CARBON DISCLOSURE PROJECT

Carbon Disclosure Project Switzerland Report 2008

Survey of Switzerland's 100 largest companies

On behalf of 385 investors with
assets under management of USD 57 trillion

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Carbon Disclosure Project 2008

This report is based on the responses provided by the 100 companies in the SPI® index to the CDP questionnaire, which was sent to them on 1 February 2008. After 2007, it was the second time that the 50 stocks in the SMI Expanded® (48 companies) have been invited to take part in the survey, and it was the first time that the 50 stocks in the SPI® (48 companies) have been invited to take part. All the CDP reports are available on the CDP website at: www.cdproject.net.

CDP Members

In 2007, CDP launched a Membership option for signatories. CDP Membership allows signatories to have a leading role in the development of CDP and gives the ability to perform improved comparative analysis of company responses through the new online database.

CARBON DISCLOSURE PROJECT

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For this sixth edition of the Carbon Disclosure Project, 385 institutional investors were signatories to the CDP information request.

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AMP Capital Investors **Australia**
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APG Investments **Netherlands**
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ASB Community Trust **New Zealand**
ASN Bank **Netherlands**
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CAAT Pension Plan **Canada**
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California State Teachers Retirement System **USA**
California State Treasurer **USA**
Calvert Group **USA**
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Canadian Friends Service Committee **Canada**
CARE Super Pty Ltd **Australia**
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Credit Suisse **Switzerland**
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F&C Management Ltd **United Kingdom**
FAELCE Fundacao Coelce de Seguridade Social **Brazil**
FAPERS - Fundação Assistencial e Previdenciária da Extensão Rural do Rio Grande do Sul **Brazil**
FAPES - Fundacao de Assistencia e Previdencia Social do BNDES **Brazil**
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Fourth Swedish National Pension Fund, AP4 **Sweden**

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Fukoku Capital Management Inc. **Japan**

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Fundação Atlântico de Seguridade Social **Brazil**

Fundação Banaisul de Seguridade Social **Brazil**

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Fundação São Francisco de Seguridade Social **Brazil**

Fundação Vale do Rio Doce de Seguridade Social - VALIA **Brazil**

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Gartmore Investment Management Ltd **United Kingdom**

GEAP Fundação de Seguridade Social **Brazil**

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Genus Capital Management **Canada**

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GLG Partners LP **United Kingdom**

Goldman Sachs & Co. **USA**

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Guardian Ethical Management Inc. **Canada**

Guardians of New Zealand Superannuation **New Zealand**

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Industry Funds Management **Australia**

ING **Netherlands**

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Insight Investment Management (Global) Ltd **United Kingdom**

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Interfaith Center on Corporate Responsibility **USA**

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JPMorgan Asset Management **USA**

Jupiter Asset Management **United Kingdom**

KBC Asset Management NV **Belgium**

KCPS and Company **Israel**

KfW Bankengruppe **Germany**

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Kyobo Investment Trust Management Co., Ltd **South Korea**

La Banque Postale Asset Management **France**

LBBW - Landesbank Baden-Württemberg **Germany**

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Legg Mason, Inc. **USA**

Libra Fund **USA**

Light Green Advisors, LLC **USA**

Living Planet Fund Management Company S.A. **Switzerland**

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Local Government Superannuation Scheme **Australia**

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London Pensions Fund Authority **United Kingdom**

Macif Gestion **France**

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Maryland State Treasurer **USA**

Meeschaert Gestion Privée **France**

Meiji Yasuda Life Insurance Company **Japan**

Merck Family Fund **USA**

Meritas Mutual Funds **Canada**

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Mirae Investment Asset Management **South Korea**

Mistra, Foundation for Strategic Environmental Research **Sweden**

Mitsubishi UFJ Financial Group (MUFG) **Japan**

Mitsui Sumitomo Insurance Co., Ltd **Japan**

Mizuho Financial Group, Inc. **Japan**

Monte Paschi Asset Management SGR S.p.A **Italy**

Morgan Stanley Investment Management **USA**

Morley Fund Management **United Kingdom**

Motor Trades Association of Australia Superannuation Fund Pty Ltd **Australia**

Munich Re Group **Germany**

Natcan Investment Management **Canada**

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National Grid UK Pension Scheme Trustee Ltd **United Kingdom**

National Pensions Reserve Fund of Ireland **Ireland**

Natixis **France**

Nedbank Group **South Africa**

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Nest Sammelstiftung **Switzerland**

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New Alternatives Fund Inc. **USA**

New Jersey Division of Investment **USA**

New Jersey State Investment Council **USA**

New Mexico State Treasurer **USA**

New York City Employees Retirement System **USA**

New York City Teachers Retirement System **USA**

New York State Common Retirement Fund (NYSCRF) **USA**

Newton Investment Management Limited **United Kingdom**

NFU Mutual Insurance Society **United Kingdom**

NH-CA Asset Management **South Korea**

Nikko Asset Management Co., Ltd **Japan**

Nissay Asset Management Corporation **Japan**

Norfolk Pension Fund **United Kingdom**

NorInc.hukin Zenkyouren Asset Management Co., Ltd **Japan**

North Carolina State Treasurer **USA**

Northern Ireland Local Government Officers' Superannuation Committee (NILGOSC) **United Kingdom**
Northern Trust **USA**
Oddo & Cie **France**
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Ontario Teachers Pension Plan **Canada**
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Orion Energy Systems, Inc. **USA**
Pax World Funds **USA**
Pension Fund for Danish Lawyers and Economists **Denmark**
Pension Plan of the Evangelical Lutheran Church in Canada **Canada**
PETROS - The Fundação Petrobras de Seguridade Social **Brazil**
PGGM **Netherlands**
Phillips, Hager & North Investment Management Ltd **Canada**
PhiTrust Active Investors **France**
Pictet Asset Management S.A. **Switzerland**
Portfolio 21 Investments **USA**
Portfolio Partners **Australia**
Porto Seguro S.A. **Brazil**
PREVI Caixa de Previdência dos Funcionários do Banco do Brasil **Brazil**
Prudential Plc **United Kingdom**
PSP Investments **Canada**
QBE Insurance Group Limited **Australia**
Rabobank **Netherlands**
Railpen Investments **United Kingdom**
Rathbones / Rathbone Greenbank Investments **United Kingdom**
Real Grandeza Fundação de Previdência e Assistência Social **Brazil**
REDEPREV-Fundação Rede de Previdência **Brazil**
Rei Super **Australia**
Rhode Island General Treasurer **USA**
RLAM **United Kingdom**
Robeco **Netherlands**
Rock Crest Capital LLC **USA**
Royal Bank of Canada **Canada**
SAM Group **Switzerland**
Sanlam Investment Management **South Africa**
Santa Fé Portfolios Ltda **Brazil**
Savings & Loans Credit Union (S.A.) Limited. **Australia**
Schroders **United Kingdom**
Scotiabank **Canada**
Scottish Widows Investment Partnership **United Kingdom**
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Seligson & Co Fund Management Plc **Finland**
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Service Employees International Union Benefit Funds **USA**
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SH Asset Management Inc. **South Korea**
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Shinkin Asset Management Co., Ltd **Japan**
Shinsei Bank **Japan**
Signet Capital Management Ltd **Switzerland**
Skandia Nordic Division **Sweden**
SNS Asset Management **Netherlands**
Société Générale **France**
Sompo Japan Insurance Inc. **Japan**
SPF Beheer bv **Netherlands**
Standard Chartered PLC **United Kingdom**
Standard Life Investments **United Kingdom**
State Street Corporation **USA**
Storebrand ASA **Norway**
Sumitomo Mitsui Financial Group **Japan**
Sumitomo Trust & Banking **Japan**
Sun Life Financial Inc. **Canada**
Sustainable World Capital **USA**
Svenska Kyrkan, Church of Sweden **Sweden**
Swedbank **Sweden**
Swiss Reinsurance Company **Switzerland**
Swisscanto Holding AG **Switzerland**
TD Asset Management Inc. and TD Asset Management USA Inc. **Canada**
Teachers Insurance and Annuity Association - College Retirement Equities Fund (TIAA-CREF) **USA**
Telstra Super **Australia**
Tempis Capital Management **South Korea**
Terra fondsforvaltning ASA **Norway**
TfL Pension Fund **United Kingdom**
The Bullitt Foundation **USA**
The Central Church Fund of Finland **Finland**
The Collins Foundation **USA**
The Co-operators Group Ltd **Canada**
The Daly Foundation **Canada**
The Dreyfus Corporation **USA**
The Ethical Funds Company **Canada**
The Local Government Pensions Institution (LGPI)(keva) **Finland**
The RBS Group **United Kingdom**
The Russell Family Foundation **USA**
The Shiga Bank, Ltd **Japan**
The Standard Bank of South Africa Limited **South Africa**
The Travelers Companies, Inc. **USA**
The United Church of Canada - General Council **Canada**
The Wellcome Trust **United Kingdom**
Third Swedish National Pension Fund (AP3) **Sweden**
Threadneedle Asset Management **United Kingdom**
Tokio Marine & Nichido Fire Insurance Co., Ltd **Japan**
Trillium Asset Management Corporation **USA**
Triodos Bank **Netherlands**
Tri-State Coalition for Responsible Investing **USA**
TrygVesta **Denmark**
UBS AG **Switzerland**
Unibanco Asset Management **Brazil**
UniCredit Group **Italy**
Unitarian Universalist Association **USA**
United Methodist Church General Board of Pension and Health Benefits **USA**
Universities Superannuation Scheme (USS) **United Kingdom**
Vancity Group of Companies **Canada**
Vårdal Foundation **Sweden**
Vermont State Treasurer **USA**
VicSuper Pty Ltd **Australia**
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Wachovia Corporation **USA**
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West Yorkshire Pension Fund **United Kingdom**
WestLB Mellon Asset Management (WMAM) **Germany**
Winslow Management Company **USA**
XShares Advisors **USA**
YES BANK Limited **India**
York University Pension Fund **Canada**
Youville Provident Fund Inc. **Canada**
Zurich Cantonal Bank **Switzerland**

Contents

Contents

1

Editorial

1. Editorial

Why should institutional investors even address the issue of climate change?
Is the fight against climate change not first and foremost a political issue that can only be addressed through action that is coordinated at an international level?

Political action can and must be taken in order to provide the necessary framework. However, to a large extent, the considerable resources that will be required in order to fund measures either to slow climate change or to meet the inevitable costs arising from the process of adapting to it will have to be come from private sector investment. The estimated cost arising from the process of adapting to climate change ranges from several billion dollars (source: Stern Review) to well over 100 billion dollars (source: United Nations Development Programme, United Nations Framework Convention on Climate Change). Most of the costs will be incurred by lesser developed countries which are most affected by the consequences of climate change.

And this is where we come back to our original question. Acting on behalf of our clients and the institutional investors we represent, we have a twofold interest in seeing companies meet the challenges of climate change. First of all, the business models of many companies will be fundamentally called into question or at least tested in an unprecedented manner as a result of the shifts caused by climate change. This will inevitably have an impact on the costs and earnings of the companies concerned, which will have an automatic knock-on effect on the returns on our clients' investments.

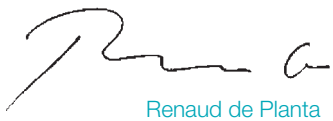
Furthermore, through our investment activities, we share a direct responsibility for the economic activities of the companies, to whom we as investors provide the necessary capital. We wish to offer as little scope as possible for business practices that damage the environment or are unacceptable in any other way, and seek to protect our clients against any of the associated risk to their reputation, by favouring investments in innovative companies that endeavour to make their businesses as sustainable as possible.
Together, Pictet and Ethos manage around 2.5 billion Swiss francs[1] through a broadly diversified sustainability portfolio and 6.5 billion Swiss francs[1] are invested in Pictet's two themed funds based on sustainability, namely, the Water and Clean Energy Funds.

The prerequisites for this type of investment are a coherent investment process and, above all, transparent and clear information on the companies' bottom line in terms of their impact on the environment. After all, investment decisions can be taken solely on the basis of the information available.

In the light of the above, it is not only an honour, but it is also in our interest to again lend our support to the Carbon Disclosure Project (CDP) for Switzerland this year. The CDP brings together around 400 institutional investors who, between them, are responsible for managing around 50,000 billion dollars worth of assets. The CDP provides investors with valuable information that is often difficult to obtain in terms of evaluating the risks and opportunities that climate change presents for the companies.

Last year for the first time, the 50 companies in the SMI Expanded® index were invited to take part in the survey. This year, we wanted to ensure that awareness of climate change was deeply anchored in Swiss business and therefore extended the scope of the survey to include the largest quoted companies in Switzerland.

We would like to thank all the companies that have taken part in this year's CDP survey for the important information they have provided us with on their strategies to address climate change. We would even go so far as to claim that, in the light of the challenges that lie ahead, a coherent and convincing strategy on how to address climate change probably provides just as much information on a company's economic outlook as the next quarterly results.



Renaud de Planta
Partner, Pictet & Cie

Kaspar Müller
President, Fondation Ethos

[1] as at end of June 2008

2

Letter from Federal Councillor Moritz Leuenberger

2. Letter from Federal Councillor Moritz Leuenberger

Bern, 24 November 2008

We all know that global warming is primarily caused by humans. Moreover, it is the Southern countries that are most affected by the consequences, in other words those less well developed nations that are scarcely responsible for global warming themselves and that also have limited means to protect themselves against its knock-on effects. But this is a matter of concern for us all.

Global warming alters our environment, which in turn spawns difficult social conditions. Violent clashes over ever dwindling resources are on the increase – and so, too, is migration away from the affected countries. This is threatening the political stability of whole regions and, as a result, global security and prosperity.

Global warming has an acute direct effect on industrialised countries as well. As a result, in Switzerland alone, investment totalling billions of Swiss francs will now be required for flood control measures.

The costs resulting from climate change could amount to a sizeable percentage of global GDP. Conservative estimates have put the figure at 3 percent, while others go as high as 20 percent

If we are to halt this development we must cut down our CO_2 emissions. Experience has shown, though, that this cannot be achieved merely by free will and rational appeals to our sense of responsibility.

Politics has to create the necessary framework conditions; in other words binding reduction targets need to be laid down and measures put in place to ensure that these targets can be achieved.

The political process is now underway, both at international and national level, with UN member states currently negotiating a post-Kyoto protocol.

But climate protection is not just the remit of politics; there also has to be a commitment on the part of the private sector.

This notwithstanding, there are still widespread reservations in economic circles and among a number of umbrella organisations about the introduction of a resolute climate policy.

Still, anyone who thinks ahead can see that climate protection represents an opportunity – and fortunately more and more decision-makers are indeed starting to think ahead.

This year, the Ethos Foundation and the Geneva private bank Pictet & Cie have conducted the worldwide Carbon Disclosure Project survey among Swiss companies for the second year. On this occasion they surveyed Switzerland's 100 largest listed companies. This initiative is backed by investors who have recognised the economic significance of climate change and are calling for a proactive response from the companies.

And while this action will not halt climate change, the fact that numerous companies took part in the survey this year as well and also presented their climate strategies does give cause for hope. One sincere hope, of course, is that the financial markets will also play a key role in sustainable development themselves

In a nutshell, then, the enormous challenge posed by climate change can only be tackled if politics and the economy work hand in hand.

Moritz Leuenberger
Federal Councillor

Minister of Environment, Transport, Energy and Communications of Switzerland.

3

Summary of the CDP Switzerland 2008

3. Summary of the CDP Switzerland 2008

3.1 Response rate

For its 2008 survey, the CDP Switzerland expanded its universe to the 100 largest capitalisations on the Swiss stock exchange. The companies' replies were divided into two groups.

The first group, the SMI Expanded®, follows on from the work previously started in the first CDP Switzerland survey, mainly comprising the same companies that were contacted at that time. At almost 70%, the participation rate was not far off that of the previous year (78%). Of the 33 participating companies, 21 agreed to have the information they gave made public.

The second group of companies, comprising the next 50 stocks in the SPI®, had a participation rate of 46%. This could be seen as satisfactory in that the vast majority of these companies, which are smaller in size, were contacted for the first time this year in this regard.

3.2. Results

Companies in the SMI Expanded®

The replies from the SMI Expanded® companies show a higher awareness than last year of the risks associated with climate change. 52% of them mention regulatory risks, whereas only 31% did so in 2007. Physical and general risks are also mentioned more often, by 73% and 76% of participants respectively.

As in the previous survey, a comfortable majority of companies (88%) see at least one opportunity in climate change. While 64% are investing in a commercial offering that minimises or adjusts to the impact of climate change, almost all respondents see in climate change an opportunity to make their installations and infrastructures more energy efficient.

In terms of measuring greenhouse gas (GHG) emissions, some 79% of participants can now provide details of their direct emissions in accordance with Scope 1 of the GHG Protocol, which is an improvement on last year. As for the indirect emissions from the purchase of electricity, 67% of companies can now provide this information, which is a sharp increase since 2007. Moreover, 52% of companies publish at least part of their other indirect emissions, in most cases those generated by business travel. These data were verified or audited by an independent body in just 34% of cases.

Concerning the issues of performance, 70% of companies say they have introduced a plan to reduce their greenhouse gas emissions, although only 30% set quantitative reduction targets in global terms.

On corporate governance, 85% of companies say they have set up a committee within the Board of Directors or a study group responsible for issues of climate change. Moreover, more than 27% of participants have implemented staff incentive/reward systems with respect to their climate change strategies or targets.

The next 50 shares in the SPI®

The companies making up this group show less awareness of the risks than those in the SMI Expanded®. Although 57% of companies do perceive at least one of the three risks listed in the questionnaire, regulatory and general risks are mentioned the most frequently, with 38% in each case. 52% of participants see an opportunity in the regulations, primarily in terms of improving the energy efficiency of their infrastructures or products. Moreover, 57% have already invested or intend to invest in specific products and/or services designed to minimise or adjust to the impact of climate change. Of note is that most of the banks participating in the survey gave particularly detailed replies to these questions.

Concerning the measurement of emissions, 38% of companies provide data on their direct emissions. As for the indirect emissions under Scopes 2 and 3 of the GHG Protocol, however, these are mentioned by only 29% and 20% of respondents respectively. These figures clearly indicate that the vast majority of these companies have not yet implemented data management systems on GHG emissions.

Unsurprisingly, only a low 10% of companies have their GHG emissions data audited.

Finally, although more than a quarter of companies say they have implemented a plan to cut their GHG emissions, only very few companies actually set themselves quantitative reduction targets. Nonetheless, most companies say they have taken measures to improve the energy efficiency of their infrastructures.

In terms of corporate governance, one-third of companies say they have set up study groups to deal with the issues raised by climate change.

4

The Carbon Disclosure Project

CDP's mission is to facilitate a dialogue between investors and corporations, supported by high-quality information from which a rational response to climate change will emerge.

4. The Carbon Disclosure Project

4.1 Overview

The Carbon Disclosure Project is the largest investor coalition in the world: more than 385 signatory investors, with a combined asset base of USD 57 trillion, signed CDP's sixth annual request for information in 2008 (CDP6) which was sent to over 3000 companies worldwide.

The CDP annual information request is sent to the Chair of the Board of the world's largest companies by market capitalisation. It covers four principal areas:

1) Management's views on the risks and opportunities that climate change presents to the business
2) Greenhouse gas emissions accounting
3) Management's strategy to reduce emissions / minimise risk and capitalise on opportunity
4) Corporate governance with regard to climate change.

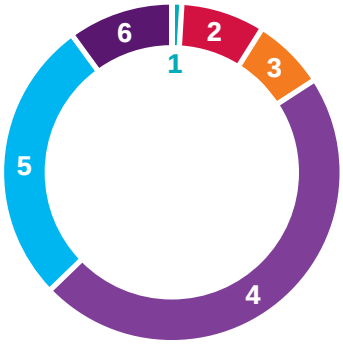
The CDP6 information request can be viewed in the Appendix.

The responses from companies to CDP's annual requests for corporate data provide investors with vital information regarding the current and prospective impact of climate change on their portfolios, and represent an important resource in relation to investment decisions. The fact that CDP's requests are made on behalf of investors serves to raise the awareness of senior management that climate change is a business issue that requires serious strategic focus.

After eight years of consecutive growth, CDP currently runs projects in more than 20 countries, with new projects launched in China, Korea, Latin America, the Netherlands and Spain in 2008.

CDP has also entered into key strategic relationships with Merrill Lynch and PricewaterhouseCoopers, associations which will support growth over the next three years.

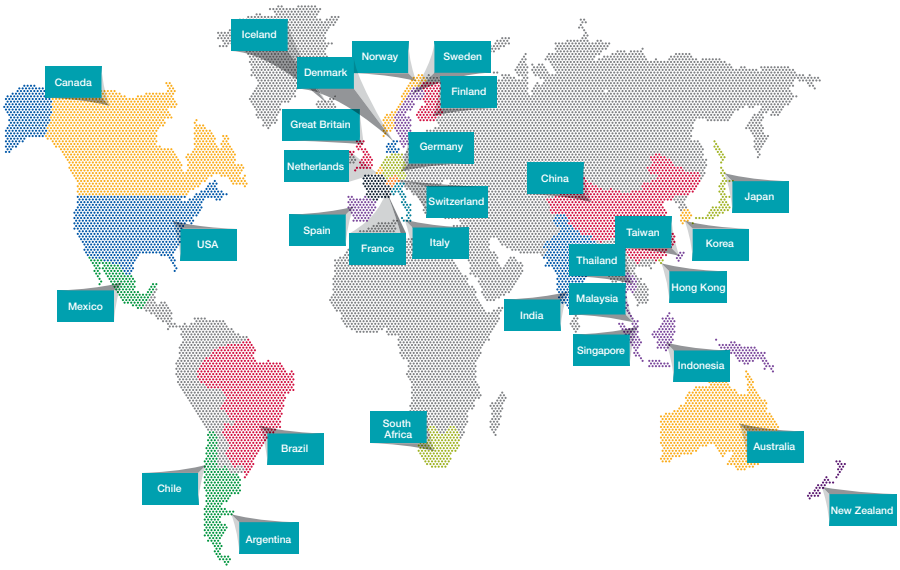
CDP6 Signatory Location by Region



1. Africa (1%)
2. Asia (8%)
3. Australasia (7%)
4. Europe (47%)
5. North America (27%)
6. South America (10%)

"The Carbon Disclosure Project is vital, and we've got to get everybody to participate in it."

