

# Carbon Disclosure Project

## The Carbon Chasm

Based on Carbon Disclosure Project 2008 responses  
from the world's 100 largest companies



This research was supported by BT



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## The Carbon Chasm

### Foreword

If we consider CO<sub>2</sub> emissions as a withdrawal from the Bank of Climate Stability then ever since the industrial revolution we have been increasing our climate debt. The level of climate debt is now so high that we are on the verge of a climate crunch, as large in scale as the onset of an ice age – but in the opposite direction.

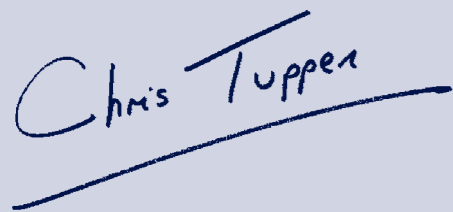
Although it will be many years before we are in a position to pay back our loans (which would actually require a net removal of CO<sub>2</sub> from the atmosphere every year), we urgently need to reduce the amount we are ‘borrowing’ (i.e. emitting) every year.

For industrialised countries the IPCC tells us that to prevent dangerous climate change we need to reduce our annual ‘withdrawals’ to 20% of what they were in 1990. If we are to achieve this by reducing emissions by a fixed percentage every year then it’s quite easy to calculate that the percentage reduction needs to be around 4% per annum on a compound basis between now and 2050.

The business world is rising to this challenge and most large companies now measure their carbon footprint and many have set carbon reduction targets. But how many of those targets are actually in line with the required reduction to prevent dangerous climate change?

In an attempt to answer this question for its own emissions, BT worked with Prof. Jorgen Randers of the Norwegian School of Management to establish a new approach to target setting. We called this a Climate Stabilisation Intensity target and discussions on this new methodology with the CDP led us to the research described in this report.

The findings highlight a significant gap between what’s needed from the corporate sector and what’s currently promised. Whether this is because everyone is waiting on the outcome from Copenhagen in December is not clear. Whatever the reason, we in the business world need to find a way of closing the carbon chasm.



Chris Tuppen  
Chief Sustainability Officer  
BT

# Executive Summary

In 2007 the IPCC stated that developed economies must reduce greenhouse gas (GHG) emissions by 80-95% by 2050 in order to avoid dangerous climate change<sup>1</sup>.

This report utilises the Carbon Disclosure Project (CDP) dataset<sup>2</sup> to analyse how the world’s largest companies currently set emissions reduction targets and whether planned reductions are sufficient to combat long term climate change. It also draws evidence from 12 in depth interviews with Global 100<sup>3</sup> companies to show what motivates senior management in setting GHG reduction targets.

This work was conducted in conjunction with BT (British Telecommunications plc), which has ignited a debate around science led targets with its proposed Climate Stabilisation Intensity target (CSI) methodology.

#### Key Findings:

**We are facing a Carbon Chasm** – to cut emissions in developed economies by the required 80% by 2050, we need to see a minimum annual global reduction rate of 3.9% per annum. However, analysis of reduction targets from the Global 100 companies shows they are currently on track for an annual reduction of just 1.9% per annum. If we were all to continue on that trajectory we will not achieve the required reductions until 2089, 39 years too late. The consequences for the climate could be dramatic.

**73% of Global 100 companies report some form of reduction target, while a significant minority (27%) do not.** There is an urgent need for all companies to establish and achieve required targets.

**Company target setting is motivated by market forces, not scientific requirements** – reduction targets are used to identify inefficiencies in corporate operations, to achieve cost savings, stimulate innovation, to minimise climate change risks, to benchmark against competitors and satisfy stakeholder demands. Some also cite a positive impact on the environment and staff motivation and recruitment as a factor too.

**CO<sub>2</sub>-equivalent targets dominate** and are more popular than energy efficiency or energy consumption targets. 62% (84) of the targets are CO<sub>2</sub>-e related, compared to 15% (21) based on energy consumption and 9% (13) based on energy efficiency.

**Absolute targets outstrip intensity in popularity**, with almost twice as many absolute (86) targets compared to intensity (45). Companies favouring absolute targets say they are more transparent and deliver absolute reductions, while those preferring intensity targets say they benefit from more flexibility, especially in terms of business growth.

**84% (103) of target deadlines are set to 2012 or before** which suggests that businesses are waiting to hear outcomes of the UN Conference of the Parties meeting in Copenhagen this December (COP-15), before setting longer term reduction goals. Just 16% (19) of those with a target year, are set beyond 2012 suggesting government leadership is required to stimulate longer term target setting.

**The wide range of targets is not directly comparable and it is difficult to judge the impact.** The absence of a standard framework for setting emissions reduction targets has led to a patchwork of company specific targets, which have developed from individual company priorities and market forces.

**One Size fits all won’t work** – Although there was recognition that harmonisation of targets has advantages, there was broad consensus among interviewees that a ‘one-size-fits-all’, cross-industry approach, is not a favoured option within a voluntary process. It was argued that sector and company differences could result in skewed data or incentives and reduce transparency if one target methodology was applied across the board.

#### Recommendations:

1. Every company should set a CO<sub>2</sub>-e<sup>4</sup> reduction target.
2. Targets must have clear baseline and target years.
3. Governments need to agree clear medium and long term reduction goals in Copenhagen to provide a framework for business to set required targets.
4. Company targets should reflect the IPCC scientific recommendations and whilst absolute targets are preferred for clarity, aggressive intensity targets can also deliver.

This report highlights a key issue – the vast array of targets makes it very challenging to assess one target against another. There is a major need for more harmonisation in setting targets in line with the science and while some companies appreciate the need for dramatic reductions, the capacity to harmonise targets at all, let alone in line with scientific requirements has significant barriers. More consistency is needed across the whole of industry such that the laggards catch up with the leaders in undertaking major emissions cuts over the short, medium and long term in order to permanently close the Carbon Chasm.

<sup>1</sup> Intergovernmental Panel for Climate Change Fourth Assessment Report, 2007  
<sup>2</sup> CDP 2008 data was collected on behalf of 385 institutional investors. There are now 475 institutional investor signatories to the CDP information request  
<sup>3</sup> Largest 100 companies within the FTSE Global Equity Index Series  
<sup>4</sup> CO<sub>2</sub>-equivalent covers the 6 major greenhouse gases, normalised to CO<sub>2</sub>

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## Introduction

In 2007 the IPCC stated that developed economies must reduce greenhouse gas (GHG) emissions by 80-95% by 2050 in order to avoid dangerous climate change<sup>5</sup>.

This Herculean task is essential, but can only be achieved through strong government leadership, innovations in technology, decoupling economic growth from emissions increases and dramatic changes in consumer consumption patterns<sup>6</sup>. Clearly much work needs to be done, as global emissions are still growing and continuing with business as usual will mean a further 55% increase by 2030<sup>7</sup>.

It is widely accepted that if companies don't measure their emissions, they can't manage them. So the first step towards managing GHG emissions has to be calculating your emissions and then tracking them over time. The Carbon Disclosure Project (CDP) has been collecting GHG emissions data from the world's largest companies, along with their climate change strategy information for 7 years. More than 2,500 companies now report through CDP.

This research report utilises the CDP dataset to analyse how companies currently set targets and looks at whether planned reductions are sufficient to combat long term climate change. Our analysis shows that there is a Carbon Chasm between what the science requires and what the world's largest companies are doing to cut emissions. It also shows high levels of complexity and a significant lack in comparability of corporate reduction targets, which will eventually need to be harmonised in line with the scientific targets.

At present we are not on track to achieve the 2050 targets but the key issue will be how companies respond to this challenge as many of them set targets beyond 2012.

This work was conducted in conjunction with BT (British Telecommunications plc) which has developed a Climate Stabilisation Intensity target (CSI) methodology for setting emissions reductions goals in line with globally required emissions reductions<sup>8</sup>.

## Research Methodology

CDP set out to understand how companies are currently tackling emissions reductions and how their targets measure up against IPCC requirements. In order to gain a full picture of current corporate targets, we analysed two separate datasets:

1. Responses from 92% of the world's 100 largest publicly quoted companies (Global 100)<sup>9</sup> to CDP 2008 Questionnaire.
2. In depth interviews conducted by CDP with executives at 12 of the Global 100 companies on target setting.

