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# **Connection between climate change and business models: an evolving agenda**

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CDP Brazil 100 Climate Change

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October 2014

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## Acknowledgments and sponsors

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## CEO Foreword



One irrefutable fact is filtering through to companies and investors: the bottom line is at risk from environmental crisis.

**The global economy has bounced back from crisis and a cautious optimism is beginning to pervade the markets. As we embrace recovery we must remember that greenhouse gas emissions continue to rise and we face steep financial risk if we do not mitigate them.**

The unprecedented environmental challenges that we confront today—reducing greenhouse gas emissions, safeguarding water resources and preventing the destruction of forests—are also economic problems. One irrefutable fact is filtering through to companies and investors: the bottom line is at risk from environmental crisis.

The impact of climate events on economies around the world has increasingly been splashed across headlines in the last year, with the worst winter in 30 years suffered by the USA costing billions of dollars. Australia has experienced its hottest two years on record, and the UK has had its wettest winter for hundreds of years costing the insurance industry over a billion pounds. Over three-quarters of companies reporting to CDP this year have disclosed a physical risk from climate change. Investing in climate change-related resilience planning has become crucial for all corporations.

Investor engagement on these issues is increasing. In the US a record number of share-holder resolutions in the 2014 proxy season led 20 international corporations to commit to reduce greenhouse gas emissions or sustainably source palm oil.

As mainstream investors begin to recognize the real value at risk, we are seeing more action from some of the 767 investors who request disclosure through CDP. The Norwegian pension fund, Norges Bank, with assets worth \$260 billion, expects companies to show strategies for climate change risk mitigation and water management, and have divested from both timber and palm oil companies that did not meet their standards.

There is growing momentum on the policy front with President Obama's announcement of new federal rules to limit greenhouse gases in the US. In the EU, some 6,000 companies will be required to disclose on specific environmental, social and governance criteria as part of their mainstream reporting to investors. In China over 20,000 companies will be required to report their greenhouse gas emissions to the government.

There is a palpable sea change in approach by companies driven by a growing recognition that there is a cost associated with the carbon they emit. Measurement, transparency and accountability drives positive change in the world of business and investment. Our experience working with over 4,500 companies shows the multitude of benefits for companies that report their environmental impacts, unveiling risks and previously unseen opportunities.

We are standing at a juncture in history. With the prospect of a global climate deal coming from the United Nations process, governments, cities, the private sector and civil society have a great opportunity to take bold actions and build momentum in the run up to the Paris 2015 meeting. The decisions we make today can lead us to a profitable and secure future. A future that we can all be proud of.

Paul Simpson  
Chief Executive Officer, CDP



# Introduction



The CDP 2014 Brazil 100 Climate Change Report 'The connection between climate change and business models: an evolving agenda' seeks to establish a link between corporate actions on climate change and the financial performance of companies. To this end, CDP has collaborated with Catavento Consulting and the Coppead Institute to identify business cases and economic benefits of climate change mitigation and adaptation.

The analysis of company responses participating in the Brazilian Edition of the Climate Change 2014 Program, as well as its scoring<sup>1</sup> results, were the starting points for the preparation of the study. In order to capture the vision of the companies' executives on climate change we also conducted interviews with eight selected companies.

2014 is the first year in which the scores of the companies responding to the CDP climate change information request in Brazil are published globally. This has been by virtue of a gradual process of disclosing results in Brazil, starting in 2011 as a result of the implementation of the CDP scoring methodology in the country.

Regarding the last step of the scoring methodology in Brazil, we have to mention the efforts of the KPMG team, responsible for the final review of the 2014 scores results in Brazil.

Acknowledgements are also due to all of the team involved in the project, in particular LARCI and the Brazilian CDP investor members, who made this study possible.

Readers will find in the following pages evidence of how managing climate change adds value to companies. The publication of these results occurs in an emblematic moment in the international discussions on climate change. We are two months away from the United Nations Framework Convention on Climate Change (UNFCCC)'s 20<sup>th</sup> session of the Conference of the Parties (COP20) in Lima, and on the road to the COP21, which will be held in Paris in 2015. The objective of UNFCCC's<sup>2</sup> COP21 is to achieve a universal agreement on climate establishing compulsory emission reduction commitments for all countries of the world.

COP21 in Paris will be the last chance to reach a consensus on an international framework in order to limit global warming to 2°C, which will only be possible if the business community sends a clear message that there is already a critical mass supporting a climate agreement. An ambitious international response is crucial for companies to adapt their business models and processes for a sustainable economy. Without a well-designed political framework, businesses will continue operating in a scenario of risk and uncertainty. We hope this study offers insights for investors, companies and policy decision makers.

1. The CDP methodology to score company responses on Corporate Disclosure and Corporate was recognized for the second consecutive year as the world's most credible corporate sustainability ranking by Rate the Raters.

2. United Nations Framework Convention on Climate Change.

## Executive summary

The contents of the CDP Brazil 100 Climate Change Report 2014 were drawn from the responses of 52 companies<sup>3</sup> (from 100 companies were invited to participate in Brazil according to IBRX100 based on market cap criteria) to the 2014 climate change information request and interviews<sup>4</sup> with managers of companies with good performance and practices in previous years aimed at preparing their business to tackle climate change. The challenges faced by responding companies and their progress are presented in their value creation through emission reductions, in actions taken to incorporate climate change risks and opportunities into their business and in the way companies engage with the various stakeholders in their value chain.

This executive summary highlights the main findings obtained from analysis of the responses of the 2014 CDP climate change questionnaire. This year the responses show that some companies managed to capture opportunities through initiatives to reduce emissions as well as to reduce its exposure to related risks. In addition, they linked the developments of these initiatives with business and environmental benefits.

### Improvement in Disclosure scores

The qualifying threshold to enter the Climate Disclosure Leadership Index (CDLI) in Brazil rose from a disclosure score of 79 in 2013 to 88 in 2014. The average score of companies in the 2014 CDLI is 91.9, 5.4% above the average score of 87.2 in 2013. In addition to improving scores, half of the companies listed in the 2014 CDLI feature for the first time.

### Decrease in Performance scores

Companies still need to improve in order to develop more effective climate change management: no Brazilian companies scored sufficiently to feature in the Climate Performance Leadership Index (CPLI) in 2014. However, in 2013, one Brazilian company was part of the CDLI.

### Warning sign: increase in Scope 1 and 2 emissions

In relation to 2013, most sector respondents reported an increase in their Scopes 1 and 2 greenhouse gas (GHG) emissions, totaling an increase of 3.5% and 7.5%, respectively. The exceptions were the information technology, basic materials and consumer staples sectors with the responsibility for the increasing emissions falling greatly on the energy and utilities<sup>5</sup> sectors. Part of the increase in emissions it is explained by the increased need for the use of thermoelectric in the Brazilian energetic matrix.

### Concerns about climate change legislation

In addressing climate change risks, opportunities and public policy related activities, companies reported short-term concerns about possible changes in relevant legislation, especially regarding potential compulsory reporting of carbon emissions and the implementation of a market cap and trade. This means that companies are trying to adapt fast through short-term initiatives.

3. In addition to the 52 companies analysed in this report, five companies (Souza Cruz, Telefônica Brasil, Tractebel Energia, Bradespar and Ambev – Cia. de Bebidas das Américas) indicated that information about their activities were already included in responses of other companies, mostly subsidiaries of multinational companies. They are categorized as "See Another" and their information is not included in the analysis of this report.

4. The following criteria was applied in selecting companies: the company must belong to a representative sector in terms of absolute emissions; having good disclosure scores according to the CDP 2013 report; being relevant in terms of market capitalization; having availability to grant interviews. Additionally, the participation of the financial sector was mandatory, as it is an important inducer of environmental practices in the companies. Thus, the following companies were selected: Companhia Energética Minas Gerais – CEMIG, Vale, FIBRIA Celulose, JBS, Marfrig Alimentos, Braskem, Itaú Unibanco Holding and Itaúsa – Investimentos Itaú S.A. These companies were selected before the assessment of questionnaire scores and, therefore, do not necessarily coincide with the 2014 CDLI leading companies.

5. Please refer to the list of responding companies by sector and subsector at Appendix I.

# Key conclusions

## Creating value through emissions reductions

**Less investment, more efficiency:**  
in 2014, R\$3.7 billion were invested in emissions reduction initiatives, 38% less than 2013. However, these investments were more effective in terms of emissions reduction because they represent an annual decrease 103% higher than that of 2013.

**Emission reductions and financial benefits:**  
companies reported annual savings of

**R\$118.7 MI**  
due to emission mitigation actions.

**Investment focus:**  
energy efficiency and low-carbon energy generation are at the heart of the emission reduction initiatives of enterprises.

**Valued links still evolving:**  
organizations are building business cases<sup>6</sup>, but lack larger links between investments, annual savings and GHG emission reduction.

## Preparing for change

**Evaluation of exposure to the effects of climate change:**

**83%**

of companies reported climate change risks and opportunities. Respondents reported both physical and possible regulatory changes as risks. Most of the opportunities is related to future legislation.

**Long-term focus:**  
most companies expect to capture climate change opportunities in the 3<sup>rd</sup> year. Companies, however, recognize that they must act immediately to adapt better to climate change.

**Climate change and business management:**

**76%** of enterprises report that climate change is integrated into their strategies.

**Auditing of emission information:**

**94%** of **Scope 1** emissions  
**75%** of **Scope 2** emissions

had external verification complete or under way.

## Engagement with stakeholders

**Agents for change:**  
businesses prefer to engage directly with public policy makers and business associations. The focus of interest is the possible **mandatory reporting of carbon emissions**.

**More active:**  
the **basic materials, utilities and finance** sectors are the most active in relation to **engagement with public policy makers**.

**Attention to the value chain:**

**58%**

of the companies report engagement with other components of its value chain in climate change initiatives, preferably with suppliers (46%).

**Knowing the impact of the value chain:**

**50%**

of the companies reported Scope 3 emissions in 2014, a value slightly lower than the percentage in 2013 (54%).

The following chapters detail the responses concerning value creation through emission reductions, preparation of enterprises for the risks and opportunities arising from climate change and the ways in which companies engage the various stakeholders in their value chain.



## Goals

Since 2000, CDP has worked to offer the largest and most comprehensive database on climate change corporate governance and management. The CDP Brazil 2014 report is part of CDP's effort to provide information that help investors, companies and governments to mitigate risks and identify opportunities by taking a more responsible approach to greenhouse gas (GHG) emissions.

Accordingly, this report has the following key objectives:

1

Recognizing corporate leaders on climate change management in terms of disclosure and Performance;

2

Analyzing the performance of Brazilian companies in relation to climate change, mapping the incorporation of climate change in their decision-making processes;

3

Investigating how initiatives of GHG emission reduction impact the financial performance of companies;

4

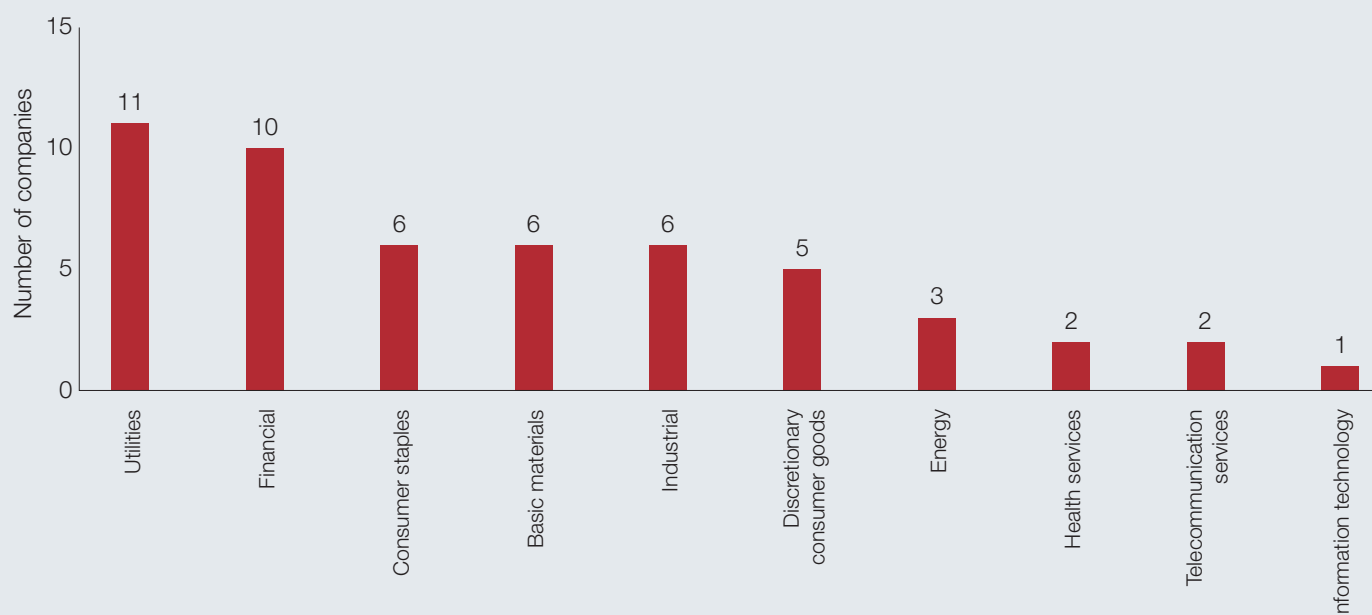
Highlighting examples of good business practices in climate change management.



## CDP 2014 scoring results

In 2014, 52 companies responded to the CDP 2014 climate change information request, a similar number on 2013, when 51 companies disclosed their information. Graph 1 shows the breakdown of responding companies by sector<sup>6</sup>.

**Graph 1.** Number of companies that responded to the CPD by sector in 2014



To enter the CDP Carbon Disclosure Leadership Index (CDLI), companies must achieve a score within the top 10% of the total regional sample population (see Leadership Criteria in Annex I). In Brazil in 2014, 100 companies were invited to disclose their information and 10 companies were recognized for their disclosure leadership (see Table 1).

The 2014 results indicate an improvement of the quality and transparency of information on climate change disclosed by Brazilian companies in the CDP questionnaire responses. The threshold for inclusion in the CDLI rose to 88 disclosure points this year (79 in 2013). The average score of CDLI companies is 91.9 in 2014. It was 87.2 in 2013, an increase of 5.4%.

Another indicator of that Brazilian companies are more interested in disclosing their climate change information is the emergence of new Disclosure leaders: half of the companies in the 2014 index had never previously featured in the CDLI (highlighted in the Table 1). It is worth noting that many companies who are not in the CDLI also feature best practices in disclosure and management, which is clear both by the proximity of their scores in relation to the threshold of 88 disclosure points, and by the relevant public documented information obtained in the interviews. The full list of corporate respondent scores can be found in Appendix I.

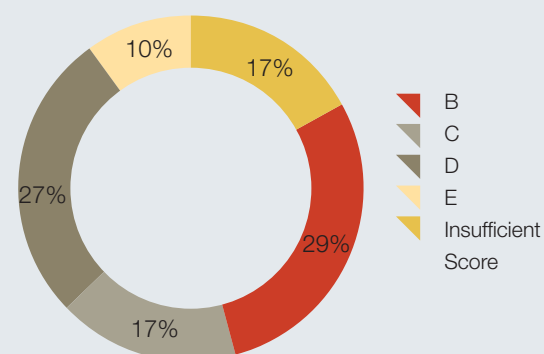
6. In 2014, there has been a change in the sectorial classification of companies and enterprises. The real estate sector is now part of the financial sector.

