Are UK companies prepared for the international impacts of climate change?

FTSE 350 Climate Change Report 2013

9 October 2013

Report writer and global advisor

The evolution of CDP

With great pleasure, CDP announced an exciting change this year.

Over ten years ago CDP pioneered the only global disclosure system for companies to report their environmental impacts and strategies to investors. In that time, and with your support, CDP has accelerated climate change and natural resource issues to the boardroom and has moved beyond the corporate world to engage with cities and governments.

The CDP platform has evolved significantly, supporting multinational purchasers to build more sustainable supply chains. It enables cities around the world to exchange information, take best practice action and build climate resilience. We assess the climate performance of companies and drive improvements through shareholder engagement.

Our offering to the global marketplace has expanded to cover a wider spectrum of the earth's natural capital, specifically water and forests, alongside carbon, energy and climate.

For these reasons, we have outgrown our former name of the Carbon Disclosure Project and rebranded to CDP. Many of you already know and refer to us in this way. Our rebrand denotes our progress as we continue to catalyse action and respond to business, finance, investment and environmental needs globally.

We now have a bolder, more dynamic look and logo that reflects the scale of the work we must undertake in the coming years to move the markets ahead of where they would otherwise be on these issues and realise truly sustainable economies.

- **Over 5,000 companies from all over the world have been asked to report on climate change through CDP this year;**
- **81% of the world's 500 largest public companies listed on the Global 500 engage with CDP to enable effective measurement of their carbon footprint and climate change action;**
- **CDP is a not-for-profit organisation. If you would like to support our vital work through donations or sponsorship opportunities, please email paul.robins@cdp.net or telephone +44 (0) 7703 184 312.**

CDP DRIVING SUSTAINABLE ECONOMIES

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CEO Foreword

As countries around the world seek economic growth, strong employment and safe environments, corporations have a unique responsibility to deliver that growth in a way that uses natural resources wisely. The opportunity is enormous and it is the only growth worth having.

This year we passed a significant landmark of 400ppm of carbon dioxide in the atmosphere and are rapidly heading towards 450ppm, accepted by many governments as the upper limit to avoid dangerous climate change. The Intergovernmental Panel on Climate Change (IPCC) 5th assessment report (AR5) strengthens the scientific case for action.

Fears are increasing over future climate change impacts as we see more extreme weather events, Hurricane Sandy the most noted with damages totalling some $42 billion[1]. The unprecedented melting of the Arctic ice is a clear climate alarm bell, while the first 10 years of this century have been the world's hottest since records began, according to the World Meteorological Organization.

The result is a seismic shift in corporate awareness of the need to assess physical risk from climate change and to build resilience.

For investors, the risk of stranded assets has been brought to the fore by the work of Carbon Tracker. They calculate around 80% of coal, oil and gas reserves are unburnable, if governments are to meet global commitments to keep the temperature rise below 2°C. This has serious implications for institutional investors' portfolios and valuations of companies with fossil fuel reserves.

The economic case for action is strengthening. This year, we published the 3% Solution[2] with WWF showing that the US corporate sector could reduce emissions by 3% each year between 2010 and 2020 and deliver $780 billion in savings above costs as a result. 79% of US companies responding to CDP report higher ROI on emission reductions investments than on the average business investment. Meanwhile, governments are taking new action: the US Administration has launched its Climate Action Plan, with a new emphasis on reducing emissions from utilities; China is developing air pollution measures and moving toward pilot cap and trade schemes; the UK Government has mandated greenhouse gas emissions reporting for all large listed companies; and the EU is looking at improving environmental and other reporting.

The pressure on corporations, investors and governments to act continues. At CDP, we have broadened our work to add forests to climate and water so our programs now extend to an estimated 79% of natural capital, by value[3]. To reflect this, we rebranded at the start of the year from the Carbon Disclosure Project to CDP and are increasing our focus on projects to accelerate action. One explores how corporations influence public policy on climate change both positively and negatively. Some corporations are still acting – both directly and through trade associations – to prevent the inevitable: nations need sensible climate regulation that protects the public interest over the long term.

As countries around the world seek economic growth, strong employment and safe environments, corporations have a unique responsibility to deliver that growth in a way that uses natural resources wisely. The opportunity is enormous and it is the only growth worth having.

Paul Simpson
CEO CDP

1 New York State Hurricane Sandy Damage Assessment; Governor Andrew Cuomo; November 12, 2012 http://www.governor.ny.gov/press/11262012-damageassessment.
2 https://www.cdproject.net/CDPResults/3-percent-solution-report.pdf.
3 Based on findings from the report Natural Capital at Risk: The Top 100 Externalities of Business, published by TEEB for Business Coalition in April 2013.

Executive Summary

Companies face increasing pressure to take responsibility for their activities and impacts across the whole of their value chain, not just for the operations they own or control. They are now expected to make sure that the input to their products and services are sourced from responsible, reliable suppliers and to help their customers reduce the environmental impacts of using their products and services.

In 2013, CDP sent its annual request to FTSE 350 companies on behalf of 722 investors representing US$87 trillion in assets, asking them to disclose what climate change means for their business. This year, 74% (260) of companies in the FTSE 350[4] sample responded to the investor request from CDP[5]. To understand the full range of impacts from climate change, more emphasis is now placed on Scope 3 reporting and supply chain management.

This report addresses how prepared UK companies are for the international impacts of climate change and looks at how FTSE 350 companies responding to CDP in 2013 address threats and opportunities from climate change abroad. It builds on the conclusions from the report *International Threats and Opportunities of Climate Change for the UK*, prepared by PwC for the Department for Environment, Food and Rural Affairs (Defra) earlier this year.

The report for Defra concludes that climate change impacts overseas are expected to affect the UK in diverse ways and warns that these indirect impacts could be even more significant than direct impacts within the UK. It is therefore important to see whether FTSE 350 companies – the majority of which have operations abroad – are preparing for the international impacts of climate change when assessing risks and opportunities, and whether these assessments feed into their strategies.

The primary findings of this year's FTSE 350 report show that the majority of companies have operations and Scope 1 and 2 emissions which originated abroad. However, companies' current focus on risks and opportunities needs broadening. While the majority of FTSE 350 companies identify risks (86%) and opportunities (82%) from climate change, the focus remains relatively narrow, looking primarily at direct, shorter-term risks. Only 32% of companies report risks (14% opportunities) which have timeframes of ten years or more and 13% of companies report that they have not identified any climate change related risks at all.

The findings also show that companies have a limited understanding of their value chain. 48% of companies do not engage with their supply chain on emissions or climate change and the majority of emissions from companies' value chains are not currently being measured. Some companies want to understand emissions from their core operations before covering their whole value chain emissions.

A comparison between FTSE 100 and FTSE 250 companies shows that these samples are very different in both the quality of their response and the amount of emissions they produce. FTSE 100 companies show a much more sophisticated response to the threats and opportunities of climate change than FTSE 250 companies. In addition, FTSE 250 companies report emitting just one tenth the emissions of the FTSE 100 companies (FTSE 100: 541 million tonnes CO_2e, FTSE 250: 59 million tonnes CO_2e).

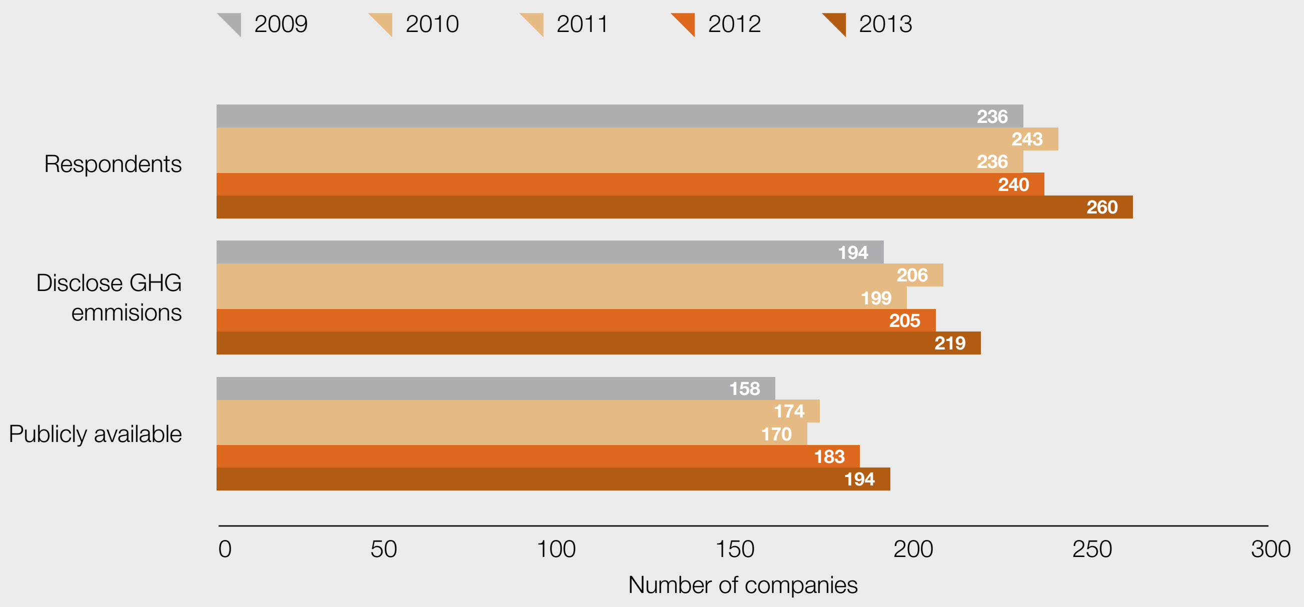
In order for companies to be fully prepared for the international impacts of climate change, this report suggests a five point plan that UK companies can implement: engage the executive team; engage the value chain; identify and assess risks; evaluate options for managing risks and capitalising on opportunities; implement decisions, monitor effectiveness and plan for the future.

4 The FTSE 350 index is based on the market price of 350 companies listed on the London Stock Exchange, including companies on the FTSE 100 index and FTSE 250 index.
5 The FTSE 350 report is based on the analysis of the 234 responses received by 1 July 2013.

Table 1: Top companies by disclosure and performance

Company Name	Sector	Disclosure Score	Performance Score
Diageo	Consumer Staples	98	A
British Land	Financials	98	A
GlaxoSmithKline	Healthcare	98	A
HSBC	Financials	97	A
Anglo American	Materials	96	A
British Sky Broadcasting	Consumer Discretionary	95	A
BT	Telecommunication Services	93	A
Barclays	Financials	92	A
Morgan Advanced Materials	Industrials	92	A
Reed Elsevier	Consumer Discretionary	91	A
BG Group	Energy	89	A

Figure 1: Year on year disclosure levels for FTSE 350 companies



2013 Climate Performance Leadership Index (CPLI)

CDP CLIMATE PERFORMANCE LEADER 2013

Sector	Company	Disclosure score	Performance band	Consecutive years in the CPLI
Consumer Discretionary	British Sky Broadcasting	95	A	1
	Reed Elsevier	91	A	1
	United Business Media	80	A	1
Consumer Staples	Diageo	98	A	2
	Unilever	82	A	2
Energy	BG Group	89	A	1
Financials	British Land	98	A	1
	HSBC	97	A	1
	Barclays	92	A	1
Healthcare	GlaxoSmithKline	98	A	1
Industrials	Morgan Advanced Materials	92	A	2
Materials	Anglo American	96	A	2
Telecommunication Services	BT	93	A	1

98/A

the best score in 2013, achieved by British Land, Diageo and GlaxoSmithKline

2013 Climate Disclosure Leadership Index (CDLI)

CDP CLIMATE DISCLOSURE LEADER 2013

Sector	Company	Disclosure score	Performance band	Consecutive years in the CDLI
Consumer Discretionary	British Sky Broadcasting	95	A	4
	WPP	95	B	1
	TUI Travel	92	B	6
	Reed Elsevier	91	A	5
Consumer Staples	Reckitt Benckiser	99	B	5
	Diageo	98	A	3
	Tesco	96	A-	5
	J Sainsbury	95	B	1
	British American Tobacco	94	B	3
	Tate & Lyle	94	A-	2
Energy	Royal Dutch Shell	90	B	5
	BG Group	89	A	3
Financials	British Land	98	A	3
	HSBC	97	A	5
	Barclays	92	A	5
	Aberdeen Asset Management	91	B	1
	Old Mutual	91	B	5
	Standard Chartered	91	B	2
	Lloyds Banking	90	B	5
	Standard Life	90	B	1
	Derwent London	89	C	1
	Land Securities	88	B	2
	Royal Bank of Scotland	88	B	5
	Shaftesbury	88	B	1
Healthcare	GlaxoSmithKline	98	A	5
	Smith & Nephew	92	B	2
Industrials	Morgan Advanced Materials	92	A	2
	Serco	92	C	4
	Morgan Sindall*	91	B	2
	International Airlines Group	88	B	1
	Travis Perkins	88	B	1
Information Technology	Pace	91	B	1
Materials	Anglo American	96	A	4
	Croda	93	B	1
	Antofagasta	92	C	1
	Lonmin	88	B	1
	Rio Tinto	88	B	1
Telecommunication Services	BT	93	A	4
Utilities	National Grid	98	B	1
	Centrica	97	B	5
	Pennon	96	A-	1
	SSE	90	B	5

* This FTSE SmallCap company is not in the FTSE 350 but achieved the required score to join the CDLI

2013 Leadership Criteria

Each year, company responses are analysed and scored against two parallel scoring schemes: disclosure and performance.

The disclosure score assesses the completeness and quality of a company's response. Its purpose is to provide a summary of the extent to which companies have answered CDP's questions in a structured format. A high disclosure score signals that a company has provided comprehensive information about the measurement and management of its carbon footprint, its climate change strategy, risk management processes and outcomes.

The performance score assesses the level of action, as reported by the company, on climate change mitigation, adaptation and transparency. Its intent is to highlight positive climate action as demonstrated by a company's CDP response. A high performance score signals that a company is measuring, verifying and managing its carbon footprint, for example by setting and meeting carbon reduction targets and implementing programs to reduce emissions in both its direct operations and supply chain.

