

CDP Climate Change Report 2016, Iberia edition

A business led path to a low carbon economy
in the post COP 21 period

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



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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 – 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.

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.

Isabel García Tejerina

Ministry of Agriculture, Food and Environment



Low-carbon economy is not one of the possible alternatives but it is the only option we have to achieve a path of climate neutrality and be competitive in the international markets

The Paris Climate Summit has undoubtedly marked a turning point in the fight against climate change. The adoption of the Paris Agreement represents an important landmark that demonstrates the clear willingness of the international community to address this ambitious challenge and embark on a real transition towards development models low on greenhouse gas emissions and resilient to climate change.

The European Union and Spain were key factors to achieve an ambitious agreement that would establish a clear objective for all countries and legally binding climate governance. This will force to revise the national efforts to reduce the global emissions of greenhouse gases and face the negative impacts associated with climate change. All of the above with the aim of achieving the objective of not exceeding 2°C.

In Paris, 190 low-carbon national plans were also presented that cover more than 90% of the greenhouse gas emissions, along with an unprecedented mobilisation of non-governmental agents. This community of actions at all levels is the only way of achieving a true transformation of the current development models towards low-carbon models.

With the legitimacy conferred to us by the international framework, our Governments have to put in place policies and measures to fight climate change. On our behalf, in the European Union, we have the framework of action for Climate and Energy 2030, which includes the objective of reducing the European emissions by, at least, 40% in 2030 regarding the levels of 1990.

From 2020, this framework is going to require that we intensify our efforts to reduce the current emissions, as well as the administrations, companies and citizens, although we are convinced that these efforts entail economic growth, employment and many other benefits.

These efforts involve decoupling economic and productive growth from the emissions. In this sense, low-carbon economy is not one of the possible alternatives but it is the only option we have to achieve a path of climate neutrality and be competitive in the international markets.

In Spain, we are working along these lines and we have achieved good results in the past years decoupling the emissions of our diffuse sectors from economic growth. And this is the path that from the Ministry we are going to continue to foster with the revision of our current policies and measures to fight climate change. We can then achieve shifting towards a new production model with an increasingly less intensive use of fossil fuels.

We would like to carry out this exercise of defining our future climate policy hand in hand with all the Ministerial Departments and the autonomous and local governments, without forgetting the civil society, as the scale of the challenge and its transversality demands the maximum cooperation.

Spanish companies are showing interest and are embracing this challenge of fighting climate change. To that end, they choose different tools which range from integrating the fight against climate change into their business strategy to adopting and implementing emission reduction plans in a more determined way. They are also setting an internal price on carbon and are increasing the investments on promoting climate change mitigation.

One of the most interesting indicators to value the progressive decoupling between the economic and productive growth and the emissions is carbon intensity. This parameter indicates the efficiency of the processes adopted to prevent this increase and how to follow the path of economic growth without increasing the emissions that would lead to a global warming that is not compatible with the commitments adopted in Paris.

Given that the objectives assumed by the EU entail a high level of ambition, there is still hard work ahead, in all fields, in the short and long term. But, without a doubt, the business sector, by participating in initiatives such as the Carbon Disclosure Project or the Carbon Footprint Register, demonstrates that it has taken the first step in the long path of low-carbon economy. As a society, we have understood that we must change our development model towards sustainability. And there is an unprecedented mobilisation in favour of a change that we have the responsibility of leading.

Expert Interview: Christiana Figueres



Christiana Figueres

Former Executive Secretary of the UN Framework Convention on Climate Change (UNFCCC)

Note: the content of this interview is based on a phone interview held between Ms. Christiana Figueres and the CDP Southern Europe Team.

What do you think will be the new business norms in a less than a 2°C increase world?

In this world which we already decided that we want to create the first thing that we have to remember it is that is not going to be the result of business-as-usual. We are going to have to create it intentionally, we are going to take intentional decisions and take intentional actions, in particular in the first 3-5 years.

How is that going to look like? It will of course depend on the sectors, each sector will undergo a transformation, but in general, we can say:

1. We are going to see a huge increase in energy efficiency, which of course also means carbon efficiency. We are going to see growth in the global GDP, but the carbon imprint of each percentage point of the GDP is actually going to decrease. We are going to see a delinking of growth from GHG emissions and that has to be measurable. That means that businesses will become more energy efficient and will stop wasting as much as energy as they are right now.
2. While we will be wasting less energy and using it more efficiently, that energy will quickly become cleaner and cleaner. We will have much more renewable energy on the grid, we will have much more competitive prices, as also electricity prices will decrease.
3. We will have more access to energy, and this is particularly important for developing countries. This is because decentralized renewable energies will increase the network of those people that will have access to electricity, which on the grid and centralized fossil fuels cannot allow.

Those three will be at the basis of businesses. There hardly is a business that does not operate without energy. For this we will experience a huge transformation in the energy sector.

In light of having the decarbonization of the economy as an ultimate goal. What are the most central and urgent actions that you think non-state actors need to take to translate the Paris agreement into real action and how is CDP best placed to help them in this endeavour?

Non-state actors are actually already working on this because they have not waited for the adoption or the entry of the Paris Agreement. Many non-state actors could see that it was in their own interest to begin a decarbonizing process and so cities, corporations that both report to CDP have already started their own path towards decarbonization.

CDP provides a very interesting channel, as it enables to measure your progress year-by-year. By reporting yearly you can compare your progress against your own baseline and also against your peers and see how you are doing in respect to others, whether you are a city or a corporation.

The very old management wisdom that you cannot manage what you cannot measure is also true that you cannot measure what you cannot manage. So, measuring your carbon emissions is absolutely key, and CDP is a very good way to be able to self-measure and track your progress.

What do you think should be the value of our work as CDP in a world after the Paris' Agreement?

CDP was of course very valuable before we got the Paris Agreement because it had already raised the awareness on the importance of measuring and disclosing and reporting. But now, after the adoption of the Paris agreement, and on the heels of the Paris agreement coming to force very soon, CDP's contribution is even more critical. There is no way that any city or corporation can actually manage its carbon intensity without it getting measured. Those are the tools that CDP provides: very helpful standardized tools that have international recognition for cities and corporations to be able to measure, report and track progress in regards to carbon efficiency. In particular for cities and corporations that have adopted Science Based Targets.

We have read about your project mission 2020, and we understand that is a 5-year initiative with a short commitment that brings together public and private sector to deliver the net-zero emission pathway. Can you further explain how this initiative works and why there is a strong need to enable Public-Private-Partnerships over the next five years?

Mission 2020 is actually a commitment that brings together every stakeholder: whether it is a government, sub-national government, corporation, NGO or citizen who is willing to commit to understanding the importance of urgently peaking our emissions and quickly decreasing them. Because if we do not do that we are actually incurring in increased risks for the economy that will become unmanageable.

It is about the commitment on understanding this urgency and be willing to incorporate it in everything that we are doing. Public Private Partnerships are obviously at the basis of this as governments need to set the direction but corporation and investors are the ones that are going to determine the pace of the transformation.

In order to enable Public Private Partnerships, the Public needs to understand what the Private is doing. Could our data be an enabler to create the synergies mission 2020 is trying to achieve?

Yes, absolutely. CDP's data has been already very helpful for years, since it is used by many people as a reference point because of both the standardization and the universality of its reporting. It has been a very helpful reference point and will continue to be as we move into the decarbonization and transformation of the economy.

Closing the gap in Non-Financial Reporting



Steve Tebbe
Managing Director Europe, CDP

Non-financial reporting has come a long way over the last decade, from a dog-and-pony-show to a mainstream requirement for financial markets to fully assess corporations.

Disclosure by investors on environmental matters, such as carbon foot-printing, will help in the global 2 degrees goal and the transition to a low-carbon economy.

Peter de Proft,
Director General,
EFAMA (European
Fund and Asset
Management
Association)

Investors despise being kept in the dark. They worry about the issues they don't see or understand. Disclosure of Environmental, Social and Governance (ESG) information is an essential tool for investors to holistically evaluate risks and opportunities, while allowing companies to benchmark their performance against peers. Ultimately if companies want to woo investors and reduce their cost of capital, they need to be good at reporting.

In an attempt to correct the world's largest market failure, European policymakers created the first, legally-binding directive requiring companies across Europe to report ESG data as of this year. The so-called Non-Financial Reporting Directive (NFRD) recognizes the value of non-financial reporting for catalysing our transition to a low-carbon economy.

This Directive - while far from perfect - is an important step in the right direction. The NFRD would have been the opportunity to create a fully harmonized, integrated and light-touch corporate reporting system across Europe, thus enabling investors (and any other stakeholder) to compare companies across Europe on a level-playing field. In the short term however, the Directive runs the risk of leading to 28 different and possibly weak national regulations. Imagine playing the UEFA Euro Championship with every team largely making up their own rules.

Why would the Directive enable "weak" ESG reporting? The Directive offers ambiguous descriptions that give EU member states and companies much freedom to shape reported data compliance. In addition, information disclosure across the supply chain - key to addressing environmental and social issues - is not specified clearly and target-setting requirements are missing. Last but not least, the scope of the companies addressed by the legislation is too small in most countries. In Germany for example, it is likely that only 300 companies will be disclosing, while there should be scope for about 11.000 companies, considering their size and impact on our environment and society.

Fortunately, the NFR Directive will be revised in 2018. Now is therefore the opportunity for the European Commission to design a strong, consistent, EU-wide policy that builds on the expertise of successful practitioners and market-based models. Under the stewardship of the Financial Stability Board (FSB), a Task-Force on Climate-related Financial Disclosure (TCFD) is currently drafting a blue print for the G20 countries on consistent, climate-related financial risk disclosures. Those recommendations will be made public before the end of this year and build on CDP's

work and expertise. We salute the leadership of the Task-Force and the political impulse this will give to the low-carbon transition in the world's major economies.

Less visible but just as important is another milestone currently underway in France. Since the United Nations COP21 Paris Agreement of 2015 requires "the alignment of financial flows with climate goals", existing, voluntary, investor climate disclosure should become mandatory. Requiring investors to align environmental criteria, climate change-related risks and scientific decarbonisation targets with their investment strategies will massively redirect capital towards the low-carbon economy that is essential for remaining safely below a 2-degree Celsius warming.

Many CDP signatories are ahead of the curve. Some of our avant-garde investors support voluntary initiatives such as the Portfolio Decarbonization Coalition, co-founded by CDP, and the Montreal Pledge. BlackRock, the world's largest asset manager, called on policy makers to make non-financial reporting a requirement for investment analysis and stop conflicting fiduciary duties. While over 800 institutional investors with US\$ 100 trillion assets under management keep calling for more thorough and comparable environmental corporate data through CDP, nearly 130 already walk-the-talk by applying climate disclosure to their own portfolios.

In anticipation of this development, policy makers in France have passed Article 173 into law, making climate reporting mandatory for institutional investors such as asset managers, insurance companies, pension and social security funds.

With about a third of the world's assets under management residing in Europe, the EU as a whole must follow France's leadership in closing the reporting gap. Triggering massive capital reallocation towards the low-carbon economy will enable the safe and liveable future we all want.

Global Executive Summary

The challenge of climate change and how to address it is now firmly on the global agenda. The Paris Agreement has been ratified at unprecedented speed by the international community, including some of the world's biggest carbon emitters, such as the US, China, India, the EU and Brazil, and will enter into force in November.

This historic agreement, with defined goals to limit climate change and clear pathways for achieving its goals, marks a step-change in the transition to a low-carbon world.

In the Paris Agreement, emissions reductions are talked about at the country level, and national governments will lead with policy changes and regulation. But companies can move much faster than governments, and they have an opportunity to demonstrate their leadership, agility and creativity in curbing their own substantial emissions. Many companies had already realised the need for action before Paris, and they played an important role in making that summit a success. Others, however, are yet to come on board.

The first in an annual series, the report establishes the 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.

The report presents analysis on corporate climate action including 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 benchmark established in this first report includes a number of companies failing to engage even with the critical first step of disclosure. Of close to 2,000 companies in this global tracking sample, only just over a thousand responded with data within the deadline. We hope the remaining 700 odd companies will start to engage during the course of the next five years.

The 1,089 companies that provided the data for the global report will be tracked over the next five years to see how they are performing. Between them these companies account for 12 per cent of global greenhouse gas emissions, and 85 per cent of them have already set targets to reduce their emissions.

Figure 1: Global company tracking sample by sector. The total number of companies in each sector is presented in parentheses.

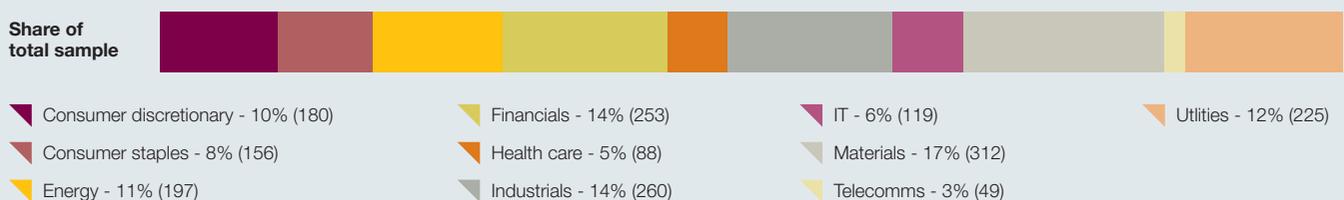


Figure 2: Global company tracking sample by region. The total number of companies is presented in parentheses.

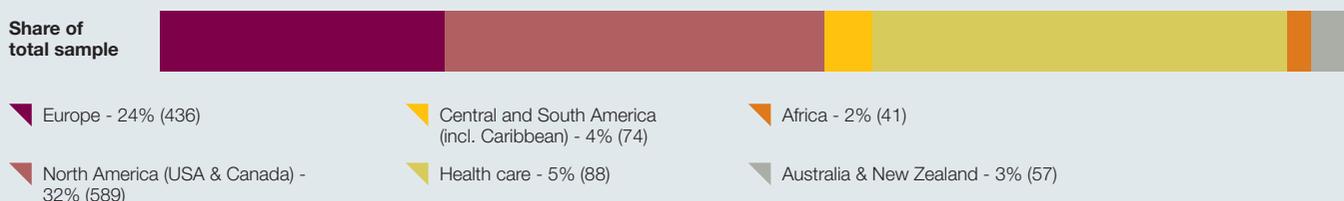


Figure 3: Companies responded and not-responded by sector. The total number of companies in each sector is presented in parentheses.

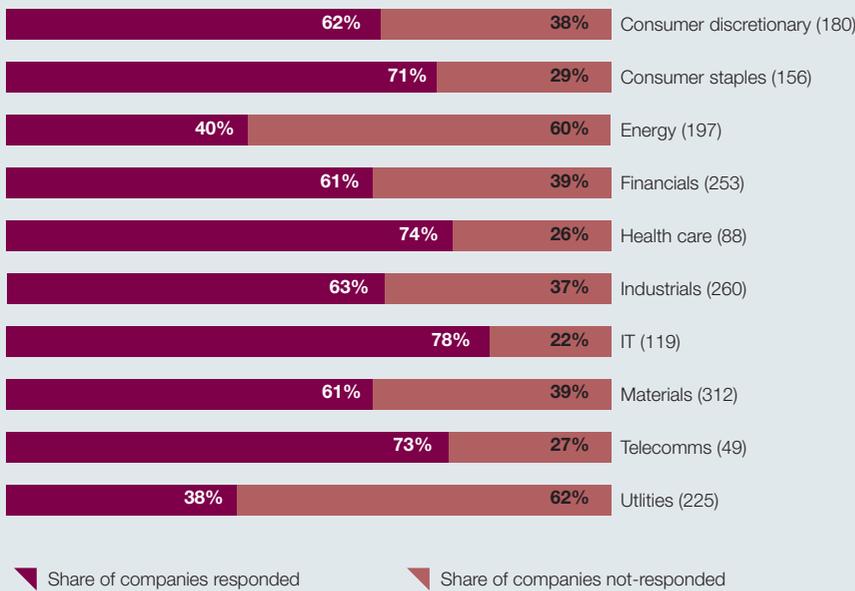
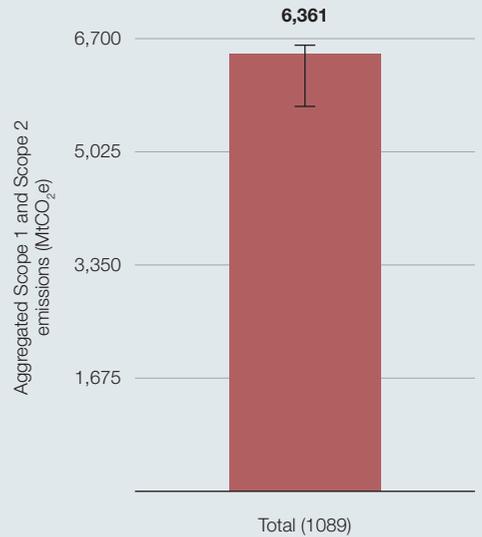


Figure 4: Aggregated Scope 1 and Scope 2 emissions for total sample. The total number of companies responded is presented in parentheses.



Visibility on the road

Although companies and governments are starting to realise the benefits of the low-carbon transition, the need for a complete economic shift can make it hard for individual companies to start the process of change. A shift in thinking is also needed, to see the transition as an opportunity, rather than a restriction.

In order to achieve this success, however, companies need to measure their emissions, then work out how to reduce them.

Given that only 62 per cent of companies contacted by CDP for the report were able to provide data on their own emissions, many businesses have yet to grasp the importance of this challenge. However, the number disclosing is increasing, and the Paris Agreement should provide a greater incentive to engage.

Business gearing up to go low-carbon, but targets lack long-term vision

Eighty-five per cent of companies that provided data have already set targets (comprising absolute and/or intensity targets) to reduce their greenhouse gas emissions. Setting targets is not enough, however, without realistic plans for meeting them. Even meeting those targets might not be enough if the targets themselves are inadequate.

There has been significant improvement in recent years in the numbers of companies setting targets for emissions reductions, but these targets are in many

cases unambitious in their time horizon. While 55 per cent of companies have targets for 2020 and beyond, just 14 per cent set goals for 2030 or beyond, a situation that must change to achieve a transition to well-below 2°C.

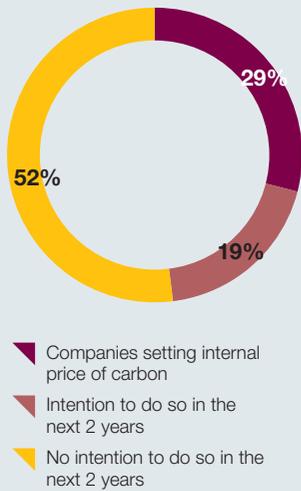
The headline figures from this report mask wide variance in performance both at company level and at sector level. Perhaps inevitably, the energy sector has a lower share of companies with emissions reduction targets, in particular for 2020 and beyond. This should not surprise us, because fossil fuel companies must undergo a major transition to mitigate climate change and are in general not ready to face up to this.

Given that this data is mostly based on calendar year 2015, and so predates the Paris Agreement, we may reasonably hope to see a jump in longer term targets in the next report, which will be based on data generated after the Paris Agreement.

Companies wishing to ensure they are taking meaningful action should set science-based targets; this report and its successors will monitor how many companies are setting targets in line with the latest climate science.

From the sample, 94 have publicly committed to science-based greenhouse gas reduction targets via the Science Based Targets Initiative. Eighty-five of those companies submitted a target to the initiative for official check, and 15 companies have passed the initiative's official check.

Figure 5: Share of companies setting an internal price of carbon



Company targets achieving just one quarter of the emissions reductions required by science; Paris Agreement expected to help close that gap

As well as recording them, we analyse the potential impact of the existing targets to see if they are compatible with the objective of limiting global warming to well-below 2°C.

We found that if the companies in the sample were to achieve their current targets, they could realise 1Gt CO₂e (1,000 MtCO₂e) of reductions by 2030. This is about one quarter of the 4GtCO₂e (4,145 MtCO₂e) of reductions that this group of companies would need to achieve in order to be in line with a 2°C-compatible pathway, leaving a gap of at least 3GtCO₂e (3,145 MtCO₂e) between where companies' current targets take them, and where they should be. This gap is equal to nearly 50 per cent of these companies' current total emissions.

