DRIVING SUSTAINABLE ECONOMIES

CDP Ireland climate change report 2016

Irish Companies respond to increasing Customer and Investor focus on Climate Change

Written on behalf of 827 investors with US$100 trillion in assets

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Paul Simpson
Chief Executive Officer, CDP

The Paris Agreement – unprecedented in speed of ratification – and the adoption of the Sustainable Development Goals (SDGs) marked the start of a new strategy for the world, with a clear message for businesses: the low-carbon revolution is upon us. By agreeing to limit global temperature rises to well below 2°C, governments have signaled an end to the fossil fuel era and committed to transforming the global economy.

> **Measurement and transparency are where meaningful climate action starts, and as governments work to implement the Paris Agreement, CDP will be shining a spotlight on progress and driving a race to net-zero emissions.**

The choice facing companies and investors has never been clearer: seize the opportunities of a carbon-constrained world and lead the way in shaping our transition to a sustainable economy; or continue business as usual and face serious risks – from regulation, shifts in technology, changing consumer expectations and climate change itself. CDP's data shows that hundreds of companies are already preparing for the momentous changes ahead, but many are yet to grapple with this new reality.

Investors are poised to capitalize on the opportunities that await. Some of the biggest index providers in the world, including S&P and STOXX, have created low-carbon indices to help investors direct their money towards the sustainable companies of the future. Meanwhile, New York State's pension fund – the third largest in the United States – has built a US$2 billion low-carbon index in partnership with Goldman Sachs, using CDP data.

With trillions of dollars' worth of assets set to be at risk from climate change, investors are more focused than ever on winners and losers in the low-carbon transition. Information is fundamental to their decisions. Through CDP, more than 800 institutional investors with assets of over US$100 trillion are asking companies to disclose how they are managing the risks posed by climate change. Their demands don't stop there: international coalitions of investors with billions of dollars under management are requesting greater transparency on climate risk at the AGMs of the world's biggest polluters.

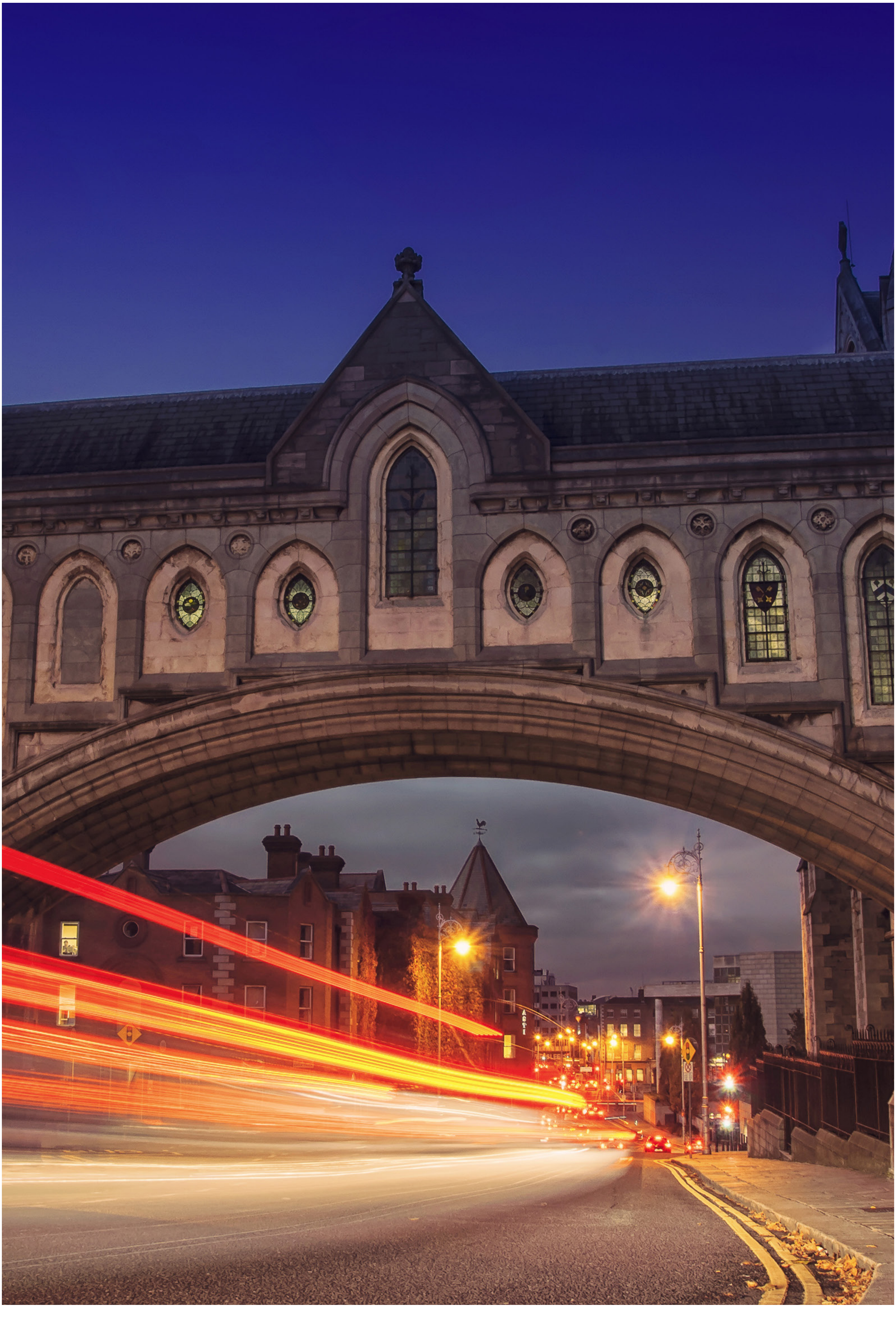
The glass is already more than half full on environmental disclosure. Over fifteen years ago, when we started CDP, climate disclosure was nonexistent in capital markets. Since then our annual request has helped bring disclosure into the mainstream. Today some 5,800 companies, representing close to 60% of global market capitalization, disclose through CDP.

Now, we are poised to fill the glass. We welcome the FSB's new Task Force on Climate-related Financial Disclosures, building on CDP's work and preparing the way for mandatory climate-related disclosure across all G20 nations. We look forward to integrating the Task Force recommendations into our tried and tested disclosure system and working together to take disclosure to the next level.

We know that business is key to enabling the global economy to achieve – and exceed – its climate goals. This report sets the baseline for corporate climate action post-Paris. In future reports, we'll be tracking progress against this baseline to see how business is delivering on the low-carbon transition and enabling investors to keep score. Already, some leading companies in our sample – including some of the highest emitters – are showing it's possible to reduce emissions while growing revenue, and we expect to see this number multiply in future years.

Measurement and transparency are where meaningful climate action starts, and as governments work to implement the Paris Agreement, CDP will be shining a spotlight on progress and driving a race to net-zero emissions.

The Paris Agreement and the SDGs are the new compass for business. Companies across all sectors now have the chance to create this new economy and secure their future in doing so. High-quality information will signpost the way to this future for companies, investors and governments – never has there been a greater need for it.



Lorcan Dowd
Chairman of CDP Ireland Network

In 2016, we have seen a 16% increase in the total number of local and multinational companies reporting emissions in Ireland, now up to a total of 202 companies.

As world governments meet at COP22 in Marrakech, 2016 has been a mixed year in terms of global and local performance on climate change.

On the plus side, there have been some significant global wins in 2016. The Paris Agreement which came into force on 4 November 2016 was formally ratified by Ireland and over 100 other countries. As Paul Simpson, CEO of CDP, points out in this report, the ratification of the Paris Agreement and the adoption of the UN Sustainable Development Goals (SDGs) mark the start of a new low-carbon strategy for the world, and provide a new compass for businesses.

Set against this, it appears for the most part that we have so far been unable to decouple economic growth from emissions growth. In his commentary Jim Gannon, CEO of SEAI, points to the strong economic growth in Ireland in 2015 resulting in overall energy use increasing by almost 5% and related emissions up by almost 6%.

Measurement and transparency are where meaningful climate action starts, and CDP continues to rank as the most credible global disclosure system for measuring and managing environmental impacts. As governments work to implement the Paris Agreement, CDP will continue to shine a spotlight on corporate performance on climate change. In the Paris Agreement, emissions reductions are talked about at the country level, and national governments will lead with policy changes and regulation. However, companies can move faster than governments, and have an opportunity to demonstrate leadership, agility and creativity in curbing their own substantial emissions.

As Company Secretary of Kingspan Group plc, I am proud to be part of an organisation that has reacted to this challenge. In 2011 Kingspan made a commitment that the Company's worldwide manufacturing operations would be Net Zero Energy on an aggregated basis by 2020.

In 2016 we forecast that around 57% of our total energy use will come from renewable energy sources, and we are confident of reaching our 2020 target. Being able to achieve such substantial improvements has enabled us to lead by example and demonstrate the business case for investing in energy efficiency and renewable energy generation to our stakeholders.

Indeed, it is particularly interesting to note the growing focus by investors on Environmental, Social and Governance (ESG) criteria as a key portfolio risk and opportunity. In this report Eoin Fahy, of KBI Global Investors, outlines his company's position on the issue of climate change and how data reporting has become so important that KBIGI has set it as one of just two strategic priorities when engaging with actual or potential investee companies.

Over the past 3-4 years the numbers reporting to CDP both in Ireland and globally have remained relatively flat. While our numbers in Ireland are broadly in line with global reporting averages, they are somewhat behind our European neighbours. Ireland therefore has a window of opportunity to demonstrate leadership in this area, and Laura Burke, Director General of the EPA, in this report argues that Ireland has a great deal to gain by becoming a leader in the transition to a low carbon and resource efficient economy.

It is therefore pleasing to report that in 2016 there has been an increase of 16% in the total number of local and multinational companies reporting emissions in Ireland, now up to a total of 202 companies.

However, focussing specifically on the subset of Irish companies within this total, there has been a small decrease in the number reporting to the Climate Change program this year. It now stands at 25.