Section 1 of this report analyses CDP responses to show the level of reductions companies are planning to make. In section 2 the interview findings demonstrate what motivates companies to set their targets. The analysis of the two datasets enables us to understand the "what" and the "why" of companies' emissions reductions targets.

<sup>5</sup> Intergovernmental Panel for Climate Change Fourth Assessment Report, 2007

<sup>6</sup> A Carbon Crunch is Coming, Citigroup, 2008

<sup>7</sup> McKinsey & Company, 2009. Pathways to a Low-Carbon Economy, Version 2 of the Global Greenhouse Gas Abatement Cost Curve. Available at: [http://www.mckinsey.com/client-service/ccsi/pathways\\_low\\_carbon\\_economy.asp](http://www.mckinsey.com/client-service/ccsi/pathways_low_carbon_economy.asp)

<sup>8</sup> <http://www.btplc.com/news/Articles/Showarticle.cfm?ArticleID=5bbd383f-e732-43a1-b11f-2744feaa09b>

<sup>9</sup> Top 100 companies within the FTSE Global Equity Index Series

# 1 Analysis of Global 100 responses to CDP

“From 1990 to 2007, while our worldwide sales increased by over 400%, Johnson & Johnson companies cut CO<sub>2</sub> emissions by 12.7% on an absolute basis.”

Johnson & Johnson

“In 1992, we began tracking the efficiency of our energy use across all of our operations. Since that time, we have increased our energy efficiency per unit of output by 27% ...We continue to set yearly targets for improvement.”

Chevron Corporation

This section is based on analysis of the Global 100 companies' emissions reductions targets and strategies reported to the CDP 2008 Questionnaire. The aim of the analysis was to understand trends in target setting, the types of targets companies are adopting, why they are chosen and how they measure up against the required reductions stipulated by the IPCC. (See Appendix for company targets.)

### CO<sub>2</sub> targets lead the way

- 73% (73) of Global 100 companies have set some form of reduction target. 27% of the Global 100 either do not disclose or do not currently have a target.
- CO<sub>2</sub>-equivalent (CO<sub>2</sub>-e) targets are more popular than energy efficiency or energy consumption targets. 62% (84) of the targets are CO<sub>2</sub>-e related, compared to 15% (21) based on energy consumption and 9% (13) based on energy efficiency.
- There are 137 targets in total – showing that many companies have more than one target.
- 6% (8) of targets are 'other' types of target, including targets relating to indirect impact, while 5% (7) are sector specific targets, such as flaring for the Oil and Gas sector.
- There was strong representation from low intensity sectors such as Financials and Health Care in CO<sub>2</sub>-e related targets.
- The Energy sector, which includes Oil and Gas, is significantly lagging the Electric Utilities sector. Within Electric Utilities, 100% (5) companies have a CO<sub>2</sub>-e related target, however within the Energy sector, 54% (7) of companies have CO<sub>2</sub>-e related targets.
- European companies have the strongest target setting with 84% (38) reporting a reduction target.
- 71% (27) of US based companies have a target.
- 66% (6) of Asian companies in the sample have CO<sub>2</sub>-e targets.

While the majority of respondents report some form of target or combination of more than one target, more than one quarter do not disclose any form of target at all. If some companies fail to reduce emissions, this will increase the burden on those who do intend to reduce emissions in order to reduce in line with scientific recommendations.

The popularity of CO<sub>2</sub>-e targets is evidence that companies recognise these reductions as a key part of climate change management. However, energy efficiency and energy consumption reductions also play a role – and are often favoured because of the more direct link to reduction in energy costs as well as emissions. Although generally CO<sub>2</sub>-e targets result in a reduction in energy use which often translates into a cost reduction.

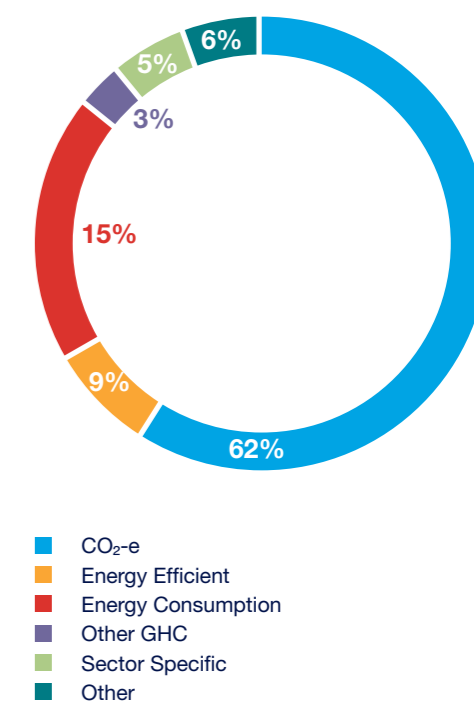
It is concerning though that responses show weak representation from high impact sectors such as Oil and Gas. We can expect to see mounting pressure from governments on such high impact sectors to develop robust targets, as without them long term reductions will be very hard to achieve.

Finally it is interesting to note that European companies are strong on setting targets, likely due to the impact of the EU Emissions Trading Scheme, which has raised awareness and is driving reductions in the high impact sectors. The EU also has a target of 20% reduction by 2020 against 1990 levels, which has led to more pressure at national level for companies to reduce emissions. US companies are also demonstrating strong commitments to target setting with 71% reporting some form of target.

“Our ambition is to be able to generate energy at low cost and zero emission by 2020.”

ENEL

Fig 1 Types of Target



Box 1

**Absolute** emissions reduction targets are defined by the GHG Protocol as goals to “reduce absolute emissions over time”. Absolute targets are most frequently expressed in percentages or in tonnes of CO<sub>2</sub>-e. Absolute reduction targets are often considered to be more environmentally robust by organisations such as WWF Climate Savers or Greenpeace.

**Intensity** emissions reduction targets are defined by the GHG Protocol as goals to “reduce the ratio of emissions relative to a business metric over time”. These are favoured by some companies who think it is difficult to decouple emissions growth from business growth.

Based on Greenhouse Gas Protocol

**Majority choose absolute targets over intensity**

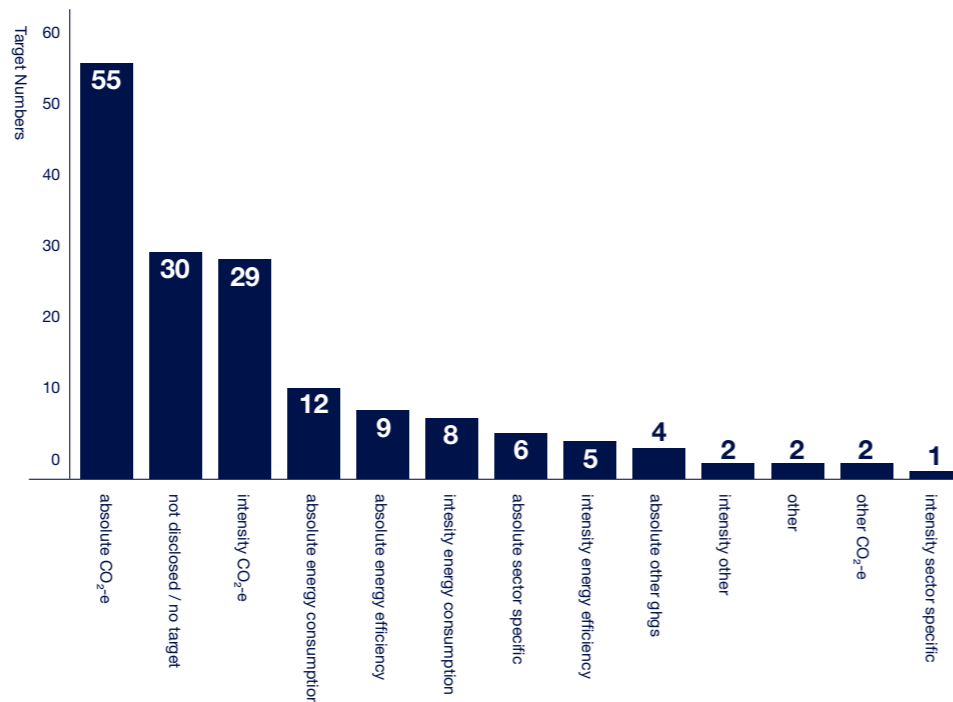
A major differentiator between targets is whether they are absolute or intensity based. A 2% absolute target will generally deliver far greater emissions reductions in a growing business than a 2% intensity related target, so intensity percentage targets tend to appear higher and are linked to another measure – e.g. revenue, sales, or production unit. Box 1 highlights the differences.