The amount of emissions reductions pledged by companies has been increasing steadily from 2011 to 2015 and we hope to see it close at a faster rate in future years, as company targets become more ambitious in response to the regulatory certainty offered by the Paris Agreement.

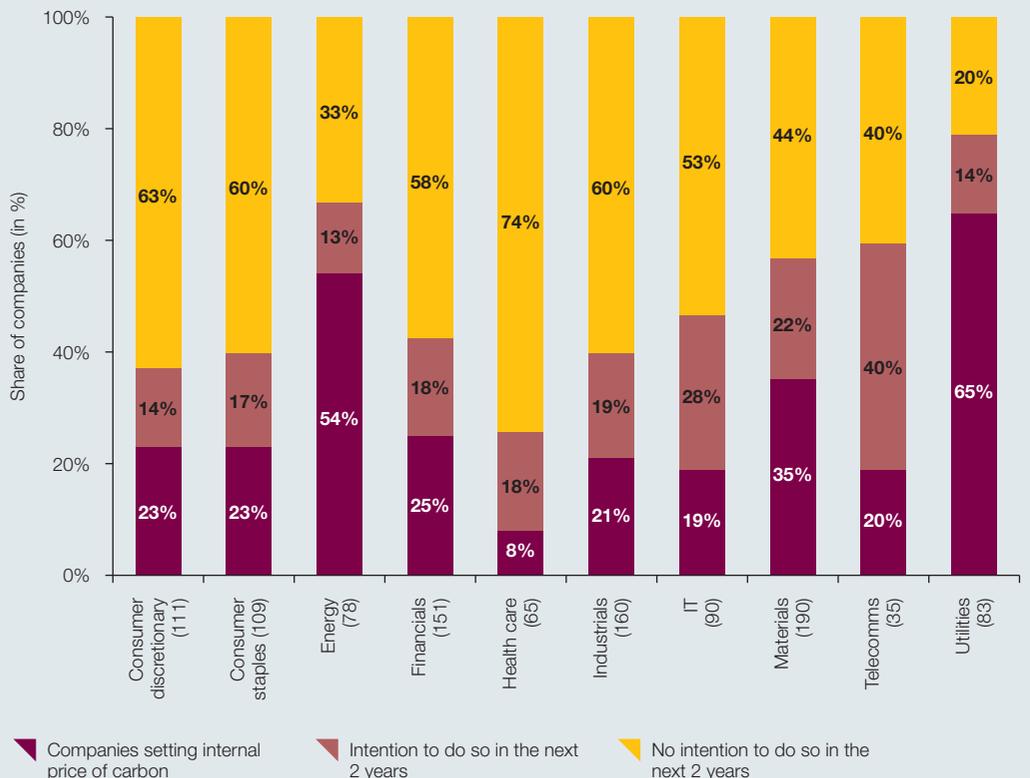
Transition planning: carbon pricing on the rise, yet companies lag in renewable energy production and consumption

Even those companies that have not set themselves targets have almost all established emissions reduction initiatives (97 per cent of all companies), although the success and scope of these initiatives has been varied.

Increasingly, companies are 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 in their scenario planning, as a real hurdle rate for 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 29 per cent of responding companies use internal carbon pricing, while a further 19 per cent plan to do so in the near future. By 2017, about half of this sample should have introduced carbon pricing.

Figure 6: Companies setting an internal price of carbon by sector. The total number of companies responded is presented in parentheses for each sector.



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%) have targets for increasing their renewable energy generation, while 11% have targets for renewable energy consumption.

Of the companies in the utilities sector, 90% of which are electric power companies, fewer than a third have renewable energy generation targets.

Companies decoupling emissions from revenue, showing the low carbon transition does not mean low profit

A small group of companies are showing that reducing environmental impact is compatible with economic growth.

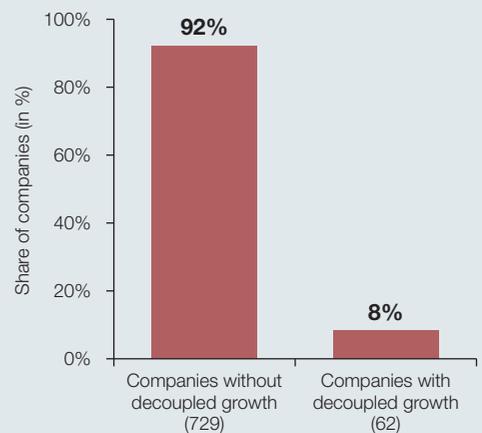
We report on the 62 companies in the sample that can be shown to have made impressive and consistent year on year achievements both in reducing emissions and decoupling growth of revenue from growth of emissions.

They include consumer staples companies such as J. Sainsbury and Walmart de Mexico, as well as utilities companies like Eversource Energy and Idacorp. The materials sector, also a heavy emissions source, is represented by the likes of Givaudan in Switzerland and Lixil in Japan.

'Decoupling' is defined for this purpose as having reduced emissions by 10 per cent or more over five years, while simultaneously growing revenue by 10 per cent.

The success of these leaders points the way for others to realise the opportunity for innovative companies to turn the challenge of emissions reduction from risk management to business success.

Figure 7: Share of companies with decoupled growth over period of five years (time-series sample)



Although correlation must not be taken to be causation, it is worth noting that the group of companies that met the “decoupled growth” criteria increased revenue by 29 per cent over the five-year period of measurement, while reducing GHG emissions by 26 per cent. For the rest of the companies in the tracking sample, revenue decreased by 6 per cent while GHG emissions increased by 6 per cent.

Switching to renewable energy or producing its own renewable energy, using internal carbon pricing to make production more efficient, using innovation to create less energy intensive systems or even selling products to help customers reduce emissions are all strategies that add to the bottom line, rather than costs.

Figure 8: Comparison of the changes in revenues (left) and GHG emissions (right) over the 5-year period between companies that achieved decoupled growth and other companies.

Company group (no. companies)	Total revenue: (trillion current USD)		Total emissions covered for evaluation GtCO ₂ e	
	Year 1 of the 5-year period	Final year of the 5-year period	Year 1 of the 5-year period	Final year of the 5-year period
No decoupled growth (730)	17.7	16.6 (-6%)	4.82	5.08 (+6%)
Achieved decoupled growth (62)	1.31	1.70 (+29%)	0.468	0.345 (-26%)

Introduction to the 2016 CDP Iberia Report

The Iberia Climate Change Report 2016 analyses the progress of the 85 largest Spanish companies and the 40 largest Portuguese companies (per market capitalization) in carbon emissions performance and the management of risks and opportunities linked to climate change. The contents are based on the company responses to the CDP climate change questionnaire 2016¹.

The publication of this year's CDP Iberia report marks an important milestone for various reasons. It represents the first corporate climate accounting since the celebration of the historic United Nations Climate Change Conference held in Paris (COP21) last winter giving us an opportunity to use data from the previous year's company responses as a baseline to gauge the commitments and advances made by companies to realise the transition towards a clean economy and stop dangerous climate change since this landmark event. In addition, the publication of this year's report coincides with the consolidation of other, complementary initiatives, such as Science Based Targets, which seek to introduce a greater degree of scientific rigor in climate change strategy development and operational planning at the corporate level. As such, rather than concentrate solely on analyzing the data, this year's report seeks to perform an in-depth analysis of company responses in relation to the risks and opportunities associated with climate change mitigation and adaptation, particularly in the areas of science based target setting, the production and use of

renewable energy, the use of carbon pricing, and the emergence of products and services that mitigate the effects of global warming.

As in previous years, the report also includes the following sections:

- ▼ An executive summary which analyses and highlights global corporate baseline data that will allow us to track and evaluate the corporate response to managing and mitigating the effects of climate change in the post COP21 period;
- ▼ A review of climate change management, performance and mitigation data among Iberian responding companies;
- ▼ Insights from key scientific and opinion leaders in the field of climate change mitigation and adaptation;
- ▼ A scoring overview for the participating companies, according to the new CDP's scoring model.

1. The report is based on the responses to the CDP climate change questionnaire received until June 30 2016.



Overview of the Iberian companies' climate change reporting and management

Each year the largest 85 Spanish companies and 40 Portuguese companies are requested to disclose climate change related data through CDP's global reporting platform and provide detailed information on carbon emissions management and risk and opportunities linked to climate change.

In 2016, 52 publically traded corporations responded to the CDP climate change questionnaire, representing 91% of the market capitalization in Spain. Corporate disclosure among Iberian companies in 2016 remained largely unchanged from the previous year. Nonetheless, it should be noted that the most important companies in the Iberian sample as defined by market capitalization by and large have been active responders to the CDP questionnaire. Overall, slightly more than four in ten target companies respond to the CDP survey. However, significant country differences remain as more than half of the target companies in Spain responded in 2016, compared to 23% for Portuguese companies in the relevant universe. Also of note is the fact that 25 Iberian companies have been selected by CDP to participate in a new global sample of 1,000 companies that will be tracked on an annual basis along a number of key climate change indicators. In addition, there is a continued and robust interest in participating in the CDP

initiative by companies that are not included in the formal sample invited to respond to the climate change questionnaire. These self-selected companies, which are not included in the formal sample due to the private nature of their equity structure or their reduced market capitalization, numbered seven in Spain and Portugal in 2016.

The scope and breadth of the emissions information disclosed by participating companies continues to be robust as evidenced by the fact that eight in ten responding companies report at least two categories of Scope 3 emissions data, a level similar to the previous year and well above the global average.

Climate change continues to gain relevance within management structures

Companies in Spain and Portugal continue to demonstrate leadership in climate change management as evidenced by the high percentage of

Figure 9. Iberia 125 companies responding to the CDP climate change questionnaire (2010-2016)

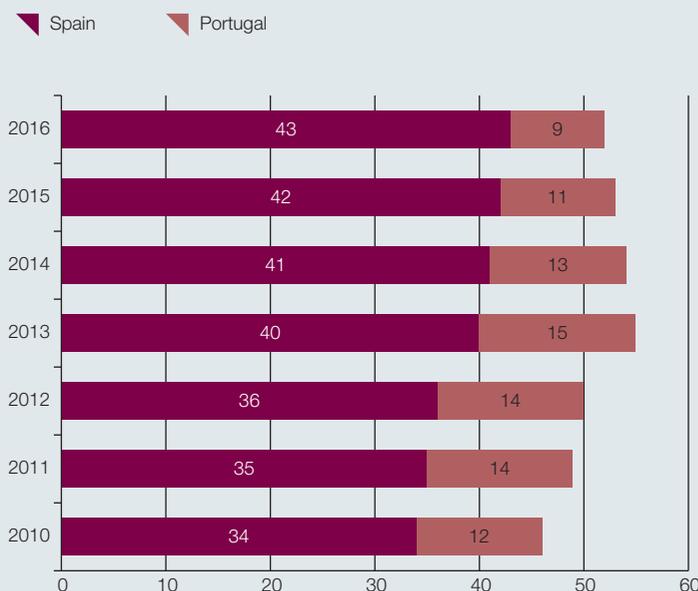
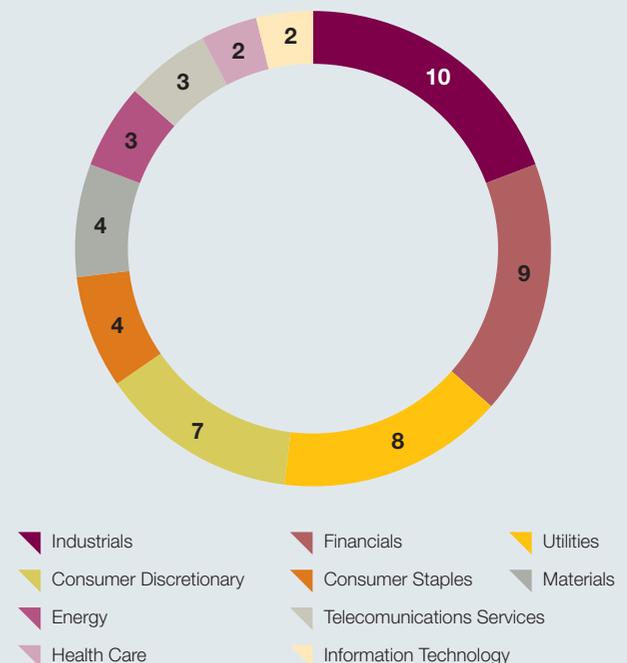


Figure 10. Responding companies by sector 2016



participating companies responding affirmatively on a range of key indicators, including externally verify their emissions (88%), have products and services that enable GHG emissions reductions (100%), and reward climate change progress (90%). The high affirmative responses to the latter two indicators are noteworthy in that they suggest that Iberian responding companies are incorporating climate resilience into their business operations and positioning themselves to thrive in a low carbon economy.

This climate leadership is further evidenced by the results of CDP's scoring among Iberian responders. In 2016, CDP has adopted a more streamlined approach to presenting scores that measure a company's progress towards leadership in climate stewardship. Companies are awarded a single letter score which reflects performance along four dimensions: disclosure, awareness, management and leadership (a more detailed description of the scoring methodology can be found in the "Communicating Progress" section of this report). Sixteen companies, or nearly 30% of Iberian

responders, are included in the global A-list, placing them among the leaders in corporate climate stewardship. This is quite significant given the stringent scoring criteria which have made achieving the highest performance score comparatively more difficult than in previous years. An additional 13 companies, or 25% of the total responding companies, just missed the top performance level, scoring A- based on the new scoring criteria.

Emissions: Iberian companies need to substantially ramp up their efforts in order to help meet the Nationally Determined Contributions (NDCs) set out in the COP21 conference

Similar to a pattern seen in most mature, developed economies, total emissions among Iberian responding companies is highly concentrated in several heavy emitting sectors. For instance, the top four sectors in terms of emissions – Materials, Utilities, Industrials and Energy – accounted for over 99% of Scope 1 emissions and over 83% of Scope 2 emissions, a pattern largely unchanged from the previous year.

Figure 11. Major areas of improvement in climate change management

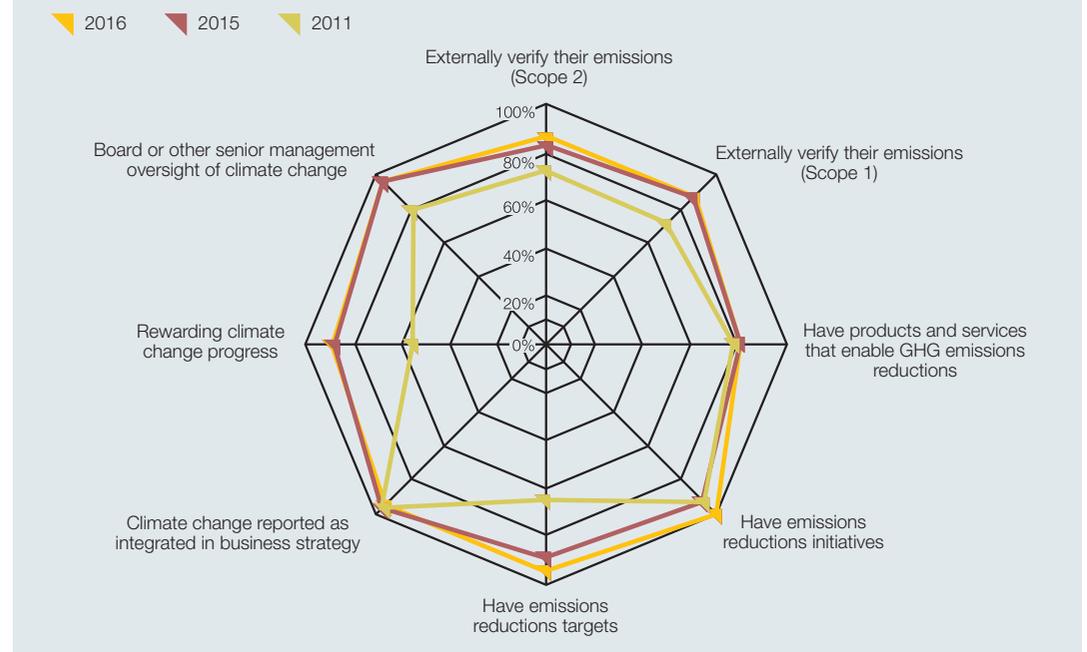


Table 1: Companies that are not in the sample but have answered the questionnaire

Company Name	Country	GICS Sector	2016 Score
Abengoa	Spain	Industrials	A
CEPSA, Compañía Española de Petróleos SAU	Spain	Energy	A
Caixa Geral de Depósitos	Portugal	Financials	A
AJE Group	Spain	Consumer Staples	B
Banco de credito social cooperativo	Spain	Financials	B
Correos (Grupo Sepi)	Spain	Industrials	B
Gestamp	Spain	Consumer Discretionary	C

2. CDP has improved the precision of aggregate Scope 2 calculations, by including additional questions about the nature of Scope 2 emissions in the CDP questionnaire as well as by statistically correcting aggregate figures to avoid double counting, especially in regards to emissions reported by companies in the Utilities sector.

3. Due to annual fluctuations in the makeup of the Iberian sample of responding companies, caution is suggested when reporting on aggregate year-on-year comparisons in Scope 1 and Scope 2 emissions. To facilitate an accurate like for like comparison of aggregate as well as sector based emissions performance we have performed additional trend calculations, based only on emissions data provided by companies that have responded in both 2015 and 2016 (46 companies). Percentage changes reported in this section refer to the aggregate emissions changes reported in the past two years by companies that have responded to the CDP questionnaire in both years.

In terms of emissions performance, average per company emissions increased by approximately 2% and 21% over the past year in terms of Scope 1 and Scope 2² emissions, respectively³. In contrast to positive emissions reduction data registered in the previous years, six in 10 responding companies reported a total emissions increase in 2016 compared to the previous year. However, this overall increase in emissions should be placed within the context of the overall economic environment, which saw healthy economic growth in 2015, particularly in Spain. Coming on the heels of several years of sluggish economic growth due to the lingering effects of the financial crisis of 2008, a large number of responding companies cited increased output as the main reason for their reported emissions increase. In fact, nearly two-thirds of the reasons given by responding companies for the increase were related to changes in output, acquisitions or changes in physical operating conditions. However, it is noteworthy, that 60% of responding companies reported a decrease in carbon emissions per unit of revenue, confirming a reduction in the emissions intensity of a majority of responding companies and suggesting a movement towards a decoupling of revenue growth and emissions levels among many of

the top companies in the Iberian market. In the coming years, we expect to monitor this development to determine if the trend consolidates and accelerates as companies respond to climate related risks and opportunities and look to thrive in a resource constrained environment.