Bill Clinton
Former U.S. President



The countries in which CDP currently runs projects

"Before CDP we had no comprehensive data on corporate greenhouse gases. But with CDP policy makers, investors and companies themselves can take better informed decisions."

Fredrik Reinfeldt
Swedish Prime Minister

"The Carbon Disclosure Project is independent and impartial, it is a clear and transparent mechanism for anyone to see our carbon footprint and to judge our performance at reducing it."

Sir Terry Leahy
Chief Executive,
Tesco plc

"The CDP supports AIG Investments' efforts to assess and analyse trends in risks and opportunities associated with climate change and its mitigation. Climate change continues to be a major financial and investment concern for us and our clients."

Win J Neuger
Chief Executive,
AIG Investments

We are pleased to report that CDP received a record number of company responses to its 2008 annual request – more than 1550 in total. This demonstrates an increasing understanding by the world's largest corporations of the importance of climate change and its relation to business strategy and shareholder value. Analysis of this year's responses shows an advance in greenhouse gas emissions accounting with Scope 3, or indirect emissions reporting, registering an increase since 2007.

CDP is currently conducting further research into how investors use CDP data in order to improve our understanding of the investment community's requirements. The results to date show signatory investors using company responses to CDP in:

- Company engagement
- Qualitative checking
- Sell-side research
- The filing of shareholder resolutions
- The creation of new products and indices

This year more than 2,000 additional companies were brought into CDP's system through the new CDP Supply Chain Project. More than 30 companies, including Tesco, HP, Kellogg and Vodafone now use the CDP system to collect climate change relevant data from their suppliers. This represents a significant achievement by the corporate community, demonstrating how collaboration is key to better understanding of climate change and its impacts on procurement.

Carbon disclosure has assumed heightened importance on the political agenda and the CDP process has received support from political leaders globally.

Government and public sector organisations also understand the importance of measuring their own carbon risks and emissions. More than 30 cities in the U.S. are currently working together to report through the CDP system, a development that will yield a much better understanding as to how cities are preparing for the low-carbon economy. CDP is also working with central and local government departments in the UK including the Foreign and Commonwealth Office and the Office of Government Commerce in HM Treasury to understand supply chain emissions, risks and opportunities.

CDP also acts as secretariat for the Climate Disclosure Standards Board (CDSB), which aims to promote and advance climate-change-related disclosure in mainstream reports through the development of a global framework for corporate reporting on climate change. This framework will elicit comprehensive, consistent and comparable information for investors, as well as offering greater certainty on disclosure requirements for corporations, and thereby provide an influential model for use by national regulators. By working with information users, their advisors, regulators and public interest groups, as well as the four leading accountancy majors and the associated accountancy bodies CDSB aims to support, harmonise and strengthen existing climate change-related reporting initiatives and standards. Rather than creating a new standard, the aim is to bring together and enhance current best practice in the form of a single consistent framework that can be used for disclosure in mainstream reports.

CDP in the Future

- CDP is continuously working to improve the quality and quantity of reporting on climate change. CDP is also improving its online reporting system and providing extensive guidance on what should be measured and reported.
- CDP will refine its offering to investors through the provision of more bespoke data to service the requirements of individual investment institutions. CDP is also working to expand the availability of its information through professional data distribution channels.
- CDP plans to continue its expansion around the globe and aims to launch projects in Russia and other locations in 2009.
- CDP has recently launched a new project, 'CDP Finance', working with banks to better understand the opportunities, risks and liabilities with relation to climate change across their client base, including the lending and private equity portfolios.
- CDP is also developing strategic relationships with a range of organisations to further expand CDP's work and reach in the future.
- CDP is working towards a unified global business response to climate change and through its associations with investors, corporations, governments and the other key stakeholders, will continue to help catalyse a sustainable, low-carbon economy.

Improved Access to CDP Data via CORE

In September 2008 CDP launched the CORE 2.0 database. CORE stands for COrporate REsponses and it is the enhanced access function for presentation and analysis of the CDP data, allowing all the CDP responses to be searched and sorted by index, geography, sector or CDP question. The results are displayed on screen via a web interface and can be downloaded to Excel.

CORE 2.0 is designed to enable the user to efficiently manipulate the CDP data to their requirements. The CORE 2.0 system has been built utilising feedback from our signatory members in 2007.

For more information about CORE 2.0 please see www.cdproject.net or contact Daniel Turner at the CDP London office: daniel.turner@cdproject.net.

"CDP is one of the most valuable tools we have to help us evaluate climate risk across our whole portfolio."

Brian Rice
Investment Officer, CalSTRS

"The Carbon Disclosure Project is an excellent tool for increasing the exchange of climate information between companies and their institutional investors."

Bendt Bendtsen
Danish Minister for Economic and Business Affairs

"The specialist focus of the Carbon Disclosure Project provides a suitably rigorous structure for an overview of a company's response to climate change, and the survey template is a very helpful management tool for us to assess climate-related risks and opportunities in our own business. It also allows us to benchmark our practices against peers."

Sir Tom McKillop
Chairman, Royal Bank of Scotland Group

"CDP extends its sincere thanks to all of our partners and sponsors around the world for their help in making the CDP process a global success."

Paul Dickinson
Chief Executive, Carbon Disclosure Project

4.2 Key Trends From CDP Samples Around The World

The sixth iteration of the Carbon Disclosure Project saw even greater expansion than in previous years, with information being requested from over 3,000 companies worldwide.

In 2008 CDP expanded to cover 21 geographical samples (up from 16 in 2007) and 2 sector samples (Electric Utilities and Transport). New geographical expansions in 2008 include China, Korea, Latin America, the Netherlands and Spain. The corporations' responses and reports analysing findings from these samples will be posted on the CDP website as they are launched worldwide. Please see www.cdproject.net for further details.

Response rates across the vast majority of expansions are above 50% with an average rate of 55%; the highest being the FTSE 100 reporting a 90% (90 companies) response rate. The Brazil 75 came a close second with 83% (60) of companies answering the questionnaire compared to the Global 500 which saw 77% (383) of companies answer the questionnaire. Despite the political hesitancy to take action on climate change within the U.S., responses from S&P 500 companies improved significantly: up from 56% (282) in 2007 to 64% (321) this year. This increase sends a positive message from corporate America, signalling that companies are preparing for the inevitable carbon-constrained economy.

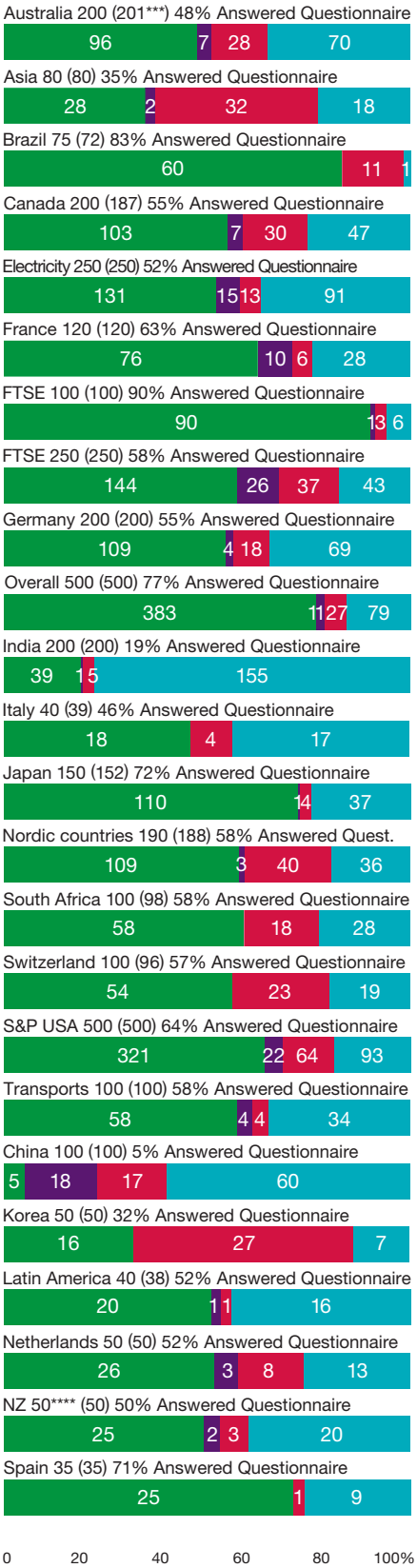
There has been an overall increase in response rates in ten of the samples compared to CDP5; Asia , Brazil, Canada, Electric Utility, France, Germany, Italy, New Zealand, S&P 500 and Transport. The Global 500, FTSE 100/250 and Japan 150 samples reported similar response rates to last year. India was also similar in terms of absolute responses but declined overall due to a doubling of the sample size. Four further samples reported an increase in the absolute numbers of responses but an overall percentage decrease because the sample size was expanded this year; Australia 200, Nordic 190, South Africa 100 and the Switzerland 100.

In some of the emerging economies where CDP has recently expanded, such as Asia, China and India, there are significant challenges caused by: lack of familiarity with CDP amongst companies new to the process, language and cultural barriers and a lack of regulation on climate change, which all contribute to a lower response rate from these regions. CDP is working closely with its global partners to overcome these barriers.

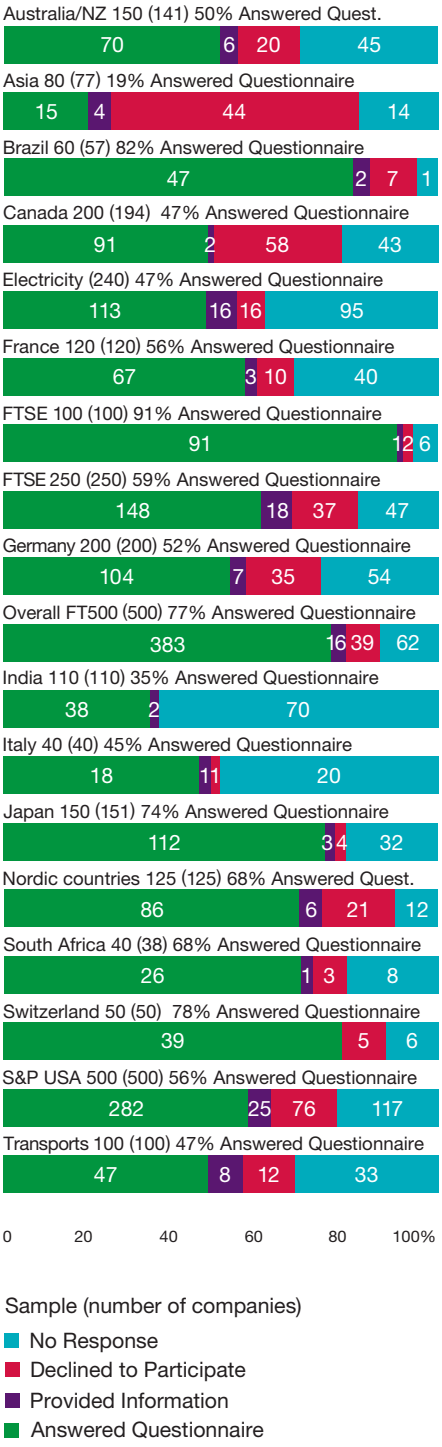
As media coverage of climate change has increased alongside talks of regulatory restrictions, corporations are being given little choice but to consider what climate change means for their business. Compared to CDP5 there has been a sharp increase across nearly all expansions in the percentage of companies addressing climate change at the board level. Especially notable is the increase in board members taking responsibility for climate change. In the FTSE100 this has risen from 53% (48) to 89% (80) of responding companies and in the FTSE 250 there has been an increase from 24% (35) to 84% (121). For meaningful corporate change to occur, it must come from the board room, and these trends imply that awareness is likely to lead to action.

While the increased focus on climate change can be attributed to a variety of factors, companies are increasingly commenting on the specific risks and opportunities driving new management plans. Both regulatory and physical risks factor heavily into corporate strategy, as can be seen in the key trends table. The Australia 200, Electric Utilities 250, FTSE 100, Japan 150 and Spain 35 expansions are particularly attuned to potential risks from climate change. The results show a significant increase in the percentage of responding companies that have GHG emissions reduction plans. Especially notable are the Nordic 190

CDP6 Response by Sample*



CDP5 Response by Sample**



* Response rates calculated at 31 July 2008; numbers may differ from local report that calculated response rates before or after this date.

** Response rate as published in CDP5 Report.

*** The first listing is the official sample name, the number in brackets is the actual number of companies that were included in CDP6 for that sample.

**** New Zealand is included as an individual sample for the first time, having previously been combined with Australia.

sample's increase: from 23% (19) to 62% (68) of responding companies who have reduction plans, and the FTSE 100's progress from 41% (37) to 81% (73) when compared to CDP5. While this increase in attention to climate change targets is a positive step, there is still a need for formal verification of emission figures and reductions. This will become fundamental as further regulation comes into force and the price for carbon globalises and increases. Given the significant increase in companies making reduction plans we anticipate that in the coming years there will be a subsequent uptake in companies verifying their emissions data.

While the China 100 sample answered questionnaire rate was lowest, it can still be interpreted positively. 2008 was the first time the China 100 was asked to respond to the CDP information request. A variety of factors, including language, cultural differences and a lack of historical requirements on Chinese companies to measure and report climate change information made the initial approach challenging. However, the fact that 5% of Chinese companies answered the questionnaire and a further 18% provided information is a promising start, and it is likely that the number of responses will grow in the future as CDP develops a presence in China.

CDP6 Global Partner Information*

Country/Expansion	Partner	Web Address
Asia ex-Japan	Association for Sustainable and Responsible Investment in Asia (ASrIA)	www.asria.org
Australia & New Zealand	Investor Group on Climate Change Australia/New Zealand (IGCC)	www.igcc.org.au
Brazil	Brazilian Association of Pension Funds (ABRAPP) & Banco Real	www.abrapp.org.br www.bancoreal.com.br
Brazil	Brazil Facilitation Team: Fabrica Ethica Brasil	www.fabricaethica.com.br
Canada	The Conference Board of Canada	www.conferenceboard.ca
China	China Facilitation Team: SynTao	www.syntao.com
France	AXA	www.axa.com
Germany	BVI Bundesverband Investment und Asset Management e.V/WWF Germany	www.bvi.de www.wwf.de
India	WWF India	www.wwfindia.org
Korea	Korea Sustainability Investing Forum (KoSIF)/Eco-Frontier/ ASrIA	www.kosif.org www.ecofrontier.kr www.asria.org
Latin America	Brazilian Institute of Investor Relations (IBRI)	www.ibri.org.br
Latin America	Latin America Facilitation Team: Fabrica Ethica Brasil	www.fabricaethica.com.br
Netherlands	VROM (The Dutch Ministry of Housing, Spatial Planning and the Environment)	www.vrom.nl
Nordic countries	ATP, Folksam, KLP and Nutek (Swedish Agency for Economic & Regional Growth)	www.atp.dk www.folksam.se www.klp.no www.nutek.se
South Africa	National Business Initiative (NBI)	www.nbi.org.za
Spain	Ecodes	www.ecodes.org
Switzerland	Ethos/Pictet Asset Management	www.ethosfund.ch www.pictet.com

* All other samples are managed by CDP directly.

Key Trends

	Number of responses analysed*	% of companies that see regulatory risks	% of companies that see physical risks	% of companies that see regulatory opportunities	% of companies that see physical opportunities
Asia 80	28	71	79	79	71
Australia 200	94	84	82	82	61
Brazil 75	47	49	77	83	57
Canada 200	90	70	63	78	58
China 100	3	33	33	33	33
Electricity 250	109	88	77	86	62
France 120	71	60	52	79	56
FTSE 100	88	81	76	80	65
FTSE 250	125	71	66	75	61
Germany 200	94	51	46	68	40
Overall 500	384	74	74	80	62
India 200	27	33	70	82	52
Italy 40	17	71	77	82	65
Japan 150	104	90	82	79	64
Korea 50	15	67	93	100	60
Latin America 40	15	73	73	80	60
Netherlands 50	26	64	68	84	52
New Zealand 50	25	72	64	80	60
Nordic countries 190	109	72	61	81	57
S&P 500	318	60	64	70	50
South Africa 100	53	76	89	85	64
Spain 35	25	84	68	80	56
Switzerland 100	53	45	49	59	45
Transports 100	59	80	81	75	51

	% of responding companies that disclosed GHG emissions data	% of responding companies that had their GHG emissions data externally verified	% of responding that have a GHG emissions reduction plan	% of companies that have a Board Committee responsible for CC	% of companies engaged/considering participation in emissions trading**
Asia 80	57	36	54	68	18
Australia 200	78	39	49	73	17
Brazil 75	49	19	43	60	21
Canada 200	70	28	46	72	18
China 100	0	0	66	33	33
Electricity 250	70	57	60	75	46
France 120	75	56	75	69	42
FTSE 100	91	71	81	89	41
FTSE 250	65	35	50	84	14
Germany 200	51	3	50	68	33
Overall 500	80	57	74	80	35
India 200	41	19	52	52	23
Italy 40	77	65	53	59	53
Japan 150	95	50	90	94	43
Korea 50	67	13	60	80	40
Latin America 40	73	33	47	73	53
Netherlands 50	84	68	64	76	36
New Zealand 50	60	40	48	56	8
Nordic countries 190	71	42	61	80	28
S&P 500	67	35	53	64	22
South Africa 100	79	30	45	81	21
Spain 35	96	80	76	84	40
Switzerland 100	64	34	53	68	17
Transports 100	71	46	70	85	24

* Calculated on 31 July 2008, the number does not include those companies which refer to a parent or subsidiary company response.

** Based on their approaches to both EU ETS and other regional and optional emissions trading and offset schemes.

5

The political and legal dimensions of climate change

5. The political and legal dimensions of climate change

5.1 Climate change and consequences

5.1.1 Climate change

Observed climate change and its cause

Global warming has now been considered as an unequivocal fact since the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) was released. Between 1990 and 2004, global greenhouse gas (GHG) emissions (CO_2, CH_4, N_2O, HFCs, PFCs and SF_6) increased by 24%, of which CO_2 emissions grew by about 28% and represented 77% of total anthropogenic GHG emissions in 2004[1]. The scientific society also widely agrees on a human-induced climatic change. Global GHG emissions resulting from human activities have grown ever since pre-industrial times, with an increase of 70% between 1970 and 2004. CO_2 increased from a pre-industrial value of 280 ppm to approximately 380 ppm in 2005, which corresponds with a clear exceeding of the natural range over the last 650,000 years. Additional GHGs such as methane (CH4) and nitrous oxide (N2O) show similar trends. The largest growth in GHG emissions between 1970 and 2004 is due to the increasing use of fossil fuels for energy production, transport and industry in industrialised countries. Emissions from forestry (including deforestation), agriculture and also from residential and commercial buildings have been growing at a lower rate.

[1] IPCC 2007: Climate Change 2007: Mitigation. Contribution of Working Group III to the 4th Assessment Report of the IPCC, Cambridge and New York

Global warming can be observed in the increases in global average air and ocean temperatures, a widespread melting of snow and ice as well as the rising of global average sea levels. Eleven of the last twelve years rank among the twelve warmest years in the instrumental record of global surface temperature (since 1850). Average arctic temperatures have increased at almost twice the global rate within the past 100 years. The increases in sea levels are also consistent with the warming. The global average sea level rose at an average rate of 3.1 mm per year from 1993 to 2003, and data collected since 1978 shows that the annual average Arctic Sea ice extent has shrunk by 2.7% per decade, with larger decreases in the summer of 7.4% per decade. Precipitation on the other hand has increased significantly in some regions (North and South America, northern Europe and northern and central Asia), while it decreased in others (Sahel, the Mediterranean, southern Africa and parts of southern Asia)[2].

[2] IPCC 2007: Climate Change 2007: Synthesis Report, Cambridge and New York

5.1.2 Consequences

Physical consequences

Different scenarios on how global warming will proceed were developed by the IPCC working group I[3]; however, uncertainties remain over the forecasting of such complex circumstances. Physical consequences of an increase in global average temperature are manifold and very complex as they are determined by various feedback effects. The scenarios vary between increases of average global temperature of 1.8 to 4°C by 2100, which would cause a sea level rise of about 0.18-0.59 m. Warming is expected to increase over land and at most high latitudes. It is very likely that hot extremes, heat waves and heavy precipitation events will become more frequent. Furthermore, tropical cyclones will become more intense. Freshwater availability is also endangered in some regions (dry regions at mid-latitudes and in the dry tropics); the same is true for coastal regions and systems[4].

[3] IPCC 2007: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the 4th Assessment Report of the IPCC, Cambridge and New York

[4] IPCC 2007: Climate Change: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the 4th Assessment Report of the IPCC, Cambridge and New York

Economic and social dimensions

Climate change will not only have ecological consequences. More than any other environmental challenge, it will have major effects on the global economy and society.

- Food: Globally, the potential for food production is expected to increase by 1-3°C. However, above that level, it is forecast to decrease[5]. Mainly sub-Saharan Africa will be affected by hunger. An increase of 3°C in warming will increase the price of food by 40%[6].
- Health: Effects on health are forecast in all countries; however, the situation will be most severe in low-income countries. These effects will occur as a result of floods, storms, fires and droughts, as well as the increase in malnutrition, higher concentrations of ground-level ozone or altered spatial distribution of some infectious disease vectors[7].
- Economic cost of climate change: Costs and benefits of climate change for the economy and society will vary widely by location and scale. The Stern review estimates a global gross domestic product loss of up to

[5] IPCC 2007: Climate Change: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the 4th Assessment Report of the IPCC, Cambridge and New York

[6] WIR 2008: Food Price Crisis Triggers Questions about Global Food Security; Zachary Sugg on April 25, 2008 http://www.wri.org/stories/2008/04/food-price-crisis-triggers-questions-about-global-food-security, retrieved 23.6.2008

[7] IPCC 2007: Climate Change: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the 4th Assessment Report of the IPCC, Cambridge and New York

20% per year if no action is taken – meaning without stabilising global warming[8].

- Security and Migration: Because of the degradation of freshwater resources, the decrease in food production and an increase in storm and flood catastrophes, major social and political consequences may become a threat to international security and may lead to massive migration[9].
- Equity: Although most GHG emissions emanate from developed countries, the most vulnerable countries (poorest countries and populations) will suffer first and to the greatest extent. Climate change also challenges the achievement of the Millennium Development Goals (www.un.org/millenniumgoals), such as eradicating extreme hunger, ensuring environmental sustainability or combating diseases such as malaria[10].

[8] Stern N. 2006: The economics of climate change: The Stern review, Cambridge.