Fig 2 shows a breakdown of the various target types, including absolute compared to intensity based targets. The key trends that can be seen in the data are:

- Within both absolute and intensity target categories, the most popular targets are CO<sub>2</sub>-e, followed by energy consumption and energy efficiency.
- Absolute targets outstrip intensity in popularity, with almost twice as many absolute (86) targets compared to intensity (45).
- Some companies have more than one absolute CO<sub>2</sub>-e target, set over different timelines or targeting different parts of the business.
- Both CO<sub>2</sub>-e absolute and intensity targets are used across a wide range of sectors.
- 25% (34) of targets reported are energy rather than CO<sub>2</sub>-e related.

Although absolute targets are more popular in all categories, there is a significant minority selecting intensity targets, demonstrating that both currently play an important role in target setting for major companies. We explore the benefits of each in the interview section later in the report.

**Fig 2 Absolute and Intensity Target Breakdown**



**Companies use growth related intensity measures**

Within the intensity target categories, there is considerable variation of normalisation factors against which reductions are set and Fig 3 shows common traits.

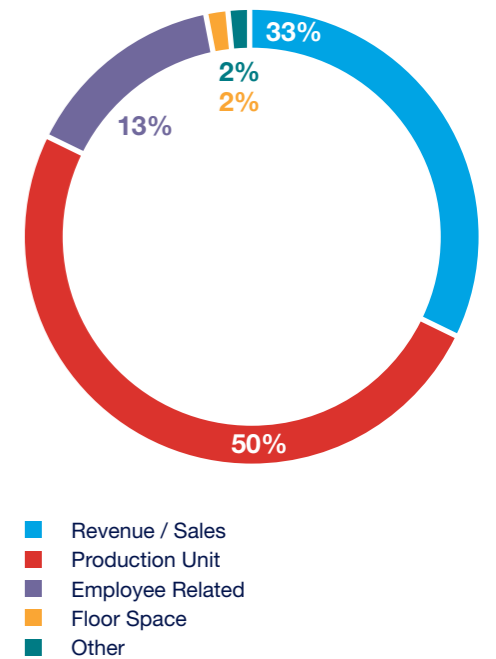
- All intensity denominators used are a proxy for the size of the business e.g. production or sales volume. This gives more flexibility than an absolute target, because it allows for an absolute rise in GHG emissions where the business is growing.
- Intensity targets are used by 29% (29) of the Global 100 companies and some of those have more than one intensity target.
- A total of 33% (45) of reported targets are intensity based.

The wide range of normalisation measures and uncertainty of business growth makes it difficult to compare the impact and resulting reductions that will be generated by companies’ targets. Production unit and revenue are the most frequently used measures, but even within these subsections there is further variation. In order to accurately calculate the reductions each target would generate, far more detailed financial and production data from each company would be required along with assumptions of future growth.

“[Our emissions target is a] 25% revenue normalised reduction in CO<sub>2</sub> emissions intensity (which equates to a 1% absolute reduction) by 2012 from 2007 baseline.”

Boeing Co., Ltd.

**Fig 3 Reported Intensity Measures**



“Over the longer term we have reduced our GHG emissions by nearly 25% compared with 1990 baseline. Our total upstream flaring has dropped nearly 60% since 2001.”

Royal Dutch Shell plc

### Companies favour short term targets

The popularity of the target years up to and including 2012, suggests that businesses are waiting to hear outcomes of the UN Conference of the Parties meeting in Copenhagen this December (COP-15), before setting longer term reduction goals.

We look at the target years chosen by companies to ascertain trends and understand how they correlate with scientific requirements.

- A total of 89% (122) of the 137 targets reported have a target year.
- 84% (103) of these targets are set to 2012 or before.
- The most popular target years are 2010 and 2012. 2012 correlates with the final year of the Kyoto Protocol<sup>10</sup>.
- Just 16% (19) of those with a target year, are set beyond 2012.
- There are just five companies with targets to 2020, including ENEL, France Telecom, Tesco and Vodafone; with E-ON setting a target through to 2030.
- Just eight companies have an annual target, which often applies over a number of years.
- Not all companies disclosed a baseline year or a start date, so impact is unclear and it's hard to judge the quality of these targets.

Although the Kyoto Protocol expires in 2012 and Kyoto national and international targets run to 2012, the IPCC states clearly that reductions are required well beyond 2012<sup>11</sup> and we require medium and long term goals. A minority of companies, including E-On, Procter & Gamble Company, Vodafone and Wal-Mart Stores, Inc. are setting mid to long term reduction targets. However, the high proportion of targets which run to 2012 suggests that a global deal in Copenhagen is essential to provide businesses with more certainty on credible long term reductions. Many companies report to CDP that the outcome of the COP-15 meeting in Copenhagen will have a significant impact on their long term planning.

As budget cycles for many businesses tend to be either annual or run over a few years, it is not surprising that reduction targets follow a similar pattern. But the question is, how successful will targets be in the context of preventing dangerous climate change if they are driven by financial rather than scientific imperatives?

### Current Global 100 targets will not achieve scientific requirements

The enormous range and types of targets used by the Global 100 companies and the corporate sector more broadly, raises a fundamental question. Will this patchwork of voluntary targets sufficiently reduce emissions in line with scientific targets to stop dangerous climate change?

In order to answer this essential question, CDP has calculated the average annual reduction across the Global 100 companies. The analysis took the 55 CO<sub>2</sub>-e related absolute reduction targets and the 29 CO<sub>2</sub>-e related intensity targets to ascertain the average annual CO<sub>2</sub>-e reduction rate, based on these targets. The intensity related targets were adjusted for real GDP growth to give an accurate reflection of what they will deliver in terms of absolute reductions<sup>12</sup>.

The analysis found:

- The average absolute reduction targets from the Global 100 will achieve a 2.5% annual CO<sub>2</sub>-e reduction within the target years.
- The intensity targets will achieve a 3.3% average reduction, but when normalised for GDP growth, will achieve just 0.7% reduction per annum.
- **The two types of targets combined, when normalised for GDP growth will achieve 1.9% annual CO<sub>2</sub>-e reduction<sup>13</sup>.**

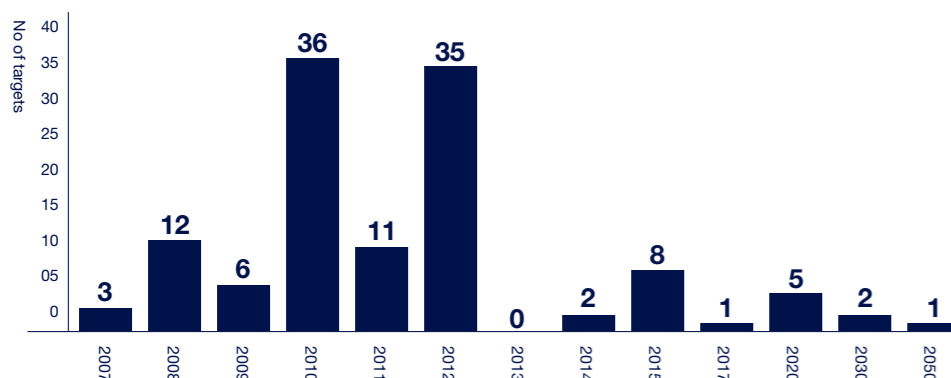
CDP also calculated what percentage annual reduction is required in order to achieve the IPCC recommended reductions of 25-40% by 2020 and 80-95% by 2050, against a 1990 baseline<sup>14</sup>.

