverty, social tensions, environmental degradation, ineffectual leadership and weak political institutions that threaten stability in a number of countries. [...] Climate change is a security risk because it degrades living conditions, human security and the ability of governments to meet the basic needs of their populations. [...] The Defense Department already is observing the impacts of climate change in shocks and stressors to vulnerable nations and communities, including in the United States, the Arctic, the Middle East, Africa, Asia and South America.' 10
- The New York City Panel on Climate Change predicts sea level to rise by anywhere from 11 to 21 inches by the 2050s in the city, and 18 to 39 inches by the 2080s. By the end of the century, sea level could be six feet higher than it is today.<sup>11</sup>

You can find more detailed information on the financial implications of climate change for portfolios, asset classes and sectors in Appendix 1.



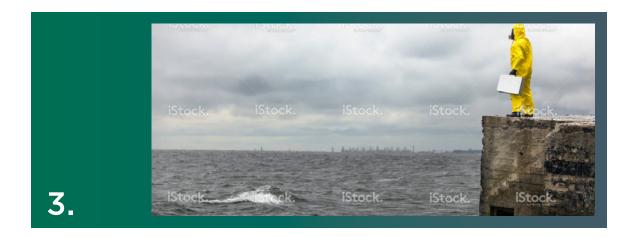
# Financial implications of climate change: in brief

The economic and financial implications of climate change are significant. This is particularly relevant to fiduciaries at a time when low investment returns are placing pressures on pension funding levels and pose challenges for foundations seeking to maintain distribution levels in perpetuity and endowments with commitments to their sponsor institutions. In these difficult times, it is more important than ever to understand all investment risks and opportunities in both the short and long term. Understanding the financial implications of climate change is an essential part of the picture.

- According to the Risky Business Project founded by former Treasury Secretary Hank Paulson, former Mayor of New York Michael Bloomberg, and hedge fund investor Tom Steyer 'The American economy is already beginning to feel the effects of climate change. These impacts will likely grow materially over the next 5 to 25 years and affect the future performance of today's business and investment decisions.' Within the next 15 years, the total annual price tag for hurricanes and other coastal storms could be \$35 billion. Some Midwestern and Southern counties could see a decline in crop yields of more than 10% over the next 5 to 25 years, with a 1-in-20 chance of yield losses of more than 20%. Temperature changes will likely necessitate the construction of up to 95 gigawatts of new power generation capacity over the next 5 to 25 years—costing residential and commercial ratepayers up to \$12 billion per year. <sup>12</sup>
- The Economist Intelligence Unit (the research arm of The Economist magazine) calculates that by 2100, 4°C of warming would result in expected losses of \$4.2 trillion in present value terms to the world's total stock of manageable assets of \$143 trillion roughly equivalent to the total value of all the world's listed oil and gas companies or Japan's entire GDP. Much of the impact on future assets will come in the form of weaker growth and lower asset returns across the board. Investors cannot simply avoid climate change by moving out of vulnerable asset classes.<sup>13</sup>

- Research by the former CEO of a UK asset management company finds that 'if it reaches 4°C or more, global warming may cause severe economic damage with the consequence that a significant portion of the value of a diversified equity investment portfolio will be placed at risk... We estimate that in a plausible worst case for climate damage the value at risk in 2030 may be equivalent to a permanent reduction of between 5% and 20% in portfolio value compared to what it would have been without warming.' In other words, in this scenario, portfolios will lose up to 20% of their value, and never regain the lost ground.
- The investment consulting firm Mercer believes that uncertainty over climate policy could contribute as much as 10% to overall portfolio risk by 2030.15 More recent work by Mercer concludes that 'Climate change will inevitably have an impact on investment returns. [...] A 4°C scenario (i.e. an average global temperature increase of 4°C) could negatively impact emerging market equities, real estate, timber and agriculture.'16
- The Carbon Tracker Initiative argues that climate change could leave fossil fuel companies with uneconomic 'stranded assets' mines, oilfields, and tar sands deposits that lose their value, potentially costing their investors hundreds of millions of dollars. This is because the fossil fuel reserves held by oil, gas, and coal companies far exceed the amount that can be burned if we are to remain within the world's 'carbon budget' (the amount of CO2 that can be emitted if global temperature rise is to be limited to 2°C). This leaves a remaining budget of 565 GtCO2. Government action to curb emissions would make it impossible for these reserves to be used.
- The money management firm Schroders believes that 'the long-run effects of climate change will most certainly be negative for global economic activity. Damage to the global capital stock and disruptions to labour supply will reduce productivity and economic activity. Inflation will increase as production is curtailed, particularly in agriculture, further weakening real incomes and spending. Whilst there will be winners and losers from warming of several degrees, all countries will, at some point, lose out to climate change. [...] Valuing the future loss in economic output attributable to climate change produces a range of estimates which vary according to views about whether a tipping point is reached between 2 4°C of warming. In a worst case scenario, global warming could be seen to reduce annual GDP growth by over 1% between the present day and 2080.'17
- A study by the Investment Leaders Group at the University of Cambridge concludes that 'on a
  worst case basis, only half of the negative impact on portfolio returns due to climate change can
  be hedged through cross-industry diversification. Furthermore, one half can be hedged by shifting
  from an equity portfolio to one with a higher percentage of fixed income.'18

You can find more detailed information on the financial implications of climate change for portfolios, asset classes and sectors in Appendix 2.



# Fiduciary duty and climate change: in brief

We are grateful to Keith Johnson of the law firm Reinhart Boerner Van Deuren for reviewing the material on fiduciary duty in this Toolkit. Please note that this section is intended to provide a summary of general fiduciary principles and does not constitute formal legal advice. Fiduciaries are encouraged to consult with their legal counsel when applying legal principles to specific circumstances.

- For pension plans, an approach to climate change grounded in an assessment of financial risk and opportunity, with a clear focus on the financial interests of beneficiaries and the economic interests of the plan, is, we believe, entirely consistent with fiduciary duty.
- For foundations and endowments, fiduciary duty includes an obligation to assess how their investment practices relate to their organization's charitable mission and public benefit purposes.
- For pension plans, foundations, and endowments with long-term or perpetual obligations, future needs must be fairly balanced with short-term demands.
- The Employee Benefits Security Administration stresses that the duty of prudence 'focuses on the process for making fiduciary decisions.' In assessing what is 'prudent,' it will be relevant to look at how other pension plans, and fiduciary investors more generally, are addressing climate change. As we show in this Toolkit, leading investors are taking climate change very seriously from a fiduciary and financial perspective.
- Fiduciaries should always document their decision-making process carefully so that there is a written record of fact-based research, discussions, and conclusions on climate change.
- Always work closely with your legal counsel as you develop your climate change strategy.

You can find more detailed information on fiduciary duty and climate change in Appendix 3.



# American workers, workplace hazards, health, jobs and climate change: in brief

The overriding reason for pension fiduciaries to consider climate change is the financial risk it poses to their funds. Climate change poses workplace and health risks to workers that have economic and financial implications. Moreover, efforts to mitigate climate change and hasten a transition to a low-carbon economy could create large numbers of new jobs in many industries. These issues may be of particular interest to union fiduciaries – while also being relevant to other pension trustees. They may also be particularly relevant to certain foundations, and to endowments.

- The Federal Government's 2014 National Climate Assessment finds that the health impacts of climate change could be serious. 'Public health in the US can be affected by disruptions of physical, biological, and ecological systems, including disturbances originating in the US and elsewhere. Health effects of these disruptions include increased respiratory and cardiovascular disease, injuries, and premature deaths related to extreme weather events, changes in the prevalence and geographical distribution of food and waterborne illnesses and other infectious diseases, and threats to mental health.'<sup>20</sup>
- A briefing by the BlueGreen Alliance notes that higher temperatures and more extreme weather
  events will bring new hazards in the workplace. Hotter weather will mean sicker patients for
  healthcare workers and more severe wildfires for firefighters. Changing weather patterns will
  cause damage to out-of-date school buildings and disrupt school time, harming teachers' ability to
  educate students. Worsening public health and increased disaster response work will pose a risk for
  healthcare workers.
- Climate change is also a civil rights issue. Jacqueline Patterson, executive director of the NAACP's
  Climate Justice Initiative reminds us in a 2014 Nation interview that 68% of African-Americans live
  within thirty miles of a coal-fired power plant, the zone of maximum exposure to pollutants that
  cause an array of ailments, from heart disease to birth defects. Communities of color breathe in
  nearly 40% more polluted air than whites. African-American children are three times as likely to
  suffer an asthma attack.

- The Center for American Progress and the Political Economy Research Institute finds that \$200 billion in annual public and private investment is needed for the US alone to align itself with internationally agreed emission reduction goals.<sup>21</sup> This investment would:
  - Create 4.2 million overall jobs both by new investments and expanded levels of operations and maintenance.
  - Bring a 2.7 million net increase in jobs, even after estimated contractions in fossil fuel sectors.
  - Generate net employment expansion at all levels of pay in the US labor market and a decrease in the unemployment rate by about 1.5 percentage points—e.g. from 6.5% to 5% within the 2030 US labor market.<sup>22</sup>

You can find more detailed information on the implications of climate change for workplace hazards, health and jobs in Appendix 4.



# Responding to the climate challenge available actions: in brief

Investors in the US and around the world are adopting six main tactics to respond to climate change. These tactics are not mutually exclusive: investors are combining them to create a mix that best suits their particular circumstances and objectives. The tactics, in no particular order, are: integrating climate change and sustainability into all their investments; reducing carbon intensity; investing in climate solutions; divesting; engaging with corporations; and engaging with policymakers.

### Integrating climate into all investments

Many investors – including pension plans and university endowments – now take the view that climate change and other environmental, social and governance (ESG) issues can be financially material and that these factors should therefore be integrated into all their investments as a matter of fiduciary duty. Academic research supports this view. Recent studies find that companies with strong sustainability and ESG performance achieve superior financial performance (see Appendix 6).

This approach can incorporate many of the other tactics described here. It is distinct from others in that it does not usually involve explicit advance commitments to specific actions - such as divestment. It can be thought of as a framework within which a range of actions can be taken.

In practice, investors adopting this path are, for example:

- Conducting new kinds of research to understand the financial implications of climate change and
- Reflecting this analysis in their financial valuation and security selection (e.g. underweighting, shorting, or screening out stocks with high climate risk)
- Incorporating climate/ESG issues into due diligence for private market investments
- Engaging with corporations and reflecting the risks of climate change in their proxy voting. Examples: CalPERS,<sup>23</sup> CalSTRS,<sup>24</sup> Amherst College,<sup>25</sup> Harvard,<sup>26</sup> University of California,<sup>27</sup> Yale.<sup>28</sup>

### **Reducing carbon intensity**

Investors are taking various approaches to reducing the carbon intensity of their portfolios (the amount of carbon dioxide and other greenhouse gases emitted per dollar invested). These include measuring and publishing their carbon footprint to establish a baseline, and investing in passive and active low-carbon funds.

Examples: University System of Maryland Foundation,<sup>29</sup> the US-based United Nations Joint Staff Pension Fund,<sup>30</sup> and the public pension plans ERAFP (France) and AP4 (Sweden).

## **Investing in climate solutions**

Numerous opportunities exist to invest in solutions to climate change – in areas such as renewable energy, energy efficiency, and green real estate. These may offer attractive returns as demand for climate solutions grows, and hedge risk (offset losses in value) in portfolios if they perform well, while high-carbon investments fare less well as a result of governments' climate change policies, the physical impacts of climate change or other factors.

Examples: CalPERS, CalSTRS, 31 Middlebury College, 32 University of California. 33

## **Divesting**

### Divesting to combat climate change

Some endowments and foundations have divested from all or some fossil fuel corporations explicitly to make a contribution to combating climate change, and to distance themselves from fossil fuel corporations' rejection of the reality of climate change and their efforts to block government action to tackle it. In some cases these investors also cite financial risk associated with these investments.

Examples: Pitzer College, CA,<sup>34</sup> the Rockefeller Brothers Fund,<sup>35</sup> San Francisco State University,<sup>36</sup> Stanford University,<sup>37</sup> Syracuse University,<sup>38</sup>

The Norwegian parliament has instructed the country's Government Pension Fund (one of the world's largest investment funds) to divest from both coal producers and consumers whose business is more than 30% dependent on coal. The fund has therefore divested not just from coal mining companies but also from utilities with high dependence on coal-fired generation.<sup>39</sup>

### Divesting to manage financial risk

Several non-US pension plans have divested from specific fossil fuel corporations on the basis of an analysis of financial risk to their portfolios. These investors have targeted corporations producing coal for power generation and specific companies with tar sands operations.