Of the companies that reported decreases in emissions in 2016 (37% of responding companies), the main reason given for the decline was the implementation of emissions reduction activities (72%), confirming the efforts by the largest emitting sectors or “those to watch”, Industrials saw a large and significant decline in Scope 1 and 2 emissions (-12%) in terms of absolute emissions. Perhaps more importantly, all of the responding companies in the sector reported reductions in their emissions intensity measured per unit of output (revenue). While still early to draw any

While interesting, these absolute aggregated emissions figures mask interesting and divergent trends observed both at the sectoral level and in terms of emissions intensity. For instance, of the largest emitting sectors or “those to watch”, Industrials saw a large and significant decline in Scope 1 and 2 emissions (-12%) in terms of absolute emissions. Perhaps more importantly, all of the responding companies in the sector reported reductions in their emissions intensity measured per unit of output (revenue). While still early to draw any

Figure 12. Reported Scope 1 emissions by sector (2015 v. 2016)

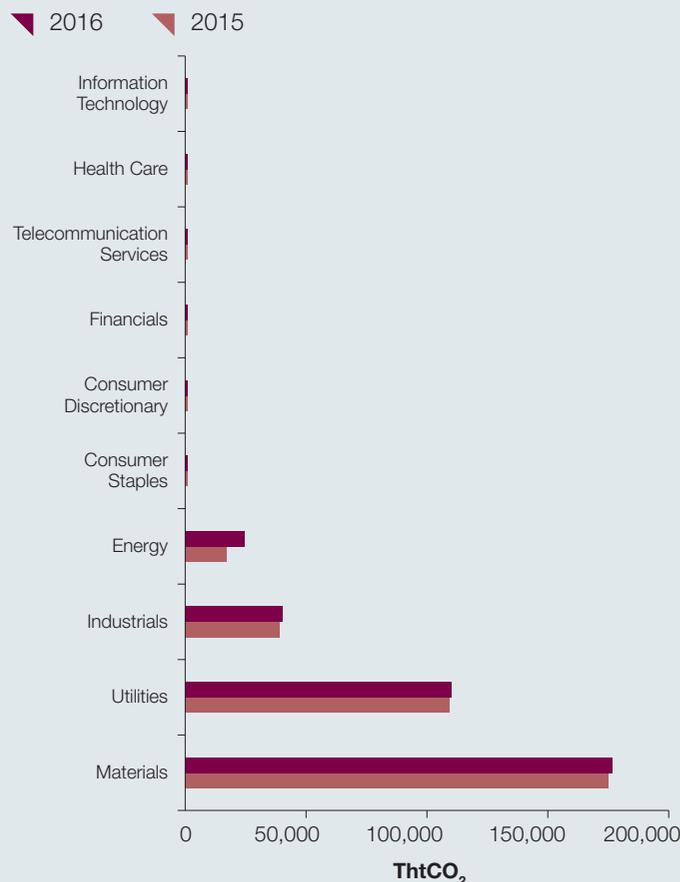
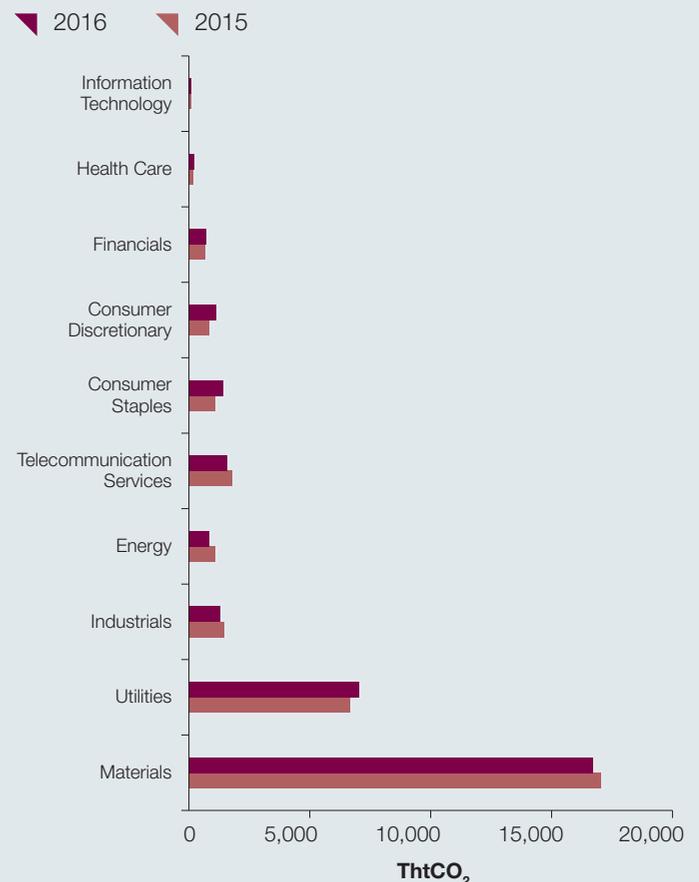


Figure 13. Reported Scope 2 emissions by sector (2015 v. 2016)





definitive conclusions especially until a positive trend can be confirmed, these data suggest that companies in the sector are making important strides in de-coupling carbon emissions from revenue growth. This will be an important characteristic of companies that seek to thrive, let alone survive, in a future that will be marked by serious and growing carbon constraints.

The absolute level of emissions reported by the Materials sector remain largely unchanged from the previous year despite the fact that three quarters of responding companies in the sector noted an increase in emissions from the previous year. Reported emissions reductions were largely due to falling output or divestments rather than emissions reduction activities.

On a less positive note, the Energy sector experienced a large increase in reported Scope 1 (43%) while companies in the Utilities sector reported a modest uptick in Scope 1 emissions (+1%) and slightly more pronounced increase in Scope 2 emissions (+5%). While hardly surprising given the general correlation between carbon emissions and GDP growth in these two sectors taking into consideration the current energy mix in Spain and Portugal, the increase in emissions in these sectors is nonetheless noteworthy given their significance in

facilitating a transition to a low carbon economy for companies in other sectors.

However, a deeper dive into the data reveals interesting details that give context to this finding and suggests some encouraging facts. For instance, despite the overall emissions growth in the utilities sector, the fact that all but one of the responding companies in the sector reported reductions in emissions intensity as measured per unit of revenue suggests that companies in the sector are showing steady improvement in terms of positioning themselves to thrive in a low carbon economy. Likewise, in the energy sector most of the reported increase in emissions in 2016 was linked to the reported emissions increase of a single company, **Repsol**. This large increase was mainly due to the company's acquisition of the Canadian energy company **Talisman** and to a lesser extent output growth in its existing facilities.

Responding companies have also made great strides in terms of ensuring the validity and reliability of the emissions data provided. For instance, eight in 10 of the responding companies report having some kind of third party assurance for their Scope 1 & Scope 2 emissions. However, in the majority of cases, the scope and intensity of the analysis is narrow leaving ample room for improvement in this area.

Figure 14. Trends in total emissions (Scope 1 & 2) 2010 - 2016



Figure 15. Reasons for decrease of emissions 2016- CC12.1a

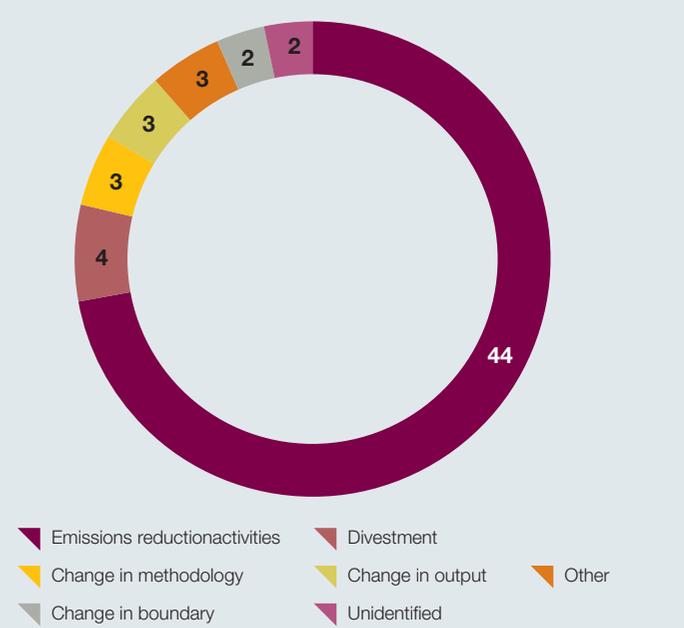


Figure 16. Emissions change from previous the year - CC12.1

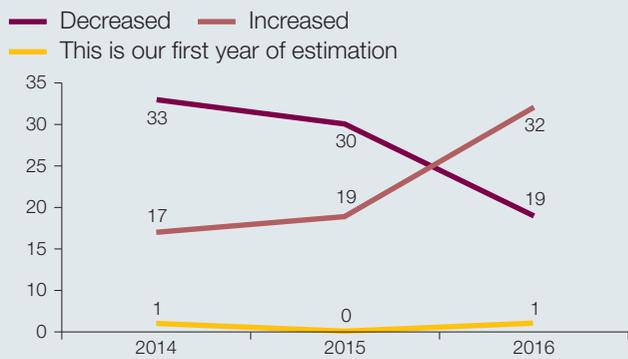


Figure 17. Reasons for increase of emissions 2016- CC12.1a

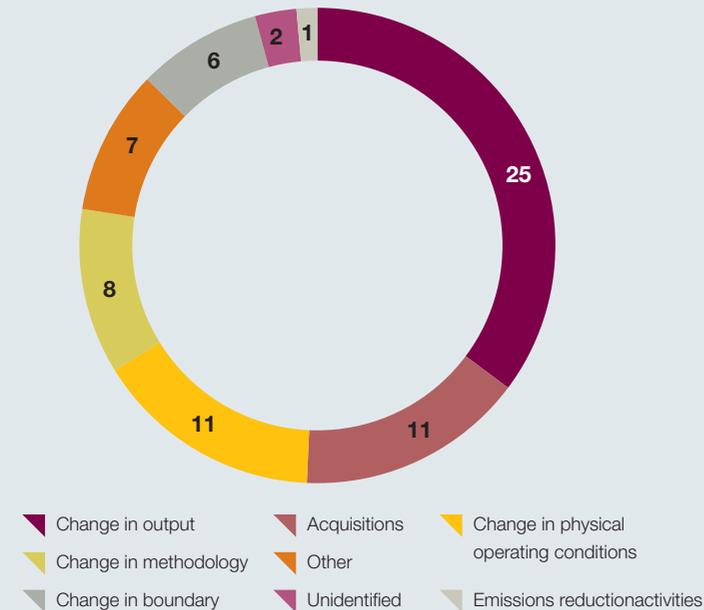


Figure 18. Reported change in gross global emissions (Scope 1 and 2 combined) for the reporting year compared to the previous year

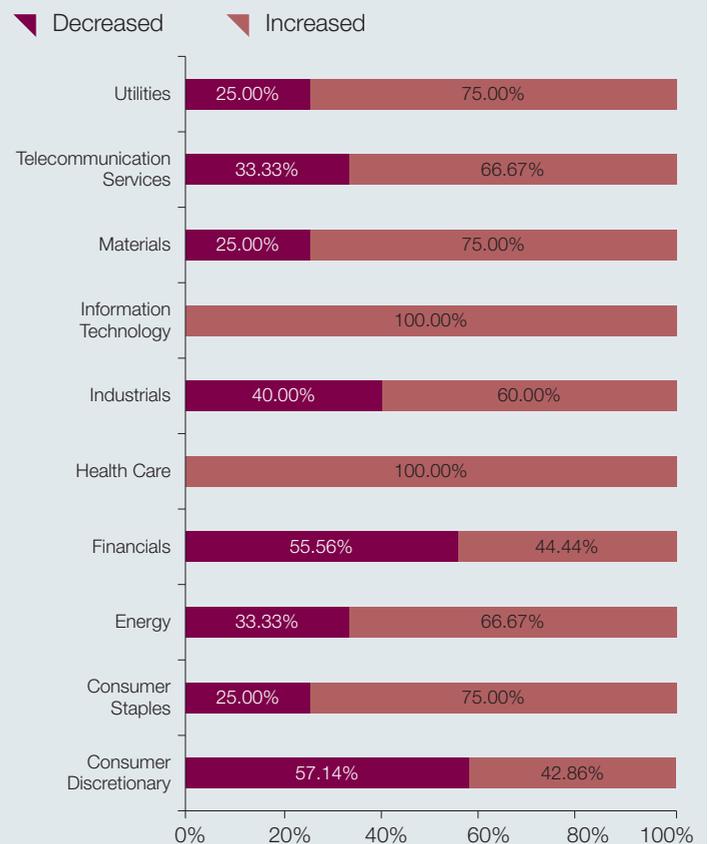
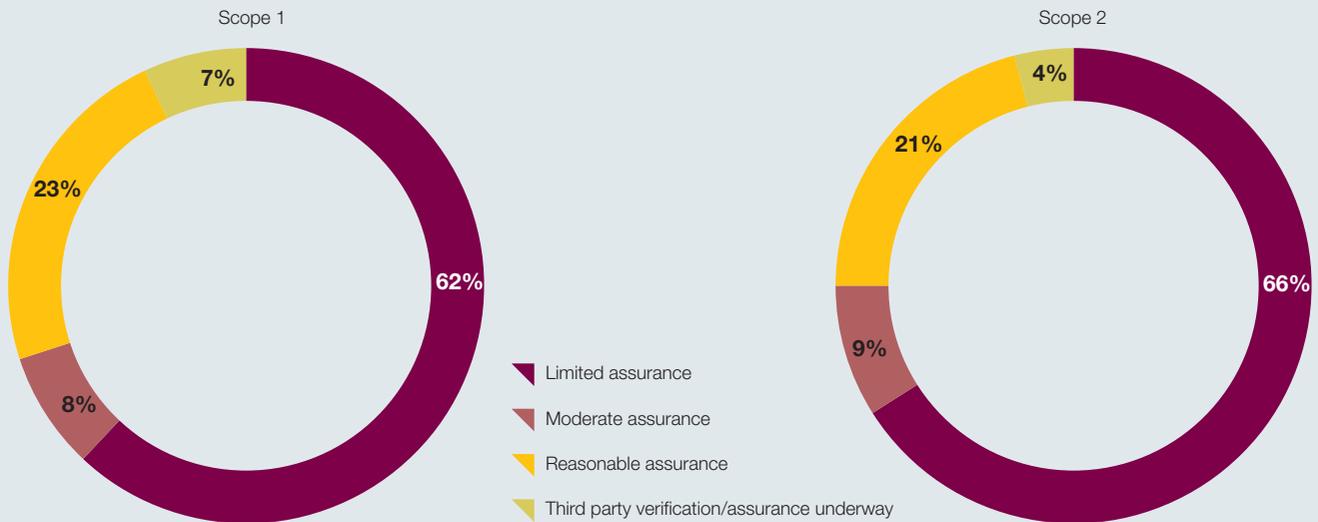


Figure 19. Emissions verification by responding companies (2016) – Scope 1 & 2



Climate investment and action in Iberia: varying level of performance suggests more needs to be done to broaden the scope, level and rigour of reported commitments

In terms of climate change planning and action, the COP21 conference held last winter in Paris marked an important point of inflection, strengthening the institutional and policy framework to vigorously encourage and credibly monitor collective action from both the public and private spheres aimed at limiting and mitigating the most destructive effects of global climate change. As such, this year's CDP report is intended to act as a baseline of sorts to monitor and evaluate the current level of corporate ambition and progress in regards to both emissions reduction activities as well as target setting, particularly in terms of the adoption of science-based objectives.

Iberian responding companies reported a sharp rise in both the monetary investments in initiatives designed to respond to risks and opportunities posed by climate change as well as the total number of discrete emissions reduction initiatives implemented. For instance, **the number of initiatives implemented in 2015 totalled 388, representing an increase of 12% from the previous year, while the total reported monetary investment in emissions reduction initiatives reached €27,254 million in the reporting year, nearly triple the level of investment registered in the previous two years.**

However, it should be noted that the level of investments is highly concentrated and uneven when examined on a sectoral level. For instance, **94% of the total investments in emissions reduction activities reported in 2016 were concentrated in the utilities sector, of which, nearly 90% was**

claimed by a single company, Iberdrola. In fact, Iberdrola accounted for nearly 84% of the total investment in emissions reduction activities reported by responding companies in the 2016 reporting period, suggesting the uneven nature of responding companies' commitments to dedicating the level of resources needed to effectively combat climate change. Interestingly, most of this investment was in increasing the company's renewable energy production capacity signalling a continued effort to position the company for a future with a dramatically reduced role for fossil fuels in electricity generation. The concentration of investment in emissions reduction activities in the utilities sector is hardly surprising or unusual given the relative weight of the sector in total emissions among the responding companies (31% of Scope 1 and Scope 2 emissions) as well as the strategic nature of the sector in supplying the infrastructure and product (clean energy) needed by companies in other sectors to accelerate a transition to a low carbon economy. On the other end of the distribution, **companies in several other important sectors as defined by their impact on total reported emissions continue to show slow uptake in making investment on emissions reduction activities. Companies in the Materials, Industrial and Energy sectors reported investments ranging from 0.1% to 0.3% of total reported investments while accounting for 49%, 11% and 7% of total Scope 1 and 2 emissions, respectively in 2016.**

In terms of emission reduction initiatives, the largest increase over the past year was in eliminating fugitive / process emissions (+70%) and in improving the energy efficiency of processes (+33%), suggesting that responding companies are increasingly looking for ways to challenge the status quo and adapt their business operations and processes to the realities of

an increasingly resource constrained world. Interestingly, energy efficiency improvements have been linked with increased productivity, business resilience and improved performance on a number of sustainability indicators.

In a similar vein, initiatives designed to reduce emissions linked to transportation grew vigorously over the past year (+30%) further confirming a strong commitment by Iberian companies to optimize the carbon intensity of their business operations. These initiatives are also noteworthy in that road transport accounts for slightly over 20% of the carbon footprint in Spain and Portugal and offer immediate and realistic opportunities for decarbonisation that companies can take advantage of. In addition, investments in transportation related initiatives are among the most effective emissions reduction activities both in terms of the short payback period (largely within three years of the initial investment) as well as in terms of the linked emissions saving per unit of investment. For instance, **transportation initiatives saved, on average, approximately 8,700 metric tons of CO₂e on an annual basis per € 1 million of investment, making it among the most effective areas of investment for companies looking to reduce their carbon footprint in the short term.**

While the level of total reported investments increased dramatically over the last year, the estimated annual CO₂e savings associated with the implementation of the emission reduction activities declined somewhat, providing some evidence of a

diminishing cost effectiveness of these projects. Specifically, **in 2015 the estimated cost to reduce a metric ton of CO₂e was €377. That figure climbed to an estimated €1,080 in 2016, suggesting a trend towards the diminishing returns of emissions reduction activities going forward.** This is not surprising given the increasing marginal cost of reducing carbon emissions once “low-hanging fruit” initiatives have been implemented. Increased level of sophistication and complexity will be required for future initiatives as companies seek to comply with the ambitious objectives needed to reach the goal of limiting temperature increases to 2°C over pre-industrial levels.

Target setting

Ambitious targets with short-term results and a longer-term horizon are a necessary condition for achieving the GHG emissions reductions that will put us on a trajectory to achieve the 2°C maximum warming goal. Results on this front among the responding companies in Spain and Portugal are mixed but with some noteworthy improvements over the past years. Importantly, a quarter of the reported emissions reduction targets included a timeframe of over 10 years, while only 36% had a temporal horizon below three years, representing a significant improvement over the previous year. For instance, in the 2015 reporting period, nearly six in ten emissions reduction targets reported by responding companies had timeframes of three years or less, suggesting a greater emphasis on longer-term climate planning by participating Iberian companies in the current reporting cycle.

