

# DEVELOPING AN ASSET OWNER CLIMATE CHANGE STRATEGY

PILOT FRAMEWORK



**UNEP Finance Initiative**  
Changing finance, financing change



**United Nations** Global Compact

# THE SIX PRINCIPLES

- 1** We will incorporate ESG issues into investment analysis and decision-making processes.
- 2** We will be active owners and incorporate ESG issues into our ownership policies and practices.
- 3** We will seek appropriate disclosure on ESG issues by the entities in which we invest.
- 4** We will promote acceptance and implementation of the Principles within the investment industry.
- 5** We will work together to enhance our effectiveness in implementing the Principles.
- 6** We will each report on our activities and progress towards implementing the Principles.



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# THE PRI CLIMATE CHANGE STRATEGY PROJECT

## PROJECT BACKGROUND

The PRI launched The PRI Climate Change Strategy Project to help signatory asset owners respond to climate change, including reducing emissions. The project draws on the diverse experience of the PRI's asset owner signatory base, including particular input from asset owners from seven countries and from the PRI's asset class specific working groups. The project is funded by and received substantial input from Aegon, Allianz, AP7, AXA, Batirente, Catholic Super, Local Government Super and University of California. While these asset owners have contributed to this paper, they do not endorse all the strategies or claim to have implemented them all. Rather, their input aims to make a contribution to industry efforts to address climate change.

## PROJECT OUTCOMES

The project was divided into two phases.

### PHASE 1: REDUCING EMISSIONS ACROSS THE PORTFOLIO

This discussion paper, published on Climate Finance Day in Paris in May 2015, briefs asset owners on the case for reducing emissions, key factors to consider when setting an emissions reduction goal, priority areas for emissions reduction, guidance on carbon footprinting and different

considerations across asset classes and investment approaches.

### PHASE 2: DEVELOPING AN ASSET OWNER CLIMATE CHANGE STRATEGY

This pilot framework, published during COP21 in Paris in December 2015, offers a step-by-step approach for addressing climate change across three main strategies: engage, invest and avoid. Case studies outline asset owner actions that are already underway, including several that have been started by project participants since the start of the project in January 2015.

## NEXT STEPS

The PRI recommends that asset owners use the publicly available discussion paper and pilot framework to evaluate which strategies are appropriate for their assets, then pilot implementing the strategies and report back with case studies to [info@unpri.org](mailto:info@unpri.org).

During 2016-17, we will address longer-term challenges raised during this course of this project, including barriers to low-carbon investment, the need for better company emissions disclosure, and how to engage effectively with fossil fuel companies.

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# CONTENTS

INTRODUCTION: THE CASE FOR ACTION	5
THREE STEPS TO DEVELOPING A CLIMATE CHANGE STRATEGY	7
<b>MEASURE</b>	8
UNDERSTAND YOUR PORTFOLIO EXPOSURE	
<b>ACT</b>	11
GATHER COMMITMENT FROM THROUGHOUT THE INVESTMENT CHAIN	
<b>ENGAGE</b>	15
POLICY MAKERS	15
COMPANIES	15
<b>INVEST</b>	18
WITH CLIMATE CHANGE INTEGRATED INTO DECISION MAKING	18
IN LOW-CARBON SOLUTIONS	21
<b>AVOID</b>	26
HIGH-CARBON COMPANIES	26
<b>REVIEW</b>	28
MONITOR AND REPORT ON EFFECTIVENESS	
MORE CASE STUDIES	29
APPENDIX: ASSET CLASS FACTORS	30

# INTRODUCTION: THE CASE FOR ACTION

There is global scientific consensus on the world's carbon budget of 1 trillion tonnes of carbon<sup>1</sup>. This is the amount of carbon dioxide the world can emit while having a likely chance of averting the most dangerous climate change impacts. Analysis from the IEA<sup>2</sup> and PwC show a need for the global economy to reduce its carbon intensity as much as five times faster than is currently the case.<sup>3</sup> There is a growing imperative for asset owners to align their investment portfolios with a low-carbon economy.

## PORTFOLIO RISKS AND OPPORTUNITIES

Climate change presents significant risks to asset owners, as well as opportunities for those exposed to companies that are likely to prosper in a lower carbon world. A 2015<sup>4</sup> Mercer report found that asset owners with diversified, long-term portfolios will be exposed to costs associated with climate change and that investment returns are likely to be impacted. A 2015 report from The Economist finds the value at risk to manageable assets from climate change is US\$4.2 trillion<sup>5</sup>. Private-sector discount rates show that 6°C of warming could lose US\$13.8 trillion of present value<sup>6</sup>.

These profound economic shifts also offer significant opportunities for investors in areas such as clean energy, energy efficiency and new technologies<sup>7</sup>. At the same time, asset owners can also engage with public policy makers to help make the transition as smooth as possible for the financial markets.

## FIDUCIARY DUTY

Fiduciary Duty in the 21st Century<sup>8</sup>, a joint PRI, UNEP FI, UNEP Inquiry and UN Global Compact report, finds that managing material environmental, social and governance (ESG) risks is consistent with investors' fiduciary duty.



“Fiduciaries need to be able to show that they have identified and assessed the risks (to companies and to their portfolios). In the case of climate change, for example, this would require them to:

- Show that they have recognised relevant risks (even if they are sceptics on the issue of climate change).
- Analyse how climate change might affect investment returns over the short, medium and long-term.
- Explicitly manage the risks, and not assume that the risks are automatically managed by other risk management strategies.
- Interrogate and challenge the individuals or organisations (e.g. investment managers, companies) to ensure that these risks are being effectively managed.
- Establish processes that enable them to demonstrate the actions they have taken.”

1 [http://www.wri.org/sites/default/files/WRI13-IPCCinfographic-FINAL\\_web.png](http://www.wri.org/sites/default/files/WRI13-IPCCinfographic-FINAL_web.png) and The Intergovernmental Panel on Climate Change's 5th Synthesis Report: <http://www.ipcc.ch/ar5/syr/>

2 [http://www.iea.org/newsroomandevents/speeches/150504\\_ETP\\_slides.pdf](http://www.iea.org/newsroomandevents/speeches/150504_ETP_slides.pdf)

3 <http://www.pwc.co.uk/assets/pdf/low-carbon-economy-index-2014.pdf>

4 <http://www.mercer.com/insights/focus/invest-in-climate-change-study-2015.html>

5 <http://www.economistinsights.com/financial-services/analysis/cost-inaction>

6 <http://www.economistinsights.com/financial-services/analysis/cost-inaction>

7 <http://newclimateeconomy.report>

8 <http://2xjmlj8428Uuak50341m71.wpengine.netdna-cdn.com/wp-content/uploads/Fiduciary-duty-21st-century.pdf>

Large asset owners, particularly passive investors, are the “permanent and universal owners”<sup>9</sup> of companies, with links to the overall economy. Such asset owners have a financial interest in the well-being of the economy as a whole: they invest in a small share of the whole global economy through highly-diversified portfolios, with more or less long time horizons. By exercising ownership rights, through

engagement with companies and policy makers, universal owners can encourage protection of the environment, economy and long-term investment returns.

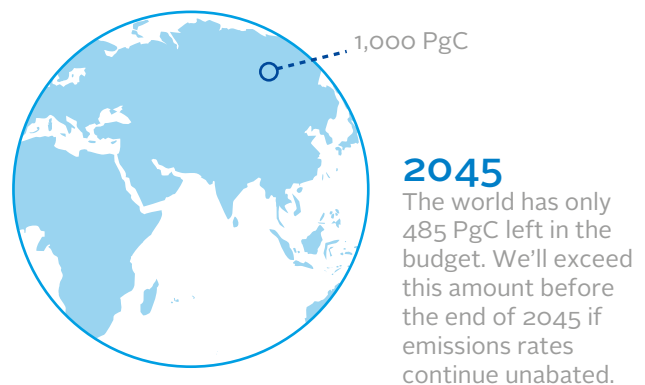
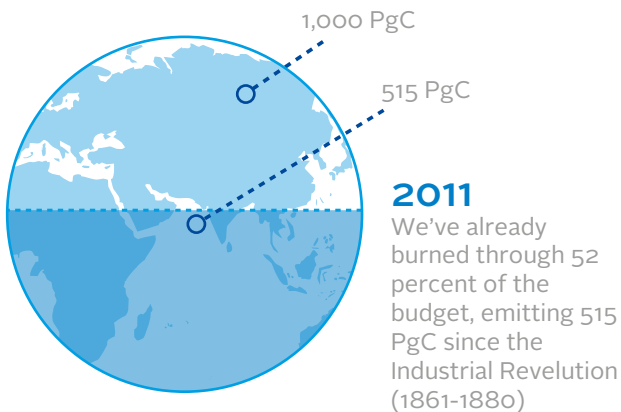
More on the case for action is available in Phase 1 of The PRI Climate Change Strategy Project, the discussion paper Reducing Emissions across the Portfolio<sup>10</sup>.

## What is the Carbon Budget?

The carbon budget is the estimated amount of carbon dioxide the world can emit while still having a likely chance of limiting global temperature rise to 2°C above pre-industrial levels. The international scientific community estimates this budget to be 1 trillion tonnes of carbon (1,000 PgC).\*



The 2°C target has been adopted by the countries within the United Nations Framework Convention on Climate Change (UNFCCC).



Source [World Resources Institute - The Carbon Budget](#)

<sup>9</sup> [http://www.unepfi.org/fileadmin/documents/universal\\_ownership\\_full.pdf](http://www.unepfi.org/fileadmin/documents/universal_ownership_full.pdf)

<sup>10</sup> [http://2xjmlj8428u1a2k5o34l1m71.wpengine.netdna-cdn.com/wp-content/uploads/PRI\\_Discussion-Paper-on-Reducing-Emissions.pdf](http://2xjmlj8428u1a2k5o34l1m71.wpengine.netdna-cdn.com/wp-content/uploads/PRI_Discussion-Paper-on-Reducing-Emissions.pdf)

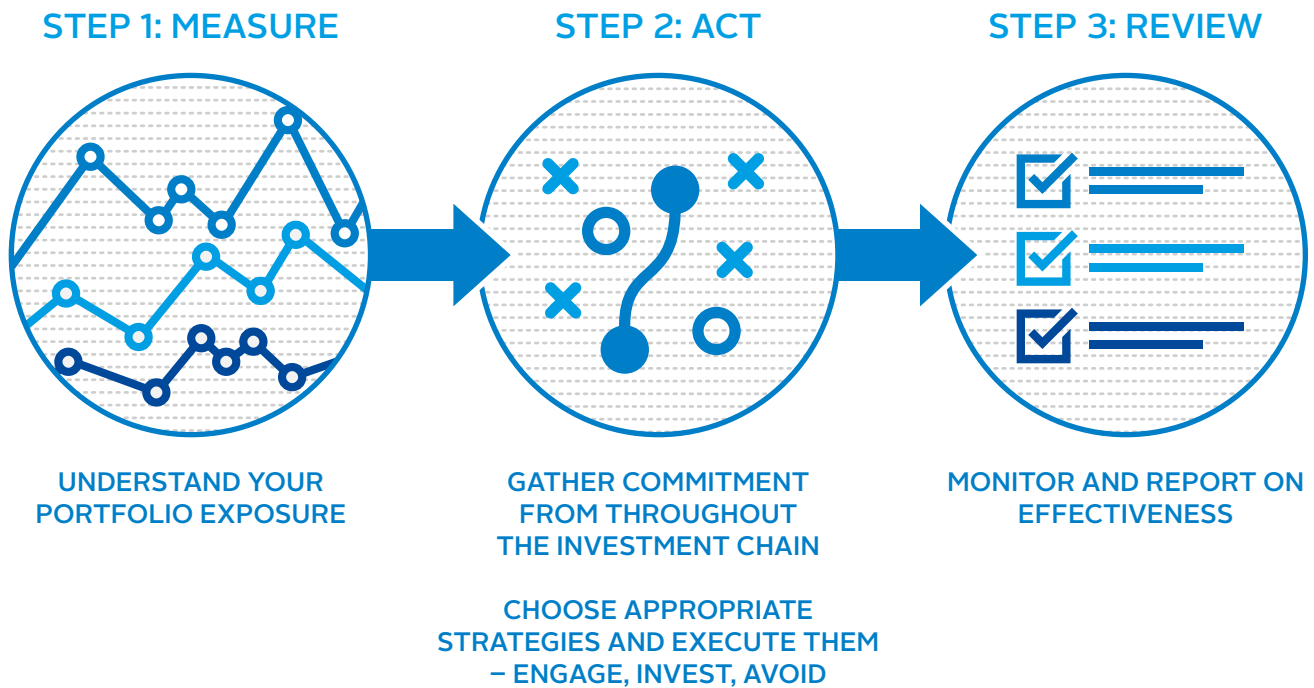
### THREE STEPS TO DEVELOPING A CLIMATE CHANGE STRATEGY

This framework focuses on investment actions to mitigate climate change – how actions by asset owners can reduce their exposure to climate change risk in their investment portfolios and also support the reduction of emissions in the real economy.

For further guidance on how to set a climate change investment strategy, including review at Board and trustee level, mitigation investment actions and adaptation

investment actions, see the Global Investor Coalition on Climate Change's 2015 report *Climate Change Investment Solutions: A Guide for Asset Owners*<sup>11</sup>.

To tailor the steps below to their own needs, asset owners should select suitable strategies from the framework below and adapt them to fit their own motivations, objectives and investment approaches. Strategies will likely differ based on at least asset owner type (corporate/public pension funds, university endowments, charitable foundations or others), active/passive management and responsible investment maturity level.