Examples: AP2 (Sweden),40 HESTA (Australia).41

## **Engaging with corporations**

Investors are using their rights as shareholders to engage with fossil fuel corporations. They are demanding disclosure on the risks they face from climate change and how their businesses will be resilient to the actions governments might take to limit warming to 2°C. Investors are also calling on fossil fuel companies to refrain from lobbying against government action to tackle climate change. Engagement with other sectors can focus, for example, on energy efficiency and emission reduction targets, in both companies' own operations and their supply chains. It can also address companies' public policy positions

on climate change. Small and mid-size investors are partnering with collaborative initiatives such as the Investor Network on Climate Risk (INCR) and the Interfaith Center on Corporate Responsibility (ICCR) to increase their leverage. Investors who wish both to divest and to engage can do so by selling most of their shares in fossil fuel companies, while keeping some in corporations with which they are engaged in shareholder advocacy. This is the path taken by the Unitarian Universalist Association.<sup>42</sup>

Example: Successful shareholder proposals at BP, Shell and Statoil in 2015 calling for disclosure on climate risk and business strategy, supported by many US pension plans, endowments and faith-based investors. 43

## **Engaging with policymakers**

Many investors recognize that action on the scale needed to keep the increase in global temperatures within the 2°C threshold can only be taken by governments. Investors are working through coalitions such as INCR – linked with partners around the world – to amplify their voice. Investors are calling for emissions curbs to limit warming to 2°C, carbon pricing, and ambitious policies and incentives to support clean energy deployment.

Example: In September 2014, nearly 350 global institutional investors representing over \$24 trillion in assets, including many from the US, coordinated by INCR, called on government leaders to provide 'stable, reliable, and economically meaningful carbon pricing that helps redirect investment commensurate with the scale of the climate change challenge, as well as develop plans to phase out subsidies for fossil fuels.'44

You can find more detailed information on the available investor actions to respond to climate change in Appendix 5.





# Responding to the challenge – a governance and decision-making process

To decide how to respond to the multiple challenges climate change poses for an institutional investor, the institution's governing body needs to follow a careful process that identifies and assesses the relevant issues. In this section we propose a governance and decision-making framework to support such a process. The goal of this toolkit is not to advocate a particular approach, but to assist investors in charting their own course to achieving their objectives, whatever those may be.

We suggest a six-step process:

- **1.** Be clear about your mission as an organization and an investor.
- 2. Specify your objectives and your investment beliefs.
- 3. Understand your climate change exposure.
- 4. Analyze options and decide on the mix that best meets your objectives.
- 5. Implement your plan.
- 6. Monitor and evaluate the outcomes.

# **Developing your climate change strategy: a six-step process**



A good process involves all relevant stakeholders. This allows an investor to generate a robust strategy that commands strong internal and external support from parties including:

- Within your organization: fiduciaries, investment staff, and other senior staff if you have them;
- Professional partners: investment consultants, fund managers, and legal counsel;
- Groups including pension plan beneficiaries, college faculty and students, and foundations' board members and community. Many of these groups may have a strong personal and organizational interest both in ensuring that your fund succeeds financially and that your fund takes a meaningful stand on climate change. The way you take account of their views will of course be determined ultimately by your fiduciary responsibilities. The Intentional Endowments Network.<sup>45</sup>

For example, the following sections describe the steps in the process we suggest. For each step you will find arguments in favor; factors to consider; and questions to ask yourselves, your professional advisors and your service providers. We also highlight sources of further information and guidance.

# Taking a broader view: climate, sustainability and ESG

Climate change is closely linked to many other sustainability and environmental, social, and governance (ESG) issues – ranging from water security and food production to human health and the risk management skills of corporate boards. Investors who already have a framework for addressing these other issues are incorporating climate change into their existing processes. For others, climate change may represent a useful entry point into this broader agenda. The process we suggest here can accommodate this wider range of issues. Taking the opportunity presented by climate change to think more broadly may enable your fund to develop a more holistic approach to managing financial risks and addressing emerging stakeholder expectations. To support you in this, Appendix 6 provides a brief summary of recent academic research on links between ESG factors and corporate financial performance. We cite just one study below.

### Sustainability pays: evidence from Harvard Business School

'High-sustainability companies significantly outperform their counterparts over the long-term, both in terms of stock market and accounting performance.'

The Impact of Corporate Sustainability on Organizational Processes and Performance - Robert G. Eccles, Ioannis Ioannou, George Serafeim, Harvard Business School, 2012

# Be clear about your mission as an organization and an investor

Each investor should establish a firm foundation for its approach to climate change by being clear about its mission – the primary reason for its existence as an organization and the purpose it seeks to fulfil both as an organization and an investor.

### Be clear about your mission: questions to ask

Endowments and foundations

What implications does our sponsor institution's mission or purpose have for the way we think about climate change as an investor?

How might climate change undermine our institution's mission?

How might climate change affect our beneficiaries or target groups?

How might our investments support the execution of our mission beyond purely generating income to support our parent institution or our grantmaking activities?

### Pension plans

How might climate change affect our funding levels and our ability to secure the long-term investment returns we need to meet our commitments our beneficiaries?

How might climate change affect our local economy, our plan sponsor and our plan's economic interests? For example, what are the implications of sea-level rise, frequent extreme weather events, or drought?

For Taft-Hartley and private sector pension plans, the Employee Retirement Income Security Act of 1974 (ERISA) requires fiduciaries to act 'solely in the interest of the participants and beneficiaries and for the exclusive purpose of providing benefits to participants and their beneficiaries.' Other pension plans are governed by state laws. Pension plans that wish to take climate change into consideration will therefore be required take a 'finance-first' view. They should create a strong process that develops well-founded assumptions about the financial implications of climate change for their portfolio and bases all decisions firmly on this analysis.

#### Resources

For endowments and foundations, the briefing Evolving Fiduciary Duty of Foundations and Endowments by the law firm Reinhart Boerner Van Deuren points out that 'unlike fiduciaries of for-profit companies or pension trusts, fiduciaries of foundations and endowments owe legal duties of obedience to both the organization's charitable mission and the social benefit purposes required of non-profits. Accordingly, fiduciaries of foundations and endowments must approach investment decisions with these duties in mind.<sup>46</sup>

For pension plans, the Employee Retirement Income Security Act, 29 U.S. Code Chapter 18, Section 1104 sets out the requirements of fiduciary duty.<sup>47</sup>

Fiduciary duty for all the types of investor covered in this Toolkit is discussed further in Appendix 3.



# Specify your objectives and your investment beliefs

Having established the mission for your investments, you can specify your objectives in relation to your investments and climate change. Spelling out your beliefs as an investor will also help guide your decision-making.

### Specify your objectives: questions to ask

- To what extent, if at all, do we want to contribute to protecting the climate?
- How strongly, if at all, do we believe that climate change represents a financial risk and/or opportunity for our investments?
- How will the effects of climate change affect our institution and/or our beneficiaries?
- Do we believe that:
- certain fossil fuel assets could become stranded as a result of government action to curb greenhouse gas emissions and other factors?
- the value of non-fossil fuel investments with high greenhouse gas emissions could be at risk as a result of climate change regulation (e.g. carbon pricing or incentives for renewable energy)?
- the physical impacts of climate change extreme weather events, sea-level rise, high temperatures, drought might affect the value of our investments?
- climate change might negatively affect the economy as a whole?
- climate change might negatively affect our local economy in ways that undermine our objectives?
- providing solutions to climate change offers attractive investment opportunities (which might hedge downside risk in other parts of our portfolio)?

### Questions to ask your investment consultant and your investment managers

- How do you analyze the implications of climate change for our portfolio, and for investors more generally?
- What have you found, and what is your advice to us on the basis of this analysis?
- If you have not conducted any analysis, are you willing to do so? What capacity do you have to undertake such analysis?

### Investment beliefs

It is increasingly common for pension plans to outline their investment beliefs in a formal statement. Investment beliefs are short statements that summarise the fund's high-level approach to investment – e.g. on active vs. passive management, the importance of investment management costs for total returns, etc. According to the Initiative for Responsible Investment, they 'articulate the fundamental perceptions of trustees and their institutions on the nature of financial markets and the role they play within these markets. An Investment Beliefs Statement serves as a bridge between high-level goals and practical decision-making, and helps trustees, fiduciaries, and other responsible parties clarify their views on the nature of financial markets through which they must operate and how these markets function.'48

Some funds now refer to climate change or broader ESG issues in their investment beliefs. For example, Washington State Investment Board states that it 'has a long investment horizon and therefore is subject to complex and systemic global risks that unfold over time, including financial risks resulting from global climate change.<sup>49</sup> CalPERS' Investment Beliefs spell out that 'Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error. As a long-term investor, CalPERS must consider risk factors (climate change and natural resource availability, for example) that emerge slowly over long time periods, but could have a material impact on company or portfolio returns.'50

### Resources

The Economic Risks of Climate Change in the United States, Risky Business Project<sup>51</sup>

The Cost of Inaction: Recognising the Value at Risk from Climate Change, Economist Intelligence Unit<sup>52</sup>

Unburnable Carbon – Are the World's Financial Markets Carrying a Carbon Bubble?, Carbon Tracker Initiative<sup>53</sup>

Climate Change Scenarios – Implications for Strategic Asset Allocation, Mercer<sup>54</sup>

The Case for Forceful Stewardship (Part 1): The Financial Risk from Global Warming, Howard Covington and Raj Thamotheram

Investing in a Time of Climate Change, Mercer<sup>55</sup>

The Impact of Climate Change on the Global Economy, Schroders<sup>56</sup>

Environmental Risks and Portfolio Value, Investment Leaders Group, University of Cambridge<sup>57</sup>

Climate Change: Implications for Investors and Financial Institutions, Institutional Investors Group on Climate Change, University of Cambridge, UN Environment Programme<sup>58</sup>



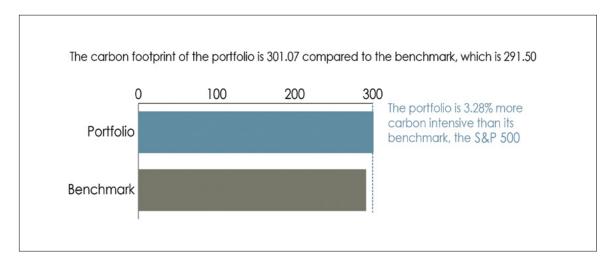
# Understand your climate change exposure

Before deciding what action to take to achieve the objectives you have identified, it will be useful to assess how your current portfolio is exposed to climate change. Portfolio analysis tools are now available to enable investors to understand various climate change-related risks, including emissions intensity, carbon embedded in fossil fuel reserves, and water use. This analysis can cover various asset classes, including public equity, corporate credit, and private equity. Carbon audits show the carbon footprint of your portfolio compared with the benchmark (e.g. in tonnes of CO<sup>2</sup> per \$1 million invested); the carbon intensity of different sectors in your portfolio compared with the benchmark; or the carbon performance of different investment managers you use. You can use this information to understand carbon risk and set targets to reduce it – e.g. by reducing carbon intensity.

Alternatively, you can ask your consultants to identify risks related to climate change in a more qualitative way.

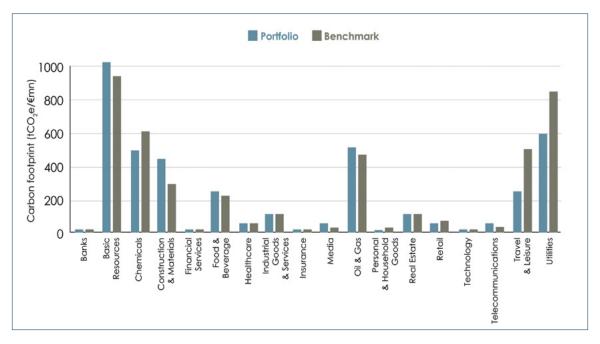
The figures below illustrate what a portfolio carbon analysis (carbon footprint) looks like.

### How carbon intensive is my portfolio compared with the benchmark?



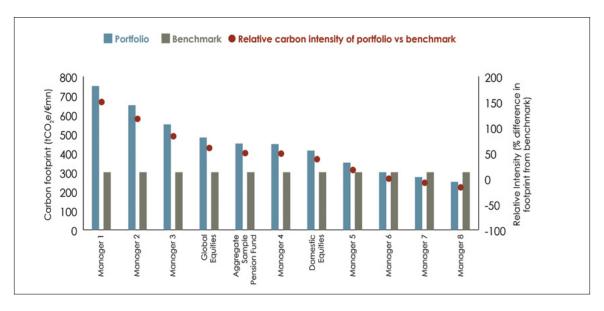
Source: Trucost

How carbon intensive are different sectors within my portfolio compared with the benchmark?



Source: Trucost

# How carbon intensive are my investment managers compared with each other and with the benchmark?



Source: Trucost

### Understand your climate change exposure: questions to ask

### Carbon risk

- What are the areas of high and low carbon risk in our portfolio?
- Are some of our fossil fuel investments more exposed to the risk of stranded assets than others?
- How does our carbon risk compare with the benchmark? If it is higher, do we understand why? What action should we take, if any?
- What are the financial implications of our current exposure?
- Are some of our managers more exposed to carbon risk than others? If so, do we understand why? What
  action should we take, if any?

### Physical risks

- Are there scenarios in which our portfolio might be at risk from climate-related events?
- What are the implications of extreme weather events, drought, or flooding for my investments in real
  estate portfolio, agricultural land, or corporations dependent on natural resources such as water, land, or
  forests?

These are questions you can ask your fund managers and your consultant. They may already have access to portfolio analysis tools and carbon footprint information. If not, they can conduct or obtain this analysis for you. You may also choose to deal directly with a portfolio analysis provider; this will of course involve some cost. We are not able to give an indication of these costs here, as they will depend on your individual circumstances.