Figure 20. Distribution of Emissions Reduction Initiatives by category 2015-2016 CC3.3b

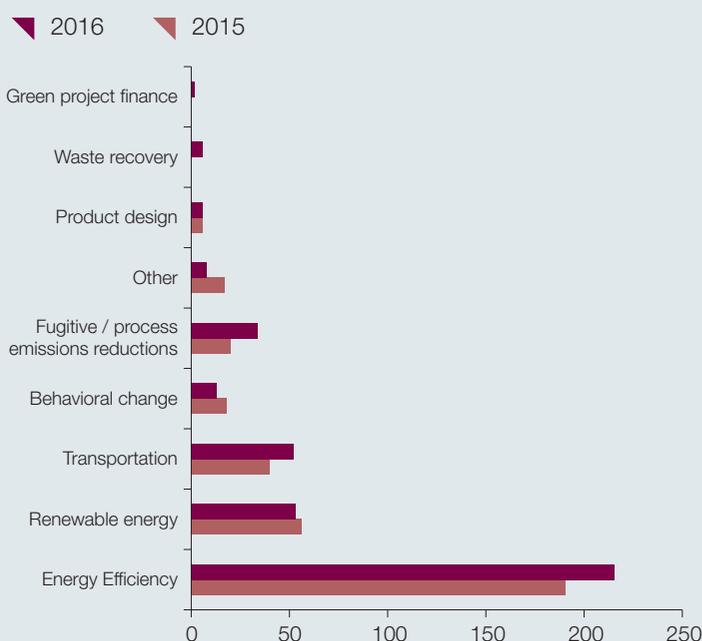
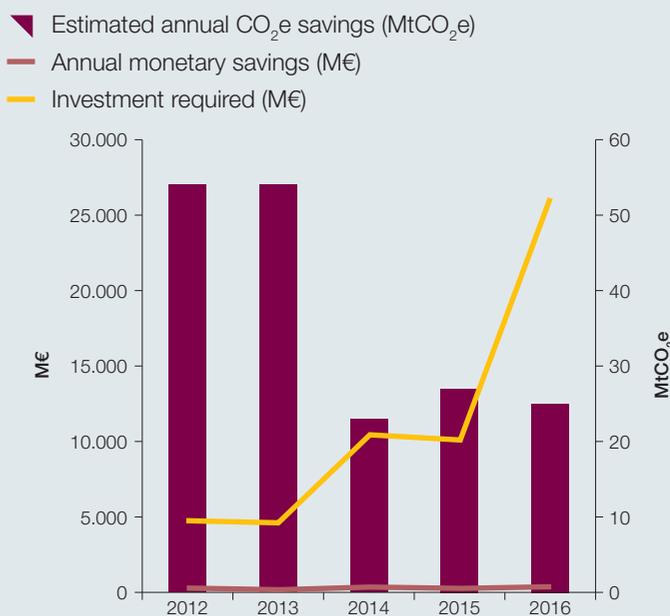


Figure 21. Investments related to emissions reduction initiatives, associated annual monetary and estimated annual CO₂e savings (CC3.3b)



However, the scale and ambition of the reduction commitments vary significantly across sectors. For example, the majority of the reduction targets as measured on an absolute basis have been reported by companies in the Utilities sector. In addition, responding companies in the sector report relatively ambitious levels of yearly reduction targets of nearly 7% of their total Scope 1 and Scope 2 emissions.

In contrast, companies in the Materials sector, responsible for nearly half of the reported total CO₂e emissions among participating companies, reported few and very modest reduction targets. Reported average annual emissions targets in the Materials sector are only 0.01% of the current total (Scope 1 & 2) emissions of the responding companies, a reduction trajectory insufficient to meet the target of limiting temperature increases to 2°C above pre-industrial

levels, even taking into account important sectoral attributes that limit, somewhat, the potential reductions without substantial changes in production technology and facilities design.

On an overall basis, responding Iberian companies reported an average yearly reduction of slightly above 2% of total current emissions, representing a slight improvement compared to the previous year. While it is difficult to calculate with certainty an appropriate overall reduction target given important company and sectoral variations, the reported average reduction target appears to be insufficient to meet the emissions reduction targets required to limit the most catastrophic effects of global climate change. This gains relevance in light of the very ambitious nationally determined contributions (NDC) negotiated and agreed to during the recent COP21 conference.

Figure 22. Absolute emissions reduction targets (2016) by timeframe

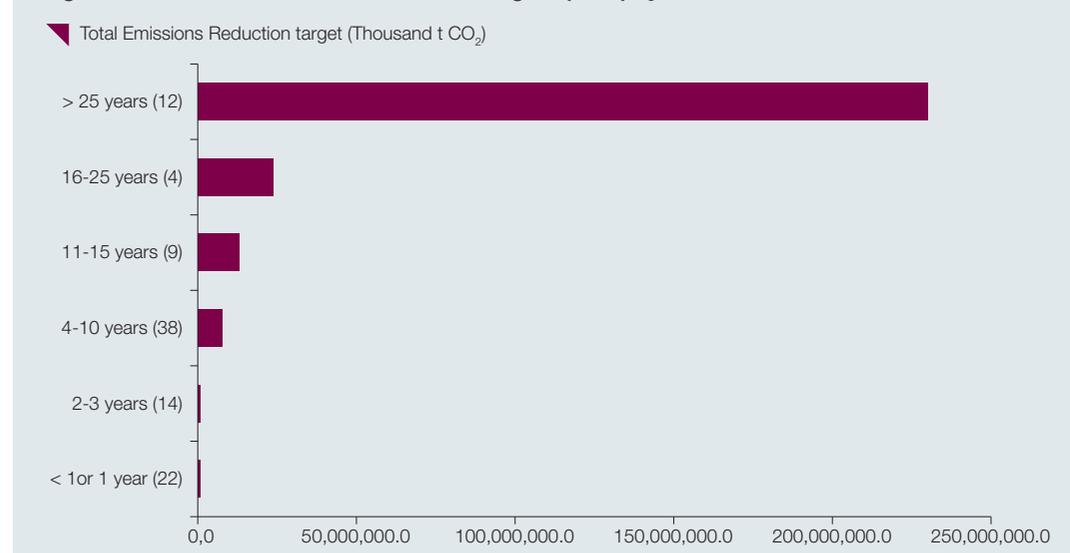


Table 2: Sectoral breakdown of emissions reduction targets

SECTOR	Scope 1+2 tCO ₂ e	Emissions (Scope 1 + 2) as % of total of responding companies	Yearly reduction targets (absolute) tCO ₂ e	Yearly reduction targets (absolute) as % of Scope 1 + 2 emissions
Materials	193,189,742	50%	13,739.3	0.01%
Utilities	117,668,140	31%	8,198,780.7	6.97%
Industrials	41,585,956	11%	416,332.0	1.00%
Energy	25,705,281	7%	189,905.0	0.74%
Consumer Staples	2,459,749	1%	13,909.5	0.57%
Telecommunication Services	1,766,444	0%	84,290.6	4.77%
Consumer Discretionary	1,397,655	0%	35,299.4	2.53%
Financials	839,723	0%	47,040.7	5.60%
Health Care	206,477	0%	6,887.5	3.34%
Information Technology	63,873	0%	0.0	0.00%
TOTAL	384,883,039.9	100%	9,006,184.6	2.34%

Víctor Viñuales

Executive Director of ECODES



The compliance of the agreement commits us all, and now is the time for action.

2015 was the year in which the tide shifted. The Pope spoke clearly through the encyclical *Laudato si'*. Obama spoke clearly in a joint statement with more than 80 large companies of the US. A number of companies, councils and regions from around the world anticipated to the Paris Climate Summit and decided to assume their own objectives and commitments, guided by their own conscience. And, especially, 2015 was the year in which the entire International Community, all the States and peoples of the Earth, agreed to work together so that the temperature does not rise more than two degrees, and ideally, does not rise more than 1.5 degrees. It was the triumph of reason and hope.

The Paris agreement has limitations, but it marks a turning point in Humankind's fight against climate change. And for its triumph, also important was the enormous activity deployed by CDP before the summit and at the summit itself.

The CDP Iberia report is presented just a few days before the Paris Agreement enters into force the upcoming 4th of November. The fast ratification of the agreement by the main states is magnificent news and clearly indicates that this time the commitment of the international community is serious.

Now, after the ratification by the governments, it is time for the institutional, business and social actors as well as for all other people to "ratify it". The compliance of the agreement commits us all, and now is the time for action, as rightly stated by the upcoming Climate Summit in Marrakech. It is time to comply, to do, time to act.

A great amount of the large companies, as this report rightly points out, are already on the right track. They are already doing, they are already measuring their emissions, they already reduce them, and already compensate them. For them, it is a question of increasing their objectives, so that they are ambitious and in line with the Paris agreement and with what the science demands from us.

However, for the large companies to increase their reduction targets and for the whole of the business sector to mobilise and work efficiently to fulfil the Paris Agreement the convergent demand of three sectors is required: we need for the financial sector to reward companies with the best behaviour against climate change. We need that the Public Administrations, through their purchases, encourage more climate-friendly companies and we need them to also do so through regulations that provide incentives for leading companies and sanctions for companies that are behind. And it is also necessary for the consumers to reward the most energy-efficient companies.

The complementary action of these three demands will create an atmosphere in which low-carbon economy will flourish. That is the objective. That is the need.

PwC Commentary

New challenges for companies in the global sustainability agenda



It is necessary to increase the ambition, beyond what was agreed at the COP 21, to accelerate the transition path towards a low carbon economy.

At international level, new commitments and ambitious challenges are setting out the path for companies in their move towards sustainability.

The Paris Agreement has contributed in the establishment of a commitment that should prevent global temperature to rise by more than 2°C. To date, 62 countries have ratified the agreement including USA, China and the European Union.

This year, the 2030 Agenda for the implementation of the Sustainable Development Goals (SDGs) has come into force. This agenda will serve as international roadmap to manage firms' sustainability priorities and agenda.

Likewise, the launch of the Natural Capital Protocol, a tool for the holistic assessment of environmental impacts, shows the necessity for companies to be able to generate reliable information on their operations environmental risks and impacts, as well as to quantify and monetize those impacts to take better-informed decisions.

The global agenda highlights the need to move from words into action. GHG emission reduction targets are ambitious. To meet commitments agreed in Paris, the global economy would require from an intense decarbonisation to ensure an annual reduction of 6.2% of its carbon intensity from now up to 2100.

Current carbon intensity will be only reduced by 3% annually due to international targets agreed so far. It is therefore necessary to increase the ambition, beyond what was agreed at the COP 21, to accelerate the transition path towards a low carbon economy. Countries shall commit further in reducing their GHG emissions⁴ and that will require from greater effort from all economic sectors (both ETS and non-ETS). At national level, efforts shall be placed in defining specific targets beyond 2020 and distributing efforts between ETS and non-ETS sectors.

Public administrations play a key role in this transition. As regulatory bodies, generating tools either to allocate obligations to businesses or to encourage sustainable practices; as financing entities, providing companies with resources to invest in emission reduction activities, or as knowledge-generating institutions, providing companies with data to integrate climate change in their activities.

According to the annual Global CEO Survey, conducted by PwC, global markets increasingly perceive the need to integrate climate change as strategic criteria in their decision-making process.

Companies must reshape their sustainability targets to meet the new international commitments with renewed ambition. Special emphasis shall be put on setting emission reduction targets that effectively contribute to constrain the global temperature increase below the 2°C limit.

This reshaping process is critical to succeed in adapting to those risks arisen from the low carbon transition process, particularly those related to climate policies tightening and their impact on companies' investments, credits or market strategies.

Additional risks will come from the increasing pressure from stakeholders, particularly from investors and financial institutions. This year, the Task Force on Climate - Related Financial Disclosures, from which PwC is a member, has been launched. This organization aims at creating voluntary standards and guidelines to help companies in reporting information on third-party financed assets likely to be affected by climate risks.

Private sector involvement is critical in this transition process. PwC is developing tools to support companies in changing the current economic model, integrating climate change issues in their risks maps and managing tools; setting up internal carbon pricing values; helping them to consider opportunities coming from climate finance mechanisms; assessing impacts on natural capital along their products and services value chain, or analyzing their contribution and impact on the achievement of Sustainable Development Goals, etc.

Companies will be more competitive as long as they are able to understand how these new challenges will affect its regulatory, economic, social and environmental context, as well as its reputation. The transition towards a low carbon economy, along with all commitments coming from the implementation of the Sustainable Development Goals, will materialize in new opportunities for the private sector. In the context of a new green economy, more focused into sustainability, Spanish firms will have an opportunity to take a leading position, improve their competitiveness and capitalize their strengths.

Mª Luz Castilla Porquet
Partner in the Sustainability
and Climate Change team of PwC

4. Through their Contributions included in their Intended Nationally Determined Contributions (INDCs)

Emerging trends in the Post COP21 period in Spain and Portugal

The recent COP21 conference was a landmark event that succeeding in gaining explicit and formal agreements from hundreds of governments to deepen their climate change commitments and implement formal policies and regulations to mitigate the negative effects of global warming.

Moreover, the COP21 conference signalled the urgency of action required to limit global climate change and has served as a catalyst to encourage and guide needed corporate efforts that will enable a coordinated public/private effort to limit global warming to 2°C over the next several decades. According to the Intergovernmental Panel on Climate Change (IPCC), reaching the upper bound increase of 2°C implies lowering global emissions of greenhouse gases between 40% and 70% by mid-century compared to 2010 and nearly eliminating carbon emissions by century's end.

Despite ample room for improvement, responses to the 2016 CDP questionnaire in Spain and Portugal confirm this renewed and encouraging effort by responding companies to prepare and pave the way for a low carbon economy in the coming years. In this section, we examine current performance and analyze future risks and opportunities in three key areas of action linked closely to the results of the COP21 conference. These include: the use of science based methodologies for emissions reduction target setting, the use of internal carbon pricing, and the emphasis on low carbon alternatives, both in terms of energy production and consumption as well as in terms of the commercialization of low carbon products and services.

Target setting – Iberian companies getting on board with the science based targets but still need to be more ambitious in their goal setting

Increasingly, companies are being asked to base their reduction targets on the most up to date climate science in order to account for important company differences in terms of size, scale and relative contribution to global warming. Known as

“science-based” targets, they define different sectoral and company reduction pathways for achieving overall climate change mitigation objectives by taking into account important sectoral differences in terms of relative contributions to global warming as well as past emissions reduction efforts, realistic reduction potentials, disparate regulatory obligations and different growth potentials. The Science Based Targets Initiative (SBTI) defines science-based targets as those that are in line with the level of decarbonisation required to keep global temperature increase below 2°C compared to preindustrial temperatures, as described in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).⁵ Science Based Targets - a joint initiative by CDP, the UN Global Compact (UNGC), the World Resources Institute (WRI) and WWF are working with companies to incorporate science based targeting into their overall climate change planning systems. One such approach, the *Sectoral Decarbonisation Approach (SDA)*, allow companies to derive their science-based emission reduction targets based on their relative contribution to the total sector activity and their carbon intensity relative to the sector's intensity in the base year.⁶

Despite the varied recent performance by Iberian companies in terms of emissions reductions, investments and target setting, the recent COP21 conference has served as a catalyst to embrace bolder and more rigorous climate planning and action by Iberian companies that is expected to pay dividends in the coming years and decades. For instance, 15 companies, or nearly 30% of the responding sample, reported that they use science-based targeting methods during the process of internal climate change planning. An additional 16 companies, or 31% of the total responders, indicated that they anticipated incorporating SBT into their climate change planning in the next two years, meaning that by 2018 more than six in 10 responding companies will use a scientifically rigorous methodology for determining an appropriate emissions reduction pathway. As an indication of this commitment, a total of nine Iberian companies have already signed up to the Science Based Targets Initiative⁷, representing 5% of the total global corporations that have joined the project.

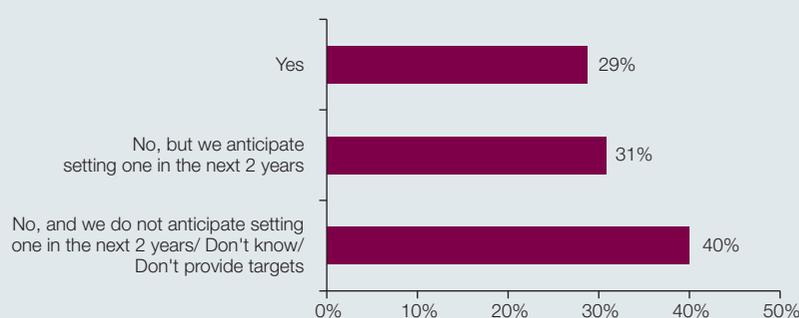
However, despite these positive developments, the current overall emissions reduction targets reported by responding Spanish and Portuguese companies

5. <http://www.wri.org/our-work/project/science-based-targets-initiative>

6. http://www.sciencebasedtargets.org/wp-content/uploads/2014/09/The_Sectoral_Decarbonization_Approach.pdf

7. <http://sciencebasedtargets.org/companies-taking-action/>

Figure 23. % of companies with science-based target



By 2018 more than six in 10 responding companies will use a scientifically rigorous methodology for determining an appropriate emissions reduction pathway.

are for the most part inadequate and lacking the transformative power that the situation demands given the magnitude of the environmental and social problems linked to climate change. With a few notable exceptions the reported reduction levels and estimated implementation timeframes look to be insufficiently ambitious to help meet the NDCs agreed to in the recent COP21 conference. However, the growing adoption by Spanish and Portuguese companies of science based targeting techniques – 35% of all of the reported reduction targets are determined using science based methodologies – is a positive sign of the growing use of more rigorous processes to determine appropriate decarbonisation pathways. We expect a growing number of Iberian companies to adopt science based targeting in the near future. And similar to how the COP21 allows signatory countries to amend their commitments through its “global stock-take” provision, under which nations can submit stronger pledges by 2020, companies should

perform similar evaluations in order to ensure that their carbon reduction objectives are in line with the most up to date climate science.

Carbon pricing – Iberian companies are preparing to thrive as global climate controls become more stringent

Carbon pricing schemes of varying scope and varying enforcement regimes have been adopted or are in the planning stages in about 40 countries and more than 20 sub-national jurisdictions.⁸ In addition, it is an issue that is steadily gaining prominence among major corporations although it is currently not living up to its full potential as a climate change mitigation tool due to the very low current price of carbon in the relevant markets. For instance, carbon prices in Europe are hovering around €5 a ton⁹, hardly enough to neither significantly affect the bottom line of companies in the regulated sectors nor force companies in unregulated sectors to implement a serious internal program that features setting an internal price for carbon. Despite these limitations, currently 55% of responding companies report that they are already using an internal price of carbon (40%) or plan to do so within the next two years (15%). These levels represent a slight increase from the previous year and continue a longer trend of increasing usage of internal carbon pricing among Iberian responding companies.

Moreover, the international climate deal agreed in Paris last December is poised to alter the long-term pathway for companies and accelerate this trend over the coming years. The agreement fosters a tightening global climate regime over the next several decades, including future carbon penalties in order to bend the emissions growth curb and put us back on a trajectory of a maximum temperature increase of 2°C above pre-industrial levels. As some form of carbon pricing becomes mandated in the near future

8. <http://www.worldbank.org/en/programs/pricing-carbon>

9. ICE Futures Europe EU Allowances price on September 23 2016

Figure 24. Absolute target is a Science-based target

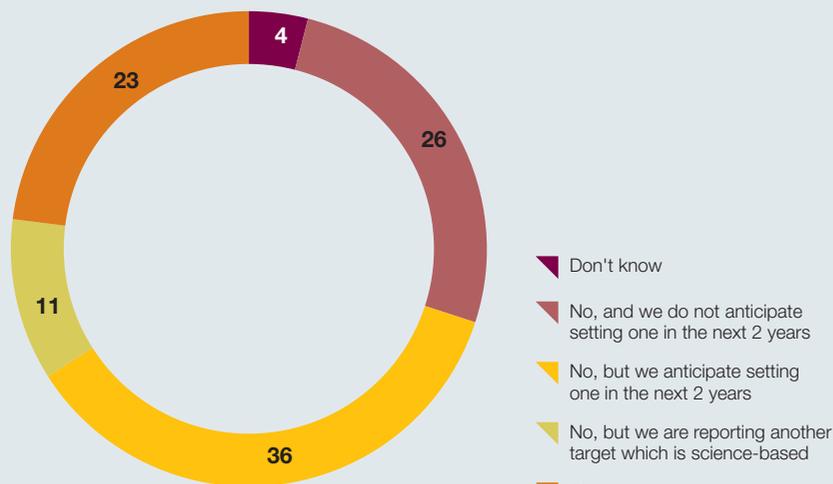


Figure 25. Intensity target is a Science-based target

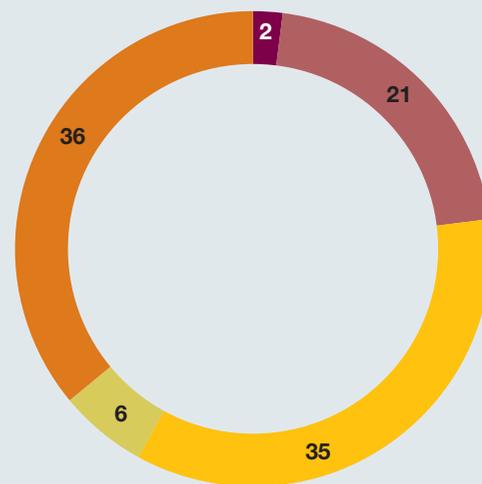
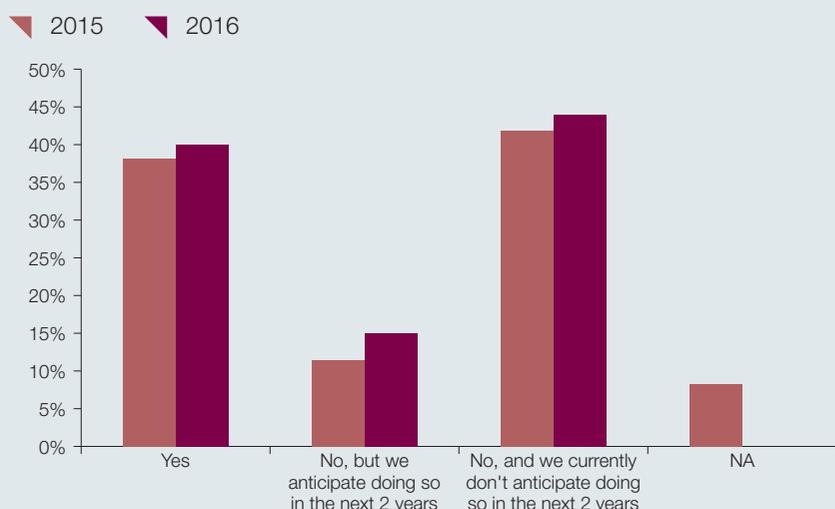


Figure 26. Responding companies use of internal price of carbon – CC2.2c



the business outlook will be more positive for companies with access to energy sources that are low carbon or renewable. Companies that anticipate these developments by, among other things, incorporating internal carbon pricing schemes into their business planning and operation will be well positioned to take advantage of these developments.