<sup>11</sup> <http://www.iigcc.org/publications/publication/climate-change-investment-solutions-a-guide-for-asset-owners>



# STEP 1: MEASURE

## UNDERSTAND YOUR PORTFOLIO EXPOSURE

Evaluating portfolio exposure to climate change risk and opportunity, and reviewing portfolio emissions, are practical starting points for addressing climate change. Climate change risk and opportunity refers to how well-positioned the investment portfolio is for risks such as water scarcity, and for investment opportunities such as energy efficiency. Portfolio emissions refer to the actual or estimated emissions of companies held within the investment portfolio.

There are different approaches for assessing exposure including:

### SECTOR ANALYSIS

**How can it help?** This can identify exposure to high-carbon sectors and assess individual company performance on an absolute and relative basis, as well as on their ability to manage climate change-related risk. Sector analysis focused on physical climate risk would evaluate risks associated with the physical impacts from climate change that could impact companies. For example, these could include operational risks and the costs of physical damage from wildfires, significant flooding or drought.

UNEP FI and WRI's 2015 publication, Carbon Asset Risk Discussion Framework<sup>12</sup>, focuses on three carbon risk factors: policy and legal, technology and market/economic:

- Policy and legal risk: policies or regulation could impact the operational and financial viability of companies an asset owner invests in.
- Technology: development in the commercial availability and cost of alternative and low-carbon technologies could impact a company's choice of technology and costs, for example.
- Market and economic: changes in market or economic conditions, could impact companies, such as changes in consumer preferences or in fossil prices.

As a practical example of sectoral analysis, a portfolio manager interviewed for this paper explained that in fixed income analysis, she considers how well sectors are positioned to withstand or respond to:

- Physical impacts of a changing climate on business operations or strategy;
- Impacts on prices of resources e.g. energy, water, raw materials;

- Product development incorporating low carbon opportunities;
- Regulation impacting on business operations in specific markets; and
- Impacts on the cost of capital or ratings of issuers and on company reputations.

### STRANDED ASSETS ANALYSIS

**How can it help?** Applied to fossil fuel companies, this can assist in analysing the implications of not adjusting investment in line with what is needed to limit global warming.

The Carbon Tracker Initiative's definition of stranded assets is: "fossil fuel energy and generation resources which, at some time prior to the end of their economic life (as assumed at the investment decision point), are no longer able to earn an economic return (i.e. meet the company's internal rate of return), as a result of changes in the market and regulatory environment associated with the transition to a low-carbon economy"<sup>13</sup>.

Stranded risks include regulatory stranding due to change in policy or legislation; economic stranding due to a change in relative costs/prices; and physical stranding due to flood or drought. Asset owners can work with portfolio managers or providers to analyse exposure to stranded asset risks.

### PORTFOLIO EMISSIONS AND CARBON FOOTPRINTING

**How can it help?** A portfolio carbon footprint, the sum of a proportional amount of each portfolio company's emissions (proportional to the amount of stock held in the portfolio), can quantify emissions associated with portfolio holdings.

It enables an asset owner to compare portfolio emissions to global benchmarks, identify priority areas for reduction including the largest carbon emitters and most carbon intensive companies, and track progress. It can be used as a tool for engaging with portfolio managers and companies on emissions risks and reporting. It can also be used to inform further action on climate change.

There are limitations, as unlisted assets are not yet fully covered, companies do not sufficiently disclose data including forward-looking information, scope 3 emissions may be excluded and different estimation methodologies exist. Therefore, it needs to be complemented by discussion with portfolio managers and companies, particularly where data is less reliable.

<sup>12</sup> [http://www.unepfi.org/fileadmin/documents/carbon\\_asset\\_risk.pdf](http://www.unepfi.org/fileadmin/documents/carbon_asset_risk.pdf)

<sup>13</sup> <http://www.carbontracker.org/resources/>



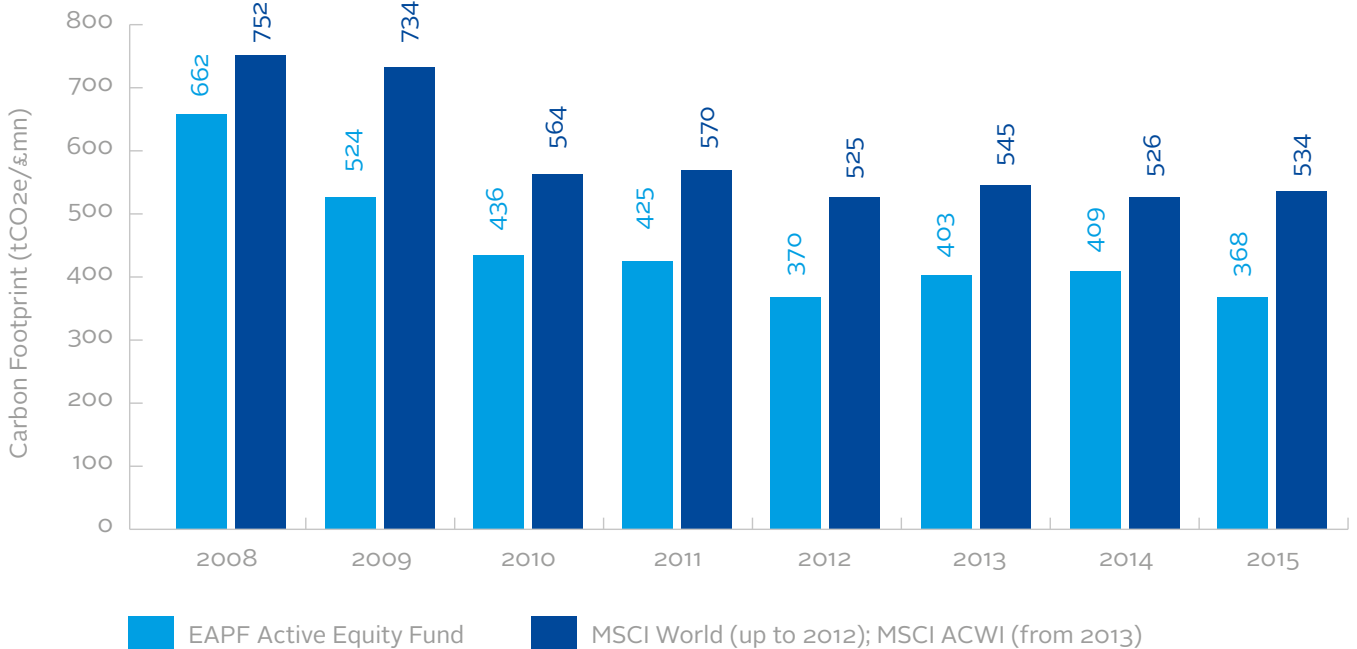
For a full evaluation and asset owner case studies of use and disclosure, see the carbon footprinting section in the phase 1 discussion paper of this project<sup>14</sup>.

In 2015, Dutch healthcare pension fund PFZW, committed to increasing sustainable investments four-fold to 12% of assets and reducing the carbon footprint of its entire portfolio by 50% by 2020. Sustainable investments will include direct investments in green energy, clean technology, food security and water access. The footprint will be halved by comparing companies in each sector, picking the best performers and divesting from companies with the highest CO<sub>2</sub> emissions. The fund will also engage with companies to lower their CO<sub>2</sub> emissions.

ABP, the Dutch civil servants' pension fund, has in 2015 committed to a 25% reduction in greenhouse gas emission and doubling of investment in renewable energy and environmentally friendly technologies by 2020.

The UK's Environment Agency Pension Fund has reduced the fund's carbon footprint by 44% on the combined active equities since it began carbon footprinting in 2008 (31% less than the benchmark for 2015). The fund has also reduced its active corporate bond carbon footprinting by 42%<sup>15</sup> since starting to measure it in 2011 (48% less than its index for 2015). See the figure below.

Environment Agency Pension Fund Portfolio Carbon Footprint in 2015



Source: Environment Agency Pension Fund<sup>16</sup>

<sup>14</sup> [http://2xjmlj8428u1a2k5034l1m71.wpengine.netdna-cdn.com/wp-content/uploads/PRI\\_Discussion-Paper-on-Reducing-Emissions.pdf](http://2xjmlj8428u1a2k5034l1m71.wpengine.netdna-cdn.com/wp-content/uploads/PRI_Discussion-Paper-on-Reducing-Emissions.pdf)

<sup>15</sup> £263m Corporate Bond Portfolio run by Royal London Asset management

<sup>16</sup> <https://www.eapf.org.uk/>

### THE MONTREAL CARBON PLEDGE AND THE PORTFOLIO DECARBONIZATION COALITION

Two initiatives focused on understanding portfolio emissions are the PRI Montreal Carbon Pledge and UNEP FI's Portfolio Decarbonization Coalition:

The Montreal Carbon Pledge commits signatories to measuring and disclosing a portfolio carbon footprint, with over 100 investors and US\$8 trillion in AUM having endorsed the pledge to date.

The Portfolio Decarbonization Coalition commits members to two interconnected targets: measuring and disclosing the carbon footprint of US\$500 billion of assets under management and committing US\$100 billion to decarbonization. There are nearly 20 coalition members. The Montreal Carbon Pledge is the delivery mechanism for the carbon footprinting component of the Portfolio Decarbonization Coalition.

Both initiatives are open to asset owners and investment managers. See <http://montrealpledge.org/> and <http://unepfi.org/pdc/>

### LOW-CARBON EXPOSURE

Low carbon investments can be considered as "hedge" against high carbon investments. Low carbon investments can involve risk though, including policy and technology

change, which needs to be evaluated. Asset owners can work with portfolio managers or providers to identify companies in the portfolio that derive a significant portion of revenues from, for example, clean tech, energy efficiency and green buildings.

**Quantitative investment modelling:** Risk assessment can draw on quantitative investment modelling incorporating climate change, including asset class sensitivity over 35 years, as in the modelling provided by Mercer in its 2015 study, *Investing in a Time of Climate Change*<sup>17</sup>. This study looks at risk factors associated with technological developments, resource availability, the impact of a changed climate and policy decisions. It includes consideration of scenarios, as well as sensitivity of regions, assets and sectors.

The UK Environment Agency Pension Fund's 2015 Policy to Address the Impacts of Climate Change is an example of an asset owner using risk analysis, carbon footprinting, low-carbon exposure and investment modelling. The policy commits to ensuring the investment portfolio and processes are compatible with 2°C. It includes a target of 15% of the fund invested in low carbon, energy efficient and other climate change mitigation opportunities. It also includes a decarbonisation target for the fund's equity portfolio; reducing the fund's exposure to "future emissions"\* by 90 per cent for coal, and 50 per cent for oil and gas by 2020 (compared to the exposure in the underlying benchmark as at 31 March 2015).<sup>18</sup>

<sup>17</sup> <http://www.mercer.com/services/investments/investment-opportunities/responsible-investment/investing-in-a-time-of-climate-change-report-2015.html>

<sup>18</sup> <https://www.eapf.org.uk/en/news-feed>



## STEP 2: ACT

### GATHER COMMITMENT FROM THROUGHOUT THE INVESTMENT CHAIN

The following groups need to be engaged to decide on appropriate strategies: senior decision-makers, beneficiaries and stakeholders, and portfolio managers.

#### SENIOR EXECUTIVE AND NON-EXECUTIVE DECISION MAKERS

Early discussions with the Board, Trustees and Chief Investment Officer can cover:

- The case for action on climate change, focusing on climate science implications, fiduciary duty, alignment with the investment horizon and liabilities;
- An overview of possible strategies (engage, invest and avoid), including discussing consistency with investment objectives and the risk/volatility appetite of the end-beneficiaries, as well as how peers are responding to climate change;
- Potential implications for asset allocation and portfolio managers; and
- Any new performance indicators for monitoring and evaluating success.

#### BENEFICIARIES AND STAKEHOLDERS

The fast-moving public debate on climate change makes it important to engage with beneficiaries, staff, supporters (in the case of charities) and external stakeholders. Asset owners need to communicate with members on climate change risks associated with their investments and how these are being managed in line with their long-term interests. Mechanisms could include:

- Surveys, focus groups, workshops, member annual general meetings or events focused on climate change;
- Communication through regular reporting and social media on proposed strategies.

#### PORTFOLIO MANAGERS

Early dialogue with portfolio managers is essential to deciding and executing actions on climate change which ever strategy the investor considers appropriate. This may include understanding a portfolio manager's capacity to: conduct portfolio carbon footprinting and/or other kinds of risk assessment evaluation processes, engage with companies and policy makers, conduct integrated analysis, or consider options for low carbon-themed investment or reallocation from high carbon holdings.

#### PASSIVE MANAGERS

Passive investment can reduce carbon risk by creating separate accounts or index strategies that tilt portfolios towards lower carbon assets or through measurement. Exclusion and reallocation will be more complex for a passive manager to implement if not using separate

accounts. Passive managers can also implement an engagement strategy.

#### EXTERNAL PORTFOLIO MANAGERS

Discussions in performance review meetings or in written correspondence, may cover which investment activities have already been undertaken to respond to climate change risk and opportunity. Specific areas to discuss may include:

- Climate change risk and opportunities: what kind of sectoral, stranded assets or other analysis can be used to understand exposure to climate change risks and opportunities?
- Emissions measurement: what emissions monitoring can be undertaken, such as carbon footprinting, and how can the findings be used?
- Engagement: what kind of voting and engagement with companies and policy makers can be undertaken?
- Investment: how can the investment process be developed to incorporate climate change risk and opportunity at a sector- and company-level?
- Avoidance: could reallocation or reduced portfolio exposure to emissions be incorporated, and with what implications for the fund and how it is managed? What is the current fossil fuel exposure of the fund compared to the benchmark?