The highest scoring companies for disclosure and performance enter the Climate Disclosure Leadership Index (CDLI) and the Climate Performance Leadership Index (CPLI) respectively. Public scores are available in CDP reports, through Bloomberg Terminals, Google Finance and Deutsche Boerse's website.

What are the CDLI and CPLI criteria?

To enter the CDLI, a company must:

- Make its response public and submit via CDP's Online Response System
- Achieve a score within the top 10% of the total FTSE 350 population (41 companies in 2013)[6]

To enter the CPLI (Performance Band A), a company must:

- Make its response public and submit via CDP's Online Response System
- Attain a performance score greater than 85
- Score maximum performance points on question 12.1a for greenhouse gas emissions reductions due to emission reduction actions over the past year (4% or above in 2013)
- Disclose gross global Scope 1 and Scope 2 figures
- Score maximum performance points for verification of Scope 1 and Scope 2 emissions

However, CDP reserves the right to exclude any company from the CPLI if there is anything in its response or other publicly available information that calls into question its suitability for inclusion.

There are 13 companies in the CPLI in 2013.

Note: Companies that achieve a performance score high enough to warrant inclusion in the CPLI, but do not meet all of the other CPLI requirements are classed as Performance Band A- but are not included in the CPLI.

How are the CDLI and CPLI used by investors?

Good disclosure and performance scores are used by investors as a proxy of good climate change management or climate change performance of companies.

Investors identify and then engage with companies to encourage them to improve their score. The "Aiming for A" initiative which was initiated by CCLA Investment Management is driven by a coalition of UK asset owners and mutual fund managers. They are asking ten major UK-listed utilities and extractive companies to aim for inclusion in the CPLI. This may involve filing supportive shareholder resolutions for Annual General Meetings occurring after September 2013.

Investors are also using CDP scores for creating new financial products. For example, Nedbank in South Africa developed the Nedbank Green Index. Disclosure scores are used for selecting stocks and performance scores for assigning weight.

For further information on the CDLI and the CPLI and how scores are determined, please visit **www.cdp.net/guidance**

6 The 34th-41st highest scoring companies scored 88 and were all included in the CDLI.

Investor insight - the "Aiming for A" coalition

Last year CCLA built an *"Aiming for A"* coalition. This includes fellow mutuals in the UK fund management industry and influential UK asset owners, including the £115bn Local Authority Pension Fund Forum and the largest members of the £12bn Church Investors Group. In a nutshell, we're asking ten major UK-listed utilities and extractives companies to aim for continuous inclusion in CDP's Climate Performance Leadership Index (CPLI) by achieving and retaining an "A" Performance Band. Our capital stewardship work will involve filing supportive shareholder resolutions at some of these companies' AGMs in due course. We have also been encouraging CDP to develop sectoral methodologies, so that as the CPLI evolves it can more closely reflect the strategic challenges that are unique to high-impact sectors.

There are several reasons why we've come together to support investee companies in their efforts to improve their response to the low-carbon transition in this way. These range from systemic risk management and our collective fiduciary duty to engage in transformational change, through to amplifying long-term investor voices and involving ultimate beneficiaries.

Firstly, thanks to Mercer and Carbon Tracker's work, horizon-scanning investors are aware of the risks of public policy uncertainty and stranded assets to their portfolios. Major technology transitions are rarely smooth, but draconian policy that has to be introduced quickly after prolonged delay increases risks to long-term investors.

Secondly, this is, of course, a collective action problem. How long should investors wait for someone else to lead? Shouldn't we find the courage to help co-lead the economic transformation required as part of our fiduciary duties? After all the UK's Kay Review concluded that: *"the principal role of equity markets in the allocation of capital relates to the oversight of capital allocation within companies rather than the allocation of capital between them".*

Thirdly, it is easy for long-term investors' voices to be drowned out by the short-term noise from the financial markets. We believe that *supportive* shareholder resolutions could play a high-profile positive stewardship role in the UK. They could amplify long-term investors' requests, to the companies that we expect to hold in our portfolios for many years, about the need to balance the short- and longer-term aspects of shareholder value creation.

Fourthly, ultimate beneficiaries can find it hard to influence the activities of their fund managers. *"Aiming for A"* will mean that they will be able to ask their pension providers, insurers, ISA and other investment managers, how they voted on these critical shareholder resolutions. As Martin Taylor, chief executive of the Royal Society of Arts said in 2008 *"citizen engagement is the key to accountability in the financial system".*

Congratulations to Anglo American (A) and BG Group (A). We'd also like to thank BHP Billiton (C), BP (C), Centrica (B), Glencore/Xstrata (C), National Grid (B), Rio Tinto (B), Shell (B), and SSE (B) for their ongoing constructive engagement with us.

Main Themes of 2013 Responses

FTSE 350 companies have a global footprint

A recent study from PwC examining climate change impacts around the world shows they could represent a bigger threat than opportunity for British business and investment. The report, *International Threats and Opportunities of Climate Change for the UK*, prepared for Defra by PwC, calls for companies to take action to assess their level of risk and invest to develop new solutions, services and skills. It warns that international impacts could be even more significant for the UK than local impacts. The analysis shows that the areas which might have the highest impact on the UK are trade, investment and supply chain.

FTSE 350 companies are highly multinational, reporting operations in a total of 145 countries. Only 31% of respondents operate exclusively in the UK. As might be expected based on traditional trade partnerships, FTSE 350 companies operate mostly in the Organisation for Economic Co-Operation and Development (OECD) countries: 100 companies report operations in the United States of America and 96 in European countries, though the level of investment in Europe was greater - at the end of 2010, UK assets in Europe totalled £4.95 trillion (51%) compared to £2.8 trillion (29%) in the U.S.A[7].

A majority of the emissions of companies in the FTSE 350 also originate overseas: 77% of Scope 1 and 83% of Scope 2 emissions reported by FTSE 350 companies come from abroad.

This pattern of ownership and operations exposes many large UK companies to a range of important physical, regulatory and other climate-related risks[8]. But, at the same time, the UK is well placed to benefit from international opportunities.

Map 1 (p.14) shows the number of companies which report operations in each country and the level of Scope 1 and 2 emissions per continent.

Companies' focus on climate change risks and opportunities needs broadening

The PwC report for Defra shows how the international impact of climate change on UK business will depend on countries' resilience to climate change and the extent of their business links with the UK. Map 2 (p.18) shows some of the potential global impacts due to climate change in 2020. The majority of these impacts will be negative, such as increased pestilence, increased extreme weather events or declining water availability[9].

Companies are already preparing for such changes: 86% of FTSE 350 companies report risks due to climate change and 82% report opportunities. However, companies' focus remains relatively narrow, looking primarily at direct, shorter-term risks.

Perhaps surprisingly, 13% of companies report that they have not identified any climate change risks. For some, this may mean that climate change isn't adequately integrated into their risk management processes.

> *Carbon taxes may have an adverse impact on the level of economic activity in the territories where the group's businesses operate. It is not possible to state with any reasonable degree of accuracy whether local, national or international regulatory bodies may impose this type of tax [and its] magnitude or the time frame that might be involved.*
>
> **National Express**

7 *International Threats and Opportunities of Climate Change for the UK* (Defra, by PwC (2013), page 22).
8 The Climate Disclosure Standards Board's ongoing research (www.cdsb.net/standards) has identified 380 types of arrangements in place around the world that directly or indirectly affect the way in which enterprises report on sustainability; indeed, the UK Government has introduced regulations that will require UK quoted companies to include their global greenhouse gas (GHG) emissions in their annual reports from 1 October 2013 (Department for Business, Innovation and Skills, https://www.gov.uk/government/news/better-and-simpler-company-reporting).
9 CDP's water programme seeks to address water risks by catalysing action towards sustainable corporate water stewardship, safeguarding water resources for those who need them most.

> *Antofagasta conducted a workshop with all its divisions to investigate the impact of unusual weather events on local operations and what measures to implement to mitigate them.*
>
> **Gustavo Pössel Environmental Manager, Antofagasta**

> *Micro Focus is committed to ensuring its Business Continuity Management is robust and rolled out across its major locations around the world, thereby delivering resilience into its operational infrastructure.*
>
> **Micro Focus**

Companies are not identifying enough indirect risks

At present, companies report more risks than opportunities. This is partly because the types of risks (such as carbon taxes) reported by companies are seen as more tangible, despite uncertainty levels around their specific impact.

70% of companies report direct risks but only 33% report indirect risks. However, almost all companies face indirect risks: not reporting these risks could mean companies' strategies, operations and value chains aren't fully resilient to climate change risks. Indirect impacts can include the effect of extreme weather on supply chains and the price or availability of raw materials and other goods, as well as having an impact on business in terms of investments and trade.

The report prepared for Defra[10] concludes that risks considerably outweigh opportunities for the UK, both in terms of their magnitude and the confidence in the probability that they will occur. In line with that, companies might also expect climate change to pose more risks than opportunities.

Some companies are already managing these risks. For example, Dairy Crest describes how it designs its sites to meet local climatic conditions: buildings located close to rivers with a risk of flooding are constructed to be waterproof.

> *If international agreements cause rises in the cost of fuel and/or carbon, this could potentially result in increased demand for more efficient and/or lower-carbon products.*
>
> **Rolls-Royce**

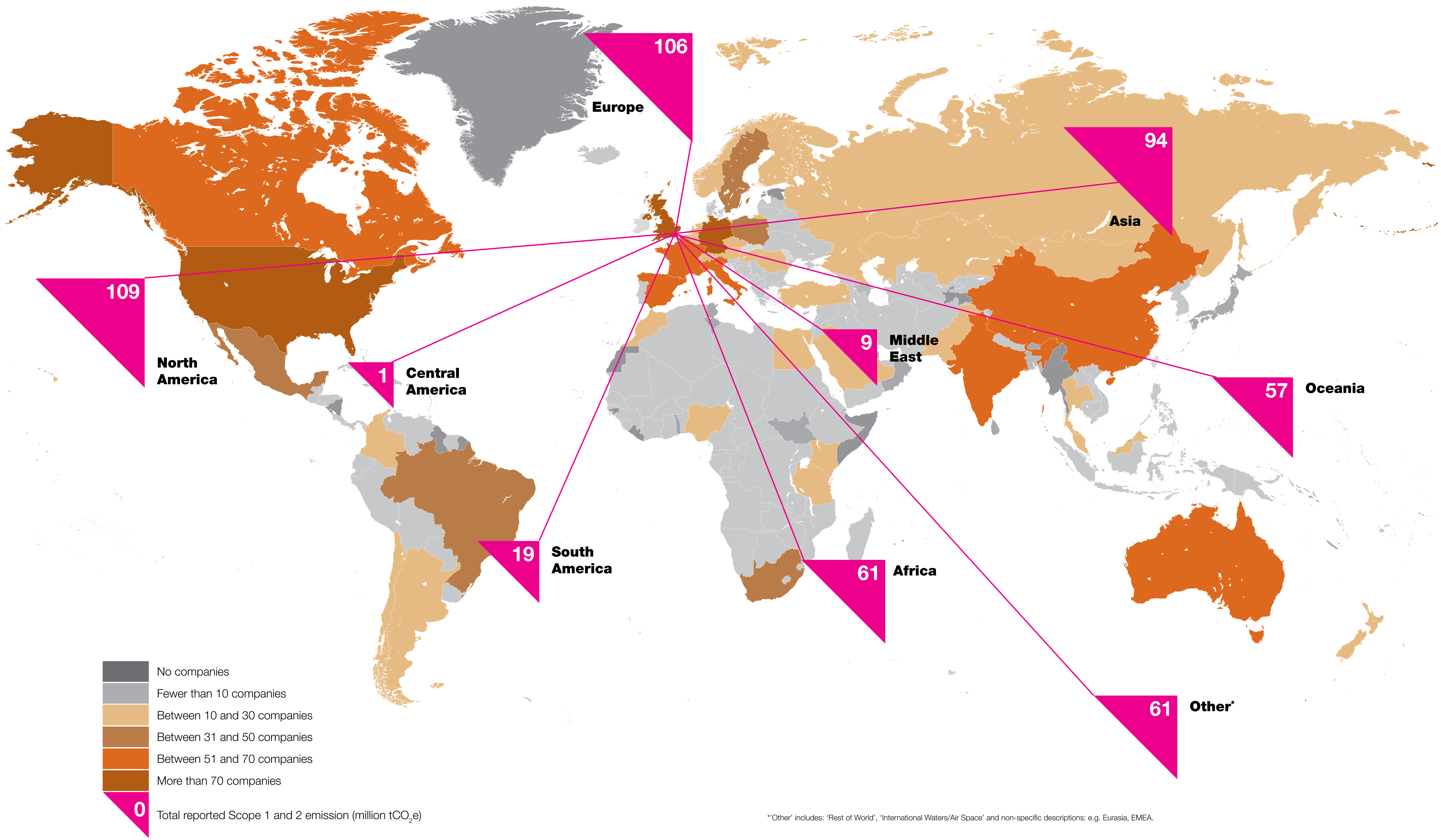
Companies are focusing on short term risks and opportunities

The majority of risks (51%) and opportunities (54%) reported have timeframes of under five years. Only 32% of companies report risks (opportunities: 14%) which have timeframes of ten years or more. This presents a mixed message: on the one hand, companies are identifying immediate threats and opportunities, for example in response to recent weather events or regulatory changes, Royal Dutch Shell mentions how hurricane Katrina disrupted its operations in the US Gulf of Mexico, which led the company to retrofit some of its platforms and to make changes in its operations. On the other hand, the lack of focus on longer term risks and opportunities could mean that strategies for adapting to climate change risks are not in place.