[9] WBGU 2007: Welt im Wandel: Sicherheitsrisiko Klimawandel, Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen, Berlin.

[10] UNDP 2007: Human Development Report 2007/2008. Fighting climate change: Human solidarity in a divided world, New York.

Consequences for Switzerland

By 2050, the prevailing temperature in Switzerland will increase between 1 and 3.5°C compared to 1990, while changes in average annual precipitation are even more substantial. Estimations range between an increase of 20% during winter and an increase of 5% to 30% during summer. Changes in temperature and precipitation will have severe consequences on the physical environment (the hydrological cycle, weather damage, storms, ecosystems and agriculture) but also on economic (energy sector and tourism) and social dimensions (e.g. health)[11].

As an industrialised country, Switzerland can provide the necessary resources to adapt to climatic changes so that some of the impact at a national level will be manageable. However, being a small, open economy, Switzerland will also be affected by climate change damage in other countries resulting in changed production and consumption patterns and thus in trade flows. Furthermore, the impact of climate change and the increasing necessity for adaptation measures in highly affected countries will lead to changes in global capital and currency exchange markets, which will result in additional costs to national economies. A study by the Federal Office for the Environment (FOEN) has shown that the economic costs of climate change damage via the international impact channels are slightly higher than those of direct climate change impact in Switzerland[12].

[11] UVEK 2007: Klimabericht. Bericht des UVEK über die zukünftige Klimapolitik der Schweiz, Bern

[12] Infras/Ecologic/Rütter+Partner AG 2007: Auswirkungen der Klimaänderung auf die Schweizer Volkswirtschaft (internationale Einflüsse). Studie im Auftrag des Bundesamts für Umwelt, Zürich

5.1.3 Stabilisation pathways

It is widely acknowledged that a temperature rise of no more than 2°C is acceptable for limiting the impact of climate change and the likelihood of massive and irreversible disruption of the global ecosystem. However, because GHGs remain in the atmosphere for a long time and climate systems respond very slowly, a rise in sea levels would continue for centuries even if GHG concentrations were to be stabilised[13]. Global GHG emissions will have to peak in the next ten years and be reduced by approximately 50% by 2050[14] compared to 1990 to achieve the goal of a 2°C stabilisation. This means that developed countries would have to target an emission peak between 2012 and 2015, with 30% reduction by 2020 and at least 80% by 2050 (relative to 1990). Developing countries on the other hand would be allowed to increase emissions until 2020, peaking at around 80% above current levels, with cuts of 20% against 1990 levels by 2050 . Simultaneously, global agreement on pathways and reduction targets for developing and developed countries need to be defined according to the principle of "common but differentiated responsibilities"[15].

[13] IPCC 2007: Climate Change 2007: Synthesis Report, Cambridge and New York

[14] UNDP 2007: Human Development Report 2007/2008. Fighting climate change: Human solidarity in a divided world, New York

[15] United Nations 1992: United Nations Framework Convention on Climate Change

Emissions pathway until 2100
to reach 2°C stabilisation

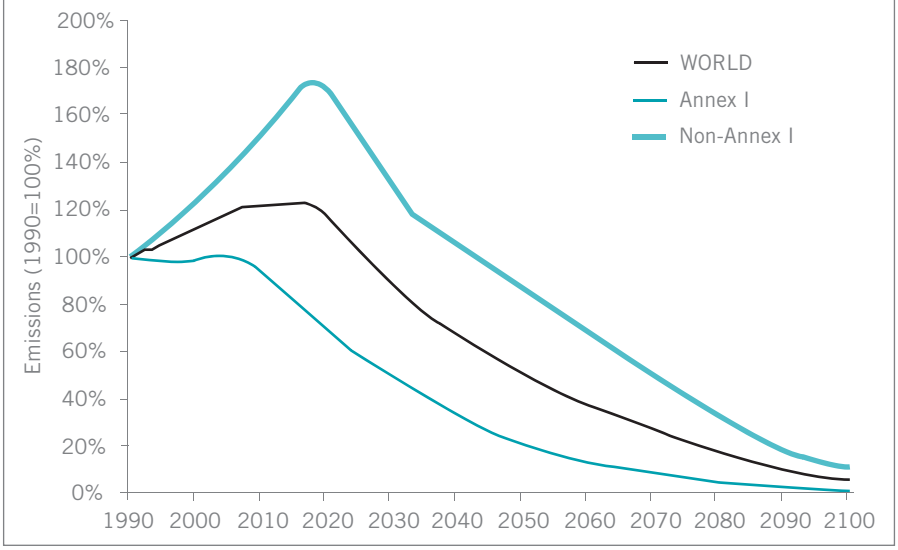


Figure 1 Source: Meinshausen 2007; Stylised Emissions Path; UNDP 2007

5.2 International and European climate change policy

5.2.1 International climate change policy

Current framework under the Kyoto Protocol

The Kyoto Protocol, adopted in 1997, is the international agreement under the United Nations Framework Convention on Climate Change (UNFCCC). The Kyoto Protocol sets binding targets for 37 industrialised countries and the European Community for reducing GHG emissions. This amount corresponds to an average of 5% against 1990 levels over the five-year period 2008-2012. One hundred and eighty nations have ratified the treaty to date. To achieve the mandatory targets under the protocol, countries must meet their targets, primarily through national measures. However, the Protocol includes three additional market-based mechanisms to achieve the goals:

- Emissions Trading (ET): Parties with commitments under the Protocol that have units to spare are allowed to sell their assigned amounts to countries that are over their targets.
- Clean Development Mechanism (CDM): Countries with commitments are allowed to earn Certified Emission Reduction credits (CERs) for projects implemented in developing countries that can be counted towards meeting the Kyoto target.
- Joint Implementation (JI): Countries with commitments are allowed to earn Emission Reduction Units (ERUs) from an emission-reduction or emission-removal project in another industrialised country.

An enormous number of proposals for a post-2012 climate regime have been drawn up, ranging from specific regulations under the umbrella of the Convention to alternative options to the protocol. However, not only the proposals for the framework but also those for the commitments are manifold. They range from short-term binding targets to longer-range aspirational targets for 2030 or 2050, as well as from dual (two quantified targets for a country - if the lower target is achieved, the country is in compliance and can sell the excess allowances on the carbon market; if the higher target is achieved, the country would not be able to take part in emissions trading) or no-lose targets (nothing happens if a country fails to reach the target) to sectoral approaches (specific targets for different sectors).

Negotiations under the umbrella of the UN for the post-Kyoto period

After the first commitment period of the Kyoto protocol (2008-2012), new international treaties will be implemented to ensure the legal framework of future climate change policy. At COP-13 (Conference of the Parties) in Bali, parties agreed on a Bali Action Plan which charts the course of a new negotiating process that will lead to an international agreement. The negotiations will be concluded in 2009 by COP-15 in Copenhagen. The Bali Action Plan consists of four building blocks, namely enhanced action on mitigation, adaptation, technology transfer and provision of financial resources. The plan consists of a crucial enhancement, since developing and emerging countries will also take mitigation actions. Furthermore, the United States returned to the negotiating process; this is crucial owing to their immense share of GHG emissions. However, negotiations will remain troublesome because some countries are not in favour of adopting binding reduction targets.

Future development of the flexible mechanisms is highly dependent on the agreement reached in 2009. Although a range of improvements and advancements of the current tools (CDM, JI, ET) exists, it has not yet been agreed how these will be taken into account under a post-2012 agreement. A future instrument under current discussion might also be a CO_2-tax implemented globally.

5.2.2 European climate change policy

European climate change policy today and post-2012

Just like Switzerland, the EU 15 has committed under the Kyoto Protocol to reduce its greenhouse gas emissions by 8% in the period 2008-2012. This reduction target has been divided between Member States in a burden-sharing agreement with the objective of enabling economic development in the EU Cohesion Countries. The new Eastern Member States have individual reduction targets. To provide a common framework to meet the Kyoto target, the European Commission has launched the European Climate Change Programme (ECCP) in March 2000 with a wide range of measures and policies. The pioneering EU Emissions Trading System (ETS), which started in 2005, aims at an effective reduction of CO_2 emissions in industrial sectors and energy production and can be seen as cornerstone of the EU climate policy, because the participating installations are causing 50% of the EU's CO_2 emissions.

However, the EU sees Kyoto only as a first step and plays an active role in formulating an international agreement for post-2012 when Kyoto's targets expire. With its future strategy "Limiting Global Climate Change to 2 degrees Celsius: The way ahead for 2020 and beyond", the EU created a positive signal for the international negotiations in spring 2007. In this strategy, the EU formulates a minimum reduction target of -20% until 2020. If other industrialised countries commit to ambitious reduction targets, the EU wants to increase this aim to a 30% reduction. The EU ETS will be strengthened and extended as a main pillar to reach these reduction targets. With the link to energy policy, the EU aims at an increase in energy efficiency by 20% and an increase in the share of renewable energies to 20% in 2020.

Experiences with the EU ETS and framework for the second period

The EU ETS is designed as a cap-and-trade system. The emission caps as well as the allocation of allowances to participants are defined in the so-called National Allocation Plans for each trading period. Participating companies whose emissions exceed their allocated allowances need to implement reduction measures or they can buy additional allowances on the carbon market. On the other hand, participants with low abatement costs may want to sell their certificates on the market. Therefore, emissions trading leads

to an efficient reduction of CO_2 emissions and ensures that the costs of climate-change policy can be reduced to the lowest possible costs for industries.
With a fast-growing trading volume (800 million allowances in 2006, 1.6 bn allowances in 2007), the EU ETS has established itself as the engine on the global carbon market. Within the EU ETS, the 10,500 participating installations from the power and heat-generation industry and in selected energy-intensive industrial sectors are learning to operate in a carbon-constrained environment and to develop cost-effective reduction strategies[16].
However, the first period of the EU ETS from 2005 to 2007 was marked by two major shortcomings. A too generous allocation in most Member States led to an oversupply of allowances, a fact that became clear after the first monitoring results in spring 2006 and led to a price deterioration of allowances (see Figure 2). This price deterioration compromised the effectiveness of the trading system because the low price did not create an incentive to reduce emissions. Furthermore, the initial allocation of allowances led to unwanted distributional effects between power suppliers, private households and energy-intensive industries: in the first period, most Member States chose to give out allowances for free according to historic emissions (grandfathering). Even though operators obtained the allowances for free, they considered them as a production factor and included them as opportunity costs in their price calculation. This economically correct but unwanted behaviour led to an increase in power prices and to windfall profits for power suppliers of several billion Euros. With an auctioning of allowances and a recycling of auctioning revenues, these unwanted effects could be averted[17].

[16] European Commission 2008a: EU emissions trading: an open system promoting global innovation: online: http://ec.europa.eu/environment/climat/pdf/bali/eu_action.pdf

[17] Matthes et al. 2005: The environmental effectiveness and economic efficiency of the European Union Emissions Trading Scheme: Structural aspects of allocation.

Development of carbon prices in the EU ETS

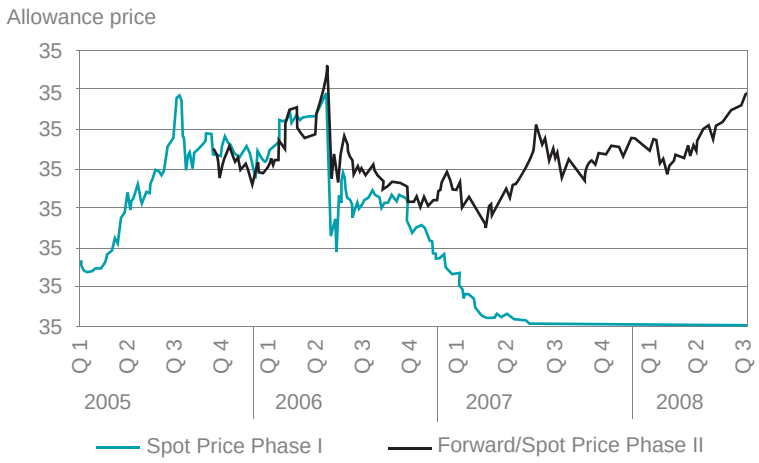


Figure 2 Source: Point Carbon, historic prices

Based on these experiences, the European Commission has been more stringent on the allocation level in the preparation for the second period from 2008-2012. The total cap for the EU 27 has been reduced by about 11% from nearly 2,300 million tonnes per year in the first period to 2,080 mt/year in 2008-2012 . After the first six months of the second trading period, it can be seen that the more rigorous guidelines from the EU Commission concerning the setting of the cap have led to a reestablishment of the carbon price, with prices reaching about EUR 24 in June 2008.

Also, the allocation mechanism in the second trading period has shifted from grandfathering to benchmarking systems (see below) and to a stronger role of auctioning. The Emissions Trading Directive allows only a 10% share of auctioning for the second trading period, which some countries have nearly exhausted (Germany: 8.8%, UK: 7%, Hungary: 5%, Netherlands: 4%). The mechanism of auctioning fosters an efficient allocation of certificates. With the shift from grandfathering to benchmarking in the power sector, the system sets stronger incentives for modernisation and efficient utilisation of the power-plant mix. Under a benchmarking system, the emissions per output (e.g. kWh electricity production) are defined so that new and efficient installations obtain a clear advantage over old and inefficient ones.

[18] National Allocation Plans available on the website of DG Environment. Summary table e.g. in Reinaud, J. and C. Philibert (2007): Emissions Trading: Trends and Projects, International Energy Agency, COM/ENV/EPOC/IEA/SLT(2007)9.

Regarding these improvements, the EU ETS in its second period sets a clearer signal to participating sectors: the carbon price sets incentives for an efficient use of installations, a shift to modern and less carbon-intensive power supply and production processes as well as a retirement of old installations. The announcement of a further tightening in the framework after 2012 gives a clear development path and leads to an inclusion of carbon prices in future investment decisions. For the third period, the European Commission will have the chance to finally make the system fully consistent – also as far as remaining perverse incentives arising from special rules for closure and new entrants are concerned[19]

[19] Carbon Trust 2007: EU ETS Phase II allocation: implications and lessons, UK.

Further development of the EU ETS and linking to other countries

As the Emissions Trading Directive was designed for the first two trading periods only, a review process was initiated by the European Commission. In January 2008, the Commission presented its proposal for amending the Emissions Trading System[20], which includes the following major changes:

- The cap on allowances will be reduced on a year-to-year basis to allow for emissions covered by the ETS to be reduced from the Kyoto period level by 21% until 2020 (implies a reduction path of 1.74% per year).
- The role of auctioning will be strengthened. In the power sector, all allowances will be auctioned starting in 2013; for other industrial sectors and aviation, the share of auctioning will be increased step-by-step until 100% has been reached in 2020.
- The scheme shall be extended to other greenhouse gases and sectors. Aviation will join the EU ETS in 2012 as the first additional sector[21]. However, the review makes it clear that small emitters will not be included in the EU ETS owing to high transaction costs.
- If an international agreement for the time after 2012 is reached, it will still be possible to include CDM credits in the EU ETS.

With the clear reduction pathway and the strengthened role of auctioning, the EU has set a clear framework for participants for their future investment and operating decisions. Latest analyses from the carbon market sector make it clear that the post-2012 framework will lead to an increase in carbon prices. Fortis Bank predicts a carbon price of EUR 40 per tonne CO_2 for post-2012, UBS even forecasts an increase to EUR 50[22]. On the European Climate Exchange, forward "bids" for the year 2013 have been placed at EUR 32, while "asks" are as high as EUR 40[23]. This first market data confirms forecasts from financial institutes.
In order to use these positive signals set by the EU ETS and its framework, several countries have already linked to the system: Norway, Iceland and Liechtenstein joined the system for the second trading period and negotiations with other countries – including Switzerland – are underway. For Switzerland, which has already set up a voluntary emissions trading system under the CO_2 law, linking would mean that the system is made compatible with the framework of the EU ETS. As emissions trading leads to an equalisation of abatement costs, linking to the EU ETS might reduce overall costs for emission-reduction measures, because abatement costs abroad - and therefore the price for emission reduction certificates - are below Switzerland's prices (see chapter 5.4.1).

[20] European Commission 2008b: Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading system of the Community.

[21] European Commission 2006: Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community; latest information: http://www.pointcarbon.com/news/1.940014

[22] Fortis (2007): Energy & environmental markets, Special report: Phase Two update, New elements from CER supply and aviation demand, 28 November 2007. UBS (2008): as cited in the CO2-Newsletter: http://www.co2-handel.de/article58_9250.html

[23] http://www.europeanclimateexchange.com /default_flash.asp

5.3 Swiss climate change policy and perspectives

5.3.1 Goals and strategies of the Swiss climate change policy

The Swiss climate change policy builds on a range of policy instruments to comply with Switzerland's national reduction target. This includes legally defined instruments but also strong elements of voluntary action. Under the Kyoto Protocol, Switzerland has a national greenhouse gas emission target of minus 8% for the period 2008-2012 as compared to the 1990 emissions. Figure 3 shows the Swiss sectors' share of CO_2 emissions.

Swiss climate change policy is closely linked with energy policy on account of the high relevance of CO_2 emissions resulting from use of fossil energies, with an overall share of approx. 85%. On a legal level, compliance with the national greenhouse gas emission targets is ensured by the federal law on the reduction of CO_2 emissions (CO_2 law), which had come into force by May 2000.

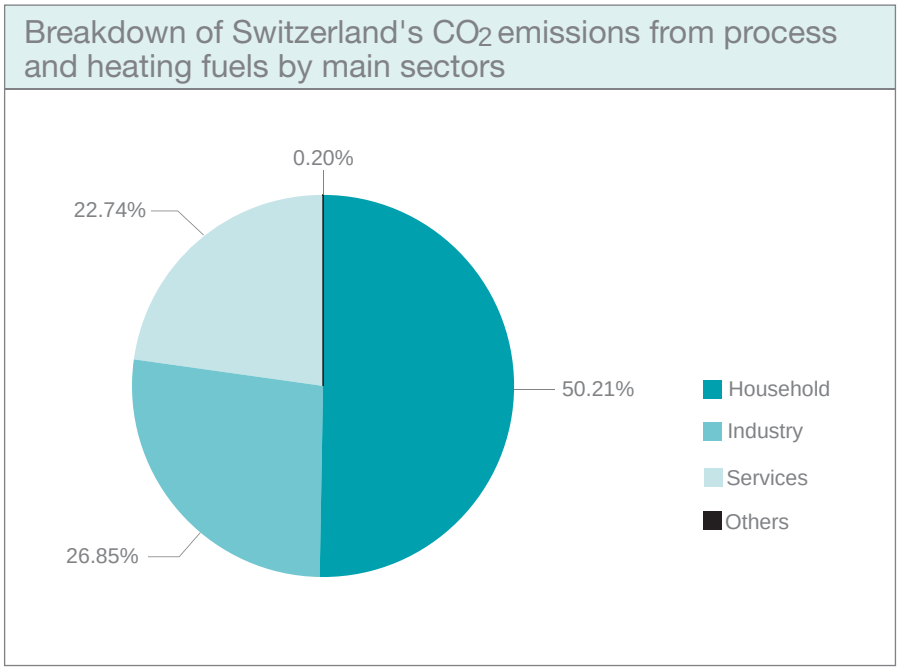


Figure 3 CO_2 emissions from process and heating fuels (total; 24.24 mn tonnes CO_2) are based on climate adjusted numbers according to the CO_2-law;
source: Energy Statistics; BAFU 2008

5.3.2 CO_2 Law and accompanying measures

CO_2 Law

The CO_2 law specifies a reduction target for CO_2 emissions of minus 10% by the year 2010 compared to the 1990 level. Separate targets are specified for process and heating fuels and for transport fuels: minus 15% for process and heating fuels and minus 8% for transport fuels. Based on the high share of CO_2 in the total greenhouse-gas emissions, the 10% reduction target for CO_2 is adequate to ensure national compliance under the Kyoto Protocol. From its philosophy Switzerland sets the primary focus on voluntary measures and includes the provision for legally defined instruments in case reduction targets cannot be reached solely through voluntary measures. The CO_2 law as a supplement to domestic action also allows for limited use of "flexible mechanisms" to achieve national compliance. The contribution of foreign reduction certificates[24] is limited by law to 1.6 million tons of CO_2[25]. Time-wise, the CO_2 law is limited to end of 2012. Beyond 2012, the law will need to be replaced by other instruments or will need to be revised. To date, the following legally defined measures are in force or in the process of being finalised:

- CO_2 levy on process and heating fuels.
- Voluntary agreements and voluntary reduction obligations with enterprises, mainly under the umbrella of the Swiss Private Sector Energy Agency (EnAW). Enterprises with valid reduction obligations can avail themselves of an exemption from the CO_2 levy.
- Tax exemption for biofuels and tax discount for natural gas and liquefied natural gas used in the transport sector. With effect from 1.1.2008, biofuels get full tax exemption if the production process fulfils specified ecological and social standards. Natural gas and liquefied natural gas used as transport fuels can benefit from reduced tax rates.
- Law for compensation of CO_2 emissions from gas-powered combined-cycle power plants (law in approval process). It is proposed that a minimum of 50% of the additional CO_2 emissions must be compensated through domestic action.

To administer the trade of carbon certificates by Swiss parties, a national emission registry was put in place by December 2007, making Switzerland the first country to have a live registry compatible with UNFCCC requirements[26].

[24] At present the following emission reduction certificates are accepted: Certified Emission Reductions (CER) generated under the Clean Development Mechanism, Emission Reduction Units (ERU) generated under the Joint Implementation Mechanism (JI) and European Union Allowances (EUA) generated under the EU Emission Trading Scheme (EUETS).

[25] CO2e is a metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP).

[26] www.national-registry.ch

CO_2 levy and implementation

The CO_2 ordinance specifies a stepwise process for enforcing different levels of tax amounts under the CO_2 levy for process and heating fuels. As the CO_2 emissions from process and heating fuels decreased in 2007 to a level of 88.8% of 1990 emissions, the CO_2 levy is not going to be increased in 2009, but instead remains at the present level of 12 CHF per tonne of CO_2.The Federal Office for the Environment estimates a total of CHF 220 million to be obtained through the levy. The entire net revenue from the CO_2 levy is redistributed to the population on a per-capita basis and to businesses as a percentage of wages paid (AHV-Lohnsumme). According to the present level of CHF 12 per tonne of CO_2, there will be around CHF 20 per capita and CHF 0.5 per thousand CHF AHV-Lohnsumme respectively.