- To achieve 25% reductions by 2020, we require a global reduction rate per annum of 2.6%. If we continue at the Global 100 CO<sub>2</sub>-e emission reduction rates, we will not reach the 25% reduction until 2024, or 40% until 2035.
- To achieve 80% reductions by 2050, we need to see an annual global reduction rate of 3.9%. However, if we all continue at the current average Global 100 reduction rate of 1.9%, we will not achieve this reduction level until 2089, 39 years too late. The consequences for the climate could therefore be dramatic.
- The intensity based CO<sub>2</sub>-e targets, which currently achieve an annual 0.7% reduction, would not achieve the required 25% reduction for 2020, until 2050.
- 27% of Global 100 companies do not disclose any target. This gap hasn't been factored into analysis. If it was, the Carbon Chasm would be even greater.

- In order to ensure the robustness of the analysis, it is based on conservative assumptions:
  - Due to the lack of corporate data from 1990 levels and because the majority of companies baseline years are set at 2005-9 rather than 1990 levels, this analysis assumes 2009 as the start point for reductions. If the start point had been set at IPCC baseline of 1990, the required reductions per annum would be even greater.
  - We have not included those companies which do not report a target – assuming they do not have any form of target, had they been included, the required per annum reductions would increase.
  - Constant rather than nominal GDP growth is a more conservative assumption.

The analysis assumes that companies cut emissions year on year at the same rate as indicated in their current plans. Although this doesn't mirror exactly the methods of reduction applied by all companies (i.e. some set a 4 year target and focus less on annual numbers), it is the closest reflection of what many companies are doing. The analysis focuses on CO<sub>2</sub>-e related targets as these are the only ones from which it is possible to measure the projected percentage of emissions reductions with the reported data.

Fig 4 Reported target years



10 The Kyoto Protocol runs to 2012 and targets years are set at 2012 against 1990 levels  
[http://unfccc.int/kyoto\\_protocol/items/2830.php](http://unfccc.int/kyoto_protocol/items/2830.php)  
 11 Intergovernmental Panel for Climate Change Fourth Assessment Report, 2007

12 [http://www.oecd.org/document/15/0,3343,en\\_2649\\_33715\\_1873295\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/15/0,3343,en_2649_33715_1873295_1_1_1_1,00.html)

13 For our analysis we used real rather than nominal GDP growth. This is a conservative assumption and using nominal GDP growth would further exacerbate the problem with hitting scientific requirements

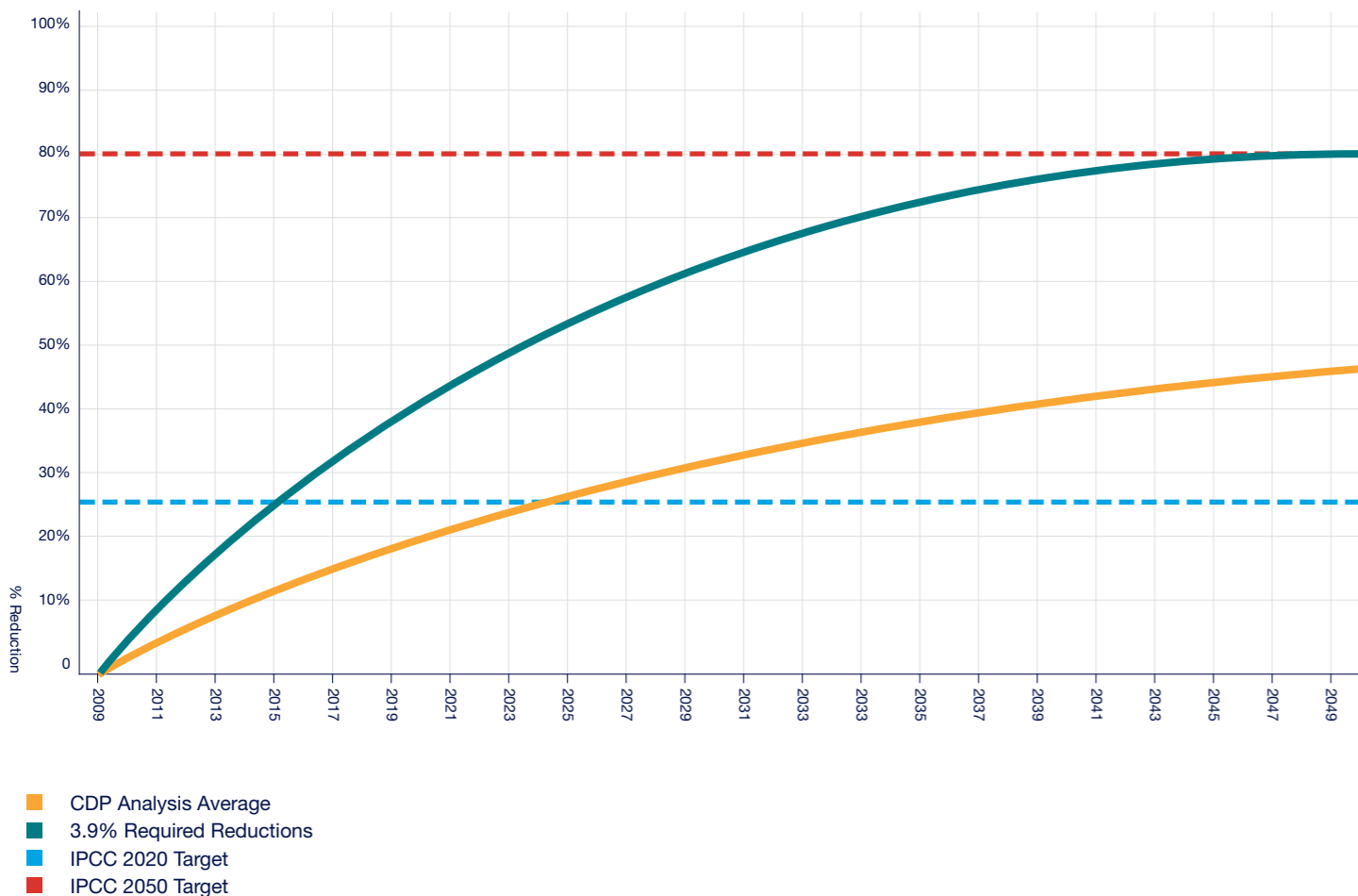
14 These requirements apply to Annex 1 under Kyoto Protocol – industrialised countries and countries in transition

A recent report focused on climate change by Goldman Sachs noted that “the equity market is only just beginning to reflect the magnitude of change that lies ahead and we are approaching a tipping point at which the issue’s importance to business performance and investors will escalate.”<sup>15</sup>

The analysis done by CDP identifies a serious Carbon Chasm. The Chasm highlights the gap between current Global 100 reduction targets and what we need to see if we are to reduce in line with scientific recommendations.

It shows the majority of companies are currently failing to deliver the reductions required to avoid dangerous climate change. Although a minority of leading companies do have targets which will deliver the required reductions, the majority do not. It is vital that we see significantly more aggressive targets developing if business is to reduce emissions sufficiently. Government leadership and action appears to be required to ensure this happens.

Fig 5 The Carbon Chasm



# 2 Analysis of in depth Interviews

CDP interviewed 12 Global 100 companies<sup>16</sup> in Spring 2009, within the Global 100. Companies were asked to explain motivations and processes for setting targets. The following section analyses the findings from those interviews.

**Companies interviewed: Cisco, The Coca-Cola Company, GlaxoSmithKline (GSK), IBM, L’Oréal, Microsoft, Nokia, PepsiCo UK, RWE, Siemens, Tesco and Wells Fargo & Company.**

**Companies were selected for their expertise in carbon management or because they were in the process of setting a target. They represent high and low intensity sectors.**

## Companies target setting is motivated by market forces

The motivations companies cite for setting targets are varied, but are largely driven by market forces. They include:

- Emissions reduction targets are used to identify inefficiencies in corporate operations, to achieve cost savings and stimulate innovation.
- Targets can help minimise GHG associated risks, whilst preparing for potential future regulation.
- External pressure due to increased climate change awareness, from customers or other stakeholders, particularly for consumer facing companies.
- Shareholder pressure and actions on climate change – some 475 institutional investors require companies to report through CDP annually. There have also been 67 shareholder resolutions on climate change filed in the US and Canada during the 2009 proxy season<sup>17</sup>.
- Competitive advantage and benchmarking on emissions levels and reductions is becoming increasingly important.
- Desire to have a positive impact on the environment and support staff motivation and recruitment.