10 *International Threats and Opportunities of Climate Change for the UK* (Defra, by PwC (2013))

Main Themes of 2013 Responses *continued*

Map 1: Countries where UK-quoted companies report operations and total Scope 1 and 2 emissions by continent



*'Other' includes: 'Rest of World', 'International Waters/Air Space' and non-specific descriptions: e.g. Eurasia, EMEA.

Main Themes of 2013 Responses *continued*

Figure 2: Percentage of companies reporting risks and opportunities from climate change

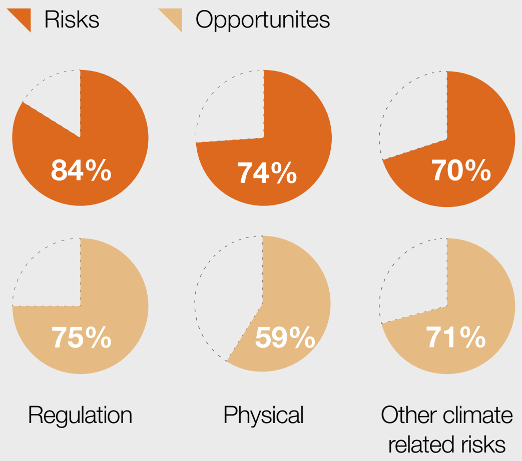
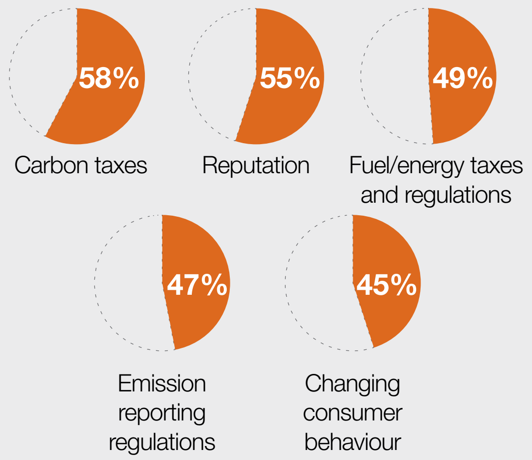


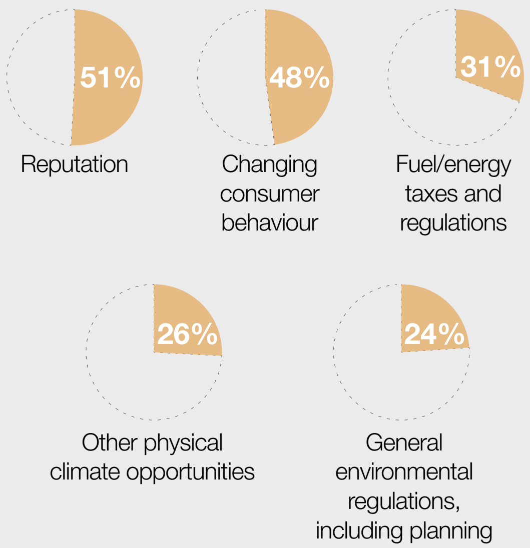
Figure 3: Percentage of companies selecting the five most commonly reported risks



A number of countries where we have operations including in the EU, South Africa, United States, India and China are involved in on-going negotiations to determine international agreements and action on climate change to replace the Kyoto Protocol that finished at the end of 2012...The uncertainty of the exact nature of the agreements affects our ability to effectively assess long term investment decisions; which we define here as an indirect operational cost (as opposed to a direct operational cost which would include our office operations).

Old Mutual

Figure 4: Percentage of companies selecting the five most commonly reported opportunities



Scientific insight - Professor Sir Brian Hoskins

Climate change is happening, we are causing it and we need to deal with it.

The IPCC has just published its Fifth Assessment Report, the most comprehensive review of the science of climate change since the previous report in 2007. Average temperatures have risen by around 0.89°C (0.69-1.08°C) over the period 1901-2012; and it is extremely likely (i.e. at least 95 per cent probable), that more than half of the observed warming since 1951 is due to the increase in greenhouse gas concentrations resulting from human activities. As well as rising temperatures, climate change is projected to cause continued ocean acidification, sea level rise and changes to weather patterns. Many of these changes will be challenging for people to adapt to because civilisation has developed under a relatively static climate. The scale of these changes will depend on future greenhouse gas emissions.

In other words, climate change is happening, we are causing it and we need to deal with it.

Before we changed the amount of carbon dioxide in the atmosphere through the use of fossil fuels, it fluctuated between about 180 and 280 parts per million over the last million years. But human greenhouse gas emissions continue to rise inexorably. Since the Industrial Revolution and particularly in the last 50 years, we've taken that level up by more than 40% to 400ppm. This is much higher than the CO_2 levels at any point in the ice core record going back 800,000 years; CO_2 was probably last at these levels some 3 million or more years ago. Passing 400ppm this year should jolt companies and governments into action.

On current trends of increasing emissions, it is likely that average temperatures will increase by well over 2°C over the course of this century, with a chance of exceeding four degrees. This level of warming would be unprecedented in human history. The scale of change is similar to that between now and the height of the last ice age, but of course in the opposite direction.

The change in global mean surface temperatures is just an index of the severity of climate change. Changes in temperatures in the mid- and high latitudes, particularly over land, are likely to be far greater. Rainfall patterns will change and when it rains, it will be more intense with a greater risk of flooding (very likely increase in frequency and intensity of heavy rainfall events by late century). Emissions will also increase the acidity of the oceans and could raise mean sea level by more than half a metre increasing the risk of damaging storm surges. It's likely that there will be more contrast between wet and dry seasons, more frequent heat waves, and less rainfall in sub-tropical and Mediterranean regions. i.e. These changes will put profound pressure on society.

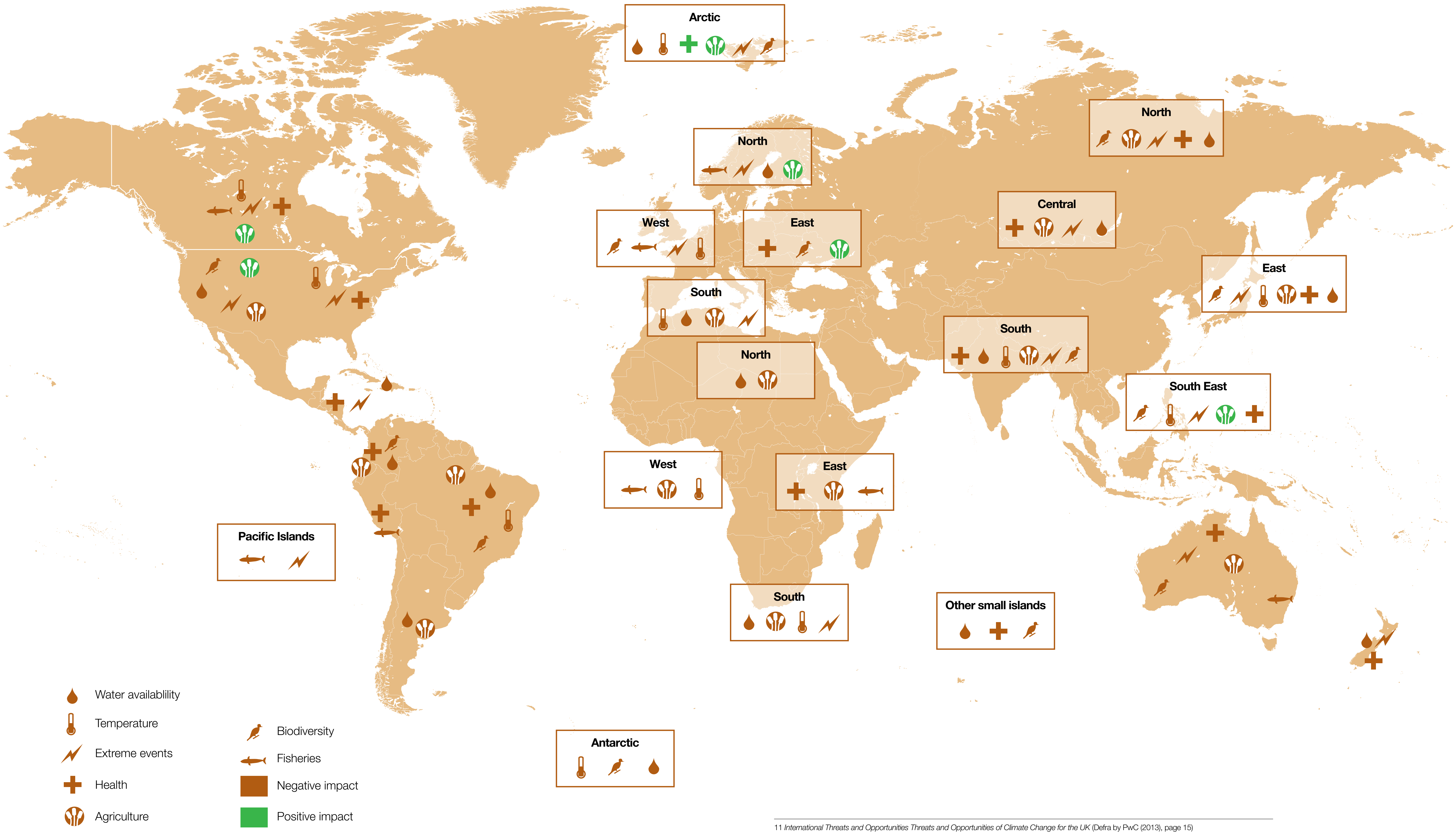
There will be a lot of noise about the Fifth Assessment Report, the IPCC process and some of the specific details in the report. But the main message is beyond doubt, companies and governments need to take action to address the risks of climate change.

Brian Hoskins

Professor Sir Brian Hoskins
Director, Grantham Institute for Climate Change, Imperial College London

Main Themes of 2013 Responses *continued*

Map 2: Summary map of projected regional impacts of climate change by the 2020s[11]



11 *International Threats and Opportunities Threats and Opportunities of Climate Change for the UK* (Defra by PwC (2013), page 15)

Main Themes of 2013 Responses *continued*

Companies' understanding of their value chain is limited

An understanding of companies' full value chains is critical to their ability to estimate the full global environmental impact, to manage the impacts of extreme weather on British assets abroad and to mitigate their other risks. This is increasingly important as the impacts of physical and regulatory changes abroad begin to hit. Companies need to engage with their suppliers, to engage with their customers and, where relevant, to evaluate the full lifecycle effects of their products. This includes emissions management and resource use management.

Some FTSE 350 companies are already acting to mitigate risks and build on the opportunities concerning their full value chain. However, the numbers remain relatively low: only 52% of companies engage with their suppliers and 44% with their customers.

In addition, FTSE 350 companies have calculated Scope 3 emissions associated with only 51% of activities reported as relevant sources of emissions. Of these, 83% are upstream and 17% downstream. This suggests a current focus on supply chain activities which means that reported emissions are not always the most significant or relevant: for certain sectors, such as industrials, downstream Scope 3 emissions will significantly outweigh upstream Scope 3 emissions or Scope 1 and 2 emissions.

For example, 57% of companies report business travel as a source of Scope 3 emissions but this only equates to 0.11% of the total emissions reported. Meanwhile, only two financial companies (4% of financial respondents) report emissions from their investments, even though this is where they have the biggest impact, and just 7% of consumer discretionary, consumer staples, information technology and industrial companies report emissions for the use of their products.

The gaps in data are significant across all sectors: 34% of companies do not disclose any measured Scope 3 emissions. This, combined with limited engagement with customers and suppliers, will hinder these companies' preparedness for climate change. Some companies, such as Croda and Randgold Resources, want to focus on their core operations first before their whole value chain emissions.

Figure 5: Percentage of companies engaging with their value chain

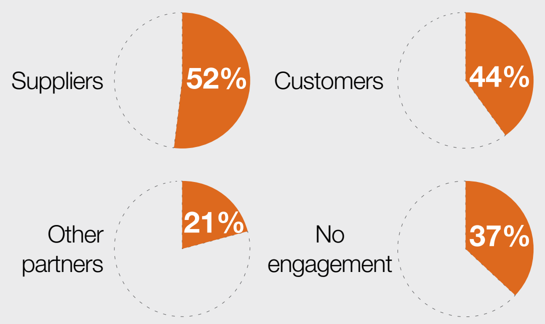
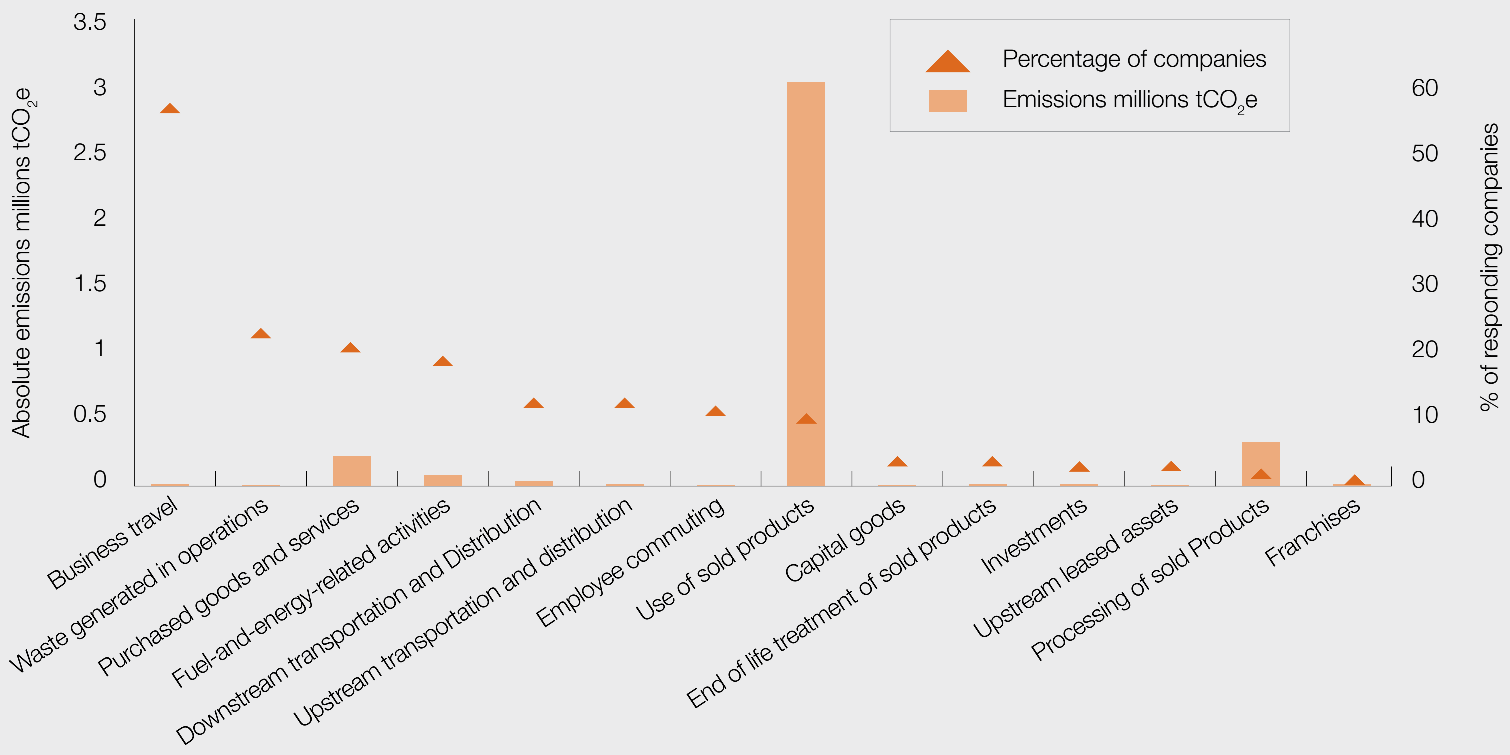


Figure 6: Percentage of companies reporting Scope 3 activities and disclosed emissions by activity



Randgold [does not engage with our value chain because] GHG emissions reduction strategy is still relatively new to the company and the focus is on reducing emissions under our control.