While these reported advances in terms of internal carbon pricing in the Iberian market are encouraging and commendable, companies need to make greater strides in fully capturing the costs associated with the negative impacts of carbon emissions. Failure to do so will lead to inappropriate price signals for carbon related pollution as well as an insufficient allocation of resources assigned to emissions reduction activities and investments. Due to the limited scope and relative novelty of the current carbon markets and associated carbon pricing schemes, the price assigned to carbon often fails to incorporate an accounting of the entire array of damages caused by carbon emissions. Supply and demand at current levels of development and use are not attuned enough to set an appropriate carbon price. There are several other options available to companies that are using an internal price of carbon scheme to assess in economic terms the full impact of their carbon emissions. These integrated models combine scenarios of climate change with economic growth forecasts for calculating damages attributable to climate change and make estimates of total carbon costs to society. These techniques include:

- Marginal cost of mitigation** – a calculation which reflects the costs needed to reduce emissions of greenhouse gases to a level that will stabilize the climate and avoid catastrophic climate change (generally acknowledged to be an 80% cut in greenhouse gas emissions compared

to 1990 levels for developed economies). This is a different calculation than solely accounting for the value of the damages imposed on society by the negative effects of global warming).

- Social cost of carbon** – a concept that measures the costs imposed by an incremental unit of greenhouse gases emitted today, assuming the cost of the damage imposed during the entire time that it is in the atmosphere.

As an example, the Department of Energy and Climate Change in the UK has made an estimate of the economic costs of mitigating the environmental damage caused by emissions of greenhouse gases (central estimate of £ 59 (€ 74.52) per tonne of CO₂ equivalent) while the Department of Environment, Food and Rural Affairs (DEFRA) has estimated the cost of damage to society caused by climate change to be an estimated £ 29.8 (€ 37.64) per tonne of CO₂ in 2015.

The gradual increase in the use of internal carbon pricing is expected to continue, gaining in sophistication and complexity in the coming years. Nearly half of the responding Iberian companies are already using an internal carbon price as a strategic planning and accounting tool, despite serious shortcomings in the existing carbon markets which hinders the ability to get accurate pricing signals. This, however, is expected to correct itself as more governments across the globe adopt carbon pricing schemes. The European Union is among the leaders in this respect. Moreover, businesses are increasingly calling on governments to implement a rigorous carbon pricing platform or scheme as a predictable and realistic carbon price represents an important tool to help guide consumption choices and investments in infrastructure and innovation on a corporate level.

Transition to low carbon alternatives

A clean energy transition based primarily on renewable sources is a strategic necessity in order to put us on a path towards a sustainable global economy. This involves the increasing decoupling of economic growth from resource usage based on principles of eco-efficiency. This transformation will no doubt require significant investments from governments as well as businesses and the enabling role of the financial sector to ensure that environmental and sustainability concerns inform lending and financing decisions. For instance, according to the United Nations Environment Programme, annually investing approximately 1.25% of world GDP in energy efficiency and renewable energies could cut global primary energy demand by 9% in 2020 and by about 40% by 2050. Results from the 2016 CDP Iberia report on this front are promising but mixed.

For instance, investments in renewable energy, primarily in increasing production capacity in the

utilities sector, ranked first in terms of emissions reduction investments in 2016, surpassing energy efficiency as the main investment driver for responding Iberian companies. Investments in renewable energy totalled over €15,000 million, accounting for 55% of total reported investments in emissions reduction activities and representing a fourfold increase over the previous year. Of the total electricity produced by the responding Utility companies in the Iberian sample in 2016, 34% was reported to come from renewable sources. However, it should be noted that the major part of this investment is attributable to one company, Iberdrola, which made sizable investments to expand its renewable production capacity in 2015.

Interestingly, 13 responding companies or 25% of the sample, report having renewable energy consumption targets. Overall the targets are ambitious, with six companies including targets to source 100% of their electricity from renewable sources. An additional five companies (four of them belonging to the Utilities sector) report having set targets for renewable electricity production.

A majority of the responding companies in Spain and Portugal continue to invest in renewable as a means of reducing their carbon footprint. In 2016, 78% of Portuguese companies and half of the Spanish responding companies reported investing in low carbon installation and/or purchase, a level similar to

the previous year and significantly higher than the global average.

Low carbon products and services

In addition to important transformations in the Utilities, Energy and Transportation sectors as well as an overhaul of industrial production techniques and facilities, a transition to a more sustainable, low carbon economy will require the production and sale of more eco-efficient, low carbon products and services or those that facilitate a reduction or avoidance of GHG emissions. On this front, responding companies in Spain and Portugal appear to be well positioned to take advantage of market opportunities linked to climate change mitigation. For instance, 42 responding companies or 81% of the total reported selling products or services that they classified as being low carbon. However, upon closer scrutiny, this figure appears considerably overstated, as a significant number of descriptions provided by the responding companies failed to adequately describe the characteristics that made the products and/or services low carbon. After a more careful review of the details of company responses, 25 responding companies or about half of the total were deemed to have provided enough information to corroborate the responses of having low carbon products. This figure remains very positive and demonstrates a commitment by a substantial portion of responding Iberian companies to tailor their company offerings to the growing demand for eco-efficient products and services.

Figure 27. Main Investment Areas – Emissions Reduction Activities (2016)

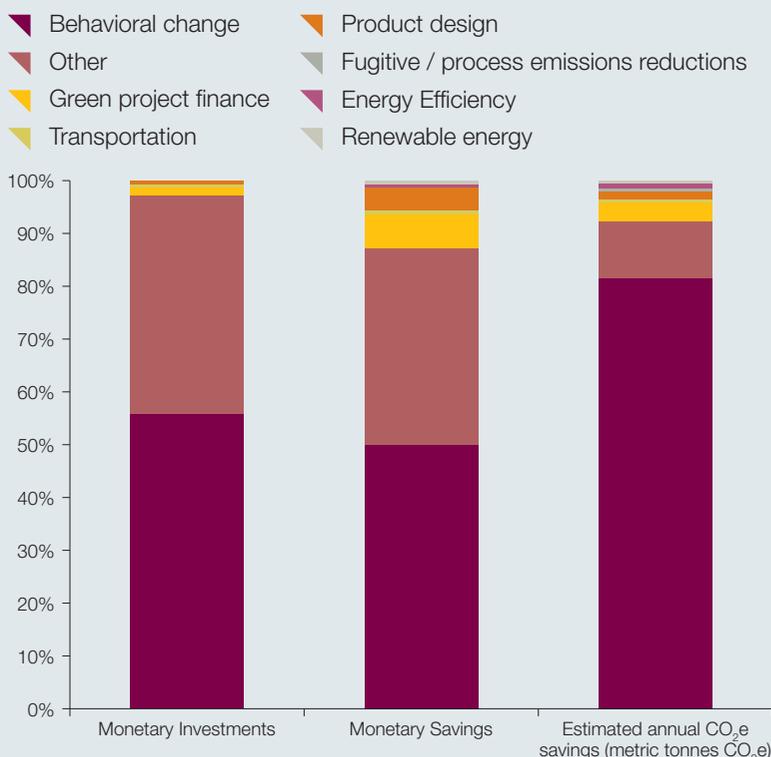
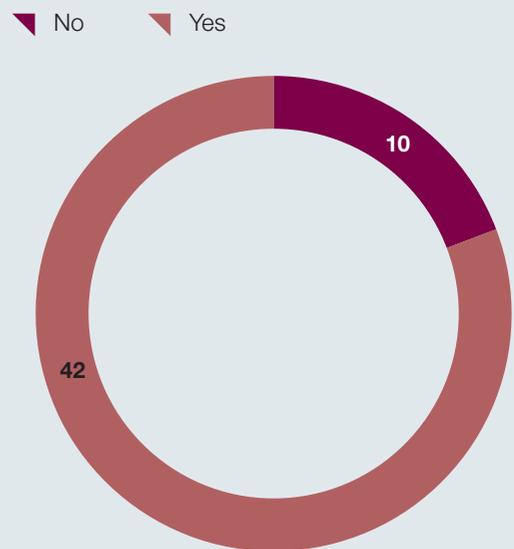


Figure 28. Classification of existing goods and/or services as low carbon products



Key takeaways

Iberian companies in a number of sectors, including Utilities, Financials and Consumer Staples are showing promising signs of being in the early stages of a transformation that will allow them, to differing degrees, to decouple company growth from carbon emissions. These companies are expected to benefit from reduced risks tied to future fossil fuel uncertainty as well as increase their climate resilience and reduce their operating costs tied to the consumption of energy and raw materials. As one of many examples, for instance, **Inditex** the global apparel retailing powerhouse reported a reduction in total Scope 1 + 2 emissions in 2016 despite registering healthy growth in both sales and the number of garments placed on the market. The company attributes this result to a number of energy-efficiency and emissions-saving measures applied in 2015, including the construction of over 300 new eco-efficient stores and the installation of renewable energy systems in a number of their retail outlets.

While promising, these processes need to accelerate and extend to all of the companies and sectors if we are to meet the very ambitious decarbonisation goals set out in the COP21 conference and raise the possibility of avoiding the worst impacts of climate change on human welfare and the global economy. Based on the above analysis, several key takeaways emerge that attest to the consolidation and expansion of Iberian companies' efforts to combat global climate change. These include:

Climate change management: Iberian companies continue to exhibit a high degree of integration of climate change in key management structures and processes.

- ▼ Nine out of 10 responding companies report rewarding top executives for climate change progress, a 60% increase over the past five years.
- ▼ Nearly 90% of responding companies externally verify their emissions.
- ▼ All of the responding companies have implemented emissions reduction activities, while all but three have stated emissions reduction targets.

Emissions performance: Overall emissions increased among responding companies in 2016, but a majority of companies saw their carbon intensity go down.

- ▼ Robust economic growth drove up reported emissions in 2016, as approximately 60% of responding companies reported emissions increases in 2016, reversing a multi-year trend of a majority of companies reporting emissions decreases.
- ▼ Nonetheless, the carbon intensity (measured as a percentage of output) of a majority of responding companies (60%) declined in 2016, signalling a movement towards a decoupling of emissions from output growth.
- ▼ Of the largest emitting sectors, Industrials registered the most positive performance, with companies reporting an average decline of 12% in absolute Scope 1 and 2 emissions. All of the responding companies in the sector reported declines in their emissions intensity.

Investments in climate change mitigation: Total investments increased considerably in 2016 but were heavily concentrated in the Utilities sector.

- ▼ The number of reported emissions reduction activities grew by 12% in 2016 compared to the previous year while total monetary investments increased threefold to reach €27,254 million.
- ▼ Reported investments were heavily concentrated in 2016 as 94% of total investments were reported by companies in the Utilities sector and 84% of the total reported by a single company, **Iberdrola**.
- ▼ The reported cost effectiveness of emission reduction activities fell dramatically in 2016 – from an estimated €377 investment needed to reduce a metric ton of CO₂e in 2015 to €1,080 in 2016, suggesting a need to redouble efforts to develop and implement cost effective solutions to respond to the challenges posed by climate change.

Emissions reduction targeting: The average reduction targets of responding companies increased slightly in 2016, but important sectoral differences remain.

- ▼ The overall emissions reduction targets reported by responding Spanish and Portuguese companies are for the most part inadequate and lacking the transforming power that the situation demands given the magnitude of the environmental and social problems linked to climate change. With a few notable exceptions the reported reduction levels and estimated implementation timeframes look to be insufficiently ambitious to help meet the NDCs agreed to in the recent COP21 conference

Transition to the low carbon economy: Iberian companies continue to demonstrate leadership in use of renewable energy.

- ▼ A majority of the responding companies in Spain and Portugal continue to invest in renewable energy as a means of reducing their carbon footprint. In 2016, 78% of Portuguese companies and half of the Spanish responding companies reported investing in low carbon installation and/or purchase.
- ▼ 25% of the responding companies reported having renewable energy consumption targets in 2016.

Carbon pricing: Use of an internal price of carbon gains traction among responding companies as a climate change planning and mitigation tool.

- ▼ 40% of the responding Iberian companies report using carbon pricing as a strategic planning and accounting tool.
- ▼ An additional 15% of the responding companies are planning to incorporate internal carbon pricing in the near future.

Science based targets: A growing number of Iberian companies are adopting scientific rigour in determining reduction targets.

- ▼ Slightly over a third of responding Spanish and Portuguese companies report that they are using scientific methodologies to determine reduction targets, signalling the growing use of more rigorous processes to determine appropriate decarbonisation pathways.

Company Interview: Iberdrola



Gonzalo Sáenz de Miera

- ▼ Director of Climate Change, Chairman Area, Iberdrola
- ▼ PhD on Applied Economics by the Universidad Autónoma de Madrid and Master of International Political Economy by Warwick University (UK)
- ▼ President of the Spanish Association for Energy Economics
- ▼ Vice-President of the Spanish Green Growth Group
- ▼ Director of the Master on Energy Business by the Spanish Club of Energy, teaches economics, energy and sustainability in several universities

What is Iberdrola's position in regards of Paris' agreement?

The Paris Agreement means acknowledging the need to commit to an ambitious decarbonisation scenario that implies progress towards a highly efficient decarbonised energy model, where electricity has a leading role to play. In fact, the *IEA 450 ppm* scenario is increasingly recognised as the *BAU* scenario by most key global players.

Iberdrola is already a benchmark as regards to the contribution of the electricity subsector towards attaining a scenario that is coherent with the 2°C target, as a result of the structure of its energy mix, its investment profile and the commitments that it has already undertaken.

The process has now entered a new stage and it is essential to keep up the climate change momentum that has been achieved and to promote effective, efficient implementation of the Paris Agreement following a comprehensive list of general principles. Some of the most important are included below:

All sectors of the economy should contribute towards attaining the 2°C target.

Electrification is the way to decarbonise the energy sector, which is a key aspect in achieving the target that has been set and making the most of all the benefits that come along with enhancing air quality and reducing pollution at local level.

Carbon pricing mechanisms are the most important tool that governments have to send out a strong signal that can promote the transition towards a low-carbon economy. For this to be so, these mechanisms have to be designed according to the "polluter pays" principle and affect all sectors of the economy.

The standardisation and transparency of information should be promoted to achieve a sustained increase in the level of climate ambition and boosting collaboration between the Parties.

Climate change is a risk for the economy as a whole and for the industrial and financial sectors in particular. It is important to bear in mind the impacts derived from climate change itself and the risks associated to a late and sudden transition towards a low-carbon economy.

How is your business promoting natural capital stewardship on water, deforestation and climate risks?

Iberdrola has incorporated Sustainable Development Goals into its strategy and, in line with its activity, Iberdrola focuses its efforts on an affordable and non-contaminating energy supply (goal 7) and action for the climate (goal 13). In addition, the Group contributes directly to ensuring clean water and sanitation (goal 6), to respect for the life of land ecosystems (goal 15) and to the formation of partnerships to achieve these goals (goal 17).

Iberdrola makes every effort to use water rationally and sustainably and tackle the risks related with its scarcity. In Iberdrola the amount of water consumed continues to decrease, and is lower than all other utilities.

Iberdrola integrates climate change issues both in terms of risk and opportunity in to its business plans.

The 2016-2020 Strategic Plan anticipated a positive outcome in the COP21 (Paris Agreement), which reinforced our commitment with a sustainable model based on clean energy.

Furthermore, Iberdrola's CO₂ price scenario also considered the future prospects created by the Paris Agreement and its influence on fuel switching (natural gas vs. coal).

How will Iberdrola position itself in a world that will not exceed a temperature increase of 2°C?

Iberdrola's growth strategy has been fully consistent with an ambitious approach on climate change mitigation since it has been based on the significant development of renewable energy, primarily from wind power. As a result, in the world ranking, Iberdrola has grown from the eleventh to the third utility over the last decade and at the same time 66% of Iberdrola's capacity is emission free (and it has emissions intensity 34% lower than the average of the EU electricity sector).

In 2009, coinciding with the Copenhagen climate summit, Iberdrola set itself the target of reducing the intensity of its CO₂ emissions by 30% by the year 2020 compared to 2007, bringing them down to 210 gr/kWh. Strengthening its commitment with climate action, Iberdrola has publicly announced its goal for 2030, as the company's "contribution" to the COP in Paris: to reduce the intensity of its CO₂ emissions by 50% in 2030 compared to the levels attained in 2007, bringing it down to 150 gr/kWh, which is in line with having a carbon-neutral electricity supply by 2050.

Iberdrola actions on climate change have been recognised by the CDP, Dow Jones Sustainability Index, FTSE4GOOD, ACCO Award, Carbon Ranking Global 800, Newsweek's Green Ranking and the Rubin D'Honneur 2013 European Business Awards.

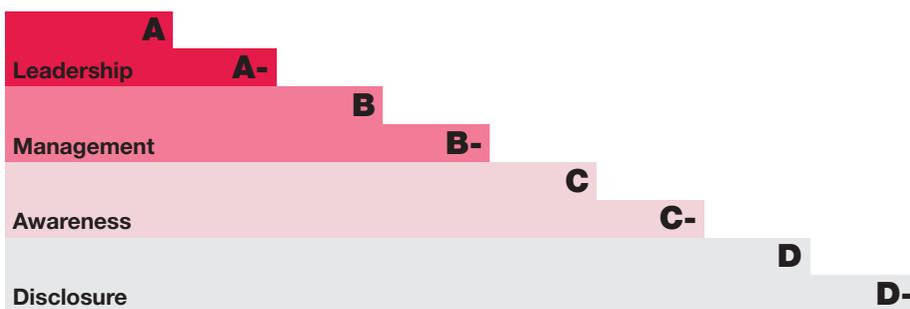


Communicating progress

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

F: Failure to provide sufficient information to CDP be evaluated for this purpose¹⁰

10. 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.

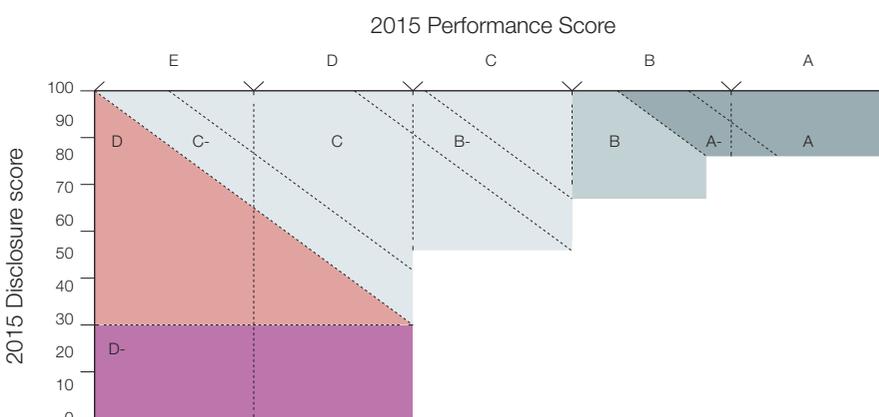
The final letter grade is awarded based on the score obtained in the highest achieved level. For example, Company XYZ achieved 88% in Disclosure level, 76% in Awareness and 65% in Management will receive a B. If a company obtains less than 40% in its highest achieved level, its letter score will have 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>

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>.