Accordingly there remains plenty of scope for more Irish companies and public sector bodies to come on board and report their CDP actions and impacts. Looking at the CDP Supply Chain Program, we have seen a significant increase in companies reporting in Ireland. This is where companies, rather than investors, ask their suppliers to disclose their emissions to their customers. 35 Irish entities responded to the supply chain program, up from 29 in 2015. This is an indication that multinationals see the issue of climate risk in their supply chains as being of increasing importance, and it will be an important issue for Ireland in terms of competition for inward investment.

For CDP globally, there will be an increased emphasis on company performance via the new scoring methodology and more detailed sectoral scrutiny and benchmarking. There will also be an increased focus on Supply Chain as well as the Forestry and Water disclosure programs. Irish companies will need to be ready to respond to these changing requirements and the CDP Ireland Network will continue to assist companies to prepare for these changes.

> There have been a number of recent inward investment announcements in the technology sector, strongly influenced by Ireland's ability to provide a source of renewable energy, sustainable construction and services.

> Multinationals see the issue of climate risk in their supply chains as being of increasing importance and it will be an important issue for Ireland.

I am very pleased to have served as Chairman of the CDP Ireland Network over the past year. I would like to acknowledge and express my appreciation to the EPA and SEAI for their continued support of the CDP program in Ireland. I would also like to recognise all the work done by Clearstream Solutions in administering the CDP project in Ireland and also the strong cooperation with Sustainable Nation and other organisations to keep the issue of Corporate Sustainability on the board room table.

Finally, I would like to thank my fellow CDP Ireland Network steering committee members for their time and effort in 2016 and I look forward to another successful year in 2017.

Lorcan Dowd
Chairman of CDP Ireland Network

Commentary from SEAI
Jim Gannon, CEO, SEAI

At time of writing the Paris Agreement has come into force, having met the double threshold of ratification by more than 55 countries, including Ireland, representing at least 55% of global emissions. A testament to how seriously the world and society now takes the threat of climate change is the fact that this ratification took a fraction of the eight years required to get the Kyoto Protocol over the line.

This agenda suits Ireland. We have rich clean energy resources, and these are the energy sources of the future, not those of the past.

Domestically, there are very clear signals of the challenge ahead for Ireland. With strong economic growth in 2015, overall energy use increased by almost 5% and related emissions by almost 6%, the first time energy use grew to any great extent since 2010. So even though we have had some success in decoupling energy use from economic growth, it is apparent that further work is needed to achieve our evolving decarbonisation goals.

At the same time it is generally recognised now that climate change is a very real and present challenge, both from an environmental and, increasingly, a societal and economic perspective. Since the Paris Agreement, governments and private sector organisations have, I believe, mobilised to address the challenge, and are ever increasingly moving from planning to doing.

We do need to evolve quickly though to meet the new challenges we face. While the finish line for our 2020 targets is approaching at pace, we need to start building new and more effective platforms necessary to bring us to 2030 and beyond. To achieve this all sectors will have to work together and clearly business and industry have a key role to play and must lead from the front. The fact that the numbers reporting under CDP remain flat in 2016, both globally and in Ireland, is a little disappointing. In the spirit of providing leadership this may be a mantle that reporting companies could take up to both encourage and support other organisations to do likewise. SEAI will also continue to play our part for advocating this type of approach.

Another trend from the Global CDP response in 2016 is a move to embed the price of a carbon into business strategy. This is a positive trend and, as companies look to such overarching environmental and sustainability indicators and strategies, it is important to highlight the central position of energy in achieving these goals. A more sustainable approach to energy, from the perspective of both efficiency and the use of renewables, still represents the lowest risk and most cost effective investment for companies trying to affect change.

This agenda suits Ireland. We have rich clean energy resources, and these are the energy sources of the future, not those of the past. Equally, the engine of the global sustainability shift is ICT innovation. We are also strong here, and new technologies and solutions are emerging all the time. An Irish technology that can help reduce energy bills and carbon emissions will find markets everywhere. A firm whose business depends on large amounts of expensive, imported, polluting resources will find it harder and harder to thrive anywhere.

Sustainability is no longer a fringe issue or optional extra, but a major strategic driver in business globally. A transformation in energy and resources is taking place. According to the IEA, 2015 marked a turning point for renewables, representing more than half the new power capacity around the world. Most of these gains were driven by record-level wind and solar PV additions. Businesses viewing this as some kind of side event, or CSR exercise, will quickly cede competitive advantage to their peers.

In a political and economic era of rapid change, victory will go to those who are agile, ready to adapt to disruptive threats and capture new opportunities. Our innovative spirit is our strength, and increasingly it is identifying the opportunities that both strengthen business and decarbonise our industry. We commend the work of the participating organisations, and reaffirm our mission to continue partnering with you to reach your business and carbon goals.

Jim Gannon
Chief Executive Officer,
Sustainable Energy Authority of Ireland

Commentary from EPA
Laura Burke, Director General, EPA

We are approaching the end of the fossil age and we now fully understand the consequences of the large-scale consumption of coal, oil and gas over the past two centuries for the future health and wellbeing of our planet. Humanity has benefitted hugely from fossil fuels but at a very significant cost. The greatest irony is that those that benefitted least from fossil fuel use are also those that will suffer most from human induced climate change.

We must now, with a much greater sense of urgency, make the transition from a society and economy dependent on fossil fuels and wasteful consumption of natural resources to one that uses renewable and clean energy and places much greater care and attention on our use of precious and non-renewable natural resources.

Transformational change is urgently needed across our energy, transport, agriculture, manufacturing and domestic sectors which will affect how we work, live, travel, heat our homes, produce our food and use our purchasing power as consumers and citizens.

We have nothing to fear though from these changes. In fact, Ireland has a great deal to gain by becoming a leader in this transition to a low carbon and resource efficient economy. By being a leader in this area Ireland can capitalise on its natural advantages and also promote rapid decarbonisation by other countries which will help reduce the costs and impacts of climate change on our children and grandchildren.

The recent adoption by world leaders of the United Nations sustainable development goals and the global agreement on climate change in Paris in 2015 are evidence that the issues of sustainable development, climate change and the underlying systemic problem with our fossil-fuel dependent and resource wasteful economic model are now being tackled at global level.

For Ireland, the most pressing issue is to work out how we de-carbonise our economy which will affect all parts of society as we are all dependent on energy for almost everything that we do and as things stand, most of that energy is still generated from fossil fuels. Full and urgent implementation of the White Paper on Energy – Ireland's Transition to a Low Carbon Energy Future – will be central to making progress as will the full implementation of a strong and ambitious set of climate mitigation and adaptation plans required under the Climate Action and Low Carbon Development Act.

It is time for Ireland to take control of its climate change destiny and to take a leadership role in the global transition to a low carbon and resource efficient economy.

Laura Burke
Director General,
Environmental Protection Agency

It is time for Ireland to take control of its climate change destiny and to take a leadership role in the global transition to a low carbon and resource efficient economy.

Irish Emissions Reporting

Top 10 Irish Companies by score

* Listed on the CDP 2016 Global Climate Change report

The analysis presented in this report is a brief summary of a subset of the data available through CDP. We encourage all readers of this report to view the full corporate responses individually from our website. Enhanced and unlimited access to the data is available through the CDP analytics tool which makes benchmarking and trend analysis simple via a series of interactive dashboards and export functions. Different versions of the tool are available for investors and companies. Visit www.cdp.net to find out more.

There are a total of 202 companies and organisations reporting emissions to CDP in 2016 that are either headquartered or operating in Ireland, this represents a 16% increase on 2015. The 25 Irish responding companies represents a slight decrease on 2015 but the over all trend across the CDP reporting initiatives in Ireland is positive. The Irish reporting companies are disclosing more information about their operations and they are increasing their emissions reduction activities. The CDP scores of Irish companies have also been continually improving. As in 2015 we have two Climate A List companies, Accenture and Kingspan Group PLC. While Kerry Group Plc, Allied Irish Bank and Ingersoll-Rand Co Ltd achieved an A- for the first time. We can see a clear trend over the last 6 years of Irish companies improving the performance of their disclosure scores and this is supported in the 2016 results with 54% of the companies achieving a Management score or higher and 90% achieving an Awareness level or above. Ireland is continuing to build its reputation as a country with strong CDP performing companies.

H_ha^hi +) L\hi ^* ^f bmkl %**50%** Zk^_khf ma^ **Healthcare Sector.**

Ma^hi *) L\hi ^* ^f bmkl k^i k^l ^gm **96%** h_ha^hmZe L\hi ^* ^f bl bgl '

H_ha^hi +) L\hi ^+ ^f bmkl %**45%** Zk^_khf ma^ **Healthcare Sector** Zg] **IT Sectors.**

Ma^hi *) L\hi ^+ ^f bmkl k^i k^l ^gm **83%** h_ha^hmZe L\hi ^ +^f bl bgl '

Chart 1:

Total Scope 1 and Scope 2 emissions by sector 2016

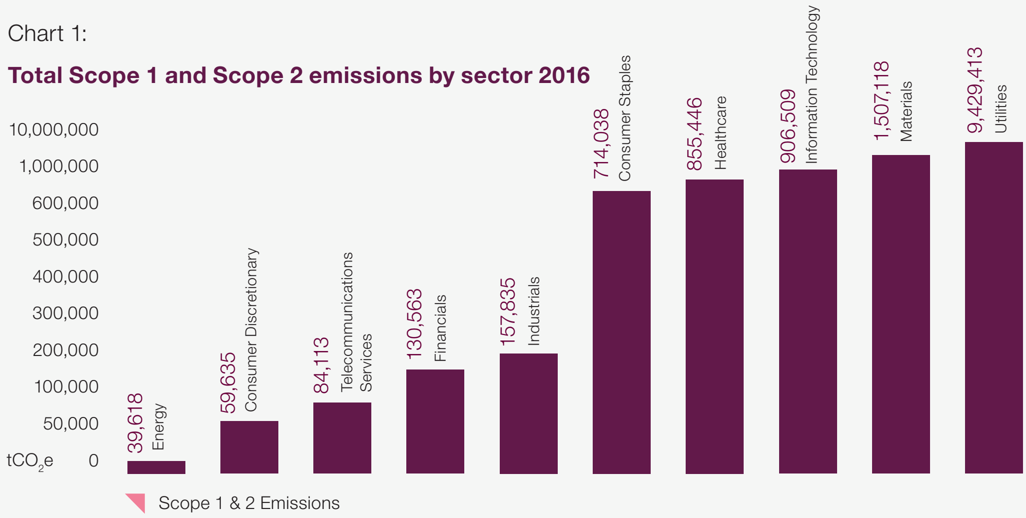


Chart 2:

Number of organisations reporting their emissions in Ireland by Scope

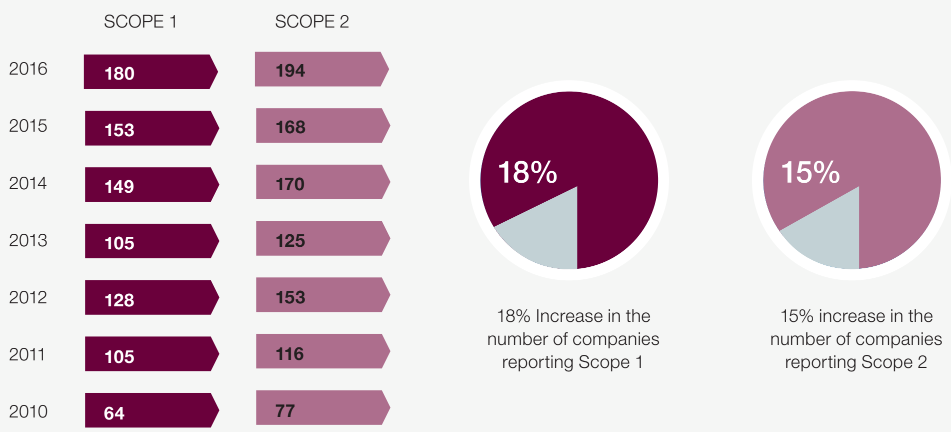
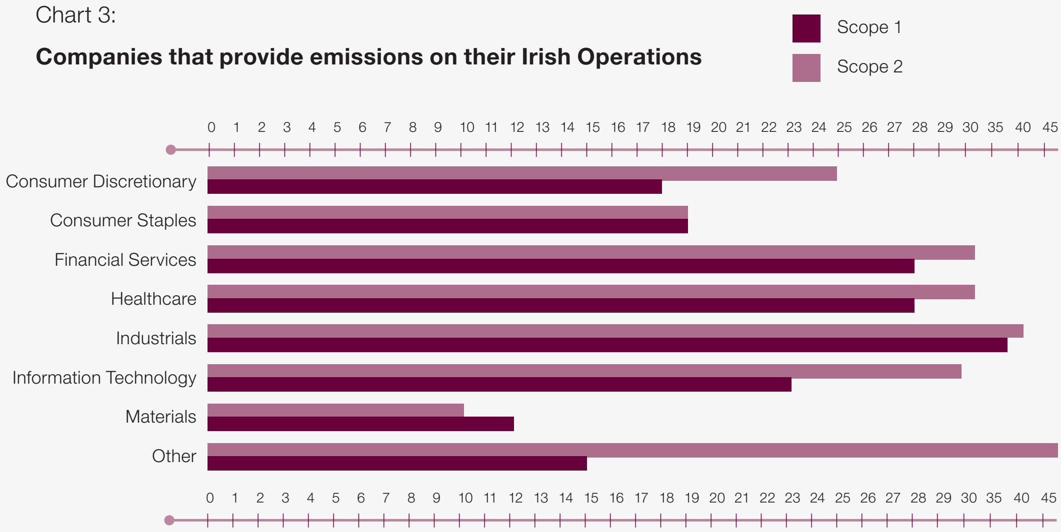


Chart 3:

Companies that provide emissions on their Irish Operations



This year's CDP's Global Climate Report 2016 is the first in an annual series and it establishes a new baseline for corporate action on climate change. In future reports, CDP will track companies' progress on reducing greenhouse gas emissions in line with the goals of the Paris Agreement against this benchmark. This chapter is adapted from the global results analysis with specific focus on the action and practices of Ireland.

This year's analysis draws particular attention to corporate climate action on emissions reductions, the adoption of targets based on the most up-to-date climate science ("science based targets"), use of internal carbon prices, and the uptake of renewable energy.

The CDP scoring looks at the ways companies assess a wide range of climate change risks and impacts and then go on to put policy, strategy and governance in place to manage these risks and impacts. In these broad terms the Ireland reporting companies are demonstrating that most are already well aware of the climate change implications to their business and are improving across a range of climate actions. There is an increase in a range of actions from providing incentives to employees for management of climate change issues, to setting intensity and absolute emissions targets. There has also been an increase in the number of companies reporting 2 or more scope 3 emissions and increases in the number of companies verifying their scope 1 and 2 emissions.

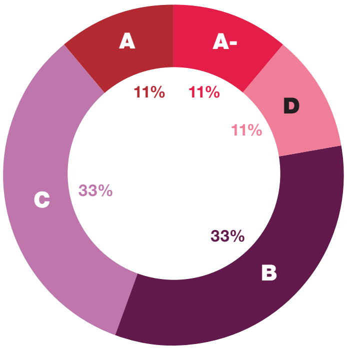


Figure 1: 2016 company scores in Ireland

What is a Science Based Target?

The world's leading climate scientists and governments agree that it is essential to limit the increase in global average temperature to below 2°C to mitigate the dangerous effects of climate change. Businesses, which account for a substantial portion of global GHG emissions, can align with this goal by setting corporate GHG reductions targets based on global emissions budgets generated by climate models. Companies globally are raising their ambitions to set science-based targets and ensure their long- term sustainability and profitability.

By making this commitment, companies will be agreeing to set science-based emissions reductions targets in line with the Science-Based Targets Initiative's Call to Action criteria within the next 2 years. Once targets have been developed, companies will submit the targets for a quality check. The Technical Working Group of the Science Based Targets Initiative will verify that the targets meet the criteria. Please visit **www.sciencebasedtargets.org** for criteria, guidance, methodologies and tools for setting GHG emission reduction targets in line with climate science. For further information, you can contact the We Mean Business – Commit to Action team at **commit@cdp.net**

The road to achieving a low-carbon future in Ireland

Solid progress has been made by Irish reporting companies and this trend must continue. More companies need to be encouraged to respond to CDP and investors requests. This year all of the requested companies who did not respond to CDP were automatically scored an F.

All scores are made available to the investor community, and while important, it is the detail in the responses that is key to understanding what progress is being made. Setting targets is not enough, without realistic plans for meeting them. Even meeting those targets might not be enough if the targets themselves are inadequate.

In recent years there has been significant growth in the number of companies setting targets for emissions reductions, in many cases these targets are unambitious in their time horizon. A significant proportion (65%) of the absolute targets adopted by the Ireland sample still extend only to 2016, and while 30% have set targets for 2020 and beyond, just 5% set goals for 2030 or beyond - a situation that must change to achieve a transition to well-below 2°C.

Companies striving to ensure they are taking meaningful action should set science-based targets, 40% of responding companies in Ireland plan on setting a science –based target in the next 2 years, this report and its successors will monitor how many companies are setting targets in line with the latest climate science.

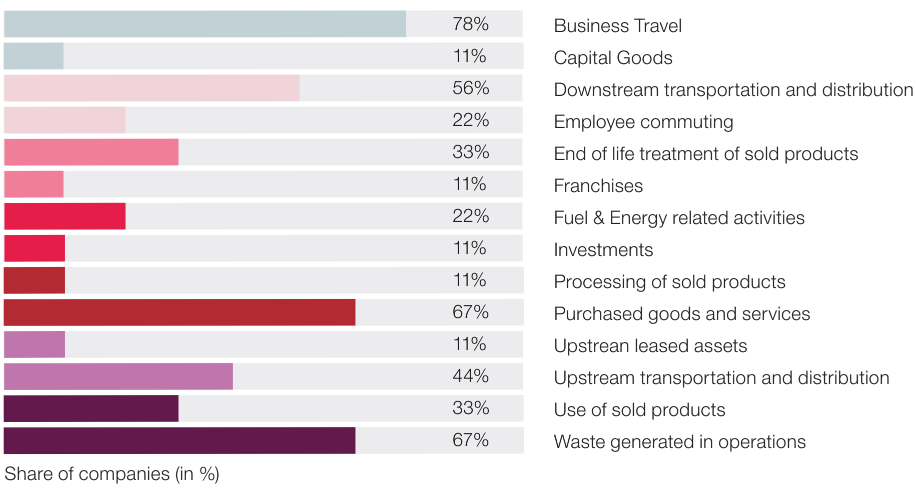
Increasingly, companies are also utilising internal carbon pricing as an approach to help them manage climate risks and opportunities. Companies are using this tool in a range of different ways including risk assessment for their capital investment decisions and to reveal hidden risks and opportunities in their operations. Some companies embed a carbon price deep into their corporate strategy, using it to help to deliver on climate targets, whether it be an emissions or energy related target or to help foster a new line of low- carbon products and services.

Currently only 20% (compared to global 25%) of responding Ireland companies use internal carbon pricing, while a further 25% per cent (19% globally) plan to do so in the near future which is positive.

Renewable energy will need to play a major role in any global shift to a low carbon economy. So far, relatively few companies (just 5% globally) have targets for increasing their renewable energy generation, while 11% have targets for renewable energy consumption. There are no companies in Ireland with renewable energy generation or consumption targets.

Measurement and transparency will continue to be the the best road to achieving a low carbon future in Ireland. Companies need to look to imbedding a viable climate change strategy into their business and demonstrating how they are going to deliver on their goals.

Scope 3 emissions categories reported as relevant by company sample



CDP Ireland Network initiative
Irish business reacts to the challenge of Climate Change

Brian O'Kennedy Former Chairman of CDP Ireland Network fresents a copy of the 2015 CDP Ireland report to the former Minister Alan Kelly.

It has been another busy 12 months for the CDP Ireland Network since our 2015 report launch last December, as we pursue our mission to develop an economic system that operates within sustainable environmental boundaries and promotes the development of Ireland as a low carbon economy.