Accompanying programmes and measures

Below is a list of the major instruments and measures to support implementation of the Swiss climate change policy:

- The national energy law delegates energy conservation measures in important sectors of energy consumption to the cantons. This includes, for example, energy consumption requirements for buildings and special requirements for large energy consumers.
- Since 2001, the “SwissEnergy” programme has supported a range of activities in cooperation with the private sector and the Swiss cantons, such as voluntary agreements with enterprises on energy consumption reduction and with importers of passenger cars on reduction of fleet consumption. Further activities involve energy labelling schemes for electrical household appliances, lighting devices and passenger cars, eco drive programs and funding support for private energy agencies such as MINERGIE (energy efficient buildings), HolzenergieSchweiz (wood energy), AEE (Agency for renewable energies), etc.
- A “Climate Cent” on transport fuels complies with the national reduction target for the transport sector, at the initiative of the Swiss Oil Association and as a voluntary measure by the private sector. The Climate Cent equals a charge of 1.5 Swiss cents per litre levied on petrol and diesel imports. The net revenue from the Climate Cent is used for funding domestic mitigation projects and to procure emission certificates in the national and international carbon market. Through its contract with the Swiss Government, the Climate Cent Foundation is obliged to reduce a total of 9 million tons of CO_2 in the period 2008-2012.
- The “Swiss Climate Foundation” is a voluntary association of Swiss enterprises to support GHG emission reduction projects. The financial means derive from the redistribution of the CO_2 levy on process and heating fuels. Approximately CHF 1.5 million will be achieved from redistribution of the levy. Member companies – mainly from the service sector – which achieve a substantial redistribution from the CO_2 levy - agree to pay the total amount of their reflux into the foundation. The money is used to support climate projects in Switzerland with the focus on projects initiated and implemented by small and medium-sized enterprises.

5.3.3 Voluntary agreements and reduction obligations with enterprises

To provide maximum flexibility to industry and service enterprises in contributing to and complying with the targets of the Energy law and the CO_2 law, a concept of voluntary agreements and reduction obligations was developed as a dual system. While voluntary agreements are implemented under the Energy law and therefore cover only reduction targets for energy consumption, reduction obligations are implemented under the CO_2 law and thus include binding reduction targets for CO_2 emissions. Reduction obligations are also concluded on a voluntary basis. However, if an enterprise has opted for a reduction obligation, the agreed target is binding, including a sanction regime in case of no-compliance. Very large consumers can conclude a voluntary agreement or a reduction obligation directly with the Swiss Government. Presently, only the Swiss cement industry has a direct agreement. For all other enterprises, voluntary agreements or reduction obligations have to be made with the Swiss Private Sector Energy Agency (EnAW). In cooperation with EnAW specialists, enterprises work out a proposal for individual reduction targets which are submitted to the Government. Companies' motivation for a voluntary reduction commitment is manifold. They range from image or reputation benefits, adherence with legal requirements set by cantons through to gaining access to discounted electricity tariffs (e.g. EWZ efficiency tariff). Enterprises with a legal reduction obligation can in addition opt for exemption from the CO_2 levy. As paying the levy cannot be avoided when procuring fossil fuels, the enterprise must, in the event of exemption, apply for refund of the CO_2 levy on a periodic basis. In consequence of the exemption, the enterprise will also be excluded from the redistribution mechanism for the CO_2 levy revenue. Enterprises with a legal reduction obligation will therefore typically take their decision on exemption from the CO_2 levy based on the analysis of the financial impact. The Swiss Federal Office of Energy offers calculator software for this purpose[27]. The EnAW offers three different agreement models (KMU model, energy model and benchmark model) which suit enterprises of different sizes and complexity in their production processes.

Under the CO_2-based reduction obligations, an enterprise can meet the specified target by the following three options or a combination thereof: a) own action, b) purchasing excess emission permits from the national emission trading scheme, c) purchase of international emission certificates (CER: Certified Emission Reduction and EUA: European Allowances) to the maximum amount of 8% of their emissions. Under energy-based voluntary agreements target compliance is restricted to own action.

In the period 2008 to 2012, the Swiss government will assign emission permits on an annual basis to all enterprises with reduction obligations and that are participating under the Energy Model. The enterprises concerned must open an account in the Swiss emission registry. For the year 2008, the Swiss Federal Office for the Environment has, as a first round, issued emission permits to more than 215 enterprises with a volume of 2.2 million tonnes of CO_2. The volume will rise to close to 3 million tonnes of CO_2 once all applications have been processed. Bearing in mind the expected growth in production volume of participating enterprises by 2010, a reduction of 2% is expected against 2000 emissions or 60,000 tons of CO_2 per year.

Emission permits resulting from reduction obligations can be traded nationally with other companies that have a reduction obligation, or excess permits can be sold to the Climate Cent foundation. Some Swiss businesses have a vital economic interest in linking the national trading system with the EU emission trading scheme, which is currently not possible. A first round of technical consultations between the Swiss administration and the EU on international linking has been completed and further rounds are planned. If technical criteria can be met, a government agreement would need to be signed between Switzerland and the EU. Options for adjustment of the Swiss allocation mechanism to achieve linking of the Swiss trading scheme to the EU ETS are an important element in the ongoing discussion process towards developing the regulatory framework and target set for the Swiss climate policy post 2010/2012. It is not excluded that linking with the EU ETS may be achieved before 2012. However, owing to the complex administrative nature of the process, this can only realistically be expected after 2010.

[27] http://www.bfe.admin.ch/energie/00572/00573/00626/index.html?lang=en

5.3.4 Current status of voluntary agreements

Overview of implementation status as at end of 2007	
CO_2 emissions of enterprises covered under ongoing voluntary agreements and reduction obligations	> 3.9 million tonnes CO_2/a
Share of CO_2 emissions of enterprises with ongoing voluntary agreements and reduction obligations (of total CO_2 emissions from industry and service sector in Switzerland)	> 39%
Total number of enterprises with voluntary agreements or reduction obligations	1,791
Total number of active groups	87
Share of enterprises with reduction obligations (of all companies under ongoing voluntary agreements and reduction obligations)	> 80%
No. of enterprises having formally requested exemption from CO_2 levy	> 900
Expected net saving in the year 2010 compared to 2000 level (incl. growth of production volume in participating enterprises)	CO_2: -4.1% Energy: -6.7%
Energy savings reported in 2007 from measures implemented under voluntary agreements and reduction obligations	3,780 GWh/a*
Relative improvement in energy efficiency	approx. 10%*
CO_2 savings reported in 2007 from measures implemented under voluntary agreements and reduction obligations	815,000 tonnes CO_2/a*
Relative improvement in CO_2 intensity	approx. 19%*

* data for EnAW members only

Table 1 Status of voluntary agreements and reduction obligations, excluding Cemsuisse. Sources: Annual report EnAW for the year 2007, Swiss Federal Office of Energy: Marktbereich Industrie und Dienstleistungen / Prozess- und Betriebsoptimierung Jahresbericht 2007.

The monitoring data as at end of 2007 confirms that compliance with the reduction targets of the participating enterprises is very good. The enterprises with voluntary agreements or reduction obligations on an aggregated level are significantly ahead of the intermediate targets for 2007. In addition, a significant number of enterprises have already exceeded the agreed targets for the year 2010. This indicates that participating enterprises have a high motivation to go beyond minimum action. One of the drivers behind this positive development may be the perspective to sell excess emission reduction to the Climate Cent Foundation. In a first round of procurement of excess emission permits from enterprises with reduction obligations, the Climate Cent Foundation procured 0.96 million tonnes of excess CO_2 permits from 165 enterprises at a fixed purchase price of CHF 70 per ton of CO_2. It is yet to be decided if another procurement round will follow. This price is significantly above the prices generated under the EU ETS. The difference reflects the difference in the average abatement costs between Switzerland and the EU.

Feedback from enterprises participating in voluntary agreements and reduction obligations confirms that targets are reachable by implementing measures with an average payback of maximum 3 to 4 years in the case of processes and 10 to 15 years for infrastructure improvement. Under the present scenario with very high prices for fossil fuels, payback will even be considerably faster. Early movers under the agreement system therefore had the benefit of significant overall savings in energy bills. This will also positively impact the national and international competitiveness of participants in the system. In this way, the system is contributing to the economic competitiveness of the Swiss economy as a whole.

5.3.5 Perspectives of Swiss climate change policy

The Swiss government has started a national process for developing a strategy for post 2012. The Department of the Environment, Energy, Transport and Communication has proposed in its climate report (issued in August 2007) that the national strategy for Switzerland should be developed in line with reduction targets as proposed by the European Union. Two main options are under discussion in the Swiss administrative system:

- Reduction targets as per the recent EU proposal (i.e. -20% until 2020 compared to 1990 level or -30% if an international agreement is reached and -50% until 2050).
- Proposal of the State Secretariat for Economic Affairs (SECO) for a "climate-neutral Switzerland" with a theoretical target of 100% reduction by the year 2030. In this proposal the share of internationally procured emission reduction certificates is not restricted. The proposal specifies a maximum limit for reduction costs and therefore 100% reduction may actually not be achieved.

To achieve such goals, several additional instruments are presently under consideration by the Swiss Government, such as:

- Introduction of a national greenhouse-gas levy.
- Partial earmarking of the revenue from CO_2 or GHG levy for subsidising emission reduction projects and measures (e.g. partial utilisation for the advancement of energy efficiency in the building sector and renewable energies).
- Full linking of the national emission trading system to foreign emission trading systems.
- Regulatory controls towards minimum energy and emission standards for buildings, cars and other energy-consuming devices.
- "Action Plan Energy Efficiency" and "Action Plan Renewable Energies" which were presented by the Swiss Federal Council in September 2007 cover a range of measures to promote energy efficiency improvements and use of renewable energies. Stepwise implementation of these action plans is expected as from 2009.

To date, no final decision is available on how the Swiss climate change policy will be shaped post 2012.

5.4 Impact of climate change policy for companies located in Switzerland

5.4.1 Underlying mechanisms

Carbon price and its dynamics

The introduction of a carbon price – either through the introduction of a CO_2 levy or an emissions trading system – creates a new cost factor which needs to be considered within the production function. Depending on the competitiveness situation, higher production costs might be shifted to consumers. Higher prices for goods can reduce the demand for carbon-intensive products if demand is elastic or if there are possibilities for substituting carbon-intensive with low-carbon products.

If carbon prices and their dynamic adjustment differ between competing economies, climate policy can lead to inefficient competitiveness effects, especially in carbon-intensive industries if directly competing companies face lower carbon costs. A competitive disadvantage in the short term can, however, be over-compensated in the long term, if the incentive created through the carbon price leads to a modernisation process and innovation towards a low-carbon economy. Regarding carbon-intensive sectors, this long-term effect is reachable only if specific measures to cushion negative competition effects are implemented (see scenario 2 on page 41).

Effects on supply and demand side

On the supply side, the introduction of a carbon price influences industries via the increase of production cost. If companies are not able to pass on the additional costs to consumers or if consumers react with a lower demand or changes in consumption behaviour, this leads to lower returns and – in the short term – to a considerable disadvantage for companies with a high carbon intensity (such as glass, ceramic, cement-industry, petroleum-processing, chemical-goods-processing and food-production companies, etc.[28]). In the medium and long term, the carbon price sets an incentive for modernisation and for an increased supply of innovative products which support a low-carbon society and thus not only creates risks for carbon-intensive industries but also creates new opportunities.

Climate policy also leads to effects on the demand side: via awareness-raising, climate-change policy will change consumption patterns. This could, for example, lead to a reduced demand in air travel, which would negatively influence the aviation sector and to increased demand for local tourism activities. Regulation on climate policy can likewise create effects on the demand side. For example, a regulation system seeking minimum shares of biofuels or renewable energies increases demand for the relevant products/technologies. These products – such as solar-panels, bioethanol, parts of wind turbines – used for climate mitigation methods, might in fact be provided by sectors which can be seen as

[28] BFS (2005): Treibhausgasemissionen der Wirtschaftsbranchen – Pilot-NAMEA für die Schweiz 2002, Bundesamt für Statistik, Neuchâtel

potential losers in the short term. Such regulatory efforts regarding renewable energies are very advanced in the EU. European leaders signed up to a binding EU-wide target to source 20% of their energy needs from renewables such as biomass, hydro, wind and solar power by 2020. The new directive[29] that the commission proposed in January 2008 outlines the differentiated targets for each EU member state until 2020 (Germany: 18% (2005: 5.8%), France: 23% (2005:10.3%), UK: 15% (2005: 1.3%)). Switzerland's implemented and planned regulatory measures on renewable energies and energy efficiency are comparably prominent if planned measures (see below) are implemented in full. The revised Energy Act stipulates that the production of electricity from renewable energy sources must be increased by at least 5,400 GWh by 2030. It also contains a package of measures for promoting renewable energy and efficient electricity use such as the cost-covering remuneration for the input into the network of electricity produced from a renewable energy source (as of 1.1.2009). Proposed measures under the "Action Plan Energy Efficiency" and "Action Plan Renewable Energies" (see chapter 5.3.5) are based upon minimal standards, consumption regulations, incentive and advancement systems as well as best-practice strategies. Thus, climate policy creates new chances and business opportunities for sectors which already support a climate-compatible economy (e.g. renewable energies) or which have the potential for a restructuring or complete re-organisation (e.g. the automobile industry).

[29] Proposal for a Directive by the European Parliament and the Council on the promotion of the use of energy from renewable sources: http://ec.europa.eu/energy/climate_actions/doc/2008_res_directive_en.pdf

Abatement costs

With its high value-added industries and its service sector, Switzerland ranges at the lower end of European countries concerning carbon and energy intensity. With its specific sector structure and the high importance of its service sector, the potential to reduce greenhouse gas emissions is rather low, which results in high abatement costs. Average abatement costs on an EU level[30], including carbon-intensive industries like steel and aluminium or energy production from coal, are lower than in Switzerland[31]. Therefore, Swiss companies would in general profit from a link to other emissions trading systems with lower average abatement costs.

[30] See Infras/IFEU Heidelberg/ IVL Stockholm/ TNO Delft/ TU Graz 2006: Cost-effectiveness of greenhouse gases emission reductions in various sectors, final report. Studie im Auftrag von EC- DG Enterprise and Industry. Zürich/Bern November 2006: http://ec.europa.eu/enterprise/automotive/projects/report_greenhouse_gases.pdf

[31] See Infras 2008: CO_2-Vermeidungskosten im Inland: Erneuerbare Energien, industrielle Prozesse und Mobilität, Studie im Auftrag des Bundesamts für Energie, Januar 2008.

5.4.2 Relevance of future policy for Swiss companies – Chances and risks

As the Swiss climate change policy post-2012 is still under discussion, the potential impact on companies cannot be assessed. However, looking at three scenarios defining the potential range of future policy-making means that it is possible to identify challenges for specific sectors as well as chances and risks for the economy as a whole.
The first scenario is based on the assumption that the Swiss emissions trading system under the CO_2 law is fully integrated into the EU ETS, meaning that the Swiss and EU carbon price are the same. In the second and third scenario, current climate change policy with no linking to the EU ETS is continued. Companies can still opt out of the CO_2 levy and participate in the national emissions trading system. For these two scenarios it is assumed that the rate of the CO_2 levy has a direct influence on the price of allowances under the Swiss ETS. However, the price of allowances may exceed the rate of the CO_2 levy as the scarcity of allowances - which is directly linked to the negotiated reduction obligations - is the crucial cost-influencing factor.

Impacts on national level/redistribution between sectors

- Short-term impacts: In all three scenarios, carbon-intensive sectors face an increase in production costs and might face a reduction in demand and thus in returns in the short term (see comments on regulation risks on page XX). On the other hand, companies that provide low-carbon products and services or produce goods which are used within climate change mitigation and adaptation measures increase in demand. In the third scenario with a low-carbon price, effects for producers of low-carbon products and for carbon-intensive sectors are not as pronounced.
- Medium to long-term impacts: With its incentive for modernisation and innovation, the carbon price can, in the medium to long term, create new chances for currently carbon-intensive sectors. A restructuring or complete reorganisation of production processes and/or products within the framework of a low-carbon economy can create new business opportunities to almost all sectors and can outweigh the short-term negative impacts by far. Only companies which are directly linked to mineral oil processing have little chance for restructuring and can be seen as losers on climate policy

Impacts on competitiveness

- **Scenario 1:** As Swiss and EU companies face the same carbon price in this scenario, impacts on competitiveness are neutral. Competing companies face the same increase in production costs and thus do not obtain a competitive advantage or disadvantage.

Potential scenarios for Swiss climate policy and the role of the carbon price		
Scenario 1	Scenario 2	Scenario 3
• Full integration of the Swiss ETS into the EU ETS	• No integration in EU ETS • High CO_2 levy post-2012 • High price in CH ETS	• No integration in EU ETS • Low CO_2 levy post-2012 • Low price in CH ETS
• Only one carbon price • Same price in CH and EU	• Differing carbon prices in CH and EU • Price in CH exceeds EU price	• Differing carbon prices in CH and EU • Price in CH lies below EU price

Table 2 For a quantitative forecast of the carbon price in the EU ETS after 2012, see chapter 5.2.2.

European companies may, however, face a disadvantage in the short term compared to companies in third countries (especially in emerging economies) which are currently not included in climate policy with binding reduction targets. The dynamic incentive set by the carbon price will, however, accelerate the modernisation process of European industries, which will in the medium and long term obtain an economic advantage through modern and low-carbon processes and products.

- **Scenario 2:** In this scenario, Swiss companies face a higher carbon price than companies located in the EU. For carbon-intensive sectors, this could in the short term lead to a competitive disadvantage as consumers would increase demand for slightly cheaper EU products. To cushion this effect, measures for companies competing on an international scale, such as special regulations for energy-intensive sectors with target agreements and commitments for exempted sectors and companies, need to be fulfilled. However, the higher carbon price in this scenario also leads to higher incentives in Switzerland towards the necessary structural change for a low-carbon economy which can lead to a competitive advantage in the medium to long term and for companies to benefit from first mover advantages. But these benefits only apply if the difference between the Swiss and European carbon price stays manageable[32] and if the increase is stepwise with acceptable levels of increase rates . This ensures the realisation of economic advantages in the medium to long term. The current endowment of production factors with a high value of human capital and technical know-how is a good starting point to quickly initiate the structural change needed. Although this scenario might in the short term lead to slightly higher costs for Swiss companies, it might also trigger and enforce necessary innovation processes which result in a positive impact in the medium and long term.

[32] Infras/Ecologic 2007: Erfahrungen mit Energiesteuern in Europa, Lehen für die Schweiz. Studie im Auftrag des Bundesamts für Energie. Zürich/Berlin.

- **Scenario 3:** The scenario with a lower carbon price in Switzerland than in the EU produces a contrary picture. On a national level, the incentives towards a restructuring might be too low to trigger innovation on a sectoral level. Especially for companies which mostly sell on the domestic market, this missing incentive might become a problem in the medium to long term as they lag behind the modernisation process on an EU level. The risk of losing competitiveness in the medium to long term will outweigh positive short-term impacts which might arise from higher sales due to lower carbon costs. For export-oriented sectors, it seems obvious, however, that they also consider the framework on an EU level and that the risk for a competitive disadvantage is lower.

5.4.3 Conclusions

To achieve a stabilisation of GHG emissions, the IPCC calls for ambitious reduction pathways (see chapter 5.1.3). Scenarios 1 and 2 discussed in chapter 5.4.2 are compatible with such ambitious climate change targets and face a clear advantage over scenario 3 with regard to an economic point of view. In both scenarios the policy framework creates the necessary incentives for a restructuring of the Swiss economy towards a low-carbon society. This modernisation process leads to a considerable reduction of energy consumption, as required within the objective of a 2000 Watt society[33]. By becoming a forerunner in the production of low-carbon products and the necessary technology, Swiss companies have the chance to obtain a competitive advantage, to create new employment and higher added value. Although scenario 2 sets even slightly higher incentives than scenario 1, the potential negative effects in the short term could prompt decision-makers to opt for a linking between Swiss and EU emissions trading systems. As average abatement costs in the EU are lower than in Switzerland, this scenario would also result in lower prices for consumers. In scenario 1, the absolute level of consumption might thus lie above the level of scenario 2 and can thus trigger higher employment and added value.

[33] (voir http://www.novatlantis.ch)

In order to support businesses in their development towards a low-carbon economy and to create security of investment, policy frameworks need to be set as soon as possible. The sooner companies obtain a financial incentive to modernise their production process or to rethink their products, the higher the chances are of obtaining a competitive advantage in the future through the provision of low-carbon technologies, products and services.

Nearly all sectors have a chance to use the signals set by climate policy for innovation and modernisation. The only apparent losers of an ambitious climate change policy but also of reduced energy resources are companies which are directly linked to mineral oil processing such as refineries. Other companies which still profit from the relatively cheap provision of mineral oil (e.g. companies producing synthetic material) have possibilities for substitution. The following sectors which already produce low-carbon technologies and products will profit directly from an ambitious climate change policy after 2012:

- Renewable energies: Companies which produce renewable energy technologies, producers of biofuels, renewable power sector;
- Energy efficiency: Companies providing energy-efficient products or services (contracting);
- Forestry: Sectors providing biomass products,
- Building sector: Companies specialised in energy-efficient buildings, companies specialised in building dams, protective systems in the Alps (adaptation) or new infrastructure for hydro power (mitigation) or new materials.

But also companies which presently belong to the most carbon-intensive sectors and are currently under strong pressure to modernise could be seen in a winning position:

- Automobile industry: On all levels of the value-added chain in the automobile sector climate change policy is often seen as a threat but can also create new market chances. This can include technological improvements (e.g. cars with low fuel consumption, hybrid systems, etc.) or a complete restructuring with the provision of new products/services in the mobility sector
- Suppliers of transport services: Companies which provide public transport services have a high potential to profit from changing mobility behaviour.

6

Results of the Swiss CDP Survey

6. Results of the Swiss CDP Survey

6.1 Introduction

With a response rate of 78% in 2007, the first CDP Switzerland survey turned out to be a great success, highlighting Swiss companies' receptiveness to the issues of climate change and a willingness to engage in dialogue on the subject.

This is precisely what CDP Switzerland sets out to achieve. Having set itself ambitious targets right from the start, the survey now includes several improvements on the previous year:

- The first change is an increase in the number of companies surveyed. The 2008 survey covers the 100 largest companies in the SPI[1] whereas, in 2007, only the 50 companies in the SMI Expanded®[2] were approached.
- The second is the comparative dimension, which will really come into its own in future surveys. The 2007 data form the point of reference needed for this year's comparison.
- Finally, as well as listing the companies' answers to the questionnaire, CDP Switzerland 2008 also includes an assessment of the responses by industry sector for those companies in the SMI Expanded®.