A list

In 2016 sixteen Iberian companies of the sample and three additional ones received the highest performance band listing themselves in the A List of 2016. This includes six companies from the Utilities Sector and five from the Industrial Sector.

Table 3:

Company Name	Country	GICS Sector	2016 Score
Abertis Infraestructuras	Spain	Industrials	A
ACCIONA S.A.	Spain	Utilities	A
Amadeus IT Holding	Spain	Information Technology	A
CaixaBank	Spain	Financials	A
ENAGAS	Spain	Utilities	A
FERROVIAL	Spain	Industrials	A
Gas Natural SDG SA	Spain	Utilities	A
Grupo Logista	Spain	Industrials	A
Iberdrola SA	Spain	Utilities	A
Inditex	Spain	Consumer Discretionary	A
MAPFRE	Spain	Financials	A
Obrascon Huarte Lain (OHL)	Spain	Industrials	A
R.E.E.	Spain	Utilities	A
Telefonica	Spain	Telecommunication Services	A
EDP - Energias de Portugal S.A.	Portugal	Utilities	A
Galp Energia SGPS SA	Portugal	Energy	A
Companies that are not in the sample			
Abengoa	Spain	Industrials	A
Caixa Geral de Depósitos	Portugal	Financials	A
Compañía Española de Petróleos, S.A.U. CEPSA	Spain	Energy	A

Spain

In 2016, 40 companies did not respond to the climate change reporting cycle. Most of these (**above 75%**) belong to the **Consumer Discretionary, Materials and Financials** sectors. **33** (83%) companies did not show any sign of engagement, resulting in a **no response (NR)**, whereas **7** (18%) companies **declined to participate (DP)** and provided a reason as to why they were not participating in CDP's climate change program this year.

The reasons provided by companies declining to participate are summarized in Figure 29. One company stated that they were **unable to disclose** environmental information this year **but that they want to do it in the future**.

However, another company replied that the questionnaire is **not considered relevant to their business sector**, and two more did not specify the reason for their decline. Growing relevance of non-financial information disclosure at both national and global levels entails a strong need for the corporate world to **rethink business strategies**.

Portugal

In 2016, 27 companies did not respond to the climate change reporting cycle. Most of these (**above 70%**) belong to the **Financials, Industrials, Consumer Discretionary and Materials** sectors. **22** (81%) companies did not show any sign of engagement, resulting in a **no response (NR)**, whereas **5** (19%) companies **declined to participate (DP)** and provided a reason as to why they were not participating in CDP's climate change program this year.

The reasons provided by companies declining to participate are summarized in Figure 30. On a positive note, two companies have replied that they were **unable to disclose** their environmental information this year **but that they want to do it in the future**; and one more company did not disclose since it is undergoing a **restructuring/merger process**. For these companies, we expect to receive a signal of their willingness to engage in future CDP reporting cycles.

Growing relevance of non-financial information disclosure at both national and global levels entails a strong need for the corporate world to **rethink business strategies**. Many firms still need to catch up with the hundreds of companies across all sectors that are already committing with transparent disclosure practices, improving their environmental performance and preparing to manage the risks and opportunities related to climate change. Additionally, **investors are increasingly demanding non-financial – including environmental – information** to assess their portfolios, showing preference for companies who are embedding environmental aspects into their corporate strategy.

Figure 29. Spain. Reasons for DP

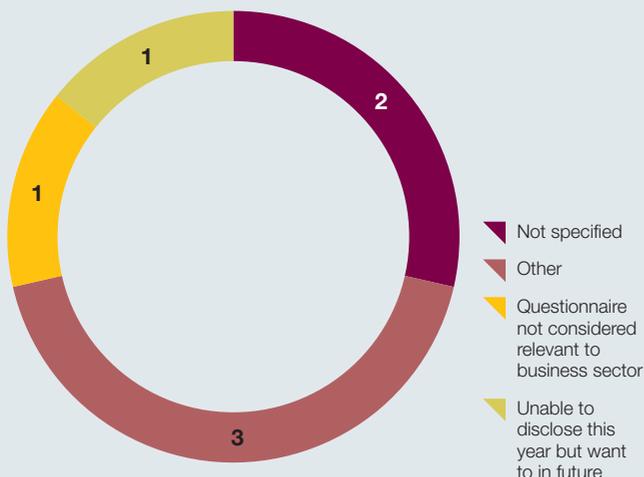
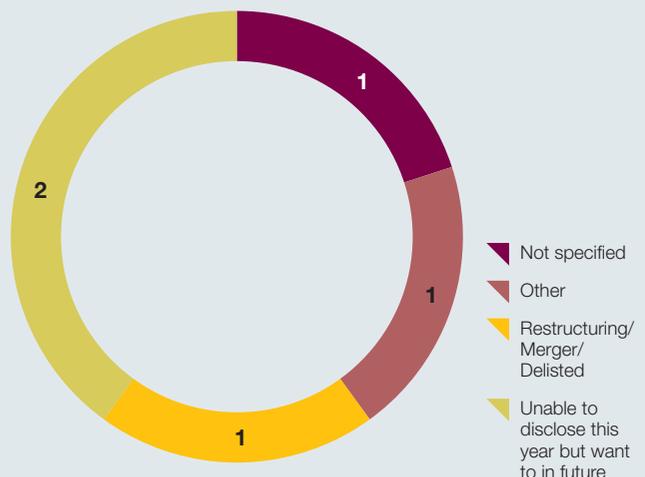


Figure 30. Portugal. Reasons for DP



Company Interview: Jerónimo Martins



Sara Miranda

Chief Communications and Corporate Responsibility Officer

From journalist to Communications and Branding Director, Sara's professional career of more than 20 years is filled with a variety of experiences and sectors. She became Jerónimo Martins' Chief Communications Officer in 2010 and soon after also assumed responsibility for the Group's Corporate Responsibility Department where she is responsible for Corporate coordination in Portugal, Poland and Colombia.

What is Jerónimo Martins' position in regards of Paris' agreement?

The Paris Agreement provided a much needed clear policy signal to businesses. Being the largest food distribution group in Portugal and Poland, and expanding fast in Colombia, the existence of a global and ambitious climate agreement is particularly important to Jerónimo Martins: it provides a regulatory framework crucial for planning investments in low carbon technologies, across geographies; and it sets the stage for a future where emissions are curbed to the levels that science tells us are needed to avoid irreversible effects, namely on agricultural and marine productivity.

Prior to the Paris Climate Conference, we joined the *We Mean Business* campaign by adopting three of its commitments: removing commodity-driven deforestation from our supply chain by 2020; disclosing climate information in our mainstream reports; and engaging responsibly in climate policy. We are pleased to see that over 400 companies from all over the world also joined these commitments.

Climate change is a cross-cutting issue that brings to the spotlight risks and opportunities to all stages of our value chain.

How is your business promoting natural capital stewardship on water, deforestation and climate risks?

Eliminating deforestation from the supply chain is central to both our biodiversity and climate strategies. We have committed to the Consumer Goods Forum's 2020 zero net deforestation target and set interim milestones, including for our Private Brand portfolio, the progressive substitution and certification of palm oil and the avoidance of deforestation risk countries for sourcing wood fibres, soy and beef.

Our energy and GHG management plan is now implemented in more than 50% of our stores and distribution centres. By reducing the energy needs for refrigeration and other equipment, and by rolling-out new technology based on natural refrigerants, we have achieved a 20% reduction in the carbon intensity of our operations (tons of GHG per revenue unit).

Working with our suppliers is fundamental to redesign the packaging of almost 200 SKUs, which translates into reducing material and energy inputs and avoiding waste. We are also extending our programme for client waste take-back and recovery, and have reduced check-out plastic bags use by more than 60%.

Understanding what is material, monitoring results and reporting progress to a wider audience of financial and non-financial stakeholders has been key in our journey from policy statements to commitments. Participating in the CDP Climate and Forests Programmes for over five years has helped us do just that.

How will Jerónimo Martins position itself in a world that will not exceed a temperature increase of 2°C?

We must now move from commitments to results, and continue to align our targets with effective climate protection. Achieving our 2020 zero deforestation goal is a challenging process, but one that we are sure will deliver additional benefits from renewed supplier engagement on product reformulation and sustainable primary production. We are also evaluating methodologies and retail sector benchmarks, in order to expand the scope and the level of ambition of our GHG reduction targets, aligning them with our responsibility as a business in a new low carbon world.



Investor perspectives



Odd Arild,
Storebrand 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.



Philippe Desfosses,
ERAFP CEO

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 of our fiduciary duty that we have undertaken



Peter Harrison,
Schroders CEO



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 the 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 3 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 footprinting 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 COP21 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.

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 amLeague 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.

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?**

- ▼ **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 knows 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.

We Mean Business: Commit to Action

Companies are taking direct and ambitious action on climate change. More than 465 companies have made commitments to climate action via the We Mean Business commitments platform “Commit to Action,” representing a **tenfold increase** in two years.

Progress in 2016 has remained strong, suggesting a positive response to the Paris Agreement and its universal commitment to a low-carbon economy.

Companies have **been adopting more aggressive targets**—around emissions reductions, renewable energy, deforestation, water, and energy **productivity**—and **improving operational or governance measures for climate risk** through use a price on carbon, more responsible policy engagement mechanisms, and

greater transparency on climate governance in mainstream reports.

Corporate action has grown across all of these issues. The strongest growth has been in companies committing to **science-based emissions reduction targets**, from 50 companies in late 2015 to nearly 190 today.

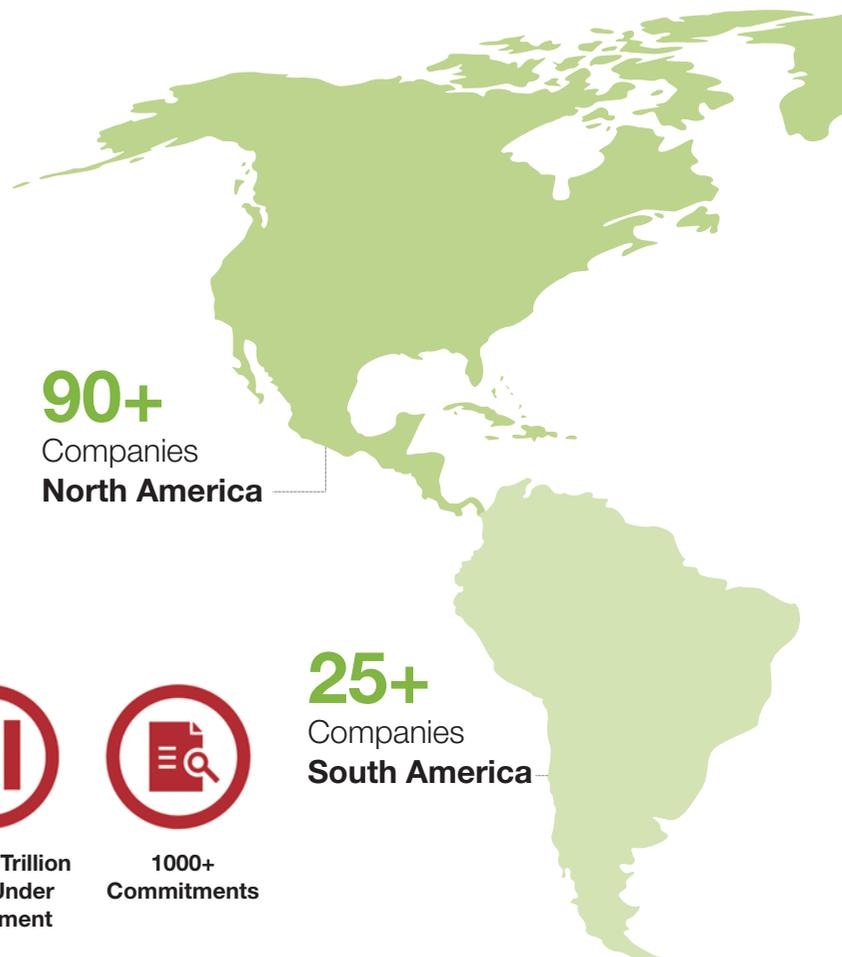
Companies in 42 countries have taken action.

At the beginning of 2015 just 3 **US companies** had made commitments via this platform. By Paris, this number had grown to more than 50 companies. The fastest growing issue with US companies has been science-based targets, with 33 companies making that commitment. Climate action remains popular with **European companies**, with 237 taking action, predominantly



Setting science based targets is the right thing to do, but also makes perfect business sense. Setting a science-based target directly answered the needs of our customers, all of whom are thinking about their own carbon footprints. It is also critical for investors who need to know that we are thinking of potential risks, in the short-, medium- and long-term.

Laurel Peacock
Senior Sustainability Manager
NRG Energy



465+
Companies



+\$10
Trillion USD



183
Investors



>US\$20.7 Trillion
Assets Under
Management



1000+
Commitments

WE MEAN BUSINESS

economic opportunity through bold climate action

Translating Paris into business strategy

in mainstream reporting on climate and science-based target setting.

Thirteen companies headquartered in **Brazil** have taken action, including materials company Braskem (price on carbon) and the consumer brand Natura (science-based targets, deforestation, policy engagement, and mainstream reporting on climate). In **India**, 17 companies, including Tata & Sons and Mahindra, have made bold commitments to renewable energy and energy productivity. Important first movers in **China**, like industrials company Broad Group, have made a range of commitments, importantly including setting science-based targets.

Sector trends show that companies in every industry are acting. Strongest growth in 2016 has

been in the **industrials sector**. Together, this sector accounts for over 20% of corporate action via the We Mean Business platform, as well as more than 100 million metric tonnes CO₂e. **Consumer discretionary and consumer staples companies** also represent 20% of committed companies, led by major brands like Walmart, The Coca-Cola Company and Honda Motor Company. **IT sector** participation has accelerated post-Paris, with companies including Apple and Facebook making 100% renewable power commitments.

By acting early and decisively, these companies are better able to manage their climate risk, gain competitive edge over their peers, and reap the reputational benefits that early leadership provides.

To find out more please visit www.cdp.net/commit.

235+
Companies
Europe

70+
Companies
Asia

10+
Companies
**Australia
New Zealand**

20+
Companies
Africa

2016 Key Trends

The statistics presented in this key trends table may differ from those in other CDP reports for two reasons: (1) the data in this table is based on all responses received by 13 September 2016; (2) it is based on binary data (e.g. Yes/No or other drop down menu selection) reported to CDP and does not incorporate any validation of the follow up information provided or reflect the scoring methodology. The latter, in particular, is likely to lead to an over-reporting of data in this key trends table.

Statistic	Hong Kong & SE Asia	Australia ASX 200	Benelux	Brazil	Canada	Central Eastern Europe	China	DACH (DE, AU, CH)	Emerging Markets
Number of companies in the sample	170	200	150	120	200	100	100	350	800
Number of companies answering CDP ¹	59	86	57	67	97	17	10	155	309
% of sample answering CDP 2016 ¹	35	43	38	56	49	17	10	45	39
% of sample market capitalization answering CDP 2016 ²	46	80	85	90	72	33	20	85	43
% of responders reporting Board or other senior management responsibility for climate change	100	100	96	85	91	50	100	93	97
% of responders with incentives for the management of climate change issues	75	70	86	67	73	37	80	70	80
% of responders reporting climate change as being integrated into their business strategy	96	89	88	78	88	87	100	84	96
% of responders reporting engagement with policymakers on climate issues to encourage mitigation or adaptation	90	79	90	82	90	75	90	80	90
% of responders with emissions reduction targets ³	77	60	81	60	64	37	50	68	80
% of responders reporting absolute emission reduction targets ³	50	36	58	40	37	25	40	41	49
% of responders reporting intensity emission reduction targets ³	56	37	48	38	38	25	30	51	52
% of responders reporting active emissions reduction initiatives in the reporting year	94	85	96	72	88	87	90	90	91
% of responders indicating that their products and services directly enable third parties to avoid GHG emissions	73	60	65	60	57	50	90	64	65
% of responders whose absolute emissions (Scope 1 and 2) have decreased compared to last year due to emission reduction activities	56	67	73	57	68	75	20	69	65
% of responders seeing regulatory risks	85	84	87	78	88	75	90	71	89
% of responders seeing regulatory opportunities	83	78	77	75	79	50	100	80	86
% of responders seeing physical risks	90	80	83	78	82	50	70	65	88
% of responders seeing physical opportunities	69	66	56	65	64	75	50	59	74
% of responders independently verifying any portion of Scope 1 emissions data ⁴	50	52	58	50	41	37	20	52	62
% of responders independently verifying any portion of Scope 2 emissions data ⁴	52	49	52	52	33	25	20	47	60
% of responders independently verifying least 70% of Scope 1 emissions data ⁴	42	47	54	48	30	37	20	48	56
% of responders independently verifying least 70% of Scope 2 emissions data ⁴	42	42	52	48	28	25	20	41	52
% of responders reporting Scope 2 location-based emissions data	90	93	86	78	94	87	50	79	89
% of responders reporting Scope 2 market-based emissions data	21	28	61	30	30	0	10	54	31
% of responders reporting emissions data for 2 or more named Scope 3 categories ⁵	38	59	69	75	50	25	30	65	65
% of responders using CDSB framework to report climate change data in mainstream financial report	8	13	25	10	7	12	20	13	18

1 This statistic includes those companies that respond by referencing a parent or holding company's response. However the remaining statistics presented do not include these responses.

2 This refers to the total market capitalization of that sample group of companies. Market cap data sourced from Bloomberg.

3 Companies may report multiple targets. However, in these statistics a company will only be counted once.

4 This takes into account companies reporting that verification is complete or underway, but does not include any evaluation of the verification statement provided.

5 Only companies reporting Scope 3 emissions using the Greenhouse Gas Protocol Scope 3 Standard named categories have been included below. Whilst in some cases "Other upstream" or "Other downstream" are legitimate selections, in most circumstances the data contained in these categories should be allocated to one of the named categories. In addition, only those categories for which emissions figures have been provided have been included.

6 Includes responses across all samples as well as responses submitted by companies not included in specific geographic or industry samples in 2016.