#### EXISTING MANDATES

Discussions could include how managers can evolve their approach to meet new requirements over an agreed time period. Portfolio managers and consultants will need to formally review any new strategies for risk management or emissions reduction impacting on the mandate. They will need to give a clear view on the implications for asset allocation, the investable universe, tracking error, liquidity, time horizons and financial return expectations, as well as the portfolio manager's capability to meet the new requirements. Portfolio managers will need to affirm their willingness to work with their asset owners on significant new requirements.

#### SELECTING, APPOINTING AND MONITORING MANAGERS

Including climate change-related requirements in these processes is an important way to ensure that expectations are clear and delivered on.

- Selection: Requests for proposals, questionnaires, discussions and any requests for evidence or examples can cover climate change requirements, as can any evaluation criteria used to select managers.
- Appointment: Contract terms within investment management agreements can include climate change-related requirements, as can side letter agreements.
- Monitoring: Evaluation frameworks can incorporate climate change-related performance indicators. Agreements can specify the nature and frequency of reporting.

# CASE STUDY: MONITORING EXTERNAL MANAGERS

## CATHOLIC SUPER FUND

### KEY POINTS

This case study highlights the importance of asset owner engagement with outsourced managers to encourage better integration of carbon into investment decisions, and how follow-up after carbon footprinting is needed to better understand manager practices.

### PORTFOLIO CARBON FOOTPRINTING AND MANAGER SURVEY

In 2015, Catholic Super undertook a detailed carbon footprint of its listed equity portfolios, including comparison to relevant benchmarks. Catholic Super then engaged with its investment manager partners to assess the extent to which they are taking carbon exposure into account in the portfolio management process, and how this could be improved over time.

### QUESTIONS

All of Catholic Super's appointed domestic and international listed equity managers were asked to respond to the following eight questions on carbon emissions:

- Do you measure the carbon footprint of your portfolio, and if so, can you include this as part of your reporting on an annual basis?
- If you do not measure the carbon footprint of your fund, would you be prepared to start doing this and including it as part of the reporting to the fund on an annual basis?
- Have you set a goal to reduce the carbon intensity of your fund over time? Have you considered this? Why/why not?
- Do you engage with the companies that you invest in on climate change? If so, have you discussed the way in which they manage carbon exposure and how they might reduce the carbon intensity of their operations now and into the future?
- Do you know the exposure of your fund to fossil fuel assets, and would you be willing to disclose this? If you don't know the exposure, can you begin to measure and report this?
- Have you estimated the potential risk of portfolio assets

becoming stranded? If not, would you be willing to undertake this exercise and report the outcomes?

- Do you know the exposure of your fund to low-carbon, energy-efficiency assets, and would you be willing to disclose this? As above, if you don't know the exposure, can you begin to measure and report this?
- What other initiatives or activities are you involved in to proactively mitigate the risk of climate change to the investment portfolio?

Have you considered setting a goal to reduce the carbon intensity of your fund over time? Have you considered this? Why, why not?

### ASSESSING RESPONSES

The replies from the fund managers were categorized into "Strong" (full integration of carbon into decisions as much as is feasible), "Reasonable" (some activity) and "Disappointing" (no activity). To enable comparison each manager was assigned a score, on a range from 0-16.

### FINDINGS

Scores were diverse: from 3 to 10 in Australia and 2 to 12 internationally. The survey results found considerable discrepancy in how asset managers measure and manage emissions, indicating more focus is needed within the industry on manager engagement:

- 29% of the replies were "Disappointing", 52% were "Reasonable" and 19% were "Strong";
- Some asset managers are fairly uninformed, while others are investigating climate change at length and have progressed in their capabilities;
- Australian managers (average score of 6.2) are comparatively worse than the international managers (average score of 8.1), which is of concern given the high exposure of the Australian economy to carbon.

### ABOUT THE ORGANISATION

Catholic Super manages US\$5.967 on behalf of over 72,000 members and 10,000 employers, and is headquartered in Australia. The fund offers superannuation for the employed and the self-employed, including complete financial planning services, insurance and pensions. <http://csf.com.au/>

## CHOOSE APPROPRIATE STRATEGIES AND EXECUTE THEM – ENGAGE, INVEST, AVOID

There are a variety of options available to asset owners seeking to reduce exposure to climate risk and encourage the transition to a low carbon economy. In deciding on

appropriate strategies, asset owners can draw on the framework below covering three main strategies: engage, invest and avoid.

The summary table highlights that most opportunities to contribute towards emissions reduction are applicable to every asset class. Asset class specific considerations are covered in more detail in the appendix.

Summary Table

Strategy		Applicable asset classes					Timeframe for the strategy to have an impact
		Fixed income	Equities	Private equity	Property	Infrastructure	
Engage	With policy makers	●	●	●	●	●	Medium-long term
	With companies	●	●	●	●	●	Medium-term
Invest	With climate change integrated into decision-making	●	●	●	●	●	Medium-long term
	In low-carbon solutions	●	●	●	●	●	Within one year
Avoid	High-carbon companies	●	●				Within one year

\* Medium-term is defined as within 3 years and long-term as 5 more than years.



## ENGAGE

Public policy affects the sustainability and stability of financial markets; policy engagement is therefore a natural and necessary extension of an investor's fiduciary duties to the interests of beneficiaries. On climate change, supportive public policy is essential to levelling the playing field for new forms of energy and energy efficiency, and for scaling up low-carbon investment. For more on this see PRI's 2014 publication, *The Case for Investor Engagement on Public Policy*<sup>19</sup>.

Investor engagement with companies is a critical tool for encouraging an orderly transition to a low-carbon economy.



## INVEST

Integrate climate change into investment decision-making and identify low-carbon opportunities. Carbon is a risk that needs to

be considered within investment analysis, including in analysing company value in equity investing and assessing credit risk in fixed income.

Low-carbon investment opportunities include "green" infrastructure, climate and green bonds, as well as positive or thematic sustainable investing in public and private equity.



## AVOID

Investments could be avoided, through screening or reallocation, for reasons such as financial risk, where dialogue with companies does not succeed, for market signalling, or for alignment with an asset owner's specific mission.

<sup>19</sup> <http://www.mercer.com/services/investments/investment-opportunities/responsible-investment/investing-in-a-time-of-climate-change-report-2015.html>



# STRATEGY 1: ENGAGE

## ENGAGE WITH POLICY MAKERS

Engagement with policy makers can influence policy, thus reducing uncertainty for investors, and build investors' understanding of the direction of policy, which may impact on investments in future.

Recent investor focus areas include asking policy makers to:

- Provide stable, reliable and economically meaningful carbon pricing that helps redirect investment commensurate with the scale of the climate change challenge;
- Strengthen regulatory support for energy efficiency and renewable energy, where this is needed to facilitate deployment;
- Support innovation in, and deployment of, low-carbon technologies, including financing clean energy research and development;
- Develop plans to phase out subsidies for fossil fuels;
- Encourage governments to incorporate into their plans how private finance can be attracted where this may be needed, for example in national plans for adapting to a changing climate;
- Consider the effect of unintended constraints from financial regulations on investments in low-carbon technologies and in climate resilience.<sup>20</sup>

## PRI EVALUATION

**Pros:** Influence policy outcomes and understand future policy direction, helping to achieve a level playing field.

**Cons:** Effective policy engagement requires resourcing, board-level support and investor collaboration at a domestic and global level.

**Timeframe:** Medium- to long-term, although policy responses to COP21 in December 2015 are a key opportunity in the short-term.

**Tracking and measuring performance:** Performance indicators have tended to focus on the number and execution on engagements, but ultimately only policy outcomes and stability matter.

## POSSIBLE ACTIONS

Asset owners can engage with policy makers for a strong global agreement at COP21<sup>21</sup> by supporting the following public initiatives:

- Global Investor Statement on Climate Change<sup>22</sup>: investors can sign this to send a clear message to governments that there is strong investor support for a global agreement on climate change.
- CDSB Statement on Fiduciary Duty<sup>23</sup>: this focuses on including climate change-related information in mainstream corporate reporting as a matter of fiduciary duty.
- We Mean Business Coalition<sup>24</sup>: this is a coalition of businesses focused on smart policy frameworks to enable ambitious climate action.

After COP21, other opportunities will arise to engage with policy makers at a domestic and international level through the PRI and global investor groups dedicated to climate change.

## ENGAGE WITH COMPANIES

Investors have been engaging companies on climate change for some time, and this has a key role to play in encouraging companies to transition to a low-carbon economy. Clearly defined objectives are essential for effective engagement. Asset owners need to monitor engagement outcomes, focusing on whether companies are providing satisfactory responses to investor concerns. Asset owners need to decide how long engagement dialogue should continue for and what investment decisions which will be taken if companies provide an unsatisfactory response.

Investor-company engagement can consist of:

- **Individual/collaborative engagement:** asset owners can engage individually (or with/through external managers and service providers) or in collaboration with other asset owners. Organisations coordinating collaborative engagements include the PRI, the Institutional Investors Group on Climate Change, the Investor Group on Climate Change and the Investor Network on Climate Risk, among others.

<sup>20</sup> <http://investorsonclimatechange.org/statement/>

<sup>21</sup> <http://www.unpri.org/whatsnew/towards-cop-21-update-on-pri-action-on-climate-change/>

<sup>22</sup> <http://investorsonclimatechange.org/statement/>

<sup>23</sup> <http://www2.cdsb.net/fiduciarystatement/statement>

<sup>24</sup> <http://www.wemeanbusinesscoalition.org/>

<sup>25</sup> <https://www.cdp.net/en-US/News/Pages/why-aiming-for-a.aspx>



- **A choice of topics:** can include corporate strategy and the transition to a low-carbon economy, emissions reduction targets, carbon asset risk, energy efficiency and political lobbying;
- **Board-level and/or operational-level focus:** effective engagement may require dialogue at both a board- and operational-level;
- **Different approaches:** letters, phone or in-person meetings, co-filing or voting on shareholder resolutions;
- **Public and private elements:** investors may see benefits of engagement being public and vocal or discreet and confidential, depending on their objectives.

Recent developments in investor engagement with companies include:

- The Aiming for A Coalition's shareholder resolution, Strategic Resilience for 2035 and beyond<sup>25</sup>, which received support from company management and over 98% of shareholders at the 2015 Annual General Meetings of BP, Royal Dutch Shell and Statoil.
- The Carbon Asset Risk Initiative<sup>26</sup> engagement with fossil fuel companies to use shareholder capital prudently, co-ordinated by Ceres and Carbon Tracker, with support from the Global Investor Coalition on Climate Change.
- The As You Sow and Arjuna Capital 2015 shareholder resolution<sup>27</sup>, supported by 4% of shareholders, calling on Chevron to return dividends in light of spending on high-cost, high-carbon projects;
- Calls for "forceful stewardship"<sup>28</sup>, whereby investors would press companies to present business plans compliant with a maximum 2°C rise in global temperature and vote for resolutions to change business models;
- The PRI's corporate climate lobbying engagement, which aims to encourage responsible company practices on climate change-related policy activity, focusing on Australia, Canada, Europe and the USA.

## PRI EVALUATION

**Pros:** Influence improvements in high-carbon companies' strategy, policies and emissions performance.

**Cons:** Effective engagement needs resourcing, but outcomes can take time and be difficult to attribute specifically to investor engagement.

**Timeframe:** Commitments to carbon reduction actions can have immediate effect, although more typically it takes time to build a consensus and for companies to take action and make changes.

**Tracking and measuring performance:** Indicators can focus on the number of companies engaged (directly, collaboratively and via service providers), the number of cases where a company changed its practices or made a commitment to do so following engagement and votes cast on any shareholder resolutions.

## POSSIBLE ACTIONS

In addition to individual engagement, asset owners can join the following collaborative initiatives:

[PRI investor working group on Climate Corporate Lobbying](#)<sup>29</sup>

[Investor Expectations on Corporate Climate Risk Management](#)

[CDP Carbon Action](#)

[Ceres Shareholder Initiative on Climate & Sustainability](#)

## ENGAGE WITH THE BROADER FINANCE COMMUNITY

This could involve dialogue on how challenges can be overcome, such as barriers to green infrastructure investment. It could also include dialogue on company disclosure and reporting requirements with stock exchanges. In addition, it could involve engagement with academic researchers to deepen investor understanding and knowledge on climate change.

<sup>26</sup> <http://www.ceres.org/issues/carbon-asset-risk>

<sup>27</sup> <http://www.asyousow.org/our-work/energy/climate-change/carbon-asset-risk>

<sup>28</sup> In The Case for Forceful Stewardship Part 1 (The Financial Risk from Global Warming) and Part 2 (Managing Climate Risk), Covington and Thamotheram suggest a specific collaborative engagement effort to avoid a 4°C rise in the global temperature. This would involve "investors using their voting rights to require publicly-listed fossil fuel (and other) companies to move towards adopting business plans that not only enhance shareholder value but are also consistent with only 2° warming," which they say "diversified investors can do without expense and risk". Where proposals and plans are not in place, asset owners would take the lead on creating such proposals and engaging for the implementation of new corporate strategies.