The range of market forces listed above demonstrates that companies are currently planning within existing systems and are not driven by the scientific recommendations. Interviewees recognised the value of taking scientific recommendations into account and some corporate targets will deliver in line with the scientific requirements, however this is not a major factor in target setting at this stage.

“We wanted our renewables target to be stretching, easily understood internally and provide a simple signpost to the changes needed.”  
PepsiCo UK

“We identified significant emissions, including electricity use, refrigerants and diesel from distribution and established possible savings.”  
Tesco

<sup>16</sup> Interviewees were directors or managers and worked in environmental, sustainability, CSR and EHS, investor relations or communications departments  
<sup>17</sup> Investor Network on Climate Risk, 2009. Climate Resolutions Toolkit. Available at: <http://www.ceres.org/resolutions>

<sup>15</sup> Change is coming: A framework for climate change – a defining issue of the 21st century, GS Sustain, 2009

“IBM has been collecting emissions data since the early 1990s and we have leveraged this information in setting our emissions reduction targets as it enabled us to determine the highest impact emissions sources. We look at where our activities intersect with the environment and therefore where we should focus our efforts in order to achieve the greatest results.”

IBM

“We identified areas with the largest impact, where there are opportunities to reduce. We have intensity targets for internal purposes and we have absolute company targets which cover all main areas of the business.”

Nokia

### You can't manage what you don't measure

As the decision to set a target is being made, companies tend to follow a step process by which they come to select their target methodology and set their targets:

- Step 1:** Measure emissions
- Step 2:** Process of measurement highlights hotspots for emissions reductions
- Step 3:** Select methodology and scope of target
- Step 4:** Set target

Most companies use the measurement process to identify the highest impact areas or best opportunities for reduction and targets are developed from there. The other major consideration highlighted by interviewees is the assessment of what is reasonable, aggressive and achievable and will have the highest impact from an emissions reduction perspective.

### No two targets are the same

Our analysis of the Global 100 found large variations in their targets. This finding was reinforced through a more detailed analysis of the interviewed companies that found:

- The scope of targets varies significantly.
- The percentage reduction for every target is different.
- Some reduction targets are stated in tonnes of CO<sub>2</sub>-e, some in percentage terms.
- The baseline and target years vary significantly.
- All companies except one have more than one target, often a combination of intensity and absolute.

As a result, targets are not directly comparable and it is difficult to judge the full impact. Most targets are voluntary: the absence of a regulatory framework for setting emissions reduction targets has led to a patchwork of company specific targets which have developed from individual company priorities and market forces.

### Box 2 Targets of Research Participants

#### Cisco

- › US Environment Protection Agency (EPA) target: 25% absolute by 2012; baseline of 2007
- › Clinton Global Initiative air travel target: 10% by 2010; baseline of 2006

#### The Coca-Cola Company

- › Manufacturing: 'Grow business but not the carbon' (system wide; all bottling companies included) by 2015; baseline of 2004
- › Complimentary target: 5.7 million metric tonnes CO<sub>2</sub>-e below 2004 levels (aggregate target for all countries) by 2015; baseline 2004
- › Annex I (industrialised countries and countries in transition) countries: CO<sub>2</sub>-e 5% absolute by 2015; baseline 2004

#### GlaxoSmithKline plc

- › 20% CO<sub>2</sub>-e indexed to net operating revenue (adjusted for constant exchange rates) by 2010; baseline 2006
- › 45% CO<sub>2</sub>-e indexed to net operating revenue (adjusted for constant exchange rates) by 2015; baseline of 2006

#### IBM

- › CO<sub>2</sub>: 12% absolute by 2012; baseline 2005
- › PFC: 25% absolute by 2010; baseline 1995
- › Energy consumption (incl. fuels): 3.5% absolute on annual basis; baseline is reset annually

#### L'Oréal

- › CO<sub>2</sub>-e 2% absolute annual (internally also indexed to denominators, including finished product), baseline is reset annually
- › Energy consumption 5% indexed to production unit

#### Microsoft

- › 30% CO<sub>2</sub>-e indexed to revenue by 2012; baseline 2007
- › Industry goals: Challenge to computing industry with Climate Savers Computing Initiative to reduce absolute GHG emissions by 54 million metric tonnes (24 million metric tonnes per year) by 2010

#### Nokia

- › Minimum of 10% by 2009; baseline 2006
- › Minimum of 18% by 2010; baseline 2006
- › Ensure that all our key suppliers set energy efficiency and CO<sub>2</sub> reduction targets
- › Set CO<sub>2</sub> reduction targets for logistics service providers

#### PepsiCo UK

- › No direct GHG emissions reduction target
- › 25% reduction of energy intensity per unit of production by 2011; baseline 2008
- › Entire UK business supplied with renewable energy, including manufacturing and distribution by 2023

#### RWE

- › Reduction of approximately 38 million tonnes CO<sub>2</sub>-e to some 21% reduction by 2012; baseline 2006
- › Reduction of approximately 63 million tonnes CO<sub>2</sub>-e to some 37% reduction by 2015; baseline 2006

#### Siemens

- › No direct GHG emissions reduction target
- › Improve energy efficiency (associated with GHG emissions originating from use of fossil fuels / electricity in factories) by 20% indexed to local sales by 2011; baseline 2006
- › 10% absolute energy consumption target at US based Osram Sylvania

#### Tesco

- › 50% absolute for existing and new distribution centres/stores by 2020; baseline 2006
- › 50% indexed to cases delivered by distribution fleet by 2012; baseline 2006

#### Wells Fargo & Company

- › No target for GHG emissions reductions (in process of setting target at time of interview)

Source: CDP

### The scope of targets varies considerably

An important factor in assessing the impact of a target (whether absolute or intensity based) is its scope. We found considerable variation in terms of scope of targets, which is a further obstacle to understanding impact:

- 8 companies had company-wide targets.
- 4 companies had different targets for various business units. Some interviewees highlighted the benefits of targets specific to parts of the business, which focus on hotspots.
- 2 companies had company-wide, as well as specific targets for parts of the business.

Company wide targets will engender different outcomes from those focused on a specific area of operations. Furthermore, targets focused on direct impact will deliver a different outcome from those focused on indirect impact, such as supply chain. Companies including IBM, L'Oréal and PepsiCo already use CDP to better understand their supply chain emissions and risk exposure and for many companies between 40-60% of organisations' total greenhouse gas emissions<sup>18</sup> are recognised as residing outside their direct control<sup>19</sup>.

The way in which companies account for any growth as a result of an acquisition also influences the impact of a target. The GHG Protocol<sup>20</sup> recommends that base emissions are not recalculated for organic growth or decline but they can be recalculated in cases of mergers and acquisitions. Some companies absorb smaller acquisitions without readjusting the baseline, while others readjust the baseline, depending on the size of the acquisition. For those with an intensity based target, there is usually no requirement for a readjustment.

Decisions made when targets are set, as to scope, inclusion or exclusion of indirect impact and accounting for acquisitions will of course impact the number of tonnes of CO<sub>2</sub>-e reduced. Furthermore, the selection of intensity or absolute also plays a major role.

<sup>18</sup> The McKinsey Quarterly 2008  
<sup>19</sup> within the supply chain through activities such as processing, packaging and transportation  
<sup>20</sup> The Greenhouse Gas Protocol [http://www.ghgprotocol.org/files/ghg\\_project\\_protocol.pdf](http://www.ghgprotocol.org/files/ghg_project_protocol.pdf), p39

“There are appropriate circumstances for both intensity targets and absolute targets. It’s the total concentration of greenhouse gases in the atmosphere that impacts the climate system. So, even though some our countries are exhibiting double-digit growth, we defined our GHG target in absolute terms.”