**Table 1. CDLI: Top 10 companies on Transparency**

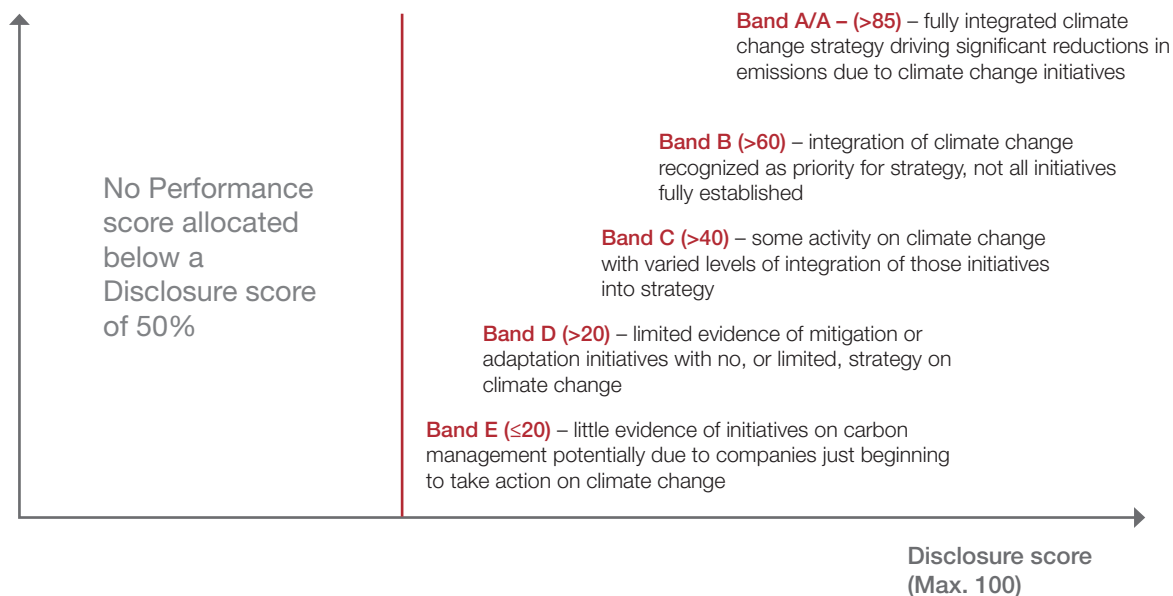
Company	Sector	Disclosure score
Companhia Energética Minas Gerais – CEMIG	Utilities	98
Braskem	Basic materials	97
Vale	Basic materials	97
<b>BRF</b>	Consumer staples	92
Itaú Unibanco Holding	Financial	91
<b>Lojas Renner</b>	Discretionary consumer goods	90
<b>Companhia de Concessões Rodoviárias – CCR</b>	Industrial	89
<b>Ultrapar Participações</b>	Energy	89
Itaúsa – Investimentos Itaú S.A.	Financial	88
<b>Ecorodovias Infraestrutura e Logística</b>	Industrial	88

Highlighted: companies that integrate CDLI for the first time.

In order to be included in the CDP Carbon Performance Leadership Index (CPLI), companies must attain a performance score greater than 85, equivalent to the performance band classification presented in Figure 1<sup>7</sup>. In 2014, no Brazilian company entered the CPLI. Although in 2013 Braskem was featured in the CPLI. Graph 2 shows the percentage of Brazilian company scores by band, while Figure 1 illustrates the performance band criteria. This result demonstrates that Brazilian companies still need to mature their strategic integration of climate change topics into their priorities.

**Graph 2. 2014 Brazil sample performance band breakdown****Figure 1. Performance bands**

Performance band  
(‘A’ is highest)



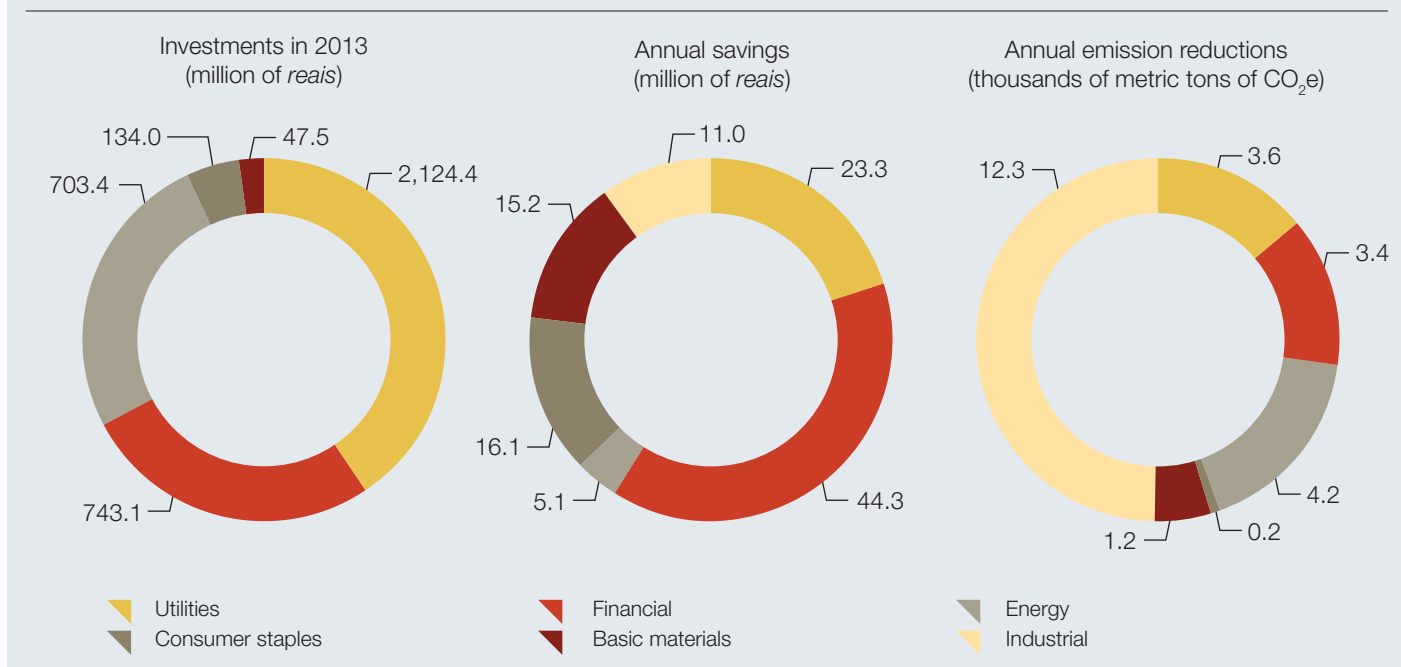
7. For further details, see Annex I – Methodology.

## Value creation: investments and impacts

Even with their investment in emissions reduction initiatives reduced below that reported in 2013, companies taking forward reduction initiatives reported an increased annual reduction in greenhouse gases (GHG) emissions in 2014. This reduction, however, proved to be insufficient to achieve the annual goal for reducing voluntarily established GHG emission totals. The good news lies in the fact that companies have reported an annual saving (corresponding to a reduction of costs or operating expenses) of R\$118.7 million, demonstrating a business case for investments in emission reductions.

Taking into account spending on all emissions reduction initiatives reported by the responding companies, the total investment reported in 2014 amounts to R\$3.7 billion<sup>8</sup>, 38% lower than the value reported in 2013. These investments, however, were more effective on reducing emissions because it represented an annual decrease of 24.9 million metric tons of CO<sub>2</sub>e, i.e., 103% higher than the annual reduction achieved in 2013. It means that it was possible to obtain a more meaningful reduction of the annual emissions with a smaller volume of financial resources. In addition, reported investments have generated R\$118.7 million in annual savings for businesses (see Graph 3).

**Graph 3.** Investments, annual savings and annual reduction of most significant emissions by sector



8. The investment values reported in US dollars were converted into Brazilian reais as of September 15<sup>th</sup> 2014 exchange rate (R\$/US\$ 2,340), according to the Central Bank of Brazil (<http://www4.bcb.gov.br/pec/taxas/port/ptaxnpesq.asp?id=txcotacao>).

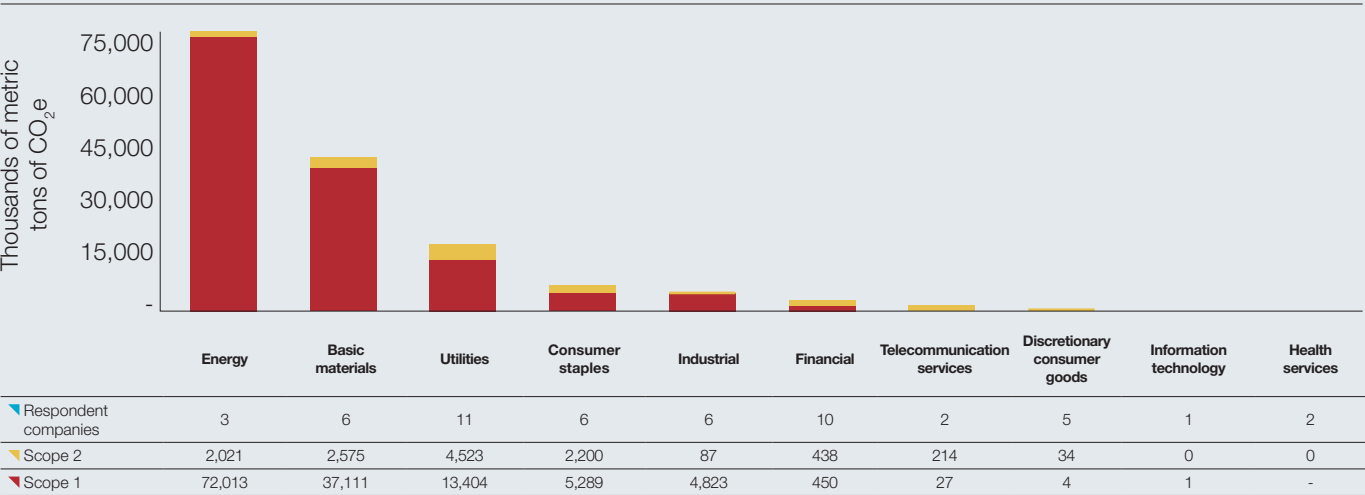
Despite the increased effectiveness of investment, there is still room for GHG emission reductions through the commitment of a larger number of businesses to establish managerial goals. Only 53% of respondents have established goals for reducing direct and indirect emissions. Of these, 71% were able to achieve their goals. Sectors that made use of managerial goals to boost their reductions were the utilities, basic materials, consumer staples and financial.

Investments made by the responding companies were not sufficient to reduce the total emission of greenhouse gases between 2013 and 2014. Indeed, Scope 1

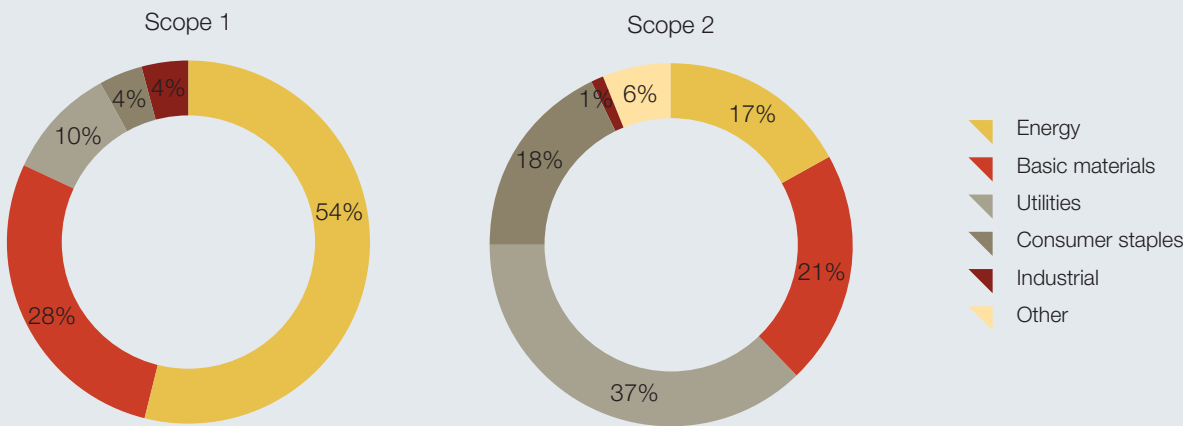
emissions amounted to 133.1 million metric tons CO<sub>2</sub>e, whereas Scope 2 emissions amounted to 12.0 million metric tons CO<sub>2</sub>e, representing an increase of 3.5% and 7.5%, respectively, when compared to the reported emissions in 2013.

There was an emphasis on the reliability and quality of the reported information. 94% of Scope 1 emissions and 75% of Scope 2 emissions have complete or independent verification underway. Graphs 4 and 5 show responding companies by sector and emissions in accordance with the Scope.

**Graph 4.** Scope 1 and Scope 2 emissions by sector



**Gráfico 5.** Percentage of total emissions in Scope 1 and 2 for the most representative sectors in terms of emissions (%)

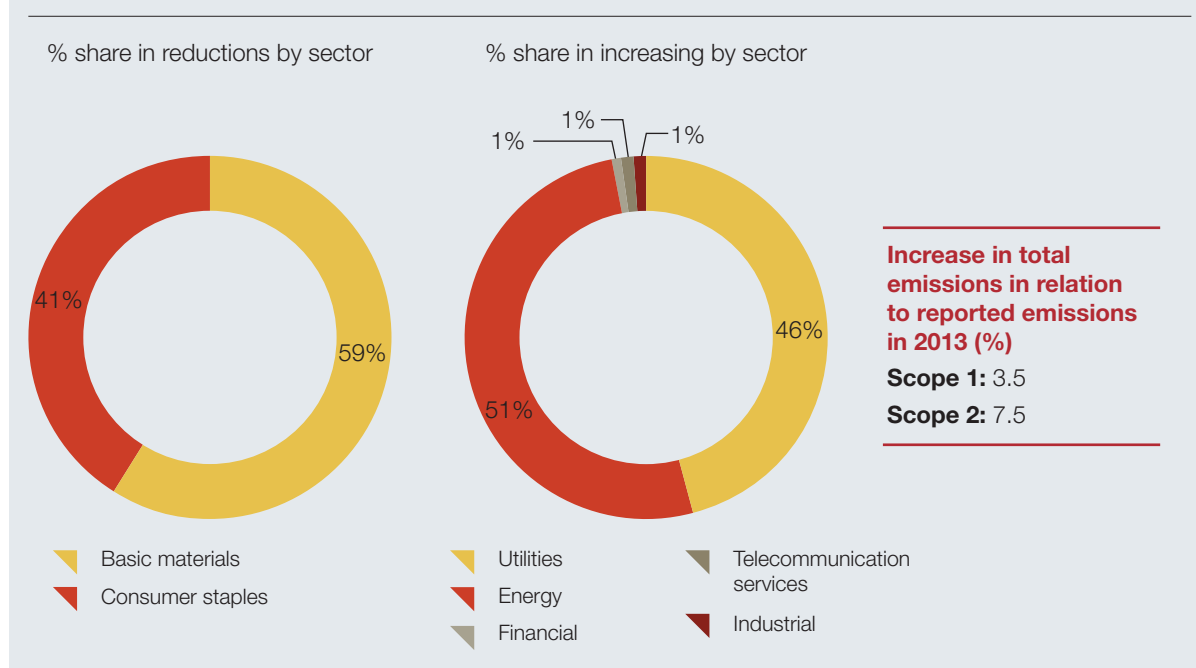




The breakdown of emissions by sector shows that the increase in emissions does not occur uniformly in all of them: information technology, basic materials and consumer staples together reduced their emissions by 4.3 million metric tons CO<sub>2</sub>e, with the latter two contributing a more relative amount of total reduction. Again, the responsibility for the increasing in emissions falls greatly on the energy and utilities sectors, which

together represent 97% of the total (Graph 6). A drought in 2013 partially explains the increase in emissions. It led to a reduction in hydroelectric reservoirs and, as a result, thermal power plants were re-activated. As reported by companies in the utilities sector, the event led to an increase by 47% of the emission factor of CO<sub>2</sub> for each MWh generated<sup>9</sup>.

**Graph 6.** Percentage of increase in total emissions of Scopes 1 and 2 and percentage of participation of the sectors presented emission reduction and increased (%)



## Good practice: controlling and reporting of CO<sub>2</sub> emissions

**Marfrig** reported the largest percentage reduction of emissions in 2014. Controlling GHG emissions is one of the Integrated Management System indicators of the company, which breaks the emissions inventory down by productive plant. It covers 16 units in several countries. Once a year, the Executive Board receives the results of the emission report. The Sustainability Committee periodically monitors the emissions, and in case of an exceptional occurrence, it presents the results for acknowledgement and possible involvement of the Board.