Before going into further detail, however, it should be noted that Swiss firms are not currently subject to any legal requirements in terms of environmental reporting. They therefore take a variety of approaches, depending on the business in which they operate, and this makes it more difficult to draw relevant comparisons between different performances.

The CDP6 questionnaire

In an effort to improve the feedback analysis, which is subsequently sent to participating companies, the structure of the CDP6 questionnaire has been adapted. Needless to say, it still includes all the subjects covered in the previous survey, so the changes have very little impact on the ability to make year-on-year comparisons.

[1] The Swiss Performance Index (SPI®) contains Swiss shares listed on the primary market of the SWX Swiss Exchange.

[2] "The SMI Expanded® is made up of the SMI® and SMIM®, meaning that it comprises the 50 largest, most liquid stocks in the Swiss market. It contains around 95% of the Swiss equity market's total free float capitalisation and is calculated as both a performance and a price index." (Source: http://www.swx.com/trading/products/indices/stock_indices/smi/smi_exp_en.html)

CDP and EnAW

Of the entire universe covered, 44 companies (54% in the case of the SMI Expanded®) and 38% for the new companies participating in the survey) are subject to voluntary agreements to reduce carbon emissions according to the energy model adopted with the Swiss Private Sector Energy Agency (EnAW).

Meanwhile, the Swiss cement industry, which includes the Swiss subsidiary of Holcim, has signed an agreement on emissions reduction targets with the Swiss Confederation, to qualify for a CO_2 tax exemption[3].

As a fundamental element of Switzerland's climate policy, EnAW guides and supports companies introducing measures to improve their energy efficiency and draws up target agreements in accordance with the stringent requirements of the CO_2 Law.

It should also be noted that, although a highly significant indication of a company's commitment to acting on climate change, these figures have only a limited impact within the context of the companies surveyed by CDP, potentially concerning only the economic entities operating in Switzerland. As it happens, the majority of the companies in the CDP universe are multinational organisations, which generally have numerous infrastructures located abroad.

[3] http://www.news.admin.ch/message/index.html?lang=en&msg-id=1679

6.1.1 Comments on the new CDP Switzerland 2008 universe

For its 2008 survey, CDP Switzerland decided to extend its universe to the 100 largest capitalisations on the Swiss stock exchange. Overall, this includes all the main sectors in the Swiss economy, i.e. finance, health care, industrial goods, construction goods and consumer goods. In total, these 100 shares, which cover more than 96% of the capitalisation of the Swiss Performance Index (SPI), represent 96 large or medium-sized companies (with four companies listing two shares).

The entire universe was then divided into two groups, forming the structure for presenting the results and the following analysis.

The SMI Expanded® was chosen for the first group, to ensure continuity with the work started in the first CDP Switzerland survey. More precisely, this group consists of 48 companies, five of which were approached for the first time this year (of which just one replied to the CDP questionnaire).

The second group comprises the next 48 shares in the SPI, of which five had dropped out of the SMI Expanded® and were thus approached for the second time in 2008.

Sectors represented in the CDP Switzerland 2008 universe with respect to the SPI®

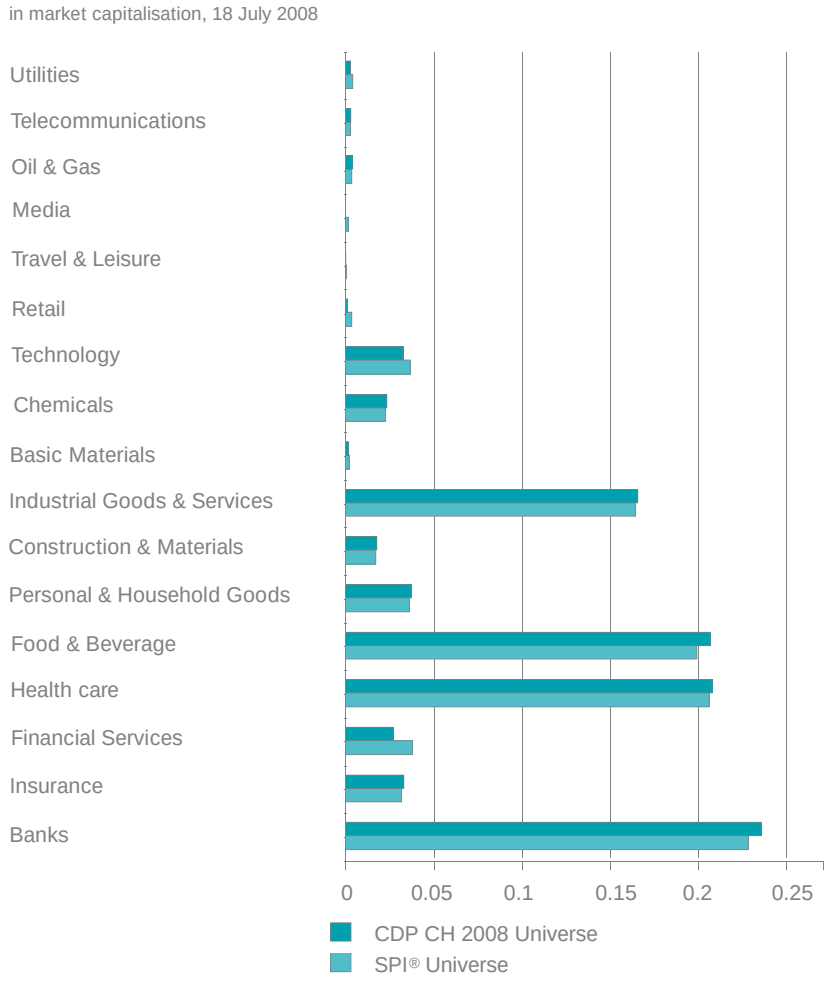


Figure 1

Finally, it should be noted that the companies contacted by CDP Switzerland represent a relatively low absolute volume of emissions. Looking solely at the direct emissions reported this year (Scope 1[4] of the GHG Protocol), it can be seen that Holcim alone, through its production of cement, aggregate and concrete (some 102 million tonnes of CO_2), represents more than 13 times the total emissions of the 32 other SMI Expanded® companies to disclose data on this subject this year (some 8.3 millions of tonnes of CO_2).

To a large extent, this is explained by the large proportion of business sectors (finance, health care, foodstuffs, see 6.1.1) whose Scope 1 carbon emissions are relatively low.

[4] Scope 1 covers direct emissions, i.e. emissions produced by burning fuel (e.g. oil for heating business premises) and those created by vehicles belonging to the company.

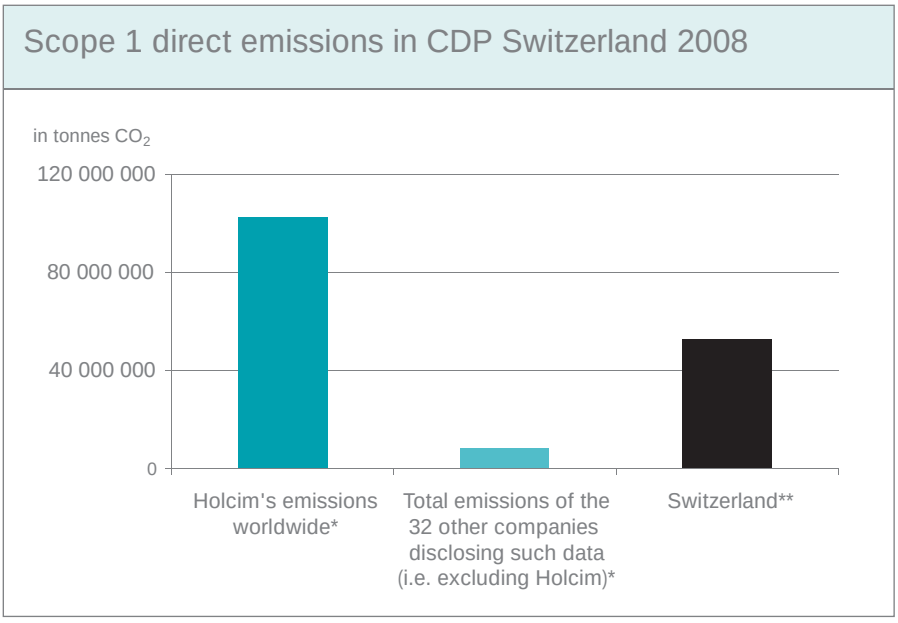


Figure 2

* Source: CDP Switzerland 2008
** Source: Federal Office for the Environment (FOEN)

6.2 Replies from the 50 SMI Expanded® companies and a detailed analysis

6.2.1 Transparency and response rate

Of the 48 companies in the SMI Expanded®, 33 replied, giving a response rate of around 70%. The table below shows in more detail which companies have participated in CDP Switzerland since it started in 2007.

Another point of interest is that 21 of the respondents (more than 63%) agreed to have the content of their CDP6 2008 answers disclosed on the website www.cdproject.net.

A further 12 companies were not so transparent, however, requesting that the information in their replies not be publicly disclosed.

Unfortunately, this means that we cannot quote from or mention the content of their replies in this report.

Company	Replied to CDP 2007	Replied to CDP 2008	Status of information
ABB	Yes	Yes	Public
Actelion	Yes	No	-
Adecco	Yes	Yes	Public
Bâloise	Yes	Yes	Public
Barry Callebaut	Not contacted in 2007	Yes	Public
Basilea	Not contacted in 2007	No	-
Lindt & Sprüngli	Yes	Yes	Not public
Ciba	Yes	Yes	Public
Clariant	Yes	Yes	Public
Credit Suisse	Yes	Yes	Public
EFG International	Not contacted in 2007	No	-
Geberit	Yes	Yes	Public
Georg Fischer	Yes	Yes	Public
Givaudan	Yes	Yes	Not public
Helvetia	Not contacted in 2007	No	-
Holcim	Yes	Yes	Public
Julius Bär	Yes	Yes	Not public
Kudelski	No	No	-
Kühne + Nagel	No	No	-
Kuoni	Yes	Yes	Not public
Logitech	Yes	Yes	Not public
Lonza	Yes	Yes	Public
Nestlé	Yes	Yes	Public
Nobel Biocare	Yes	No	-
Novartis	Yes	Yes	Public
OC Oerlikon Corporation	No	No	-
Panalpina	Yes	Yes	Not public
Pargesa	No	No	-
Petroplus	Not contacted in 2007	No	-
PSP Swiss Property	No	No	-
Richemont	Yes	Yes	Not public
Rieter	Yes	Yes	Public
Roche	Yes	Yes	Public
Schindler	Yes	Yes	Not public
SGS	Yes	Yes	Public
Sika	Yes	No	-
Sonova	Yes	No	-
Straumann	Yes	Yes	Public
Sulzer	Yes	Yes	Not public

Swiss Life	Yes	Yes	Not public
Swiss Re	Yes	Yes	Public
Swisscom	Yes	Yes	Public
Syngenta	Yes	Yes	Not public
Synthes	No	No	-
Swatch Group	No	No	-
UBS	Yes	Yes	Public
Vontobel	Yes	Yes	Public
Zurich Financial Services	Yes	Yes	Not public

6.2.2 Main results

Risks and opportunities

As previously mentioned in 6.1.1, the vast majority of the companies surveyed operate in industry sectors which may, at first sight, appear relatively no-carbon-intensive.

Most respondents thus start out by saying they are not directly concerned by the various threats posed by climate change.

Nonetheless, the Swiss companies in the SMI Expanded® are aware of the numerous risks they potentially face, even if indirectly, with some 93% of respondents perceiving risks, albeit in very different forms at times. Among those most frequently mentioned are, obviously, the problems associated with fluctuating costs for energy and raw materials. And, as will also be shown, this risk awareness is often accompanied by the perception of the opportunities presented by climate change.

Regulatory risks

Among the various risks associated with climate change that were generally identified, regulatory risks were the most commonly cited in the expert reports compiled by KPMG[5], in a study published in January 2008. According to that report, companies and sectors that fail to adjust to a changing business environment will potentially face huge competitive disadvantages in the future.

Apart from this publication, there is widespread consensus that restrictive policies and regulations on greenhouse gas emissions form the main source of risk for companies, especially those operating in the energy, oil, cement and transportation industries. Such regulatory risk is regarded as a potential cost factor, given that the resulting curbs on emissions force companies to assume costs that were previously externalised.

[5] Climate Changes Your Business, KPMG's review of the business risks and economic impacts at sector level, 2008, p.11 and 36

"Whilst it is not Ciba policy, we have seen that different standards and regulations in different countries can distort competition and bring about a widespread shift in manufacturing to countries where the rules are less stringent. Poorly defined regulations have also raised the cost of electricity in certain regions, and these increases also have a distorting effect on competition."

(CDP Switzerland 2008 – Ciba – 1a i)

The following table summarises the Swiss companies' replies to the CDP questionnaire on the issue of regulatory risk.

1a i Sees a risk in regulatory changes	Number of companies	Percentage
Yes	17	52%
No	16	48%
Pas de reply	0	0%

"We believe that the main regulatory risks with regard to climate change may be due to continued uncertainty and to frequent changes in the rules, major differences in the systems and reduction targets between the various regions and, in particular, reduction obligations that go beyond what is technically and economically needed for reduction, as well as market demand. In certain extreme cases, a poorly thought-out law can lead to carbon wastage, hence the shift in goods manufacturing to regions (jurisdictions) where the rules on climate change are less stringent or even non-existent. The uncertainty surrounding future legislation and the different reduction targets in Europe, the US, Canada, Australia, New Zealand and the other countries signing up to the United Nations Framework Convention on Climate Change (UNFCCC) form a significant regulatory risk."

(CDP Switzerland 2008 – Holcim – 1a i)

Thus, in 2008, some 52% of respondents from the SMI Expanded® see a risk in current or future regulations on climate change, a distinct increase since the previous year, when the corresponding figure was only 31%.

What's more, these companies are concerned by not just the tightening of regulations that could affect their supply chain and production but also changes to the law that could modify product requirements. Some companies relying heavily on transportation are particularly worried in this respect, explaining that they are preparing to face new regulations in the short to medium term. On this issue, for instance, the European Parliament formally ruled on 8 July 2008 to include the aviation sector as of 2012 in the EU Emissions Trading Scheme (EU ETS)[6].

Meanwhile, several industrial firms such as Ciba and Holcim fear that the application of different standards in different regions is changing the rules of competition, resulting in a widespread shift of manufacturing infrastructures to countries where the rules are more flexible, without any beneficial impact on the environment.

On the other hand, 48% of the sample studied say they are not worried about risks associated with the tightening or introduction of regulations. In fact, most companies claim to be operating in sectors which, by their very nature, have low emissions and, therefore, that their exposure to regulatory risk is minimal.

In reality, these companies, which operate in practically all the business sectors in the SMI Expanded® universe studied here, are not necessary exposed to less regulatory risk. Although they operate in countries that have already implemented regulations in this regard, they simply do not see any direct risks associated with these. The fact remains that all of these companies are – to a greater or lesser extent – dependent on existing or potential regulations.

[6] http://www.euractiv.com/en/climate-change/aviation-emissions-trading/article-139728

Physical risks

The physical impact of climate change increases companies' exposure to what is known as physical risk. As outlined very clearly in the Fourth Assessment Report (AR4) of the IPCC, the physical impact of climate change takes many different forms: drought, rising sea levels, glacier melt and a decrease in permafrost extent, as well as an increase in extreme events (flooding, hurricanes, etc.) in terms of both frequency and severity (see chapter 5.1).

Such effects pose a threat to those sectors greatly dependent on the natural environment, such as agriculture, tourism, insurance and property. As evident from the answers to CDP Switzerland 2008, they can also affect companies in other sectors, depending on where their operations and those of their suppliers are located.

In 2008, 73% of the companies in the SMI Expanded® see a physical risk in climate change, which is a sharp increase since the previous year.

As in CDP 2007, several companies describe the risks incurred by some of their subsidiaries in at-risk zones, such as coastal areas. More specifically, interruptions to production and problems in the supply of raw materials and energy are the threats most frequently cited. However, almost all companies (94%) say that they have implemented business continuity plans to deal with such situations (see Annex: Question 1a iv).

1a ii Sees a physical risk	Number of companies	Percentage
Yes	24	73%
No	9	27%
No reply	0	0%

In some cases, physical risk is viewed in more general terms. Adecco, for example, acknowledges that major climate catastrophes (flooding, cyclones, etc.) pose a substantial potential risk to the driving force behind their business model, i.e. human beings (skilled / unskilled workers and staff). Clearly, the same applies for insurance companies, which have to adjust their insurance premiums to new physical threats.

Nine companies (ABB, Georg Fischer, Holcim, Lonza, Rieter, Roche, Straumann and Vontobel; see table below) do not feel they are exposed to any physical risk, for varying reasons. Some, for example, say that they have little or no infrastructures located in areas directly exposed to physical risk. Others say that they have already implemented proven measures to manage the physical risk efficiently.

General risks

There are, of course, other risks apart from those mentioned above. Apart from regulatory and physical risks, the KPMG report "Climate Changes Your Business"[7] also mentions reputational and litigation risks.

In its report "The changing landscape of liability"[8], UK organisation SustainAbility states that "What makes climate change so important is that, if legal liability is established, the potential costs are enormous: climate change costs are estimated by United Nations Environment Program to be in the order of USD 300 billion a year".

[7] Climate Changes Your Business, KPMG's review of the business risks and economic impacts at sector level, 2008, p. 32-35

[8] Geoff Lye and Francesca Müller, "The changing landscape of liability", SustainAbility, 2004

It would seem reasonable to take a more circumspect view of this risk. Nonetheless, even if such cases against companies have relatively little chance of succeeding, this kind of litigation can clearly tarnish a company's reputation. Such lawsuits can seriously damage the image of large consumer companies, air freight companies or the manufacturers of consumer products.

As mentioned above, climate change poses specific challenges to companies in terms of image and reputation. A report published by Carbon Trust, "Brand value at risk from climate change"[9], clearly illustrates that the reputational risk associated with the sale or use of certain products or simply with practices seriously affecting the environment is a factor that could potentially erode consumer confidence in the brand, which ultimately translates into a fall in sales. This type of risk can be illustrated using an example taken from that report, which claims that the airline business faces an enormous reputational risk with respect to the climate, potentially accounting for up to 50% of a company's market value.

[9] Tom Delay, "Brand value at risk from climate change", Carbon Trust and Lippincott Mercer

Another risk associated with climate change that could have serious long-term consequences on profitability is what is known as the "value-chain risk". This refers to a company's carbon dependence with respect to its own value chain. As outlined in a CERES report[10], a company that is not hugely exposed in terms of CO_2 emissions may still be using raw materials or end-products with a high carbon footprint, impacting on supply costs and on the potential sale of its products. One such example is car manufacturers. As shown in a recent study conducted by Centre Info[11], if we look at car manufacturers' exposure along their entire value chain, there are huge differences in the intensity of companies' carbon emissions, with some up to twice as much as others.

By the same token, it is important to view the financial sector in terms of its value chain, particularly as this sector plays such a large role in the SMI Expanded®. Thus, according to the KPMG report, "the consequences of climate change for the financial sector are mostly indirect, as financial institutions are indirectly exposed to climate risks through their investment portfolios.[12]" This report also states that the implications of climate change for investment portfolios as a whole remain relatively unexplored. It is thus of interest to see the extent to which Swiss banks and insurance companies take this risk into account in their replies.

In general, of course, this is an issue that concerns all sectors. It is thus gratifying to note that pharmaceuticals company Roche considers not just the risks inherent to its production operations but also those concerning its distribution and supply chain, particularly with respect to transportation.

Thus, of all the questionnaires studied, the vast majority of SMI Expanded® companies that responded to CDP 2008 are aware of one of these risks, with 76% of them perceiving at least a general risk.

It is quite striking among the replies that the huge increase in the price of oil over the past few months is what led many of the companies to include the value chain risk. Lonza, for example, explains that the rising costs of resources will eat into its profits and that it is thus taking steps to lessen its dependency on oil as time goes by.

[10] "Global Framework for Climate Risk Disclosure", CERES, October 2006

[11] Yvan Maillard Ardenti, Renald Flores, "The Carbon Intensity of Car Manufacturers - An updated sector study using envIMPACT®, the carbon risk analysis tool for fund managers", Centre Info SA, November 2007

[12] Climate Changes Your Business, KPMG's review of the business risks and economic impacts at sector level, 2008, p. 41

1a iii Sees at least a general risk	Number of companies	Percentage
Yes	25	76%
No	8	24%
No reply	0	0%

In the financial services sector, several banks now appear to be taking a broader view of their exposure to the risks of climate change. UBS, for instance, says it is trying to integrate such risks into its loans and its investment, advisory and research activities. Meanwhile, Credit Suisse announced in June 2008 its adoption of the Carbon Principles[13], a joint initiative by several of the big banks (Bank of America, Citi, JPMorgan Chase and Morgan Stanley) to create a framework for evaluating the environmental and economic risks associated with the construction of some US power plants. Credit Suisse also states that, if necessary, it can make the incorporation of climate-change elements a necessary component in a business plan for the financing of a loan.

[13] http://carbonprinciples.org

The reputational risk, and particularly a change in consumer attitudes, also represents a substantial element of the potential threats perceived by the companies surveyed. Not surprisingly, the majority of those in direct contact with clients are particularly sensitive to this aspect.

Finally, the "legal or litigation risk" is mentioned in very few cases, and only by insurance companies.

"Finally, in June 2008, Credit Suisse announced it had adopted the Carbon Principles, an initiative co-developed by the major power companies and various environmental groups to give financial institutions a framework for evaluating the environmental economic risk and to participate in the construction of certain US power plants. As part of the prior checks to be made, a sort of environmental due diligence procedure for the Carbon Principles, Credit Suisse will encourage its clients operating in the electricity sector to lower their demand by favouring energy efficiency and renewable distribution technologies that optimise costs while emitting only low volumes of carbon dioxide. In addition, the Bank will work together with electricity companies to assess the financial, regulatory and environmental risks associated with the generation of fossil fuels emitting greenhouse gases".