<sup>29</sup> <http://investorsonclimatechange.org/>



# CASE STUDY: ENGAGEMENT WITH COMPANIES

## CALPERS

### KEY POINTS

This case study highlights how CalPERS uses engagement with companies, one of three key methods including advocacy and investment integration, to address climate change risk and opportunity.

### ENGAGEMENT

To achieve longstanding value creation, companies must effectively manage their climate change impacts. As a long-term owner, CalPERS engages companies on strategic climate change mitigation plans. Corporate engagement is also conducted industrywide to influence market wide changes in specific industries.

### BOARD ACCOUNTABILITY

CalPERS believes company boards that are independent, competent and diverse provide the best leadership. This combination of strengths creates a board that challenges “group think”, has a strong understanding of a company needs internally and on an industry level and holds a global perspective. CalPERS strongly advocates for shareholders’ rights to hire and fire board members as needed to safeguard the long-term health of the company. CalPERS has focused on the right to nominate individually and with the NYC proxy access campaign, winning at Chevron, Apache, Duke Energy and others.

### PARTNERSHIPS

Through working with other investors and organizations, CalPERS has been able to amplify their corporate engagement efforts. One example is the Ceres led Carbon Asset Risk Initiative. This effort involves 70 global investors managing more than \$3 trillion of collective assets. Through the initiative, shareholders of major oil and gas, coal and electric power companies were asked to assess the financial risks that climate change poses to their business plans. Companies engaged in 2014-15 included ExxonMobil, Royal Dutch Shell, BHP Billiton, Rio Tinto, American Electric Power and Vale.

Another partnership effort CalPERS is active in is the Investor Network on Climate Risk, also led by Ceres. This is a global investor coalition representing \$24 trillion in assets. A central objective is to introduce carbon pricing and terminate public subsidies to the fossil fuel industry. The goal is to catalyse market forces to better address risks and capitalize on opportunities. In line with this goal, CalPERS CEO Anne Stausboll is also part of the Carbon Pricing Leadership Coalition and CalPERS staff will participate at the COP 21 climate negotiations in Paris.

### CORPORATE REPORTING

Productive corporate engagement depends on thorough corporate reporting. Transparency allows shareholders a complete understanding of a company’s strengths and weakness. CalPERS believes companies must report on three forms of economic capital — financial, human, and physical. While some only focus on the financial aspects of corporate reporting, CalPERS understands engaging companies on all three aspects addresses the complete health of a company. Commitment to the three forms of economic capital is directly reflected in CalPERS Investment beliefs.

Corporate reporting is also one of CalPERS Global Governance Program’s five core issues. The team collaborates with the IFRS, PCAOB and SASB as they continue to develop reporting standards that reflect how financial, physical and human capital are employed. CalPERS is also working with the Aiming for A coalition and carried out a full proxy solicitation at BP on climate risk disclosure resulting in a “for” vote of 98%.

CalPERS not only advocates for corporate reporting, but also participates in it. As a founding signatory to the PRI, CalPERS completes the reporting framework each year to demonstrate how it implements the principles across all asset classes.

### SUCCESS STORIES

CalPERS has had successful engagement with numerous global companies including Duke Energy, Shell, BP, Occidental Petroleum Corporation, and Peabody Energy. For more information about CalPERS corporate engagement efforts, please visit [www.calpers.ca.gov](http://www.calpers.ca.gov).

### ABOUT THE PORTFOLIO

CalPERS is the largest pension fund in the U.S. and serves more than 1.7 million beneficiaries. The total fund market value stands at approximately \$284 billion as of November 2015, of which the public equity component is just over \$148 billion and invested in more than 10,000 companies.



## STRATEGY 2: INVEST

### INVEST WITH CLIMATE CHANGE INTEGRATED INTO DECISION-MAKING

Integration of ESG factors is “the systematic and explicit inclusion by investment managers of environmental, social and governance factors into traditional financial analysis” in order to enhance investment decision-making<sup>30</sup>. Integrated analysis of climate change can assist in understanding sector- and company-specific risks. Although not in itself a way to reduce emissions in the real economy, this is essential to informing investor engagement and investment decisions. Integration is a more suitable strategy for actively managed than passively managed funds, given the latter do not involve stock-picking or under/over-weighting companies compared to a benchmark. Integration practices within equities are presently more advanced than in other asset classes such as fixed income.

- **Actively managed equities:** integration can involve identifying and analysing material climate change-related issues, quantifying these to adjust value driver assumptions, and as a result making better-informed investment decisions. Climate change can be considered within different stages of investment decision-making, including idea generation, company analysis, the investment case, and portfolio construction. As integration practices become embedded, asset owners can work with portfolio managers to measure the impact of ESG factors on valuations. For example, one manager, Robeco, has calculated that on average, ESG factors account for 5% of the target price, with the impact on valuation ranging from -23% to +71%<sup>31</sup>.
- **Fixed income:** integration can involve analysing issuer exposure to material climate change risk and financial implications, pricing the risk and determining whether the bond represents good investment value, and as a result having a more informed assessment of issuer credit risk and creditworthiness. Climate change can be considered for corporate bonds at a sector and company level. It can also be considered for government, municipal and supranational bonds, focusing on exposure and resilience to climate change impacts, for example. Credit rating agencies such as S&P have work underway on sovereign risk and climate change see the Appendix for other asset classes.

### PRI EVALUATION

**Pros:** Systematically include evaluation of climate change risks and opportunities in the investment decision.

**Cons:** effective in identifying carbon risk at the company and sector level, but challenging to aggregate this meaningfully across an entire portfolio and some data challenges too.

**Timeframe:** developing a robust process for integrated analysis can be resource-intensive initially, but will likely bring better-informed investment decisions on an ongoing basis.

**Tracking and measuring performance:** Performance indicators can focus on how a portfolio manager actively incorporates climate change factors into core decision-making processes, including idea generation for actively managed equities, and credit worthiness for fixed income. Indicators may include evidence of specific investment decisions or analysis adjusted as a result of integration of climate change risks and opportunities, at a sector, company or issuer level.

### POSSIBLE ACTIONS

Portfolio managers could be encouraged, through discussions in performance review meetings, surveys or formal wording in mandates, to take the following actions:

- Integrate climate change risk and opportunities within sector analysis;
- For actively managed equities: integrate climate change factors into idea generation; including assessment of company strategy, management quality including innovation, financial reports and valuation tools;
- For fixed income: integrate climate change risk factors into credit risk assessment, and
- Report on the portfolio manager’s evaluation of the fund’s exposure to climate change risks and opportunities.

<sup>30</sup> [http://www.gsi-alliance.org/wp-content/uploads/2015/02/GSIA\\_Review\\_download.pdf](http://www.gsi-alliance.org/wp-content/uploads/2015/02/GSIA_Review_download.pdf)

<sup>31</sup> <http://www.robeco.com/images/measuring-esg-impact-part-1-valuation-may-2015.pdf>

# CASE STUDY: ASSESSING CARBON RISKS IN EQUITY PORTFOLIOS

## ALLIANZ

### KEY POINTS

This case study highlights how carbon and energy risks can be leveraged for stock picking in key sectors, such as cement and dairy. This can be used to assess and price in potential risks, before and after a company responds to these risks, and to inform company engagement.

### PILOT STUDY CARBON AND ENERGY RISKS IN CEMENT AND DAIRY INDUSTRIES

In 2014, Allianz Global Investors and Alliance Climate Solutions in partnership with The CO-Firm and WWF Germany ran a pilot to model carbon and energy risks for stock-picking. The pilot focused on the cement and dairy industries in the US (California), China (Guangdong Province) and Germany. The aim was to assess the financial impact associated with carbon and energy regulation – as the most material short-term risk from scaled-up climate policy - on corporate return. The model develops plausible development paths for that regulation, resulting in scenarios that can be used for stress-testing purposes. This is not captured by conventional financial analysis.

### STUDY FINDINGS

To a large extent the margin impact is a function of a company's ability to adjust operations, carbon exposures and business models to a changing regulatory environment. As might be expected, the pilot study found that margin effects are strongest in the energy-intensive industries and in particular in an environment where the ability to pass costs through to consumers is limited. In a scenario based on politically plausible increases in carbon and energy prices over the next five years, regulatory costs might lower current margins by more than 70 % (see table 1, column 2: 'margin at risk'; in the case of Germany, 12.4 € /t of cement).

As indicated in the table below, if a cement company anticipates regulatory changes and takes operational measures e.g. by investing in waste heat recovery (a key technical improvement lever among a sample of measures), the negative margin impact is reduced and can even turn into a gain. It allows to improve margins in the selected scenario by 4.7 EUR/t cement (Germany), 1.6 EUR/t cement (USA, California) and 2.1 € /t cement (China, Guangdong) respectively (see table 1, column 3: 'margin improvement potential'). There is a total margin improvement potential of +1.1 € /t cement in China, Guangdong, for example. This is the result of adding the margin at risk (-1 € /t) and the improvement potential (2.1 € /t) in China, Guangdong.

### IMPLICATIONS FOR PORTFOLIO ANALYSIS

This approach takes a bottom-up view on risk, allowing investors to identify the factors that differentiate future corporate performance (such as alternative technological or business strategies) and thus make better investment decisions. This differentiation capability will allow investors to price in potential risks associated with the use of energy and GHG emissions, engage industries and companies on mitigating strategies (e.g. upgrading technologies), and support stock-picking.

Enhancing financial analysis with carbon risk measurements - cement sector pilot

Region	Margin as of today [€/t]	Margin at risk [€/t cement]	Margin improvement potential [€/t cement]
Germany	17.3	-12.4	4.7
USA – California	20.3	-3.2	1.6
China – Guangdong	12.0	-1.0	2.1

### ABOUT THE ORGANISATION

Allianz Global Investors – a subsidiary of Allianz SE – is a global asset manager that provides a wide range of actively managed investment strategies and solutions across the risk/return spectrum. Its investment teams manage €446 billion\* of asset on behalf of clients across equity, fixed income, alternative and multi-asset strategies. Allianz Climate solutions GmbH is the competence centre on climate change of Allianz SE. [https://www.allianz.com/en/about\\_us/](https://www.allianz.com/en/about_us/)

\*as at 30 June 2015

# CASE STUDY: MANAGEMENT OF EXCESSIVE SUSTAINABILITY RISK

## WESPATH INVESTMENT MANAGEMENT

### KEY POINTS

This case study highlights how the management of carbon asset risk links to fund-wide investment risk management and how specific guidelines – relating to climate change and thermal coal – can help to manage such risk.

### MANAGEMENT OF EXCESSIVE SUSTAINABILITY RISK POLICY

Wespath has five sustainable investment strategies integrating environmental, social and governance (ESG) factors into its investment process: Ethical Exclusions, Active Ownership, Positive Impact Investment, External Manager ESG Integration and Strategic Partnerships. In 2014, Wespath enhanced its Active Ownership strategy by adopting a new investment policy recognizing that there may be instances when particular ESG issues, sets of companies and/or industries pose “excessive sustainability risk.” The policy enables Wespath to develop a guideline relating to the issue, which informs company-specific engagement priorities and could ultimately lead to the exclusion of certain securities until the risk of holding them has been resolved or sufficiently reduced. Wespath’s board approved a new investment guideline relating to climate change with a specific focus on thermal coal.

### CLIMATE CHANGE (THERMAL COAL) GUIDELINE – EXTRACT

#### MATERIALITY

“Wespath’s research has shown that developed nations are shifting away from electricity generated from coal (known as “thermal coal”) to other fuel sources. Thermal coal is the most carbon-intensive fossil fuel and—absent the development of technologies to mitigate coal’s environmental impact—we believe that in many markets, in response to the need to address climate change, coal will be heavily taxed or significantly replaced by alternative fuel sources. This would result in a meaningful deterioration in the value of securities in companies that derive a significant

portion of their revenues from the production and consumption of thermal coal.”

#### APPLICATION

“In developed markets, companies receiving 50% or more of their revenues from thermal coal will be excluded from investment. In developing markets, companies receiving 50% or more of their revenues from thermal coal and in the bottom half of their peer group on ESG performance will be excluded from investment. As mined thermal coal predominantly supplies the electric utility industry in developed markets, the guideline also applies to this industry and focuses on companies with the highest supply chain risk, as defined by their reliance on coal (more than 75%) for their fuel mix. In developed countries, the guideline protects Wespath’s funds from the current financial challenges associated with thermal coal production while supporting opportunities for the transition to a lower-carbon economy. In developing countries, the guideline recognizes that thermal coal continues to offer access to energy that is critical to economic development.”

Engagement versus risk-based exclusion: “Wespath continues to believe that constructive engagement is the most powerful tool for effecting corporate change and supporting the transition to a low-carbon economy. Engagement may therefore be employed for companies in the mining and electric utility sectors that are close to the threshold for exclusion. In these cases, Wespath will review the company’s historic and projected involvement in the coal industry before recommending engagement or exclusion.”

#### ABOUT THE ORGANIZATION

Wespath Investment Management is the investments division of the US-based General Board of Pension and Health Benefits of The United Methodist Church (UMC). It managed US\$19.8 billion in assets, as of September 30, 2015, and supports benefit plans for over 91,000 UMC clergy and lay employees of general agencies, local churches and UMC-affiliated institutions. Wespath’s mission is to enable clients to meet their investment objectives while honoring the values of the UMC. <http://www.wespath.com/>

## INVEST IN LOW-CARBON SOLUTIONS

Investing in solutions to climate change helps finance the transition to a low-carbon economy, and is essential to addressing ongoing global emissions. Priority areas include:

- Transportation
- Electricity generation
- Property
- Industrial process
- Sustainable agriculture and forestry

Investment opportunities exist across asset classes and investment approaches. These include renewable energy projects, low-carbon indices, thematic funds, climate-aligned bonds, green infrastructure, real estate and private market opportunities.