### Resources

A number of pension funds now publish their carbon footprint – a measure of the carbon emissions from their portfolio. Examples include the Australian fund in the state of Victoria *VicSuper*,<sup>59</sup> and the French public employees' pension plan *ERAFP*.<sup>60</sup> Investors including CalPERS and the University of California have also signed the *Montreal Pledge* to measure and disclose the carbon footprint of their equity investments.<sup>61</sup>

The Global Real Estate Sustainability Benchmark, supported by institutional investors with \$5 trillion in assets, provides information on the 'sustainability quality' of real estate portfolios. 62 You can ask your existing real estate managers whether they participate in this initiative, and to provide information on the rating of your portfolio.

# Analyze options and decide on the mix that best meets your objectives

In this section we detail each of the methods for responding to climate change we have highlighted:

- integrate climate change and sustainability into all investments
- reduce carbon intensity
- invest in climate solutions
- divest from some or all fossil fuel producers and major consumers
- engage with corporations
- engage with policymakers.

We set out arguments in favor of each tactic, factors to consider and questions to ask yourself, your investment managers, your consultant, and your legal counsel. This will enable you to assess how well the various actions meet the objectives you have set.

### Two broad objectives

For simplicity, we characterize the two broad objectives an investor might have as 'protect the climate' and 'protect my portfolio' (i.e. in financial terms). In practice, for many investors this will not be an 'either/ or' question. Pension plans with a focus on financial returns may want to see government action on climate change in order to protect the long-term interests of their portfolio. Foundations or endowments that want to align their investments with their mission or that of their institution will also wish to preserve financial returns. But we hope that structuring the process in this way will help you to think through the issues in a way that makes sense for your institution.

Practical implementation – challenges and risks

Implementing each of the possible actions has practical implications, challenges, and risks. We highlight these in the sections that follow. The box below homes in on some of the most important points to bear in mind as you plan your strategy.

### Implementation challenges - questions to ask

- What are the expected financial returns of new investment options you are considering? Might you sacrifice performance?
- What are the costs of transitioning to new managers? Divesting individual stocks from commingled funds may be very difficult. Selling out of a commingled fund and switching to a low-carbon or fossil-fuel free fund or a separate account with the same manager may incur costs.

- What if managers do not cooperate with your requests e.g. on engagement? Can you work with other investors to increase your leverage?
- How can you ensure that your asset allocation remains right for you e.g. if you want to invest in climate solutions in private markets?
- Might there be a lack of investment opportunities of the kind you want? Can you proceed in stages as the market develops?
- What are the direct costs of this process e.g. for carbon footprint analysis?
- Do you have the staff resources to implement the new strategy? If not, how can you find the necessary resources?

### Conducting the process

A representative of your fund should work closely with your consultant, investment managers (unless your consultant does this for you), and legal counsel to conduct the process set out here. This of course requires time.

You will need a basic knowledge of climate change, of what action is possible, and of how to frame and conduct discussions with your various advisors. We provide an introduction to this knowledge in this Toolkit. As you work through the process we suggest here, you will learn by doing.

One option might be to establish a small group of fiduciaries (and staff if you have them) to conduct this process and share the load. Collaboration with other investors can also speed up the learning process and enable you to hear first hand how peers have tackled the challenges you face. Depending on what kind of institution you are, it might make sense for you to join the Investor Network on Climate Risk or the Interfaith Center on Corporate Responsibility. Perhaps there is a foundation or endowment collaborative (e.g. the Intentional Endowments Network), or a state pension fund association could provide assistance.

The matrix below provides a guide to this process. You can think of this as a 'worksheet' to use as you develop your climate change strategy.

At the end of this section we provide a table that illustrates various combinations of tactics you might choose to adopt.

## Analyzing the available tactics

	Integrate Climate into all investments	Reduce Carbon Intensity	Invest in Solutions	Divest	Engage with corporations	Engage with policymakers
Protect the Climate						
Protect my Portfolio						

Consider implementation challenges: investment performance, investment management fees, cost of transition, relationships with managers, staff and resource implications, etc.

## **Integrate Climate and Sustainability into All Investments**

### PROTECT THE CLIMATE

### **Arguments in favor**

• Addressing climate change and sustainability systematically across all asset classes may have greater impact than pursuing an individual highly focused tactic (e.g. divestment). This may send signals to corporations, via investment managers, that investors expect them to reduce emissions and ensure that their business models are resilient in the face of climate change.

#### Factors to consider

• You may conclude that this tactic does not send a sufficiently clear public signal of your intent to combat climate change, or respond adequately to the expectations of important stakeholders.

### **PROTECT MY PORTFOLIO**

### **Arguments in favor**

• This approach may mitigate financial risk and capitalize on opportunity across your whole portfolio, without restricting your investment universe on the basis of 'non-financial' factors.

### Factors to consider

 This tactic may not address financial risks associated with climate change adequately unless it is combined with others – e.g. reductions in carbon intensity through low-carbon investments.

### Questions to ask your investment managers (or to ask your consultant to ask your managers)

- How does your research process addresse climate change, in both the short-term and the long-term (please provide specific stock examples)?
- If you are not looking at long-term factors (e.g. beyond 3 years), why not?
- What expertise does your team have in climate change issues (e.g. specialist training)?
- Can you provide carbon audits of our portfolio?
- Can we set targets to reduce emissions?
- Are you willing to cover climate change in your regular reporting to us?

- What is your proxy voting record (where the manager votes on your behalf) on climaterelated shareholder proposals and other climate issues (e.g. linking executive compensation to emission reduction)?
- How are individual portfolio managers incentivized to take climate and sustainability factors into account?

### ... for real estate managers

- How do you address climate change and sustainability in your due diligence before investment and in your ongoing management of the portfolio?
- What is the location-based climate risk of your current properties?
- What is your view of how climate change will impact the real estate industry and how does this impact your investment decisions?
- What proportion of our real estate portfolio is in green buildings? Can this be increased?

### ... for private equity managers

- How do you address climate change and sustainability in your due diligence before investment and in your ongoing management of the portfolio?
- What proportion of our private equity portfolio is in climate solutions or low carbon investments? Can this be increased?

### ... for fixed income managers

- What proportion of our fixed income portfolio is in green bonds? Can this be increased?
- What criteria do you use to evaluate green bonds?

### Questions to ask yourself

 Are we giving our managers sufficient incentives to look at climate change – e.g. by focusing on long-term investment performance, not just short-term returns?

# **Reduce Carbon Intensity**

#### PROTECT THE CLIMATE

### **Arguments in favor**

Fossil-fuel free funds

• Choosing these funds demonstrates the investor's commitment to divestment and desire for strong governmental action to tackle climate change.

Low-carbon passive investments

A portfolio explicitly designed to address climate risk from a financial perspective in
all sectors will likely favor corporations in all industries that have lower emissions than
their competitors. For example, some passive funds and exchange-traded funds (ETFs)
constructed in this way may screen out certain fossil fuel companies, e.g. those with higher
carbon intensity in their reserves than others (e.g. oil sands), in addition to high emitters in
other sectors. The total reduction in carbon intensity (e.g. CO2 emissions or CO2 embedded
in fossil fuel reserves per dollar invested) will likely be greater for a portfolio of this kind than
for a portfolio that screens out fossil fuel corporations but does not address carbon in other
sectors.

Low-carbon active investments<sup>63</sup>

• These funds are designed to offer high emission reductions and offer the opportunity for managers to focus on areas where they believe that carbon intensity matters most in financial terms.

### Factors to consider

 All of these investments still involve greenhouse gas emissions. You can work with your consultant or a portfolio analysis provider to assess which option best matches your objectives.

### **PROTECT MY PORTFOLIO**

### **Arguments in favor**

- New indices designed to offer greater reductions in carbon intensity than 'fossil fuel divestment only' portfolios also deliver greater reductions in 'carbon financial risk', alongside performance close to that of conventional benchmarks. Once carbon regulation is introduced, they should outperform the benchmark.
- Low-carbon and sustainability-focused active funds address carbon and other sustainability risks in the portfolio.

### Factors to consider

- An actively managed low-carbon or sustainability fund may have higher short-term volatility than other strategies.
- Fees for actively managed funds will be higher than passively managed indexes. High fees can reduce net investment returns substantially.

### Questions to ask your investment consultant

- Can you recommend passive or active low-carbon or sustainability-focused funds that are suitable for us? What the advantages and disadvantages of each approach?
- How do these funds meet our mission objectives (where applicable) as well as our financial objectives?

### **Invest in solutions**

### PROTECT THE CLIMATE

### **Arguments in favor**

- Investments in clean energy and other sustainability solutions help reduce greenhouse gas emissions. The International Energy Agency estimates that an extra \$36 trillion of investment in clean energy is needed by 2050 in order for the world to have an 80% chance of keeping the global temperature rise below 2°C.64
- These investments are aclear public demonstration of commitment to protect the climate.

### **PROTECT MY PORTFOLIO**

### **Arguments in favor**

- Investments in renewable energy, energy efficiency, clean technology, etc., can offer diversification that hedges against climate risk see the study by Mercer on strategic asset allocation referred to in Section 3 and Appendix 2.65 They may also offer an additional contribution to returns.
- Investments of this kind are available in many asset classes and from numerous specialist asset managers.
- Green bonds offer opportunities to invest in climate solutions with identical risk/return characteristics to conventional fixed income instruments

### Factors to consider

- Public equity or private equity funds dedicated entirely to climate solutions are by
  definition narrowly focused and may therefore be high risk both in relative terms against
  a benchmark (i.e. stock prices vary more than those of companies in the market as a whole)
  and in absolute terms (e.g. renewable energy companies may perform poorly because of
  changes in government subsidies or other policies). You should therefore work closely with
  your investment consultant to develop an appropriate strategy for your institution.
- Investment strategies that are more broadly focused on a range of sustainability and social issues, not just climate change, may offer lower risk while still allowing you to channel capital to climate change solutions.
- You should consider risk within an individual asset class e.g. the implications of climate solutions investments for risk/return within your public equity allocation and for the portfolio as a whole. This is a complex exercise that requires specialist advice.

### Question to ask your investment consultant

• How can we best capture potential investment opportunities linked to the need for climate solutions, without adding additional unacceptable risk to our overall portfolio?

# Divest

#### PROTECT THE CLIMATE

### **Arguments in favor**

- Creates political space for government action on climate change.
- Highlights the contradictions between the fossil fuel industry's core business model and the need to rapidly curb carbon emissions.
- Contributes to public awareness about climate change and energy issues.
- Makes a statement about your institution's belief: that climate change is a critical environmental, social, and economic issue.

#### Factors to consider

- Divestment from fossil fuel producers does not address high emissions in fossil fuel-using sectors still in the portfolio.
- Once you divest, you will lose the ability to influence fossil fuel firms through shareholder engagement - unless you take an approach like Unitarian Universalist Association. Do you think divestment or shareholder engagement is a more effective way to take action on climate change?
- What are the effects of divestment on fossil fuel corporations? Divestment is unlikely to affect a firm's stock price on its own. If the stock price were to fall, the corporation could be taken over or privatized; would the new owners care about climate change?

### **PROTECT MY PORTFOLIO**

### **Arguments in favor**

- Full divestment from fossil fuel producers reduces the risk of "stranded assets" the risk that the profits of fossil fuel firms will plummet upon (1) science-based, rigorously enforced government regulation of greenhouse has emissions and/or (2) the rising costs of maintaining extraction operations under the physical conditions of climate change. Two trillion dollars of AUM has already been divested globally indicating shifting investor expectations about the fossil fuel industry's future.
- Partial divestment e.g. of thermal coal or tar sands corporations only may remove some of the assets with the highest carbon risk from your portfolio.

#### Factors to consider

- Oil and gas stocks outperformed other major sectors between July 2009 and June 2014, and during some other time periods; coal, on the other hand, underperformed substantially see Fossil Fuel Divestment: a \$5 trillion challenge.<sup>66</sup> On the other hand, oil and gas substantially underperformed the S&P 500 between September 2014 and July 2015.
- Even if governments take the action needed to reach the 2°C target, there will be substantial demand for fossil fuels particularly oil and gas for many years. Though oil prices are currently low, they will likely recover in due course. Returns from oil and gas corporations may therefore be valuable within your portfolio.
- Oil and gas companies are important sources of yield (dividends) in many investors' portfolios. Investors contemplating divestment should consider carefully how the capital divested from fossil fuels can be re-allocated to other sectors in such a way that they can still achieve their income objectives.<sup>67</sup>
- Divestment from fossil fuel corporations does not address climate risk in other sectors in the portfolio and leaves that part of the portfolio at risk (e.g. high emissions from sectors such as cement; risk of flooding, storm damage, etc., across multiple sectors)
- If you already apply negative screens (e.g. arms, tobacco), the implications of adding a fossil fuel screen for investment performance should be considered carefully.
- As with other investments, some actively managed fossil fuel free portfolios may outperform conventional benchmarks, others may underperform. Also as with all investments, fund management costs should be considered carefully. You should ensure you understand a potential money manager's investment process thoroughly (i.e. how they make investment decisions and how their returns are generated). Moving from existing investments to fossil fuel-free funds will also involve transaction costs and fees (e.g. for buying and selling stocks).