*In our reports, we show how good management initiatives, for example, risk mapping, animal welfare and greenhouse gas emissions management are linked to the reduction of costs and the requests of a more demanding market, generating an increased revenue, and improved reputation, as well as promoting access to a differentiated capital*

Ricardo Florence,  
Vice President  
of Finance and  
Investor Relations  
at Marfrig

9. 0,0653 tCO<sub>2</sub>/MWh, in 2012, to 0,096 tCO<sub>2</sub>/MWh, in 2013.

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## Investments to reduce emissions

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Companies are building the business case in favor of initiatives to reduce emissions, particularly initiatives related to costs and operational expenses. Most of the investments reported in 2014 were directed to actions with long-term financial returns (payback), especially to low-carbon energy sources. Although relevant, the information reported on investments is not sufficient to ensure that investors' analyses may take the reduction of GHG emissions in consideration. The quality of quantitative information still needs to evolve through clearer evidence regarding the connection between investments, annual savings and reducing emissions.

---

The quality of the reported information is critical to establish the connection between corporate investment and the benefits it generates for companies and the environment. In 2014, only 26% of respondents were able to assess their annual savings derived from investments in reducing GHG emissions. Beyond that, some companies also reported quantitatively their exposure to risks arising from climate change.

For the most part, companies invest in activities that have the potential to reduce their operating costs, such as the generation of low carbon energy (26%), emission reductions in the process (15%) and other activities related to energy efficiency (25%), as illustrated in Graph 7. In fact, among the highlighted initiatives, 49% are correlated to annual savings, evidencing its contribution to a better business performance.

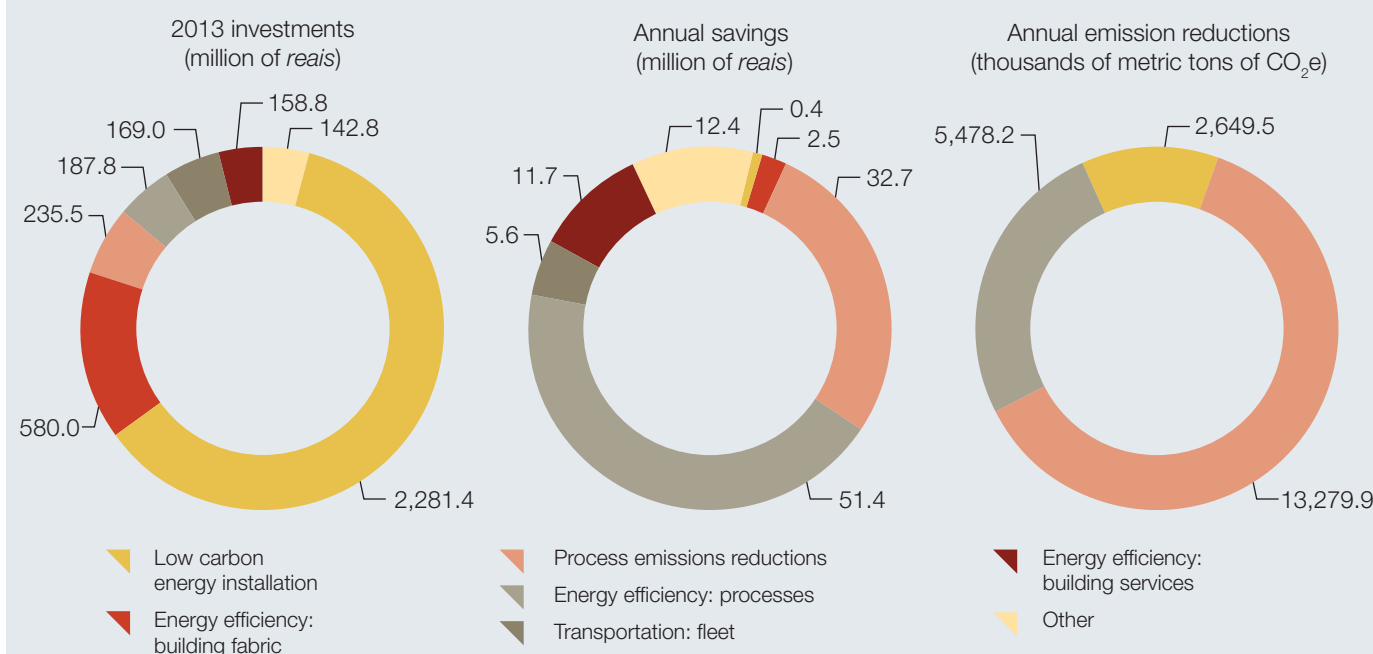
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### Good practice: building the business cases on exposure to climate change risks

The **Companhia Energética de Minas Gerais – CEMIG**, in addition to analyzing the connection of their investments to annual savings, they also calculate risk exposure: a percentage related to net revenue for each type of physical risk reported.

The **Ecorodovias Infraestrutura e Logística** evaluates the potential impact of the change in precipitation patterns and change in precipitation extremes and droughts on the company's operating result. This calculation is performed for each road concession under its responsibility.

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**Graph 7.** Investments, annual savings and annual reduction on significant emissions by type of initiative<sup>10</sup>

## Good practice: investments aligned to business model

**Braskem** links the activities of reducing CO<sub>2</sub>e to the use of less polluting energy sources in its factories, in the quest for energy efficiency and the development of renewable or chemical design of lighter products. The connection of value is better understood and reported in processes with energy efficiency activities.

A smaller amount of initiatives receives a larger volume of investments and has longer periods of return. On the other hand, approximately 48% of reported actions have a payback period of less than three years and represent 21% of the total investment (see Table 2). The expectation of GHG emission reduction for these short-term investments is greater, representing 63% of the total estimated reductions.

10. For a description of each type of initiative, see page 52 of the 'Guidance manual for respondents companies about climate change on behalf of investors and members of the supply chain 2014' <http://www.cdpla.net/sites/default/files/CDP2014%20Guia%20de%20Orienta%C3%A7%C3%A3o%20as%20Empresas%20Respondentes.pdf>

**Table 2.** Return periods of investment (payback) and its relationship with the number of initiatives and investment volume

Payback period	Number of initiatives	Investments (thousands of reais)	Reduction in tCO <sub>2</sub> e
< 1 year	50	69,243	14,213,332
1-3 years	50	732,853	1,556,473
4-10 years	16	272,247	2,012,891
11-15 years	3	1,705,550	3,766
16-20 years	2	6,824	19,024
> 25 years	1	100,000	6,273
(not reported)	104	868,602	7,115,958

The information reported by companies in 2014 is relevant as investors may consider in their analysis the activities of reducing emissions of CO<sub>2</sub>e, but are not sufficient. There is still room for improvement in the dissemination of quantitative data, by means of clearer evidences regarding the connection between investments, annual savings and reduction of emissions for each reported initiative. Additionally, it should be noted that most of the investments, annual savings and reported GHG reductions are concentrated in a few companies.

## Good practice: efficiency in investments in emissions-reducing activities

The way **Vale** inserted carbon initiatives into its strategic planning is an example of the quest for efficiency when investing resources for reducing emissions. Mapping the opportunities for reducing emissions in its various business units, it was possible to understand the cost of reducing a ton of CO<sub>2</sub>e in each unit and, from these data, prioritize the most efficient activities of reductions.



*Vale's carbon initiative is key to a change in corporate culture. Through it, it will be possible to make all the operational areas understand the relevance of the theme.*



Vania Somavilla,  
Executive Director  
of Human Resources,  
Health and Safety,  
Sustainability and Energy



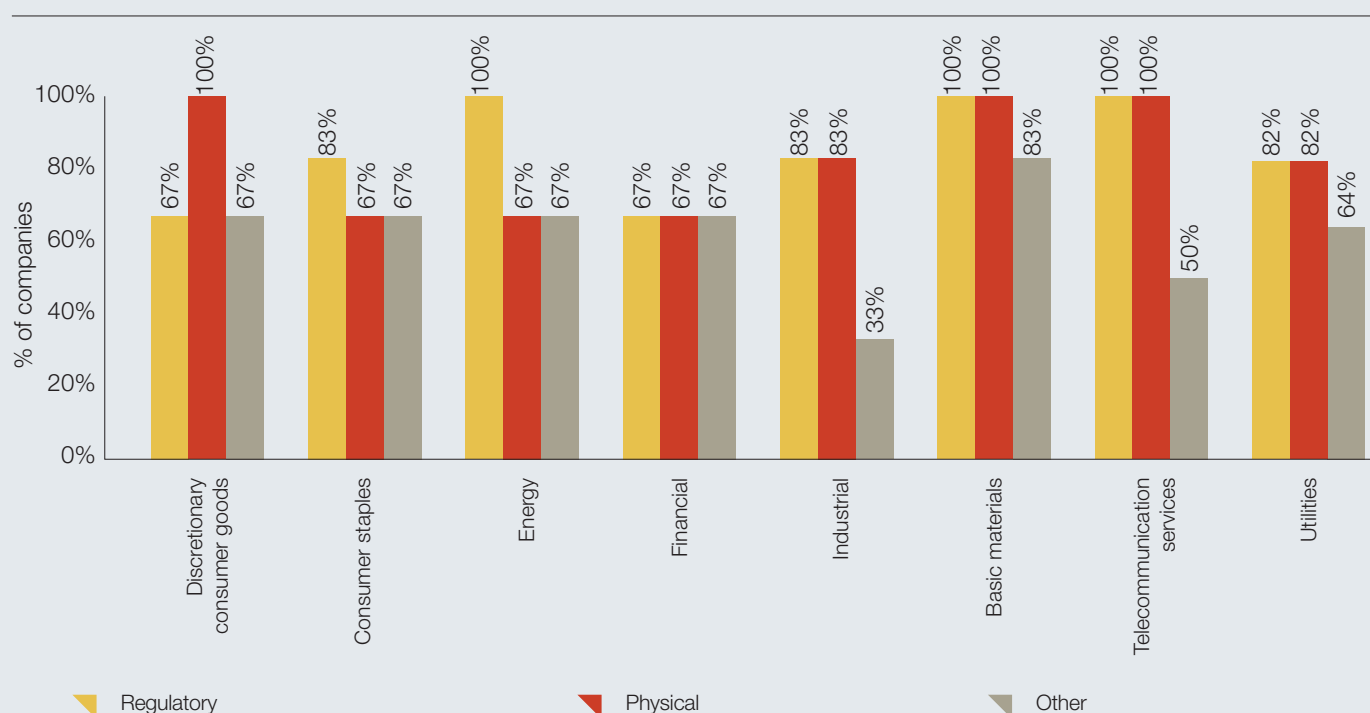
## Business transformation: preparing for the impacts of climate change

When Brazilian companies assess their exposure to climate change risks, the potential regulatory changes are in the limelight. Although it is still difficult to evaluate timeframes, the likelihood of their occurrence and the potential impact on businesses, companies strive to map and manage them.

Maintaining the stability of operations, without interruptions and unexpected increases in operating costs, requires companies to pay attention to climate change issues. In 2014, most companies (83%) reported some risk related to climate change (Graph 8). Only the companies in the sectors of healthcare services and information technology did not report risks of any kind.

Businesses reported both physical and regulatory risks, with some variations by industry: companies in the basic consumer goods and energy sectors related more risks associated to potential regulatory changes, while the discretionary goods reported concerns with the physical risks (Graph 8). In this respect, the attention of the companies rests primarily on the change in precipitation extremes and droughts (17.5%), environmental regulations (7.9%) and change in precipitation patterns (5.8%).

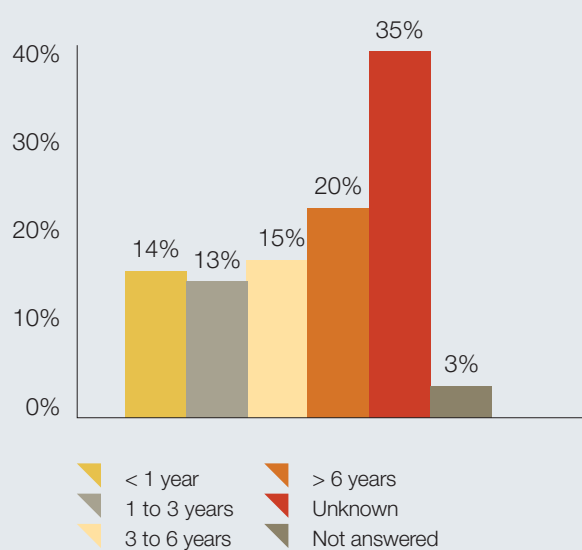
**Graph 8.** Perceived climate change risks by sector (%)



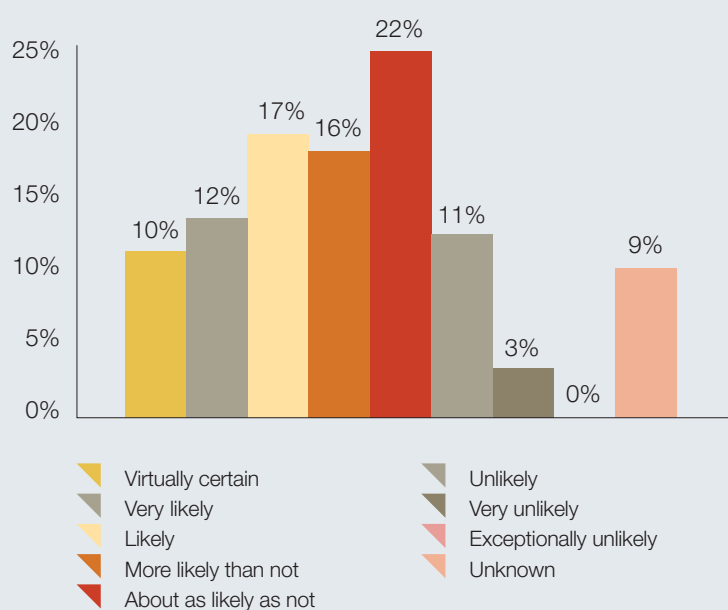
Uncertainty prevails as to the timeframe of the realization of possible effects climate change (Graph 9). By identifying the likelihood of occurrence and impacts, most companies perceive risks as long-term issues as longterm topics or which the probability is unknown. Half of the companies,

however, acknowledge that risks can affect their operations (see Graph 10). By means of a proper monitoring of the influence of climate change on the company's operations, it is possible to enhance the understanding of the risks and reduce the identified uncertainties.

**Graph 9.** Time horizon for assessment of the risks reported by companies in 2014 (%)



**Graph 10.** Probability of risk occurrence as reported by companies in 2014 (%)



## Good practice: how companies can assess their exposure to climate change risks?

To understand the climate changes issues that affect a business it is necessary to organize systems that links the climate information and the performance of activities (e.g., productivity, resource availability and operational stability). Over the last 15 years, Fibria have been building a database with information relating to the impacts of the weather on its operations. The data allows the company to create solutions that prepare it to various climatic conditions that may arise in the future.

The monitoring of data to generate useful information to mitigate exposure to risks is a method also used by **JBS**. The company has intensified its mapping of the impacts of climate change in the regions where it operates to improve their predictive capacity in relation to extreme weather events such as droughts or flooding. This information also serves as a tool for creating contingency plans in case the event occurs.

Still in line with preventive actions, **Vale**, in partnership with the Government of Espírito Santo, invested in the installation of a meteorological radar able to forecast extreme weather events from three hours up to a maximum of three days in advance. The company uses the forecast of extreme weather events to take the necessary preventive measures and minimize damage to its assets, as well as mitigate possible interruptions to its activities.