- **Low carbon indices:** aim to reflect a lower carbon exposure than the broad market by overweighting companies with low carbon emissions. This may involve investing in best-in-class companies in carbon intensive sectors, or companies with positive environmental impact, such as those leading in mitigating the causes of climate change.
- **Thematic funds:** aim to focus investment ideas on environmental themes, typically solutions to environmental problems. Thematic funds focused on climate change may invest in renewable energy, energy efficiency, clean technology, water and waste management.
- **Climate-aligned bonds:** aim to finance or re-finance projects to address climate change, ranging from wind, solar, hydropower to rail transport. New issuance is often multiple times subscribed and the total climate-aligned bonds universe stands at US\$597.7 billion (as at July 2015), a 20% year-on-year increase<sup>32</sup>. The Climate Bond Standard, supported by the Climate Bonds Initiative<sup>33</sup> assists in demonstrating such bonds are genuinely “green.”
- **Green infrastructure:** an estimated US\$57 trillion new investment in infrastructure is needed between 2013 and 2030 (see figure below), while infrastructure planning needs to be aligned with a 2° objective. GRESB Infrastructure assessment offers asset owners an assessment tool for evaluation and industry benchmarking of infrastructure assets, including specific indicators for climate change risk and resiliency<sup>34</sup>. In the longer-term, asset owners may need to work with stakeholders on investment grade green infrastructure investment opportunities.
- **Real estate:** Buildings generate 40% of global primary energy consumption<sup>35</sup>, with significant opportunities to reduce emissions in new buildings and existing property, particularly through energy efficiency. Tools such as The Global Real Estate Sustainability Benchmark can assist asset owners in understanding performance in energy and greenhouse gas emissions. Other tools such as in-house ESG assessment of property assets may also be developed.
- **Private market opportunities:** these can include funds investing in clean tech, energy efficiency and water, for example. They can invest in infrastructure and private equity.



<sup>32</sup> <https://www.climatebonds.net/2015/07/report-launch-climate-aligned-bonds-universe-5977bn-2015-opportunities-climate-focused#sthash.iqziXMNi.dpuf>

<sup>33</sup> <http://www.climatebonds.net/standards>

<sup>34</sup> <https://www.gresb.com/infra/home#page-heading-2>

<sup>35</sup> <http://www.iea.org/aboutus/faqs/energyefficiency/>

## PRI EVALUATION

**Pros:** Investment in low-carbon solutions significantly assists financing the transition to a low-carbon economy and uses the portfolio to address emissions.

**Cons:** Concerns exist about how low-carbon investments can demonstrate a genuine contribution to solving climate change. There are also concerns about liquidity, diversification, the investment pipeline, and the specialist skills and resourcing needed for low-carbon investments.

Risk-return profiles must be acceptable to investors compared to the normal thresholds they seek, in order for sufficient scale to be achieved. Engagement with companies is important to achieve this, along with engagement with policy makers to develop adequate investment vehicles for institutional investors.

Resourcing and screening is needed to assess previously unseen opportunities, such as new technologies, which can be a barrier for many asset owners. Asset owners could collaborate to identify and work with specialist intermediaries on this.

**Timeframe:** Direct investment and asset allocation can start having an impact on climate change relatively soon, especially if achieved at a meaningful scale<sup>36</sup>.

**Tracking and measuring performance:** A fund could commit to having a particular percentage of its total assets under management in low-carbon, energy-efficient and other climate mitigation investments. The UK Environment Agency Pension Fund published such a target in 2015<sup>37</sup>. Further performance metrics have yet to be developed.

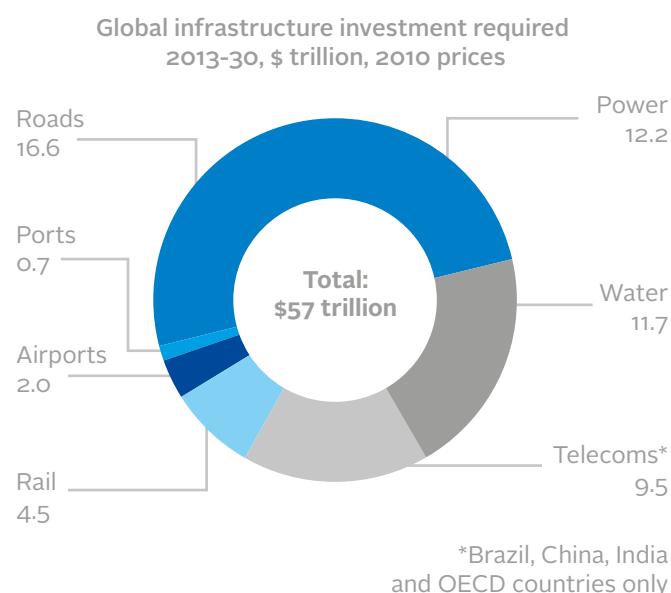
## POSSIBLE ACTIONS

- Review opportunities in line with asset allocation and other investment objectives, and factor climate

change into asset allocation decisions. This can include requesting portfolio managers and consultants consider investment opportunities.

- Resources include the Low Carbon Investment Registry, a new global public online database of low-carbon and emissions-reducing investments made by institutional investors, including the type and value of investment, destination region and manager: <http://investorsonclimatechange.org/portfolio/low-carbon-registry/>

Figure 1: Future global infrastructure investment by industry segment

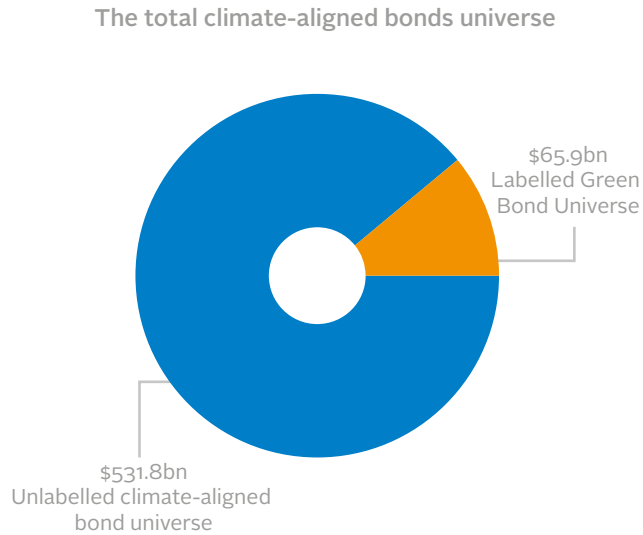


Source: Unlocking Investment in Infrastructure, B2o Panel<sup>38</sup>

<sup>36</sup> <http://www.ceres.org/resources/reports/investing-in-the-clean-trillion-closing-the-clean-energy-investment-gap/view>

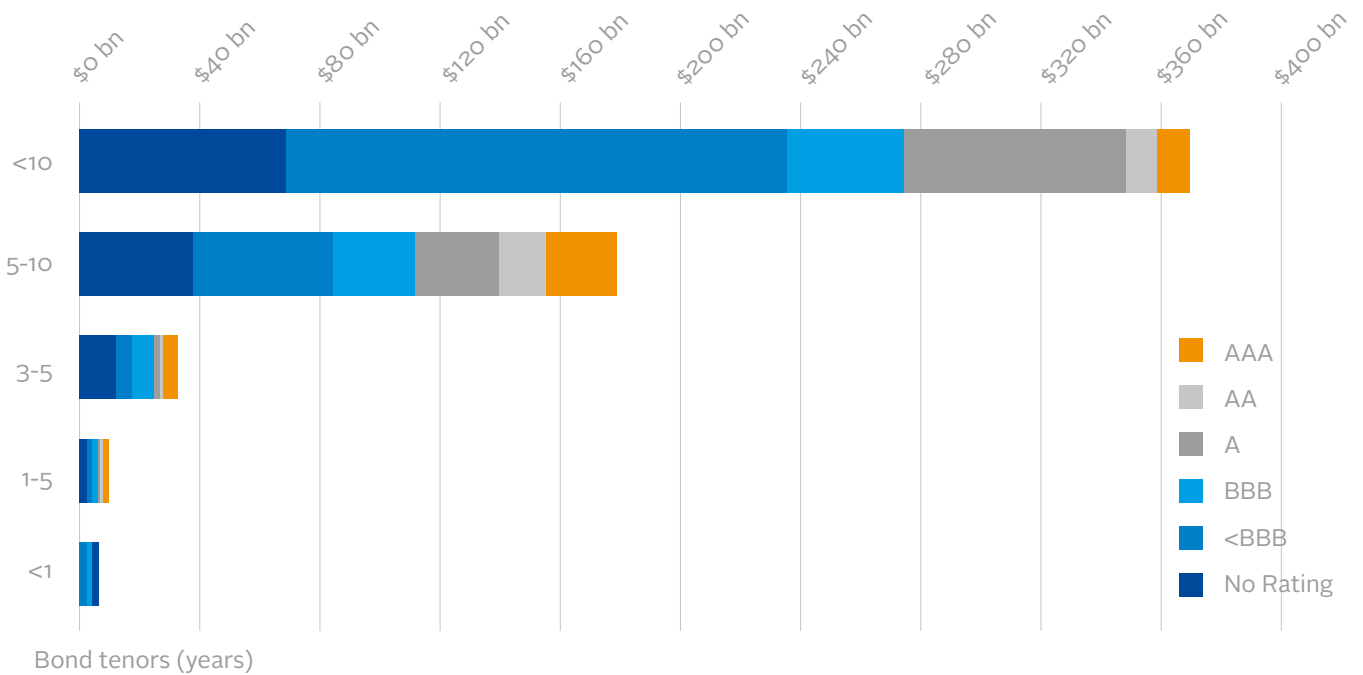
<sup>37</sup> <https://www.eapf.org.uk>

Figure 2: The total climate-aligned bonds universe



Source: Bonds and Climate Change: state of the market report 2015 <sup>39</sup>

Climate-aligned bonds have long tenors, reflecting the length of climate projects, and offer a range of investment ratings



<sup>38</sup> <http://www.pwc.com/gx/en/capital-projects-infrastructure/assets/pwc-bzo-investment-infrastructure.pdf>

<sup>39</sup> <https://www.climatebonds.net/2015/07/report-launch-climate-aligned-bonds-universe-5977bn-2015-opportunities-climate-focused#sthash.iqz1xMNI.dpuf>



# CASE STUDY: SUPPORTING LOW-CARBON SOLUTIONS

## AP7

### KEY POINTS

This case study illustrates how long-term investors can support solutions to climate change and highlights that supportive public policy is essential to scaling up such investments.

### BACKGROUND – A LONG-TERM UNIVERSAL OWNER

As AP7 follows an index, it owns a small part of the entire global stock market and its portfolio reflects the risks and opportunities embedded in the whole global economy, with a 30-40-year investment horizon. AP7 has multiple climate change strategies: carbon footprinting, active ownership and €1.5 billion invested in environmental technologies.

### WHY CLEAN TECH?

AP7 believes that it can invest in climate change solutions while making a return. Pure venture is not viable as the losses are too great, while it is difficult to find less risky buyout investments. Private equity clean tech is a good space; although savers reaching retirement age are less keen on such investments, the younger generation of savers and millennials are very positive about them.

### HOW?

AP7's clean tech private equity programme started in 2007. It has US\$200 million invested in unlisted clean tech companies, with two outsourced managers. The majority of the investments are in the US, and the remainder in Nordic countries. AP7 was one of the first investors in Tesla Motors (a successful investment) and co-invested with a Swedish buyout fund in Nordic recycling company Norskgjenvinning. It currently invests in Solar City, a company with a technological edge in solar panel manufacturing.

What is important to successful clean tech investment?

- Have long timeframes: Private equity programs typically run for 5-10 years, but clean tech investments need to be even longer, requiring strong support from the board.
- Use realistic returns targets: AP7 requires private equity investments to outperform public equity by 2% per year. Initially, the same targets were set for private equity clean tech, but this had to be modified as returns were 5% below public equity returns.

- Diversify: Initially, AP7 could not find enough attractive investments in the Nordic region so had to diversify to international investments.
- Specialist knowledge: A classic mistake is to underestimate development time or be over-altruistic, resulting in poor returns. Challenges include the significant impact of the oil price on clean tech companies. AP7's in-house specialist has over ten years' experience in private equity and eight years' in clean tech.

### HOW CAN MORE FINANCE BE CHANNLED INTO CLEAN TECH?

Clean tech is maturing – five years from now, AP7 expects that there will be more investment opportunities and is investigating how it can increase financing solutions. However, AP7 cannot scale up its investment significantly as the current returns would risk capital for savers. A key reason is the time lag between start-up technologies and monetising their value, although US companies are better at this than companies in other markets.

AP7 considers the following is needed to scale up clean tech investment:

**Close the funding gap:** Governments could play a role in financing companies during the middle gap, between start-up and achieving more financially successful scale, when a large asset owner can invest in a company. Governments could potentially share in the upside, too.

**New technologies:** The Volkswagen scandal, for example, indicates that technology for reducing emissions is reaching a dead end. In the long run, investors need companies with new technologies that make it on their own, driven by consumer demand and not over-dependent on government subsidies.

**Carbon price:** AP7 strongly believe a price on carbon is needed, so that there is a financial driver for alternative power generation and clean tech.