#### Questions to ask your investment consultant

- How might different divestment options affect our expected returns, risk, income, and investment management costs?
- Can we find money managers who offer fossil fuel-free funds that also address climate risk in other sectors?

### **Engage with corporations**

#### PROTECT THE CLIMATE

#### **Arguments in favor**

- Engagement with fossil fuel firms, and firms that consume a lot of fossil fuels, can encourage them to develop and disclose plans for adapting to the policies that governments will need to introduce in order to achieve the 2°C target, and to transition to low-carbon business models
- Engagement can expose and challenge political lobbying by these corporations that is impeding government action on climate change.
- Engagement with corporations in other sectors can encourage energy efficiency, emission reductions, the use of renewable energy, and business strategies that may help deal with climate change.

#### Factors to consider

- Shareholders have demonstrated success at reducing the carbon intensity of numerous industries that are dependent on fossil fuels. Shareholder engagement with fossil fuel companies has improved disclosure but has yet to shift core business processes in these industries, though that remains the hope.
- Shareholder advocacy can require a good deal of time, and can sometimes cost additional money; do you have the capacity and resources to undertake a shareholder engagement strategy? Do your current financial managers offer shareholder engagement services?

#### **PROTECT MY PORTFOLIO**

#### Arguments in favour

- Engagement with fossil fuel corporations can encourage them to secure sustainable long-term shareholder returns by developing business models that will be resilient in a low-carbon economy. This may include returning capital to shareholders (via dividends and stock repurchases) instead of investing in developing reserves that might become stranded
- Engagement with corporations in other sectors can encourage cost reductions through energy efficiency; management of risks linked to extreme weather events (e.g. damage to infrastructure, with the associated costs for corporations and their investors); and business strategies that secure sustainable long-term shareholder returns in a low-carbon economy.
- Engagement can challenge the political lobbying that is impeding government action on climate and undermining long-term shareholder interests.

- If your fund manager conducts engagement, the intelligence gained from corporations can be incorporated into investment decisions (e.g. overweighting companies with more resilient business models).
- Academic research has shown that corporations that responded positively to shareowner engagement on climate change outperformed the market in the period following the engagement.68

#### Questions to ask for all engagement with corporations

- Do we believe that engagement with corporations is effective in changing corporate behavior?
- Will engagement persuade fossil fuel companies to change their core business?
- If so, do we have sufficient resources (principally staff or fiduciary time) to take part in engagement – either through our fund managers, individually or collaboratively with other investors?

#### Question to ask your investment managers

· Can you provide examples of how you have engaged with corporations on climate change, e.g. to encourage reduced emissions, better energy efficiency, adaptation of business models, end lobbying against government action on climate change?

### **Engage with policymakers**

#### PROTECT THE CLIMATE

#### **Arguments in favor**

- Only concerted action by governments will enable climate change to be kept within levels that scientists consider 'safe' limiting warming to 2°C. Investors can play a significant part in encouraging and enabling governments to take this action by demonstrating that they support it.
- It is especially valuable to have voices from the private sector calling for government action on climate change; it helps counter other anti-climate action voices from the private sector that frequently dominate the conversation.

#### **PROTECT MY PORTFOLIO**

#### **Argument in favor**

• Climate change represents significant financial risks for investors. Its economic and financial impacts could make it more difficult for investors to achieve their objectives. The policy actions needed to achieve the 2°C target will mitigate investors' risk and create investment opportunities. Regulatory uncertainty and delay is a significant risk. Investors' voices can be a huge counterweight to corporations who seek delay.

#### Factors to consider

 Are your financial managers and financial consultants engaging in political activities that are consistent with your position on climate action? If not, can you leverage your relationship to encourage them to alter their activities?

#### Question to ask for all engagement with policymakers

- Do we believe that the voice of investors can play an important part in encouraging and enabling governments to take the action needed to address climate change?
- If so, do we have sufficient resources (principally staff or fiduciary time) to take part in engagement either through our fund managers, individually or collaboratively with other investors?

#### QUESTIONS TO ASK YOUR INVESTMENT MANAGERS

- Do you agree that it is important that governments act on climate change, in investors' long-term interests?
- Were you a signatory to the Global Investor Statement on Climate Change, calling on government leaders "to provide stable, reliable and economically meaningful carbon pricing that helps redirect investment commensurate with the scale of the climate change challenge, as well as develop plans to phase out subsidies for fossil fuels"?<sup>69</sup>

# What might your strategy look like?

Each investor's strategy needs to fit their own objectives and circumstances. Below we present sample strategies that might be developed by three investors:

- Investor 1's primary motivation is to protect the climate while at the same time being concerned with financial returns.
- Investor 2 is focused exclusively on safeguarding financial returns. This investor believes the financial risks associated with climate change are real, but small.
- Investor 3 is also focused exclusively on safeguarding financial returns. However, this investor believes the financial risks associated with climate change are substantial, including risks to the economy as a whole that will prejudice long-term portfolio returns.

#### Investor 1 – primary motivation: protect the climate

Integrate climate into all investments	Reduce carbon intensity	Invest in solutions	Divest	Engage with corporations	Engage with policymakers
Ensure managers integrate climate risk into all investments. Pressure managers to lower carbon footprint, and to explain how all investments contribute to climate change and will be affected by it.	Invest in fossil- free and low- carbon funds.	Invest in solutions. % of portfolio depends on your risk appetite.	Divest from all or some fossil fuel producers. Consider divesting from large FF consumers.	Engage on e.g. energy efficiency, emission reduction targets, political lobbying.	Engage to support strong national and international climate policy.

#### Investor 2 – primary motivation: protect my portfolio – risk from climate change is real but small

Integrate climate into all investments	Reduce carbon intensity	Invest in solutions	Divest	Engage with corporations	Engage with policymakers
Ensure managers integrate climate risk into all investments. Pressure managers to lower carbon footprint where feasible, and to explain and manage climate risk exposure of all investments.	Small investment in low-carbon passive fund/ETF or active fund.	Small investment in solutions.	No divestment.	Engage on e.g. energy efficiency, emission reduction targets, political lobbying.	Engage to support strong national and international climate policy.

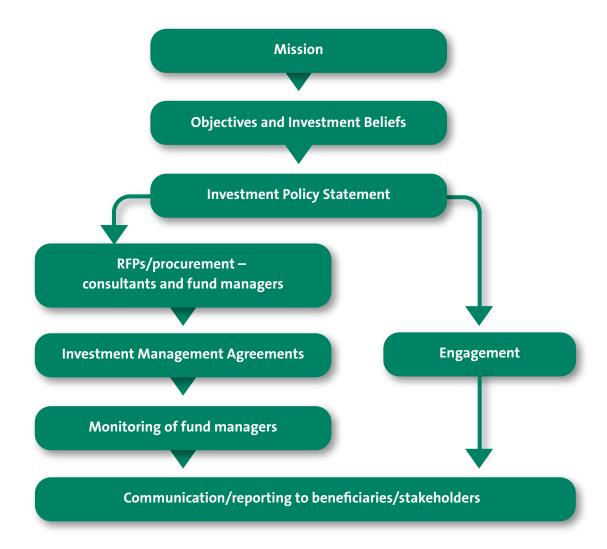
Integrate climate into all investments	Reduce carbon intensity	Invest in solutions	Divest	Engage with corporations	Engage with policymakers
Ensure managers integrate climate risk into all investments. Pressure managers to lower carbon footprint where feasible, and to explain and manage climate risk exposure of all investments.	Larger investment in low-carbon passive fund/ETF or active fund.	Larger investment in solutions.	After risk-based analysis, divest from the most carbon-intensive and highest-risk FF corporations – e.g. thermal coal and tar sands.	Stronger engagement on e.g. energy efficiency, emission reduction targets, political lobbying. E.g. file own shareholder proposals, lead investor collaboration, meet corporations.	Stronger engagement to support strong national and international climate policy. E.g. attend meetings with policymakers as part of investor collaborations.



# Implement your plan

Implementing your chosen approach is a matter of governance. It is important to ensure there is an alignment of objectives and expectations among all relevant parties. Your views on climate change and your expectations of your service providers should therefore be incorporated into your fund's policy statements and your service provider appointment and monitoring procedures. External reporting on your climate change activities will respond to the rapidly growing interest that pension beneficiaries, students, and other stakeholders have in this issue.

#### Implementing your climate change strategy



#### Investment beliefs

As discussed in Step 2 of the process suggested above, your investment beliefs might state at a high level how you approach climate change – e.g. how strongly you believe the different dimensions of climate change might affect long-term investment returns, or what your view is on stranded assets.

#### **Investment Policy Statement**

Your Investment Policy Statement (IPS) should set out in more detail how you have decided to address climate change. This might include:

- Divestment policy or broader policy on fossil fuels including whether to consider other ESG factors.
- Expectations of service providers, for example that:
  - consultants will include money managers' capability and performance on climate change in their overall manager assessment and monitoring
  - money managers will integrate climate change risks and opportunities into their research and investment decision-making
  - managers will conduct engagement on climate change
  - managers will reflect climate factors in their proxy voting
  - fund managers will report to you regularly on climate change issues in the portfolio.

#### Procurement procedures for service providers

If you have not included them in your IPS, you should document your climate change expectations of your service providers separately and include these in your procurement processes. For example, if you use a formal request for proposals process, you can specify requirements such as those above. In addition, you could ask managers to provide information in their proposals along the lines set out in the Questions to ask your investment managers in the "Integrate climate and sustainability into all investments" box earlier in this section.

If manager search and selection is conducted by your consultant on your behalf, you can ask your consultant to cover these areas as part of the process.

#### **Investment Management Agreements**

Where feasible – e.g. where you have a separately managed account with a manager – you can incorporate your climate change expectations into the formal agreement with new managers (it is often difficult to change existing agreements except upon renewal). If managers are not willing to accept climate change language in legal documentation, you should communicate your expectations clearly via less formal channels – e.g. at manager selection meetings and regular meetings with managers (or your consultant).

#### Regular monitoring of managers

Climate change should be on the agenda of your regular monitoring of your managers, or the monitoring carried out by your consultants and reported to you. For example, you can ask managers to:

- Provide an annual carbon footprint of your portfolio and explain areas of high carbon intensity in relation to financial risk and their views on the companies concerned
- Explain whether it would be possible to reduce the fund's carbon footprint
- Explain in detail how climate change has affected their investment decisions for individual stocks
- Report on their dialog with corporations on climate change
- Report and explain their proxy voting record.

#### Communication

External communication about your climate change strategy and activities will help strengthen the alignment between stakeholders, fiduciaries, and executive staff (if you have them).

You can consider reporting:

- Your overall climate change strategy and investment policies
- Your carbon footprint
- Engagement successes
- Information about investments in climate solutions
- Any divestment decisions or progress towards divestment targets.



# Monitor and evaluate the outcomes

In addition to your regular monitoring of your managers on their financial performance and issues such as engagement – through your consultant, if this how you work – it is good practice to review your overall climate change strategy. This could be done annually or once every two years: the frequency may depend on your resources.

Issues you can revisit in this process include:

- Your view on the financial risk posed by climate change has it grown more/less significant
- For endowments and foundations in particular, any changes in your key stakeholders' expectations
- The financial performance of any new investments you have made
- Whether you have sufficient governance resources (people and time) to implement your strategy.



# Conclusion

We are confident that climate change is one of the most pressing challenge humanity faces. Unless ambitious and comprehensive action is taken urgently, it has the potential to wreak far-reaching damage on our society, our economy, and our environment. As a result, climate challenge brings real and present financial risks for investors. In writing this Toolkit, we are only too aware of the host of other challenges fiduciaries face, and the important responsibilities they bear: to provide retirement incomes for working people, to sustain educational institutions and to support grantmaking to address a wide range of needs. Yet we know that many fiduciaries recognize the urgency of climate change and are searching for ways to deal with it effectively in the context of their own particular circumstances. Our hope is that this Toolkit will support them in this endeavor.





# Climate change science: a closer look

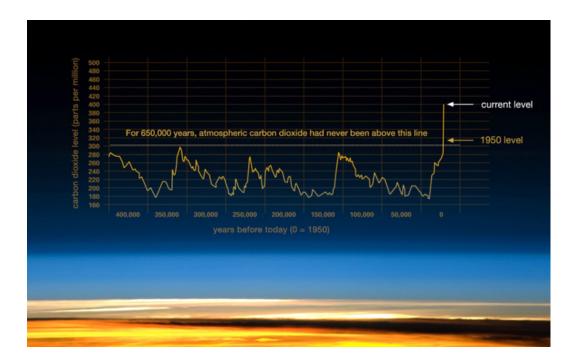
The Earth's climate has changed many times during the planet's history. However, since the Industrial Revolution, the planet has warmed at an unprecedented rate. According to NASA,

"As the Earth moved out of ice ages over the past million years, the global temperature rose a total of 4 to 7 degrees Celsius over about 5,000 years. In the past century alone, the temperature has climbed 0.7 degrees Celsius, roughly ten times faster than the average rate of ice-age-recovery warming. Models predict that Earth will warm between 2 and 6 degrees Celsius in the next century. When global warming has happened at various times in the past two million years, it has taken the planet about 5,000 years to warm 5 degrees. The predicted rate of warming for the next century is at least 20 times faster. This rate of change is extremely unusual. [...] Models predict that Earth will warm between 2 and 6 degrees Celsius in the next century. When global warming has happened at various times in the past two million years, it has taken the planet about 5,000 years to warm 5 degrees. The predicted rate of warming for the next century is at least 20 times faster. This rate of change is extremely unusual."<sup>70</sup>

The effects of this rapid global temperature rise include sea level rise, warming oceans, shrinking ice sheets, extreme weather events, and ocean acidification.