The Coca-Cola Company

“An absolute target brings clarity and our stakeholders, from customers to NGO’s, require absolute targets.”

L’Oréal

### Absolute wins over intensity in popularity

As reflected in the Global 100 analysis in Section 1 there is considerable variation in terms of absolute and intensity measures and all companies reported this as one of the major decisions in setting a target. The majority favoured absolute.

Fig 6 outlines the major benefits and disadvantages outlined by interviewees.

Ultimately, the strength of any target is dictated by its end results and whether it actually achieves real reductions of a company’s total carbon impact. Both absolute and intensity targets can achieve this goal.

### Methodology Case Study

BT has selected an intensity based target methodology that demonstrates how absolute reductions can be achieved with an intensity target.

Unlike many companies, BT’s starting point was the scientific consensus of achieving necessary total global emissions reductions 80% for developed economies against a 1990 base year level. The BT CSI approach<sup>21</sup> associates an organisation’s total CO<sub>2</sub>-e emissions with the contribution it makes to the world economy. Targets for reducing the company’s carbon intensity (CO<sub>2</sub>-e per unit of contribution to GDP) are then set in line with world targets to reduce CO<sub>2</sub>-e emissions per unit of GDP. It has committed to reducing emissions by 80% against this measure across the globe, against 1996/7 levels by 2020. This requires an annual intensity reduction of 9.6% per annum.

### Box 3 Climate Stabilisation Intensity Target (CSI)

#### Climate Stabilisation Intensity Target (CSI)

BT’s CSI methodology indexes the company’s emissions to its contribution to global GDP in order to set the target.

CSI Methodology:

In economic terms a company’s contribution to GDP is termed its Value Added  
 › *Value added = EBITDA + employee costs*

This leads to the measure of:

› **Climate Stabilisation Intensity = CO<sub>2</sub>-e emissions / Value Added**

*To align with the scientific recommendations and to accommodate average economic growth rates, CSI reduction targets need to deliver at least 9.6% per annum.*

“We work hard to increase our energy efficiency and establish the best savings potential possible, which leads to CO<sub>2</sub> reductions. Due to portfolio changes and revenue dynamics we have chosen a relative CO<sub>2</sub> target.”

Siemens

Fig 6 Major benefits and disadvantages

Absolute	Intensity
Absolute shows real reductions	Intensity goals not always comparable
Transparent	Can still allow real emissions to grow
Clear to stakeholders	Reductions can be unclear
Can be restrictive to a growing company	Allows for growth

As part of this research, interviewees were asked to consider the CSI methodology and whether such a target could be adopted by a larger number of companies. The following observations were made:

- The target methodology was widely praised for setting reductions in line with scientific recommendations. It was also recognised that it provided flexibility by allowing for growth.
- Some interviewees require an absolute, company-wide target to create clarity with stakeholders and enable comparability with other targets. For this reason, they said the CSI target wasn’t appropriate for their business.
- Questions were raised as to whether the CSI target would be appropriate to a broader set of companies and sectors. It was also observed that the nature of the formula would mean that absolute reductions could be allowed to fluctuate year on year which would create planning challenges. The use of value added is not a commonly recognised measure amongst some businesses.
- Concerns were raised that one denominator for many companies would not necessarily lead to accurate comparisons between companies and it was observed that the choice of denominator can have significant impact on where companies might rank against one another.

- The complexity of the formula also raised a further barrier in broader adoption.
- Interviewees also questioned how viable setting one target across a number of companies would be, due to current gaps in carbon accounting, which would make it very difficult to compare like with like.

Interviewees recognised how valuable the CSI methodology is in driving debate and development around science based reduction target methodologies and suggested further discussions around the following areas:

- Integration of indirect emissions, for example supply chain, which can make up the majority of some companies’ total carbon footprint.
- Development of a system which recognises emission reductions delivered through customer application of the company’s products, e.g. travel substitution and energy efficiencies.
- Recognition that different sectors have very different drivers and operational scope for emissions reductions and this has to be reflected in the methodology used by individual companies.

<sup>21</sup> <http://www.btplc.com/Societyandenvironment/Ourapproach/CSRresources/Originalthinking/CSIMethodology.pdf>

“Harmonisation is certainly beneficial, but in many cases it is very difficult to compare businesses, even those within the same sector.”

Nokia

### One-Size-Fits-All will not work

As a result of the discussions on the CSI target, broad consensus was reached that a ‘one-size-fits-all’, cross-industry approach, is not a viable or welcome option within a voluntary process. Companies argued that the huge differences between sectors and individual companies could result in skewed data or incentives and reduce transparency if one target methodology was applied across the board.

Several argued that harmonisation is not essential and question the requirement to harmonise targets at all. Other interviewees do recognise the benefits of greater comparability for benchmarking purposes but they also recognise that even within one sector this can be very challenging, due to the unique nature of individual businesses. It was also observed that comparison at a product level could be more beneficial.

Several argued for a more market based approach, by treating carbon like other resources and allowing the market to decide, thus driving further comparability and harmonisation. There was also recognition that companies require more guidance and structure around target setting and further research is required around individual industry allocation for emissions reductions.

This highlights a key issue – companies appreciate the need for dramatic reductions but the capacity to harmonise targets at all, let alone in line with scientific requirements has significant barriers. However because a target with a scientific basis seems the most logical if we are to stop dangerous climate change, there is an urgent requirement for a system which supports companies to establish and achieve such a target.

### Conclusion

The findings from the analysis conducted on both the Global 100 responses as well as the interviews, shows there is a very wide range of approaches to target setting. Interviews show leading companies are taking steps to reduce their impact on climate change and some have aggressive targets, but the targets are market driven, not determined by the science. As a result Global 100 targets often fail to deliver the required cuts and detailed analysis of the 2008 Global 100 responses shows the Carbon Chasm between corporate reduction targets and scientific reduction requirements is huge. In essence the corporate sector is currently failing to deliver reductions in line with scientific requirements to stop dangerous climate change.

We live in one world, in which a tonne of carbon has the same impact, whether it is emitted in Beijing or Birmingham. However, there is a huge patchwork of different types of targets, no unified approach and no authority which is currently delivering a unified global system for deep emissions reductions.

### Recommendations:

1. Every company should set a CO<sub>2</sub>-e reduction target.
2. Targets must have clear baseline and target years.
3. Governments need to agree clear medium and long term reduction goals in Copenhagen to provide a framework for business to set required targets.
4. Company targets should reflect the IPCC scientific recommendations and whilst absolute targets are preferred for clarity, aggressive intensity targets can also deliver.

The vast array of targets makes it very challenging to assess one target against another, but there is a major unease in the corporate world for more harmonisation in setting targets. However, more consistency is needed across the whole of industry such that the laggards catch up with the leaders in undertaking major emissions cuts in line with the scientific requirements, over the short, medium and long term in order to permanently close the Carbon Chasm.

“There is a need for consistency, but due to variability across sectors, using one methodology would not be comparing like with like.”