### ABOUT THE ORGANIZATION

AP7 is the default fund in the Swedish premium pension system managing US\$36 billion in assets. As a government pension fund, its values are based on democratic decisions taken in parliament and enforced by the government.



# CASE STUDY: INTERNAL ENGAGEMENT

## AEGON NV

### KEY POINTS

This case study provides examples of activities to engage internal investment staff on climate change and potential opportunities in impact investing.

#### Investment Team engagement and training

Aegon NV aims to ensure that the 150 analysts and portfolio managers at Aegon Asset Management are fully trained and responsible for conducting ESG analysis. Internal engagement by Aegon's responsible investment (RI) team is therefore essential to empower analysts to make confident and informed ESG recommendations that are integrated with the rest of their financial analysis.

- As a first step, in 2014 all managers and analysts at Aegon Asset Management completed ESG training.
- The primary tool for conducting ESG analysis is ESG data and ratings provided by MSCI, which were recently added as a standard item to "tear sheets," which are the global research team's analysis notes.
- ESG analysis is embedded in business process documents, requiring portfolio managers and credit analysts to take into account risks arising out of ESG factors.

#### CAPACITY-BUILDING

The RI team has complemented this ESG training with in-house capacity-building programmes, the first being a climate change summer camp. This four-day event brought in external subject matter experts to discuss climate change risk and analysis. The outcomes included: a commitment by Aegon to investigate tools such as carbon footprints to measure portfolio risk, a project to research how Aegon may scale up clean energy investments and definition of

an engagement programme to support risk analysis and management processes.

#### RISK TEAM

The RI team made use of Aegon's emerging risk contest, an annual event designed to assist Aegon's group risk committee in planning and mitigating risks that are not currently integrated in Aegon's risk framework. The value of this competition is that the risk committee evaluates every submission made, considering the likelihood, scale, and ways that management of new risks can be embedded across the organisation. As such, even submissions that do not win the contest can influence overall risk management processes.

#### IMPACT INVESTMENTS

Aegon's impact investments must be consistent with overall investment criteria. Impact-related activities are conducted by all lines of business; they are not limited to a specific group or mandate to make impact-related investments. A wide variety of teams including sovereign debt, real estate and infrastructure have worked independently and with the RI team to identify impact investment opportunities, resulting in impact investments in wind farms, solar energy, affordable housing, geothermal energy, green bonds and sustainable timber, totalling over €4 billion. Aegon is launching a new project in coordination with relevant investment teams to evaluate and make climate-friendly investments.

#### ABOUT THE ORGANISATION

Aegon NV is an international provider of life insurance, pensions and asset management that operates in over 25 countries with over €645 billion in assets under management. Aegon NV has several climate change strategies underway including a pilot carbon footprint project, and engagement programmes specifically oriented towards climate change risks and environmentally themed investments.



## STRATEGY 3: AVOID

### AVOID HIGH-CARBON COMPANIES

Where an asset owner is exposed to companies dependent on fossil fuel reserves (conventional and unconventional oil, gas and coal), reallocation is a way to reduce this exposure, bearing in mind that fossil fuels are a key component of the world economy and that sectors such as electric utilities may remain mainstream investments.

Typically, an investor will review the possibility by first measuring their exposure to high-carbon or fossil fuel companies and then assessing the impact on investments of removing or reducing this exposure. Such a review will also require assessing implications for tracking error, volatility and returns. Things to consider include:

- Excluding the most carbon intensive companies such as coal and/or oil sands, on a greenhouse gas per joule basis;
- Excluding using a percentage-threshold for extraction of fossil fuels;
- Beneficiary and stakeholder views, and the local policy trajectory; and
- Risk of underperforming the market during commodities up-cycles.

### PRI EVALUATION

- **Pros:** Reallocation based on carbon, financial risk exposure or values, lowers emissions in the portfolio and send a signal to the market on investor concern about carbon risk.
- **Cons:** Reallocation has potential short-term performance implications, and does not reduce carbon usage if ownership is simply transferred to another asset owner.
- **Timeframe:** Reallocation has an immediate impact in lowering emissions in the portfolio, although the impact on the overall global carbon budget is unclear.
- **Tracking and measuring performance:** A carbon footprint can assess emissions in the portfolio against a baseline (including year-on-year changes) and benchmark.

### POSSIBLE ACTIONS

- Asset owners can undertake reallocations reviews internally, or with consultants or providers, drawing on input from beneficiaries and other stakeholders to decide on reallocation options.
- Foundations can consider joining the Divest-Invest Philanthropy Coalition: <http://divestinvest.org/>

# CASE STUDY: CHOOSING WHETHER TO DIVEST FROM COAL

## AXA GROUP

### KEY POINTS

This case study highlights key factors to consider in making a decision to divest from coal.

### BACKGROUND

AXA has multiple responsible investment strategies underway including impact investing, carbon footprinting, ESG integration, active ownership, low-carbon investment and divestment. In May 2015, AXA announced that it would triple its green investments to €3 billion by 2020 and divest €0.5 billion from companies most exposed to coal by the end of 2015.

### PROCESS

AXA Group worked closely with AXA Investment Management to assess and propose possible approaches towards carbon risk reduction, including via divestment. These were considered by the board over a three-month period. AXA also consulted informally with peers to exchange views on divestment. The final decision was announced by AXA's Chairman and Chief Executive at Paris Finance Day, 22 May 2015.

### FACTORS CONSIDERED

If carbon is a risk, AXA believes that it needs to measure and design mitigation strategies on behalf of beneficiaries. The group thus considered carbon as a risk for an insurer, noting that keeping global warming below 2°C requires burning only a third of existing fossil fuel reserves by 2050, and up to 90% of coal reserves. If this requirement were enforced, through market, societal and regulatory pressures, it could result in significant loss of value (stranded assets) for the most carbon-intensive companies.

Coal was identified as one of the most carbon-intensive industries. Exclusion would have little or no effect on global emissions in the short-term; however, a mainstream investor

the size of AXA partially validating the stranded assets hypothesis sends an important signal to the market, peers and regulators about future financial potential, and acting as an incentive to increase the cost of capital of fossil fuel companies.

### DECISION

AXA decided it would stop investing in:

- Mining companies with over 50% of their turnover from coal extraction;
- Electric utilities with over 50% of their turnover from coal power generation.

The policy extends to holding companies, not to other non-coal affiliates. It does not include other carbon-intensive industries or types of coal-related business for which carbon exposure data is insufficiently reliable.

### RATIONALE

AXA made its decision in the belief that this would:

- Send a signal to markets and regulators;
- Contribute to de-risking of its portfolios;
- Be consistent with the group's ESG integration process; and
- Contribute to an energy transition curve aligned with a maximum 2°C rise in global temperatures, per the group's corporate responsibility strategy to promote a "stronger and safer" society.

To date, AXA's position has been well-received by customers, regulators and broader stakeholders.

### ABOUT THE ORGANISATION

AXA is one of the world's leading insurance and asset management groups, serving 103 million clients, individuals and business, in 59 countries. Headquartered in France, it has €1,277 billion of assets under management. <http://axa.com/en/group>



## STEP 3: REVIEW

### MONITOR AND REPORT ON EFFECTIVENESS

Asset owners can put processes in place to assess how effective they are in implementing their chosen strategies. As well as the specific performance indicators suggested within each strategy, there are broader tools for monitoring and reporting, including those outlined below. Further work is needed on how an individual asset owner can assess their contribution towards emissions reductions in the real economy.

**The PRI Reporting Framework:** From 2016, this will provide for mandatory indicators and voluntary annual disclosure on investor practices on climate change, including measurement, engagement, low-carbon investment and thematic investment. The public Transparency Report generated for each investor that completes the framework can be used in internal reviews. In future years, confidential assessments may include climate change. The PRI's Reporting & The Report on Progress assesses overall industry progress. See <http://www.unpri.org>.

**The Asset Owner Disclosure Project:** This provides an independent and in-depth assessment of disclosure, covering transparency, risk management, low-carbon investment, active ownership and investment chain alignment. See <http://aodproject.net/>

**Balanced score cards:** These are well-accepted among Fortune 500 companies, and included in the Value Driver

Model work of the UN Global Compact<sup>40</sup> and the PRI. An asset owner could adopt a similar approach by developing performance indicators with metrics for:

- Internal understanding, culture and training in relation to climate change;
- Ability and success at working with externally appointed managers on climate change;
- Level of success in investor engagement with companies;
- Level of success in investor engagement with policy makers; and
- Distance from target on established goals, for example on quantitative carbon emissions.

**The Investor Platform for Climate Action:** In 2015, investors launched this online platform identifying and recording publicly the wide range of actions on climate change being undertaken by the global investor community. It lists investors taking action in four primary action areas:

- Measurement (e.g. carbon footprinting of portfolios);
- Engagement (e.g. with fossil fuel and energy-intensive companies);
- Reinforcement (e.g. with public policy makers); and
- Reallocation (including investment in low-carbon assets and shifting capital from emissions-intensive activities. <http://investorsonclimatechange.org/>

<sup>40</sup> <https://www.unglobalcompact.org/take-action/action/value-driver-model>

# FURTHER CASE STUDIES OF ASSET OWNER ACTIONS

## LOCAL GOVERNMENT SUPER (AUSTRALIA)

### CASE STUDY

#### Carbon footprinting and intensity reduction

Key points: This case study highlights how multiple strategies can be used by long-term investors to address climate change and reduce emissions intensity, while ensuring returns.

Multiple strategies to reduce emissions intensity: LGS joined the Portfolio Decarbonization Coalition in 2015, committing to measure and disclose a portfolio carbon footprint, and to take action to reduce the carbon intensity of the portfolio. The following strategies are underway to implement this commitment:

- **Measure:** LGS receives 6-monthly carbon risk audits measuring portfolio carbon emissions (scope 1 and 2), and portfolio carbon intensity. The fund reviews carbon performance versus the benchmark, identifies high-carbon sectors and managers, and checks the emissions of its low carbon themed investments. The fund is below benchmark in emissions and carbon intensity. The carbon footprint is published on the LGS website at <https://www.lgsuper.com.au/investments/SRIpolicies.asp>
- **Engage with companies:** LGS regularly engages with ASX listed companies on climate risks and opportunities. In addition to direct engagement with companies LGS also participates in co-filing climate related resolutions at company AGMs. In 2013 and 2014, LGS supported the election of Ian Dunlop (a climate expert with oil and gas experience) to the board of BHP Billiton. LGS also participated in the co-filing of climate disclosure resolutions for BP and Shell in 2015.
- **Engage with policy makers:** LGS engages with policy makers and regulators through the Investor Group on Climate Change (IGCC). Engagement in 2015 focused on the development of Australia's post-2020 carbon reduction targets.
- **Low carbon investment:** LGS invests more than US\$625 million in low carbon opportunities, including:
  - International listed equities – low carbon fund where all companies must derive 50% of their value from low carbon assets or activities (US\$70 million).

- Direct property – internally managed green property portfolio of office, industrial and retail buildings (US\$453 million).
- Private equity – clean technology mandate covering renewable energy technologies and generation (US\$30 million).
- Sovereign and corporate bonds – global government bond mandate with 15% allocation to green bonds (US\$18 million) plus Australian dollar corporate and government bond mandate with 6% allocation to green bonds (US\$33 million)
- Absolute return – mandate to hedge climate risks faced by utilities through investing in electricity and environmental markets (US\$38 million).
- Infrastructure – infrastructure fund with 10% allocation to renewables (US\$16 million).

- **Divestment and exclusions:** LGS excludes companies that derive more than one third of their revenue from 'high carbon sensitive' industries, including coal and oil sands mining, and coal-fired energy generation. Such companies were assessed as poor investments, suffering structural decline over the longer term.
- **Independent evaluation:** LGS has been the top rated global asset owner by the Asset Owner Disclosure Project in its 2015 Global Climate Index. Reasons for its high ranking include: reduction in carbon intensity from previous years, calculation of portfolio-wide emissions and climate-related portfolio risk mitigation actions. The latter include guidance to portfolio managers, use of a climate risk overlay on their core portfolio, underweighting carbon-intensive stocks and sectors, using divestment and negative screens in certain sectors, and allocation to low carbon assets.

### ABOUT THE ORGANISATION

Local Government Super (LGS) manages US\$7 billion in pension assets for over 90,000 members in Australia. LGS aims to earn long-term sustainable returns, with investment horizons 20, 30, 40 or more years into the future. LGS have committed to managing climate risks across the entire portfolio including global equities, property, fixed income, absolute return and private equity. More information is available at <https://lgsuper.com.au/>

# APPENDIX: ASSET CLASS FACTORS

Further asset class-specific factors are considered below, using the engage, invest, avoid framework. Mercer comprehensively assess asset class sensitivity to climate change in its 2015 publication, Investing in a Time of Climate Change. The study estimates that over a 35-year period to 2050:

- Agriculture and timber will have a negative sensitivity to climate change.
- Infrastructure, emerging market equity and real estate will likely benefit from climate policy and technology.
- Developed market global equity will have a minimum negative impact to climate change due to sensitivity to policy factors.
- Developed market sovereign bonds are not viewed as sensitive to climate risk.<sup>41</sup>

## EQUITIES

### RISK EXPOSURE AND CONTEXT

Mercers' analysis indicates that developed market global equity will have a minimum negative impact on climate change, while emerging market equity will likely benefit from climate policy and technology<sup>42</sup>.

Individual listed companies holding physical assets will likely be impacted by the physical effects of climate change, with sectors such as agriculture particularly at risk.