(CDP Switzerland 2008 – Credit Suisse – 1a iv)

Opportunities

Overall, while certain risks can be minimised (e.g. physical risks), others can be transformed into potential sources of competitive advantage. Such mechanisms can be illustrated as follows:

- Companies can be positioned (or have the capacity to be positioned) in product segments or technology sectors that reduce the impact of climate change (e.g. products that improve energy efficiency or lower CO_2 emissions.
- Companies can use their capacities for innovation, research and development to launch products meeting the strictest requirements in terms of CO_2 emissions (e.g. low-energy fridges, rated A according to the Swiss Federal Office of Energy's label for electrical appliances[14]).
- Companies can be given a positive image of protecting the climate through their products or services (e.g. "green" energy offered by power companies).
- By adopting a strategic vision that incorporates climate change and with the right managerial capacities, it should be possible to cut a company's dependence on carbon all along its value chain (suppliers, production, products) with a positive outcome in terms of both costs and image.

Finally, and without going into detail again on the various types of opportunities identified (physical, regulatory and general), the overwhelming trend among the replies to CDP 2008 shows that almost all companies see some sort of opportunity to be had in climate change. In fact, only 12% of the SMI Expanded® companies do not mention any opportunity whatsoever.

Indeed, the development of new and innovative products and services is among the opportunities most frequently mentioned. In this respect, 64% of the SMI Expanded® companies have invested in a commercial offering designed to minimise or adjust to the impact of climate change.

Among the sectors most concerned in this respect, it is of note that, as in the previous year, almost all of the banks and insurance companies in the SMI Expanded® that replied to CDP 2008 are working on or already offer ranges of financial products specifically based on these topics. For example, UBS specifies that "the aspects of climate change are gaining in importance for certain investors". The bank goes on to point out that the integration of these aspects into its research, its

[14] http://www.bfe.admin.ch/energieetikette/index.html?lang=en

1b iv Have invested or intend to invest in specific products and/or services designed to minimise or adjust to the impact of climate change	Number of companies	Percentage
Yes	21	64%
No	9	27%
No reply	3	9%

advisory business and its product range for socially responsible investment (SRI) helps it to stand out from the competition when prospecting for new investors.

Although such measures are positive, they must also be viewed in the light of the conclusions of a report by NGO BankTrack[15] and the Berne Declaration, which refers to the Swiss big banks' involvement in carbon-intensive industries. This study has found that the banks, including UBS and Credit Suisse, actually help to fund the industry of fossil fuel extraction and transformation and also participate in the funding of some power stations with high CO_2 emissions[16].

Taking a stake in companies that are clearly committed to combating the impact of climate change is another interesting reply given by some companies in the financial services sector. For instance, Credit Suisse has acquired some 10% of EcoSecurities Group PLC, a "company specialising in the business of sourcing, creating and trading emission reduction credits and in developing and managing projects for cutting CO_2 emissions under the Kyoto Protocol".

As far as the insurance companies are concerned, Swiss Re offers an entire range of products and services in line with the challenges raised by climate warming. Apart from operating "as a trader and insurance provider on the carbon markets", the Group also describes itself as "an investor in the areas of renewable energy and a provider of risk transfer solutions, such as cover for natural disasters or cat bonds." Meanwhile, the Bâloise Insurance Group is considering creating new insurance products, such as special lower rates for vehicles with low CO_2 emissions.

Some companies in other business sectors have demonstrated creativity in fostering an ecological approach to design. Rieter, for example, a systems manufacturer specialising in the automotive industry, has developed the *Rieter Ultralight product* range which allows for certain components (trim panels, rear trays, engine mufflers) to be 40% lighter than in classic systems, thereby lightening the vehicles in which they are fitted and lowering overall emissions. With this technology now being used in more than 8.6 million vehicles, which is some 14% of all vehicles worldwide, it is clear that such innovations can be of substantial importance.

Service companies also see in climate change a business opportunity. SGS, whose main activity is the inspection and certification of companies, says

> "On the issue of climate change, we are involved in the carbon markets at several levels: trading and offering of solutions in the insurance sector, investment in renewable sources of energy and offering of solutions for transfer of the financial risk, specifically with cat bonds and cover for natural disasters. At a microeconomic level, we also offer solutions for the transfer of risk concerning the adjustment to climate change, designed for low-income communities in developing countries."
>
> (CDP Switzerland 2008 – Swiss Re – 1b iii)

[15] http://www.banktrack.org

[16] BankTrack, Berne Declaration, "Solidly Swiss? Credit Suisse, UBS and the global oil, mining and gas industry", 2006, p. 22-23 http://www.evb.ch/en/p11222.html

that "as the carbon content of fuels is now reflected in a monetary value, the services associated with the qualitative and quantitative analyses of these are becoming increasingly important for our clients". SGS adds that "the new regulations on the production and transportation of biofuels generate business opportunities for both the 'SGS Climate Change Program' (carbon content of fuels) and the 'Systems and Service Certification' (auditing of the sustainable development criteria throughout the value chain)".

Finally, some of the SMI Expanded® companies refer to the possibility of cutting costs by improving the energy efficiency of their installations and infrastructures and/or by gradually becoming less dependent on fossil fuels. This is a gradual shift away from the idea of a long-term investment, as perceived in CDP 2007, towards the need for sound financial management in the short and medium term, a trend undoubtedly boosted by the recent surge in oil prices.

Barry Callebaut, for instance, explains that improving the level of energy efficiency in all of its production units and its logistics chain would allow it to cut spending. Meanwhile, Novartis is in favour of using renewable energy sources to mitigate the impact of price variations in fossil fuels.

Measures with respect to greenhouse gas (GHG) emissions

The GHG (greenhouse gas) Protocol[17] established a partnership between businesses, NGOs and governments with the goal of standardising an accounting and reporting framework for greenhouse gases. Under the Protocol, three "scopes" for quantifying and reporting greenhouse gases are defined:

- Scope 1 covers all of a company's direct GHG emissions.
- Scope 2 focuses on indirect GHG emissions from a company's import or export of electricity, heating or steam.
- Scope 3 covers all other indirect GHG emissions (e.g. employee business travel and supply chain).

The GHG Protocol recommends that companies should disclose at least the data for Scopes 1 and 2.

With regard to Scope 3, the Protocol states that such data may be relevant, particularly if the Scope 3 emissions:

- are relatively large in comparison with the company's Scope 1 and 2 emissions;
- contribute to the company's GHG risk exposure;
- are deemed critical by key stakeholders (e.g. customers, suppliers, or civil society);
- highlight potential emissions reductions that could be undertaken or influenced by the company.

[17] The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, revised edition, World Resources Institute and World Business Council for Sustainable Development, March 2004

The Protocol does recognise the practical difficulties in obtaining this sort of data, however, and places more emphasis on knowing the relative extent of these emissions than on having perfectly reliable data.

It should be noted here that, even where no data exists at all, companies – and investors – can estimate, using tools such as input/output matrixes and life cycle analyses, the extent of their Scope 3 emissions as compared with Scopes 1 and 2[18].

Even though the CDP questionnaire more or less follows the terminology used in the GHG Protocol, it does, of course, allow for companies using another method to disclose their emissions, as long as they describe the manner in which they came to their results.

[18] envIMPACT® - Background, Approach, Methodology, Centre Info S.A., 2007

In concrete terms, 55% of the SMI Expanded® companies say that they are using the GHG Protocol. Whereas 5% of companies give no specifics on the matter, 40% have adopted or drawn up other standards which they believe to be better adapted to their particular situation. Among these, some have chosen a completely different methodology. This is the case with Ciba, for example, which calculates emissions according to the environmental accounting directives issued by the United Nations Conference on Trade and Development (UNCTAD)[19].

[19] http://www.unctad.org

Scope 1 of the GHG Protocol

2b i a Disclose Scope 1 emissions/ Global	Number of companies	Percentage
Yes	26	79%
No	0	0%
No reply	7	21%

This year, almost 80% of the companies in the sample disclose their direct Scope 1 emissions under the GHG Protocol, which is an improvement on the previous year, when only 64% did so.

Scope 2 of the GHG Protocol

2b i c Disclose Scope 2 emissions/ Global	Number of companies	Percentage
Yes	22	67%
No	1	3%
No reply	10	30%

Fewer companies give details of their indirect Scope 2 GHG emissions. However, compared with the previous year, there are clearly more companies doing so this year, up from 46% in 2007 to 67% in 2008.

Apart from GHG emissions, the CDP questionnaire also addresses companies' electricity consumption. These details, which are easier to obtain, are given by a large majority of companies. Thus, 80% specify their electricity consumption in megawatt-hours, and around 52% of these state the amount of renewable electricity purchased. Once again, these two figures are up on the previous year, with results of only 67% and 38% respectively in CDP 2007.

Looking at the absolute quantities of energy acquired from renewable sources, Lonza, Novartis, Ciba and the two big banks UBS and Credit Suisse alone account for more than 86% of total purchases of this type of energy disclosed by SMI Expanded® companies in CDP 2008. However, all companies do not necessarily define renewable energy sources in the same way, so no further comparisons can be drawn on the subject[20].

[20] In fact, while certain companies reply to this question by simply stating the percentage of hydropower in their overall consumption of electricity (often very high in Switzerland), others go into more detail, distinguishing between electricity with a specific label, for example, or from new and renewable energies (wind, solar, etc.). Novartis, for instance, distinguishes between its large-scale hydropower and new and renewable energies, which account for 34.7% and 5.4% respectively of its overall energy costs.

Scope 3 of the GHG Protocol

The Scope 3 emissions potentially include all indirect emissions not accounted for under Scope 2. For reasons of practicality, CDP subdivides the Scope 3 GHG emissions into four categories, for which the companies surveyed are asked to provide details:

- emissions from employee business travel;
- emissions from the external distribution of products and services and/or from logistics;
- emissions associated with the use of and recycling of products and services;
- emissions originating from suppliers.

Over the entire sample, 52% of companies have contemplated the subject of Scope 3 and provide at least one element of information in this respect.

Of this, the data on employee business travel is the most frequently mentioned, which confirms last year's trend. Whereas 12 companies disclosed this type of information in 2007, the number now stands at an encouraging 14 in 2008. More specifically, all of the banks disclose this type of information.

2c Publication of Scope 3 data of the GHG Protocol	Number of companies	Percentage	Type of GHG emissions disclosed	Number of companies	Percentage (of the 17 "Yes")
Yes	17	52%	Employee business travel	14	82%
			External distribution of products and services/logistics	0	0%
			Use and disposal of products and services	4	24%
			Suppliers	5	29%
No	9	27%			
No reply	7	21%			

Another promising result is the fact that five companies (including Credit Suisse, UBS and Vontobel) account for and disclose their main emissions data concerning suppliers, whereas only three did so last year.

Data on the use and recycling of products and services was given by four companies, which is the same number as in CDP 2007. Although it is not always easy to see exactly what this means for each company, we note that Swisscom largely makes use of life cycle analyses for these results and that the three companies in the financial services sector are planning to disclose their emissions regarding waste disposal (generally calculated using indicators from VfU[21]). It is particularly unfortunate, however, that those industrial companies selling products that consume high volumes of energy when in use[22] (including ABB and Rieter) do not disclose data on this subject in CDP.

Also, whereas three companies mentioned emissions from external distribution in the first CDP Switzerland survey, none did so this year. It would appear, therefore, that this type of emission is not seen as a priority by the companies in our sample and that they do not necessarily feel responsible for this. For example, Holcim points out that, as it outsources its product transportation to other companies, it is difficult for it to estimate the impact of external distribution in GHG terms. However, the whole point of gathering Scope 3 data is to count the emissions produced by sub-contractors so as, first of all, to gauge the volume of CO_2 emissions along the value chain, and, secondly, to identify the highest scoring suppliers.

Finally, it should be noted that some of the companies not providing any specific Scope 3 data have nonetheless contemplated the issue and, in some cases, even taken measures in this regard. This is the case with Geberit, for instance, which conducts life cycle analyses for its products, has a code of conduct for its suppliers, and fosters an ecodesign approach for its products.

[21] "Verein für Umweltmanagement in Banken, Sparkasse und Versicherungen e.V." (www.vfu.de)

[22] This remark is backed up by the data from the envIMPACT® database.

External auditing

34% of the SMI Expanded® companies have had their GHG emissions data verified by an external auditor (ABB, Ciba, Georg Fischer, Holcim, Nestlé, Novartis, Roche, Swiss Re, Swisscom, UBS and one other company).

2d i Have had the information in question verified / audited	Number of companies	Percentage
Yes	11	34%
No (and invalid replies)	20	60%
No reply	2	6%

The verification or auditing of the GHG emissions data furnished by an external player certainly endorses the credibility of those companies willing to undergo such testing. Quite apart from the question of image, such controls often provide an opportunity to correct and continually improve the database systems and guarantee the quality of the information produced.

Thus, Nestlé's reply to CDP refers to the audit report produced by Bureau Veritas in March 2008, which states, for instance, that its environmental report underestimates its direct emissions by 3%, using conversion factors that are not adapted to natural gas[23].

Constructive comments of this type and, in particular, the efforts made by the company in question to subsequently integrate them are a good illustration of the importance of external auditors. It is therefore regrettable that only a minority of companies in the survey actually use them.

[23] "It is also our opinion that: […] the Report includes direct CO_2 emissions that are corrected by an overstatement of approximately 3% to compensate for the use by some of its factories of inconsistent conversion for natural gas calorific values. […]." (source: Bureau Veritas "Independent Assurance Statement" on the "Nestlé Creating Shared Value Report" (http://www.nestle.com/SharedValueCSR/CSVatNestle/Performance/AssuranceStatement.htm)

"Up until now, Nestlé has been a net buyer of GHG emissions credits in the EU. The Nestlé companies in developing countries present significant opportunities for investing in clean development projects (switching to a combustion installation, co-generation power plants, new manufacturing technologies, etc.), generating tradable emissions allowances that could be sold to improve our payback on capital invested."

(CDP Switzerland 2008 – Nestlé – 2g)

Emissions quota trading

2g ii Strategy in terms of emissions quota trading	Number of companies	Percentage
Reply	11	34%
No reply	22	60%

Of the 11 companies that reply on their strategy for participating in emissions quota trading platforms or on regional and/or international projects for emissions quota trading (such as the European System for Tradable Emission Quotas known by its acronym EU ETS) or the Clean Development Mechanism (CDM)), only a few go into any detail.

These include the two big banks UBS and Credit Suisse, both of which say they participate actively in emissions quota trading. UBS, for example, does this as a member of the Intercontinental Exchange (ICE), an electronic commodity and emissions quota marketplace working together with the European Climate Exchange (ECX).

Meanwhile, Nestlé, which previously was a net buyer of GHG emissions credits in the EU, sees investing in CDMs as an opportunity to potentially generate tradable emissions credits and thereby increase its return on investment. In addition, Nestlé has compiled a list of countries potentially suitable for the implementation of energy efficiency projects, by switching to gas or to biomass and installing co-generation systems.

Finally, it should also be noted that "Holcim is actively involved in developing a methodology for standardising CDMs, together with other members of the WBCSD Cement Sustainability Initiative", which aims to "provide an approach that is not just rigorous but also flexible, to determine the additionality and the level of reference for CDM projects."

Performance

It is encouraging to note that around 70% of respondents in CDP 2008 say they have implemented a plan to scale down their greenhouse gas emissions. However, there is a huge variation in the level of detail and the content of the replies from one company to the next.

3a i Has a GHG emissions reduction plan	Number of companies	Percentage
Yes	23	70%
No (or only in the planning stage)	9	27%
No reply	1	3%

In this respect, it is interesting to note that, among the companies claiming to have adopted a GHG emissions reduction plan, only nine (around 40%) have actually set quantitative GHG reduction targets in global terms.

It must also be noted that a substantial portion of the remaining 60% were not completely inactive. First of all, two of these companies do specify quantitative reduction targets, but at a local level. One of these, for example, is aiming to cut out 20.5% of its emissions from its Swiss infrastructures by the year 2012 (with 2000 as the baseline year). Also, eight companies (of the remaining 60%) do set energy efficiency targets, which theoretically implies a reduction, at least in relative terms, of their GHG emissions.

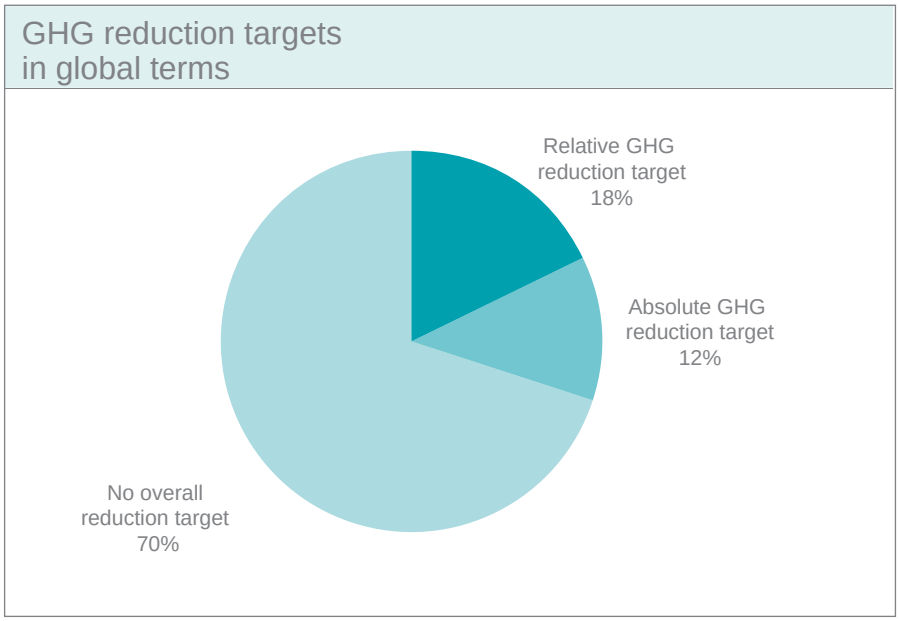


Figure 3

GHG reduction targets in global terms

As shown in figure 3, only 12% of respondents have set themselves absolute GHG reduction targets. The four companies in question are Lonza, Novartis, Swisscom and UBS. In this respect, it is interesting to note that, in order to meet such targets, measures to improve energy efficiency generally have to be combined with offsetting measures (often using the Clean Development Mechanisms under the Kyoto Protocol).

Among the 18% who set relative GHG reduction targets, several types of cases can be distinguished. In the case of Clariant, Holcim and Nestlé, the targets to be met are determined with respect to the production volume; for Swiss Re, however, they are calculated with respect to the number of employees. Another company, which did not wish to have its replies publicly disclosed, calculates its target on the basis of the company's earnings (EBIT).

Also of note is the fact that reinsurance firm Swiss Re, as well as Credit Suisse, both reassert their respective commitments to posting a carbon-neutral balance sheet. However, while Swiss Re confirms its target date of 2012, as previously stated in CDP 2007, Credit Suisse says that it has brought its deadline forward by three years, aiming for carbon neutrality by 2009.

Another encouraging result is that some 80% of companies outline their concrete efforts to reach the quantitative or qualitative targets set. Almost all refer clearly to energy efficiency measures. For example, Swisscom is planning to prioritise its consumption of heating oil by reducing the size of offices and technical premises, heating at lower temperatures, improving building insulation and investing in new heating systems. Swisscom also intends to cut the size of its vehicle fleet, preferably using smaller cars and hybrid or LPG technologies.

Quite a number of companies also want to use "clean" forms of energy to operate their plants. Ciba, for example, is hoping to increase the proportion of renewable energy on its sites to 15% by 2010.

Overall, however, and despite the various efforts being made by several companies, some of which have been described above, it is nonetheless somewhat disappointing that only 30% of the SMI Expanded® companies responding to CDP Switzerland 2008 have set quantitative targets in global terms. It is important that companies make such commitments for all of their activities all over the world and not merely for operations in countries subject to regulatory constraints.

Governance

Responsibility

The issues of climate change appear to be gradually making their way along the organisation charts of the SMI Expanded® companies. Indeed, 85% of these say they have designated and set up a committee within the Board of Directors or a study group to address such issues.

4a Has set up a Board Committee or a study group responsible for dealing with issues of climate change	Number of companies	Percentage
Yes	28	85%
No	2	6%
No reply	3	9%

In most cases, such committees are study groups made up of senior executives from various divisions, HR and finance. Ten companies have gone a step further, designating a member of management responsible for general issues of sustainability in global terms. However, it has to be said that, in many cases, these are not specifically dedicated to addressing the impact of the company's operations on the climate.

On the other hand, three of the companies (Lonza, Rieter and Geberit) have simply assigned formal responsibility for these issues to the Board of Directors as a whole or to the CEO/Managing Director.

Among the 28 companies that have taken such measures, 24 provide further details of the way in which these operate. In most cases, they outline the manner in which the information on climate change issues is escalated to management or the Board of Directors and the frequency of such information. Again, in most cases, the challenges posed by the issue are discussed and redefined annually.

Finally, some companies appear to have taken a somewhat less convincing attitude, merely designating a steering committee for such questions without describing or even summarising its operation.

ISO 14064 standard

"ISO 14064-3:2006 specifies principles and requirements and provides guidance for those conducting or managing the validation and/or verification of greenhouse gas (GHG) assertions. It can be applied to organisational or GHG project quantification, including GHG quantification, monitoring and reporting carried out in accordance with ISO 14064-1 or ISO 14064-2.
ISO 14064-3:2006 specifies requirements for selecting GHG validators/verifiers, establishing the level of assurance, objectives, criteria and scope, determining the validation/verification approach, assessing GHG data, information, information systems and controls, evaluating GHG assertions and preparing validation/verification statements."

(Source: http://www.iso.org/iso/en/catalogue_detail?csnumber=38700)

Individual performance

More than a quarter of the participating SMI Expanded® companies say they have introduced staff encouragement or reward schemes in association with their climate change programmes. Once again, this is a slight improvement on the results from the previous year, when only one-fifth did so.

4b
Has set up staff encouragement or reward schemes in association with its climate change strategy or targets

	Number of companies	Percentage
Yes	9	27%
No	6	18%
No reply	18	55%

In this respect, in addition to setting quantitative targets for managers involved in environmental management, reinsurer Swiss Re has taken an entire series of initiatives to involve its staff in the transition to a lower-carbon economy.

For instance, Swiss Re has chosen to offer special interest rates to employees deciding to buy or renovate buildings meeting the MINERGIE® standards. Finally, in addition to holding regular "Lunch & Learn" sessions on environmental subjects, Swiss Re Zurich encourages its staff to use public transportation by subsidising the cost of annual tickets on the various networks.

Communication and commitment to public authorities

More than 81% of the companies surveyed publish information for their various stakeholders on the issues involved in climate change. The standard media such as annual reports and sustainable development reports are widely used for this purpose, and more than half of the SMI Expanded® companies use a variety of communication channels on these issues.