In peer-reviewed scientific literature, there is a consensus that the current climate change is due to human activities, including greenhouse gas emissions caused by burning fossil fuels.<sup>71</sup> A review of scientific papers found that 97% of those who took a position on climate change "endorsed the consensus opinion that humans are causing global warming"—fewer than 3% disagreed.<sup>72</sup>

The NASA chart below shows that CO2 concentrations in the atmosphere have risen to unprecedented levels.<sup>73</sup>



The United Nations convenes an intergovernmental scientific body called the Intergovernmental Panel on Climate Change (IPCC), which periodically conducts a complete scientific and technical assessment of climate change. In its Fifth Assessment Report, published in 2014, the IPCC concluded,

"Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reduction in greenhouse gas emissions."74

According to the IPCC, although we cannot reverse climate change, we can slow further change by reducing greenhouse gas emissions and we can adapt our energy, transportation, food production and other systems to dampen the effects of climate change.





# Financial implications of climate change: a closer look

Climate change is a systemic risk. It will affect multiple sectors and all countries. Its physical impacts, and the way governments and societies respond to them, will interact in complex ways with other trends such as technology development, aging populations, and the rise of emerging markets. Investors therefore need to consider the implications of climate change both top-down, examining their portfolio as a whole, and bottom-up, examining the individual components of it.

#### **Macroeconomic impacts**

The macroeconomic impacts of climate change are becoming increasingly clear (though much uncertainty remains).

The money management firm Schroders believes that

"the long-run effects of climate change will most certainly be negative for global economic activity. Damage to the global capital stock and disruptions to labour supply will reduce productivity and economic activity. Inflation will increase as production is curtailed, particularly in agriculture, further weakening real incomes and spending. Whilst there will be winners and losers from warming of several degrees, all countries will, at some point, lose out to climate change. [...] Valuing the future loss in economic output attributable to climate change produces a range of estimates which vary according to views about whether a tipping point is reached between 2 - 4°C of warming. In a worst case scenario, global warming could be seen to reduce annual GDP growth by over 1% between the present day and 2080."<sup>75</sup>

#### Schroders goes on:

"Inflation is likely to rise over time, driven by rising food prices and an increase in the cost of energy. Although the climate of some countries is predicted to become more accommodative to agricultural yields in the medium term, the long-run implications of rising temperatures are likely to reduce global crop yields overall.

Costs are also likely to increase through higher insurance charges. The current curtailment of policy cover for flooding in areas such as Florida is the start of a long-term trend whereby insurance companies take climate change further into account. Premiums in climate risk areas are set to increase, feeding into higher costs for businesses and homeowners. From this perspective, the costs of climate change are already affecting global activity.

Global warming is expected to increase the frequency and severity of extreme weather events, bringing with it property and infrastructure loss. The likes of Hurricane Sandy, which flooded much of New York, are prime examples of the economic damage such extreme weather events can cause. Rising sea levels will also likely harm economic output as businesses become impaired and people suffer damage to their homes. Whilst the initial economic response to recover this damage may be positive for GDP (when it is possible to do so), once it is recognized that such events are a permanent feature of the environment, the world economy faces an extreme challenge. Many will find that it is not worth replacing capital stock unless measures can be taken to prevent future damage, or there is an opportunity to move the business to safer ground. At best, this could involve a short period of disruption as businesses relocate; at worst, a permanent loss of capital stock and output. As the temperatures continue to climb, the damage will become increasingly permanent."

The Economist Intelligence Unit (the research arm of The Economist magazine) calculates that 4°C of warming would result in expected losses on \$4.2 trillion in present value terms by 2100 to the world's total stock of manageable assets of \$143 trillion – roughly equivalent to the total value of all the world's listed oil & gas companies or Japan's entire GDP. Much of the impact on future assets will come in the form of weaker growth and lower asset returns across the board. Investors cannot simply avoid climate change by moving out of vulnerable asset classes.<sup>76</sup>

#### **Portfolio impacts**

In 2011, the investment consultants Mercer, working with a group of some of the world's largest pension funds, investigated the implications of climate change for investors' strategic asset allocation (SAA) – the proportions of the portfolio that are invested in different asset classes.<sup>77</sup> SAA decisions are crucial: some research indicates that they account for more than 90% of the variation in portfolio returns between investors. Mercer concluded that "climate change increases the uncertainty and event risk that could have an impact on the realised returns for risky assets." Specifically, uncertainty over climate policy could contribute as much as 10% to overall portfolio risk by 2030. In other words, uncertainty over climate policy alone – this study did not investigate the implications of the physical impacts of climate change, such as extreme weather events – could mean that investors have to adopt new approaches to asset allocation in order to achieve the returns they need. Options suggested by the study include allocations to renewable energy and clean technology, as well as other assets that will likely be less exposed to climate impacts, such as equities chosen for their sustainability attributes or certain types of private equity and infrastructure, and farmland.

More recent work by Mercer concludes that "Climate change will inevitably have an impact on investment returns. [...] A 4°C scenario (i.e. an average global temperature increase of 4°C) could negatively impact emerging market equities, real estate, timber and agriculture." However, "a 2°C scenario does not have negative return implications for long-term diversified investors at a total portfolio level."78

A study by the Investment Leaders Group at the University of Cambridge concludes that "on a worst case basis, only half of the negative impact on portfolio returns due to climate change can be hedged through cross-industry diversification. Furthermore, one half can be hedged by shifting from an equity portfolio to one with a higher percentage of fixed income."79

Modeling by the former CEO of a UK asset management company finds that "if it reaches 4°C or more, global warming may cause severe economic damage with the consequence that a significant portion of the value of a diversified equity investment portfolio will be placed at risk.... We estimate that in a plausible worst case for climate damage the value at risk in 2030 may be equivalent to a permanent reduction of between 5% and 20% in portfolio value compared to what it would have been without warming."80 In other words, in this scenario, portfolios will lose up to 20% of their value, and never regain the lost ground.

#### A mainstream investment issue

Climate change is no longer a fringe issue for investors. Some of the country's leading investment bank brokers and investment management firms recognise the financial implications of the issues. Examples from two leading investment banks illustrate how climate change is now well and truly on the mainstream agenda.

#### Citi

"The recent US-China pledge to fight climate change is described as a "breakthrough" by Citi's commodity team who conclude lower demand from 2015-30 could be valued at \$1.3 trillion for oil and \$1.6 trillion for coal. The U.S. will reduce greenhouse gas (GHG) emissions 26-28% below its 2005 level by 2025. China aims for CO2 emissions to peak c.2030 and to increase its share of non-fossil fuels by ~20% by 2030. Global GHG emissions could fall by 13%, but the agreement may also induce other countries to follow." Global THEME-book January 2015, Citi 81

#### Morgan Stanley

"The prospect of a higher carbon price is a financial risk for companies that use a significant quantity of carbon-based fuel. Focusing on energy efficiency can reduce costs today and any future carbon-based liability. ... We see innovative products that reduce the impact of climate change and water scarcity as a key ESG opportunity that will help top-line growth."82

#### Individual sectors and assets: risk and opportunity

Climate change will likely affect stocks and other assets across most sectors. Of particular significance for fossil fuel companies are the concepts of "unburnable carbon" and "stranded assets." Below we examine these concepts and the risks for different sectors.

#### Unburnable carbon and stranded assets

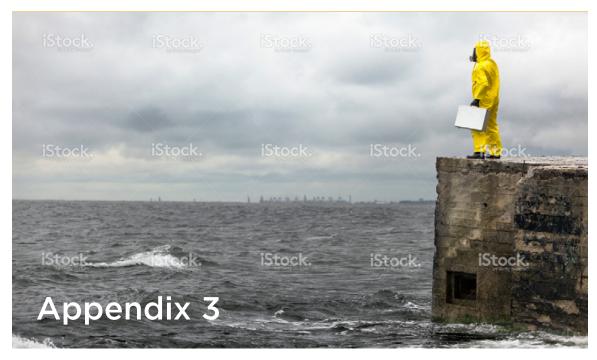
The Carbon Tracker Initiative's 2011 report Unburnable Carbon<sup>83</sup> argued that:

- By 2011, the world had used over a third of its 50-year carbon budget of 886 gigatons of CO<sup>2</sup> (GtCO2) the amount of CO2 that can be emitted if global temperature rise is to be limited to 2°C. This leaves a remaining budget of 565 GtCO2.
- All of the proven reserves owned by private and public companies and governments are equivalent to
- Fossil fuel reserves owned by the top 100 listed coal and top 100 listed oil and gas companies represent total emissions of 745 GtCO2.
- Only 20% of the total reserves can therefore be burned (unless carbon capture and storage technology which is currently not available – becomes viable), leaving up to 80% of assets technically "unburnable."

- If governments act to restrict emissions to achieve the  $2^{\circ}$ C target, or if fossil fuel demand falls for other reasons, valuations of fossil fuel companies that are based on the assumption that they will be able to extract and sell all their reserves are therefore unrealistic.
- Some companies would be left with 'stranded assets' mines, oilfields and tar sands deposits that are no longer economic. These represent potentially significant financial risk for investors.

#### Climate change risks and opportunities by sector: examples

Fossil fuel producers – oil, gas, coal	Coal: Risk of existing assets being stranded and new mines being uneconomic: declining demand for power generation as a result of improved energy efficiency, GHG emission and other pollution curbs and competition from cheaper alternative fuels. OECD demand is already falling and peak demand in China could be reached soon.  See Carbon supply cost curves: Evaluating financial risk to coal capital expenditures — Carbon Tracker Initiative, September 2014.84  Oil: Risk of high-cost projects (e.g. tar sands, Arctic, deepwater) becoming uneconomic — "stranded assets" — if governments implement emission curbs to meet 2°C target. See Carbon supply cost curves: Evaluating financial risk to oil capital expenditures — Carbon Tracker Initiative, May 2014.85 Oil and carbon revisited, HSBC, September 2013.86
Energy utilities	Risk of declining demand for utilities heavily dependent on coal – e.g. the city of Beijing plans to replace all coal-fired plants with gas-fired by 2016 and reach 200GW of wind power by 2020, according to the investment bank Citi's Global THEME-book January 2015. <sup>87</sup> In the US, distributed generation and renewable energy mandates threaten traditional utilities' business models. <sup>88</sup> In Europe, utilities are also under pressure from renewables. <sup>89</sup>
Food and beverages	According to the Environmental Protection Agency, changes in temperature, amount of CO2, and the frequency and intensity of extreme weather could have significant impacts on crop yields. This would increase food prices and could squeeze profit margins for food companies.  Water scarcity – which could become worse as a result of climate change – is already a high priority for many food and beverage companies because of their high water use. 68% of companies responding to the 2014 CDP Water survey reported that water already poses a substantive risk to their business. 91
Industrials	Risk: Higher energy costs as a result of GHG emission curbs, rising raw material and resource prices (e.g. water).  Opportunities: Cost savings from energy and resource efficiency, energy and resource-efficient technologies for customers.
Real estate	Risk: Sea-level rise and flooding in coastal and low-lying areas.  Opportunities: Research shows that green buildings command higher rents and asset values. <sup>92</sup>



# Fiduciary duty and climate change: a closer look

We are grateful to Keith Johnson of the law firm Reinhart Boerner Van Deuren for reviewing this section. Please note that this section is intended to provide a summary of general fiduciary principles and does not constitute formal legal advice. Fiduciaries are encouraged to consult with their legal counsel when applying legal principles to specific circumstances.

A critical issue to bear in mind throughout the process of planning and implementing your climate change strategy is fiduciary duty. Many pension plans in particular find that their legal counsel are extremely cautious about actions to address climate change within an investor's portfolio. However, we believe that:

- For pension plans, an approach to climate change grounded in an assessment of financial risk and opportunity, with a clear focus on the financial interests of beneficiaries and their economic interests, is, we believe, entirely consistent with fiduciary duty.
- For foundations and endowments, fiduciary duty includes an obligation to assess how their investment practices relate to their organization's charitable mission and public benefit purposes.
- For pension plans, foundations and endowments with long-term or perpetual obligations, future needs must be fairly balanced with short-term demands.

#### Fiduciary duty and pension plans

The "prudent man standard of care" that is at the heart of fiduciary duty requires that a fiduciary:

discharge his duties with respect to a plan solely in the interest of the participants and beneficiaries and—

- (A) for the exclusive purpose of:
  - (i) providing benefits to participants and their beneficiaries; and
  - (ii) defraying reasonable expenses of administering the plan;
- (B) with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims;
- (C) by diversifying the investments of the plan so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so.93

As we have shown in this Toolkit, there are ample reasons for fiduciaries to conclude that climate change has significant financial implications for their plan and thus for their beneficiaries – both in the short term (e.g. from carbon pollution regulation and energy efficiency opportunities) and the long term (from broader economic impacts).