L’Oréal

# Appendix – Company reduction targets<sup>22</sup>

Constituent name	Sector Name	Target	Target	Type	Intensity Denominator	Baseline	Timeline
Exxon Mobil Corporation	Integrated Oil & Gas	CO <sub>2</sub> -e	CO <sub>2</sub> : 2 million metric tons at Wyoming facility	Absolute		Not disclosed	Annual
		Energy Efficiency	Increase energy efficiency by 10%	Absolute		Not disclosed	2012
		Flaring	Reduce upstream hydrocarbon flaring volume by 50%	Absolute		Not disclosed	Not disclosed
China Mobile Ltd.	Wireless Telecommunication Services	No Response					
Microsoft Corporation	Software	CO <sub>2</sub> -e	30%	Intensity	Revenue	2007	2012
		CO <sub>2</sub> -e	Climate Savers Computing Initiative target for computing industry reduce absolute GHG emissions by 54 million metric tonnes (24 million metric tonnes per year)	Absolute		2007	2010
JSC Gazprom Neft	Integrated Oil & Gas	No Response					
AT&T Inc.	Telecommunications	No Target					
BP plc	Oil & Gas Refining & Marketing	CO <sub>2</sub> -e	24 Mte yearly	Absolute		2001	2015
		CO <sub>2</sub> -e	Any increase in emissions from operations will be less than benefits attributable to low carbon business activities	Absolute		2001	2012
Procter & Gamble Company	Consumer	CO <sub>2</sub> -e	10%	Absolute		2002	2012
		CO <sub>2</sub> -e	40%	Absolute		2002	2017
		Other	Additional 10% (CO <sub>2</sub> , energy, water, waste)	Intensity	Production unit	2002	2012
		Energy Consumption	10% Absolute	Absolute		2002	2012
Google Inc.	Internet Software & Services	Not disclosed				2006	
Bank of America Corporation	Banks - N. America	CO <sub>2</sub> -e	9%	Absolute		2004	2009
		Indirect CO <sub>2</sub> -e	7% within energy and utility portfolio	Absolute		Not disclosed	Not disclosed
Toyota Motor Corporation	Automobiles	CO <sub>2</sub> -e	Worldwide 35% Absolute	Intensity	Sales	2001	2010
		CO <sub>2</sub> -e	Japan (TMC) 60%	Intensity	Sales	1990	2010
		CO <sub>2</sub> -e	Japan (TMC) 30%	Intensity	Volume	1990	2010
HSBC Holdings	Diversified Financials	CO <sub>2</sub> -e	5%	Absolute		2004	2007
		Energy Consumption	7%	Absolute		2004	2007
Vodafone Group plc	Wireless Telecommunication Services	CO <sub>2</sub> -e	50%	Absolute		2006	2020

<sup>22</sup> Companies are listed by market capitalisation (2008).  
13 companies that reported to CDP in 2008 did not make their responses public and are not included on this list.

Constituent name	Sector Name	Target	Target	Type	Intensity Denominator	Baseline	Timeline
Wal-Mart Stores, Inc.	Multiline Retail	CO <sub>2</sub> -e	Existing stores, Sam's Club and distribution centres 20%	Absolute		2005	2012
		Energy Efficiency	Store Prototype 25% more energy efficient	Absolute		2005	2009
		Fuel Consumption	Truck Fleet Efficiency 100%	Absolute		2005	2015
Total S.A.	Integrated Oil & Gas	Flaring	50%	Absolute		2005	2012
		Energy Consumption	Refining- reduce Energy Intensity Index (Solomon index)	Intensity	Production unit	2004	2012
		Energy Efficiency	Base chemical - 10%	Absolute		2005	2011
Johnson & Johnson	Pharmaceuticals	CO <sub>2</sub> -e	7%	Absolute		1990	2010
		CO <sub>2</sub> -e	Each Franchise receives targets that is analysed by annual performance reviews			1990	2010
Nestlé SA	Food Products	Energy Consumption	1-2%	Intensity	Production unit	Reset annually	Annual
Chevron Corporation	Energy	CO <sub>2</sub> -e	Preliminary goal for 2008- total emissions 62.5 million metric tons	Absolute		2004	2008
		Energy Efficiency	Annual energy efficiency targets - not disclosed	Not disclosed			Annual
Cisco Systems, Inc.	Internet Software & Services	CO <sub>2</sub> -e	EPA Climate Leaders - 25% <sup>23</sup>	Absolute		2007	2012
			CGI - 10% (Air travel) <sup>24</sup>	Absolute		2006	2010
Citigroup Inc.	Diversified Financials - N. America	CO <sub>2</sub> -e	10%	Intensity	Occupant (this includes employees, contractors and agents who use Citigroup offices)	2005	2011
Altria Group, Inc.	Beverages & Tobacco	Energy Consumption	10%	Absolute		2004	2008
Pfizer Inc.	Pharmaceuticals	CO <sub>2</sub> -e	20%	Absolute		2007	2012
		Energy Consumption	35% renewables	Absolute			2010
Apple Inc.	Computers & Peripherals	No information supplied					
Nokia Corporation	Wireless Telecommunication Services	CO <sub>2</sub> -e	Minimum of 10%	Absolute		2006	2009
		CO <sub>2</sub> -e	Minimum of 18%	Absolute		2006	2010
		Suppliers: Energy Efficiency	Ensure that all our key suppliers set energy efficiency and CO <sub>2</sub> reduction targets	Not disclosed			Not disclosed
		Suppliers: CO <sub>2</sub> -e	Set CO <sub>2</sub> reduction targets for logistics service providers	Not disclosed			Not disclosed
JPMorgan Chase & Co.	Diversified Financials - N. America	CO <sub>2</sub> -e	20% (excluding air travel, global employee air travel will be offset)	Absolute		2005	2012

<sup>23</sup> Environment Protection Agency  
<sup>24</sup> Clinton Global Initiative

Constituent name	Sector Name	Target	Target	Type	Intensity Denominator	Baseline	Timeline
Berkshire Hathaway Inc.	Insurance - N. America	No Response					
Intel Corporation	Semiconductor Equipment & Products	CO <sub>2</sub> -e	20%	Absolute		2007	2012
		CO <sub>2</sub> -e	Original EPA target: 30%	Intensity	Production unit	2004	2010
		Energy Consumption	5%	Intensity	Production unit	2007	2012
		PFCs	10%	Absolute		1995	2010
American International Group, Inc.	Insurance - N. America	No information supplied					
GlaxoSmithKline plc	Pharmaceuticals	CO <sub>2</sub> -e	20%	Intensity	Net operating revenue (adjusted for constant exchange rates)	2006	2010
		CO <sub>2</sub> -e	45%	Intensity	Net operating revenue (adjusted for constant exchange rates)	2006	2015
Royal Dutch Shell plc	Oil & Gas	CO <sub>2</sub> -e	5%	Absolute		1990	2010
		CO <sub>2</sub> -e	Canada: 6% for Products & Exploration	Absolute		1990	2008
		CO <sub>2</sub> -e	Canadian Oil Sands Business: 50% emissions cut / offset	Absolute		Estimated at project start-up	2010
The Coca-Cola Company	Beverages & Tobacco	CO <sub>2</sub> -e	Grow the business but not the carbon	Absolute		2004	2015
		Energy Efficiency	40-50% for drinks storage systems	Absolute		2000	2010
International Business Machines Corp.	IT Consulting & Services	CO <sub>2</sub> -e	12% (EPA Climate Leaders: 7% globally; Chicago Climate Exchange-CCX: 6%)	Absolute		2005	2012 (CCX: 2010)
		PFCs	25%	Absolute		1995	2010
		Energy Consumption	3.50%	Absolute		Reset annually	Annual
Siemens AG	Electronic Equipment & Instruments	Energy Efficiency	20% (CO <sub>2</sub> emissions originating from fossil fuels and electricity in factories)	Intensity	Local sales	2006	2011
		Energy Consumption	Osram Sylvania: 10%	Absolute		Not disclosed	Not disclosed
Banco Santander	Banks - Europe	In process of setting target					
E.ON Ltd.	Electric Utilities - International	CO <sub>2</sub> -e	50%	Intensity	Production unit	1990	2030
Roche Holding AG	Pharmaceuticals	CO <sub>2</sub> -e	10%	Intensity	Sales	2003	2008
		Energy Consumption	10%	Intensity	Employee	2005	2010
		HCFC	Replacement of HCFC installations	Absolute			2010
		HFCs and PFCs	Replacement of HFC/PFC containing equipment	Absolute			2015