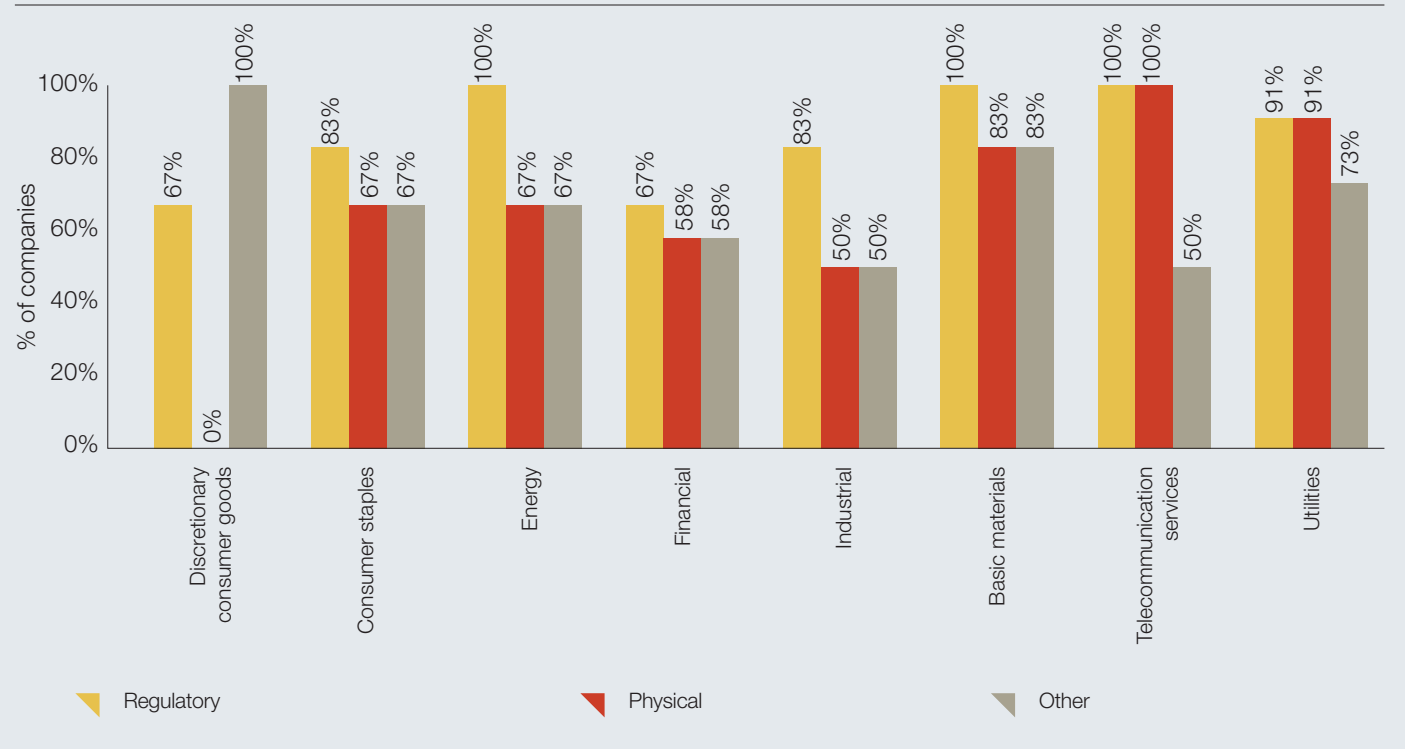
*We increased our climate change mapping in the regions where we operate because we have realized that extreme weather events have strongly impacted our business in different regions – such as floods in Santa Catarina and in Acre this year (2014) – and paralyzed our operations in the affected states*



**Wesley Batista,**  
CEO of JBS

Most companies report potential regulatory change as a climate change risk factor, but most respondents also see it as an opportunity to obtain gains (Graph 11).

**Graph 11.** Perceived opportunities related to climate change by sector (%)

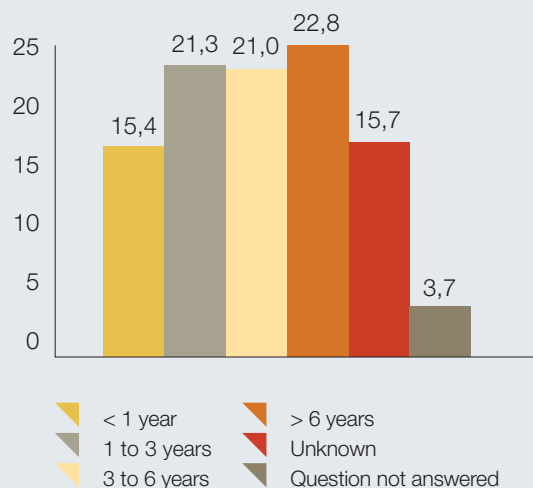




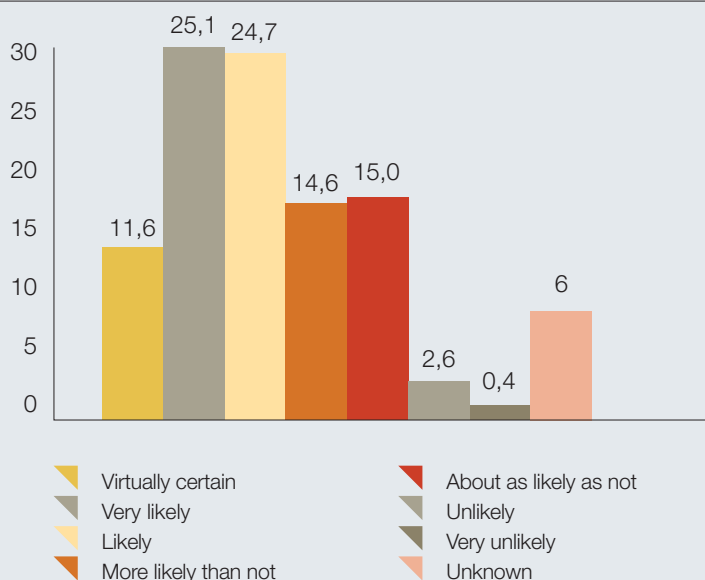
On the other hand, climate change is identified as a long-term (three years or more) opportunity as shown in Graph 12 below. For the capturing of these future opportunities, businesses have to take immediate action. Companies must assemble information systems in order to collect climate change data and assess its effects to potential impacts on operations and business. Based on this information, the company will be able to make decisions with a increased level of certainty.

Although companies experience more difficulties in identifying opportunities than risks, which is only natural at this stage of maturation of the market, most of the companies acknowledges that there are climate change opportunities: 76% of the opportunities identified are of medium to high probability of occurrence and could result in direct harm to operations.

**Graph 12.** Time horizon for capturing climate change opportunities (%)



**Graph 13.** Occurrence probability of climate change opportunities (%)



## Good practice: managing risks and opportunities

The search for opportunities is also aligned to sensitive points of the companies' business model. Calculating the return on investment, energy-intensive businesses, like **Braskem**, for example, implement actions to increase their energy efficiency.



*Climate change issues are so relevant for Braskem that they are included in the eight factors of attention of the company's global mapping of risks and opportunities*

**Mario Augusto da Silva,**  
Vice President of Finance  
and Investor Relations  
of Braskem

**Vale** is seeking to integrate climate change risks into its environmental risk assessment process. The company's managers seek to include climate change risks into their operational risk charts. Purchasing energy-efficient ships to maintain a higher efficiency (lower level of GHG emissions per ton transported) illustrates the company's concerns and prepares it for a possible scenario of maritime transport taxation of emissions, which is now being discussed internationally.



*Our managers have sought to include climate change risks in the operational risk charts submitted to the board. In the company, the assessments are already part of investment decisions, such as the purchase of energy-efficient ships that will further reduce emissions per ton*

**Vania Somavilla,**  
Executive Director  
of Human Resources,  
Health and Safety,  
Sustainability and Energy

**Itaú Unibanco** performs an integrated assessment of companies that are part of its Asset Management portfolio. Itaú identifies risks and opportunities in eight sectorial dimensions, which are broken down into four social dimensions (relationship with employees, communities, customers and suppliers) and four environmental dimensions (management of waste, water, energy and materials, biodiversity and land use, and climate change). The impacts are assessed in terms of revenue generation, cost and expenses, investments and capital costs.



*In recent years, climate change is no longer just an academic subject dealing with research, it is now a relevant subject, which real impacts need to be assessed and incorporated into the companies' financial analyses*

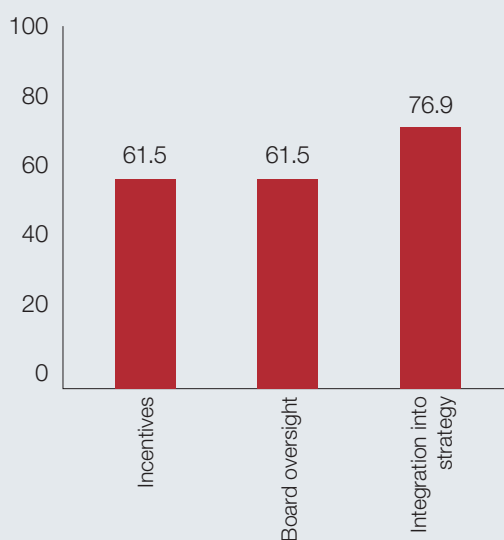
**Denise Hills,**  
Superintendent of  
Sustainability of the  
Itaú Unibanco

## Evaluating business transformation: governance and engagement in preparation for climate change

Better efficiency in climate change management requires company leadership to play a more effective role in the formulation of strategies and establishment of objective goals that they will be implemented in the other levels of the organization. The growing concern with changes in climate change legislation appears to influence the companies' engagement with public policy makers.

Most responding companies (76.9%) reported that climate change management is integrated into their strategy (Graph 14). In order to be effective, this process must have the involvement of senior leadership who must discuss the most relevant issues with the Executive Board and the Committees within the Board of Administration; 61.5% of respondents reported the use of this practice. The same percentage of companies informed the use of incentives for climate change responsibilities (financial or otherwise) related to the accomplishment of established targets of emission reductions.

**Graph 14:** Self-assessment of enterprise respondents on governance (%)



## Good practice: Importance of the involvement of senior management

At **Cemig** – the 2014 leader in transparency – the president plays a decisive role in relation to all sustainability matters of the company, being responsible for the inclusion of climate change risks and opportunities into its strategic planning for the next 30 years.



*To be recognized as the world leaders in sustainability, we have to be transparent and show our initiatives not only in speeches but also in data that can be quantified and compared*

**Arlindo Porto Neto,**  
Executive Vice President  
of CEMIG

**JBS**, in turn, established an active committee that meets periodically to discuss practical issues related to climate change.



*JBS has a sustainability committee formed by senior managers of the company that is responsible for establishing medium and long-term policies, guidelines and strategies for sustainability and socio-environmental responsibilities. These strategies are implemented through a corporate sustainability board. The primary objective of the board is to spread the concepts of sustainability throughout the company and communicate results to key stakeholders*

**Wesley Batista,**  
CEO of JBS

In addition to the existence of a committee, the plan implemented by **Braskem** establishes a number of climate change goals linked to a variable remuneration of the managers of assets and operation of the company's business units.



*We have clear targets on sustainability. Their range directly influences the variable remuneration of everyone, especially of those responsible for each of our business units and operations*

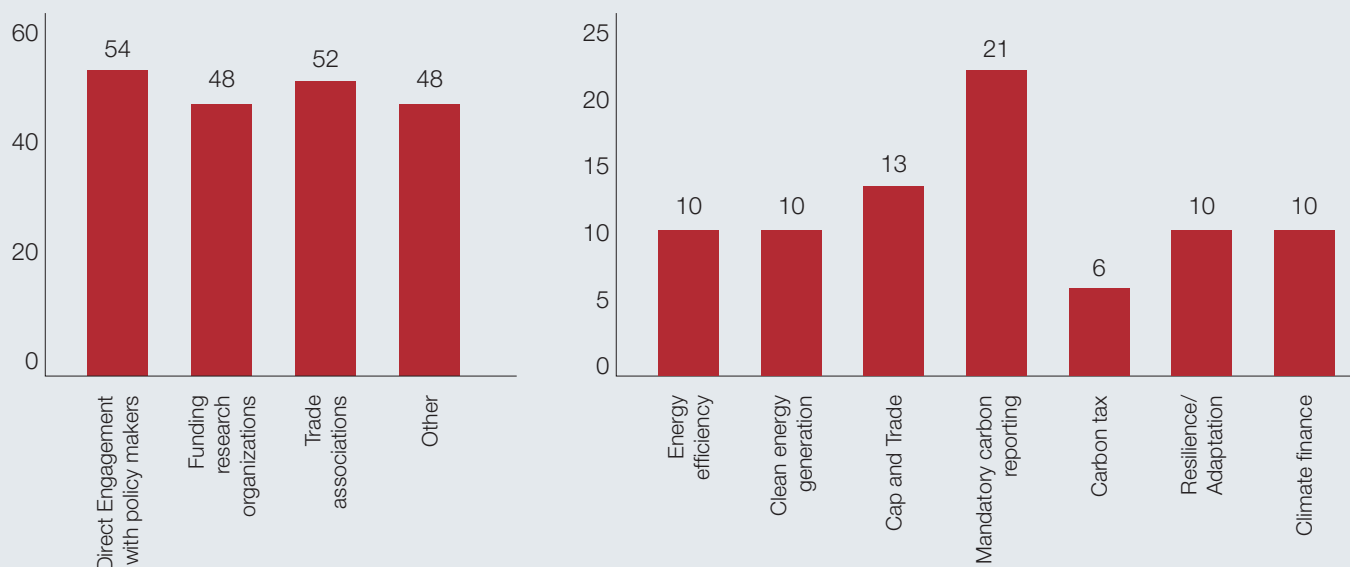
**Jorge Soto,** Director of  
Sustainable Development  
of Braskem



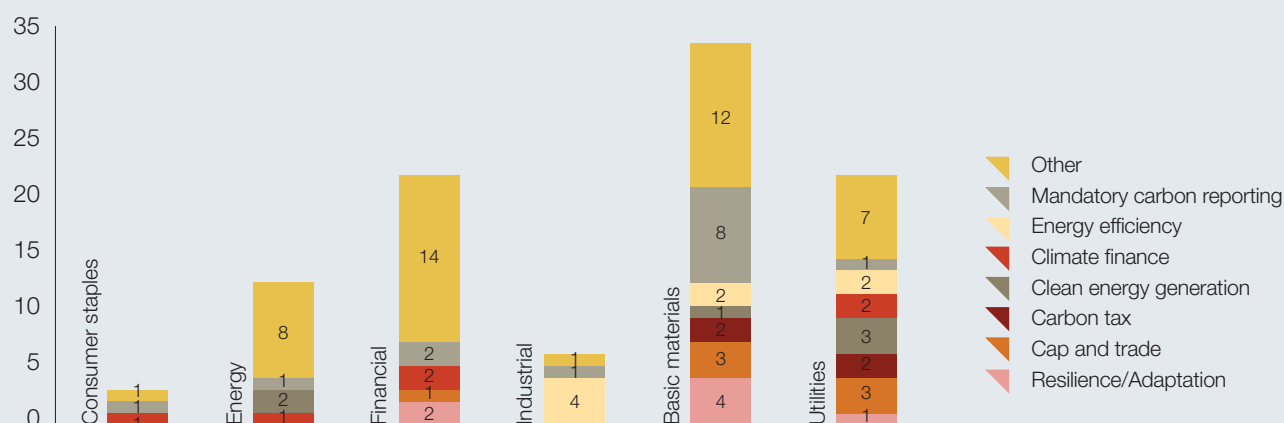
One of the key indicators of the respondents' strategic performance is their engagement in initiatives that may affect directly or indirectly climate change public policies. In 2014, most companies engaged with public entities on climate change legislation directly or through their trade associations (Graph 15).

As far as public policies are concerned, although there is variation in the amount of initiatives engaged in by sector, most companies are involved in the discussion on the possibility of mandatory carbon reporting (21%) and cap and trade initiatives (13%). As shown on Graph 16, the largest number of initiatives of engagement with public policy makers are undertaken by the basic materials sector (32 actions), followed by the financial (21 actions) and utilities (21 actions) sectors.