Euro 300	France	UK FTSE 350	Iberia (ES, PT)	India	Ireland	Italy	Japan	Korea	Latin America	New Zealand NZX 50	Nordic	Portugal	Russia	US S&P 500	South Africa	Spain	Turkey	Overall Figure ⁶
300	250	350	125	200	30	100	500	200	80	50	260	40	30	500	100	85	100	N/A
262	97	224	53	48	9	45	261	77	41	15	143	10	7	332	77	43	38	2268
88	40	64	42	24	30	45	52	38	51	30	55	25	23	67	78	50	38	N/A
92	83	92	89	46	65	69	72	67	61	79	79	76	39	78	85	91	50	68
99	96	99	98	96	100	93	98	100	97	93	97	100	71	94	100	98	94	95
90	83	80	90	79	89	83	89	88	59	60	73	78	57	82	81	93	82	78
96	93	91	94	96	100	90	96	97	85	93	93	89	100	92	96	95	91	91
94	91	84	96	85	100	88	94	87	79	80	84	89	86	86	92	98	82	86
92	78	80	94	81	78	83	95	90	50	73	80	89	71	80	79	95	76	77
60	40	40	77	23	44	71	68	65	26	33	43	56	43	49	41	81	41	47
69	67	57	65	70	33	52	68	42	35	47	61	67	71	46	51	65	56	52
98	95	93	100	96	89	98	97	90	82	93	89	100	100	97	93	100	85	92
77	73	56	81	57	56	76	81	65	44	47	73	78	57	61	52	81	50	64
87	72	83	92	60	100	76	84	71	44	60	80	89	43	79	74	93	62	86
90	87	95	98	94	89	90	95	99	74	73	89	100	86	81	95	98	85	86
94	91	92	94	89	100	83	93	90	71	73	87	89	71	80	93	95	82	85
89	83	87	89	87	100	81	88	86	88	80	84	89	71	79	96	88	85	82
79	71	75	81	77	89	69	82	78	47	73	82	67	43	65	89	84	71	70
85	80	64	79	53	89	69	37	77	41	47	58	78	0	55	73	79	38	55
83	82	61	71	51	89	62	37	74	41	40	54	78	0	52	70	70	38	52
81	71	59	75	51	89	69	31	67	41	13	56	78	0	51	64	74	35	49
78	71	54	67	45	89	62	29	57	38	20	51	78	0	51	63	65	35	46
92	93	97	79	96	89	88	76	88	85	80	88	56	43	94	97	84	85	88
63	33	47	54	28	56	45	50	30	18	27	58	78	14	48	48	49	23	42
87	70	69	81	68	78	55	82	58	62	73	68	89	0	65	85	79	65	65
23	21	26	23	19	0	7	9	29	6	7	16	22	0	7	33	23	3	14

Appendix I

Non-responding companies to the CDP climate change questionnaire 2016

Name	GICS Sector (Company)	Response Status	Country
Adveo	Industrials	No Response (F)	Spain
AENA SA	Industrials	Declined to Participate (F)	Spain
Altri SGPS SA	Materials	No Response (F)	Portugal
Amper	Information Technology	No Response (F)	Spain
APPLUS Services	Industrials	No Response (F)	Spain
Axiare Patrimonio SOCIMI SA	Financials	No Response (F)	Portugal
Banco BPI SA	Financials	No Response (F)	Portugal
BANIF SA	Financials	Declined to Participate (F)	Portugal
Baron de Ley	Consumer Staples	No Response (F)	Spain
Bolsas y Mercados Espanoles	Financials	Declined to Participate (F)	Spain
Caixa Economica Montepio Geral	Financials	No Response (F)	Portugal
Cementos Portland Valderrivas	Materials	No Response (F)	Spain
CIMPOR - Cimentos de Portugal SGPS SA	Materials	Declined to Participate (F)	Portugal
Cofina SGPS SA	Consumer Discretionary	No Response (F)	Portugal
Construções & Auxiliar de Ferrocarriles	Industrials	No Response (F)	Spain
Corporacion Financiera Alba	Financials	Declined to Participate (F)	Spain
Corticeira Amorim SGPS SA	Materials	No Response (F)	Portugal
Deoleo SA	Consumer Staples	No Response (F)	Spain
Duro Felguera	Industrials	Declined to Participate (F)	Spain
eDreams ODIGEO SA	Consumer Discretionary	No Response (F)	Spain
Ence Energia y Celulosa SA	Materials	No Response (F)	Spain
EUROPAC Papeles y Cartones de Europa SA	Materials	No Response (F)	Spain
F. RAMADA INVESTIMENTOS SGPS	Materials	No Response (F)	Portugal
Faes Farma	Health Care	No Response (F)	Spain
Fluidra	Industrials	No Response (F)	Spain
GLINTT - Global Intelligent Technologies SGPS SA	Information Technology	No Response (F)	Portugal
Grupo Catalana Occidente	Financials	No Response (F)	Spain
Grupo Ezentis	Information Technology		Spain
Hispania Activos Inmobiliarios SAU	Financials	Questionnaire Forthcoming	Spain
Ibersol SGPS SA	Consumer Discretionary	No Response (F)	Portugal
Impresa SGPS SA	Consumer Discretionary	No Response (F)	Portugal
Inmobiliaria Colonial SA	Financials	No Response (F)	Spain
Laboratorios Farmaceuticos Rovi	Health Care	No Response (F)	Spain
Lar España Real Estate SOCIMI, S.A.	Financials	No Response (F)	Spain

Name	GICS Sector (Company)	Response Status	Country
Liberbank SA	Financials	Declined to Participate (F)	Spain
Lingotes Especiales SA	Consumer Discretionary	No Response (F)	Spain
Luz Saúde S.A.	Health Care	No Response (F)	Portugal
MARTIFER SGPS SA	Industrials	No Response (F)	Portugal
MEDIA CAPITAL	Consumer Discretionary	No Response (F)	Portugal
Merlin Properties Socimi SA	Financials	No Response (F)	Spain
Mota-Engil	Industrials	No Response (F)	Portugal
Naturhouse Health SA	Consumer Discretionary	No Response (F)	Spain
Nmas1 Dinamia SA	Financials	No Response (F)	Spain
Nos SGPS	Consumer Discretionary	Declined to Participate (F)	Portugal
NOVABASE, SGPS	Information Technology	No Response (F)	Portugal
Pharma Mar SA	Health Care	No Response (F)	Spain
Portucel Empresa Produtora	Materials	No Response (F)	Portugal
Prim	Health Care	No Response (F)	Spain
Prisa	Consumer Discretionary	No Response (F)	Spain
Prosegur	Industrials	No Response (F)	Spain
PT Portugal SGPS S.A.	Telecommunication Services	Declined to Participate (F)	Portugal
Quabit Inmobiliaria SA	Financials	No Response (F)	Spain
Realia Business	Financials	No Response (F)	Spain
SACYR VALLE.	Industrials	No Response (F)	Spain
Saeta Yield SA	Utilities	Declined to Participate (F)	Spain
SAG GEST	Consumer Discretionary	No Response (F)	Portugal
Semapa - Sociedade de Investimento e Gestao SGPS SA	Materials	No Response (F)	Portugal
Sociedade Comercial Orey Antunes SA	Financials	No Response (F)	Portugal
Sonae Capital SGPS SA	Industrials	No Response (F)	Portugal
Sonae Indústria SGPS SA	Materials	No Response (F)	Portugal
Sonaecom SGPS SA	Telecommunication Services	No Response (F)	Portugal
Sporting Clube De Portugal - Futebol SAD	Consumer Discretionary	No Response (F)	Portugal
SUMOL COMPAL	Consumer Staples	No Response (F)	Portugal
Talgo SA	Industrials	No Response (F)	Spain
Teixeira Duarte SpA	Industrials	No Response (F)	Portugal
Tubacex	Materials	No Response (F)	Spain
Tubos Reunidos	Materials	No Response (F)	Spain
Viscofan	Consumer Staples	No Response (F)	Spain
Vista Alegre Atlantis	Consumer Discretionary	No Response (F)	Portugal
Vocento	Consumer Discretionary	No Response (F)	Spain
Zardoya Otis	Industrials	No Response (F)	Spain

F = Failure to provide sufficient information to CDP to be evaluated for Climate Change.
Explained in <https://www.cdp.net/Documents/Guidance/2016/Scoring-Introduction-2016.pdf>

Appendix II

Emissions scores and data from the responding companies

Company Name	Country	2016 Score	Scope 1	Scope 2	Scope 3
Consumer Discretionary					
Inditex	Spain	A	22.996	622.879	1.194.827
Mediaset Espana Comunicacion SA	Spain	A-		Not public	
Melia Hotels International SA	Spain	A-	47.945	163.905	51.741
TOYOTA CAETANO	Portugal	A-	980	870	23.230
Dia	Spain	A-	648.656	200.337	259.871
Jerónimo Martins SGPS SA	Portugal	A-	237.941	862.965	173.371
Sonae	Portugal	A-	45.422	222.762	707.999
NH Hotel Group	Spain	B	75.574	27.189	14.830
ATRESMEDIA CORPORACION	Spain	C		Not public	
CIE Automotive	Spain	C	74.275	352.479	2.309
Ebro Foods SA	Spain	D	139.450	102.216	20.580
Energy					
Galp Energia SGPS SA	Portugal	A	3.758.365	273.458	36.201.444
Tecnicas Reunidas	Spain	A-	22.614	3.960	1.698.231
Repsol	Spain	A-	21.068.516	578.368	121.264.411
Financials					
CaixaBank	Spain	A	19.117	2.245	20.112
MAPFRE	Spain	A	14.043	26.903	28.045
Banco Comercial Português SA	Portugal	A-	18.115	46.448	1.020
Banco Santander	Spain	A-	29.078	256.372	162.339
Bankia	Spain	A-	3.632	39.018	5.005
Banco Popular Espanol S.A.	Spain	B	812	933	13.523
Bankinter	Spain	B	398	8.911	4.254
BBVA	Spain	B	18.083	351.692	46.131
Banco Sabadell	Spain	D	600	3.321	0
Healthcare					
GRIFOLS	Spain	B	85.531	113.055	131.275
Almirall Sa	Spain	C	5.845	2.046	11.047

Company Name	Country	2016 Score	Scope 1	Scope 2	Scope 3
Industrials					
Abertis Infraestructuras	Spain	A	65.157	49.575	10.967.663
FERROVIAL	Spain	A	515.133	82.818	3.643.723
Grupo Logista	Spain	A	35.065	4.378	199.953
Obrascon Huarte Lain (OHL)	Spain	A	197.757	71.768	6.528.398
CTT - Correios de Portugal SA	Portugal	A-	15.724	393	56.757
Fomento de Construcciones y Contratas	Spain	C	9.711.807	681.449	1.640.335
Gamesa Corporación Tecnológica, S.A.	Spain	C	12.079	24.777	245.727
International Consolidated Airlines Group, S.A.	Spain	C	26.404.149	122.469	7.424.626
ACS Actividades de Construccion y Servicios	Spain	D		Not public	
Inapa - Investimentos, Participações e Gestão, SA	Portugal	D	6.829	1.342	0
Information Technology					
Amadeus IT Holding	Spain	A	983	33.188	11.732
INDRA A	Spain	C	6.115	23.587	13.713
Materials					
ACERINOX	Spain	B	233.376	253.567	95.477
Arcelor Mittal	Spain	B	175.834.335	16.100.997	27.628.952
Miquel Y Costas	Spain	B		Not public	
Ercros	Spain	C	280.840	384.525	0
Telecommunications Services					
Telefonica	Spain	A	95.677	1.609.677	2.853.354
Cellnex Telecom SA	Spain	B	2.576	51.458	23.962
Euskaltel SA	Spain	C	206	6.851	949
Utilities					
ACCIONA S.A.	Spain	A	427.292	178.343	2.249.780
ENAGAS	Spain	A	272.728	32.444	21.347
Gas Natural SDG SA	Spain	A	22.779.327	1.330.308	134.927.100
R.E.E.	Spain	A	33.662	808.347	241.258
Iberdrola SA	Spain	A	31.741.261	970.944	27.884.894
EDP - Energias de Portugal S.A.	Portugal	A	21.550.378	2.634.843	20.364.717
Endesa	Spain	B	33.921.520	834.130	20.519.612
REN - Redes Energéticas Nacionais	Portugal	B	20.357	132.256	747

Appendix Key:

Not public: the company responded privately

Bold: companies that have achieved the Leadership band A

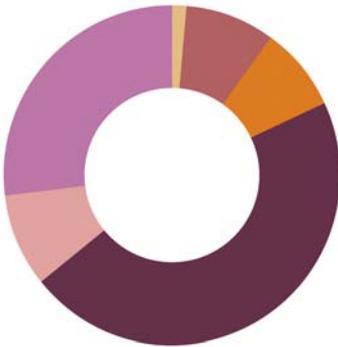


To read 2016 company responses in full please go to www.cdp.net

Appendix III

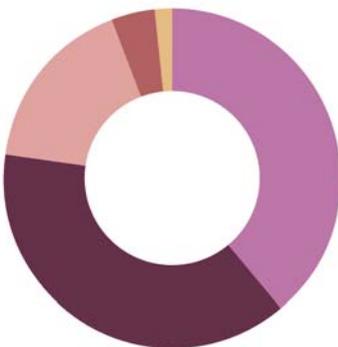
Investor signatories and members

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%

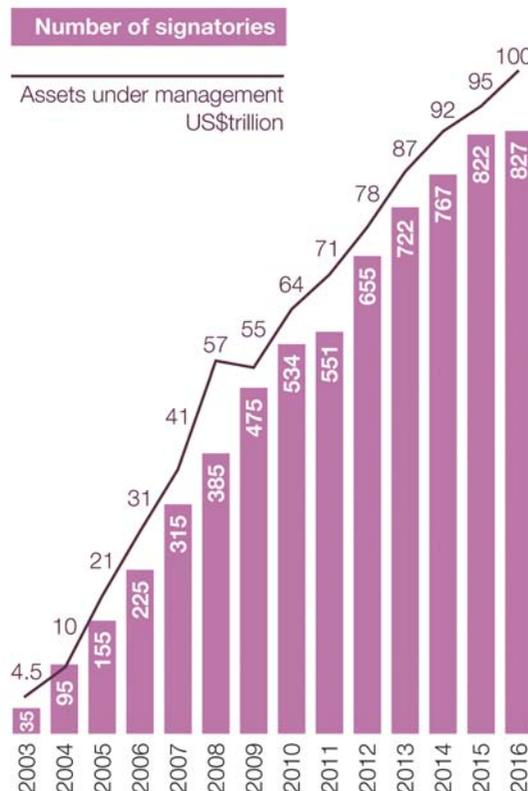
CDP’s investor program – backed in 2016 by 827 institutional investor signatories representing in excess of US\$100 trillion in assets – works with investors to understand their data and analysis requirements and offers tools and solutions to help them.

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>

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 IV

Investor signatories 2016

3Sisters Sustainable Management LLC	Banco Popular Español S.A.	Capital Innovations, LLC
AB	Banco Sabadell, S.A.	Capricorn Investment Group, LLC
Aberdeen Asset Managers	Banco Santander	CareSuper
Aberdeen Immobilien KAG mbH	Banesprev – Fundo Banespa de Seguridade Social	Carmignac Gestion
ABRAPP - Associação Brasileira das Entidades Fechadas de Previdência Complementar	bankmecu	CASER PENSIONES
Achmea NV	Bank Handlowy w Warszawie S.A.	Cathay Financial Holding Co. Ltd
ACTIAM	Bank J. Safra Sarasin Ltd	Catherine Donnelly Foundation
Active Earth Investment Management	Bank Leumi Le Israel	Catholic Super
Acuity Investment Management	Bank of America Merrill Lynch	CBF Church of England Funds
Addenda Capital Inc.	Bank of Montreal	CBRE
AEGON N.V.	Scotiabank	Cbus
AEGON-INDUSTRIAL Fund Management Co., Ltd	Bankhaus Schelhammer & Schattera Kapitalanlagegesellschaft m.b.H.	CCLA Investment Management Ltd
AGF Investment Inc.	Bankinter	Cedrus Asset Management
AIG Asset Management	Banque Libano-Française	Celeste Funds Management Limited
AK Asset Management Inc.	Barclays	Central Finance Board of the Methodist Church
Akbank T.A.Ş.	Basellandschaftliche Kantonalbank	CERES-Fundação de Seguridade Social
Alberta Investment Management Corporation (AIMCo)	BASF Sociedade de Previdência Complementar	Challenger
Alberta Teachers Retirement Fund Board	Basler Kantonalbank	Change Investment Management
Alecta	Baumann and Partners S.A.	China Development Financial Holdings
Align Impact, LLC	Bayern LB	Christian Brothers Investment Services
Alliance Trust PLC	BayernInvest Kapitalanlagegesellschaft mbH	Christian Super
Allianz Global Investors	BBC Pension Trust Ltd.	Christopher Reynolds Foundation
Allianz SE	BBVA	Church Commissioners for England
Alquity Investment Management	Bedfordshire Pension Fund	Church of England Pensions Board
Altira Group	Beetle Capital	CI Mutual Funds' Signature Global Advisors
Amalgamated Bank	Bendigo & Adelaide Bank Limited	Mountain Cleantech AG
AMF Pension	Bentall Kennedy	ClearBridge Investments
Amlin plc	Berenberg Bank	CM-CIC Asset Management
AMP Capital Investors	Berti Investments	CNP Assurances
AmpegaGerling Investment GmbH	BlackRock	The Colorado College
Amundi AM	Blom Bank SAL	Columbia Threadneedle Investments
ANBIMA – Associação Brasileira das Entidades dos Mercados Financeiro e de Capitais	Blumenthal Foundation	Comerica Incorporated
Antera Gestão de Recursos S.A.	BM&FBOVESPA	COMGEST
APG	BMO Global Asset Management EMEA	Bâtirente
Appleseed Fund	BNP Paribas Investment Partners	Commerzbank AG
Aquila Capital	BNY Mellon	CommInsure
Arabesque Asset Management	BNY Mellon Service Kapitalanlage Gesellschaft	Commonwealth Bank of Australia
Arisaig Partners Asia Pte Ltd	Boardwalk Capital Management	Commonwealth Superannuation Corporation
Arjuna Capital	Boston Common Asset Management, LLC	Compton Foundation
Arma Portföy Yönetimi A.Ş.	BP Investment Management Limited	Confluence Capital Management LLC
Armstrong Asset Management	Brasilprev Seguros e Previdência S/A.	Connecticut Retirement Plans and Trust Funds
ASM Administradora de Recursos S.A.	Breckenridge Capital Advisors	Conser Invest
ASN Bank	British Airways Pension Investment Management Limited	CPR AM
Assicurazioni Generali S.p.A	British Columbia Investment Management Corporation	Crayna Capital, LLC.
ATI Asset Management	Brown Advisory	Credit Agricole
Atlantic Asset Management Pty Ltd	BSW Wealth Partners	Credit Suisse
ATP Group	BT Financial Group	Gruppo Bancario Credito Valtellinese
Auriel Capital	BT Investment Management	CTBC Financial Holding Co., Ltd.
Australia and New Zealand Banking Group	Busan Bank	Cultura Bank
Australian Ethical Investment	CAAT Pension Plan	DGB Financial Group
AustralianSuper	Cadiz Holdings Limited	Daesung Capital Management
Avaron Asset Management	CAI Corporate Assets International AG	Daiwa Securities Group Inc.
Aviva Investors	Caisse de dépôt et placement du Québec	Dalton Nicol Reid
Aviva plc	Caisse des Dépôts	Dana Investment Advisors
AXA Group	Caixa de Previdência dos Funcionários do Banco do Nordeste do Brasil (CAPEF)	Danske Bank Group
AXA Investment Managers	Caixa Econômica Federal	de Pury Pictet Turrettini & Cie S.A.
BAE Systems Pension Funds Investment Management Ltd	Caixa Geral de Depósitos	Degroof Petercam
Baillie Gifford & Co.	CaixaBank, S.A	DekaBank Deutsche Girozentrale
BaltCap	Caja Ingenieros Gestión	Delta Lloyd Asset Management
BPER Banca	California Public Employees' Retirement System	Demeter Partners
Banco Bradesco S/A	California State Teachers' Retirement System	Desjardins Group
Banco BTG Pactual SA	California State Treasurer	Deutsche Asset Management Investmentgesellschaft mbH
Banco Comercial Português S.A.	California State University, Northridge Foundation	Deutsche Bank AG
Banco da Amazônia S.A.	Calvert Investment Management, Inc.	Deutsche Postbank AG
Banco de Credito del Peru BCP	Canada Pension Plan Investment Board	Development Bank of Japan Inc.
Banco de credito social cooperativo	Canadian Imperial Bank of Commerce (CIBC)	Development Bank of the Philippines (DBP)
Banco de Galicia y Buenos Aires S.A.	Canadian Labour Congress Staff Pension Fund	DEXUS Property Group
Banco do Brasil Previdência	Dexia Asset Management	DIP
Banco do Brasil S/A	CAPESESP	DLM INVISTA ASSET MANAGEMENT S/A
		DNB ASA