Valued at between US\$65 trillion and US\$70 trillion, public equity traditionally has had the most focus from an ESG perspective. Emissions that result from public companies have been flat in recent years, despite record levels of investment and increasing awareness and interest, evident in comprehensive cross-sector analysis in 2014<sup>43</sup> and 2015<sup>44</sup>. Listed fossil fuel and other high carbon sector companies such as utilities impact negatively on climate change.

### ENGAGE

Engagement remains a main driver of action on climate change for asset owners with significant public equity allocations, with voting and shareholder resolutions increasingly relevant on climate change.

**Pros** The effectiveness of individual and collaborative engagement in facilitating change at companies over time, including changes in climate change strategy, policies and practices.

**Cons** Until a majority of votes is procured, shareholder resolutions may not result in changes by companies, while investor engagement can require sustained effort over years.

## INVEST

### BEST-IN-CLASS

Approaches could involve inclusion of companies that lead their industry or sector on environmental performance. "Positive choice" similarly involves seeking to invest in companies perceived to be providing positive net environmental benefits. Further examples include placing priorities on companies within sectors that are more efficient or recognized as seeking to be most innovative e.g. recent analysis performed by CDP on the auto and chemicals sector, including product design<sup>45</sup>, or as by CERES on the Utilities industry<sup>46</sup>.

**Pros** Simple argument to "invest in the best" companies and avoid the remainder. Such an investment strategy can potentially incentivise companies to lower carbon emissions.

**Cons** Potentially more costly than other strategies, with mixed reports on performance.

### DIRECT THEMATIC INVESTING

Approaches include investing in renewable energy, energy storage, efficient transportation, water and energy infrastructure. Financial performance has been at times challenging. Passive approaches can penalise companies especially in nascent industries, where more losers than winners are expected to emerge. Active managers can have more success, but only focusing on public companies may be limited to choices that are not as financially attractive as might be experienced through private company, earlier stage investment. Yieldcos are an emerging investment trend relevant to climate change. A Yieldco is an investment vehicle that acquires pooled assets backed by renewable energy projects at the time that they are put into service after completion of construction.

**Pros** Clear ability to focus part of the portfolio on carbon reducing solutions provided by publicly listed companies.

**Cons** Active approaches may carry higher fees unless performed through direct investing in companies such as publicly traded Yieldcos.

<sup>41</sup> <http://www.mercer.com/services/investments/investment-opportunities/responsible-investment/investing-in-a-time-of-climate-change-report-2015.html>

<sup>42</sup> <http://www.mercer.com/services/investments/investment-opportunities/responsible-investment/investing-in-a-time-of-climate-change-report-2015.html>

<sup>43</sup> [http://info.greenbiz.com/rs/greenbizgroup/images/state-green-business-2014.pdf?mkt\\_tok=3RkMMJWWf9wsRolv3NZKXonjHpfsX56%2BwkWaa2lMl%2FoER3fOvrPUfGj4CT8Fl%2BSLDwEYgJlv6SgFSLHEMa5qw7gMXRQ%3D](http://info.greenbiz.com/rs/greenbizgroup/images/state-green-business-2014.pdf?mkt_tok=3RkMMJWWf9wsRolv3NZKXonjHpfsX56%2BwkWaa2lMl%2FoER3fOvrPUfGj4CT8Fl%2BSLDwEYgJlv6SgFSLHEMa5qw7gMXRQ%3D)

<sup>44</sup> <http://www.greenbiz.com/article/state-green-business-2015>

<sup>45</sup> <https://www.cdp.net/Docs/investor/2015/auto-report-exec-summary-2015.pdf>

<sup>46</sup> <http://www.ceres.org/roadmap-assessment/sector-analyses/electric-utilities>



## ESG INTEGRATION

ESG integration is more advanced in equities than in other asset classes. Macro, sector and company analysis all provide opportunities to integrate climate change factors. For more on this, see PRI's 2013 publication, *Integrated Analysis*, which includes climate change case studies<sup>47</sup>.

**Pros** Can assist in idea generation, as well as sector and company risk analysis. Applicable to internally and externally managed funds. Can be combined with other strategies such as active ownership to encourage emissions reductions by companies.

**Cons** Not in itself a way to reduce emissions in the real economy, although important to risk evaluation and informing other actions that may assist in reducing emissions such as active ownership.

## AVOID

### EXCLUSIONS

Exclusions and negative screens remain a large component of responsible investment practices<sup>48</sup> for equities, at over US\$14 trillion, but do not traditionally focus on climate change. Certain asset owners have chosen to divest from companies from equities, such as those with a majority of activity in coal.

**Pros** Easy to implement, relatively affordable and sends a “signal to the market.”

**Cons** Does not directly assist in staying within the global carbon budget if companies continue to operate as is and the shares are bought by another investor.

### NORMS-BASED SCREENING

This involves screening against a list such as the UN Global Compact's Ten Principles. Norms have not yet been established specifically for climate change.

## FIXED INCOME/LENDING

### RISK EXPOSURE AND CONTEXT

- Developed market sovereign bonds are not viewed as sensitive to climate risk.<sup>49</sup> However, individual corporate debt issuances are likely to include risk premiums for high emissions profiles and therefore lower yields or require a higher coupon.

- Sovereign debt, issued by governments with volatile domestic energy profiles, could in time carry a negative factor into their risk rating.
- There are some opportunities for addressing climate change within existing fixed income. Asset owners can also encourage the issuance of fixed income that funds projects and companies. This could include direct lending, as well as providing allocations to issuance by a corporate, a government or an agency such as the World Bank.

### ENGAGE

Larger fixed income players have influence on underlying companies, especially if they believe it will affect future, new issuance or lending. Engagement with companies for which future issuance is intended is one approach, particularly as this may involve future financial risk. For sovereign or municipal risk, investors can focus on the ability of countries to make future payments in the face of climate change effects. This is particularly relevant as fixed income and loans pay out over time, with climate change effects expected to accelerate in specific regions.

**Pros** Can be applied to new issuance to ensure financed projects and companies are going to remain solvent. Existing issuers can also be engaged with to ensure they are capable of adapting to the expected effects of climate change on their businesses.

**Cons** May be more challenging to affect existing issuance and loans.

## INVEST

### POSITIVE SCREENING

Positive screens favouring companies with lower carbon exposure can be used, particularly for new issuance. A “Carbon Profit and Loss”<sup>50</sup> type of approach could also be considered in fixed income in this regard, where an asset owner seeks to achieve an equal balance of “brown” vs. “green” loans.

**Pros** Can help create a useful dynamic, especially in regards to new issuance;

**Cons** Does not affect the ongoing emissions generated by the recipients of existing loans or fixed income instruments. Benefits can therefore be difficult to measure

47 [http://2xjmlj84z8u1a2k5o341m71.wpengine.netdna-cdn.com/wp-content/uploads/Integrated\\_Analysis\\_2013.pdf](http://2xjmlj84z8u1a2k5o341m71.wpengine.netdna-cdn.com/wp-content/uploads/Integrated_Analysis_2013.pdf)

48 [http://www.gsi-alliance.org/wp-content/uploads/2015/02/GSIA\\_Review\\_download.pdf](http://www.gsi-alliance.org/wp-content/uploads/2015/02/GSIA_Review_download.pdf)

49 <http://www.mercer.com/services/investments/investment-opportunities/responsible-investment/investing-in-a-time-of-climate-change-report-2015.html>

50 <http://www.ecofys.com/en/project/profit-and-loss-carbon-accounting-of-asn-bank-portfolio/>

## DIRECT THEMATIC INVESTING: CLIMATE-ALIGNED BONDS

- **Growth:** Over US\$36 Billion of climate-aligned bonds were issued in 2014, including by corporations such as Toyota and Unilever issuing bonds for their own green purposes<sup>51</sup>. New issuance is often multiple times oversubscribed and demand has exceeded supply. Asset owners can play a role in advocating for steps that can encourage more issuance through policy and direct corporate involvement.
- **“Green”:** The main method used by issuers to demonstrate their “green” nature is a categorization approach, such as the Climate Bond Standard advocated for and supported by the Climate Bonds Initiative, linking to categories of qualifying activity such as solar, wind and low carbon transportation<sup>52</sup>. Certification and assurance can then provide the reporting and confidence needed for asset owners to understand the success of the issuance, as well as to the quantitative benefit. Similar approaches have been taken by banks in launching Green Bond Principles.
- **Benefits:** Climate-aligned bonds have not yet reached the point of demonstrating quantitative net benefits. Problems can occur without such quantification, such as efforts to use some fixed income in the name of green bonds to fund coal-related projects<sup>53</sup>. Other concerns remain regarding the ability to demonstrate “additionality”<sup>54</sup>. Some such bonds are assured by second or third parties who can help ensure that proceeds were being allocated as promised, but not all Climate-aligned Bonds are externally assured.
- **Direct financing of projects:** This includes asset finance of renewable energy projects (mostly in solar and wind energy) and direct investment in small distributed energy capacity, which totalled US \$244.2 billion in 2014. This makes the largest component by far of renewable energy investment.
- **Pros** A clear and evolving path for asset owners to consider, offering a way for asset owners to invest in solutions which can reduce carbon emissions in the real economy.
- **Cons** Concerns about “greenwashing” and actual reduce emissions needs to be addressed through industry standards, as well as concerns about liquidity and diversification.

## ESG INTEGRATION

ESG analysis can inform assessment of issuer creditworthiness, provide additional insights into credit risk and inform investment management. The fundamental elements of issuer analysis could include climate change:

- Analyse the issuer’s exposure to material risks and capacity to manage those risks.
- Understand financial implications of those risks materialising
- Price the risk and determine whether the bond represents good investment value

For corporate bonds, this could include identifying material carbon risks at a sector and company level, for examples using scores for corporate fixed income. Such analysis could focus on understanding potential physical impacts of climate change, impacts on prices of resources, regulatory risks, impact on the of capital or ratings and product development opportunities.

For government, municipal and supranational bonds, a country’s exposure to systemic environmental risks such as climate change and/or water scarcity, and its resilience to those issues, could affect economic outputs, borrowing and ability to attract foreign investment over the longer term. ESG scores or ratings including climate change could be used to differentiate issuers and inform diversification.

## AVOID

### NEGATIVE SCREENING

See the earlier section on the reasons for reallocation (divestment). Screened out holdings will not directly reduce carbon emissions in the real economy, as another investor will own the sold instruments. However, screening and divestment on fixed income can help manage risk in the portfolio and align with values.

**Pros** Reallocation may help asset owners avoid categories of financial risk in fixed income while sending a clear market signal;

**Cons** Such strategies do not directly reduce the carbon emissions of owned entities.

<sup>51</sup> <http://www.climatebonds.net/2015/01/final-2014-green-bond-total-366bn-%E2%80%93-that%E2%80%99s-more-x3-last-year%E2%80%99s-total-biggest-year-ever-green>

<sup>52</sup> <http://www.climatebonds.net/standards>

<sup>53</sup> <https://www.climatebonds.net/2014/09/world-coal-conference-looking-green-bonds-%E2%80%9Cclean%E2%80%9D-coal-investments-hmmm-not-new-frontier>

<sup>54</sup> [http://e360.yale.edu/feature/can\\_green\\_bonds\\_bankroll\\_a\\_clean\\_energy\\_revolution/2829/](http://e360.yale.edu/feature/can_green_bonds_bankroll_a_clean_energy_revolution/2829/)



## A NOTE ON SOVEREIGN RISK

Asset owners can participate in research efforts towards benchmarking risk in sovereign risk as pertains to climate change and ongoing carbon emissions, including degrees of stranded asset risk by country. S&P and Moody's are both working on these areas. The PRI's fixed income work stream includes opportunities for asset owner engagement with credit rating agencies.

### RELEVANCE OF CLIMATE CHANGE

The concept of sovereign risk with climate change factored in is of growing investor interest. Insurance companies often hold as much as 90% of their investments in fixed income, making this an especially large area of interest and potential future exposure. Typically, sovereign risk has focused on areas of traditional financial risk across categories. Bringing in climate factors could allow for a more well-rounded perspective on sovereign risk for investment decisions.

### CREDITWORTHINESS:

Climate change and emissions have not historically been given consideration in rankings; these have been performed on the back of the creditworthiness of nations<sup>55</sup>. There are ongoing efforts to bring climate change into credit ratings, particularly by S&P, but these are presently a work in progress within the industry. There is a clear adaptation angle, especially as pertains to regions subject to sea level rise, increased chances of strong storms as well as increased average temperatures and drought. In time, adjusted credit ratings on adaptation and mitigation efforts could help asset owners improve their understanding of how risky their current fixed income investments are.

### NEW FRAMEWORKS

Frameworks are starting to emerge such as The Swiss Re led Economics of Climate Adaptation.<sup>56</sup> This framework provides an overview of climate risk or total climate risk of eight regions including Florida, India, Guyana, Tanzania, Mali, China, Samoa and the city of Hull in the UK. It covers a range of climate risks, levels of economic development and potential adaptation measures. The framework found that these regions were not prepared for the future effects of climate change in terms of understanding value at risk and future economic development required.

There are also increasing resources demonstrating countries that are actively mitigating risks which would form part of a framework of lower sovereign risk once factoring in carbon emissions. Examples include the Global Green Economy

Performance Index<sup>57</sup> which ranks Sweden, Norway, Costa Rica, Germany and Denmark highest. These are countries moving more towards the use of renewable energy such as in the German Energiewende effort<sup>58</sup>. The World Bank has also just issued a Global Tracking Framework for this purpose<sup>59</sup>.