We believe that considering the implications of climate change for the diversification of portfolio financial risk exposures is consistent with fiduciary duty. As the research on strategic asset allocation by Mercer that we have cited showed, climate change could account for 10% of total portfolio risk by 2030. Examining how to address this – for example by making allocations to assets that are less exposed to climate risk – is an important task for fiduciaries.

The Employee Benefits Security Administration stresses that the duty of prudence "focuses on the process for making fiduciary decisions" (emphasis in the original).94 In conducting a process "with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use", it will be relevant to look at how other pension plans, and fiduciary investors more generally, are addressing climate change. As we have shown here, leading pension plans such as CalPERS, CalSTRS, and the UN Joint Staff Pension Fund, and leading money managers and investment banks such as Citi, and Morgan Stanley, are taking climate change very seriously from a fiduciary and financial perspective.

Fiduciaries should always document their decision-making process carefully so that there is a written record of fact-based research, discussions, and conclusions on climate change.

It will always be important, of course, to work closely with your legal counsel in exploring these issues and developing your climate change strategy.

#### Questions to ask your legal counsel

- Do you agree that our investment approach reflects an appropriate analysis of climate change risk and financial implications for our plan's obligations to all of its beneficiaries?
- If not, what additional research or analysis is required?

- Do you agree that it is appropriate for us in determining a prudent approach to look at leading investors who are addressing climate change in their investment beliefs, research and investment decisions?
- How can we best document the process by which we have considered climate change, in order to demonstrate that we have fulfilled our fiduciary obligations?

#### Fiduciary duty and foundations/endowments

This section summarises the briefing "Evolving Fiduciary Duty of Foundations and Endowments" by the law firm Reinhart Boerner van Deuren – to whom we are grateful for allowing us to use this material.95

Unlike fiduciaries of for-profit companies or pension trusts, fiduciaries of foundations and endowments owe legal duties of obedience to both the organization's charitable mission and the social benefit purposes required of non-profits.

Fiduciary principles have not changed, but they must be applied in such a manner as to reflect current economic, societal, and environmental realities. This includes the implications of climate change both for investment returns and for institutions' charitable mission. For foundations and endowments with long-term or perpetual obligations, future needs and risks must also be fairly balanced with short-term demands.

An increasing number of foundations and endowments are responding to these challenges by cultivating a more contemporary approach to implementation of fiduciary duties. This has led them to a greater focus on holistic integration of program and investment policies to recognize their full range of fiduciary duties and to develop a more balanced investment approach that is consistent with the entity's charitable mission and public benefit purposes.

While divestment and portfolio screening were once seen as the only responsible investment options for foundations and endowments, current management techniques offer a diversity of approaches. These include integration of sustainability factors into investment analysis, exercise of proxy voting rights to support mission, engagement with company directors or management, sponsorship of shareholder resolutions, creation of new portfolios that offer equivalent investment diversity with mission consistency, and selection of external managers that use a mixture of these practices. The objective of these strategies is to generate competitive returns while better aligning investment management practices with each organization's charitable mission and public benefit purposes.



# American workers, workplace hazards, health and jobs: a closer look

#### Climate change as a risk for American workers

The overriding reason for pension fiduciaries to consider climate change is the financial risk it poses for their funds. Climate change poses workplace and health risks to workers that have economic and financial implications. Moreover, efforts to mitigate climate change and hasten a transition to a low-carbon economy could create large numbers of new jobs in many industries. These issues may be of particular interest to union fiduciaries – while also being relevant to other pension trustees. They may also be particularly relevant to certain foundations, and to endowments.

The Federal Government's 2014 National Climate Assessment finds that the health impacts of climate change could be serious. "Public health in the US can be affected by disruptions of physical, biological, and ecological systems, including disturbances originating in the US and elsewhere. Health effects of these disruptions include increased respiratory and cardiovascular disease, injuries and premature deaths related to extreme weather events, changes in the prevalence and geographical distribution of food- and waterborne illnesses and other infectious diseases, and threats to mental health." The Assessment goes on to conclude that as a result of climate change:

- Air pollution will likely worsen asthma
- · Increased production of pollen and allergens will diminish productive work and school days
- More frequent wildfires will lead to smoke inhalation and emergency room visits.

A briefing by the BlueGreen Alliance notes that higher temperatures and more extreme weather events will bring new hazards in the workplace. Hotter weather will mean sicker patients for healthcare workers and more severe wildfires for fire-fighters. Changing weather patterns will cause damage to out-of-date school buildings and disrupt school time, harming teachers' ability to educate students. Worsening public health and increased disaster response work will pose a risk for healthcare workers.

Additionally, research by the National Bureau of Economic Research called "Feeling the Heat: Temperature, Physiology & the Wealth of Nations" found that climate change may affect worker productivity.97 This is because researchers found a negative correlation between warmer weather and worker productivity in hot regions of the world. More precisely, "hotter-than-average years are associated with lower output per capita for countries in hot climates." A Business Insider article about the paper notes, "Some of the negative effect likely comes from extreme weather events, decreased agricultural yield, rising sea level, and possible related disruption and violence."98 At the same time, though, warmer years result in higher output per capita for countries with cold climates, suggesting that there is an optimal temperature for worker productivity.99

The impacts of climate change are felt more deeply in low income communities of color. According to the Just Energy Report of the NAACP 68% of African Americans live within 30 miles of a coal fired power plant. As such they are impacted disproportionately by the poor health outcomes associated with exposure to particulate pollution. Additionally, those living near coal plants experience 15% lower property values. 100 The consequences of climate related disasters such as Katrina, Sandy, and even the current California drought fall more heavily on low income communities and communities of color. As climate change accelerates, the risks these communities face will be disproportionate.

#### Job creation in the low-carbon transition

The transition to a sustainable economy—one that limits the increase in global average temperatures to 2°C—will require large-scale investments in clean energy and energy efficiency and significant growth in these industries. It will also include substantially upgrading infrastructure around the globe to deal with the still-challenging results of increased temperatures and a shift from fossil fuels.

Research by the Center for American Progress and the Political Economy Research Institute at the University of Massachusetts Amherst finds that \$200 billion in annual public and private investment is needed for the US alone to align itself with internationally agreed emission reduction goals.<sup>101</sup> According to the paper this investment would do the following:

- Create 4.2 million overall jobs both by new investments and expanded levels of operations and maintenance
- Bring a 2.7 million net increase in jobs, even after estimated contractions in fossil fuel sectors
- Generate net employment expansion at all levels of pay in the US labor market and a decrease in the unemployment rate by about 1.5 percentage points—e.g. from 6.5% to 5% within the 2030 US labor market.102

In particular, the researchers note that infrastructure investment in a sustainable transition would create more jobs than equivalent investment in the fossil fuel industry. This is because "investments in expanding the clean renewable sectors require more employment per unit of activity—these sectors are more labor intensive—and require a higher proportion of spending within the domestic U.S. economy renewables have a higher level of domestic content—than spending within the existing non-renewable energy sectors." Additionally, these jobs could be geographically distributed across the country and most would pay a living wage of \$16 per hour or more.



# Responding to the climate challenge - tactics: a closer look

#### Integrate climate and broader sustainability into all investments

Many investors of different kinds – including pension plans and some large university endowments – now take the view that climate change and other environmental, social and governance (ESG) issues can be financially material and that these factors should therefore be integrated into their investments wherever they are relevant, as a matter of fiduciary duty. Academic research supports this view. Recent studies – summarized in Appendix 6 – find that companies with strong sustainability and ESG performance achieve superior financial performance.

This approach can incorporate many of the other tactics described here. It is distinct from others in that it does not usually involve explicit advance commitments to specific actions – such as divestment. It can be thought of as a framework within which a range of actions that can be taken.

In practice, investors adopting this path are, for example:

- Conducting new kinds of research to understand the financial implications of climate change and ESG
- Reflecting this analysis in their financial valuation and security selection (e.g. underweighting, shorting, or screening out stocks with high climate risk)
- Incorporating climate/ESG issues into due diligence for private market investments
- Engaging with corporations and reflecting the risks of climate change in their proxy voting.

Examples: CalPERS,<sup>103</sup> CalSTRS,<sup>104</sup> Amherst College,<sup>105</sup> Harvard,<sup>106</sup> University of California,<sup>107</sup> Yale.<sup>108</sup>

#### Examples of integrating climate across the portfolio

Amherst College has created a "Statement on Sustainability and Investment Policy" which addresses climate change: "The Amherst endowment is intended to provide perpetual support to the College. This time horizon enables Amherst to take advantage of long-term opportunities unavailable to short-term investors. At the same time, it exposes the College to long-term risks, such as those posed by climate change. The Board believes that making environmental considerations part of the investment process is sound in practice as well as in principle; that doing so is integral to the long-term financial health of the endowment; and that this is in keeping with the Board's fiduciary responsibility."109

CalPERS<sup>110</sup> and CalSTRS<sup>111</sup> both have comprehensive sustainability programs across all their investments, embracing all the action areas highlighted above, in addition to investing in specific climate and sustainability solutions and engaging assertively with policymakers.

Harvard has decided not to divest but rather to integrate climate change and other sustainability issues right across its investments. Jane Mendillo, the President and Chief Executive of Harvard Management Company, said the new approach "was driven by the changing definition of what it means to be a fiduciary investor, and by a conviction that investing sustainably will improve its portfolio returns." Harvard plans to "demand greater details from the managers it employs and its other service providers about their policies and approach to ESG issues."112

Yale University, similarly, has decided not to divest, arguing that simply producing fossil fuels or holding fossil fuel reserves does not cause "social injury" as set out in its forty year-old ethical policy, but that emissions are produced by energy utilities, transportation and many other activities. 113 However, Yale argues that "companies, as a matter of sound business practices, should take into account the effects of climate change and anticipate possible regulatory responses with actions that recognize the externalities produced by the combustion of fossil fuels." The endowment's Chief Investment Officer, David Swensen, has written to all the endowment's investment managers to set out this expectation. 114

### **Reducing carbon intensity**

Investors are taking various approaches to reducing the carbon intensity of their portfolios – the amount of carbon dioxide and other greenhouse gases emitted per dollar invested. These include measuring and publishing their carbon footprint, and investing in passive and active low-carbon funds. These techniques explicitly factor in an investor's desire to address fossil fuel and/or other climate risk across a range of sectors. These are distinct from the "climate solutions" investments we discuss below. The strategies we describe here could be said to "minimize risk from a problem," whereas "climate solutions" investments actively aim to help solve the problem.

#### Low-carbon passive investments

A new generation of passive investment products is now being developed based on indexes that aim to replicate the performance of the conventional market benchmark while reducing carbon risk. They do this by adjusting stock weightings to reflect emissions and, for fossil fuel corporations, fossil fuel reserves. MSCI, S&P, and FTSE have all developed indices of this kind. 115 Funds based on these indexes are attracting significant interest among pension plans and others looking to avoid fossil fuel investments or reduce the risk from fossil fuel companies in their portfolios.

In December 2014 the US-based United Nations Joint Staff Pension Fund made a seed investment in two low-carbon ETFs launched by BlackRock and State Street. Both ETFs track the MSCI ACWI Low Carbon Target Index.<sup>116</sup> The index overweights companies with low carbon emissions relative to sales and those with low potential carbon emissions per dollar of market capitalization. It addresses two areas of carbon exposure: carbon emissions and fossil fuel reserves. In Europe, France's ERAFP, the Swedish public fund AP4 and the UK's British Telecom Pension Scheme have all made investments in indices of this kind. 117

We are aware at the time of writing that new products of this kind are under development by leading money managers.

#### Sustainability-focused active investments

Numerous money managers offer more broadly based funds underpinned by strong sustainability research and with no outright sector screens or ESG performance thresholds.

#### Invest in climate solutions

The International Energy Agency calculates that to achieve the 2°C target, the world needs to invest an additional \$1 trillion per year between now and 2050 compared with current trends.118 Government incentives for clean energy, together with rapidly advancing technology and falling costs, create investment opportunities. These may hedge risk (offset losses in value in investments that are adversely affected by climate change) or add upside (additional positive return) to a portfolio even if climate risks do not materialize in the ways expected. Climate solutions – such as renewable energy, energy efficiency, and green real estate – represent the "invest" half of the Divest-Invest approach called for by divestment advocates. With or without divestment, investors can help drive capital into solutions to climate change. Thus, we suggest that investors consider investing in climate solutions, regardless of their decision to divest.

Few of the pure-play investment opportunities of this kind are in public markets. As the specialist renewable energy market information provider Bloomberg New Energy Finance (BNEF) points out, the WilderHill New Energy Global Innovation Index consists of just 106 companies, with total market capitalization of about \$22 billion – compared with the approximately \$390 billion value of ExxonMobil alone.<sup>119</sup> However, there are a number of broader indices that include companies in sectors such as resource efficiency, sustainable water, green buildings and pollution prevention – including those provided by MSCI, S&P, and FTSE. 120 These substantially expand the universe of listed companies available to investors seeking to hedge climate change-related risk, add potential upside to their portfolio, and contribute to climate change solutions. Numerous fund managers offer investment products in this segment of the market.