For the first time this year, there are more Irish companies reporting to their customers under the Supply Chain program than those disclosing to investors under the Climate Change program. 35 Irish entities responded to the supply chain program up from 29 in 2015, of which 17 responded publicly. We will continue to offer support to this group as they report their emissions to CDP and their clients.

We would like to express our appreciation to SEAI and the EPA for their continued financial support and participation in the Network.

We would like to welcome three new CDP Ireland Steering Committee members: Jim Fitzharris from Smurfit Kappa Plc, Mark Prendergast from CRH plc and Sandra Rockett from ILIM.

And we would especially like to thank outgoing members of the Steering Committee for all their support and input: Mark Bennett Dublin City Council, Fiachra Crean AIB, Walter Tyrell UDG Plc and Sinead Whyte Arup. We are certain that they will continue to make a positive contribution to the Network.

Gavin Whitaker Clearstream Solutions, Ji Yeon CDP and Lorcan Dowd CDP Ireland Network. Pictured at the annual CDP reporter training in May.

202

companies reported Emissions in Ireland to the CDP

2016 Highlights

- One of our key objectives is to cooperate with other organisations aiming to minimise the impact of climate change. To this end we've developed closer cooperation with Sustainable Nation and supported their Sustainable Leadership Breakfast briefings in April and June.
- Along with some other likeminded organisations, we met with the Minister to highlight the role played by Irish companies in preparing for COP 21, including the Commit To Action group of Irish companies pictured.
- In May 2016, we hosted our annual CDP Reporter training. We have also been cooperating with the Sustainability Skillnet to roll out training in Non-Financial Reporting over the coming year.
- We have just launched our new Website CDPIrelandNetwork.net where you will find this report
- We now have 82 members on our Linked In group CDP Ireland Network and a growing Twitter following @CDPIrelandnet

Sustainability SKILLNET

Sustainable Nation Ireland

Responsible Investing. Smart Business.

Aims and Objectives

- Emissions Reductions: To drive action by companies and cities to reduce greenhouse gas emissions, safeguard water resources and prevent the destruction of forests.
- Engage and inform the debate: To promote, encourage and support Irish stakeholders to engage with the CDP and other organisations seeking to minimize climate change impacts.
- Business Efficiency through carbon management: To increase Irish organisations transparency on environmental performance in order to build resilience and sustainability.
- Factoring climate change risk and opportunity into investment decisions: To make environmental performance central to investment and business decisions.
- Knowledge Sharing: To share best practice in carbon management and policy from both Irish and international organisations.
- Framework for Emissions Reporting: To provide a common and consistent framework for Irish companies to measure and report their GHG emissions.
- Developing Ireland's Competitive Advantage: Assist in promoting the image of Ireland as a sustainable place to do business and to help our companies to achieve a long term competitive advantage from their initiatives.

The Irish Business Climate Pledge Team presents their collective commitments to Minister Alan Kelly ahead of his participation in the COP21 talks in Paris.

Photographed from L - R

Former Minister Alan Kelly (TD), Aebhric McGibney (Dublin Chamber of Commerce), Pat Barry (rish Green Building Council), Brian O'Kennedy (CDP Ireland), Aideen O'Hora (Sustainable Nation), Lorraine Fitzgerald (Business in the Community Ireland)

Steering Committee 2016

Shane Colgan
EPA

Joseph Curtin
IIEA

Lorcan Dowd
Kingspan PLC

Eoin Fahy
KBIGI

Jim Fitzharris
Smurfit Kappa PLC

Paul Harris
Bank of Ireland

Emma Jane Joyce
NTMA

Majella Kelleher
SEAI

Conor Linehan
William Fry

Stephen Nolan
Sustainable Nation

Caroline Pope
KPMG

Mark Prendergast
CRH PLC

Sandra Rockett
Irish Life Investment Managers

DCC

John Barcroft
DCC Plc

Executive Support

Brian O'Kennedy
Clearstream Solutions

Gavin Whitaker
Clearstream Solutions

The Tip of the Iceberg:
Looking beyond your direct operations and further into the supply chain

Focusing on the corporate social responsibility agenda – in this case, specifically the environmental impacts – within an organisation's direct operations is now a core element addressed by the majority of companies, and is very much regarded now as normal practice.

We have seen a significant increase in companies reporting locally and globally under the Supply Chain program, an indication that global multinationals see the issue of climate risk in their supply chains of increasing importance. 35 Irish entities responded to the supply chain program up from 29 in 2015, of which 17 responded publicly.

In recent years however, as companies capitalise on the 'low-hanging fruit' as well as the more challenging opportunities to create sustainable business operations, they are beginning to look further afield and understand their environmental impacts within the supply chain.

So why is it important to develop sustainable supply chains? To put things into perspective and give a sense of scale, an organisation's direct operations has been referred to as the 'tip of the iceberg', especially when it comes to their GHG impact: company upstream carbon emissions can be on average up to four times larger than their operational emissions, which presents huge risks to companies, but also the opportunities and benefits to be realised from tackling this issue. Following the UN Climate Accord Agreement at COP21 in Paris – of which the Irish Government was one of the 180 country signatories – the global commitment has already been made to work towards a sustainable, low-carbon future.

Although we are already seeing traction in the market on the importance of addressing supply chain emissions at a government level (e.g. the US Federal Government), key to driving the green economy are the companies and business leaders who are best placed to accelerate this move.

With $4tn worth of assets expected to be at risk from climate change by 2030, and less than 1% of all water resources available for human use, CDP's Supply Chain Programme members are at the forefront of developing less carbon-intensive and more environmentally-resilient supply chains.

The 89 current members – with a combined purchasing power of over $3tn – are requesting disclosure of key environmental information/data from their supplier base, in order to increase transparency on the risks, but also identify the opportunities (be it cost savings, ensuring security of supply, or other potential benefits) that lie within company supply chains. These include the likes of companies such as Philips, Unilever, Dell, Ford Motor Company and many others spanning across a variety of different industries and sectors.

The impacts of the disclosure process are certainly very clear, as the 2015 CDP cycle resulted in suppliers identifying over 3,000 collaborative opportunities to reduce emissions with their customers, as well as reporting savings of $6.6bn by measuring and managing their carbon impact to-date.

Of course, addressing the environmental impacts within organisations' supply chains is not an easy task. Many find the challenge a very daunting one due to the scale, complexity and dissimilarity of supply chain operations on a company-by-company basis, let alone at an industry/sector level.

CDP's Supply Chain Programme provides a structured framework in which to achieve this, by taking an organisation on a journey of supply chain sustainability – from gauging the level of maturity and capability of suppliers in addressing these issues, right through to collaborative engagement, determining the impact of working with your supply chain, and business-model innovation.

The level of responsibility in which organisations are tackling climate change has also increased since the years of the past, when focusing on direct emissions used to be the frontline for action. This line has since shifted and companies are now being assessed on their supply chain CSR, as it is known that not enough of these are engaging with their suppliers on GHG emissions and climate change strategies. However, rewarding the leaders in the field is just as important as holding the low-performers accountable: 2017 will be the first year that CDP will carry out such an analysis, through the launch of their new corporate supplier engagement rating.

As is covered by the programme, critical to supply chain resilience is the concept of 'supplier resilience', or the capacity of suppliers to minimize their contribution to climate change and to cope with adverse climate impacts. By collaborating and encouraging transparency in the supply chain, organisations can tackle the risks associated with climate change, and take advantage of the opportunities to ensure business continuity.

Investor perspective
Eoin Fahy, KBIGI

> **The end result should be a portfolio which will contain companies with good track records on issues like carbon emissions, product safety, anti-corruption safeguards, gender balance at senior management or board level, to name just a few of the many factors taken into account.**

KBI Global Investors (formerly Kleinwort Benson Investors) is a global fund manager with headquarters in Dublin. Focussing principally on equities, and with a very diversified international client base, we have been managing Responsible Investing mandates since the 1980s, although of course the way in which we manage such mandates has changed very significantly over that period.

In the early days of Responsible Investing in Ireland, the only investors of any size who had an interest in this form of investing were charities, typically (though not always) Catholic religious organisations. It's fair to say that while they took the lead in this area, they were much more concerned to avoid investing in certain sectors on faith-based grounds, than they were in pushing for Environmental, Social or Governance (ESG) goals in the companies in which they invested. However, over time, and especially outside Ireland, Responsible Investing has moved on, and investors now have three main ways of investing.

Some adopt a negative screening approach, whereby they give a fund manager like us a list of excluded business activities (e.g. tobacco, armaments) and/or specific criteria relating to ESG performance, and the investment manager invests in a basket of securities that do not breach those criteria. This is in many ways the same method of Responsible Investing that has been around since the 1980s. While still a perfectly reasonable approach, many investors, especially outside Ireland, have moved to a more nuanced approach, via either Themed or ESG-Integrated investing, as outlined below.

Themed investing is something we have been involved in since the early 2000s, focussing on investing in companies that provide solutions to the global shortage of clean water, clean energy, and food. This allows investors to put their funds into companies which are making a concrete contribution to solving a problem such as climate change, food poverty, or the lack of safe drinking water in many parts of the world. This has the advantage of being a focussed, concrete way of making investments "work" towards a social or environmental goal. Finally, some responsible investors, especially in recent years, prefer to opt for an "integrated" approach. This is where the investment manager takes into account, in a very direct and integrated way, the performance of companies on Environmental, Social and Governance (ESG) issues across a range of factors. The investment manager then uses that performance as part of the decision to buy, or not buy, shares in a company, just as they will also consider factors like valuation ratios, quality of management and products, likely sales growth, and so on. The end result should be a portfolio which will contain companies with good track records on issues like carbon emissions, product safety, anti-corruption safeguards, gender balance at senior management or board level, to name just a few of the many factors taken into account.