**Graph 15:** Engagement in public policy by strategy and subject (%)



**Graph 16:** Number of actions undertaken focusing on engagement in public policy by subject and sector



## Good practice: engaging in public policies to increase opportunities and mitigate risks

The engagement of companies in public policies seems to be a reflection of an increased level of awareness regarding the risks and opportunities driven by changes in emission and carbon market regulations. CEMIG, for example, engages with diverse actors to stimulate energy efficiency along the entire electric sector chain.

*We engage with the population, the government and the business community through campaigns to raise awareness and transfer of technology and knowledge to promote a rational consumption of energy*

Arlindo Porto Neto,  
Vice President of CEMIG

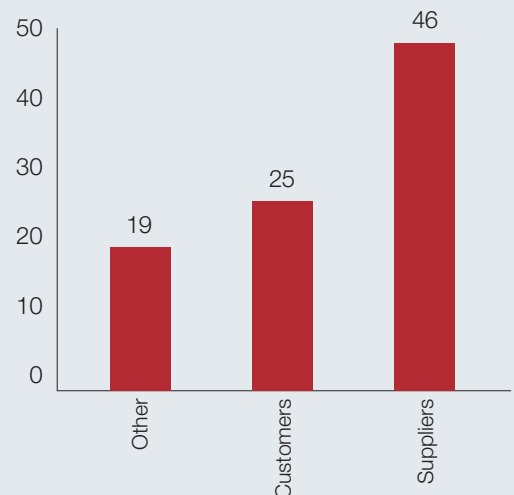
Knowing that new regulations may directly affect their businesses, **Braskem** engages in diverse forums as to anticipate regulatory changes and influence sector decisions.

*Braskem actively participates in national and international forums discussing climate change, and primarily regulatory changes. We are the largest producer of thermoplastic resins in the Americas and the largest producer of biopolymers in the world, so it couldn't be different: we have to have an active role in these discussions*

Mario Augusto da Silva,  
Vice President of Finance  
and Investor Relations  
of Braskem

Despite the importance of engagement with stakeholders such as public policy makers, the responding companies do not pay sufficient attention to the impact of other agents of their value chain, such as customers and suppliers. Graph 17 shows that only half of businesses reported Scope 3 emissions (50%), well below the percentage Scopes 1 and 2 (88.5% in total). Furthermore, only 58% reported engagement in climate change actions with other agents of the value chain.

**Graph 17:** Corporate engagement with the value chain for climate change actions (%)



## An overview of key sectors

In order to explore the details of the five most important sectors in terms of total GHG emissions (Scope 1), we selected information and analyses of most interest to investors. In addition, although not being as significant in terms of direct emissions, this overview also includes the financial sector for being an important inducer of good corporate practices. This analysis includes the following sectors:

This overview comprises the connection between investments<sup>11</sup>, annual savings and the reduction of emissions through sector-specific initiatives. Among other relevant information, it maps the three main risks and opportunities identified by the respondent companies, establishing a connection with the potential impacts.

The sectorial analysis has a second objective: to indicate the factors that companies must consistently monitor and report so that investors can reflect risk exposures and the capturing of opportunities in their analysis.



11. The information refers to the base year 2013.

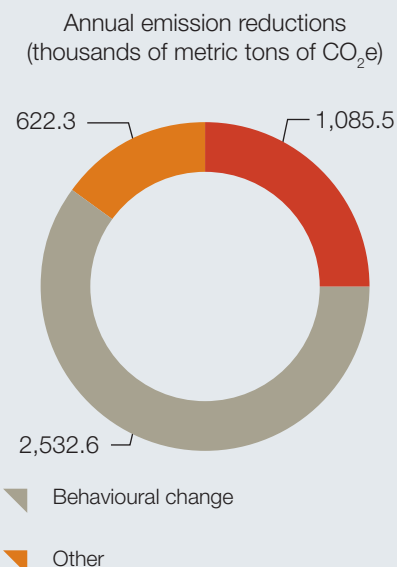
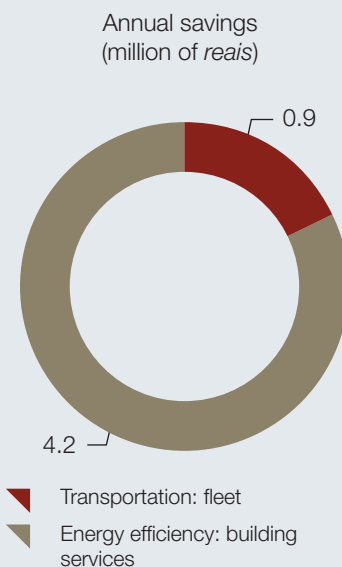
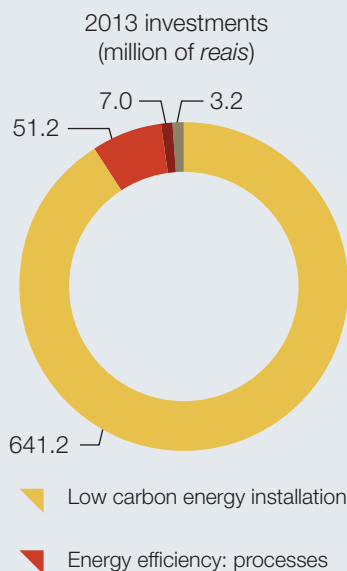


## Energy

Total of companies that reported to the CDP: 3

Company in the CDLI: Ultrapar Participações S/A (89)

### Investments



Payback period	Number of initiatives	Investments (thousands of reais)
1-3 years	1	3,236
4-10 years	1	7,000
(not reported)	28	636,185

**33%**

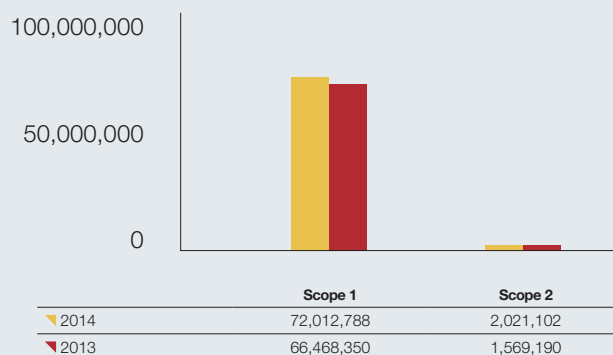
of respondents reported undertaking emission reduction initiatives as a competitive advantage

Energy costs represent up to

**10%**

of the operating costs of enterprises

### Total emissions reported (tCO<sub>2</sub>e)



### 3 major risks reported\*

1. Taxes and regulations on fuel/energy
2. Change in precipitation extremes and droughts
3. Reputation



### Potential impacts:

- Increase in operational costs; falling demand for products and services
- Increase in operational costs; inability to do business; reduction/disruption in production capacity
- Falling demand for products and services; reduction in capital availability

### 3 major opportunities reported\*\*

1. Taxes and regulations on fuel/energy
2. Induced changes in natural resources
3. Reputation



### Potential impacts:

- Investment opportunities, new products
- Increase in production capacity
- Lower cost of capital

\* Reported as being of medium to high probability of occurrence or medium and high impact/ \*\* Reported as high and medium impact



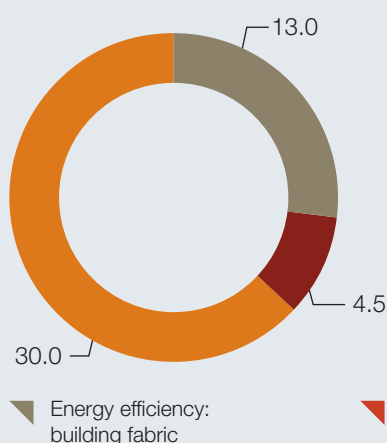
## Basic materials

Total of companies that reported to the CDP: 6

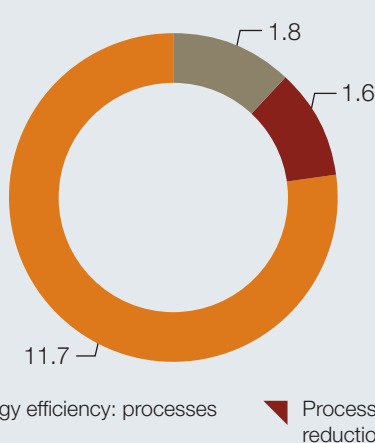
Companies in the CDLI: Braskem (97) Vale (97)

### Investments

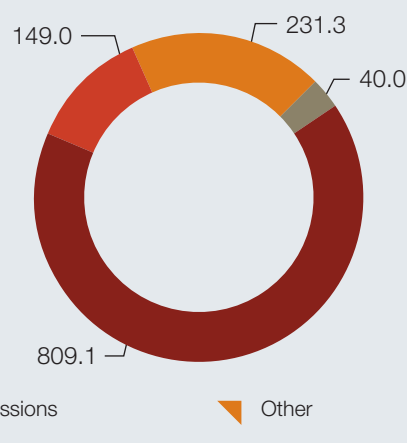
2013 investments  
(million of reais)



Annual savings  
(million of reais)

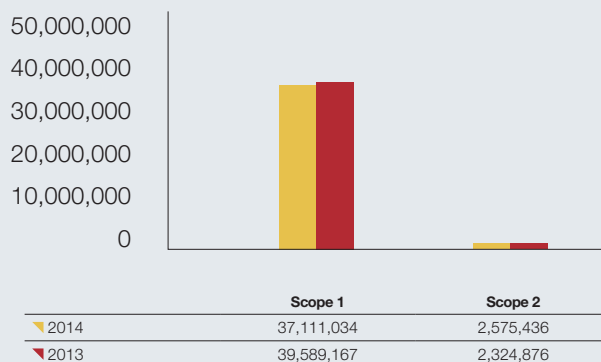


Annual emission reductions  
(thousands of metric tons of CO<sub>2</sub>e)



Payback period	Number of initiatives	Investments (thousands of reais)
< 1 year	3	-
1-3 years	5	4,524
4-10 years	2	43,000
(not reported)	28	-

### Total emissions reported (tCO<sub>2</sub>e)



**33%**

of respondents reported undertaking emission reduction initiatives as a competitive advantage

Energy costs represent up to

**45%**

of the operating costs of enterprises

### 3 major risks reported\*

1. Cap and Trade schemes



Potential impacts:  
Increase in operational costs, falling demand for products and services

2. Changes in precipitation pattern



Potential impacts:  
Reduction/disruption in production capacity; broader social inequalities

3. Reputation



Potential impacts:  
Increase in operational costs; falling demand for products and services; broader social inequalities

### 3 major opportunities reported\*\*

1. Cap and Trade schemes



Potential impacts:  
Investment opportunities, new products

2. Change in precipitation pattern



Potential impacts:  
Reduction in operational costs; increase in capital availability

3. Reputation



Potential impacts:  
Reduction in operational costs; increase in share/stock price

\* Reported as being of medium to high probability of occurrence or medium and high impact/ \*\* Reported as high and medium impact

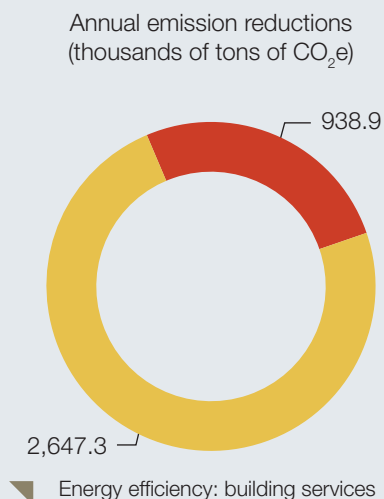
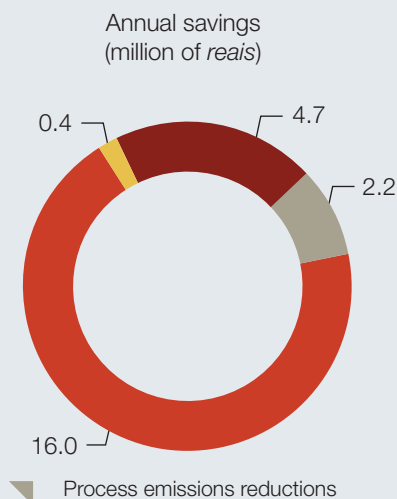
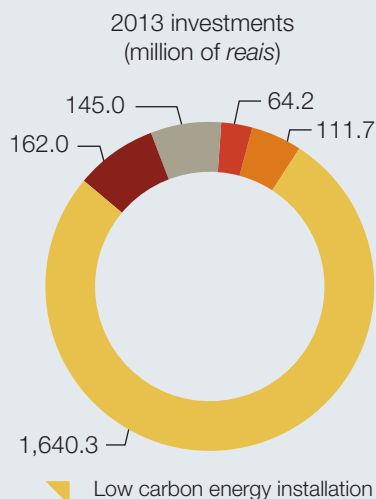


## Utilities

Total of companies that reported to the CDP: 11

Company in the CDLI: Companhia Energética Minas Gerais – CEMIG (98)

### Investments



Payback period	Number of initiatives	Investments (thousands of reais)
1-3 years	1	100,000
4-10 years	2	1,652,000
11-15 years	4	54,277
> 25 years	3	150,000
Não reportado	15	168,118

**27%**

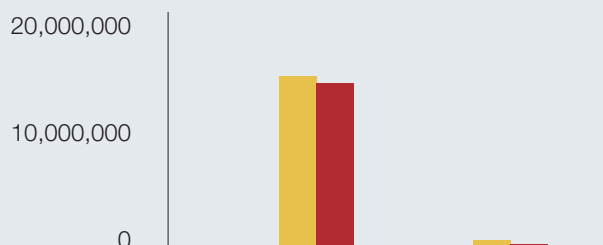
of respondents reported undertaking emission reduction initiatives as a competitive advantage

Energy costs represent up to

**95%**

of the operating costs of enterprises

### Total emissions reported (tCO<sub>2</sub>e)



	Scope 1	Scope 2
2014	17,313,08	4,755,583
2013	9,109,734	3,309,196

### 3 major risks reported\*

1. General environmental regulations, including planning
2. Change in precipitation extremes and droughts
3. Changes in consumer behavior



### Potential impacts:

- Increase in operational cost
- Reduction/disruption in production capacity; reduction of stock prices (market review)
- Falling demand for products and services; reduction/disruption in production capacity

### 3 major opportunities reported\*\*

1. Cap and trade schemes
2. Change in precipitation pattern
3. Reputation



### Potential impacts:

- Investment opportunities, reduction in operating cost, lower cost of capital
- Investment opportunities; rising demand for existing products/services
- Increase in share/stock price

\* Reported as being of medium to high probability of occurrence or medium and high impact/ \*\* Reported as high and medium impact



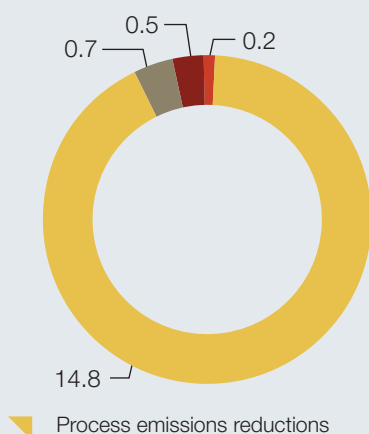
## Consumer staples

Total of companies that reported to the CDP: 6

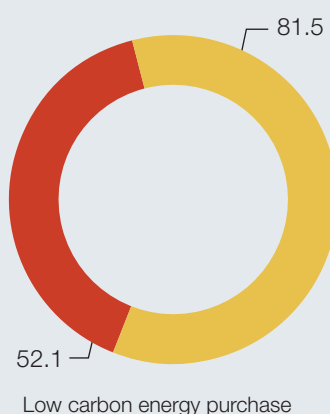
Company in the CDLI: BRF (92)

### Investments

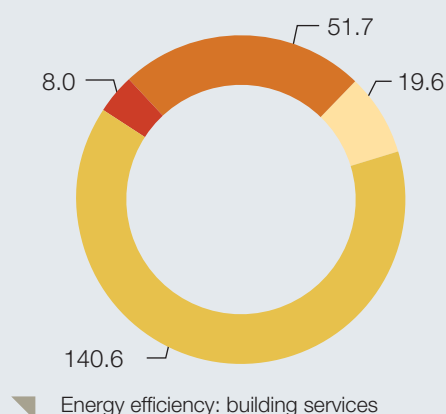
2013 investments  
(million of reais)