Randgold Resources

At the moment, we don't directly engage with our suppliers regarding climate change strategies. [This is] mainly because of the large number of individual suppliers involved.

Croda

What can companies do?

There is a range of support available to companies who wish to start monitoring and reporting their Scope 3 emissions. For instance, Defra has recently published guidelines for reporting Scope 3 emissions per £1 of expenditure[12]. Companies can also use CDP to engage and track their value chain by asking suppliers to disclose their emissions; CDP's supply chain programme can help to facilitate communication between customers and suppliers, enabling organisations to implement successful supplier engagement strategies, reduce supply chain emissions, control water impact and manage risk in a changing climate. United Utilities requires all their top 50 suppliers to use schemes such as CEMARS; the Prince of Wales' May Day Network or CDP to measure, manage and reduce their greenhouse gas (GHG) emissions.

Severe and unpredictable weather events represent a risk to our own buildings and sites. They are also likely to have an impact on our customers, suppliers and employees' homes and buildings which can have an indirect effect upon our business. As our operations are primarily located in the UK, only some of these global weather events will impact upon our business directly. However, it is very possible that some of our suppliers from other countries could be affected by weather events which do not directly impact upon the UK. For example, the delivery of wind turbine components from overseas, or fuel supplies or materials for building projects coming from abroad, may be delayed.

SSE

We have made a business decision to focus on the impact of our supply chain on the environment and to mitigate against the changing local environments in which we work.

Pace

12 https://www.gov.uk/government/publications/2012-greenhouse-gas-conversion-factors-for-company-reporting

Corporate insight - Reckitt Benckiser

Setting targets is the easy part - the challenge is to guide product development in order to meet our climate goals.

Identifying innovations solutions, increasing efficiency and reducing environmental impacts go hand in hand at Reckitt Benckiser. We're a fast-moving, global, health, hygiene and home company - we have operations in more than 60 countries and sales in more than 200 countries. As such, we are fully aware of the international impacts of climate change on our business. We thrive on setting and beating ambitious targets. So, back in 2007, following a cross-company full lifecycle carbon footprint analysis, we set a goal to reduce our carbon footprint per dose of product by 20% by 2020.

Our analysis revealed that about two thirds of our global impact was in the consumer product use. So we focused attention on reducing consumer use impacts through product development by incorporating sustainability assessments into our design processes.

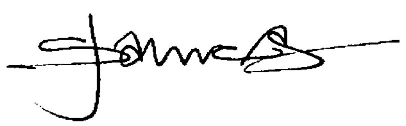
We beat our goal – eight years ahead of time. In September 2012, we set a more ambitious target – a further 33% emissions reduction by 2020, on top of the 20% already achieved. This is part of our new approach to sustainability, called betterbusiness, in support of our new vision, purpose and business strategy.

We identified six global megatrends like rising energy costs, emission constraints and increasing water scarcity. We are responding to these with a strategy for more sustainable innovation, especially in areas where we can make the biggest impact. We also focus on minimising carbon emissions across the lifecycle of our products, including Scope 3 emissions.

We know that our supply chain could be vulnerable to the adverse impacts of climate change, particularly to extreme precipitation events or drought. To help us to manage this risk we launched our responsible natural raw materials sourcing programme. A key element of this is the assessment and management of sustainability risks (including climate change) associated with our sourcing of natural raw materials.

Setting targets is the easy part - the challenge is to guide product development in order to meet our climate goals. To do this, we developed the Sustainable Innovation Calculator to measure the lifecycle sustainability impact of each new innovation. We've built sustainability assessments into our product development processes and standardized reporting at key developmental milestones. Another significant change we introduced was setting a financial (net revenue) sales target of more sustainable innovations. Framing sustainability in the language of business helps further embed sustainability into day-to-day business operations.

Our long term aim is for each innovation to be more sustainable than the last. Having visibility of our future impact is already shaping our product pipeline to further decouple our impacts from the growth of the business.



Sharon James
Senior Vice President R&D, Reckitt Benckiser

Main Themes of 2013 Responses *continued*

FTSE 100 companies have a more sophisticated response to climate change than FTSE 250 companies

94% of FTSE 100 companies (the 100 largest companies on the London Stock Exchange) and 56% of FTSE 250 companies (the 101^{st} to 350^{th} largest companies) responded to CDP in 2013. The samples are very different in both the quality of their response and the amount of emissions they produce. However, they are both at risk of the impacts of international climate change.

FTSE 100 companies have a more sophisticated response to the threats and opportunities of climate change – their responses are generally longer term, more comprehensive and more strategic than the FTSE 250's. However, this may be a reflection of a greater exposure to climate change related risks due to more international operations. Across almost every metric, they show an increased disclosure or performance level which is summarised in the infographic on pages 26 and 27. This is reflected in the 61% of FTSE 100 companies that report a decrease in emissions since 2012 compared to only 34% of FTSE 250 companies.

Overall, FTSE 100 Scope 1 and 2 emissions went up by just under 2% since 2012. FTSE 250 Scope 1 and 2 emissions showed a much sharper increase, up 25% to 59 million tonnes CO_2e, although this is still only one tenth of the emissions of FTSE 100 companies (541 million tonnes CO_2e)[13] (see infographic on p.26).

The large increase in FTSE 250 emissions may be partly explained by the fact that almost half (42%) of the responding companies have no emissions reduction target and only 27% have an absolute emissions target. Of those reporting targets, more FTSE 100 companies report both long term targets (FTSE 100: 55%, FTSE 250: 25%) and short term targets (FTSE 100: 64%, FTSE 250: 29%). In addition, the average target year is later by more than 2.5 years for FTSE 100 companies. This suggests that FTSE 100 companies are better prepared for some of the immediate impacts of climate change as well as the longer term consequences. Indeed, only 21% of FTSE 250 companies report risks with timeframes of ten years or more (49% of FTSE 100 companies do).

Fewer FTSE 250 companies appear to have a good understanding of climate change risks: three times as many FTSE 250 companies say their company does not face substantive risks or opportunities from climate change. While the magnitude of the impacts will vary depending on the sector which is affected, all companies face some risks or opportunities from climate change, whether directly or via their supply chain or customers. Even where competitors face higher risks than them, companies should still build these risks and opportunities into their business strategies.

The main physical threats to our assets and operations are from the increased intensity and frequency of severe weather events and other changes to weather patterns ... If severe weather events continue to increase in frequency and intensity, our business could be at risk from increased insurance premiums. In addition, there are equity and commodity risks if supply of electricity is interrupted.

Centrica

With over 200 offices worldwide, Atkins is likely to be subject to the physical risks of climate change; for example an increased incidence of flooding due to extreme weather events. The Group has a Business Continuity Strategy and Plan that seeks to identify threats to the organisation and provides a framework for building resilience and the capability for an effective response should an incident occur.

Atkins

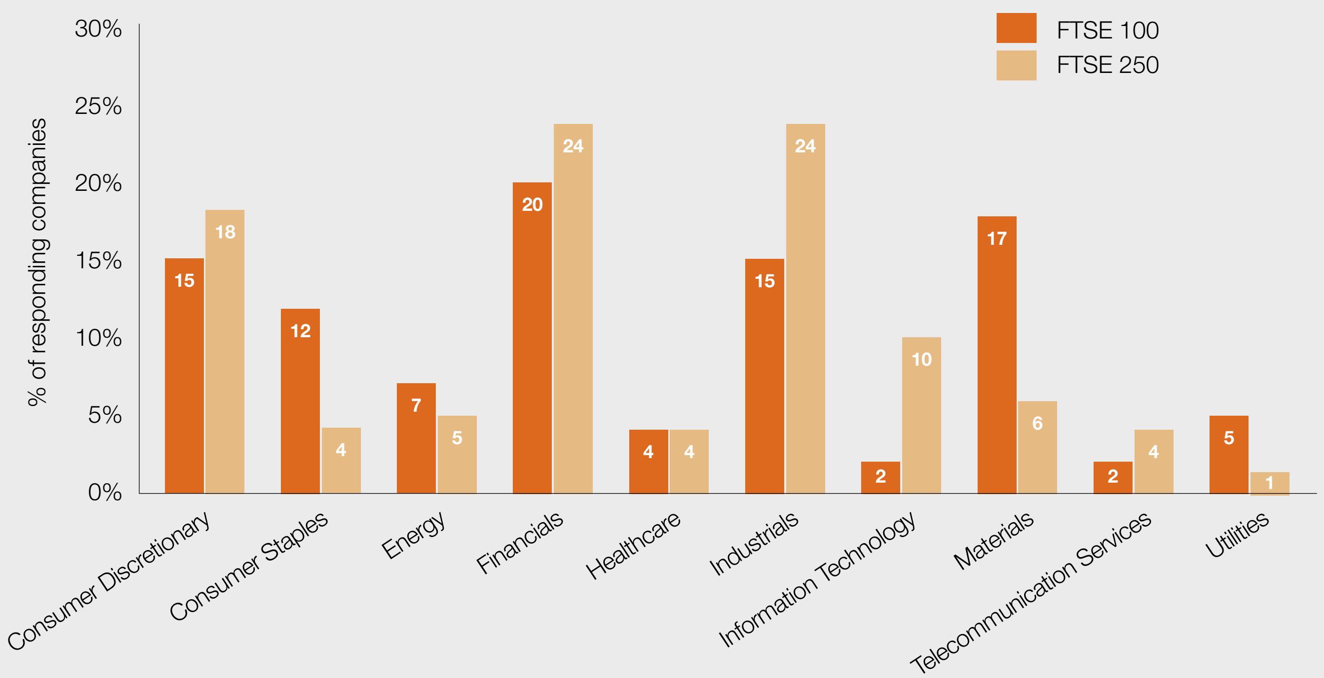
13 These figures compare the 2012 FTSE 350 sample to the 2013 FTSE 350 sample rather than company to company.

Main Themes of 2013 Responses *continued*

Currently, 15% of the FTSE 100 and 43% of the FTSE 250 do not engage with research organisations or trade associations or through direct engagement with policy makers. Only 11% of FTSE 250 companies fund research organisations. These types of engagement are important in ensuring their viewpoints are accounted for in policy setting. Indeed, 92% of companies currently report that trade associations' viewpoints are consistent with theirs.

The sectoral mix differs between the FTSE 100 and FTSE 250 companies – fewer FTSE 250 companies (13%; FTSE 100: 30%) are from high emitting sectors (Energy, Materials and Utilities – see pages 26 and 27) - and so does the current sophistication of their response to climate change. However, both samples will face significant threats from the international impacts of climate change, as illustrated by Centrica (FTSE 100) and Atkins (FTSE 250).

Figure 7: Sector breakdown for FTSE 100 and FTSE 250 companies

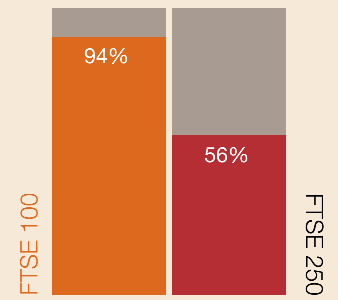


In order for companies to be fully prepared for the international impacts of climate change, this report suggests a five point plan and a call to action that UK companies and investors can implement:

- ***Engage executive team:*** *Use common business language and metrics and define your company's risk appetite. Ensure buy-in from senior management and identify risk champions throughout the business (including treasury, procurement, risk, insurance and corporate affairs);*
- ***Engage with your value chain:*** *Collaborate with suppliers, customers and other partners (e.g. local governments, community groups) to identify current and historical risks and risk mitigation approaches. Establish a collaboration to build resilience and secure a sustainable value chain;*
- ***Identify and assess risks:*** *Use analytical tools for a risk assessment of present and future weather and climate risks. Verify your data to ensure risks are identified and assessed across the value chain. Prioritise high risk assets and risk drivers for further assessment;*
- ***Evaluate options for managing risks and capitalising on opportunities:*** *Use cost-benefit analyses to evaluate whether risks should be reduced, shared or accepted. Insert risks into risk registers and assess implications for insurance purchasing, procurement, business continuity plans and asset allocation. Identify new business models and opportunities for products and services that build climate resilience. Understand the return on investment of priority interventions; and*
- ***Implement decisions, monitor effectiveness and plan for the future:*** *Work with partners from your value chain to implement resilience initiatives and monitor their performance. Revisit risks assessment as the value chain evolves, new data emerges, and as appetite to build further resilience grows.*

Preparing for climate change: Comparing FTSE 100 and FTSE 250 companies

Who is responding?