A larger range of investment opportunities in climate solutions of different kinds is available in the private equity and venture capital, unlisted real estate (green buildings), infrastructure (including efficient electric transmission) and hedge fund asset classes. These may be individual private market funds, or funds-offunds (with the associated layering of fees). In some cases these are available as specialist investment strategies (e.g. renewable energy private equity or infrastructure). In others, investments may be found

within conventional funds – e.g. green buildings within real estate investment trusts (REITs) or unlisted real estate funds.

Fixed income, too, offers a rapidly growing range of opportunities to invest in climate solutions, through green bonds. Green bonds are explicitly designed to have the same risk and return characteristics as conventional bonds – either investment grade or high-yield. They now offer significant opportunities to investors who want proactively to invest in ways that address climate change.

#### Green bonds

Green bonds are fixed income securities issued by public agencies and corporations to raise finance earmarked for projects with climate change or wider environmental benefits. The securities are usually backed by the issuer's whole balance sheet – i.e. not just by the specific project(s) financed – and have the same credit profile as the issuer's "regular" bonds. The green bond market is growing rapidly: issuance rose to \$35 billion in 2014 from \$11 billion in 2013, according to the Climate Bonds Initiative. 121 Most green bonds are investment grade; however, a high-yield market is now also starting to develop.

The first green bonds were issued by international agencies such as the World Bank. However, state and local governments, corporations and universities are now becoming involved in the market. Recent issues include \$29.5 million and \$66 million bonds respectively from the University of Cincinnati and the University of Indiana to finance the renovation of student accommodation and the construction of new academic buildings to green building standards; a \$20.1 million green muni bond from Jefferson County, NY to finance biomass energy plant; and \$150 million in AAA rated asset-backed securities from the Hawaii State Department of Business, Economic Development and Tourism for solar power.

'What Investors Want,' a 2014 report by the Clean Energy Group and Croatan Institute, noted that there is increasing demand for green bonds by institutional investors—either as part of a sustainable investment strategy or included in conventional fixed income portfolios.<sup>122</sup> Indeed, a growing number of fund managers offer green bond funds. Yet as with all assets, due diligence is required—the green bond market is relatively new, and investors or their managers should assess the financial and sustainability implications of bonds labelled as 'green.'

## **Investing in climate solutions: examples**

The McKnight Foundation, a foundation with a \$2 billion endowment, announced a commitment of \$200 million to support transition to a low-carbon economy and regional sustainable development in its home, the Minneapolis-St. Paul metro-area of Minnesota. The investments are managed in tranches areas of \$50 million each, three of which aim for market rate returns. 123

Middlebury College, which has an \$800 million endowment managed by outsourced CIO Investure, has directed \$25 million of its endowment into investments that generate long-term social, environmental, and economic value including "investments focused on sustainability business such as clean energy, water, climate science, and green building projects."124

**The Sierra Club Foundation** (TSCF) supports the work of the environmental non-profit, The Sierra Club. TSCF has invested in green bonds through the Calvert Green Bond Fund and Breckenridge Capital Advisors. The focus in these vehicles is on domestic bonds and treasuries. The board felt that it was essential to align their investments with their mission. TSCF has also committed to divest from fossil fuels.125

CalSTRS' long-standing Green Initiative includes climate solutions investments in public equity, private equity and through green bonds.

#### Divestment to protect the climate

The movement calling on investors to divest from fossil fuels continues to grow in intensity. Movement leaders argue that the scale of the impacts of climate change on the environment, society, and the economy means that there is a moral imperative to divest from corporations that produce the fossil fuels that are at the root of the problem. Deriving financial gain from activities that pose such risks to us all, it is argued, is morally unacceptable. Moreover, the argument continues, the scale of the fossil fuel industry's ability to influence the political process and impede government action on climate change makes it important for investors to send a strong, public signal that they support such action. Divestment is intended to send this signal, increasing the pressure on governments and other actors to tackle climate change.

Divestment campaigns often focus on the world's 200 largest publicly listed coal, oil, and gas companies, as identified in The Carbon Underground 200 report published annually by the climate change-focused investment firm Fossil Free Indexes. 126 According to the 2015 report, the proven reserves of these 200 companies total 555 gigatons of potential CO2 emissions, "represents over 400% of the firms' carbon budget allocation, based on their share of carbon emissions potential of global reserves." This budget is based on an IPCC scenario that provides a 66% chance of limiting global temperature rise to 2°C.

Some institutions have focused their divestment on coal, and in some cases also tar sands. Coal is the most carbon-intensive fossil fuel: burning it emits more CO2 per unit of energy produced than burning oil or gas. Reducing coal use therefore makes a significant contribution to tackling climate change. Tar sands too are more carbon-intensive than regular oil, and substantially more so than gas. For some funds divesting from coal and tar sands has been the first step toward divestment of all fossil fuel production.

#### Divestment to protect the climate - examples

Pitzer College, in Claremont, CA, committed to "divest the endowment of substantially all fossilfuel stocks by the end of 2014" as a key step in "aligning the college's actions more fully with its mission and values."127

The Rockefeller Brothers Fund, citing its "deep commitment to combating climate change" has undertaken to divest from coal and tar sands by the end of 2014 and to explore appropriate options for further fossil fuel divestment in the coming years. The Fund wrote, "We will adhere to the longstanding mandate of our board of trustees that our assets be invested with the goal of achieving financial returns that will enable the foundation to meet its annual philanthropic obligations... Therefore, our divestment from fossil fuels, which is now underway, will be

accomplished through a careful process of evaluating our exposure and a phased approach that proceeds as quickly as is prudent."128

Stanford University has divested from around 100 "publicly traded companies whose principal business is the mining of coal for use in energy generation,' citing its long-standing policy that it may divest where 'corporate policies or practices create substantial social injury." 129

San Francisco State University has committed to divest from both the production and use of coal and tar sands (the most carbon-intensive fossil fuels), to publish a carbon footprint of its portfolio and to create a socially responsible investment option for donors. 130

Syracuse University stressed its "commitment to acting in a way that supports the best interests of the University, our students and the world" when it announced its divestment from coal mining and all other fossil fuel production in March 2015.<sup>131</sup>

A regularly updated list of institutions that have divested from some or all fossil fuels can be found here.132

#### A special case - divesting without divesting

The World Wildlife Fund (WWF) has put in place an equity total return swap<sup>133</sup> to neutralise its investments in coal and tar sands without divesting from the relevant companies. 134 The swap is essentially an agreement between WWF and Deutsche Bank whereby WWF transfers the return on these investments to the bank if it is positive, but the bank pays WWF if the return is negative. In other words, WWF continues to hold the stock, but gains no financial advantage if share prices rise – and benefits if they fall. The swap is based on WWF's view that the value of these investments will go down because of increasing climate change risk. The swap was proposed and designed by Bob Litterman, a former partner at Goldman Sachs who is a member of WWF's investment committee. A more detailed presentation of Litterman's view on carbon risk is available here. 135

#### **Fossil-free funds**

Investors who wish to take a principled stance on climate change and the fossil fuel industry can choose from a growing range of funds that do not invest in any fossil fuel corporations. Many funds of this kind also integrate analysis of the financial implications of ESG issues more generally into their investment decisions. These funds' exclusion of all fossil fuel corporations is driven by a "policy" stance on climate change, rather than a company-by-company assessment of specific financial risks. They will therefore by definition only be suitable for investors who share this view, including those who have made explicit divestment commitments, or those who have determined that divesting from fossil fuels fits their "returns-first" perspective.

Other funds are available that exclude both fossil fuels and various other sectors (e.g. arms, tobacco). Many funds of this kind pursue a "best-in-class" approach, investing only in companies in eligible sectors that are above a specified ESG rating (performance) or are the best performers in certain categories in their classes. Investors should evaluate their funds' investment process and whether this methodology fits their own approach, be it values or financially driven.

# Divestment to manage financial risk

Several non-US pension plans have divested from specific fossil fuel corporations on the basis of an analysis of financial risk to their portfolios. These investors have targeted corporations producing coal for power generation and specific companies with tar sands operations. The combination of tightening regulation of emissions from coal-fired power production in the US, China, and the EU; a fall in demand as economic growth slows in China; the rise of shale gas in the US; and the increasing competitiveness of renewable energy has led to falling profits for coal companies in the US and elsewhere, and rising investor perceptions of risk in the sector. For example, Standard and Poor's has said that "a significant decline in coal production and consumption globally is becoming a much more realistic concept." Pension plans that have taken this step have concluded that continuing to hold these specific fossil fuel corporations exposes their portfolios to unacceptable financial risk.

The specific financial risks faced by an individual company depend on its particular circumstances. For example, some oil and gas companies' future investment plans include a larger proportion of projects with high development and production costs than others. These high-cost projects are more vulnerable to being "stranded" in the event of carbon regulation and falling demand. In December 2014 research by Goldman Sachs on 400 of the world's largest new oil and gas fields (excluding US shale) "found projects representing \$930 billion of future investment that are no longer profitable with Brent crude at \$70 (Note: Brent crude is the oil typically used as the standard benchmark for international prices)." The Carbon Tracker Initiative's reports on carbon supply cost curves for coal 138 and oil 139 analyze companies' capital expenditure plans to identify projects that might not break even if prices fall or remain low.

### Divestment to manage financial risk – examples

The Swedish public pension fund AP2 has divested from 12 coal and 8 oil and gas companies that it judges to be particularly high-risk in financial terms. The coal companies are primarily involved in coal for power generation, while the oil and gas companies have high-cost projects – such as oil sands - that could become uneconomic if carbon prices are introduced and/or fossil fuel demand falls. The fund said, "by not investing in a number of companies, we are reducing our exposure to risk constituted by fossil-fuel based energy. This decision will help to protect the Fund's long-term return on investment."<sup>140</sup>

**The Australian pension plan HESTA** has decided to freeze new investments in thermal coal, without divesting its existing holdings.<sup>141</sup> The fund argued that "'unburnable carbon' is likely to become an increasing risk in the medium to long term, especially for companies heavily invested in thermal coal, or those seeking to develop new long-term assets. New or expanded thermal coal assets face the highest risk of becoming stranded before the end of their useful life."

## **Engage with corporations**

Institutional investors have long used their positions as shareholders to engage with public companies, including car manufacturers, utilities, and fossil fuel corporations, to exercise positive influence in relation to climate change. Engagement can be a successful way to take action on climate. Academic research shows that companies that responded positively to investor engagement in climate change subsequently outperformed their peers in financial terms.<sup>142</sup> The Impact of Equity Engagement (IE2) Initiative has demonstrated that shareholder engagement—especially when escalated over a long period of time

and conducted in close collaboration with grassroots organizations and civil society leaders—can have significant social and environmental impacts. 143

In planning and conducting engagement, it is important to consider what the objectives should be, and which corporations to target. Some corporations have proved resistant to shareholder efforts to achieve greater transparency, or to accept specific demands (such as returning capital to investors). Working closely with investors with strong engagement experience can help to overcome these challenges.

Investor coalitions such as the Investor Network on Climate Risk<sup>144</sup> and the Interfaith Center on Corporate Responsibility<sup>145</sup> are actively pressing corporations to disclose more information to investors on the implications of climate change for their businesses, to adopt emission reduction targets, to take public stances for climate policy, and to disclose or end political lobbying against government action to tackle climate change. The goal of these projects is to persuade companies to be more responsive to shareholder views and to change their businesses to deal with the issue of climate change. While many of these investor groups are primarily made up of large investors, smaller investors have found it useful to join these coalitions. Small and mid-size investors can maximize their influence by using their institutional credibility to co-sign shareholder letters and occasionally participate directly in shareholder engagements. It is also possible to hire a firm to manage engagements on an investor's behalf.

#### Engagement case study 1 – The Carbon Asset Risk Initiative

In the Carbon Asset Risk Initiative led by INCR and Carbon Tracker, a group of 70 investors worth \$3 trillion called on oil and gas, coal, and electric power companies to assess risks to their operations from climate change. 146 As part of this initiative, in 2014, investors sent letters to and filed shareholder resolutions with dozens of the largest fossil fuel companies asking them to report on their potential carbon asset risk. ExxonMobil complied, publishing a report entitled Energy and Carbon: Managing the Risks on its website. 1478 According to As You Sow's 2015 Proxy Preview, the investor coalition continues to ask other fossil fuel companies to issue similar assessments.148

### Engagement case study 2 – Shareholder proposals at BP, Shell, and Statoil

An international coalition of investors coordinated by the UK investment manager CCLA and the Church of England filed shareholder resolutions at the 2015 AGMs of BP and Shell calling on the companies to demonstrate "strategic resilience for 2035 and beyond" by providing climate risk disclosure covering ongoing operational emissions management; asset portfolio resilience to the International Energy Agency's scenarios; low-carbon energy research and development and investment strategies; relevant strategic key performance indicators and executive incentives; and public policy positions relating to climate change. The Boards of both Shell and BP recommended that shareholders support the proposals. 149 Swedish investors filed the same resolution with the Norwegian oil and gas company Statoil.