Annual savings  
(million of reais)



Annual emission reductions  
(thousands of metric tons of CO<sub>2</sub>e)



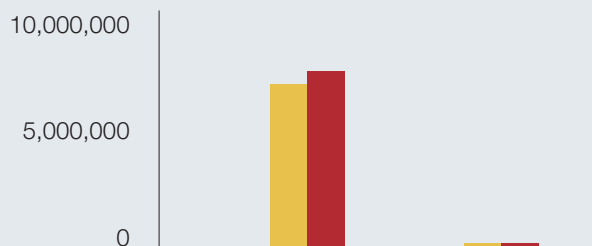
Process emissions reductions  
Energy efficiency: building fabric

Low carbon energy purchase  
Energy efficiency: processes

Energy efficiency: building services  
Transportation: fleet  
Other

Payback period	Number of initiatives	Investments (thousands of reais)
<1 year	11	571
1-3 years	9	53,460
4-10 years	4	72,035
(not reported)	19	7,971

### Total emissions reported (tCO<sub>2</sub>e)



	Scope 1	Scope 2
2014	5,288,707	2,200,449
2013	8,039,829	2,219,802

**57%**

of respondents reported undertaking emission reduction initiatives as a competitive advantage

Energy costs represent up to

**15%**

of the operating costs of enterprises

### 3 major risks reported\*

1. General environmental regulations, including planning
2. Changes in mean temperature
3. Changes in consumer behavior



### Potential impacts:

- Reduction/disruption in production capacity; increase in operating cost; falling demand for products and services
- Increase in operational costs; reduction/disruption in production capacity
- Falling demand for products and services; reduction of stock prices (market review); inability to do business

### 3 major opportunities reported\*\*

1. Cap and trade schemes
2. Change in mean precipitation
3. Changes consumer behavior



### Potential impacts:

- Premium price opportunities
- Reduction in operational costs; increase in production capacity
- Rising demand for existing products/services

\* Reported as being of medium to high probability of occurrence or medium and high impact/ \*\* Reported as high and medium impact





## Industrial

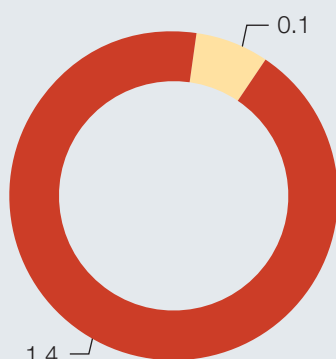
Total of companies that reported to the CDP: 6

Companies in the CDLI: CCR (89)

Ecorodovias Infraestrutura e Logística (88)

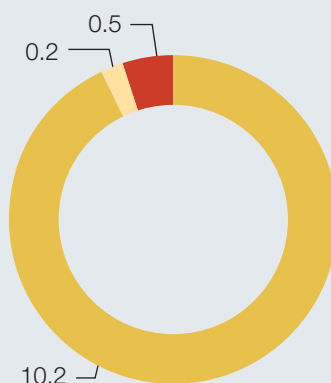
### Investments

2013 investments  
(million of reais)



Energy efficiency: processes

Annual savings  
(million of reais)



Process emissions reductions

Annual emission reductions  
(thousands of metric tons of CO<sub>2</sub>e)



Other

Payback period	Number of initiatives	Investments (thousands of reais)
<1 year	13	105
1-3 years	11	1,335
4-10 years	3	64
(not reported)	1	7

**33%**

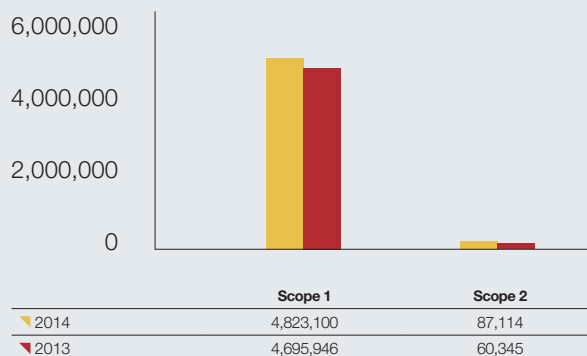
of respondents reported undertaking emission reduction initiatives as a competitive advantage

Energy costs represent up to

**25%**

of the operating costs of enterprises

### Total emissions reported (tCO<sub>2</sub>e)



### 3 major risks reported\*

1. Taxes and regulations on fuel/energy



Potential impacts:  
Increase in operational costs; falling demand for products and services

2. Change in precipitation extremes and droughts



Potential impacts:  
Increase in operational costs; higher cost of capital

3. Reputation



Potential impacts:  
Reduction in capital availability; reduction in production capacity

### 3 major opportunities reported\*\*

1. Air pollution limits



Potential impacts:  
Rising demand for existing products/services

2. Change in mean temperature



Potential impacts:  
Rising demand for existing products/services

3. Change in consumer behavior



Potential impacts:  
Rising demand for existing products/services; increase in capital availability

\* Reported as being of medium to high probability of occurrence or medium and high impact/ \*\* Reported as high and medium impact



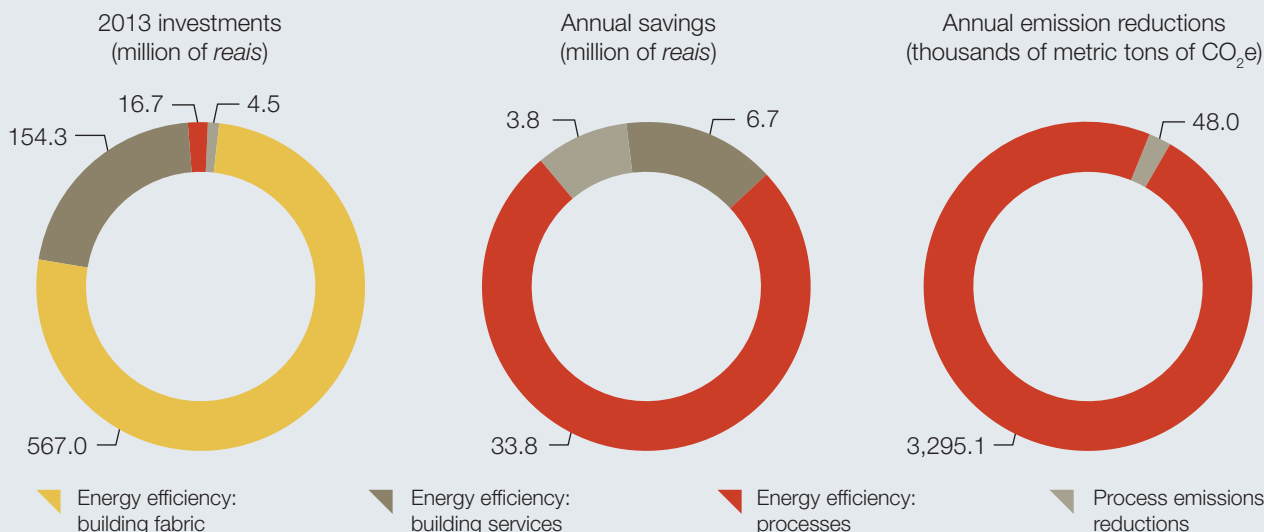
## Financial

Total of companies that reported to the CDP: 10

Companies in the CDLI: Itaú Unibanco Holding (91)

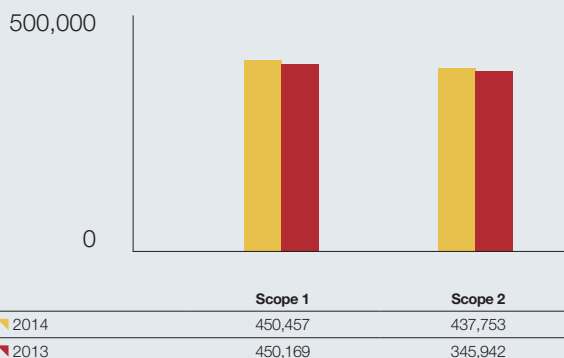
Itaúsa – Investimentos Itaú S.A. (88)

### Investments



Payback period	Number of initiatives	Investments (thousands of reais)
<1 year	20	68,553
1-3 years	19	613,920
4-10 years	3	148
11-15 years	1	53,550
16-20 years	2	6,824
(não reportado)	11	100

### Total emissions reported (tCO<sub>2</sub>e)



**20%**

of respondents reported undertaking emission reduction initiatives as a competitive advantage

Energy costs represent up to

**5%**

the operating costs of enterprises

### 3 major risks reported\*

1. General environmental regulations
2. Changes precipitation pattern
3. Reputation



### Potential impacts:

- Increase in operational costs
- Increase in operational costs; inability to do business
- Higher cost of capital; reduction of stock prices (market review)

### 3 major opportunities reported\*\*

1. General environmental regulations, including the planning
2. Change in precipitation extremes and droughts
3. Change in consumer behavior



### Potential impacts:

- New products and services; investment opportunity; increase in capital availability
- Lower cost of capital; rising demand for existing products/services; new products/services
- Rising demand for existing products/services; increase in capital availability; new products/services

\* Reported as being of medium to high probability of occurrence or medium and high impact/ \*\* Reported as high and medium impact

## Annex I – Methodology

Each year, company responses to CDP's climate change information request are analyzed and scored against two parallel scoring schemes: disclosure and performance. The Disclosure score assesses the completeness and quality of a company's response. Its purpose is to provide a summary of the extent to which companies have answered CDP's questions in a structured format. A high Disclosure score signals that a company provided comprehensive information about the measurement and management of its climate change strategy and risk management processes and outcomes.

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

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

See CPLI and CDLI criteria described below.

To enter the CDLI, a company must:

- Make its response public and submit it via CDP's Online Response System;
- Achieve a score within the top 10% of the total regional sample population (10 leader companies out of the 100 invited companies in Brazil in 2014).

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

- Make its response public and submit it via CDP's Online Response System;
- Attain a Performance score greater than 85;
- Score maximum performance points on question 12.1a (absolute emissions performance) for GHG reductions due to emission reduction actions over the past year (4% or above in 2014);
- Disclose gross global Scope 1 and Scope 2 figures;
- Score maximum Performance points for verification of Scope 1 and Scope 2 emissions;
- In addition, CDP reserves the right to exclude any company from the CPLI if there is anything in its response or other publicly available information that calls into question its suitability for inclusion.

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

For more information, visit: <http://www.cdpla.net/pt-br/iniciativas/metodologia-scoring>

## Appendix I – Scores of responding companies 2014

Company	Sector	Subsector	Disclosure score	Performance score
<b>BRF *</b>		Food	92	B
JBS		Food	85	C
Marfrig Alimentos		Food	78	C
Natura Cosméticos		Hygiene and personal care	77	B
Cia. Brasileira de Distribuição (CBD)	Basic materials	Retail	62	D
Grupo Pão de Açúcar		Retail	15	-
Raia Drogasil		Beverage	-	-
Ambev - Cia de Bebidas das Américas***		Tobacco	-	-
Souza Cruz S.A. ***				
<b>Lojas Renner*</b>		Retail	90	C
Lojas Americanas	Discretionary consumer goods	Retail	71	E
B2W Companhia Global do Varejo		Retail	68	D
<b>Companhia de Concessões Rodoviárias - CCR*</b>		Transport	89	B
<b>Ecorodovias Infraestrutura e Logística*</b>		Transport	88	C
Weg	Industrial	Machinery and equipment	76	C
Embraer****		Aerospace	-	-
All America Latina Logística		Transport	30	-
Gol Linhas Aéreas Inteligentes		Transport	29	-
Randon S.A. Implementos e Participações**		Capital goods	-	-
<b>Companhia Energética Minas Gerais - CEMIG*</b>		Electric power distribution	98	B
EDP - Energias do Brasil S.A.		Electric power distribution	87	C
Centrais Elétricas Brasileiras - ELETROBRÁS		Electric power distribution	83	B
Cia Paranaense de Energia - COPEL		Electric power distribution	83	D
CPFL Energia		Electric power distribution	83	C
LIGHT	Utilities	Electric power distribution	76	D
Companhia de Saneamento Básico do Estado de São Paulo - SABESP		Water supply and sanitation	70	D
Cia Energética de São Paulo - CESP		Electric power distribution	65	D
AES Tietê		Electric power distribution	63	D
COPASA		Water supply and sanitation	63	E
Eletropaulo Metropolitana Eletricidade de São Paulo		Electric power distribution	56	D
Tractebel Energia SA***		Electric power distribution	-	-
<b>Ultrapar Participações*</b>		Oil, gas & consumable fuels	89	B
Petróleo Brasileiro SA - Petrobras	Energy	Oil, gas & consumable fuels	80	C
QGEF Participações****		Oil, gas & consumable fuels	-	-
<b>Itaú Unibanco Holding*</b>		Banks and financial institutions	1	B
<b>Itaúsa Investimentos Itaú*</b>		Banks and financial institutions	88	B
Banco Bradesco		Banks and financial institutions	87	B
BM&FBOVESPA		Banks and financial institutions	83	C
Banco Santander Brasil		Banks and financial institutions	80	B
Porto Seguro		Insurance	63	D
Banco do Brasil	Financial	Banks and financial institutions	60	D
BR Properties****		Real state market	-	-
Brookfield Incorporações		Real state market	32	-
BRMALLS Participações****		Real state market	-	-
Banco do Estado do Rio Grande do Sul - BANRISUL ****		Banks and financial institutions	-	-
Cyrela Brazil Realty Empreendimentos e Participações****		Real state market	-	-
Bradespar S A***		Asset management	-	-

Company	Sector	Subsector	Disclosure score	Performance score
<b>Braskem*</b>	Basic materials	Chemicals	97	B
<b>Vale*</b>		Mining	97	B
Duratex		Cellulose	83	B
Klabin		Packaging	81	B
FIBRIA Celulose****		Cellulose	-	-
Cia. Siderúrgica Nacional - CSN	Health services	Iron and steel industry	71	D
Odontoprev		Outpatient medical care services	80	E
Qualicorp****		Health services	-	-
Telefónica Brasil S.A. ***	Telecommunication services	Telecommunication services	-	-
Tim Participações		Telecommunication services	66	D
Oi		Telecommunication services	63	D
Cielo	Information technology	Software	61	E

\*CDLI companies;

\*\*Company provided information, sharing link to its sustainability reports, where there is information related to climate change

\*\*\*See another companies, whose information is integrated into a parent company, usually the headquarter

\*\*\*\*Not-public response

## Appendix II – 2014 non-respondents

Company	Sector	Subsector	Status*
Anhanguera Educacional Participações SA	Discretionary consumer goods	Consumer services	DP
Arteris SA	Industrial	Transport	DP
BB Seguridade Participações S.A.	Financial	Insurance	NR
Brasil Brokers Participações S.A.	Financial	Real state	NR
CETIP SA – Mercado Organizados	Financial	Diversified financial services	DP
Cia. Hering	Discretionary consumer goods	Retail	NR
Comgás – Cia. de Gás de São Paulo	Energy	Oil & gas	DP
COSAN S.A. Indústria e Comércio	Energy	Oil, gas & consumable fuels	DP
CTEEP Cia. Trans. Elétrica Paulista	Utilities	Electric power distribution	DP
Diagnósticos da América S.A. – DASA	Healthcare	Healthcare services and equipment	DP
Embratel Participações S.A.	Telecommunication	Telecommunication services	DP
Eneva	Utilities	Independent energy distributors & traders	DP
Equatorial Energia S.A.	Utilities	Electric power distribution	NR
Estacio Participações S.A.	Discretionary consumer goods	Consumer services	DP
Even Construtora e Incorporadora S.A.	Discretionary consumer goods	Durable goods	DP
Ez Tec Empreendimentos e Participações S.A.	Discretionary consumer goods	Durable goods	DP
Gafisa S.A.	Discretionary consumer goods	Durable goods	DP
Gerdau S.A.	Basic materials	Metals & mining	DP
Grupo BTG Pactual	Financials	Diversified financial services	NR
HRT Participações em Petróleo S.A.	Energy	Oil, gas & consumable fuels	DP
Hypermarcas S.A.	Consumer staples	Household & personal products	DP
lochpe-Maxion S.A.	Industrial	Capital goods	DP
Kroton Educacional S.A.	Discretionary consumer goods	Consumer services	DP
Localiza Rent a Car S.A.	Industrials	Transport	DP
M Dias Branco S.A.	Consumer staples	Food, beverage & tobacco	DP
Marcopolo S.A.	Discretionary consumer goods	Automobiles	DP
Metalúrgica Gerdau S.A.	Basic materials	Metals & mining	DP
Mills Estruturas e Serviços de Engenharia S.A.	Industrials	Capital goods	DP
Minerva Foods	Consumer staples	Food	DP
MMX Mineração e Metálicos S.A.	Basic materials	Mining	DP
MRV Engenharia e Participações	Discretionary consumer goods	Durable goods	DP
MULTIPLAN Empreendimentos Imobiliários S.A.	Financials	Real state	DP
Multiplus S.A.	Discretionary consumer goods	Media	DP
PDG Realty S.A. Empreend. e Participações	Discretionary consumer goods	Durable goods	DP
Prumo Logística	Industrials	Transport	NR
Rossi Residencial S.A.	Discretionary consumer goods	Durable goods	DP
Sul América S.A.	Financial	Insurance	DP
Suzano Papel & Celulose	Basic materials	Paper & forest products	DP
Totvs AS	Information technology	Softwares & services	DP
Usinas Siderúrgicas de Minas Gerais S.A. Usiminas	Basic materials	Metals & mining	DP
Vanguarda Agro S.A.	Consumer staples	Food, beverage & tobacco	DP
Via Varejo	Discretionary consumer goods	Retail	NR