What is common to all three approaches above is that investment managers must have access to good quality, standardised information about the companies they are considering for investment, and this is why investment managers such as us rely on, and strongly support, the work of CDP. In this day and age, it is almost inconceivable that any investor with an interest in Responsible Investing would invest in a company without considering the carbon emissions (and related climate change data) of that company. But it would of course be an enormous logistical challenge for every investment manager to collect that data individually from every company that is being considered for investment.CDP provides a solution to this problem by collecting, standardising and publishing climate-change related data on investable companies, worldwide.

Importantly, it acts on behalf of investors in collecting this data, something that, in our view, non-responding companies sometimes overlook. This is not the CDP collecting data for data's sake. The CDP is collecting data that will be used by investors, in the investment process.

We strongly support the work of CDP, and believe that it plays a very important role within the Responsible Investing sector. Indeed, we view the issue of climate change data reporting as being so important that our firm has set it as one of just two strategic priorities when engaging with actual or potential investee companies. Listed companies that do not report data to the CDP can expect us, and I'm sure other fund managers, to ask why they are not responding to the express wishes of many of their shareholders, acting via the CDP, to disclose their climate-change-related data.

Eoin Fahy

Head of Responsible Investing,

KBIGI

Investor perspectives

Odd Arild,
Storebrand CEO

Philippe Desfosses,
ERAFP CEO

Peter Harrison,
Schroders CEO

The investment landscape is changing rapidly: the Paris Agreement set out a clear direction of travel on climate change for global policy makers, while developments such as France's Article 173 and the forthcoming Task Force on Climate-related Disclosure are driving greater disclosure and accountability from investors. In the light of this, we ask CEOs from three leading financial institutions how their organisations are responding and where they see the key challenges over the next few years.

1. **As an investor what are your top priorities in helping to realise the goals of the Paris agreement? And how do you plan to align with policy-makers' 2 degree targets?**

Odd Arild: We have the ambition to be a leading star when it comes to sustainable investments. In Storebrand, sustainability is not a niche, it is included in our main products and services. Which means that we literally have 570 billion NOK in carbon reduction programs. We are presently setting an overall group climate target which will assist us in reaching a 2 degree world, and a 2 degree regulatory ambition.

We have three priorities. The first is about measuring, reporting and lowering our carbon footprint through CDP, Portfolio Decarbonization Coalition (PDC), and Montreal Pledge. The second priority is to work with sustainability and carbon optimization in our main pension portfolios. We're also active in financial innovation – creating one of the world's first fossil free, sustainability optimized index near funds. Our third priority is to be able to report externally in our group communication to the market on our progress towards a 2 degree world.

Philippe Desfosses: Since its inception, as part of fulfilling its fiduciary duty towards the Scheme's contributors and beneficiaries, ERAFP has been working to determine the impact of its investments on the economy, society and the environment. In coming years it will rely not only on the development of appropriate tools to manage climate challenges but also on the experience it has already accumulated, particularly in the area of de-carbonization, such as for the low-carbon equity mandate awarded to Amundi or the virtual platform, built with AM League and Cedrus AM, that managers can use to demonstrate their capacity to reduce the carbon intensity of a portfolio of international equities.

In keeping with its socially responsible investment approach, ERAFP will continue to make a major contribution, in collaboration with the various other stakeholders, to speeding up the financing of the energy transition and to exceeding the objectives laid down by the Paris treaty.

Peter Harrison: The physical impacts and social and political responses to climate change will be defining investment themes of the coming years and decades. We are focusing on building our understanding of the implications for economies, industries and companies; developing tools to support better investment decisions, and engaging companies to promote more transparent and forward-thinking responses.

2. **As an investor what are your main drivers for incorporating climate change risks and opportunities in investment decision making? And what are the main barriers?**

OA: The main drivers are the risks and opportunities facing the companies we invest in. We believe that a tilt in investments from sustainability laggards to leaders will create greater returns in our portfolios. We also have a mission to influence and support our entire sector to professionalize climate risk, through our different products, services and external engagements like the PDC. The main barrier is data access in two areas; lower quality and availability of data and lack of regulations requiring transparency and reporting on climate risk.

PD: In exchange for the contributions that it receives from its beneficiaries, the Scheme undertakes to pay them pension benefits. This is a promise that the youngest among us will benefit from following a very long period of time. It is through nothing other than observance

Investor perspectives

of our fiduciary duty that we have undertaken energy and climate-related initiatives, with a view to aligning our investment portfolios with international global warming containment objectives.

A strong barrier lies in Research which still needs to be encouraged in order to develop robust indicators. It would provide at issuer level, a comprehensive picture of companies' environmental impacts and especially direct and indirect emissions. Most available methodologies only cover part of scope 3 emissions. Thus, in some sectors such as the automotive industry or the financial sector, global emissions tend to be underestimated.

PH: Hitting the commitments our global leaders made in Paris will mean changes on a far bigger scale than financial markets seem to be preparing for, spreading beyond the most obvious sectors or niche asset classes. We need new thinking to understand how large and far reaching the impacts will be. We need to accept that perfect clarity on policies looks unlikely and focus on what we can do: better thinking, better models, better data and a clearer view of how we adapt the portfolios we manage.

3. **As an investor how do you balance the needs of the present against the longer term needs of delivering investment/business strategies that avoid dangerous levels of climate change and the associated impacts of these?**

OA: As a pension company, we invest for customers who will stay with us for up to 50 years. Our mission is to create the best possible retirement for our customers, both in terms of financial return, but also to support the health of the society where our customers will retire.

PD: As the French public service additional pension scheme manager, ERAFP has a very long-term responsibility towards its contributors and beneficiaries. Driven by its fiduciary duty, ERAFP prioritizes long term investments and seeks to raise the awareness about the importance of changing economic structures with a view to de-carbonization.

PH: At Schroders we have a long tradition of long term, fundamental analysis. That experience convinces us that taking account of structural trends such as climate change does not have to mean compromising shorter term performance. In fact, we are not going to be able to help our clients meet their goals, which are typically far longer than investment cycles, unless we establish long term views of critical structural trends such as climate change.

4. **Environmental disclosure is a fast evolving field, how is better data, disclosure and research affecting investor decision-making?**

OA: Better data is definitely improving our possibilities to make informed investments optimising return and climate risk. We supported a government bid in Sweden to standardise disclosure of carbon foot printing of mutual funds. We also support data development and availability in other areas, such as water or political instability where we in fact have developed our own system to predict a coup d'état in different countries.

PD: In 2015, with the help of a specialized organization' services, ERAFP have extended its perimeter and reported on the carbon footprint of 87% of its total assets. Beyond its carbon footprint, ERAFP made also a comparison of the energy mix attributable to ERAFP's equity portfolio with an energy generation breakdown for the International Energy Agency's '2°C' scenarios between 2030 and 2050. The fast evolving environmental disclosure tools allow ERAFP to expand and deepen its analyses in order to develop the most efficient de-carbonization strategies.

PH: Good investment decisions rely on analysis and analysis needs data. While climate science is awash with data, most of it of little use in helping us choose one investment over another. Rigorous, relevant and consistent data at company and asset levels – like that CDP promotes and collates – is critical to our ability to get past quantifying the scale of the problem and into deciding how to navigate it.

5. **What would you like to see from companies with regards to improved transparency on climate change relevant issues?**

OA: We would like to see an increase in regulation when it comes to climate reporting, and higher taxes based on polluters pays principle. The real costs of operation have to be brought to the surface, so that we as investors better can adapt our investments to this.

PD: As a member of the Institutional Investors Group on Climate Change (IIGCC), ERAFP takes part in engagement initiatives towards regulatory authorities but also companies in the most exposed sectors in order to improve their climate reporting. ERAFP is also involved into the extractive industries transparency initiative (EITI). ERAFP would like companies, especially the most exposed to climate change risks, communicate on strategic resilience and their efforts to manage environmental impacts.

PH: Ours is a forward looking industry and information that provides more insight into companies' future planning will be vital; how companies assess changes in their industries, the assumptions they make, the strategies they form and the products they develop. No one has all the answers and more frank discussion on how companies approach the challenge is more important than holding on for definitive answers.

6. What role can engagement play in driving corporate behavioural change in the climate change context and how do you measure its success?

OA: Engagement plays an important role as a complement to divestment and portfolio tilting. We focus engagement within the climate areas to group activities within PRI, often initiated by CDP. In this way we want to increase availability of data, which is our target of engagement. We can then use it to make decision on tilting and divestment.

PD: ERAFP is an extremely engaged asset owner, maintaining dialogue with many of the companies the Scheme invested in. Through its asset managers, in 2016, ERAFP supported more than 10 shareholder resolutions on climate change. ERAFP is also involved in engagement initiatives through Institutional Investors Group on Climate Change (IIGCC), ShareAction/RE100, Carbon Disclosure Project or alongside Mirova on oil exploration's themes. Forcing companies to discuss and think with a long term approach, ERAFP is convinced that asset owners' union, followed by their asset managers, will allow the acceleration of companies' change, among which the most advanced already oriented their development towards the energy transition.

PH: Engagement is a key part of our responsibilities as responsible, active investors. We regularly talk to management teams about why we think climate change is an important issue, as well as our expectations for disclosure and transparency. That work is intrinsically tied up with how we approach investing and the benefits are evident in the decisions we make and the changes we see in companies.

7. If we were to have a similar conversation in three years time, what do you think would be some of the key successes for an investor in managing climate change risks and opportunities?

OA: Integration. Integration of competence, and tools. Managing climate risk must be at the core of the investment strategy covering all assets in all assets classes and not seen as a side activity for certain SRI funds. The global pension capital consists of the 40 000 billion USD – that is the money we need to get to work if we want to create a better, more sustainable future.

PD: Because you can't manage what you don't measure, ERAFP thinks that a crucial key of success consists in good measures of its investment climate related risks. ERAFP is working on it using and questioning current carbon foot-printing methodologies. Working with its asset managers on portfolio de-carbonization approaches, disclosing the results of its work on these areas and engaging with companies on carbon disclosure are other keys that ERAFP use to manage climate risks and opportunities.

PH: We have to build better tools to measure, quantify and analyse the risks and opportunities climate changes represents to companies and portfolios. Unless we can do that, we are going to struggle to know if we are on the right track. Progress has been made with things like carbon footprinting, but we are in the foothills of what needs to be done.