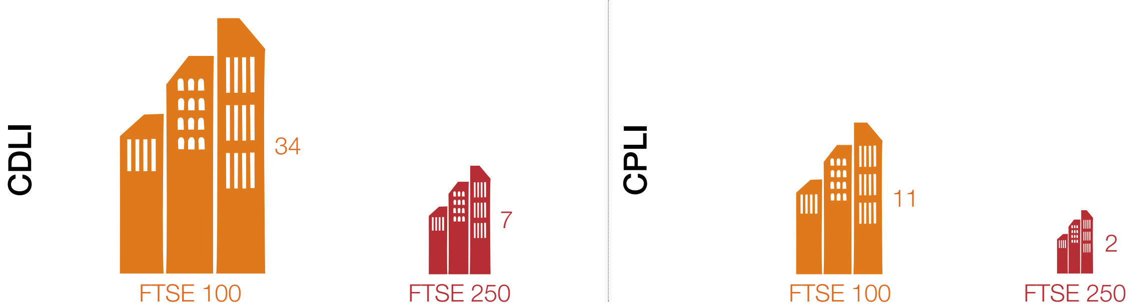


Amongst these, FTSE 100 companies are disclosing more and performing better

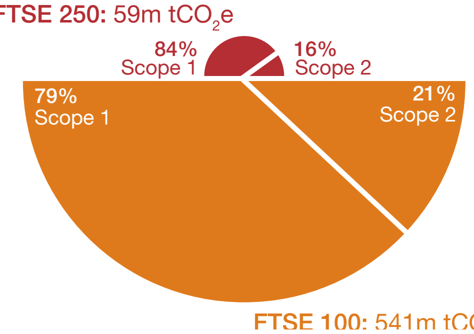
81/B
Average FTSE 100 score

60/C
Average FTSE 250 score

And they have six times as many companies in the CDLI and CPLI



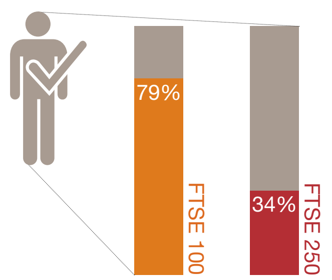
Companies emitted:



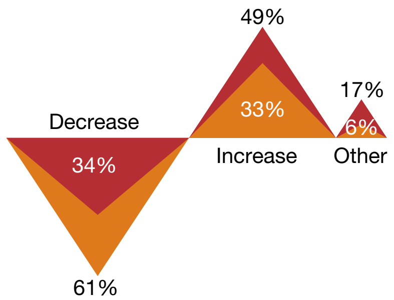
And total Scope 1 and 2 emissions increased by 3.6% overall

However, all companies can do more to respond to improve their performance:

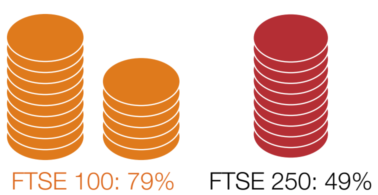
52% verify both Scope 1 and 2 emissions



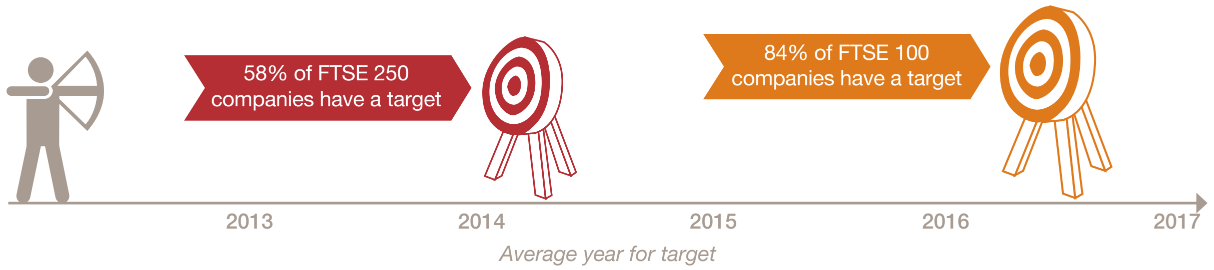
45% report a decrease in emissions since 2012



62% have monetary incentives

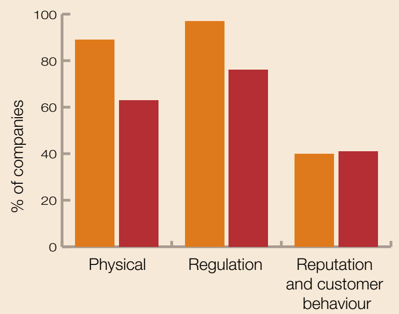


FTSE 250 companies have fewer emissions reduction targets, which are more short term

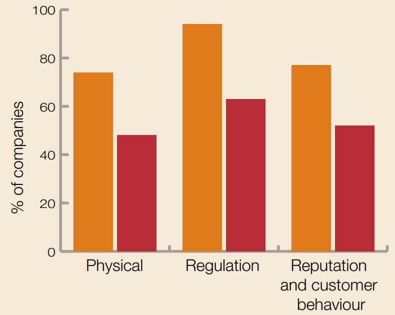


FTSE 250 companies report fewer risks and opportunities

Risks

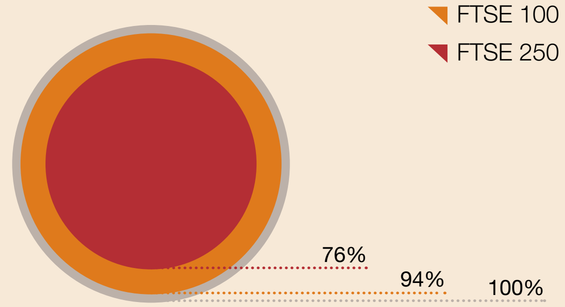


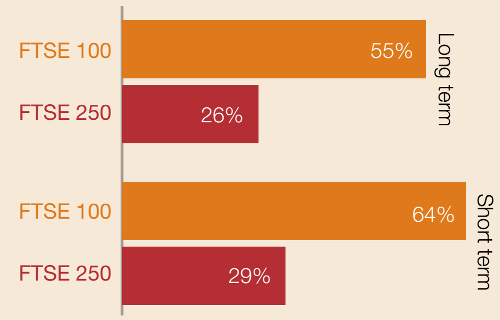
Opportunities



And twice as many state there are no risks or opportunities to their companies

Fewer FTSE 250 companies have stated that climate change is integrated into their strategies





This shows the % of companies that reported long and short term changes to their strategy due to climate change

FTSE 250 companies report emissions for half as many Scope 3 activities

Average number of activities reported:

3 FTSE 100 activities

1.5 FTSE 250 activities

PwC commentary - Celine Herweijer

Globalisation of our supply chains and asset base has shortened the distance between headline disasters and our high streets.

British business is already feeling the effects of climate change. Record losses have been racked up over recent years in the wake of increasingly frequent extreme weather events. Flooding in the UK in 2007 cost businesses over £1bn[14]. But, as our report for Defra shows, UK businesses may be even more exposed to the impacts of climate change abroad. Globalisation of our supply chains and asset base has shortened the distance between headline disasters and our high streets. This was demonstrated by the Thai floods in 2011 which wiped over £1.6bn off Lloyds of London's books[15] and restricted availability of some electronic goods.

Business resilience is critical to create value, achieve and sustain growth and sometimes for survival. The coming decades are expected to see major shifts in the frequency, severity and distribution of extreme events and climate conditions. This will impact security of supply, asset value and the continuity of business operations. Basing investment and risk management decisions on past experiences only will increasingly expose business to losses in the future.

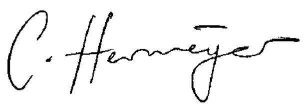
While 86% of the FTSE 350 respondents report that they consider climate risks or opportunities, most businesses have little knowledge of their true exposure to weather and climate change risks across their operations and value chain. Nor do they have the ability to respond, if and when a threat materialises. This is particularly concerning when you consider that over £10 trillion of the UK's assets are located abroad[16].

Our input into this year's United Nations Global Assessment Report on Disaster Risk Reduction shows that the focus still tends to be on directly owned assets, short term risks, and post-disaster responses.

The level of understanding of, and ability to manage risks, in distant supply chains overseas is far lower. Of the FTSE 350 companies, only 52% report engaging with their suppliers on GHG emissions and climate change strategies.

At PwC, we have been working with our clients to help them understand and quantify the risks posed by disasters and the changing climate. Our Climate Risk Analytics work helps businesses integrate climate change and disaster risk into their enterprise risk management approaches. We have assessed the impacts of climate on security of supply for major retailers and worked with investors to understand climate risks to their portfolios. We use quantitative models to evaluate risks and to understand the return on investment of risk mitigation strategies.

The private sector is well placed to tackle these challenges, reduce risks and save costs. It is developing new and innovative products and services targeted at building resilience. Businesses are using new mobile-supported early warning systems that provide alerts to changing weather patterns, and investing in innovative financial risk transfer products. Many businesses now recognise that building resilience is critical to success and increasingly survival.



Celine Herweijer
Partner, PwC

14 http://nationalfloodforum.org.uk/wp-content/uploads/EA-Costs-of-Flooding.pdf
15 http://www.theguardian.com/business/2012/feb/14/lloyds-thailand-flooding-2bn-dollars
16 *International threats and opportunities of climate change to the UK*, PwC report for Defra, 2013

Appendix I - Non-responding companies

Company name	Country	2013 Status
Consumer Discretionary		
Barratt Developments	United Kingdom	DP
Betfair	United Kingdom	NR
Bwin.party Digital Entertainment	United Kingdom	IN
Carpetright	United Kingdom	NR
Dixons Retail	United Kingdom	DP
Dunelm	United Kingdom	IN
Halfords	United Kingdom	NR
Howden Joinery	United Kingdom	DP
Inchcape	United Kingdom	NR
ITV	United Kingdom	DP
JD Sports Fashion	United Kingdom	IN
John Menzies	United Kingdom	NR
Mitchells & Butlers	United Kingdom	DP
Ocado	United Kingdom	DP
PERFORM	United Kingdom	NR
Rank	United Kingdom	DP
Restaurant Group	United Kingdom	DP
Sports Direct	United Kingdom	DP
William Hill	United Kingdom	DP
Consumer Staples		
A.G. Barr	United Kingdom	NR
Booker	United Kingdom	DP
Devro	United Kingdom	NR
Energy		
Bumi	United Kingdom	DP
EnQuest	United Kingdom	NR
Ophir Energy	United Kingdom	NR
Salamander Energy	United Kingdom	DP
Financials		
Aberforth Smaller Companies Trust	United Kingdom	DP
Ashmore	United Kingdom	NR
Bank of Georgia Holdings	United Kingdom	NR
BH Global	Channel Islands	NR
BH Macro	Channel Islands	NR
BlueCrest AllBlue	United Kingdom	DP
Brewin Dolphin	United Kingdom	NR
Caledonia Investments	United Kingdom	NR
Close Brothers	United Kingdom	DP
Daejan Holdings	United Kingdom	DP
Dexion Absolute	United Kingdom	DP
Genesis Emerging Markets Fund	United Kingdom	NR
Hansteen Holdings	United Kingdom	DP
Hargreaves Lansdown	United Kingdom	DP
Herald Investment Trust	United Kingdom	NR
IG Group	United Kingdom	DP
International Public Partnerships	United Kingdom	DP
IP Group	United Kingdom	NR
Jardine Lloyd Thompson	United Kingdom	NR
Lancashire Holdings	Bermuda	DP
LondonMetric Property	United Kingdom	DP
Man	United Kingdom	DP
NB Global Floating Rate Income Fund	United Kingdom	NR
Paragon	United Kingdom	NR
Phoenix Group Holdings	United Kingdom	NR
Polar Capital Technology Trust	United Kingdom	NR
Raven Russia	United Kingdom	NR
RIT Capital Partners	United Kingdom	NR
Scottish Investment Trust	United Kingdom	DP
St. Modwen Properties	United Kingdom	NR
SVG Capital	United Kingdom	DP
Tullett Prebon	United Kingdom	NR
Utilico Emerging Markets	Bermuda	NR

Company name	Country	2013 Status
Witan Investment Trust	United Kingdom	DP
Healthcare		
Genus	United Kingdom	NR
Worldwide Healthcare Trust	United Kingdom	NR
Industrials		
Babcock	United Kingdom	DP
Capita	United Kingdom	DP
Fenner	United Kingdom	NR
Homeserve	United Kingdom	DP
Kentz	United Kingdom	DP
Melrose	United Kingdom	DP
Paypoint	United Kingdom	DP
Ultra Electronic	United Kingdom	DP
Vesuvius	United Kingdom	NR
Information Technology		
Anite	United Kingdom	NR
Aveva	United Kingdom	NR
CSR	United Kingdom	DP
Fidessa	United Kingdom	NR
Imagination Technologies	United Kingdom	NR
Moneysupermarket.com	United Kingdom	NR
Oxford Instruments	United Kingdom	DP
Playtech	United Kingdom	DP
SDL	United Kingdom	NR
Materials		
Alent	United Kingdom	DP
Az Electronic Materials	United Kingdom	NR
Centamin	United Kingdom	NR
Ferrexpo	Switzerland	NR
Hochschild Mining	United Kingdom	NR
Kenmare Resources	Ireland	NR
New World Resources	Netherlands	DP
Petropavlovsk	United Kingdom	DP
Polymetal	Russia	DP
Utilities		
Telecom Plus	United Kingdom	NR

Appendices Key :

AQ(L): Answered questionnaire late, and therefore is not scored.
DP: Declined to participate
IN: Information provided (e.g. CSR report)
NR: No response
SA(AQ): See another - refers to another company response
Not public: the company responded privately
Number of Scope 3 categories: value indicates number of scope 3 categories that were reported as 'relevant and calculated'
*: the asterisk on Scope 1 or Scope 2 emissions figure indicates full points were awarded for verification that is complete or underway using an approved standard
Bold: companies that are in either CPLI (performance band A) or CDLI (disclosure score 88 or higher), or both.