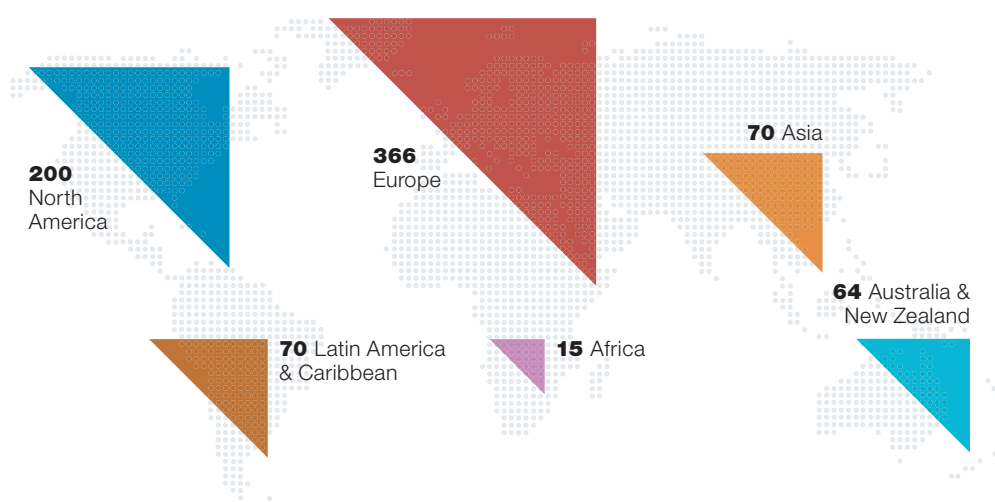
\* DP: declined to participate, NR: no-responder.

## Appendix III – Investor members



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

### Where are the signatory investors located?\*



### CDP investor base continues to grow\*



### Investors by type

**312** Asset managers

**256** Asset owners

**152** Banks

**38** Insurance

**27** Other

### CDP investor members 2014

ABRAPP — Associação Brasileira das Entidades Fechadas de Previdência Complementar

AEGON N.V.

ATP Group

Aviva plc

Aviva Investors

Bank of America Merrill Lynch

Bendigo & Adelaide Bank Limited

BlackRock

Boston Common Asset Management, LLC

BP Investment Management Limited

California Public Employees' Retirement System

California State Teachers' Retirement System

Calvert Investment Management, Inc.

Capricorn Investment Group, LLC

Catholic Super

CCLA Investment Management Ltd

ClearBridge Investments

Fachesf

Fapes

Fundação Itaú Unibanco

Generation Investment Management

Goldman Sachs Group Inc.

Henderson Global Investors

HSBC Holdings plc

Infraprev

KLP

Legg Mason Global Asset Management

London Pensions Fund Authority

Mobimo Holding AG

Mongeral Aegon Seguros e Previdência S/A

Morgan Stanley

National Australia Bank Limited

Neuberger Berman

Nordea Investment Management

Norges Bank Investment Management

NEI Investments

Petros

PFA Pension

Previ

Real Grandeza

Robeco

RobecoSAM AG

Rockefeller Asset Management, Sustainability & Impact Investing Group

Royal Bank of Canada

Royal Bank of Scotland Group

Sampension KP Livsforsikring A/S

Schroders

Scottish Widows Investment Partnership

SEB AB

Serpros

Sistel

Sompo Japan Nipponkoa Holdings, Inc

Standard Chartered

TD Asset Management

The Wellcome Trust

\* There were 767 investor signatories on 1st February 2014 when the official CDP climate change letter was sent to companies, however some investors joined after this date and are only reflected in the 'geographical' and 'type' breakdown.



## Appendix IV – Investor signatories

# 767

financial institutions with assets of US\$92 trillion were signatories to the CDP 2014 climate change information request dated February 1, 2014.

3Sisters Sustainable Management LLC	ASN Bank	Berenberg Bank
Aberdeen Asset Managers	Assicurazioni Generali Spa	Berti Investments
Aberdeen Immobilien KAG mbH	ATI Asset Management	BioFinance Administração de Recursos de Terceiros Ltda
ABRAPP—Associação Brasileira das Entidades Fechadas de Previdência Complementar	Atlantic Asset Management Pty Ltd	BlackRock
Achmea NV	ATP Group	Blom Bank SAL
Active Earth Investment Management	Australia and New Zealand Banking Group	Blumenthal Foundation
Acuity Investment Management	Australian Ethical Investment	BNP Paribas Investment Partners
Addenda Capital Inc.	AustralianSuper	BNY Mellon
Advanced Investment Partners	Avaron Asset Management AS	BNY Mellon Service Kapitalanlage Gesellschaft
AEGON N.V.	Aviva Investors	Boardwalk Capital Management
AEGON-INDUSTRIAL Fund Management Co., Ltd	Aviva plc	Boston Common Asset Management, LLC
AIG Asset Management	AXA Group	BP Investment Management Limited
AK Asset Management Inc.	BAE Systems Pension Funds Investment Management Ltd	Brasilprev Seguros e Previdência S/A.
Akbank T.A.	Baillie Gifford & Co.	Breckenridge Capital Advisors
Alberta Investment Management Corporation (AIMCo)	BaltCap	British Airways Pension Investment Management Limited
Alberta Teachers Retirement Fund Board	Banca Monte dei Paschi di Siena Group	British Coal Staff Superannuation Scheme
Alcyone Finance	Banco Bradesco S/A	Brown Advisory
AllenbridgeEpic Investment Advisers Limited	Banco Comercial Português S.A.	BSW Wealth Partners
Alliance Trust PLC	Banco de Credito del Peru BCP	BT Financial Group
Allianz Elementar Versicherungs-AG	Banco de Galicia y Buenos Aires S.A.	BT Investment Management
Allianz Global Investors Kapitalanlagegesellschaft mbH	Banco do Brasil Previdência	Busan Bank
Allianz Group	Banco do Brasil S/A	CAAT Pension Plan
Altira Group	Banco Espírito Santo, SA	Cadiz Holdings Limited
Amalgamated Bank	Banco Nacional de Desenvolvimento Econômico e Social—BNDES	CAI Corporate Assets International AG
Amlin plc	Banco Popular Español	Caisse de dépôt et placement du Québec
AMP Capital Investors	Banco Sabadell, S.A.	Caisse des Dépôts
AmpegaGerling Investment GmbH	Banco Santander	Caixa de Previdência dos Funcionários do Banco do Nordeste do Brasil (CAPEF)
Amundi AM	Banesprev—Fundo Banespa de Seguridade Social	Caixa Econômica Federal
ANBIMA—Associação Brasileira das Entidades dos Mercados Financeiro e de Capitais	Banesto	Caixa Geral de Depósitos
Antera Gestão de Recursos S.A.	Banif, SA	CaixaBank, S.A
APG	Bank Handlowy w Warszawie S.A.	California Public Employees' Retirement System
Appleseed Fund	Bank Leumi Le Israel	California State Teachers' Retirement System
AQEX LLC	Bank of America Merrill Lynch	California State Treasurer
Aquila Capital	Bank of Montreal	Calvert Investment Management, Inc.
Arisaig Partners Asia Pte Ltd	Bank Vontobel AG	Canada Pension Plan Investment Board
Arjuna Capital	Bankhaus Schelhammer & Schattera Kapitalanlagegesellschaft m.b.H.	Canadian Imperial Bank of Commerce (CIBC)
Arkx Investment Management	BANKIA S.A.	Canadian Labour Congress Staff Pension Fund
Arma Portföy Yönetimi A. .	Bankinter	CAPESEP
Armstrong Asset Management	bankmecu	Capital Innovations, LLC
As You Sow	Banque Degroof	Capricorn Investment Group, LLC
ASM Administradora de Recursos S.A.	Banque Libano-Française	CareSuper
	Barclays	Carmignac Gestion
	Basellandschaftliche Kantonalbank	CASER PENSIONES
	BASF Sociedade de Previdência Complementar	Cathay Financial Holding
	Basler Kantonalbank	Catherine Donnelly Foundation
	Bâtirente	Catholic Super
	Baumann and Partners S.A.	CBF Church of England Funds
	Bayern LB	CBRE
	BayernInvest Kapitalanlagegesellschaft mbH	Cbus Superannuation Fund
	BBC Pension Trust Ltd.	CCLA Investment Management Ltd
	BBVA	Cedrus Asset Management
	BC Investment Management Corporation	Celeste Funds Management Limited
	Bedfordshire Pension Fund	Central Finance Board of the Methodist Church
	Beetle Capital	Ceres
	BEFIMMO SA	CERES—Fundação de Seguridade Social
	Bendigo & Adelaide Bank Limited	
	Bentall Kennedy	

## Appendix IV – Investor signatories

Challenger	East Capital AB	Fondaction CSN
Change Investment Management	East Sussex Pension Fund	Fondation de Luxembourg
Christian Brothers Investment Services	Ecclesiastical Investment Management Ltd.	Fondazione Cariplo
Christian Super	Ecofi Investissements—Groupe Credit Cooperatif	Fondo Pensione Gruppo Intesa Sanpaolo—FAPA
Christopher Reynolds Foundation	Edward W. Hazen Foundation	Fonds de Réserve pour les Retraites—FRR
Church Commissioners for England	EEA Group Ltd	Forluz—Fundação Forluminas de Seguridade Social—FORLUZ
Church of England Pensions Board	Eika Kapitalforvaltning AS	Forma Futura Invest AG
CI Mutual Funds' Signature Global Advisors	Eko	Fourth Swedish National Pension Fund, (AP4)
City Developments Limited	Elan Capital Partners	FRANKFURT-TRUST Investment-Gesellschaft mbH
Clean Yield Asset Management	Element Investment Managers	Friends Fiduciary Corporation
ClearBridge Investments	ELETRA—Fundação Celg de Seguros e Previdência	Fubon Financial Holdings
Climate Change Capital Group Ltd	Environment Agency Active Pension fund	Fukoku Capital Management Inc
CM-CIC Asset Management	Environmental Investment Services Asia Limited	FUNCEF—Fundação dos Economizários Federais
Colonial First State Global Asset Management Limited	Epworth Investment Management	Fundação AMPLA de Seguridade Social—Brasileiros
Comerica Incorporated	Equilibrium Capital Group	Fundação Atlântico de Seguridade Social
COMGEST	equinet Bank AG	Fundação Attilio Francisco Xavier Fontana
Commerzbank AG	Erik Penser Fondkommission	Fundação Banrisul de Seguridade Social
CommInsure	Erste Asset Management	Fundação BRDE de Previdência Complementar—ISBRE
Commonwealth Bank of Australia	Erste Group Bank	Fundação Chesf de Assistência e Seguridade Social—Fachesf
Commonwealth Superannuation Corporation	Essex Investment Management Company, LLC	Fundação Corsan—dos Funcionários da Companhia Riograndense de Saneamento
Compton Foundation	ESSSuper	Fundação de Assistência e Previdência Social do BNDES—FAPES
Concordia Versicherungs-Gesellschaft a.G.	Ethos Foundation	FUNDAÇÃO ELETROBRÁS DE SEGURIDADE SOCIAL—ELETROS
Confluence Capital Management LLC	Etica Sgr	Fundação Itaipu BR—de Previdência e Assistência Social
Connecticut Retirement Plans and Trust Funds	Eureka Funds Management	FUNDAÇÃO ITAUBANCO
Conser Invest	Eurizon Capital SGR	Fundação Itaúsa Industrial
Co-operative Financial Services (CFS)	Evangelical Lutheran Church in Canada Pension Plan for Clergy and Lay Workers	Fundação Promon de Previdência Social
Crayna Capital, LLC.	Evangelical Lutheran Foundation of Eastern Canada	Fundação Rede Ferroviária de Seguridade Social—Refer
Credit Agricole	Evangelisch-Luth. Kirche in Bayern	FUNDAÇÃO SANEPAR DE PREVIDÊNCIA E ASSISTÊNCIA SOCIAL—FUSAN
Credit Suisse	Evli Bank Plc	Fundação Sistel de Seguridade Social (Sistel)
CTBC Financial Holding Co., Ltd.	F&C Investments	Fundação Vale do Rio Doce de Seguridade Social—VALIA
Daesung Capital Management	FACEB—FUNDAÇÃO DE PREVIDÊNCIA DOS EMPREGADOS DA CEB	FUNDIÁGUA—FUNDAÇÃO DE PREVIDENCIA COMPLEMENTAR DA CAESB
Daiwa Asset Management Co. Ltd.	FAELCE—Fundacao Coelce de Seguridade Social	Futuregrowth Asset Management
Daiwa Securities Group Inc.	FAPERS- Fundação Assistencial e Previdenciária da Extensão Rural do Rio Grande do Sul	GameChange Capital LLC
Dalton Nicol Reid	FASERN—Fundação COSERN de Previdência Complementar	Garanti Bank
Dana Investment Advisors	Federal Finance	GEAP Fundação de Seguridade Social
Danske Bank Group	Fédérés Gestion d'Actifs	Gemway Assets
de Pury Pictet Turretini & Cie S.A.	FIDURA Capital Consult GmbH	General Equity Group AG
DekaBank Deutsche Girozentrale	FIM Asset Management Ltd	Generali Deutschland Holding AG
Delta Lloyd Asset Management	FIM Services	Generation Investment Management
Demeter Partners	Finance S.A.	Genus Capital Management
Desjardins Group	Financiere de l'Echiquier	German Equity Trust AG
Deutsche Asset Management Investmentgesellschaft mbH	FIPECq—Fundação de Previdência Complementar dos Empregados e Servidores da FINEP, do IPEA, do CNPq	Gjensidige Forsikring ASA
Deutsche Bank AG	FIRA.—Banco de Mexico	Global Forestry Capital SARL
Deutsche Postbank AG	First Affirmative Financial Network	Globalance Bank Ltd
Development Bank of Japan Inc.	First Bank	GLS Gemeinschaftsbank eG
Development Bank of the Philippines (DBP)	First State Investments	Goldman Sachs Group Inc.
Dexia Asset Management	First State Super	GOOD GROWTH INSTITUT für globale Vermögensentwicklung mbH
DEXUS Property Group	First Swedish National Pension Fund (AP1)	Good Super
DGB Financial Group	Firststrand Group Limited	
DIP	Five Oceans Asset Management	
DLM INVISTA ASSET MANAGEMENT S/A	Folketrygdfondet	
DNB ASA	Folksam	
Domini Social Investments LLC		
Dongbu Insurance		
Doughty Hanson & Co.		
DWS Investment GmbH		
DZ Bank		
E.Sun Financial Holding Co		
Earth Capital Partners LLP		