Domini Social Investments LLC	Fondo Pensione Gruppo Intesa Sanpaolo - FAPA	Hauck & Aufhäuser Asset Management GmbH
Dongbu Insurance	Fonds de Réserve pour les Retraites – FRR	Hazel Capital LLP
DoubleDividend	Foundation North	HDFC Bank Ltd.
Doughty Hanson & Co.	Fourth Swedish National Pension Fund, (AP4)	Healthcare of Ontario Pension Plan (HOOPP)
DWS Investment GmbH	FRANKFURT-TRUST Investment-Gesellschaft mbH	Heart of England Baptist Association
DZ Bank	Friends Fiduciary Corporation	Helaba Invest Kapitalanlagegesellschaft mbH
E.Sun Financial Holding Co	Friends Life	Henderson Global Investors
Earth Capital Partners LLP	Fubon Financial Holdings	Hermes Investment Management
East Capital AB	Fukoku Capital Management Inc	HESTA Super
East Sussex Pension Fund	FUNCEF - Fundação dos Economistas Federais	HIP Investor
Ecofi Investissements - Groupe Credit Cooperatif	Fundação AMPLA de Seguridade Social - Brasileiros	Holden & Partners
EdenTree Investment Management	Fundação Atlântico de Seguridade Social	HSBC Fundo de Pensão
Edward W. Hazen Foundation	Fundação Attilio Francisco Xavier Fontana	HSBC Global Asset Management (Deutschland) GmbH
EEA Group Ltd	Fundação Banrisul de Seguridade Social	HSBC Holdings plc
EGAMO	Calouste Gulbenkian Foundation	HSBC INKA Internationale Kapitalanlagegesellschaft mbH
Eika Kapitalforvaltning AS	Fundação Chef de Assistência e Seguridade Social – Fachesf	HUMANIS
Ekobanken medlemsbank	Fundação Corsan - dos Funcionários da Companhia Riograndense de Saneamento	Hyundai Marine & Fire Insurance Co., Ltd
Elan Capital Partners	Fundação de Assistência e Previdência Social do BNDES - FAPES	Hyundai Securities Co., Ltd.
Element Investment Managers	FUNDAÇÃO ELETROBRÁS DE SEGURIDADE SOCIAL - ELETROS	IBK Securities
ELETRA - Fundação Celg de Seguros e Previdência	Fundação Itaipu BR - de Previdência e Assistência Social	IDBI Bank Ltd.
Elo Mutual Pension Insurance Company	FUNDAÇÃO ITAUBANCO	Infrastructure Development Finance Company
Environment Agency Pension fund	Fundação Itaúsa Industrial	Industry Funds Management
Environmental Investment Services Asia Limited	Fundação Rede Ferroviária de Seguridade Social – Refer	Iguana Investimentos
Trustees of Donations to the Protestant Episcopal Church	FUNDAÇÃO SANEPAR DE PREVIDÊNCIA E ASSISTÊNCIA SOCIAL - FUSAN	Illinois State Board of Investment
Epworth Investment Management	Fundação Sistel de Seguridade Social (Sistel)	Ilmarinen Mutual Pension Insurance Company
eQ Asset Management Ltd	Fundação Vale do Rio Doce de Seguridade Social - VALIA	Imofundos, S.A
Equilibrium Capital Group	FUNDIÁGUA - FUNDAÇÃO DE PREVIDENCIA COMPLEMENTAR DA CAESB	Impax Asset Management
equinet Bank AG	Futuregrowth Asset Management	Making Dreams a Reality Financial Planning
ERAFP	GameChange Capital LLC	IndusInd Bank Ltd.
Erik Penser Fondkommission	Greentech Capital Advisors, LLC	Industrial Alliance, Insurance and Financial Services Inc.
Erste Asset Management	GEAP Fundação de Seguridade Social	Industrial Bank of Korea
Erste Group Bank	Genway Assets	Industrial Development Corporation
Essex Investment Management Company, LLC	General Equity Group AG	Inflection Point Capital Management
ESSSuper	Generation Investment Management	ING Group N.V.
Ethos Foundation	Genus Capital Management	Insight Investment
Etica Sgr	German Equity Trust AG	Instituto Infraero de Seguridade Social - INFRAPREV
Eureka Funds Management	Gjensidige Forsikring ASA	Instituto Sebrae De Seguridade Social - SEBRAEPREV
Eurizon Capital SGR	Global Forestry Capital SARL	Insurance Australia Group
Evangelical Lutheran Church in Canada Pension Plan for Clergy and Lay Workers	Globalance Bank Ltd	Integre Wealth Management of Raymond James
Evangelical Lutheran Foundation of Eastern Canada	GLS Gemeinschaftsbank eG	IntReal KAG
Evangelisch-Luth. Kirche in Bayern	Goldman Sachs Asset Management	Investec Asset Management
Evli Bank Plc	Goldman Sachs Group Inc.	Investing for Good CIC Ltd
FACEB – FUNDAÇÃO DE PREVIDÊNCIA DOS EMPREGADOS DA CEB	GOOD GROWTH INSTITUT für globale Vermögensentwicklung mbH	Irish Life Investment Managers
FAELCE – Fundacao Coelce de Seguridade Social	Good Super	Itau Asset Management
FAPERS- Fundação Assistencial e Previdenciária da Extensão Rural do Rio Grande do Sul	Government Employees Pension Fund (“GEPF”), Republic of South Africa	Itaú Unibanco Holding S A
Federal Finance	GPT Group	Jantz Management LLC
Fédérés Gestion d’Actifs	Greater Manchester Pension Fund	Janus Capital Group Inc.
FIDURA Capital Consult GmbH	Green Alpha Advisors	Jarislowsky Fraser Limited
FIM Asset Management Ltd	Green Cay Asset Management	Jessie Smith Noyes Foundation
FIM Services	Green Century Capital Management	Jesuits in Britain
Finance S.A.	Green Science Partners	JMEPS Trustees Limited
Financiere de l’Echiquier	GROUPAMA EMEKİLİK A.Ş.	JOHNSON & JOHNSON SOCIEDADE PREVIDENCIARIA
PIPECq - Fundação de Previdência Complementar dos Empregados e Servidores da FINEP, do IPEA, do CNPq	GROUPAMA SIGORTA A.Ş.	Johnson Private Wealth Management, LLC
FIRA. - Banco de Mexico	Groupe Crédit Coopératif	Joule Assets Inc.
First Affirmative Financial Network	GROUPE OFI AM	JPMorgan Chase & Co.
First Bank	Grupo Financiero Banorte SAB de CV	Jubitz Family Foundation
First State Super	Grupo Santander Brasil	Jupiter Asset Management
First Swedish National Pension Fund (AP1)	Banca Monte dei Paschi di Siena Group	Kagiso Asset Management
FirstRand Ltd	Guardians of New Zealand Superannuation	Kaiser Ritter Partner Privatbank AG
Florida State Board of Administration (SBA)	Hall Capital Partners LLC	KB Kookmin Bank
Folketrygdfondet	Hang Seng Bank	KBC Asset Management
Folksam	Hannon Armstrong Sustainable Infrastructure Capital, Inc	KBC Group
Fondaction CSN	Hanwha Asset Management Company	KCPS Private Wealth Management
Fondation de Luxembourg	Harbour Asset Management	KDB Asset Management Co. Ltd
Fondazione Cariplo	Harrington Investments, Inc	Kendall Sustainable Infrastructure, LLC
Fondo Pegaso	Harvard Management Company, Inc.	Kepler Cheuvreux
Fondo Pensione Cometa		KEPLER-FONDS KAG
		Keva
		KeyCorp
		KfW Bankengruppe

Killik & Co LLP	KDB Daewoo Securities	Oddo & Cie
Kiwi Income Property Trust	Mirae Asset Global Investments	Office of the Vermont State Treasurer
Kleinwort Benson Investors	Mirae Asset Securities Co., Ltd.	Öhman
KLP	Mirova	ÖKOWORLD
Korea Investment Management Co., Ltd.	Mirvac Group Ltd	Old Mutual plc
Korea Technology Finance Corporation (KOTEC)	Missionary Oblates of Mary Immaculate	Oliver Rothschild Corporate Advisors
KPA Pension	Mistra, The Swedish Foundation for Strategic Environmental Research	OMERS Administration Corporation
La Banque Postale Asset Management	Mitsubishi UFJ Financial Group	Ontario Pension Board
La Financière Responsable	Mitsui Sumitomo Insurance Co.,Ltd	Ontario Teachers' Pension Plan
La Française	Mizuho Financial Group, Inc.	OP Wealth Management
Laird Norton Family Foundation	MN	Oppenheim & Co. Limited
Lampe Asset Management GmbH	Mobimo Holding AG	Oppenheim Fonds Trust GmbH
Landsorganisationen i Sverige	Momentum Outcome-based Solutions	OppenheimerFunds
Länsförsäkringar	Monega Kapitalanlagegesellschaft mbH	Opplysningsvesenets fond (The Norwegian Church Endowment)
LaSalle Investment Management	Mongeral Aegon Seguros e Previdência S/A	OPTrust
LBBW - Landesbank Baden-Württemberg	Montanaro Asset Management Limited	Oregon State Treasurer
LBBW Asset Management Investmentgesellschaft mbH	Morgan Stanley	Osmosis Investment Management
LD Lønmodtagernes Dyrtdisfond	MTAA Superannuation Fund	Overlook Investments Limited
Legal and General Investment Management	Nanuk Asset Management	PAI Partners
Legg Mason Global Asset Management	The Nathan Cummings Foundation	Park Foundation
LGT Group	National Australia Bank Limited	Parnassus Investments
LGT Group Foundation	National Bank of Canada	Paul Hamlyn Foundation
LIG Insurance	NATIONAL BANK OF GREECE S.A.	Pax World Funds
Light Green Advisors, LLC	National Grid Electricity Group of the Electricity Supply Pension Scheme	PCJ Investment Counsel Ltd.
NORTHERN STAR GROUP	National Grid UK Pension Scheme	Pensioenfonds Vervoer
Living Planet Fund Management Company S.A.	National Pensions Reserve Fund of Ireland	Pension Fund for Danish Lawyers and Economists
Lloyds Banking Group	National Union of Public and General Employees (NUPGE)	Pension Protection Fund
Local Authority Pension Fund Forum	NATIXIS	Pension Denmark
Local Government Super	Natural Investments LLC	Swedish Pensions Agency
LocalTapiola Asset Management Ltd	Nedbank Limited	People's Choice Credit Union
Logos portföy Yönetimi A.Ş.	Needmor Fund	Perpetual
Lombard Odier Asset Management	NEI Investments	PETROS - The Fundação Petrobras de Seguridade Social
London Pensions Fund Authority	Nelson Capital Management, LLC	PFA Pension
Lothian Pension Fund	NEST - National Employment Savings Trust	PGGM Vermogensbeheer
LUCRF Super	Nest Sammelstiftung	Phillips, Hager & North Investment Management
Ludgate Investments Limited	Neuberger Berman	PhiTrust Active Investors
Lutheran Council of Great Britain	New Alternatives Fund Inc.	Pictet Asset Management SA
Macquarie Group Limited	New Amsterdam Partners LLC	Pioneer Investments
Magellan Financial Group	New Forests	Piraeus Bank S.A.
MagNet Magyar Közösségi Bank Zrt.	New Mexico State Treasurer	PKA
Maine Public Employees Retirement System	New Resource Bank	Plato Investment Management
MainFirst Bank AG	New York City Employees Retirement System	Pluris Sustainable Investments SA
Malakoff Médéric	New York City Comptroller	PNC Financial Services Group, Inc.
MAMA Sustainable Incubation AG	New York City Teachers Retirement System	Polden-Puckham Charitable Foundation
Man	New York State Common Retirement Fund	Porto Seguro S.A.
Mandarine Gestion	Newground Social Investment	POSTALIS - Instituto de Seguridade Social dos Correios e Telégrafos
MAPFRE	Newton	Power Finance Corporation Limited
Maple-Brown Abbott	NGS Super	PREVHAB PREVIDÊNCIA COMPLEMENTAR
Marc J. Lane Investment Management, Inc.	Woori Investment & Securities Co., Ltd.	PREVI Caixa de Previdência dos Funcionários do Banco do Brasil
Martin Currie Investment Management	NH-CA Asset Management Company	PREVIG Sociedade de Previdência Complementar
Maryknoll Sisters	Nikko Asset Management Co., Ltd.	Previnorte - Fundação de Previdência Complementar
Maryland State Treasurer	Nissay Asset Management Corporation	Progressive Asset Management, Inc.
Matrix Asset Management	NN Group NV	Prologis
Mediobanca	Nomura Holdings, Inc.	Provinzial Rheinland Holding
Meeschaert Gestion Privée	NORD/LB Kapitalanlagegesellschaft AG	Prudential Investment Management
Meiji Yasuda Life Insurance Company	Nordea Investment Management	Prudential Plc
Mellon Capital	Norfolk Pension Fund	Psagot Investment House Ltd
Mendesprev Sociedade Previdenciária	Norges Bank Investment Management	Public Sector Pension Investment Board
Mercer Investments	North Carolina Retirement System	Q Capital Partners Co. Ltd
Merck Family Fund	North East Scotland Pension fund	QBE Insurance Group
Mercy Investment Services, Inc.	Northern Ireland Local Government Officers' Superannuation Committee (NILGOSC)	QIC
Mergence Investment Managers	Northern Trust	Quantex
Merseyside Pension Fund	NorthStar Asset Management, Inc	Quilter Cheviot Asset Management
MetallRente GmbH	Northward Capital Pty Ltd	Quotient Investors
Metrus - Instituto de Seguridade Social	Notenstein Privatbank AG	Rabobank
Metzler Asset Management GmbH	Nykredit	Raiffeisen Fund Management Hungary Ltd.
MFS Investment Management	Oceana Investimentos ACVM Ltda	Raiffeisen Kapitalanlage-Gesellschaft m.b.H.
McLean Budden	OceanRock Investments	Raiffeisen Schweiz Genossenschaft
Midas International Asset Management, Ltd.		RPMI Railpen Investments
Miller/Howard Investments, Inc.		

Rathbones / Rathbone Greenbank Investments	Sprucegrove Investment Management Ltd	The United Church of Canada - General Council
RBC Global Asset Management	Standard Chartered	The University of Edinburgh Endowment Fund
Real Grandeza Fundação de Previdência e Assistência Social	Standard Chartered Korea Limited	The Wellcome Trust
REI Super	Standard Life Investments	Third Swedish National Pension Fund (AP3)
Reliance Capital Limited	Standish Mellon Asset Management	TOBAM
Resona Bank, Limited	State Bank of India	Tokio Marine Holdings, Inc
Reynders McVeigh Capital Management	State Street Corporation	Toronto Atmospheric Fund
River Twice Capital Advisors, LLC	StatewideSuper	Trillium Asset Management, LLC
Robeco	Stewart Investors	Triodos Investment Management
RobecoSAM AG	Stockland	Tri-State Coalition for Responsible Investment
Robert & Patricia Switzer Foundation	Storebrand ASA	Trusteam Finance
Rockefeller Asset Management, Sustainability & Impact Investing Group	Strathclyde Pension Fund	Tryg
Rose Foundation for Communities and the Environment	Stratus Group	Turner Investments
Rothschild & Cie Gestion Group	Sumitomo Mitsui Financial Group	Unione di Banche Italiane S.c.p.a.
Royal Bank of Canada	Sumitomo Mitsui Trust Holdings, Inc.	UBS
Royal Bank of Scotland Group	Sun Life Financial	UniCredit SpA
Royal London Asset Management	Superfund Asset Management GmbH	Union Asset Management Holding AG
RREEF Investment GmbH	SURA Peru (AFP Integra, Seguros SURA, Fondos SURA, Hipotecaria SURA)	Union Investment Privatfonds GmbH
Ruffer LLP	SUSI Partners AG	Unionen
Russell Investments	Sustainable Capital	Unipension FAIF A/S
Sampension KP Livsforsikring A/S	Sustainable Development Capital	Unipol
Samsung Asset Management Co., Ltd.	Sustainable Insight Capital Management	UNISONS Staff Pension Scheme
Samsung Fire & Marine Insurance Co.,Ltd.,	Handelsbanken	UniSuper
Samsunglife Insurance	Svenska kyrkan	Unitarian Universalist Association
Samsung Securities	Svenska kyrkans pensionskassa	United Church Funds
Sanlam Life Insurance Ltd	Swedbank	United Nations Foundation
Santa Fé Portfolios Ltda	Swift Foundation	Unity College
Santam	Swiss Re	Universities Superannuation Scheme (USS)
Santander Brasil Asset Management	Sycamore Asset Management	University of California
Sarasin & Partners	Symphonia sgr	University of Massachusetts Foundation
SAS Trustee Corporation	Syntrus Achmea Asset Management	University of Sydney Endowment Fund
Saskatchewan Healthcare Employees' Pension Plan	T. Rowe Price	University of Toronto
Sauren Finanzdienstleistungen GmbH & Co. KG	Garanti Bank	University of Toronto Asset Management Corporation
Schroders	T. SINAİ KALKINMA BANKASI A.Ş.	University of Washington
SEB Asset Management AG	Taishin Financial Holding Co.,Ltd	Van Lanschot
Second Swedish National Pension Fund (AP2)	Tasplan	Vancity Group of Companies
Şekerbank T.A.Ş.	Tata Capital Limited	Varma Mutual Pension Insurance Company
Seligson & Co Fund Management Plc	TD Asset Management (TD Asset Management Inc. and TDAM USA Inc.)	Ventas, Inc.
Sentinel Investments	TD Securities (USA) LLC	Veris Wealth Partners
SERPROS - Fundo Multipatrocinado	TIAA	Veritas Pension Insurance
Service Employees International Union Pension Fund	Telluride Association	Vexiom Capital Group, Inc.
Seventh Swedish National Pension Fund (AP7)	Telstra Super	VicSuper
The Shiga Bank, Ltd.	Tempis Asset Management Co. Ltd	Victorian Funds Management Corporation
Shinhan Bank	Terra Alpha Investments LLC	VietNam Holding Ltd.
Shinhan BNP Paribas Investment Trust Management Co., Ltd	Terra Global Capital, LLC	Vinva Investment Management
Shinkin Asset Management Co., Ltd	TerraVerde Capital Management LLC	Vision Super Pty Ltd
Siemens Kapitalanlagegesellschaft mbH	Transport for London Pension Fund	VOIGT & COLL. GMBH
Signet Capital Management Ltd	The Brainerd Foundation	VOLKSBANK INVESTMENTS
Sisters of St Francis of Philadelphia	The Bullitt Foundation	Bank Vontobel AG
Sisters of St. Dominic	The Church Pension Fund of Finland	Trust Waikato
Sixth Swedish National Pension Fund (AP6)	The Children's Investment Fund Management (UK) LLP	Walden Asset Management
Skandia	Clean Yield Asset Management	WARBURG - HENDERSON Kapitalanlagegesellschaft für Immobilien mbH
SEB AB	The Collins Foundation	Water Asset Management, LLC
Smith Pierce, LLC	The Co-operators Group Ltd	Wells Fargo & Company
SNW Asset Management	The Council of Lutheran Churches	Wespath Investment Management
Social(k)	The Daly Foundation	West Midlands Pension Fund
Sociedade de Previdencia Complementar da Dataprev - Pevdata	The Hartford Financial Services Group	West Yorkshire Pension Fund
Società reale mutua di assicurazioni	The Joseph Rowntree Charitable Trust	Westfield Capital Management Company, LP
SOCIÉTÉ GÉNÉRALE	The Korea Teachers Pension (KTP)	Westpac Banking Corporation
Socrates Fund Management	The McKnight Foundation	WHEB Asset Management
Solaris Investment Management Limited	The New School	White Owl Capital AG
Sompo Japan Nipponkoa Holdings, Inc	The Pension Plan For Employees of the Public Service Alliance of Canada	Whitley Asset Management
Sonen Capital	The Pinch Group	Woori Bank
Sopher Investment Management	The Presbyterian Church in Canada	Xoom Capital
Soprise! Impact Fund	The Russell Family Foundation	YES BANK Limited
South Yorkshire Pension Fund	The Sandy River Charitable Foundation	York University Pension Fund
SouthPeak Investment Management	The Sisters of St. Ann	Youville Provident Fund Inc.
SPF Beheer bv	The Sustainability Group at the Loring, Wolcott & Coolidge Office	Yuanta Financial Holding
Spring Water Asset Management		Zevin Asset Management, LLC
		Zürcher Kantonalbank

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