To read 2013 company responses in full please go to www.cdp.net/en-US/Results/Pages/responses.aspx

Appendix II - Responding companies, scores and emissions data

Company name	Country	2013 Score	Scope 1	Scope 2	Number of Scope 3 catagories
Consumer Discretionary					
Aegis	United Kingdom	81 C	975	13,987	1
Bellway	United Kingdom	61 D	365*	2,819*	0
Berkeley	United Kingdom	78 C	3,173	9,719	3
Bovis Homes	United Kingdom	60 D	923	373	2
British Sky Broadcasting	**United Kingdom**	**95 A**	**20,972***	**80,458***	**11**
Burberry	United Kingdom	75 C	1,334*	38,014*	7
Carnival	United Kingdom	83 C	10,819,814*	57,585*	4
Compass	United Kingdom	82 C	76,141	9,064	0
Debenhams	United Kingdom	74 B		Not public	
Dignity	United Kingdom	72 D	15,097*	7,861*	0
Dominos Pizza	United Kingdom	63 E	6,390	4,362	3
Enterprise Inns	United Kingdom	25	1,787		
Euromoney Institutional Investors	United Kingdom	49	170	2,920	1
GKN	United Kingdom	60 D	201,318	946,111	0
Greene King	United Kingdom	61 D	42,139	93,474	1
Home Retail	United Kingdom	80 B	110,636*	167,599*	1
Informa	United Kingdom	74 D		Not public	
Intercontinental Hotels	United Kingdom	85 B	447,000	1,806,000	4
Kingfisher	United Kingdom	83 B	146,819*	308,000*	7
Ladbrokes	United Kingdom	73 B		Not public	
Marks & Spencer	United Kingdom	85 B	181,348*	371,633*	7
Maston's	United Kingdom	52 D		Not public	
Millennium & Copthorne Hotels	United Kingdom	68 C	73,372	235,625	0
N Brown	United Kingdom	75 B	3,365	10,474	6
Next	United Kingdom	87 B		Not public	
Pearson	United Kingdom	72 B	30,972	118,686	5
Persimmon	United Kingdom	71 C	9,237	4,761	1
Redrow	United Kingdom	66 D	4,519	2,096	1
Reed Elsevier	**United Kingdom**	**91 A**	**10,752***	**127,105***	**7**
Rightmove	United Kingdom	26		Not public	
SuperGroup	United Kingdom	7		Not public	
Taylor Wimpey	United Kingdom	75 D	10,923	13,444	6
Ted Baker	United Kingdom	71 C	109	3,737	5
TUI Travel	**United Kingdom**	**92 B**	**6,169,809***	**220,058***	**5**
United Business Media	**United Kingdom**	**80 A**	**1,022***	**8,613***	**5**
Wetherspoon	United Kingdom	63 D		Not public	
WH Smith	United Kingdom	64 B	6,439*	43,752*	1
Whitbread	United Kingdom	77 B	56,226*	161,381*	5
WPP	**United Kingdom**	**95 B**	**9,859***	**164,206***	**2**
Consumer Staples					
Associated British Foods	United Kingdom	85 B	2,295,328*	1,067,934*	0
British American Tobacco	**United Kingdom**	**94 B**	**359,184***	**387,168***	**5**
Britvic	United Kingdom	65 D		Not public	
Cranswick	United Kingdom	56 D	33,432	44,811	2
Dairy Crest	United Kingdom	71 C	102,810	71,380	3
Diageo	**United Kingdom**	**98 A**	**597,619***	**83,898***	**6**
Greggs	United Kingdom	81 B		Not public	
Imperial Tobacco	United Kingdom	83 B	144,153*	163,819*	0
J Sainsbury	**United Kingdom**	**95 B**	**728,738***	**807,964***	**4**
Morrison Supermarkets	United Kingdom	83 B	469,567*	762,686*	2
PZ Cussons	United Kingdom	67 C		Not public	
Reckitt Benckiser	**United Kingdom**	**99 B**	**104,934***	**208,576***	**7**
SABMiller	United Kingdom	74 B	1,009,825*	997,465*	
Tate & Lyle	**United Kingdom**	**94 A-**	**2,177,876***	**1,247,670***	**3**
Tesco	**United Kingdom**	**96 A-**	**1,418,798***	**3,764,068***	**7**
Unilever	**United Kingdom**	**82 A**	**1,053,344***	**907,399***	**9**
Energy					
Afren	United Kingdom	37		Not public	
AMEC	United Kingdom	75 C	28,951	31,432	1
BG Group	**United Kingdom**	**89 A**	**7,739,569***	**20,295***	**3**
BP	United Kingdom	80 C	59,830,000*	8,360,000*	1
Cairn Energy	United Kingdom	80 D	1,589*	280*	1
Essar Energy	Mauritius	33		Not public	
Heritage Oil	Channel Islands	18		Not public	
Hunting	United Kingdom	49	9,061	36,149	
Petrofac	United Kingdom	77 B	160,998	40,677	1
Premier Oil	United Kingdom	66 D	890,809*	2,122	1
Royal Dutch Shell	**Netherlands**	**90 B**	**72,000,000***	**9,000,000***	**5**
Soco International	United Kingdom	39		Not public	
Tullow Oil	United Kingdom	72 B	579,834*	122*	0
Wood Group	United Kingdom	82 D	2,308	7,054	1
Financials					
3i	United Kingdom	63 D	0	406	2
3i Infrastructure (see 3i)	Channel Islands	SA (AQ)			
Aberdeen Asset Management	**United Kingdom**	**91 B**	**123***	**3,444***	**2**
Admiral	United Kingdom	60 D	361	6,070	2
Alliance Trust	United Kingdom	74 C	166	486	2
Amlin	United Kingdom	77 C	892*	2,997*	4
Aviva	United Kingdom	79 B	23,849*	75,733*	6
Bankers Investment Trust (see Henderson)	United Kingdom	SA (AQ)			
Barclays	**United Kingdom**	**92 A**	**46,757***	**889,915***	**1**
Beazley	United Kingdom	44	42	1,618	2
Big Yellow	United Kingdom	71 D	143*	7,176*	0
Blackrock World (see Blackrock - Global 500)	United Kingdom	SA (AQ)			
British Assets Trust (F&C Asset Management)	United Kingdom	SA (AQ)			
British Empire Securities	United Kingdom	15			
British Land	**United Kingdom**	**98 A**	**6,728***	**39,637***	**10**
Capital & Counties Properties	United Kingdom	70 C		Not public	
Catlin	United Kingdom	85 C	750	6,206	3
City of London Investment Trust (see Henderson)	United Kingdom	SA (AQ)			
Derwent London	**United Kingdom**	**89 C**	**3,632***	**7,053***	**3**
Direct Line Insurance (see Royal Bank of Scotland)	United Kingdom	SA (AQ)			
Edinburgh Dragon Trust (see Aberdeen Asset Management)	USA	SA (AQ)			
Edinburgh Investment Trust (see Invesco - S&P 500)	United Kingdom	SA (AQ)			
Electra Private Equity	United Kingdom	0			
F&C Asset Management	United Kingdom	60 D	0	690	1
F&C Commercial Property Trust (see F&C Asset Management)	United Kingdom	SA (AQ)			
Fidelity China Special Situations (see Fidelity European Values)	United Kingdom	SA (AQ)			
Fidelity European Values	United Kingdom	48		Not public	
Foreign & Colonial Investment Trust (see F&C Asset Management)	United Kingdom	SA (AQ)			
Grainger	United Kingdom	78 C	398	379	2
Great Portland Estates	United Kingdom	81 C	880*	4,265*	1
Hammerson	United Kingdom	67 C	3,061	39,420	0
Henderson	Ireland	81 B	29*	1,644*	3
HICL Infrastructure (see HSBC)	Channel Islands	SA (AQ)			
Hiscox	United Kingdom	70 C	204	1,016	1
HSBC	**United Kingdom**	**97 A**	**64,918***	**688,827***	**1**
Icap	United Kingdom	4			
Intermediate Capital Group	United Kingdom	60 E	44	586	1
International Personal Finance	United Kingdom	77 C	21,133	5,054	2
Intu Properties	United Kingdom	74 B	5,458	41,857	0
Investec (see Investec Ltd - South Africa)	United Kingdom	SA (AQ)			
John Laing Infrastructure Fund	Guernsey	49	19,058	71,921	0
JPMorgan American IT (see JPMorgan Chase - Global 500)	United Kingdom	SA (AQ)			
JPMorgan Emerging Markets Investment Trust (see JPMorgan Chase - Global 500)	United Kingdom	SA (AQ)			
JPMorgan Indian Investment Trust (see JPMorgan Chase - Global 500)	United Kingdom	SA (AQ)			

Appendix II - Responding companies, scores and emissions data - *continued*

Company name	Country	2013 Score	Scope 1	Scope 2	Number of Scope 3 catagories
Financials continued					
Jupiter Fund Management	United Kingdom	58 E	131	553	2
Land Securities	**United Kingdom**	**88 B**	**14,592***	**96,835***	**2**
Law Debenture Corporation	United Kingdom	25		Not public	
Legal & General	United Kingdom	75 C	4,218	29,385	1
Lloyds Banking	**United Kingdom**	**90 B**	**49,414***	**290,726***	**2**
London Stock Exchange	United Kingdom	73 D	1,083	23,546	2
Mercantile Investment Trust (see JPMorgan Chase - Global 500)	United Kingdom	SA (AQ)			
Merchants Trust (see Allianz - Global 500)	United Kingdom	SA (AQ)			
Monks Investment Trust	United Kingdom	0			
Murray Income Trust (see Aberdeen Asset Management)	United Kingdom	SA (AQ)			
Murray International Trust (see Aberdeen Asset Management)	United Kingdom	SA (AQ)			
Old Mutual	**United Kingdom**	**91 B**	**10,200***	**655,638***	**3**
Perpetual Income & Growth Investment Trust (see Invesco Ltd)	United Kingdom	SA (AQ)			
Personal Assets Trust	United Kingdom	7		Not public	
Provident Financial	United Kingdom	74 D	2,097*	4,717*	1
Prudential	United Kingdom	70 D	12,500	114,636	0
Rathbone Brothers	United Kingdom	67 E		Not public	
Resolution	United Kingdom	81 B	3,903*	16,664*	2
Royal Bank of Scotland	**United Kingdom**	**88 B**	**66,586***	**497,763***	**9**
RSA Insurance	United Kingdom	81 B	13,262*	27,263*	3
Savills	United Kingdom	84 C	466	3,385	3
Schroders	United Kingdom	86 B	1,042*	7,273*	1
Scottish Mortgage Investment Trust	United Kingdom	0			
Segro	United Kingdom	79 D	4,737	21,810	1
Shaftesbury	**United Kingdom**	**88 B**	**52***	**1,120***	**3**
St.James Place	United Kingdom	72 E	847	2,144	5
Standard Chartered	**United Kingdom**	**91 B**	**26,560***	**229,122***	**0**
Standard Life	**United Kingdom**	**90 B**	**3,454***	**17,501***	**1**
Temple Bar Investment Trust (see Investec Ltd - South Africa)	United Kingdom	SA (AQ)			
Templeton Emerging Markets IT (see Franklin Resources - Global 500)	United Kingdom	SA (AQ)			
TR Property Investment Trust (see F&C Asset Management)	United Kingdom	SA (AQ)			
UK Commercial Property Trust (see Northern Trust - S&P 500)	United Kingdom	SA (AQ)			
Unite	United Kingdom	56 E	6,603	56,743	2
Workspace	United Kingdom	70 D	3,311	7,413	1
Healthcare					
AstraZeneca	United Kingdom	85 B	340,800*	286,200*	5
BTG	United Kingdom	55 D	2,109	3,578	0
Dechra Pharmaceuticals	United Kingdom	6			
GlaxoSmithKline	**United Kingdom**	**98 A**	**1,005,447***	**804,283***	**5**
Hikma Pharmaceuticals	United Kingdom	72 C	2,828	11,351	2
Shire	Ireland	83 C	26,123	25,459	2
Smith & Nephew	**United Kingdom**	**92 B**	**10,809***	**70,797***	**2**
Synergy Health	United Kingdom	61 D	32,953	37,890	1
United Drug	Ireland	33		Not public	
Industrials					
Aggreko	United Kingdom	21	12,639,771	14,168	
Ashtead	United Kingdom	36		Not public	
Atkins	United Kingdom	84 B	22,603*	28,653*	1
BAE Systems	United Kingdom	69 C	277,920	590,760	1
Balfour Beatty	United Kingdom	87 B	320,454*	115,648*	2
BBA Aviation	United Kingdom	44	73,087	51,663	0
Berendsen	United Kingdom	6			
Bodycote	United Kingdom	29	123,777	219,830	
Bunzl	United Kingdom	74 C	84,727	27,497	4