8. How are you engaging with the Sustainable Development Goals 2030 agenda?

OA: SDG sets a clear direction on what the focus should be to reach a more sustainable future. We now work to integrate the SDGs in our strategy and targets, so that we ensure that the company's strategy is in line with the goals of the world. Already in 2016 we will as a group start to report on our contribution to the SDGs.

PD: In line with its socially responsible investor's status since its beginning, ERAFP has developed a best in class strategy. This approach has had positive results since ERAFP's portfolio is globally more carbon efficient than its benchmark. By selecting the most sustainable players but also being a strongly engaged investor on ESG issues, ERAFP aims to contribute to the Sustainable Development Goals agenda 2030. Its recent signing of the Energy Efficiency Investor Statement at COP 21 and of the 2016 global investor letter to the G20 are examples of its ongoing efforts to limit climate change and promote a Sustainable Development.

PH: The Sustainable Development Goals highlight the changes we are seeing in social and political awareness of the challenges facing many of the world's poorest countries and people. This backdrop of growing awareness and commitment will have direct implications for how we manage money. We are working hard to build an understanding of the potential changes into our decision making.

Custom questions

Storebrand is in the unique position of facing the risk of increased claims from climate change as well as the risks of decreased portfolio returns from it. How do your investment activities reduce the risk of increased claims from climate change?

OA: Companies with significant greenhouse gas emissions often make for poor financial investments. In order to make it easier to identify the companies we wish to invest in, we rate potential companies according to how sustainable they are. The environmental impact is a decisive factor when we make our assessment, which makes it easier to pinpoint which companies we do not wish to invest in. We also have an exclusion policy on negative environmental impact, with exclusion of for example more than 60 companies based on their poor climate record.

We also work in the area of financial innovation, and have launched a number of products recently. They are important not only to our customers, but also as examples to inspire and show our sector what is really possible. SPP/ Storebrand presently have the world's largest green bond fund. We have also launched a unique series of products: a near index equity mutual fund that is fossil free, and optimised for a high sustainability level of the remaining companies. We are able to deliver a low tracking error in comparison to 'standard' indices, a low fee, and a substantially lower climate related risk.

In ERAFP's "Combating Climate Change" approach it says that in order to meet the ambitions of the SRI charter in limiting greenhouse gas emissions investors should "provide tangible evidence of their approaches impact". What is your view on the current state of Asset Manager's ability to provide this?

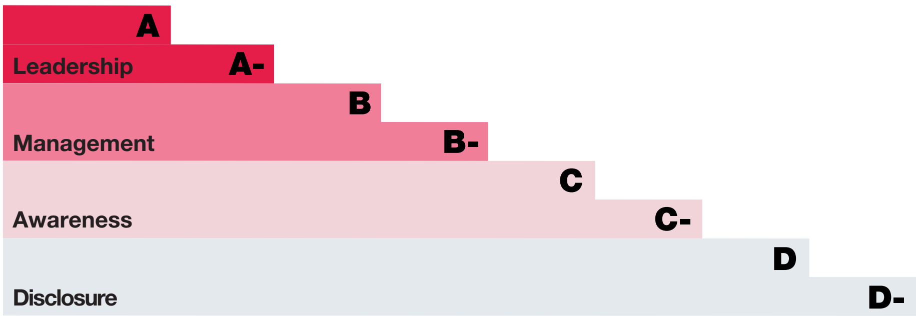
PD: ERAFP discusses with its asset managers to understand their portfolio companies' management and improves it. This year, ERAFP has entered into an agreement with Cedrus AM and AM League to establish a framework that asset managers can use to demonstrate their know-how in the reduction of carbon intensity by applying their expertise in the management of a notional portfolio of international equities. In the coming months, with the benefit of the Cedrus AM return of experience, ERAFP will be working on ways to extend its "low carbon" management approach, either through investment in open funds or through a call for tenders to select an asset manager to create a dedicated fund.

Schroder's Chief Economist recently published the findings of a survey of 18 Chief Economists. Its finding was pretty bleak in terms of the level of integration of climate change risk into their forecasting process. What impacts, in your opinion, do you think that this lack of macro-level analysis will have on the effective integration of climate change risks into the investment process?

PH: Although it was disappointing that more of the City's economists don't build climate trends into their forecasts, it was not altogether surprising. The problem lies with tools and models as much as awareness; most in our industry know the scale of the challenge and the impacts it will have, but the potential dislocation does not fit easily with models that are designed around linear trends. Unless we can come up with better ways of analysing the financial implications of climate change, we are going to find it hard to avoid being surprised down the line.

Communicating progress

Central to CDP's mission is communicating the progress companies have made in addressing environmental issues, and highlighting where risks may be unmanaged. In order to do so in a more intuitive way, CDP has adopted a streamlined approach to presenting scores in 2016. This new way to present scores measures a company's progress towards leadership using a 4 step approach: **Disclosure** which measures the completeness of the company's response; **Awareness** considers the extent to which the company has assessed environmental issues, risks and impacts in relation to its business; **Management** which is a measure of the extent to which the company has implemented actions, policies and strategies to address environmental issues; and **Leadership** which looks for particular steps a company has taken which represent best practice in the field of environmental management.



Leadership	75-100%	A
	0-74%	A-
Management	40-74%	B
	0-39%	B-
Awareness	40-74%	C
	0-39%	C-
Disclosure	40-74%	D
	0-39%	D-

F: Failure to provide sufficient information to CDP to be evaluated for this purpose[1]

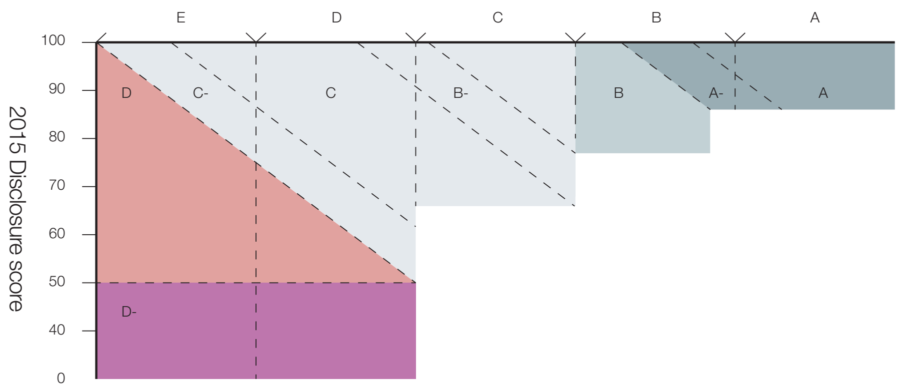
1 Not all companies requested to respond to CDP do so. Companies who are requested to disclose their data and fail to do so, or fail to provide sufficient information to CDP to be evaluated will receive an F. An F does not indicate a failure in environmental stewardship.

The scoring methodology clearly outlines how many points are allocated for each question and at the end of scoring, the number of points a company has been awarded per level is divided by the maximum number that could have been awarded. The fraction is then converted to a percentage by multiplying by 100 and rounded to the nearest whole number. A minimum score of 75%, and/or the presence of a minimum number of indicators on one level will be required in order to be assessed on the next level. If the minimum score threshold is not achieved, the company will not be scored on the next level.

The final letter grade is awarded based on the score obtained in the highest achieved level. For example, Company XYZ achieved 88% in Disclosure level, 76% in Awareness and 65% in Management will receive a B. If a company obtains less than 40% in its highest achieved level, its letter score will have a minus. For example, Company 123 achieved 76% in Disclosure level and 38% in Awareness level resulting in a C-. However, a company must achieve over 75% in Leadership to be eligible for an A and thus be part of the A List, which represents the highest scoring companies. In order to be part of the A-list a company must score 75% in Leadership, not report any significant exclusions in emissions and have at least 70% of its scope 1 and scope 2 emissions verified by a third party verifier using one of the accepted verification standards as outlined in the scoring methodology.

Public scores are available in CDP reports, through Bloomberg terminals, Google Finance and Deutsche Boerse's website. CDP operates a strict conflict of interest policy with regards to scoring and this can be viewed at https://www.cdp.net/Documents/Guidance/2016/CDP-2016-Conflict-of-Interest-Policy.pdf

2015 Performance Score



Comparing scores from previous years.
It is important to note that the 2016 scoring approach is fundamentally different from 2015, and different information is requested, so 2015 and 2016 scores are not directly comparable. However we have developed a visual representation which provides some indication on how 2015 scores might translate into 2016 scores. To use this table a company can place its score in the table and see in which range it falls into in the current scoring levels. For more detailed instructions please refer to our webinar: https://vimeo.com/162087170 .

Profile: Kingspan Group, Industrials

Every year Kingspan solutions save our customers six times the annual energy consumption of Dublin, Ireland.

Kingspan is a global provider of innovative high performance, sustainable building envelope solutions for the international construction industry, contributing to carbon management and mitigation strategies that are yielding major environmental benefits worldwide.

Our product range includes world-leading proprietary energy saving insulation technologies including Kooltherm, Optim-R and QuadCore. We build integrated renewable energy systems including solar PV, solar thermal and small scale wind. We also manufacture water management products to facilitate adaption to changing climatic conditions. Our newest division, Kingspan Light & Air, develops solutions to save energy and deliver occupant comfort through optimised lighting and ventilation systems, which fully complement our other products and building envelope technologies.

In 2011 we set an ambitious target to achieve Net-Zero Energy across all of Kingspan's 90+ manufacturing sites around the world by 2020. Our actions to reduce carbon emissions mean that in 2016 our renewable energy use will be c. 57% of total consumption. Milestones achieved between 2012 and 2015 include a 23% reduction in energy costs and a 35% reduction in carbon intensity as a percentage of turnover, and the on-site generation of 24.1 GWh of renewable energy.

The climate change agenda is core to Kingspan's vision and activities and will continue as an integral part of our growth story.