The BP and Shell resolutions gained over 98% shareholder support, with 99.95% at Statoil. The actions these corporations have committed to will allow investors to assess how they are responding to the multiple risks to their business posed by climate change, and to the opportunities it may offer.

# Engagement case study 3 – Nathan Cummings engagement with homebuilding companies

The Nathan Cummings Foundation (NCF) uses its \$450 million endowment to engage actively with public companies on climate change. Fully half of the shareholder resolutions filed by NCF between 2003 and 2010 dealt with climate change, many going beyond disclosure to ask for concrete commitments to sustainability. Laura Campos, the Foundation's Director of Shareholder Activities, says, "It's clear that companies need to undertake climate risk disclosure, but disclosure alone is not sufficient. Shareholder resolutions can also prove useful in getting management and boards to begin thinking about the implications of climate change.... [our success] is perhaps the best demonstration of the power of the shareholder resolution process to stimulate concrete changes in corporate behaviour, changes that can help to protect both long-term shareholder value and the environment."<sup>150</sup> As a result of NCF engagements, a number of homebuilders committed to building new homes in accordance with Energy Star standards or to otherwise increase efficiency and sustainability.

#### Engagement case study 4 – Shareholder proposal calling for return of capital

The NGO As You Sow and the money management firms Arjuna Capital and Zevin Asset Management filed a shareholder proposal at the 2015 Chevron annual general meeting (AGM) asking the company to distribute capital to shareholders in light of concerns about Chevron's spending on high-cost, high-carbon projects, including Arctic drilling, tar sands, and other "unconventional" fossil fuels. This innovative approach shows how investors are developing new tactics to pursue their financial interests in the face of the risks posed by climate change.

This proposal attracted only a low level of support at the AGM. Many investors cited a reluctance to give instructions to the board of the company on an issue they judged to be "operational." Nonetheless, history shows that issues can gain salience over time, and that ultimately "mainstream" investors can join the ranks of those calling for corporate change. This has been the path followed by calls for proxy access — investors' right to appoint members to the board. The nature and scale of the risks posed by climate change may well lead to a similar evolution.

### **Engage with policymakers**

While corporations can reduce emissions and adapt their business strategies to climate change, action on the scale needed to keep the increase in global temperatures within the 2°C threshold set by scientists — and at the same time to reduce long-term portfolio-wide risk for investors — can only be taken by governments. Many investors recognize this and have worked to communicate their support for such action to governments. In September 2014, ahead of the UN Climate Summit in New York, nearly 350 global institutional investors representing over \$24 trillion in assets called on government leaders to provide "stable, reliable and economically meaningful carbon pricing that helps redirect investment commensurate with the scale of the climate change challenge, as well as develop plans to phase out subsidies for fossil fuels." In the U.S., this initiative was coordinated by INCR.<sup>151</sup>

Politicians and government agencies care about investors' voices on this issue. Like businesses, investors can speak to climate change's impact on the economy and stress the value of urgent action.



# ESG and financial performance

Research by Oxford University in 2014 reviewed 190 academic studies on the business case for corporate sustainability and the implications of sustainability for investors.<sup>152</sup>

- 90% of the studies on the cost of capital show that sound sustainability standards lower the cost of capital of companies
- 88% of the research shows that solid ESG practices result in better operational performance of firms
- 80% of the studies show that stock price performance of companies is positively influenced by good sustainability practices.

In June 2012 Deutsche Bank (DB) published a comprehensive review of academic literature on ESG and financial performance.<sup>153</sup> This looked at 56 academic studies, 2 literature reviews, and 4 meta-studies.<sup>154</sup> The key conclusions are:

- "Overwhelming academic evidence," within 100% of the studies reviewed, showing that firms with high ESG ratings have a lower ex ante cost of capital in terms of both debt and equity. These firms are "in effect lower risk in a fundamental (not necessarily short-term volatility) sense."
- "Compelling academic evidence" that strong ESG factors are correlated with financial outperformance in both market and accounting terms. 89% and 85% of studies found that firms with high ratings for ESG (or E, S, or G individually) show market-based or accounting-based outperformance respectively. Governance has historically been the strongest influence, followed by the environment which DB believes is gaining in importance. The studies cover a variety of date ranges, but DB argues that most investors see ESG as a medium- to long-term opportunity (3-5 years to 5-10 years). In DB's view:
  - **Governance** was the earliest of the ESG factors to be extensively studied. There is evidence that much of the alpha generated from this factor may now be priced into the market, as it has now been integrated into mainstream investing

- Environment may still offer first mover advantage for investors who recognise the materiality of concerns relating to climate change, carbon regulation and energy efficiency
- Social factors are the most difficult to quantify but may well offer alpha given the business relevance of factors such as human capital.

The returns of SRI funds have been mixed – 88% of studies showed mixed or neutral results. The authors conclude that "fund managers have struggled to capture the outperformance, with some exceptions at smaller, more specialized funds." As in all active management, manager skill is a significant factor and many believe that outperformance is hard to maintain.

It is important to note that the SRI funds studied here cover a broad spectrum of fund types, with different negative screens and management styles. It is therefore difficult to draw definitive conclusions from this research finding. You should always work closely with your consultant when analyzing and selecting investment options.



# Organization and network resources for investors

Below is a partial list of organizations and networks working on environmental, social, and governance issues for investors with an emphasis on climate.

Organization and Website	About	Activities
<b>350.org</b> 350.org	350.org is building a global climate movement. Its online campaigns, grassroots organizing, and mass public actions are coordinated by a global network active in over 188 countries.	campus and community based, divest, grassroots action, invest
BlueGreen Alliance www.bluegreenalliance.org	The BlueGreen Alliance unites America's largest labor unions and its most influential environmental organizations to identify ways today's environmental challenges can create and maintain quality jobs and build a stronger, fairer economy.	advocacy, education, partnerships, policy, research
Committee on Workers' Capital (CWC)  www.workerscapital.org/ images/uploads/CWC_ climate_change.pdf	With over 200 members from 25 different countries, the Committee on Workers' Capital (CWC) connects labor union organizations around the world to advance the responsible investment agenda on the global stage.	advocacy, education, networking, training
Confluence Philanthropy www.confluencephilanthropy. org	Confluence Philanthropy promotes environmental sustainability and social justice by helping to move philanthropy in the direction of missionaligned investing. It supports and catalyze its members' efforts to align asset management with organizational mission. Confluence Philanthropy's international network, which represents nearly \$134 billion in philanthropic assets, includes private, public, and community foundations; individual donors, and investment firms.	conferences, webinars and trainings, working groups

Council of Institutional	The Council of Institutional Investors (CII) is a	advocacy, networking,
Investors (CII) www.cii.org	nonprofit, nonpartisan association of corporate, public, and union employee benefit funds and endowments with a focused policy mission: to be the leading voice for effective corporate governance practices for US companies and strong shareowner rights and protections.	policy development
<b>Divest-Invest</b> divestinvest.org	Divest-Invest is a network of foundations divesting from fossil fuels and switching to clean energy investments. Ethically, our investments shouldn't contribute to dangerous climate change. Financially, fossil fuel stocks are overvalued as most of their reserves cannot be burned. We can get good, safe returns while helping to build a new energy system.	divest, invest, networking, publications
Initiative for Responsible Investment (IRI) hausercenter.org/iri/	The Initiative for Responsible Investment (IRI) at the Hauser Institute for Civil Society serves as a research center on fundamental issues and theories underlying the ability of financial markets to promote wealth creation across asset classes, while creating a stronger society and a healthier environment.	convenings, policy development, research
Intentional Endowments Network www.intentionalendowments. org	The Intentional Endowments Network supports colleges, universities, and other mission-driven tax-exempt organizations in aligning their endowment investment practices with their mission, values, and sustainability goals without sacrificing financial returns. In doing so, this broad-based, collaborative network will make a significant and critical contribution to creating a healthy, just, and sustainable society.	convening, education and training, information exchange, networking, thought leadership
Interfaith Center on Corporate Responsibility (ICCR) www.iccr.org/	The Interfaith Center on Corporate Responsibility (ICCR) is a coalition of faith and values-driven organizations who view the management of their investments as a powerful catalyst for social change. Its membership comprises nearly 300 organizations including faith-based institutions, socially responsible asset management companies, unions, pension funds, and colleges and universities that collectively represent over \$100 billion in invested capital.	conferences, engage, invest, networking, publications, working groups
International Foundation for Employee Benefits  www.ifebp.org	The International Foundation of Employee Benefit Plans is a nonprofit organization, dedicated to being a leading objective and independent global source of employee benefits, compensation, and financial literacy education and information. It does not offer climate-specific programming at this time.	education, information and research, networking
Investor Environmental Health Network (IEHN) iehn.org	The Investor Environmental Health Network (IEHN) is a collaborative partnership of investment managers, advised by nongovernmental organizations, and concerned about the financial and public health risks associated with corporate toxic chemicals policies. IEHN members manage approximately \$35 billion in assets. IEHN staff are available to serve as information resources for companies.	engagement, policy development
Investor Network on Climate Risk (INCR) www.ceres.org/investor- network/incr	A project of CERES, the Investor Network on Climate Risk (INCR) is a network of more than 110 institutional investors representing more than \$13 trillion in assets committed to addressing the risks and seizing the opportunities resulting from climate change and other sustainability challenges. In 2013, INCR turned 10 years old, celebrating a decade of investor action on climate risk.	conferences, engage, invest, networking, publications, working groups

National Council of Public Employee Retirement Systems (NCPERS) www.ncpers.org	Founded in 1941, NCPERS is the principal trade association working to promote and protect pensions by focusing on advocacy, research and education for the benefit of public sector pension stakeholders. NCPERS does not have climate-specific programming at this time.	advocacy, conferences, education, research
Principles for Responsible Investment (PRI) www.unpri.org/	The United Nations-supported Principles for Responsible Investment (PRI) Initiative is an international network of investors working together to put the six Principles for Responsible Investment into practice. Its goal is to understand the implications of sustainability for investors and support signatories to incorporate these issues into their investment decision making and ownership practices.	conferences, engage, invest, networking, publications, working groups
Responsible Endowments Coalition (REC) www.endowmentethics.org	The Responsible Endowments Coalition (REC) works to ensure that the investment and use of endowments promotes sustainability, equity, human rights, democracy, and prosperity for all. REC does this by supporting student, alumni, and faculty endowment campaigns across the US and Canada, providing intensive leadership development and political education to endowment beneficiaries, and leading hard-hitting endowment research.	leadership development, networking, political education, research, student organizing
Service Employees International Union (SEIU) Capital Stewardship Program  www.seiu.org/cards/all-the- educational-resources-you- need-to-be-a-leader	The Capital Stewardship Program was created to facilitate a more active partnership between SEIU and the trustees, administrators, advisors and investment managers of its members' pension savings in the pursuit of benefit improvements and of prudent, responsible, and financially sound investment policies. It helps elect and appoint effective trustees, educate and provide technical support to union trustees, and promote responsible investment and proxy voting policies.	networking, training
Shareholder Association for Research and Education (SHARE)  www.share.ca/files/KM_ Climate_Change_Paper_web. pdf	A Canadian example, Shareholder Association for Research and Education (SHARE) provides investment services, research and education by providing active ownership including proxy voting and engagement, education, policy advocacy, and practical research on issues related to responsible investment.  SHARE recently released report on fiduciary duty and climate change for Canadian pension trustees.	education, policy advocacy, publications, research
Trade Union Congress (TUC)  www.tuc.org.uk/economic- issues/touchstone-pamphlets/ social-issues/environment/ green-and-fair-future-just- transition	The Trade Union Congress (TUC) is the voice of Britain at work. With 52 affiliated unions representing nearly 6 million working people from all walks of life, it campaigns for a fair deal at work and for social justice at home and abroad.	advocacy, campaigning, education
Trustee Leadership Forum (TLF) hausercenter.org/iri/about/tlf	A project of the Initiative for Responsible Investment, The Trustee Leadership Forum for Retirement Security (TLF) is an applied research collaboration with labor-affiliated trustees of public and Taft-Hartley pension funds, with implications for stakeholders across investment markets. The project draws on the experiences of these trustees to identify the core issues they face in developing strategies for long-term sustainable wealth creation.	networking, participatory action research

The Forum for Sustainable and Responsible Investment (US SIF) www.ussif.org	US SIF – The Forum for Sustainable and Responsible Investment is the US membership association for professionals, firms, institutions, and organizations engaged in sustainable, responsible, and impact investing. US SIF and its members advance investment practices that consider environmental, social, and corporate governance criteria to generate long-term competitive financial returns and positive societal impact.	conferences, policy advocacy, publications, working groups
World Resources Institute (WRI) www.wri.org	World Resources Institute (WRI) is a global research organization that spans more than 50 countries, with offices in Brazil, China, Europe,India, Indonesia, and the United States. WRI's more than 450 experts and staff work closely with leaders to turn big ideas into action to sustain our natural resources—the foundation of economic opportunity and human well-being—including the US Climate Initiative.	publications, research

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