Company name	Country	2013 Score	Scope 1	Scope 2	Number of Scope 3 catagories
Carillion	United Kingdom	86 B	170,342	26,804	3
Chemring	United Kingdom	31		63,932	
Cobham	United Kingdom	84 B	94,565*	52,468*	3
De La Rue	United Kingdom	55 E	36,600	53,100	1
easyJet	United Kingdom	30	5,444,000		
Experian	Ireland	82 B	5,550*	52,060*	1
FirstGroup	United Kingdom	78 B	2,638,761*	404,702*	1
G4S	United Kingdom	78 C	403,902	130,198	1
Galliford Try	United Kingdom	73 B		Not public	
Go-Ahead	United Kingdom	77 B	354,565*	563,502*	0
Hays	United Kingdom	67 D	2,824	5,811	1
IMI	United Kingdom	81 B	25000*	65000*	1
International Airlines Group	**Spain**	**88 B**	**23,230,095***	**131,636***	**5**
Interserve	United Kingdom	86 C	30,169	7,158	5
Intertek	United Kingdom	71 D	11,529	128,071	0
Invensys	United Kingdom	71 B	19,718	69,039	1
ITE	United Kingdom	71 D	16	64	2
Kier	United Kingdom	81 C	61,886*	17,087*	3
Meggitt	United Kingdom	45	37,365	97,080	0
Michael Page International	United Kingdom	62 E		Not public	
MITIE	United Kingdom	79 C	42,764	3,479	8
Morgan Advanced Materials	**United Kingdom**	**92 A**	**152,600***	**253,000***	**1**
National Express	United Kingdom	59 D	754,973	64,545	3
Qinetiq	United Kingdom	73 C	20,265	44,192	1
Regus	United Kingdom	67 C		Not public	
Rentokil Initial	United Kingdom	70 C	223,672	42,156	1
Rolls-Royce	United Kingdom	85 B	213,089	337,064	3
Rotork	United Kingdom	59 E		Not public	
RPS	United Kingdom	76 C	8,740	5,875	1
Senior	United Kingdom	74 C	10,582	49,707	4
Serco	**United Kingdom**	**92 C**	**32,803***	**116,456***	**3**
SIG	United Kingdom	60 D	81,604	14,346	1
Smiths	United Kingdom	48	14,896	92,254	
Spirax-Sarco Engineering	United Kingdom	71 C		Not public	
Stagecoach	United Kingdom	75 C	957,539	246,065	1
Stobart	United Kingdom	65 D	235,301*	8,469*	0
Travis Perkins	**United Kingdom**	**88 B**	**128,253***	**78,303***	**1**
Weir	United Kingdom	77 D	61,491	124,616	0
Wolseley	United Kingdom	80 B	474,924*	167,188*	2
Information Technology					
ARM Holdings	United Kingdom	75 C	409	12,274	1
Computacenter	United Kingdom	53 D		Not public	
Dialight	United Kingdom	26			
Diploma	United Kingdom	0			
Domino Printing Sciences	United Kingdom	74 C		Not public	
Electrocomponents	United Kingdom	86 B	6,800	16,100	1
Halma	United Kingdom	69 D	4,183	17,130	2
Laird	United Kingdom	76 C		Not public	
Micro Focus	United Kingdom	54 D	174*	304*	
Pace	**United Kingdom**	**91 B**	**529***	**7,645***	**2**
Premier Farnell	United Kingdom	73 C	3,511	17,302	2
Renishaw	United Kingdom	51 E	4,085	15,180	3
Sage	United Kingdom	55 D	1,568	22,925	0
Spectris	United Kingdom	79 C		Not public	
Spirent Communications	United Kingdom	66 D		Not public	
Telecity	United Kingdom	14			
Materials					
African Barrick Gold (see Barrick Gold - Global 500)	United Kingdom	SA (AQ)			
Anglo American	**United Kingdom**	**96 A**	**8,470,754***	**9,403,534***	**11**
Antofagasta	**United Kingdom**	**92 C**	**645,371***	**1,539,442***	**3**
BHP Billiton	United Kingdom	75 C	20,200,000*	20,000,000*	2
CRH	Ireland	79 B	9,226,000*	1,184,000*	2
Croda	**United Kingdom**	**93 B**	**137,043***	**47,235**	**7**
DS Smith	United Kingdom	63 C	1,230,680*	282,957*	
Elementis	United Kingdom	20		Not public	
Essentra	United Kingdom	57 C	7,433	56,233	2
Eurasian Natural Resources Corporation	United Kingdom	78 D	26,366,645*	1,003,469*	

Appendix III - Responding FTSE SmallCap Companies

Company name	Country	2013 Score	Scope 1	Scope 2	Number of Scope 3 catagories
Evraz	United Kingdom	22		Not public	
Fresnillo	Mexico	68 D	236,184	346,134	2
Glencore International	Switzerland	82 C		Not public	
Johnson Matthey	United Kingdom	76 C	158,483	254,968	2
Kazakhmys	United Kingdom	65 D		Not public	
Lonmin	**United Kingdom**	**88 B**	**97,452***	**1,470,773***	**3**
Mondi	United Kingdom	87 B	4,329,585*	1,267,224*	
Petra Diamonds	United Kingdom	13			
Randgold Resources	United Kingdom	84 C	467,706*	50,418*	3
Rexam	United Kingdom	77 D		Not public	
Rio Tinto	**United Kingdom**	**88 B**	**26,900,000***	**16,400,000***	**6**
RPC	United Kingdom	73 D		Not public	
Synthomer	United Kingdom	15	65,500	118,300	
Vedanta Resources	United Kingdom	76 C	34,025,949	1,464,428	4
Victrex	United Kingdom	53 E		Not public	
Xstrata	Switzerland	82 C		Not public	
Telecommunicatin Services					
BT	**United Kingdom**	**93 A**	**200,876***	**192,644***	**10**
Cable & Wireless Communications	United Kingdom	48		Not public	
Colt Technology Services	United Kingdom	63 D	1,939	115,583	3
Inmarsat	United Kingdom	18		4,328	
KCOM	United Kingdom	59 D	2,908	22,639	2
TalkTalk Telecom	United Kingdom	73 C	592	67,782	1
Vodafone	United Kingdom	85 B	404,885*	2,178,178*	2
Utilities					
Centrica	**United Kingdom**	**97 B**	**7,230,344***	**166,476***	**6**
Drax	United Kingdom	75 C	22,694,674*	875,130	0
National Grid	**United Kingdom**	**98 B**	**7,913,978***	**4,547,930***	**6**
Pennon	**United Kingdom**	**96 A-**	**1,934,332***	**164,712***	**8**
Severn Trent	United Kingdom	83 B	147,433*	389,206*	5
SSE	**United Kingdom**	**90 B**	**24,560,110***	**1,364,652***	**1**
United Utilities	United Kingdom	80 C	118,865	377,562	2

Publicly available responses can be viewed for free via www.cdp.net. All public responses are also available in a comparable database format (contact reporterservices@cdp.net).

Company name	Country	2013 Score	Scope 1	Scope 2	Number of Scope 3 catagories
Consumer Discretionary					
Aga Rangemaster	**United Kingdom**	**88 B**	**13,200**	**13,801**	**0**
Fiberweb	United Kingdom	49	28,288	138,070	2
Henry Boot	United Kingdom	31	1,393	927	2
Mecom	United Kingdom	46		Not public	
Mothercare	United Kingdom	63 C	5,766	21,739	0
Thomas Cook	United Kingdom	69 C	4,309,161	20,315	1
Trinity Mirror	United Kingdom	65 C	5,464	45,664	3
UTV Media	United Kingdom	34	564	2,331	
Consumer Staples					
Greencore	Ireland	66 D		Not public	
Hilton Food	United Kingdom	34	0	28,534	1
McBride	United Kingdom	75 C	12,232	49,312	3
Premier Foods	United Kingdom	68 C		Not public	
Energy					
Fortune Oil	Hong Kong	39	7,980	6,517	
JKX Oil and Gas	United Kingdom	50 E	128,568	9,335	0
Lamprell	United Arab Emirates	25	78,276		0
Financials					
Baillie Gifford Japan Trust	United Kingdom	0			
Edinburgh Worldwide Investment Trust	United Kingdom	0			
Helical Bar	United Kingdom	63 D	723	3,578	1
Impax Environmental Markets	United Kingdom	55 E	0	64	1
Pacific Horizon Investment Trust	United Kingdom	0			
Quintain Estates	United Kingdom	10		Not public	
Scottish Oriental Smaller Companies Trust	United Kingdom	9		Not public	
Healthcare					
Vectura	United Kingdom	52 D		Not public	
Industrials					
Costain	United Kingdom	84 A	9,210*	3,378*	4
Hyder Consulting	United Kingdom	58 D	164	2,863	1
Morgan Sindall Group	**United Kingdom**	**91 B**	**34,662***	**11,345***	**3**
Ricardo	United Kingdom	AQ (L)			
Shanks	United Kingdom	54 D	510,000	79,000	
Speedy Hire	United Kingdom	65 C	19,051	4,701	1
UK Mail Ltd	United Kingdom	30	57,900		0
Wincanton	United Kingdom	75 C		Not public	
XP Power	United Kingdom	53 D	37	1,835	2
Information Technology					
Xchanging	United Kingdom	59 E	3,231	15,553	1
Materials					
Aquarius Platinum	Bermuda	76 E	26,753	634,313	3
British Polythene Industries	United Kingdom	41	3,491	122,847	1
First Quantum Minerals	Canada	80 D	763,326	37,212	2
Hill & Smith	United Kingdom	51 E	18,589	11,837	0
Marshalls	United Kingdom	85 B	41,956*	18,342*	5
Talvivaara Mining	Finland	81 D	197,072	17,402	3

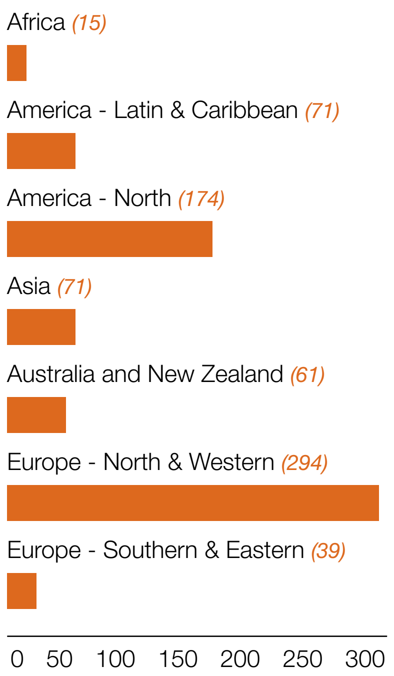
To read 2013 company responses in full please go to www.cdp.net/en-US/Results/Pages/responses.aspx

Appendix IV - Investor members

CDP works with investors globally to advance the investment opportunities and reduce the risks posed by climate change by asking over 5,000 of the world's largest companies to report their climate strategies, GHG emissions and energy use through CDP's standardised format. To learn more about CDP's member offering and becoming a member, please contact us or visit the investor pages at **https://www.cdp.net/en-US/WhatWeDo/Pages/investors.aspx**

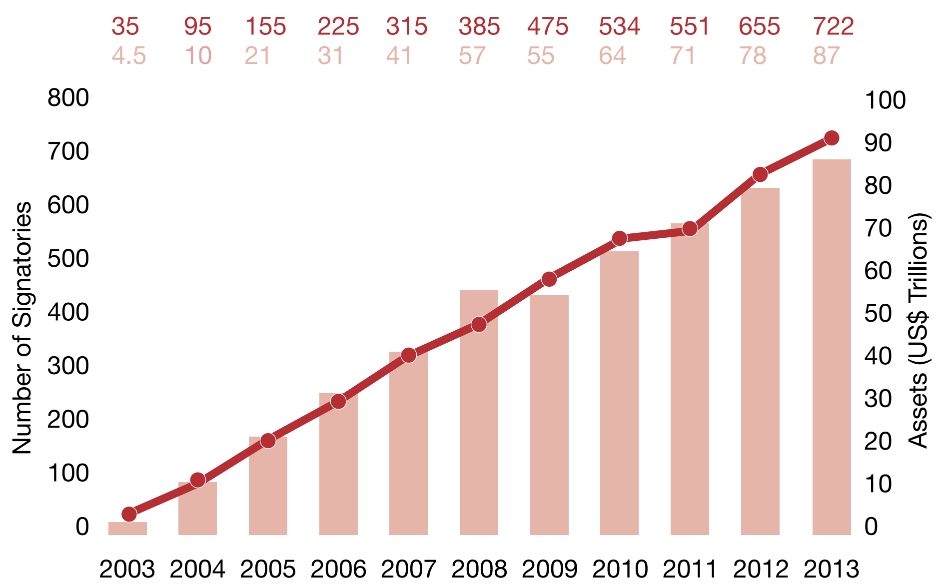
ABRAPP - Associação Brasileira das Entidades Fechadas de Previdência Complementar
ATP Group
Aviva Investors
Bank of America
Bendigo and Adelaide Bank
BlackRock
Boston Common Asset Management, LLC
California Public Employees' Retirement System (CalPERS)
California State Teachers' Retirement System (CalSTRS)
Calvert Group, Ltd.
Capricorn Investment Group
Catholic Super
CCLA Investment Management Ltd
Daiwa Asset Management Co. Ltd.
Generation Investment Management
Goldman Sachs Group Inc.
Henderson Global Investors
HSBC Holdings plc
Legg Mason, Inc.
KLP
London Pensions Fund Authority
Mobimo Holding AG
Mongeral Aegon Seguros e Previdência S.A.
Morgan Stanley
National Australia Bank
Neuberger Berman
Newton Investment Management Limited
Nordea Bank
Norges Bank Investment Management (NBIM)
Northwest and Ethical Investments L.P. (NEI Investments)
PFA Pension
Robeco
RobecoSAM AG
Rockefeller Asset Management
Royal Bank of Scotland Group
Sampension KP Livsforsikring A/S
Schroders
Scottish Widows Investment Partnership
Skandinaviska Enskilda Banken AB (SEB AB)
Sompo Japan Insurance Inc.
Standard Chartered
Sun Life Financial Inc
Sustainable Insights Capital Management
TD Asset Management
The Wellcome Trust