## Appendix IV – Investor signatories

Governance for Owners	Instituto Infraero de Seguridade Social—INFRAPREV	Light Green Advisors, LLC
Government Employees Pension Fund (“GEPP”), Republic of South Africa	Instituto Sebrae De Seguridade Social—SEBRAEPREV	Living Planet Fund Management Company S.A.
GPT Group	Insurance Australia Group	Lloyds Banking Group
Greater Manchester Pension Fund	Integre Wealth Management of Raymond James	Local Authority Pension Fund Forum
Green Cay Asset Management	Interfaith Center on Corporate Responsibility	Local Government Super
Green Century Capital Management	IntReal KAG	Logos portföy Yönetimi A. .
GROUPAMA EMEKLİLİK A.Ş.	Investec Asset Management	London Pensions Fund Authority
GROUPAMA SİGORTA A.Ş.	Investing for Good CIC Ltd	Lothian Pension Fund
Groupe Crédit Coopératif	Investor Environmental Health Network	LUCRF Super
Groupe Investissement Responsable Inc.	Irish Life Investment Managers	Lutheran Council of Great Britain
GROUPE OFI AM	Itau Asset Management	Macquarie Group Limited
Grupo Financiero Banorte SAB de CV	Itaú Unibanco Holding S A	MagNet Magyar Közösségi Bank Zrt.
Grupo Santander Brasil	Janus Capital Group Inc.	MainFirst Bank AG
Gruppo Bancario Credito Valtellinese	Jarislowsky Fraser Limited	Making Dreams a Reality Financial Planning
Guardians of New Zealand Superannuation	Jessie Smith Noyes Foundation	Malakoff Médéric
Hang Seng Bank	Jesuits in Britain	MAMA Sustainable Incubation AG
Hanwha Asset Management Company	JMEPS Trustees Limited	Man
Harbour Asset Management	JOHNSON & JOHNSON SOCIEDADE PREVIDENCIARIA	Mandarine Gestion
Harrington Investments, Inc	JPMorgan Chase & Co.	MAPFRE
Harvard Management Company, Inc.	Jubitz Family Foundation	Maple-Brown Abbott
Hauck & Aufhäuser Asset Management GmbH	Jupiter Asset Management	Marc J. Lane Investment Management, Inc.
Hazel Capital LLP	Kagiso Asset Management	Maryknoll Sisters
HDFC Bank Ltd.	Kaiser Ritter Partner Privatbank AG	Maryland State Treasurer
Healthcare of Ontario Pension Plan (HOOPP)	KB Kookmin Bank	Matrix Asset Management
Heart of England Baptist Association	KBC Asset Management	MATRIX GROUP LTD
Helaba Invest Kapitalanlagegesellschaft mbH	KBC Group	McLean Budden
Henderson Global Investors	KCPS Private Wealth Management	MEAG MUNICH ERGO AssetManagement GmbH
Hermes Fund Managers—BUT Hermes EOS for Carbon Action	KDB Asset Management Co. Ltd	Mediobanca
HESTA Super	KDB Daewoo Securities	Meeschaert Gestion Privée
HIP Investor	Kendall Sustainable Infrastructure, LLC	Meiji Yasuda Life Insurance Company
Holden & Partners	Kepler Cheuvreux	Mendesprev Sociedade Previdenciária
HSBC Global Asset Management (Deutschland) GmbH	KEPLER-FONDS KAG	Merck Family Fund
HSBC Holdings plc	Keva	Mercy Investment Services, Inc.
HSBC INKA Internationale Kapitalanlagegesellschaft mbH	KeyCorp	Mergence Investment Managers
HUMANIS	KfW Bankengruppe	MetallRente GmbH
Hyundai Marine & Fire Insurance Co., Ltd	Killik & Co LLP	Metrus—Instituto de Seguridade Social
Hyundai Securities Co., Ltd.	Kiwi Income Property Trust	Metzler Asset Management GmbH
IBK Securities	Kleinwort Benson Investors	MFS Investment Management
IDBI Bank Ltd.	KlimalINVEST	Midas International Asset Management, Ltd.
Illinois State Board of Investment	KLP	Miller/Howard Investments, Inc.
Ilmarinen Mutual Pension Insurance Company	Korea Investment Management Co., Ltd.	Mirae Asset Global Investments
Imofundos, S.A	Korea Technology Finance Corporation (KOTEC)	Mirae Asset Securities Co., Ltd.
Impax Asset Management	KPA Pension	Mirova
IndusInd Bank Ltd.	La Banque Postale Asset Management	Mirvac Group Ltd
Industrial Alliance Insurance and Financial Services Inc.	La Financière Responsable	Missionary Oblates of Mary Immaculate
Industrial Bank (A)	La Francaise AM	Mistra, Foundation for Strategic Environmental Research
Industrial Bank of Korea	Lampe Asset Management GmbH	Mitsubishi UFJ Financial Group
Industrial Development Corporation	Landsorganisationen i Sverige	Mitsui Sumitomo Insurance Co.,Ltd
Industry Funds Management	LaSalle Investment Management	Mizuho Financial Group, Inc.
Inflection Point Capital Management	LBBW—Landesbank Baden-Württemberg	MN
Inflection Point Partners	LBBW Asset Management Investmentgesellschaft mbH	Mobimo Holding AG
Infrastructure Development Finance Company	LD Lønmodtagernes Dyrtdsfond	Momentum Manager of Managers (Pty) Limited
ING Group N.V.	Legal and General Investment Management	Momentum Manager of Managers (Pty) Ltd
Insight Investment Management (Global) Ltd	Legg Mason Global Asset Management	Monega Kapitalanlagegesellschaft mbH
	LGT Group	Mongeral Aegon Seguros e Previdência S/A
	LGT Group Foundation	Morgan Stanley
	LIG Insurance	Mountain Cleantech AG
		MTAA Superannuation Fund
		Munich Re

## Appendix IV – Investor signatories

Mutual Insurance Company Pension-Fennia	OPTrust	Reliance Capital Limited
Nanuk Asset Management	Oregon State Treasurer	Representative Body of the Church in Wales
Natcan Investment Management	Orion Energy Systems	Resolution
Nathan Cummings Foundation, The	Osmosis Investment Management	Resona Bank, Limited
National Australia Bank Limited	Panahpur	Reynders McVeigh Capital Management
National Bank of Canada	Park Foundation	River Twice Capital Advisors, LLC
NATIONAL BANK OF GREECE S.A.	Parnassus Investments	Robeco
National Grid Electricity Group of the Electricity Supply Pension Scheme	Pax World Funds	RobecoSAM AG
National Grid UK Pension Scheme	Pensioenfonds Vervoer	Robert & Patricia Switzer Foundation
National Pensions Reserve Fund of Ireland	Pension Denmark	Rockefeller Asset Management, Sustainability & Impact Investing Group
National Union of Public and General Employees (NUPGE)	Pension Fund for Danish Lawyers and Economists	Rose Foundation for Communities and the Environment
Nativus Sustainable Investments	Pension Protection Fund	Rothschild & Cie Gestion Group
NATIXIS	People's Choice Credit Union	Royal Bank of Canada
Natural Investments LLC	Perpetual	Royal Bank of Scotland Group
Nedbank Limited	PETROS—The Fundação Petrobras de Seguridade Social	Royal London Asset Management
Needmor Fund	PFA Pension	RPMI Railpen Investments
NEI Investments	PGGM Vermogensbeheer	RREEF Investment GmbH
Nelson Capital Management, LLC	Phillips, Hager & North Investment Management	Russell Investments
Nest Sammelstiftung	PhiTrust Active Investors	Sampension KP Livsforsikring A/S
Neuberger Berman	Pictet Asset Management SA	Samsung Asset Management Co., Ltd.
New Alternatives Fund Inc.	Pinstripe Management GmbH	Samsung Fire & Marine Insurance Co.,Ltd., Samsung Securities
New Amsterdam Partners LLC	Pioneer Investments	Samsunglife Insurance
New Forests	PIRAEUS BANK	Sanlam Life Insurance Ltd
New Mexico State Treasurer	PKA	Santa Fé Portfolios Ltda
New Resource Bank	Pluris Sustainable Investments SA	Santam
New York City Employees Retirement System	PNC Financial Services Group, Inc.	Sarasin & Cie AG
New York City Teachers Retirement System	Pohjola Asset Management Ltd	Sarasin & Partners
New York State Common Retirement Fund (NYSCRF)	Polden-Puckham Charitable Foundation	SAS Trustee Corporation
Newground Social Investment	Portfolio 21	Sauren Finanzdienstleistungen GmbH & Co. KG
Newton Investment Management Limited	Porto Seguro S.A.	Schroders
NGS Super	POSTALIS—Instituto de Seguridade Social dos Correios e Telégrafos	Scotiabank
NH-CA Asset Management Company	Power Finance Corporation Limited	Scottish Widows Investment Partnership
Nikko Asset Management Co., Ltd.	PREVHAB PREVIDÊNCIA COMPLEMENTAR	SEB
Nipponkoa Insurance Company, Ltd	PREVI Caixa de Previdência dos Funcionários do Banco do Brasil	Second Swedish National Pension Fund (AP2)
Nissay Asset Management Corporation	PREVIG Sociedade de Previdência Complementar	ekerbank T.A. .
NORD/LB Kapitalanlagegesellschaft AG	Prius Partners	Seligson & Co Fund Management Plc
Nordea Investment Management	Progressive Asset Management, Inc.	Sentinel Investments
Norfolk Pension Fund	Prologis	SERPROS—Fundo Multipatrocinado
Norges Bank Investment Management	Provincial Rheinland Holding	Service Employees International Union Pension Fund
North Carolina Retirement System	Prudential Investment Management	Servite Friars
Northern Ireland Local Government Officers' Superannuation Committee (NILGOSC)	Prudential Plc	Seventh Swedish National Pension Fund (AP7)
NORTHERN STAR GROUP	Psagot Investment House Ltd	Shinhan Bank
Northern Trust	Public Sector Pension Investment Board	Shinhan BNP Paribas Investment Trust Management Co., Ltd
NorthStar Asset Management, Inc	Q Capital Partners Co. Ltd	Shinkin Asset Management Co., Ltd
Northward Capital Pty Ltd	QBE Insurance Group	Siemens Kapitalanlagegesellschaft mbH
Nykredit	Quilter Cheviot Asset Management	Signet Capital Management Ltd
OceanRock Investments	Quotient Investors	Sisters of St Francis of Philadelphia
Oddo & Cie	Rabobank	Sisters of St. Dominic
oeco capital Lebensversicherung AG	Raiffeisen Fund Management Hungary Ltd.	Skandia
ÖKOWORLD	Raiffeisen Kapitalanlage-Gesellschaft m.b.H.	Smith Pierce, LLC
Old Mutual plc	Raiffeisen Schweiz Genossenschaft	SNS Asset Management
OMERS Administration Corporation	Rathbones / Rathbone Greenbank Investments	Social(k)
Ontario Pension Board	RCM (Allianz Global Investors)	Sociedade de Previdencia Complementar da Dataprev—Prevdata
Ontario Teachers' Pension Plan	Real Grandeza Fundação de Previdência e Assistência Social	Società reale mutua di assicurazioni
OP Fund Management Company Ltd	REI Super	Socrates Fund Management
Oppenheim & Co. Limited		
Oppenheim Fonds Trust GmbH		
Opplysningsvesenets fond (The Norwegian Church Endowment)		

## Appendix IV – Investor signatories

Solaris Investment Management Limited	The Council of Lutheran Churches	VietNam Holding Ltd.
Sompo Japan Nipponkoa Holdings, Inc	The Daly Foundation	Vinva Investment Management
Sonen Capital	The Environmental Investment Partnership LLP	VOIGT & COLL. GMBH
Sopher Investment Management	The Hartford Financial Services Group	VOLKSBANK INVESTMENTS
Soprise! Impact Fund	The Joseph Rowntree Charitable Trust	Walden Asset Management
SouthPeak Investment Management	The Korea Teachers Pension (KTP)	WARBURG—ENDERSON
SPF Beheer bv	The New School	Kapitalanlagegesellschaft für Immobilien mbH
Spring Water Asset Management	The Oppenheimer Group	WARBURG INVEST
Sprucegrove Investment Management Ltd	The Pension Plan For Employees of the Public Service Alliance of Canada	KAPITALANLAGEGESELLSCHAFT MBH
Standard Chartered	The Pinch Group	Water Asset Management, LLC
Standard Chartered Korea Limited	The Presbyterian Church in Canada	Wells Fargo & Company
Standard Life Investments	The Russell Family Foundation	Wespath Investment Management
Standish Mellon Asset Management	The Sandy River Charitable Foundation	West Midlands Pension Fund
State Bank of India	The Shiga Bank, Ltd.	West Yorkshire Pension Fund
State Board of Administration (SBA) of Florida	The Sisters of St. Ann	Westfield Capital Management Company, LP
State Street Corporation	The Sustainability Group at the Loring, Wolcott & Coolidge Office	WestLB Mellon Asset Management (WMAM)
StatewideSuper	The United Church of Canada—General Council	Westpac Banking Corporation
Stockland	The University of Edinburgh Endowment Fund	WHEB Asset Management
Storebrand ASA	The Wellcome Trust	White Owl Capital AG
Strathclyde Pension Fund	Third Swedish National Pension Fund (AP3)	Wisconsin, Iowa, & Minnesota Coalition for Responsible Investment
Stratus Group	Threadneedle Asset Management	Woori Bank
Sumitomo Mitsui Financial Group	TOBAM	Woori Investment & Securities Co., Ltd.
Sumitomo Mitsui Trust Holdings, Inc.	Tokio Marine Holdings, Inc	YES BANK Ltd.
Sun Life Financial	Toronto Atmospheric Fund	York University Pension Fund
Superfund Asset Management GmbH	Trillium Asset Management, LLC	Youville Provident Fund Inc.
SURA Peru (AFP Integra, Seguros SURA, Fondos SURA, Hipotecaria SURA)	Triodos Investment Management	Zegora Investment Management
SUSI Partners AG	Tri-State Coalition for Responsible Investment	Zevin Asset Management, LLC
Sustainable Capital	Trust Waikato	Zürcher Kantonalbank
Sustainable Development Capital	Trusteam Finance	
Sustainable Insight Capital Management	Trustees of Donations to the Protestant Episcopal Church	
Svenska kyrkan	Tryg	
Svenska kyrkans pensionskassa	Turner Investments	
Swedbank AB	UBS	
Swedish Pensions Agency	UniCredit SpA	
Swift Foundation	Union Asset Management Holding AG	
Swiss Re	Union Investment Privatfonds GmbH	
Swisscanto Asset Management AG	Unione di Banche Italiane S.c.p.a.	
Sycamore Asset Management	Unionen	
Syntarus Achmea Asset Management	Unipension Fondsmæglerselskab A/S	
T. Rowe Price	UNISONS Staff Pension Scheme	
T. SINA KALKINMA BANKASI A. .	UniSuper	
Tata Capital Limited	Unitarian Universalist Association	
TD Asset Management (TD Asset Management Inc. and TDAM USA Inc.)	United Church Funds	
Teachers Insurance and Annuity Association—College Retirement Equities Fund	United Nations Foundation	
Telluride Association	Unity College	
Telstra Super	Unity Trust Bank	
Tempis Asset Management Co. Ltd	Universities Superannuation Scheme (USS)	
Terra Global Capital, LLC	Van Lanschot	
TerraVerde Capital Management LLC	Vancity Group of Companies	
TfL Pension Fund	VCH Vermögensverwaltung AG	
The ASB Community Trust	Ventas, Inc.	
The Brainerd Foundation	Veris Wealth Partners	
The Bullitt Foundation	Veritas Investment Trust GmbH	
The Central Church Fund of Finland	Vermont State Treasurer	
The Children's Investment Fund Management (UK) LLP	Vexiom Capital Group, Inc.	
The Collins Foundation	VicSuper	
The Co-operative Asset Management	Victorian Funds Management Corporation	
The Co-operators Group Ltd		



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