## PRIVATE EQUITY/ VENTURE CAPITAL

### RISK EXPOSURE AND CONTEXT

- Companies beyond those trading on public markets are increasingly owned by asset owners.
- State owned enterprises (SOEs) are at times privatized and become future public companies, or can be and have been bought out by private equity firms. Therefore they may become relevant considerations and own the largest proportion of the world's remaining fossil fuel reserves.

### ENGAGE

Given the nature of private equity relationships, engagement with owned companies has been limited to date, although good cases continue to emerge, such as KKR working with its acquired AllianceBoots, to accelerate energy efficiency spending<sup>60</sup>. Private equity investors can also take strong influence during the due diligence phase. This also applies for fund-based investments, where LPs can have dialogue with GPs prior to their commitment to invest.

## INVEST

### POSITIVE SCREENING

Potential remains for developing this in private equity/venture capital, but no known case studies exist. CalPERS has championed the idea of equity becoming a single asset class, whether public or private, towards applying the same set of expectations either way, including on transparency.

### IMPACT INVESTING

Impact investing is private equity with the aim of having positive societal and financial impact. While impact investing remains primarily focused on addressing social problems across healthcare, education, access to finance and housing, it has not yet achieved scale. However, it remains an area of work to monitor.

55 <http://www.imf.org/external/pubs/ft/wp/2002/wp02170.pdf>

56 [http://www.swissre.com/rethinking/what\\_does\\_economics\\_of\\_climate\\_adaptation\\_mean\\_for\\_insurance.html](http://www.swissre.com/rethinking/what_does_economics_of_climate_adaptation_mean_for_insurance.html)

57 <http://cleantechnica.com/2014/10/21/global-green-economy-index-winners-losers/>

58 <http://energytransition.de/>

59 <http://www.worldbank.org/content/dam/Worldbank/Event/Energy%20and%20Extractives/Progress%20Toward%20Sustainable%20Energy%20-%20Global%20Tracking%20Framework%202015%20-%20Key%20Findings.pdf>

60 <https://www.kpmg.com/Global/en/topics/climate-change-sustainability-services/Documents/a-new-vision-of-value.pdf>

## DIRECT THEMATIC INVESTING

Private equity and venture capital could have a sizeable impact in solutions to climate change. However, many state pension funds and university endowments struggle to make these strategies perform financially, net of fees. Noted private equity specialists such as Vinod Khosla expect 90% failure for the chance of “finding the next big thing.”<sup>61</sup> Investors such as David Swensen of Yale<sup>62</sup> have succeeded by maximizing a handful of the best and brightest ideas, while advising other investors without such expertise to consider other strategies given costs and chances of success. These same risks potentially apply to attempts to invest in climate change and carbon reduction solutions.

The Office of the Chief Investment Officer of the Regents (UCOP) for the University of California recently formed a consortium of long-term investors to build a new non-profit investment intermediary. The intermediary will identify, screen and assess high-potential companies and projects for commercial investment. These could also produce impactful and profitable solutions to climate change. The consortium, including major pension funds and endowments, initially allocated US\$1.2 billion, with a goal of US\$2.5 billion invested over five years in climate solutions<sup>63</sup>.

Additional examples have been seen in some US states and in the UK regarding the creation of Green Investment Banks to further seed action. While these efforts remain relatively small, they can provide space for R&D which otherwise may not occur.

**Pros** A potential way to provide finance to solutions to climate change.

**Cons** Potentially a financially risky and costly way to invest.

## AVOID

### NEGATIVE SCREENING

Not often performed to date for this asset class, although as asset owners determine that they do not want to own specific sectors such as coal due to climate change and to help lower their footprint, such as coal, this technique becomes potentially more relevant.

### INTEGRATION

Integration, monitoring and evaluation of companies on climate change remains an important area to develop in private equity, as well as company disclosure and transparency on climate change-related risks and opportunities, and emissions.

## PROPERTY/REAL ESTATE

### RISK EXPOSURE AND CONTEXT

Real estate will likely benefit from climate policy<sup>64</sup>. Valued at approximately US \$95 trillion across the value of owned homes and managed portfolios, owned real estate is one of the largest components of investment alongside the value of public companies and the total value of fixed income. These three areas hold significant potential for carbon reduction.

Buildings are the largest categories of carbon emissions by dollar value and by overall emissions percentage, generating 40% of global primary energy consumption<sup>65</sup>.

Sustainability research within real estate is advanced. New buildings are easier to build to the growing body of standards including LEED and BREEAM, even if concerns remain on the reduced levels of carbon emissions which result. Such buildings are often cited as easier to rent and hence are better investments as well. Buildings can be measured specifically to their exact ongoing carbon emissions. Benchmarking efforts in this regard also help including efforts of cities such as New York City and Philadelphia, whereby additional building efficiencies can be identified by category.

### SUSTAINABILITY BENCHMARKS

The Global Real Estate Sustainability Benchmark (GRESB), seeks to bring up standards and improve investor visibility on building performance. Carbon emissions and energy use fell by 0.3 and 0.8% respectively during 2012 and 2013 of the members surveyed by GRESB and there is potential to achieve further carbon reductions<sup>66</sup>.

Energy efficiency: Portfolios of existing property can be aligned with increased use of renewable energy, through energy efficiency opportunities, through building users increased use of clean transport, and energy infrastructure & storage.

- **Benefits** Efficiencies are often cost saving as well, across heating/cooling buildings, appliances & lighting in buildings, industrial motor efficiencies, transportation efficiencies. See <http://www.josre.org/case-studies/>
- **Challenges** Include the revamping of existing buildings, where there can be a dilemma of unresolved pick-up of the cost for efficiency measures. Landlords/real estate owners can have comparatively little incentive

61 <http://www.khoslaventures.com/a-dozen-things-ive-learned-from-vinod-khosla>

62 <http://www.forbes.com/sites/rickferri/2012/04/16/the-curse-of-the-yale-model/>

63 <https://www.whitehouse.gov/the-press-office/2015/06/16/fact-sheet-obama-administration-announces-more-4-billion-private-sector>

64 <http://www.mercer.com/services/investments/investment-opportunities/responsible-investment/investing-in-a-time-of-climate-change-report-2015.html>

65 <http://www.iea.org/aboutus/faqs/energyefficiency/>

66 <https://gresb-public.s3.amazonaws.com/content/2014-GRESB-Report.pdf>

to invest in the efficiency of buildings, unless higher rents are a result of the reinstallation (through a “green” lease for example). Tenants can have little incentive to pay higher rent unless the gains in efficiency will compensate financially. This can create lock-ins of the status quo in existing buildings, whereby the role of regulators potentially becomes more important. Other factors that can detract from efficiency savings include behaviour patterns of building management and tenants.

- Opportunities** The IEA in 2013 has potential energy efficiency savings pegged as 1.5 Gt annually led by minimum energy performance standards, with additional investment more than offsetting fuel bill savings. The IEA and Amory Lovins put emphasis on the potential for energy efficiency to drive a significant percentage of further carbon reductions. Additional energy efficiency insights have been well organized by the EEFIG<sup>67</sup>. Jobs are also increasingly possible in retrofitting, meaning there is another additional societal benefit to achieving such reductions.

**Pros** standards are well established, with energy efficiency efforts financially beneficial and value generating.

**Cons** some have pushed back on standards such as LEED being insufficient for the purpose of lowering carbon emissions and/or setting related targets. Infrastructure

## RISK EXPOSURE AND CONTEXT

Infrastructure will benefit from climate policy and technology<sup>68</sup>.

Infrastructure projects are often funded as part of public-private partnerships, increasingly involving asset owners. Examples include transportation (airports, ports, rail), communication (internet/phone lines), sewage, water and electric systems<sup>69</sup>, as in Figure 1 below. Forecasts call for varying levels of future infrastructure investment, much of it which will likely occur in Asia and other parts of the developing world.

## GREEN INFRASTRUCTURE

How “green” future infrastructure investment will become may turn out to be the most important factor of all when it comes to reducing future carbon emissions. This becomes a framework of its own for investors to consider, namely to what degree are future infrastructure investments “green” vs. “brown.”

### THE ROLE OF ASSET OWNERS

Focusing Capital on the Long Term<sup>70</sup>, produced by McKinsey and CPPIB, demonstrates the role asset owners can play in this space. The paper highlights why a long-term perspective is important to asset owners needing to plan for paying future beneficiaries across multiple generations. Canadian, Australian and Dutch asset owners have been leading the way on infrastructure investments most recently, with opportunities for asset owners in other regions<sup>71</sup>.

### DEVELOPMENTS UNDERWAY

McKinsey has worked on methods to make infrastructure more efficient which could result in savings of US\$1 trillion per year in any future of intense Infrastructure Investment<sup>72</sup>. There is room for more research including developing case studies of financial success coupled with examples of reduced carbon emissions through quantification<sup>73</sup>. Benchmarking activities such as GRESB are being extended to Infrastructure. The OECD’s work on long-term investing and climate finance is also of interest.

### CHALLENGES

The IEA sees the need for over \$1 trillion of new investment in the low-carbon economy<sup>75</sup>. Some investors have noted that upfront capital charges have been strongly encouraging investors into shorter term infrastructure strategies than might be optimal. All of this arguably makes the nexus of new infrastructure investment and the needed transition to a low-carbon future one of the most important investment areas to consider. During 2016-18, PRI plans to participate actively in collaborative industry efforts to develop investment grade green infrastructure investment opportunities for institutional investors.

67 <https://ec.europa.eu/energy/en/news/new-report-boosting-finance-energy-efficiency-investments-buildings-industry-and-smes>

68 <http://www.mercer.com/services/investments/investment-opportunities/responsible-investment/investing-in-a-time-of-climate-change-report-2015.html>

69 <http://www.investopedia.com/terms/i/infrastructure.asp>

70 <https://hbr.org/2014/01/focusing-capital-on-the-long-term>

71 [https://www.infrastructureinvestor.com/uploadedFiles/Infrastructure\\_Investor/Non-Pagebuilder/Non-Aliased/Widget\\_Content/II\\_30.pdf](https://www.infrastructureinvestor.com/uploadedFiles/Infrastructure_Investor/Non-Pagebuilder/Non-Aliased/Widget_Content/II_30.pdf)

72 [http://www.mckinsey.com/insights/engineering\\_construction/infrastructure\\_productivity](http://www.mckinsey.com/insights/engineering_construction/infrastructure_productivity)

73 <https://www.unglobalcompact.org/take-action/action/value-driver-model>

74 <http://www.oecd.org/env/cc/financing.htm>

75 [https://www.iea.org/media/140603\\_WEOinvestment\\_Factsheets.pdf](https://www.iea.org/media/140603_WEOinvestment_Factsheets.pdf)

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## OTHER ASSET CLASSES

### REAL ASSETS

These include tangible resources such as forests and other commodities. While a relatively new area for asset owners, there has been some action to attempt to analyse risks and understand the potential especially for stranded assets.

### HEDGE FUNDS/DERIVATIVES/OTHER

Strategies such as absolute return and stock lending can have the effect of locking in ownership positions into companies. Absolute Return in particular relies on techniques which attempt to ensure that a portfolio has similar financial returns in either up or down markets, and as a result, such tend to rely on industry benchmarks. This raises challenges for asset owners seeking to screen and reallocate. Asset owners can consider performing absolute return strategies against a benchmark of their own construction without certain sectors<sup>76</sup>.

### CONSERVATION FINANCE

Although investment levels are currently small, the need to not deforest valuable areas of the world is clear, so this area may provide new investment opportunities in time.

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<sup>76</sup> <http://blogs.cfainstitute.org/investor/2014/05/09/book-review-successful-investing-is-a-process/>



## The Principles for Responsible Investment (PRI) Initiative

The PRI Initiative is a UN-supported 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. In implementing the Principles, signatories contribute to the development of a more sustainable global financial system.

The Principles are voluntary and aspirational. They offer a menu of possible actions for incorporating ESG issues into investment practices across asset classes. Responsible investment is a process that must be tailored to fit each organisation's investment strategy, approach and resources. The Principles are designed to be compatible with the investment styles of large, diversified, institutional investors that operate within a traditional fiduciary framework.

The PRI Initiative has quickly become the leading global network for investors to publicly demonstrate their commitment to responsible investment, to collaborate and learn with their peers about the financial and investment implications of ESG issues, and to incorporate these factors into their investment decision making and ownership practices.

More information: [www.unpri.org](http://www.unpri.org)



## The PRI is an investor initiative in partnership with UNEP Finance Initiative and the UN Global Compact.

### United Nations Environment Programme Finance Initiative (UNEP FI)

UNEP FI is a unique partnership between the United Nations Environment Programme (UNEP) and the global financial sector. UNEP FI works closely with over 200 financial institutions that are signatories to the UNEP FI Statement on Sustainable Development, and a range of partner organisations, to develop and promote linkages between sustainability and financial performance. Through peer-to-peer networks, research and training, UNEP FI carries out its mission to identify, promote, and realise the adoption of best environmental and sustainability practice at all levels of financial institution operations.

More information: [www.unepfi.org](http://www.unepfi.org)



### UN Global Compact

Launched in 2000, the United Nations Global Compact is both a policy platform and practical framework for companies that are committed to sustainability and responsible business practices. As a multi-stakeholder leadership initiative, it seeks to align business operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption, and to catalyse actions in support of broader UN goals. With 7,000 corporate signatories in 135 countries, it is the world's largest voluntary corporate sustainability initiative.

More information: [www.unglobalcompact.org](http://www.unglobalcompact.org)