2013 INVESTOR SIGNATORY BREAKDOWN - REGION



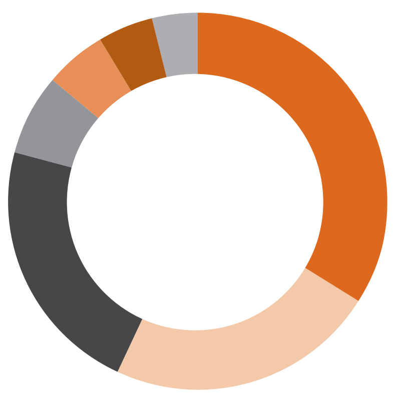
INCREASING NUMBER OF INVESTORS REQUESTING CLIMATE DATA THROUGH CDP

Investor signatory assets
Number of investor signatories



2013 INVESTOR SIGNATORY BREAKDOWN - TYPE

247	Mainstream Asset Managers
167	Pension funds
160	Banks
51	Insurance
39	SRI Asset Managers
34	Foundations
27	Other



Investor signatories

722 financial institutions with assets of US$87 trillion were signatories to the CDP 2013 climate change information request dated February 1st 2013

3Sisters Sustainable Management LLC
Aberdeen Asset Management
Aberdeen Immobilien KAG mbH
ABRAPP - Associação Brasileira das Entidades Fechadas de Previdência Complementar
Achmea NV
Active Earth Investment Management
Acuity Investment Management
Addenda Capital Inc.
Advanced Investment Partners
Advantage Asset Managers (Pty) Ltd
Aegon N.V.
AEGON-INDUSTRIAL Fund Management Co., Ltd
AFP Integra
AIG Asset Management
AK PORTFÖY YÖNETİMİ A.Ş.
AKBANK T.A.Ş.
Alberta Investment Management Corporation (AIMCo)
Alberta Teachers Retirement Fund
Alcyone Finance
AllenbridgeEpic Investment Advisers
Alliance Trust
Allianz Elementar Versicherungs-AG
Allianz Global Investors AG
Allianz Group
Altira Group
Amalgamated Bank
Amlin
AMP Capital Investors
AmpegaGerling Investment GmbH
Amundi AM
ANBIMA – Associação Brasileira das Entidades dos Mercados Financeiro e de Capitais
Antera Gestão de Recursos S.A.
APG Group
AQEX LLC
Aquila Capital
Arisaig Partners
Arkx Investment Management
ARMA PORTFÖY YÖNETİMİ A.Ş.
Armstrong Asset Management
ASM Administradora de Recursos S.A.
ASN Bank
Assicurazioni Generali
ATI Asset Management
Atlantic Asset Management
ATP Group
Auriel Capital Management
Australia and New Zealand Banking Group
Australian Ethical Investment
AustralianSuper
Avaron Asset Management AS
Aviva
Aviva Investors
AXA Group
Baillie Gifford & Co.
BaltCap
Banco Bradesco S/A
Banco Comercial Português SA
Banco de Credito del Peru BCP
Banco de Galicia y Buenos Aires S.A.
Banco do Brasil Previdência
Banco do Brasil S/A
Banco Espírito Santo SA
Banco Nacional de Desenvolvimento Economico e Social (BNDES)
Banco Popular Espanol
Banco Sabadell
Banco Santander
Banesprev – Fundo Banespa de Seguridade Social
Banesto
BANIF SA
Bank Handlowy w Warszawie SA
Bank Leumi Le Israel
Bank of America Merrill Lynch
Bank of Montreal
Bank of Nova Scotia (Scotiabank)
Bank Sarasin & Cie AG
Bank Vontobel
Bankhaus Schelhammer & Schattera Kapitalanlagegesellschaft m.b.H.
Bankia
Bankinter
BankInvest
bankmecu
Banque Degroof
Banque Libano-Francaise
Barclays
Basellandschaftliche Kantonalbank
BASF Sociedade de Previdência Complementar
Basler Kantonalbank
Bâtirente
Baumann and Partners S.A.
Bayern LB
BayernInvest Kapitalanlagegesellschaft mbH
BBC Pension Trust Ltd
BBVA
Bedfordshire Pension Fund
Beetle Capital
Befimmo SA
Bendigo and Adelaide Bank
Bentall Kennedy
Berenberg Bank
Berti Investments
BioFinance Administração de Recursos de Terceiros Ltda
BlackRock
Blom Bank SAL
Blumenthal Foundation
BNP Paribas Investment Partners
BNY Mellon
BNY Mellon Service Kapitalanlage-Gesellschaft mbH
Boston Common Asset Management, LLC
Brasilprev Seguros e Previdência S/A.
Breckinridge Capital Advisors
British Airways Pensions
British Coal Staff Superannuation Scheme
British Columbia Investment Management Corporation (bcIMC)
Brown Advisory
BT Financial Group
BT Investment Management
Busan Bank
CAAT Pension Plan
Cadiz Holdings Limited
CAI Corporate Assets International AG
Caisse de dépôt et placement du Québec
Caisse des Dépôts
Caixa de Previdência dos Funcionários do Banco do Nordeste do Brasil (CAPEF)
Caixa Econômica Federal
Caixa Geral de Depósitos
CaixaBank
California Public Employees' Retirement System (CalPERS)
California State Teachers' Retirement System (CalSTRS)
California State Treasurer
Calvert Investment Management, Inc
Canada Pension Plan Investment Board (CPPIB)
Canadian Imperial Bank of Commerce (CIBC)
Canadian Labour Congress Staff Pension Fund
CAPESESP
Capital Innovations, LLC
Capricorn Investment Group
CARE Super
Carmignac Gestion
Caser Pensiones E.G.F.P
Cathay Financial Holding
Catherine Donnelly Foundation
Catholic Super
CBF Church of England Funds
CBRE Group, Inc.
Cbus Superannuation Fund
CCLA Investment Management Ltd
Celeste Funds Management
Central Finance Board of the Methodist Church
Ceres
CERES-Fundação de Seguridade Social
Change Investment Management
Chinatrust Financial Holding Co Limited
Christian Brothers Investment Services Inc.
Christian Super
Christopher Reynolds Foundation
Church Commissioners for England
Church of England Pensions Board
CI Mutual Funds' Signature Global Advisors
City Developments Limited
ClearBridge Investments
Climate Change Capital Group Ltd
CM-CIC Asset Management
Colonial First State Global Asset Management
Comerica Incorporated
Comgest
Commerzbank AG
CommInsure
Commonwealth Bank of Australia
Commonwealth Superannuation Corporation
Compton Foundation, Inc.
Concordia Versicherungs-Gesellschaft a.G.
Connecticut Retirement Plans and Trust Funds
Conser Invest
Co-operative Asset Management
Co-operative Financial Services (CFS)
Credit Suisse
Daegu Bank
Daesung Capital Management
Daiwa Asset Management Co. Ltd.
Daiwa Securities Group Inc.
Dalton Nicol Reid
Danske Bank A/S
de Pury Pictet Turrettini & Cie S.A.
DekaBank Deutsche Girozentrale
Delta Lloyd Asset Management
Desjardins Financial Security
Deutsche Asset Management Investmentgesellschaft mbH
Deutsche Bank AG
Deutsche Postbank AG
Development Bank of Japan Inc.
Development Bank of the Philippines (DBP)
Dexia Asset Management
Dexus Property Group
DLM INVISTA ASSET MANAGEMENT S/A
DNB ASA
Domini Social Investments LLC
Dongbu Insurance
Doughty Hanson & Co.
DWS Investments
DZ Bank
Earth Capital Partners LLP
East Sussex Pension Fund
Ecclesiastical Investment Management
Ecofi Investissements - Groupe Credit Cooperatif
Edward W. Hazen Foundation
EEA Group Ltd
Eko
Elan Capital Partners
Element Investment Managers
ELETRA - Fundação Celg de Seguros e Previdência
Environment Agency Active Pension fund
Epworth Investment Management
Equilibrium Capital Group
equinet Bank AG
Erik Penser Fondkommission
Erste Asset Management
Erste Group Bank AG
Essex Investment Management Company, LLC
ESSSuper
Ethos Foundation
Etica SGR
Eureka Funds Management
Eurizon Capital SGR S.p.A.
Evangelical Lutheran Church in Canada Pension Plan for Clergy and Lay Workers
Evangelical Lutheran Foundation of Eastern Canada
Evli Bank Plc
F&C Asset Management
FACEB – Fundação de Previdência dos Empregados da CEB
FAELCE – Fundacao Coelce de Seguridade Social

Investor signatories *continued*

FAPERS- Fundação Assistencial e Previdenciária da Extensão Rural do Rio Grande do Sul
FASERN - Fundação COSERN de Previdência Complementar
Fédéris Gestion d'Actifs
FIDURA Capital Consult GmbH
FIM Asset Management Ltd
FIM Services
Financiere de l'Echiquier
FIPECq - Fundação de Previdência Complementar dos Empregados e Servidores da FINEP, do IPEA, do CNPq
FIRA. - Banco de Mexico
First Affirmative Financial Network, LLC
First Commercial Bank
First State Investments
First State Superannuation Scheme
First Swedish National Pension Fund (AP1)
Firstrand Limited
Five Oceans Asset Management
Florida State Board of Administration (SBA)
Folketrygdfondet
Folksam
Fondaction CSN
Fondation de Luxembourg
Forma Futura Invest AG
Fourth Swedish National Pension Fund, (AP4)
FRANKFURT-TRUST Investment Gesellschaft mbH
Friends Fiduciary Corporation
Fubon Financial Holdings
Fukoku Capital Management Inc
FUNCEF - Fundação dos Economiários Federais
Fundação AMPLA de Seguridade Social - Brasiletros
Fundação Atlântico de Seguridade Social
Fundação Attilio Francisco Xavier Fontana
Fundação Banrisul de Seguridade Social
Fundação BRDE de Previdência Complementar - ISBRE
Fundação Chesf de Assistência e Seguridade Social – Fachesf
Fundação Corsan - dos Funcionários da Companhia Riograndense de Saneamento
Fundação de Assistência e Previdência Social do BNDES - FAPES
FUNDAÇÃO ELETROBRÁS DE SEGURIDADE SOCIAL - ELETROS
Fundação Forluminas de Seguridade Social - FORLUZ
Fundação Itaipu BR - de Previdência e Assistência Social
FUNDAÇÃO ITAUBANCO
Fundação Itaúsa Industrial
Fundação Promon de Previdência Social
Fundação Rede Ferroviaria de Seguridade Social – Refer
FUNDAÇÃO SANEPAR DE PREVIDÊNCIA E ASSISTÊNCIA SOCIAL - FUSAN
Fundação Sistel de Seguridade Social (Sistel)
Fundação Vale do Rio Doce de Seguridade Social - VALIA
FUNDIÁGUA - FUNDAÇÃO DE PREVIDENCIA COMPLEMENTAR DA CAESB
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GEAP Fundação de Seguridade Social
General Equity Group AG
Generali Deutschland Holding AG
Generation Investment Management
Genus Capital Management
German Equity Trust AG
Gjensidige Forsikring ASA
Global Forestry Capital S.a.r.l.
GLS Gemeinschaftsbank eG
Goldman Sachs Group Inc.
GOOD GROWTH INSTITUT für globale Vermögensentwicklung mbH
Governance for Owners
Government Employees Pension Fund ("GEPF"), Republic of South Africa
GPT Group
Greater Manchester Pension Fund
Green Cay Asset Management
Green Century Capital Management
GROUPAMA EMEKLİLİK A.Ş.
GROUPAMA SİGORTA A.Ş.
Groupe Crédit Coopératif
Groupe Investissement Responsable Inc.
GROUPE OFI AM
Grupo Financiero Banorte SAB de CV
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Guardians of New Zealand Superannuation

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Hanwha Asset Management Company
Harbour Asset Management
Harrington Investments, Inc
Hauck & Aufhäuser Asset Management GmbH
Hazel Capital LLP
HDFC Bank Ltd
Healthcare of Ontario Pension Plan (HOOPP)
Helaba Invest Kapitalanlagegesellschaft mbH
Henderson Global Investors
Hermes Fund Managers
HESTA Super
HIP Investor
Holden & Partners
HSBC Global Asset Management (Deutschland) GmbH
HSBC Holdings plc
HSBC INKA Internationale Kapitalanlagegesellschaft mbH
Humanis
Hyundai Marine & Fire Insurance Co., Ltd.
Hyundai Securities Co., Ltd.
IBK Securities
IDBI Bank Ltd
IDFC Ltd
Illinois State Board of Investment
Ilmarinen Mutual Pension Insurance Company
Impax Group plc
Independent Planning Group
Indusind Bank
Industrial Alliance Insurance and Financial Services Inc.
Industrial Bank
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Instituto Sebrae De Seguridade Social - SEBRAEPREV
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IntReal KAG
Investec Asset Management
Investing for Good
Irish Life Investment Managers
Itaú Asset Management
Itaú Unibanco Holding S.A.
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Jubitz Family Foundation
Jupiter Asset Management
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KBC Asset Management NV
KBC Group
KCPS and Company
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KDB Daewoo Securities Co. Ltd.
KEPLER-FONDS Kapitalanlagegesellschaft m. b. H.
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KeyCorp
KfW Bankengruppe
Killik & Co LLP
Kiwi Income Property Trust
Kleinwort Benson Investors
KlimaINVEST
KLP Insurance
Korea Investment Management
Korea Technology Finance Corporation
KPA Pension
La Banque Postale Asset Management
La Financiere Responsable
Lampe Asset Management GmbH
Landsorganisationen i Sverige
LaSalle Investment Management
LBBW - Landesbank Baden-Württemberg
LBBW Asset Management Investmentgesellschaft mbH
LD Lønmodtagernes Dyrtidsfond
Legal & General Investment Management
Legg Mason, Inc.
LGT Capital Management Ltd.
LIG Insurance Co., Ltd.
Light Green Advisors, LLC

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Lloyds Banking Group
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Local Government Super
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LUCRF Super
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MAMA Sustainable Incubation AG
Man Group plc
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MAPFRE
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Matrix Asset Management
Matrix Group
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National Bank of Canada
National Bank Of Greece
National Grid Electricity Group of the Electricity Supply Pension Scheme
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