Constituent name	Sector Name	Target	Target	Type	Intensity Denominator	Baseline	Timeline
Hewlett-Packard Company	Computers & Peripherals	Energy Consumption	25% (operations and products)	Absolute		2005	2010
		Energy Consumption	16% (facilities)	Absolute		2005	2010
Novartis AG	Pharmaceuticals	CO <sub>2</sub> -e	5% of on-site Scope 1	Absolute		1990	2012
		CO <sub>2</sub> -e	10% of vehicles fleet	Absolute		2005	2010
		Energy Efficiency	10%	Absolute		2006	2010
ENI	Integrated Oil & Gas	Flaring	50%	Absolute		2007	2011
Merck & Co., Inc.	Pharmaceuticals	CO <sub>2</sub> -e	12%	Absolute		2004	2012
ConocoPhillips	Integrated Oil & Gas	In process of setting target					
		Energy Efficiency	10%	Absolute		Not disclosed	2012
BHP Billiton	Materials	CO <sub>2</sub> -e	13%	Intensity	Production unit	2006	2012
		Energy Consumption	6%	Intensity	Production unit	2006	2012
Verizon Communications Inc.	Telecommunications	Not disclosed					
PepsiCo, Inc.	Food Products	Energy Consumption	20%	Absolute	Production unit	2006	2015
		Fuel Consumption	25%	Intensity	Production unit	2006	2015
Rio Tinto	Metals & Mining	CO <sub>2</sub> -e	4%	Intensity	Production unit	2003	2008
		Energy Efficiency	5%	Intensity	Production unit	2003	2008
Unicredit Group	Banks - Europe	In process of setting target					
Schlumberger Limited	Oil & Gas	No Target					
Wells Fargo & Company	Banks - N. America	In process of setting target					
Companhia Vale do Rio Doce - CVRD	Metals & Mining	No Target	Vale Carbon Program does not establish quantitative targets for GHG emissions but rather formal processes for continuous reduction of its specific emissions				
Mitsubishi UFJ Financial Group Inc	Banks - Asia	CO <sub>2</sub> -e	25%	Absolute		2000	2012
UBS AG	Banks - Europe	CO <sub>2</sub> -e	40%	Absolute		2004	2012
Reliance Industries	Diversified Industrial	No Response					
Oracle Corporation	Software	CO <sub>2</sub> -e	6%	Intensity	Unit Building Area	2003	2010
StatoilHydro	Integrated Oil & Gas	CO <sub>2</sub> -e	1.5 million tonnes	Intensity	Equity basis	1997	2010
ArcelorMittal	Steel	No Target					
France Telecom SA	Integrated Telecommunication Services	CO <sub>2</sub> -e	20%	Absolute		2006	2020
		Energy Efficiency	Change entire transport fleet to lower emitting alternatives	Absolute			2011

Constituent name	Sector Name	Target	Target	Type	Intensity Denominator	Baseline	Timeline
Deutsche Telekom AG	Integrated Telecommunication Services	CO <sub>2</sub> -e	CO <sub>2</sub> Neutrality of overall electric power consumption in Germany	Absolute			2008
Royal Bank Of Scotland Group plc	Banks - UK & Ireland	CO <sub>2</sub> -e	20%	Absolute		2007	2011
Intesa Sanpaolo SpA	Banks - Europe	CO <sub>2</sub> -e	230,000 tons	Absolute			2008
América Móvil	Wireless Telecommunication Services	No Response					
BBVA	Diversified Financials - Europe	In process of setting target	Global Eco-efficiency Plan 2008-2012 launch in 2008				
Allianz SE	Insurance - Europe	CO <sub>2</sub> -e	20%	Absolute		2006	2012
Anglo American plc	Metals & Mining	CO <sub>2</sub> -e	10%	Intensity	Production unit	2004	2014
		Energy Efficiency	15%	Absolute		2004	2014
Abbott Laboratories	Pharmaceuticals	CO <sub>2</sub> -e	30%	Intensity	Sales	2006	2011
		Energy Consumption	12%	Intensity	Sales	2006	2011
		Fuel Consumption	Eliminate 12% of combined fuel / oil / coal by switching to cleaner fuels	Absolute			
L' Oréal	Consumer	CO <sub>2</sub> -e	2%	Absolute		Reset annually	Annual
		Energy Consumption	5%	Intensity	Production unit	Reset annually	Annual
Suez Environnement SA	Industrial Products & Services	No Target					
Nintendo Co., Ltd	Household durables/ Electrical Equipment	CO <sub>2</sub> -e	2%	Absolute		Reset annually	Annual
ING Group	Diversified Financials - Europe	CO <sub>2</sub> -e	CO <sub>2</sub> Neutrality (achieved)	Absolute			Not disclosed
		Energy Consumption	Not Disclosed	Not disclosed			Not disclosed
		Energy Efficiency	Not Disclosed	Not disclosed			Not disclosed
AXA Group	Insurance - Europe	CO <sub>2</sub> -e	5%	Intensity	Full time employee	2005	2009
		Energy Consumption	5% (Green Computing Program: shift to virtual servers will reduce energy consumption by expected 85%)	Intensity	kWh / full time employee	2005	2009
Wachovia Corporation	Banks - N. America	CO <sub>2</sub> -e	10%	Absolute		2005	2010
Rosneft Oil Company	Oil & Gas	No Response					
Iberdrola SA	Electric Utilities - International	CO <sub>2</sub> -e	42%	Intensity	Production unit	2001	2010
Genentech, Inc.	Biotechnology	Energy Efficiency	10%	Absolute		2004	2010
Tesco plc	Food & Drug Retailing	CO <sub>2</sub> -e	50% for existing and new distribution centres / stores	Absolute		2006	2020
		CO <sub>2</sub> -e	50%	Intensity	Cases delivered by distribution fleet	2006	2012

Constituent name	Sector Name	Target	Target	Type	Intensity Denominator	Baseline	Timeline
Barclays plc	Banks - UK & Ireland	CO <sub>2</sub> -e	1% minimum	Absolute		Reset annually	Annual
		CO <sub>2</sub> -e	20% (UK only)	Absolute		2000	2010
		CO <sub>2</sub> -e	20% (UK only)	Intensity	£1 million of UK income	2005	2010
		Energy consumption	5% (no less than 1% each year)	Intensity	Full time employee		2010
United Technologies Corporation	Industrial Conglomerates	CO <sub>2</sub> -e	12%	Absolute		2006	2010
ENEL	Electric Utilities - International	CO <sub>2</sub> -e	Ability to generate energy at low cost and zero emission	Absolute			2020
Lukoil	Oil & Gas	No Response	Sent acknowledgement letter to CDP				
UnitedHealth Group Inc.	Health Care Providers & Services	Not disclosed				2008	
Boeing Co., Ltd.	Aerospace & Defence	CO <sub>2</sub> -e	25% (equates to 1% absolute)	Intensity	Revenue	2007	2012
		Energy consumption	25%	Intensity	Revenue	2007	2012
NTT DoCoMo, Inc.	Wireless Telecommunication Services	CO <sub>2</sub> -e	15% below natural base of financial year 2010	Absolute		Not yet set (emissions lower than business as usual scenario of financial year 2010)	2010
Société Générale SA	Banks - Europe	CO <sub>2</sub> -e	11%	Intensity	Occupant	2007	2012
RWE AG	Electric Utilities - International	CO <sub>2</sub> -e	Approximately 38 million t CO <sub>2</sub> -e to some 21%	Absolute		2006	2012
		CO <sub>2</sub> -e	Approximately 63 million t CO <sub>2</sub> -e to some 37%	Absolute		2006	2015
NTT - Nippon Telegraph & Telephone Corp.	Wireless Telecommunication Services	CO <sub>2</sub> -e	35% for all telecommunications carriers	Intensity	Subscriber	1991	2011
		CO <sub>2</sub> -e	25% for all other group companies	Intensity	Sales	1991	2011
BG Group plc	Integrated Oil & Gas	CO <sub>2</sub> -e	1 million tonnes, represents approximately 8% of forecasted 2012 emissions	Absolute		2006	2012
AstraZeneca plc	Pharmaceuticals	CO <sub>2</sub> -e	55%	Absolute		1990	2010
		CO <sub>2</sub> -e	2010 absolute emissions will be no greater than they were in 2001-2002	Absolute		2001-2002	2010
		CO <sub>2</sub> -e	12%	Absolute		2001-2002	2010
Credit Suisse Group AG	Banks - Europe	CO <sub>2</sub> -e	CO <sub>2</sub> Neutrality	Absolute		2005	2009
		Energy Efficiency	1.50%	Absolute		Reset annually	Annual
American Express Company	Diversified Financials	CO <sub>2</sub> -e	10%	Absolute		2006	2012

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