Furthermore, 49% of respondents to CDP 2008 say they engage with public authorities to assist in formulating solutions to the problems posed by climate change. Ten of these, or 63%, give some level of detail on the goal of their respective efforts. In most cases, the objective is to present clearly the actions undertaken, either within the framework of the associations representing the interests of the main business sectors (e.g. Swissmem[24]), or in bigger organisations such as the World Business Council for Sustainable Development[25], whose Swiss members are ABB, Holcim, Novartis, Roche, SGS and Syngenta. ABB, in particular, stands out for its commitment in the various tasks involved in drafting ISO 14064.

6.2.3 Evaluation of the relevance of replies

Breakdown of emissions within the company's value chain

Each company produces a breakdown of emissions along its own value chain, depending on its portfolio of businesses. To optimise the attempts made to

[24] http://www.swissmem.ch

[25] http://www.wbcsd.org

mitigate climate change, this breakdown should, in theory, mean that the efforts undertaken by each company are concentrated on certain phases (supply, production and/or products and services). In other words, while a cement manufacturer should give priority to its direct emissions from production, a lift company should ensure that the products it manufactures have a low energy consumption compared with its peers.

In their answers to CDP 2008, several companies more or less explicitly acknowledge the importance of focusing efforts on the phase with the greatest impact. For example, Rieter says it intends to focus its strategy on understanding the entire life cycle of its products.

Some of the replies to CDP 2008 clearly indicate a desire to disclose relevant information with respect to the value chain. The introduction of systems for calculating and managing indirect Scope 3 emissions under the GHG Protocol[26] is a good indication that a company has given serious thought to identifying the GHG-intensive phases within the entire value chain.

[26] WBCSD, World Resources Institute, The Greenhouse Gas Protocol - A Corporate Accounting and Reporting Standard (revised edition), 2004, p. 26

Concerning the financial services sector in particular, a recent KPMG study explains that "the consequences of climate change for the financial sector are mostly indirect, as financial institutions are indirectly exposed to climate risks through their investment portfolios.[27]" A few lines down, this same report also states that although banks have been able to take advantage of the opportunities arising out of growing investor awareness, particularly in terms of climate change, "the implications of climate change for investment portfolios as a whole remain relatively unexplored.[28]"

Thus, identifying the priority action areas calls for a systematic analysis of the companies, taking account of their emissions all along the value chain (supply / production/products and services).

Only very few companies actually do this, and all too often investors do not have the information they need to measure the intensity of carbon emissions along the value chain of the companies they intend to invest in.

[27] Climate Changes Your Business – KPMG's review of the business risks and economic impacts at sector level, 2008, p. 41

[28] Ibid, p. 41

envIMPACT®

envIMPACT® was developed on the initiative of Pictet Asset Management based on a feasibility study commissioned by Centre Info S.A. with Ecobilan at EPFL. This study showed that the data furnished by Input/Output Analyses (IOA), Life Cycle Inventories (LCI) and Life Cycle Analyses (LCA) were of utmost importance in the environmental evaluation of companies taking account of the entire life cycle of products. envIMPACT® was subsequently tested in close cooperation with investment professionals (Pictet Asset Management and Ethos, based in Geneva). The model is currently being used for managing a portfolio of assets in excess of EUR 1.2bn.

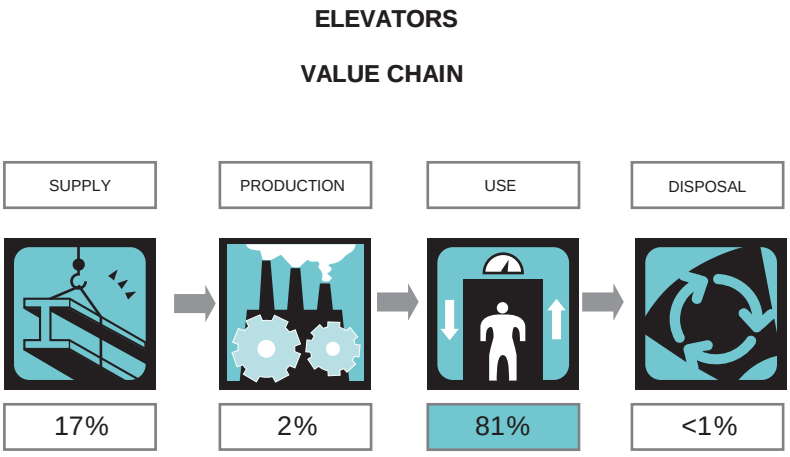
For this reason, Pictet Asset Management, together with Centre Info and the Ethos Foundation, has initiated and co-developed a tool to bridge this information gap with a detailed study of the company's businesses.

This approach aims to help investors assess the carbon risk by allowing them to measure the intensity of companies' carbon emissions all along their value chain. The companies most exposed to the constraint in terms of carbon are those whose business model is based on high-emissions activities. Thus, the goods and services produced by a company are analysed from the point of view of not just supply and production but also their utilisation. For some goods, such as cars, planes, trucks, lifts and machine tools, most emissions are generated during the utilisation stage.

A company's impact in terms of climate change thus varies considerably depending on its activities, production processes and the goods it manufactures.

Using this approach, investors can not only identify the sector with the lowest carbon emissions within a given industry but also see the breakdown of this intensity along a company's value chain (supply, production and utilisation stage).

Such an approach paves the way for a new and constructive look at the replies given by the respondents to CDP 2008. The following analysis describes the various measures taken by companies to address the challenges of climate change and also, and above all, sets out to determine their relevance with respect to the breakdown of their impact in carbon terms for each company along the entire value chain.



Total percentage of CO_2 emitted along the value chain

Analysis of replies

With a questionnaire like CDP, each company gives an overview – to a greater or lesser degree of detail – of not just its climate change strategy but also its data management system and the targets it has set for itself. Such carbon intensity data, tracking a company's exposure along its entire value chain (supply / production / products and services), can be used to assess the quality and the relevance of the answers given by the various respondents to CDP Switzerland 2008.

To aid in comparing and reading the following results, they are presented by "industry", as defined by the ICB[29]. The analysis of the companies' replies has highlighted a substantial variation in the level of preparation from one industry to the next, thereby justifying, to a certain extent, the need to form such groups.

Before presenting this evaluation, we will first show the carbon intensity of each of the industries represented in the SMI Expanded®. From figure 4 it is clear that the total intensity of carbon emissions in the oil & gas industry is very different from that of the others, given that this industry furnishes all the others (as well as private and public consumers) with oil and gas, which – when burned – emit greenhouse gases. Somewhat more surprisingly, financials are in second place, albeit a long way behind the first; this results from the indirect emissions generated by such companies' interests in other carbon-intensive sectors. Finally, with the exception of the industrials, most of the other industries report relatively low emissions using this model.

[29] The Industry Classification Benchmark (ICB) is a company classification system developed by Dow Jones and the FTSE. It is used to divide the markets into macroeconomic sectors.

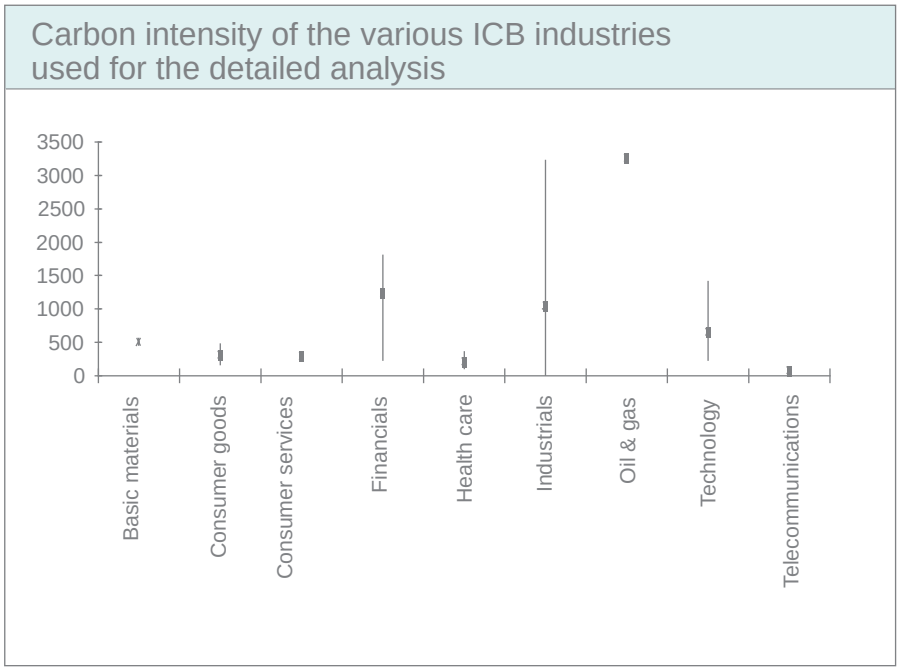


Figure 4 The Y-axis shows the intensity of carbon emissions in CO_2-equivalent grammes per USD of sales revenues. The square boxes represent the average intensity of carbon emissions weighted by the companies' market capitalisation.
Source: envIMPACT®, Centre Info 2008

Sector-specific evaluations

The "Appropriate Response Assessment" (ARA) is a methodology developed by Centre Info at the request of Pictet Asset Management and Ethos. It evaluates the appropriateness of the responses to the CDP questionnaire and the challenge of climate change specific to each company, as measured by its carbon intensity using envIMPACT®.

The main elements included in assessing the companies' replies are as follows: the presentation of a strategy, the setting of appropriate reduction targets, the implementation of a data management system on GHG emissions (Scopes 1, 2 and 3 of the GHG Protocol) covering the entire group.

By evaluating these three aspects, weighted by percentages derived from the company's value chain data[30], we can divide the respondents into those giving an appropriate response and those giving a partial response. Thus, for a company that operates in manufacturing lifts, the evaluation will focus on the data, strategies and targets related to the products themselves. Lifts are what is known as "active" products, in that their impact in terms of GHG emissions lies mainly in the utilisation stage[31].

[30] The data on each company's carbon intensity in each stage of its value chain are furnished by envIMPACT®.

[31] Statement based on the envIMPACT® data.

The following table illustrates how the ARA methodology is used:

	Stages in the value chain			
	Supply	Production	Products /Services	
Evaluation of the quality of the company's replies (score from 1 to 3)	1	3	1	
Breakdown of the intensity of carbon emissions all along the value chain	20%	10%	70%	Final score:
Result	0.2	0.3	0.7	= 1.2/3

Before presenting the results of this analysis, we should point out that no comments are made concerning those companies marked with an asterisk, as these companies have asked that their replies not be publicly disclosed.

Results

Industry "Basic materials"

Appropriate response	Partial response	Did not reply to CDP 2008
Lonza Ciba	Clariant Givaudan* Syngenta*	-

All of the SMI Expanded® companies in this category replied to CDP, which, from the outset, is a positive indication for the industry as a whole.

Clearly, the main challenges for each of these companies concern the supply chain and, to a somewhat lesser extent, their direct emissions. In each case, the supply stage accounts for at least half of the total GHG emissions evaluated[32].

In general, Lonza differs mainly from its peers in defining an absolute reduction target for GHG emissions (it has even included N_2O emissions this year, for the first time, which increases its stated emissions in Switzerland). It is unfortunate, however, that Lonza has not yet opted to have its data verified by an independent external auditor.

Meanwhile, Ciba is the only company to have had its data audited by an external body. What's more, Ciba has set itself a relative quantitative target of a 10% increase in its proportion of purchased electricity from renewable sources (apart from the national electricity mix).

The other companies also show encouraging signs. Clariant, for instance, has set a 7% reduction target with regard to its production by 2010 (baseline year: 2005).

[32] envIMPACT®

Industry "Consumer goods"

Appropriate response	Partial response	Did not reply to CDP 2008
Nestlé	Barry Callebaut Lindt & Sprüngli* Richemont*	Swatch Group

Once again, we are pleased to note that, apart from the Swatch Group, virtually all of the SMI Expanded® companies operating in this sector agreed to reply to CDP 2008.

For companies in consumer goods, the main challenge is once again in the supply stage[33]. Thus, companies focusing on measures in this stage have the best results in the analysis.

This is the case for Nestlé which, in addition to its strategic commitment to encourage raw materials suppliers to improve their environmental performance, also participates in the CDP Supply Chain Leadership Coalition (SCLC)[34]. Launched in 2007, this initiative aims to bring together those companies seeking to develop their CDP system for measuring and managing the emissions induced by their supply chain. In addition to using life cycle analyses (LCA) to define its environmental priorities, Nestlé also stands out from its peers by setting relative energy-saving targets, which should enable it to cut its GHG emissions by 1% to 2% per tonne of products over the next five years. However, Nestlé does not disclose any data on its Scope 3 GHG emissions and does not set any further specific targets with respect to the problem of suppliers (specifically of raw materials).

For its first contribution to CDP, Barry Callebaut's results are encouraging. Not only does this company clearly identify the supply stage as its main source of emissions (use of energy to manufacture and transport its products), it even proposes several solutions to reduce them. Thus, as well as consuming some 20% of its energy from renewable sources, this company has, for example, started burning the shells of the cocoa it uses in making chocolate as a source of generating energy. However, it does not set itself any GHG emissions reduction targets.

[33] envIMPACT®

[34] http://www.cdproject.net/sclc_home.asp

Industry "Consumer services"

Appropriate response	Partial response	Did not reply to CDP 2008
	Kuoni*	

*Kuoni is the only representative of this industry in the SMI Expanded® and, although it agreed to respond to CDP 2008, it did not authorise publication of its replies.

In general, tour operators are particularly concerned by the emissions caused through the use of their products, including – and in particular – emissions generated by flights sold to clients.

Industry "Financials"

Appropriate response	Partial response	Did not reply to CDP 2008
Credit Suisse	Bâloise	EFG International
Swiss Re	Vontobel	Helvetia
UBS	Zurich Financial Services*	Pargesa
	Julius Baer*	PSP Swiss Property
	Swiss Life*	

Around 60% of the financials in the SMI Expanded® agreed to reply to the CDP 2008 questionnaire, which is a good response rate.

With their long experience in managing direct emissions and those of their suppliers, most of the companies in this sector lived up to their reputation. However, based on the approach used here[35], the main challenges facing banks and insurance companies are downstream in the product & services stage. Thus, logically, the leading companies in this respect are those which are proactive in the field.

[35] envIMPACT®

The three companies listed under "Appropriate response" are noteworthy for both the quantity and quality of the information they give on the concrete measures already taken in this respect (wider offering of sustainable investment products, development of indexes on renewable energies, introduction of teams of analysts and consultants specialising in climate issues as well as other products and services previously mentioned in this report). More generally, it should also be noted that none of these companies has set itself real targets with respect to sustainable products and services.

Concerning the companies listed under “Partial response”, Vontobel says it is preparing to launch several strategic products designed to help mitigate the impact of climate change. The replies from the Bâloise Insurance Group point to the future development of new insurance products, such as lower premiums for vehicles with low CO_2 emissions.

Industry "Health care”

Appropriate response	Partial response	Did not reply to CDP 2008
Novartis Roche	Straumann	Actelion Basilea Nobel Biocare Sonova Synthes

Only a third of the SMI Expanded® companies in this industry agreed to reply to CDP.

Here, where the intensity of GHG emissions is average, the issues surrounding supply and production were clearly the two main stages of the value chain.

As leading firms in this analysis, both Novartis and Roche have efficient GHG emissions data management systems covering their respective groups in full. Furthermore, they have both had their information they disclose verified by external auditors. Also, in addition to being signatories to the EnAW targets agreement , Novartis and Roche have made more general commitments at a global level with respect to the reduction targets to be met.

[36] However, as previously mentioned in the introduction to this report, this type of agreement only applies to infrastructures located in Switzerland.

Thus, in aiming to reduce direct emissions from production by 5% by 2012[37], Novartis is one of the four companies to have set itself absolute targets in quantitative terms. Meanwhile, Roche sets itself reduction targets for its energy consumption per employee (less 10% by 2010 with respect to 2005).

Finally, Straumann appears to have a well established GHG emissions data management system, claiming to conduct its activities in the most energy-efficient manner. However, Straumann does not provide very many concrete details and, in particular, does not set itself any reduction targets at any level, which explains its score.

[37] Note that this target does not cover the emissions caused by vehicles but only those generated through combustion and manufacturing processes (year of reference: 2008). It has also set itself a separate target of 10% fewer emissions for its vehicles (base year: 1990, target: 2010).

Industry "Industrials"

Appropriate response	Partial response	Did not reply to CDP 2008
ABB	Adecco	Kuehne & Nagel
Holcim	Georg Fischer	OC Oerlikon
Geberit	Panalpina*	Sika
	Rieter	
	Schindler*	
	SGS	
	Sulzer*	

More than 60% of the industrials in the SMI Expanded® agreed to reply to the CDP 2008 questionnaire, which is an encouraging result.

Unlike the other groups, this one is far more diverse in its makeup (see figure 4). In fact, the companies in this group show extreme variations with respect to the intensity of their carbon emissions[38]. Also, and in particular, the breakdown of their emissions within the different stages of the value chain varies greatly from one company to the next. On this last point, for instance, we note that for both Adecco and Geberit, it is the supply chain that accounts for the most weighting, while for ABB, Rieter, Schindler and Sulzer, it is the products and services stage that counts the most. Finally, although Georg Fischer is in an intermediary situation, where the supply stage of the chain is balanced by products and services in terms of emissions, for Holcim and Panalpina, it is the production stage itself that plays a decisive role[39].

As for the results of the evaluation, ABB and Holcim stand out for their impressive data management systems and a series of concrete measures adapted to the challenges posed. Meanwhile, Geberit rightly focuses its efforts on the supply stage and has committed to increasing its proportion of purchased electricity from renewable sources by 5% every three years; unfortunately, it does not have its data audited.

Adecco, Georg Fischer, Panalpina, Rieter and SGS are all listed under "Partial response". Understandably, Rieter and Georg Fischer are developing strategies to improve their products' energy efficiency. It is regrettable, however, that these companies do not really set reduction targets in direct relation to this. The exception is Georg Fischer, which generates hydropower directly at two of its production sites. Services company Adecco does not yet have a data management system for its GHG emissions.

[38] This industry includes cement manufacturer Holcim, which reports high levels of carbon emissions, as well services companies Adecco and SGS, which have low levels of GHG emissions.

[39] envIMPACT®

Industry "Technology"

Appropriate response	Partial response	Did not reply to CDP 2008
	Logitech*	Kudelski

Logitech is the only one of the two technology firms in the SMI Expanded® that agreed to reply to CDP 2008.

The companies in this industry are mainly exposed during the supply stage but also have to be watchful concerning the energy consumption of the products they sell.

Industry "Telecommunications"

Appropriate response	Partial response	Did not reply to CDP 2008
Swisscom		

Swisscom is the only telecommunications company in the SMI Expanded®. Although it has very little exposure in terms of carbon risk, this company has nonetheless implemented a number of highly relevant programmes with respect to its exposure all along the value chain.

First of all, as a company operating primarily in Switzerland[40], Swisscom has signed a target agreement with the EnAW in accordance with the energy model, undertaking it to meet stringent GHG emissions reduction targets that more or less affect the entire group.

Apart from taking a series of energy efficiency measures, Swisscom also started using 35 hybrid vehicles for employee travel in 2007. According to the company, the number of such vehicles will grow to several hundreds over the next few years.

Swisscom's good score is also explained by the fact that it is evidently seeking to adjust its products and services to the challenges posed by climate change. This has given rise to an entire series of innovative "green services" aiming to help customers cut their own CO_2 emissions, e.g. by using videoconferencing and teleworking solutions instead of physical travel. The replacement of paper invoices by e-billing also forms part of the dematerialisation process.

Meanwhile, Swisscom is also aware of the additional energy consumption brought about by its continuous introduction of new devices on the market. To limit such effects, Swisscom has signed up to a code of conduct with the Swiss Federal Office of Energy on the energy consumption of the decoders it sells.

[40] In 2007, around 94% of Swisscom employees were working in Switzerland (source: SiriProfil 2007, Centre Info).

6.3 Replies and analysis of the next 50 shares in the SPI®

6.3.1 Response rate

Of the 48 companies representing the next 50 shares in the SPI®, 22 agreed to respond to the CDP 2008 questionnaire, which gives a response rate of 46%. Of these, eight agreed to allow the information in their questionnaires be published on www.cdproject.net. Given that most of these companies – which are smaller than those in the SMI Expanded® – were contacted by CDP for the first time this year, these figures are quite encouraging.

Company	Replied to CDP5 (2007)	Replied to CDP6 (2008)
Allreal	Not contacted in 2007	No
Arbonia-Forster	Not contacted in 2007	No
Arpida	Not contacted in 2007	Yes
Ascom	Not contacted in 2007	No
Banque cantonale vaudoise	Not contacted in 2007	No
Basellandschaftliche KB	Not contacted in 2007	No
Basler Kantonalbank	Not contacted in 2007	Yes
Belimo	Not contacted in 2007	No
Bellevue Group	Not contacted in 2007	Yes
Berner Kantonalbank	Not contacted in 2007	Yes
BKW FMB Energie	Not contacted in 2007	No
Bobst Group	Not contacted in 2007	Yes
Bucher Industries	Not contacted in 2007	No
Burckhardt Compression	Not contacted in 2007	Yes
Charles Vögele	No	No
Cytos Biotechnology	Not contacted in 2007	No
Ems-Chemie	No	No
Flughafen Zürich	Not contacted in 2007	No
Forbo	Not contacted in 2007	No
Galenica	Not contacted in 2007	Yes
Gottex Fund Management [41]	Not contacted in 2007	Yes
Hiestand	Not contacted in 2007	No
Huber + Suhner	Not contacted in 2007	Yes
Implenia	Not contacted in 2007	Yes
Inficon	Not contacted in 2007	Yes
Jelmoli	Not contacted in 2007	Yes
Kaba	No	No
Komax	Not contacted in 2007	Yes
Liechtensteinische Landesbank	Not contacted in 2007	No
Luzerner Kantonalbank	Not contacted in 2007	Yes
Meyer Burger	Not contacted in 2007	No
Micronas Semiconductor	Not contacted in 2007	Yes
Partners Group	Not contacted in 2007	Yes
PubliGroupe	Not contacted in 2007	No
Quadrant	Not contacted in 2007	No
Bank Sarasin & Cie	Not contacted in 2007	Yes
Schmolz+Bickenbach	Not contacted in 2007	Yes
Schulthess Group	Not contacted in 2007	No
Speedel	Not contacted in 2007	No
St. Galler Kantonalbank	Not contacted in 2007	No
Swiss Prime Site	Not contacted in 2007	No
Swisslog	Not contacted in 2007	No
Tecan Group	Not contacted in 2007	Yes
Temenos	Not contacted in 2007	No
Valiant	Not contacted in 2007	Yes
Von Roll Holding	Not contacted in 2007	No
VP Bank	Not contacted in 2007	Yes
Valora	Yes	Yes

[41] The feedback from this company was received after the deadline and unfortunately could not be included in the following analysis.