Gene M Murtagh
Chief Executive Officer
Kingspan Group plc

Kingspan

Investor signatories and members

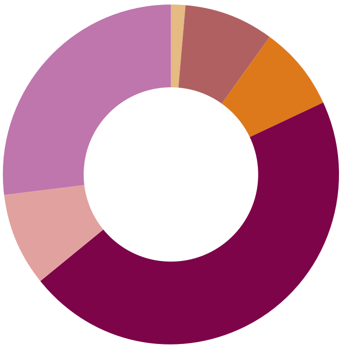
CDP's investor program – backed in 2016 by 827 institutional investor signatories representing in excess of US$100 trillion in assets – works with investors to understand their data and analysis requirements and offers tools and solutions to help them.

Our global data from companies and cities in response to climate change, water insecurity and deforestation and our award-winning investor research series is driving investor decision-making. Our analysis helps investors understand the risks they run in their portfolios. Our insights shape engagement and add value not only in financial returns but by building a more sustainable future.

For more information about the CDP investor program, including the benefits of becoming a signatory or member please visit: https://www.cdp.net/Documents/Brochures/investor-initiatives-brochure-2016.pdf

To view the full list of investor signatories please visit: https://www.cdp.net/en-US/Programmes/Pages/Sig-Investor-List.aspx

1. Investor signatories by location



Europe
- 382 = 46%

North America
- 223 = 27%

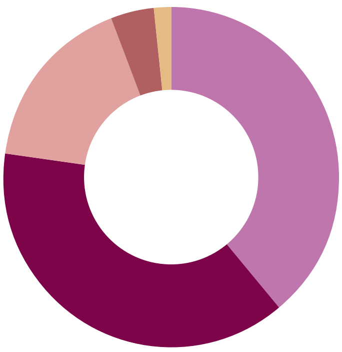
Latin America & Caribbean
- 73 = 9%

Asia
- 71 = 9%

Australia and NZ
- 67 = 8%

Africa
- 13 = 1%

2. Investor signatories by type



Asset Managers
- 363 = 40%

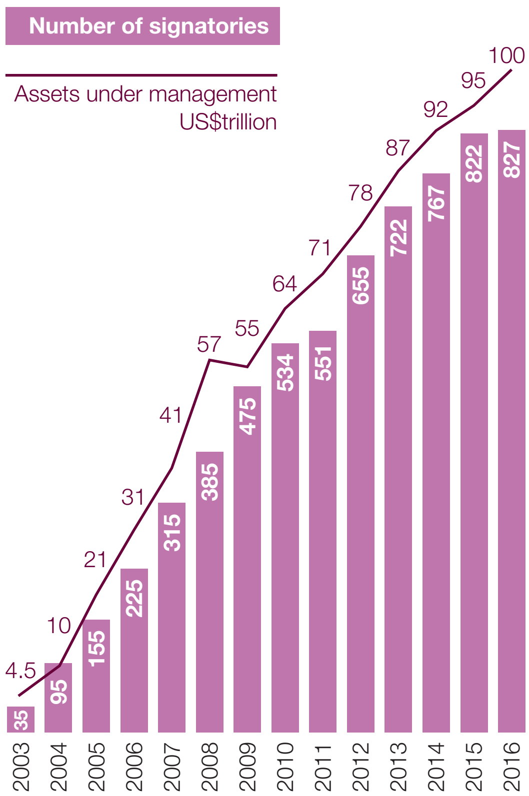
Asset Owners
- 256 = 30%

Banks
- 158 = 19%

Insurance
- 39 = 5%

Others
- 13 = 2%

3. Investor signatories over time



Investor members

ACTIAM
AEGON N.V.
Allianz Global Investors
ATP Group
Aviva Investors
AXA Group
Bank of America Merrill Lynch
Bendigo and Adelaide Bank
BlackRock
Boston Common Asset Management, LLC
BP Investment Management Limited
British Columbia Investment Management Corporation
California Public Employees' Retirement System
California State Teachers' Retirement System
Calvert Investment Management, Inc
Capricorn Investment Group
Catholic Super
CCLA Investment Management Ltd
DEXUS Property Group
Etica SGR
Fachesf
FAPES
Fundação Itaú Unibanco
Generation Investment Management
Goldman Sachs Asset Management
Henderson Global Investors
Hermes Fund Managers
HSBC Holdings plc
Infraprev
KeyCorp
KLP
Legg Mason, Inc.
London Pensions Fund Authority
Maine Public Employees Retirement System
Morgan Stanley
National Australia Bank
NEI Investments
Neuberger Berman
New York State Common Retirement Fund
Nordea Investment Management
Norges Bank Investment Management
Overlook Investments Limited
PFA Pension
POSTALIS - Instituto de Seguridade Social dos Correios e Telégrafos
PREVI
Rathbone Greenbank Investments
Real Grandeza
Robeco
RobecoSAM AG
Rockefeller & Co.
Royal Bank of Canada
Sampension KP Livsforsikring A/S
Schroders
SEB AB
Sompo Japan Nipponkoa Holdings, Inc
Sustainable Insight Capital Management
TIAA
Terra Alpha Investments LLC
The Sustainability Group
The Wellcome Trust
UBS
University of California
University of Toronto
Whitley Asset Management

Appendix I
Ireland responding companies

NR : No Response
AQ : Answered Questionaire
DP : Decline to Participate
QF: Questionnaire Forthcoming
▲ : Information not requested

Company	2016 Response Status	2015 Response Status	2014 Response Status	2013 Response Status	2012 Response Status	2011 Response Status	2010 Response Status
Ireland Top 30 - Answered Questionaire							
Allied Irish Banks PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	AQ*
Bank of Ireland	**AQ***	AQ*	AQ*	NR	NR	AQ*	AQ*
C&C GROUP PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	AQ*
CRH PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	AQ*
FBD Holdings PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	AQ*
Kerry Group PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	AQ*
Kingspan Group PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	NR	AQ*
Smurfit Kappa Group PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	AQ*
Aryzta AG	**AQ***	DP	NR	NR	NR	NR	NR
Tullow Oil	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	AQ*
Ireland Top 30 - Unanswered Questionaire							
Abbey PLC	**NR**	NR	NR	NR	DP	NR	NR
Applegreen PLC	**NR**	▲	▲	▲	▲	▲	▲
CPL Resources PLC	**NR**	NR	NR	NR	NR	NR	NR
Dalata Hotel Group	**NR**	NR	▲	▲	▲	▲	▲
Datalex PLC	**NR**	NR	▲	▲	▲	▲	▲
Fyffes PLC	**NR**	NR	NR	NR	NR	NR	NR
Glanbia PLC	**NR**	NR	NR	NR	DP	NR	DP
IFG Group PLC	**NR**	NR	NR	NR	NR	NR	NR
Independant News & Media PLC	**DP**	NR	NR	AQ*	AQ*	AQ*	AQ*
Irish Continental Group PLC	**NR**	NR	NR	NR	NR	NR	NR
Malin Corp PLC	**NR**	▲	▲	▲	▲	▲	▲
Mincon Group PLC	**NR**	NR	NR	▲	▲	▲	▲
Origin Enterprises PLC	**NR**	NR	NR	NR	NR	NR	NR
Paddy Power PLC	**QF**	AQ*	AQ*	NR	AQ*	AQ*	AQ*
Permanent TSB Group Holdings PLC	**NR**	NR	NR	NR	DP	DP	AQ*
Ryanair Holding PLC	**NR**	NR	NR	NR	NR	NR	NR
Total Produce PLC	**NR**	NR	NR	NR	NR	DP	NR
First Derivatives PLC	**NR**	NR	NR	NR	NR	NR	▲
Hostelworld Group PLC	**DP**	▲	▲	▲	▲	▲	▲
UTV Media PLC	**DP**	AQ*	AQ*	AQ*	AQ*	AQ*	AQ*
Other Responding Companies - Answered Questionaire							
Accenture	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	
Allegion Plc	**AQ***	DP	DP	▲	▲	▲	
DCC PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	
Ecocem	**AQ***	AQ*	▲	▲	AQ*	AQ*	
ESB Group	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	
Experian Group	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	
Greencore Group PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	
Ingersoll-Rand Co. Ltd.	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	

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▲ : Information not requested

Company	2016 Response Status	2015 Response Status	2014 Response Status	2013 Response Status	2012 Response Status	2011 Response Status	2010 Response Status
M50 Concession Ltd.	**AQ***	AQ*	AQ*	▲	▲	▲	
Mainstream Renewable Power	**AQ***	▲	▲	▲	▲	▲	
Medtronic PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	
Seagate Technology LLC	**AQ***	AQ*	AQ*	AQ*	▲	▲	
Shire	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	
UDG Healthcare PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	AQ*	
XL Catlin PLC	**AQ***	AQ*	AQ*	AQ*	AQ*	▲	
Other Responding Companies - Unanswered Questionaire							
Alkermes PLC	**QF***	▲	▲	▲	▲	▲	
Dragon Oil PLC	**NR**	▲	▲	▲	▲	▲	
Endo International PLC	**NR**	NR	▲	▲	▲	▲	
Grafton Group PLC	**NR**	NR	DP	NR	DP	DP	
James Hardie Industries	**QF***	▲	▲	▲	▲	▲	
Jazz Pharmaceuticals PLC	**NR**	NR	NR	▲	▲	▲	
Kenmare Resources PLC	**NR**	NR	NR	NR	NR	NR	
Perrigo Co.	**NR**	NR	DP	NR	DP	NR	
Petroneft Resources PLC	**NR**	▲	▲	▲	▲	▲	

Appendix II
Global responding companies with operations in Ireland

Company	Country	Sector
Abbott Laboratories	USA	Health Care
AbbVie Inc	USA	Health Care
Abercrombie & Fitch Co.	USA	Consumer Discretionary
Allergan plc	USA	Health Care
Alliance Data Systems	USA	Information Technology
Alps Electric Co., Ltd.	Japan	Information Technology
Amdocs Ltd	Guernsey	Information Technology
Amgen, Inc.	USA	Health Care
Analog Devices, Inc.	USA	Information Technology
AptarGroup	USA	Materials
ARM Holdings	United Kingdom	Information Technology
Asics Corporation	Japan	Consumer Discretionary
Assa Abloy	Sweden	Industrials
Astellas Pharma Inc.	Japan	Health Care
ATS Automation Tooling Systems	Canada	Industrials
Aviva plc	United Kingdom	Financials
AXA Group	France	Financials
Axel Springer SE	Germany	Consumer Discretionary
Balfour Beatty	United Kingdom	Industrials

Appendix II
Global responding companies with operations in Ireland

Company	Country	Sector
Bank of America	USA	Financials
Bank of Nova Scotia (Scotiabank)	Canada	Financials
Baxalta Inc	USA	Health Care
Baxter International Inc.	USA	Health Care
BBA Aviation	United Kingdom	Industrials
BlackRock	USA	Financials
Boliden Group	Sweden	Materials
BorgWarner	USA	Consumer Discretionary
Brammer Plc	United Kingdom	Industrials
Bristol-Myers Squibb	USA	Health Care
Britvic	United Kingdom	Consumer Staples
Brother Industries, Ltd.	Japan	Information Technology
BT Group	United Kingdom	Telecommunication Services
Bunzl plc	United Kingdom	Industrials
CA Technologies	USA	Information Technology
Cap Gemini	France	Information Technology
Cargill	USA	Consumer Staples
Centrica	United Kingdom	Utilities
Close Brothers Group	United Kingdom	Financials
Cobham	United Kingdom	Industrials
Coca-Cola HBC AG	Switzerland	Consumer Staples
Colt Technology Services	United Kingdom	Telecommunication Services
ComfortDelGro Corporation Limited	Singapore	Industrials
CommScope, Inc.	USA	Information Technology
Computer Sciences Corporation (CSC)	USA	Information Technology
Daikin Industries, Ltd.	Japan	Industrials
Danone	France	Consumer Staples
Danske Bank A/S	Denmark	Financials
Dassault Systemes	France	Information Technology
DCC PLC	Ireland	Industrials
Debenhams	United Kingdom	Consumer Discretionary
Deere & Company	USA	Industrials
Dentsu Aegis Network	United Kingdom	Consumer Discretionary
Deutsche Bank AG	Germany	Financials
Deutsche Börse AG	Germany	Financials
Diageo Plc	United Kingdom	Consumer Staples
Diasorin SpA	Italy	Health Care
Dixons Carphone	United Kingdom	Consumer Discretionary
Domino's Pizza Group plc	United Kingdom	Consumer Discretionary
eBay Inc.	USA	Information Technology
Eli Lilly & Co.	USA	Health Care

Appendix II
Global responding companies with operations in Ireland

Company	Country	Sector
EMC Corporation	USA	Information Technology
Expeditors International of Washington	USA	Industrials
FERROVIAL	Spain	Industrials
Flextronics International	USA	Information Technology
Fresenius Medical Care AG & Co. KGaA	Germany	Health Care
G4S Plc	United Kingdom	Industrials
General Electric Company	USA	Industrials
GlaxoSmithKline	United Kingdom	Health Care
Graphic Packaging	USA	Materials
GRIFOLS	Spain	Health Care
Hays	United Kingdom	Industrials
Heineken NV	Netherlands	Consumer Staples
Hertz Global Holdings	USA	Industrials
Hill & Smith Holdings	United Kingdom	Materials
Hilton Food Group	United Kingdom	Consumer Staples
Hiscox	United Kingdom	Financials
Home Retail Group	United Kingdom	Consumer Discretionary
IGT PLC	USA	Consumer Discretionary
Illinois Tool Works, Inc.	USA	Industrials
Imperial Brands	United Kingdom	Consumer Staples
Indorama Ventures PCL	Thailand	Materials
INDRA A	Spain	Information Technology
Intel Corporation	USA	Information Technology
International Consolidated Airlines Group, S.A.	Spain	Industrials
Interserve Plc	United Kingdom	Industrials
Intesa Sanpaolo S.p.A	Italy	Financials
Invesco Ltd	USA	Financials
Ipsen	France	Health Care
Iron Mountain Inc.	USA	Financials
ISS	Denmark	Industrials
Jabil Circuit, Inc.	USA	Information Technology
Jardine Lloyd Thompson Group Plc (JLT)	United Kingdom	Financials
JBS S/A	Brazil	Consumer Staples
Johnson & Johnson	USA	Health Care
JPMorgan Chase & Co.	USA	Financials
Just Eat	United Kingdom	Information Technology
KBC Group	Belgium	Financials
Kering	France	Consumer Discretionary
Kubota Corporation	Japan	Industrials
Kuehne + Nagel International AG	Switzerland	Industrials
La Poste	France	Industrials
Lexmark International, Inc.	USA	Information Technology
Liberty Global plc	United Kingdom	Consumer Discretionary

NR : No Response
AQ : Answered Questionaire
DP : Decline to Participate
QF: Questionnaire Forthcoming
▲ : Information not requested

Company	Country	Sector
Macquarie Group	Australia	Financials
Marine Harvest Group	Norway	Consumer Staples
Marks and Spencer Group plc	United Kingdom	Consumer Discretionary
Marsh & McLennan Companies, Inc.	USA	Financials
Meda AB	Sweden	Health Care
Merck & Co., Inc.	USA	Health Care
Merck KGaA	Germany	Health Care
Micro Focus International	United Kingdom	Information Technology
Mitsubishi Corporation	Japan	Industrials
Mitsui O.S.K. Lines Ltd	Japan	Industrials
Molex Incorporated	USA	Information Technology
Moody's Corporation	USA	Financials
N Brown Group Plc	United Kingdom	Consumer Discretionary
Neopost	United Kingdom	Information Technology
News Corp	USA	Consumer Discretionary
Nippon Express Co., Ltd.	Japan	Industrials
Novartis	Switzerland	Health Care
Old Mutual Group	South Africa	Financials
PAREXEL	USA	Health Care
PepsiCo, Inc.	USA	Consumer Staples
Pernod Ricard	France	Consumer Staples
Pfizer Inc.	USA	Health Care
Procter & Gamble Company	USA	Consumer Staples
Provident Financial plc	United Kingdom	Financials
Prudential PLC	United Kingdom	Financials
PVH Corp	USA	Consumer Discretionary
Rabobank Group	Netherlands	Financials
Robert Walters	USA	Industrials
Roche Holding AG	Switzerland	Health Care
Royal BAM Group nv	Netherlands	Industrials
Royal Bank of Scotland Group	United Kingdom	Financials
RPS Group Plc	United Kingdom	Industrials
RSA Insurance Group	United Kingdom	Financials
Sage Group	United Kingdom	Information Technology
salesforce.com	USA	Information Technology
SanDisk Corporation	USA	Information Technology
SDL Plc	United Kingdom	Information Technology
Securitas AB	Sweden	Industrials
Sherwin-Williams Company	USA	Materials
SIG	USA	Industrials
SNC-Lavalin Group Inc.	Canada	Industrials
Societe Generale	France	Financials
Solstad Offshore	Norway	Energy
Spirax-Sarco Engineering	United Kingdom	Industrials

Appendix II
Global responding companies with operations in Ireland

Company	Country	Sector
SSE	United Kingdom	Utilities
Standard Life	United Kingdom	Financials
Sthree Plc	United Kingdom	Industrials
Stryker Corporation	USA	Health Care
Sulzer AG	Switzerland	Industrials
Sumitomo Mitsui Financial Group	Japan	Financials
SuperGroup	United Kingdom	Consumer Discretionary
Symantec Corporation	USA	Information Technology
Takeda Pharmaceutical Company Limited	Japan	Health Care
Ted Baker Plc	United Kingdom	Consumer Discretionary
Tesco	United Kingdom	Consumer Staples
Teva Pharmaceutical Industries Ltd	Israel	Health Care
The Coca-Cola Company	USA	Consumer Staples
THK Co., Ltd	Japan	Industrials
TJX Companies, Inc.	USA	Consumer Discretionary
Twenty-First Century Fox	USA	Consumer Discretionary
U.S. Bancorp	USA	Financials
UCB SA	Belgium	Health Care
Unilever plc	United Kingdom	Consumer Staples
United Co RUSAL PLC	Russia	Materials
Vedanta Ltd	India	Materials
Vedanta Resources PLC	United Kingdom	Materials
Verizon Communications Inc.	USA	Telecommunication Services
Vestas Wind Systems A/S	Denmark	Industrials
VF Corporation	USA	Consumer Discretionary
Village Roadshow	Australia	Consumer Discretionary
Visa	USA	Information Technology
VMware, Inc	USA	Information Technology
Vodafone Group	United Kingdom	Telecommunication Services
Waters Corporation	USA	Health Care
WestRock Company	USA	Materials
Whitbread	United Kingdom	Consumer Discretionary
Wincanton plc	United Kingdom	Industrials
Wood Group	United Kingdom	Energy
WPP Group	United Kingdom	Consumer Discretionary
Wyndham Worldwide Corporation	USA	Consumer Discretionary
Xilinx Inc	USA	Information Technology
Zimmer Biomet Holdings, Inc.	USA	Health Care
Zurich Insurance Group	Switzerland	Financials

CDP 2016 climate change scoring partners

CDP works with a number of partners to deliver the scores for all our responding companies.
These partners are listed below along with the geographical regions in which they provide the scoring. All scoring partners complete training to ensure the methodology and guidance are applied correctly, and the scoring results go through a comprehensive quality assurance process before being published. In some regions there is more than one scoring partner and the responsibilities are shared between multiple partners.

In 2016, CDP worked with RepRisk, a business intelligence provider specializing in ESG risks (www.reprisk.com), who provided additional risk research and data into the proposed A-List companies to assess whether they were severe reputational issues that could put their leadership status into question.

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CONSUS Carbon Engineering — Central and Eastern Europe (CEE)

CQC 中国质量认证中心 China Quality Certification Centre — China

DEKRA — France

Deloitte. — Latin America, Turkey

EY — Japan, Korea

gestão origami — Brazil

kosif Korea Sustainability Investing Forum — Korea

Lloyd's Register LRQA — Japan

pwc — Iberia (Spain & Portugal)

REPRISK ESG Business Intelligence — All regions

SGS — Japan

*Aligned Incentives are retained as an alternative scoring partner in the event of a conflict of interest.

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