- "Employees' health can suffer when working in buildings with an inappropriate inside temperature while outside temperatures exceed the seasonal norm. Moreover, an increase in inside temperatures can also have an impact on employees' performance.
- For Basler Kantonalbank, the risks associated with climate change can result from indirect investments, when loans are granted to clients directly affected.
- Another possible impact of climate change is a fall in property prices as a result of constructions poorly adapted to longer warm seasons.
- A financial measure that increases the climate-specific risks could damage our image and also result in direct financial losses (e.g. through non-payment of loans)."

(CDP Switzerland 2008 – Basler Kantonalbank – 1a iii)

6.3.2 Presentation and analysis of the results for the next 50 companies in the SPI®

Risks and opportunities

In general, the companies surveyed for the first time this year are noticeably less aware than the SMI Expanded® companies of the risks and opportunities of climate change.

More specifically, general and regulatory risks are mentioned most frequently, both with 38% of positive replies. Only 24% of the sample mention the physical risks. Overall, some 57% of companies feel concerned by at least one of these three risks.

Most of the companies in the financial services sector in our sample see certain risks in climate change. One company, for example, referring to the Stern Review, mentions the potential threat to business continuity posed by a change in the global macroeconomic situation (e.g. recession) as a result of climate change. Basler Kantonalbank raises the issue of indirect risks caused by loans extended to clients directly affected by climate change. Aware of the reputational risk inherent in certain commitments in sectors directly exposed to climate change, this bank also mentions the potential risks of a fall in property prices where the architecture is poorly adapted to a change in seasonal circumstances.

Berner Kantonalbank also sees these risks overall, stressing the various elements at stake in an increase in energy prices.

Most industrial companies also see potential risks associated with climate change. One of these, for example, is concerned by the regulatory risk, specifying that, as a company operating worldwide, it has to pay close attention to the various changes in transportation laws. Finally, while other companies are worried about the increase in energy prices, raw materials and also, potentially, insurance premiums, one company mentions the possible regulatory restrictions that could affect its machines.

As to the opportunities posed by climate change, more than 70% of those answering the questionnaire see at least one. Regulatory opportunities are mentioned by more than 52% of companies, while the physical opportunities are seen by only 38%.

Specifically, several companies say they are preparing for more stringent regulations by stepping up the energy efficiency of their infrastructures or products. After upgrading the insulation in its buildings, one company, for example, directly benefited from the sale of issue certificates for CHF 50,000.

Around 62% mention general opportunities, making these the most frequently mentioned by the companies in this universe. Of these, most refer to development opportunities associated with the companies' products and services.

1b iv Have invested or intend to invest in specific products and/or services designed to minimise or adjust to the impact of climate change	Number of companies	Percentage
Yes	12	57%
No	7	33%
No reply	2	10%

As with the companies in the SMI Expanded®, almost all of the companies in the banking sector now offer and develop financial products in line with the various challenges posed by climate change. Most respondents operating in finance offer a variety of products managed according to the principles of sustainable development, some of which are directly associated with renewable energy sources.

As well as offering investment products of the same type for an amount evaluated at USD 180m, Berner Kantonalbank is also currently testing loan financing models that include climate change as one of the variables.

Some of the most interesting initiatives taken by financial institutions include those mentioned above by Basler Kantonalbank and Berner Kantonalbank, both of whom offer their clients "Minergie" mortgages. These are designed to encourage borrowers to invest in buildings meeting clearly defined sustainability conditions by offering them a lower interest rate, allowing both the bank and its customers to lessen their dependency on sharp fluctuations in the price of conventional sources of energy.

The industrial sector has also seen some innovative approaches to the climate challenge. Komax, which traditionally manufactures machines that make electric cables, is now also producing a growing number of machines for the photovoltaic and solar energy market.

These various initiatives are proof of the level of awareness of the challenges posed by climate change among numerous companies participating for the first time in the Carbon Disclosure Project.

Measures with respect to greenhouse gas (GHG) emissions

For the most part, the CDP questionnaire uses the same terminology found in the GHG Protocol. However, companies that have chosen to present their data using a different method can, of course, also disclose their emissions, as long as they specify the manner in which their findings have been reached.

Only 10% of the companies surveyed say that they present their emissions precisely as set forth in the GHG Protocol. However, some 47% use other methods to do so. Of these, several companies do not mention any particular methodology, explaining in general terms that they base their calculation on their energy consumption. Others, such as Basler Kantonalbank, say they use software applications specifically developed for this purpose, such as SoFi[42]. Moreover, these banks also use conversion factors made available by the Verein für Umweltmanagement in Banken, Vesicherungen und

[42] www.sofi-software.com

Sparkassen (Vfu), the German Association for Environmental Management in Banks, Savings Banks, and Insurance Companies, which they believe to be at least as comprehensive as those given by the GHG Protocol. The remaining 43% is divided between companies not specifying any particular methodology and those who simply did not reply.

Scope 1 of the GHG Protocol

2b i a Report on emissions from Scope 1 activities/Global	Number of companies	Percentage
Yes	8	38%
No	1	5%
No reply	12	57%

Only 38% of respondents have disclosed their Scope 1 emissions, which is about half as many as for the SMI Expanded® companies in this year's survey. Those companies already able to provide such data are Basler Kantonalbank and Berner Kantonalbank as well as Micronas. However, it should be noted that some of these companies are in the process of creating a GHG emissions accounting system.

As for the data on indirect emissions under Scopes 2 and 3 of the GHG Protocol, it has to be acknowledged that only very few disclose their information.

Concerning Scope 2, on the emissions associated with electricity purchased by the company, 29% of those surveyed are able to answer this question. Logically, these are more or less the same companies providing data on Scope 1 emissions. Also, in several cases, it is clear that the systems for converting into CO_2 equivalents are not yet in place. With this in mind, the fact that 43% of companies disclose their electricity consumption in MWh confirms their willingness to be transparent.

Another interesting fact concerning Scope 2 is that some 29% of the companies in the sample purchase electricity from renewable sources (specifically, the same two banks and Komax).

As for the Scope 3 emissions, covering the much wider spectrum of all possible indirect emissions, these have been accounted for at various levels by around one-fifth of respondents. The data most frequently provided are those concerning employee business travel. Only one company in this universe discloses information on its product distribution; however, it does so for only one of its three production centres. The company in question is Berner Kantonalbank which, apart from the relative emissions on its employee business travel, also counts emissions from some of its suppliers and those related to its waste disposal and waste-water treatment.

External auditing

Only some 10% of companies in this universe have had their GHG emissions data verified by an independent external auditor.

This rate would appear to be due – at least in part – to the relative newness of GHG emissions management in most of the companies studied here.

It also has to be remembered that certain companies in this sample operating largely in Switzerland, such as Basler Kantonalbank and Berner Kantonalbank, have signed target agreements with the Swiss Private Sector Energy Agency (EnAW). These companies are not included in the above 10%. And yet, the signing of such an agreement clearly implies that the EnAW is monitoring the targets set, thereby forming a sort of external audit.

2d i Have had the information in question verified/audited	Number of companies	Percentage
Yes	2	10%
No (and invalid replies)	14	66%
No reply	5	24%

Performance

More than a quarter of the companies in the universe making up the next 50 shares in the SPI® say they have implemented a GHG emissions reduction plan. Once again, as for the SMI Expanded® companies, the level of detail and the content of the replies differs greatly from one company to the next.

3a i Has a GHG emissions reduction plan	Number of companies	Percentage
Yes	6	28.5%
No (or only in the planning stage)	10	47.5%
No reply	5	24%

It is thus of interest to see the various forms taken by the different reduction plans. Among the six companies saying they have a GHG emissions reduction plan, only one has actually set an overall quantitative target for its reduction in GHG emissions. This is Berner Kantonalbank, which has set itself an absolute reduction target of 5% for each of the three scopes of the GHG Protocol by the year 2011. This target is all the more ambitious in that the bank says it has already cut these emissions by 40% between the years 2001-2007. Moreover, it should be noted that, if these targets are not met, the bank is committed to offsetting any difference in emissions between the targets set and the actual situation in 2012. By its own estimates, the investments needed to realise such a plan are in the region of USD 3.5 million.

Other companies set very similar targets, the main difference being that they do not define a specific amount for the reduction. Some hope to reach carbon neutrality as of 2008 for the sites covered by their environmental management system, aiming to reduce their emissions as much as possible and offsetting those that are unavoidable. Although encouraging, the neutrality targets for GHG emissions depend greatly on the emissions scope covered by the company's data management system. In this respect, the manner by which the

services companies calculate their emissions makes this type of commitment a lot easier to meet than for the industrials, whose direct emissions are often a lot higher.

As for the other companies with a reduction plan, several different situations exist. One company has implemented such a programme within the framework of the EnAW, which means it is limited to Switzerland, despite the relevance of the targets set. Another company has adopted an entire series of measures that are more qualitative in nature, without actually putting a figure to a reduction target. Finally, one company has set itself a reduction target that, although quantitative, is defined collectively within the framework of an association representing the interests of a given industry (Micronas).

Overall, around one quarter of respondents describe the actions they have undertaken to meet their defined targets. Most of them mention measures such as improving the energy efficiency of buildings through various means and purchasing increasing quantities of energy from renewable sources. In addition, raising employees' awareness of this issue is repeatedly mentioned, sometimes backed up by concrete incentive schemes. Thus, as well as considering locating its offices close to various public transport platforms, one company operating in the financial services sector says that it has provided several bicycles for staff use, to facilitate their short journeys and, at the same time, to neutralise their carbon emissions.

Governance

Responsibility

A third of the companies responding to the survey say they have designated and set up a study group to deal with the issues related to climate change.

4a Has set up a Board Committee or a study group responsible for dealing with issues of climate change	Number of companies	Percentage
Yes	7	33%
No	11	53%
No reply	3	14%

However, most of the companies replying affirmatively are actually referring to management committees more generally responsible for issues of sustainable development rather than dedicated committees on climate change. Only one company has actually appointed someone responsible for these questions.

Individual performance

Three respondents say they have implemented staff incentive or reward schemes associated with their respective climate change programmes.

4b Has set up staff incentive or reward schemes in association with its climate change strategy or targets	Number of companies	Percentage
Yes	3	14%
No	13	62%
No reply	5	24%

Communication and commitment to public authorities

Of the companies surveyed, 62% disclose information on the issues involved in climate change for their various stakeholders. Unsurprisingly, and as with the SMI Expanded® companies, standard media such as annual reports are largely used.

Finally, some 20% of the respondents in this CDP 2008 universe say they engage with public authorities to assist in formulating solutions to the problems posed by climate change.

Overall, it is of note that the banks agreeing to participate in CDP provided very detailed replies. This is particularly so in the case of Basler Kantonalbank and Berner Kantonalbank

6.4 Detailed table showing all replies to CDP 2008

Risks and opportunities

Company name (SMI Expanded®)	1a i Regulatory risks	1a ii Physical risks	1a iii General risks	1a iv Risk management	1a v Financial and business implications
ABB	NO	NO	NO	YES	NO
Adecco	NO	YES	YES	NO	NO
Bâloise	YES	YES	YES	YES	YES
Barry Callebaut	NO	YES	YES	YES	YES
Ciba	YES	YES	YES	YES	YES
Clariant International	YES	YES	YES	YES	YES
Credit Suisse	YES	YES	YES	YES	YES
Geberit International	NO	YES	YES	YES	YES
Georg Fischer	NO	NO	YES	YES	YES
Givaudan	NP***	NP	NP	NP	NP
Holcim	YES	NO	NO	YES	YES
Julius Baer	NP	NP	NP	NP	NP
Kuoni Travel	NP	NP	NP	NP	NP
Lindt & Sprüngli	NP	NP	NP	NP	NP
Logitech	NP	NP	NP	NP	NP
Lonza Group	YES	NO	YES	YES	YES
Nestle	YES	YES	YES	YES	YES
Novartis	YES	YES	YES	YES	YES
Panalpina	NP	NP	NP	NP	NP
Richemont	NP	NP	NP	NP	NP
Rieter	YES	NO	YES	YES	YES
Roche	NO	NO	YES	YES	YES
Schindler	NP	NP	NP	NP	NP
SGS	NO	NO	NO	YES	NO
Straumann	NO	NO	NO	NO	NO
Sulzer	NP	NP	NP	NP	NP
Swiss Life	NP	NP	NP	NP	NP
Swiss Re	NO	YES	YES	YES	YES
Swisscom	NO	YES	NO	YES	YES
Syngenta International	NP	NP	NP	NP	NP
UBS	YES	YES	YES	YES	YES
Vontobel	NO	NO	YES	YES	YES
Zurich Financial Services	NP	NP	NP	NP	NP

**NA: no answer ***NP: not public

Company name (next 50 shares in the SPI®)	1a i Regulatory risks	1a ii Physical risks	1a iii General risks	1a iv Risk management	1a v Financial and business implications
Arpida	NP	NP	NP	NP	NP
Bank Sarasin & Cie	NP	NP	NP	NP	NP
Basler Kantonalbank	NO	NO	YES	YES	YES
Berner Kantonalbank	YES	YES	YES	YES	YES
Bellevue	NP	NP	NP	NP	NP
Bobst	NP	NP	NP	NP	NP
Burckhardt Compression	NP	NP	NP	NP	NP
Galenica	NO	NO	NO	YES	YES
Gottex Fund Management	NP	NP	NP	NP	NP
Huber + Suhner	NP	NP	NP	NP	NP
Implenia	NP	NP	NP	NP	NP
Inficon	NP	NP	NP	NP	NP
Jelmoli	YES	NO	YES	YES	NO
Komax	NO	NO	NO	YES	YES
Luzerner Kantonalbank	NP	NP	NP	NP	NP
Micronas Semiconductor	NO	NO	NO	YES	NA
Partners Group	NP	NP	NP	NP	NP
Schmolz+Bickenbach	NP	NP	NP	NP	NP
Tecan Group	NO	NO	NO	NO	NO
Valiant	NP	NP	NP	NP	NP
Valora	NP	NP	NP	NP	NP
VP Bank	NO	NO	NO	NO	NO

1b i Regulatory opportunities	1b ii Physical opportunities	1b iii General opportunities	1b iv Maximising opportunities	1b v Financial and business implications
YES	YES	YES	YES	NA**
YES	NO	YES	NO	NO
NO	NO	YES	YES	YES
NA	NA	YES	NA	NA
YES	YES	YES	YES	YES
NO	NO	NO	NO	NO
YES	YES	YES	YES	YES
YES	NO	YES	YES	YES
YES	YES	YES	NO	YES
NP	NP	NP	NP	NP
YES	YES	YES	YES	YES
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
YES	YES	YES	YES	NA
YES	YES	YES	YES	YES
YES	NO	YES	YES	YES
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NA	NA	YES	NA	NA
NO	NO	YES	YES	NA
NP	NP	NP	NP	NP
YES	YES	YES	YES	NA
NO	NO	NO	NO	NO
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
YES	YES	YES	YES	YES
NA	YES	YES	YES	YES
NP	NP	NP	NP	NP
YES	YES	YES	YES	YES
YES	NO	YES	YES	YES
NP	NP	NP	NP	NP

1b i Regulatory opportunities	1b ii Physical opportunities	1b iii General opportunities	1b iv Maximising opportunities	1b v Financial and business implications
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NO	NO	YES	YES	YES
YES	YES	YES	YES	NO
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NO	NO	NO	YES	YES
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
YES	NO	YES	YES	NO
YES	YES	YES	YES	YES
NP	NP	NP	NP	NP
YES	NO	YES	YES	NO
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NO	NO	NO	NO	NO
NP	NP	NP	NP	NP
NP	NP	NP	NP	NP
NO	NO	NO	NO	NO

Greenhouse Gas Emissions Accounting

Company name (SMI Expanded®)	a Accounting parameters			b. Direct and indirect emissions – Scope 1 and 2 of the GHG Protocol								
	2a i Reporting boundary	2a ii Reporting year	2a iii Methodology	2b i a Scope 1 Total	2b i b Scope 1 Annex B	2b i c Scope 2 Total	2b i d Scope 2 Annex B	2b i e Electricity consumption Total	2b i f Electricity consumption Annex B	2b i g Renewable sources Total	2b i h Renewable sources Annex B	2b ii Other information concerning emissions
ABB	A*	A	A	A	A	A	NA**	A	A	NA	NA	A
Adecco	A	A	A	NA	NA	NA	NA	NA	NA	NA	NA	A
Bâloise	A	A	A	A	NA	A	0	A	NA	NA	NA	NA
Barry Callebaut	A	A	A	A	A	A	A	A	A	A	A	A
Ciba	A	A	A	A	A	A	A	A	A	A	A	NA
Clariant International	A	A	A	A	NA	NA	NA	A	NA	NA	NA	A
Credit Suisse	A	A	A	A	A	A	A	A	A	A	A	A
Geberit International	A	A	A	A	A	A	A	A	A	A	A	A
Georg Fischer	A	A	A	A	NA	A	NA	A	NA	A	NA	A
Givaudan	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Holcim	A	A	A	A	A	A	A	A	A	NA	NA	NA
Julius Baer	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Kuoni Travel	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Lindt & Sprüngli	NP***	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Logitech International	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Lonza Group	A	A	A	A	A	NA	NA	A	A	A	A	A
Nestle	A	A	A	A	A	A	NA	A	A	NA	NA	A
Novartis	A	A	A	A	A	A	A	A	A	A	A	A
Panalpina	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Richemont	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Rieter	NA	A	A	NA	NA	NA	NA	NA	NA	NA	NA	A
Roche	A	A	A	A	A	A	A	A	A	NA	NA	A
Schindler	NA	A	A	NA	NA	NA	NA	NA	NA	NA	NA	NA
SGS	A	A	A	NA	NA	A	A	A	A	A	A	A
Straumann	A	A	A	A	A	A	A	A	A	NA	NA	A
Sulzer	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Swiss Life	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Swiss Re	A	A	A	A	A	A	A	A	A	A	A	A
Swisscom	A	A	A	A	A	NA	NA	A	A	A	A	A
Syngenta International	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
UBS	A	A	A	A	A	A	A	A	A	A	A	A
Vontobel	A	A	A	A	A	A	A	A	A	A	A	A
Zurich Financial Services	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

*A: answer **NA: no answer ***NP: not public

Company name (next 50 shares in the SPI®)	2a i Reporting boundary	2a ii Reporting year	2a iii Methodology	2b i a Scope 1 Total	2b i b Scope 1 Annex B	2b i c Scope 2 Total	2b i d Scope 2 Annex B	2b i e Electricity consumption Total	2b i f Electricity consumption Annex B	2b i g Renewable sources Total	2b i h Renewable sources Annex B	2b ii Other information concerning emissions
Arpida	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Bank Sarasin & Cie	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Basler Kantonalbank	A	A	A	A	A	A	A	A	A	A	A	A
Berner Kantonalbank	A	A	A	A	A	A	A	A	A	A	A	A
Bellevue	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Bobst	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Burckhardt Compression	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Galenica	A	A	A	NA	NA	NA	NA	NA	NA	NA	NA	A
Gottex Fund Management	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Huber + Suhner	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Implenia	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Inficon	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Jelmoli	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Komax	A	NA	NA	NA	NA	NA	NA	A	NA	A	NA	NA
Luzerner Kantonalbank	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Micronas Semiconductor	A	A	A	A	A	A	A	A	A	NA	NA	NA
Partners Group	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Schmolz+Bickenbach	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Tecan Group	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Valiant	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Valora	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
VP Bank	A	A	A	NA	NA	NA	NA	A	A	NA	NA	NA

c Other Emissions– Scope 3 of the GHG Protocol						d External verification			e Data accuracy	f Emissions history	g Emissions trading				h Energy costs		
2c Identified Scope 3 emissions	2c a Main sources of Scope 3 emissions	2c b i Employee business travel	2c b ii External distribution/ logistics	2c b iii Use/disposal of products and services	2c b iv Suppliers	2d i External verifications	2d ii Result / audit report transmitted	2d iii Standard or protocol used	2e System for checking data accuracy	2f Variation of emissions	2g i Facilities subject to EU ETS	2g i a /b Details furnished (emissions credits allocated in Phase I, EU ETS)	2g i c Impact of EU ETS on the company's profitability	2g ii Strategy for emissions quota trading	2h i Total cost of the consumption	2h ii Percentage of operating costs	2h iii Portion of renewable energy
YES	A	NA	NA	NA	NA	YES	A	A	YES	A	NO	NA	NA	NA	NA	NA	NA
NO	A	NA	NA	NA	NA	NO	NA	NA	NO	A	NO	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NO	NA	NA	NO	A	NO	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NO	NA	NA	NA	NA	NA	YES	A	A	YES	A	YES	A	A	NA	A	A	NA
NA	NA	NA	NA	NA	NA	NO	A	A	YES	A	YES	NA	A	A	A	A	NA
YES	A	A	NA	A	A	NO	NA	A	YES	A	NO	NA	NA	NA	A	A	A
NO	A	NA	NA	NA	NA	NO	NA	NA	NO	A	NO	NA	NA	NA	A	A	NA
YES	A	A	NA	NA	NA	YES	A	A	YES	A	NO	NA	NA	A	A	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
YES	A	A	NA	NA	NA	YES	A	NA	YES	A	YES	NA	A	A	A	A	NA
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NO	NA	NA	NA	NA	NA	NO	NA	NA	YES	A	NO	NA	NA	A	NA	NA	NA
NO	A	NA	NA	NA	NA	YES	A	NA	YES	A	YES	A	A	A	A	A	NA
YES	A	A	NA	NA	NA	YES	A	A	YES	A	YES	A	A	A	A	A	A
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NA	A	NA	NA	NA	NA	NO	NA	A	NO	A	NO	NA	NA	NA	A	NA	NA
YES	A	A	NA	NA	NA	YES	A	NA	YES	A	YES	A	NA	NA	A	NA	NA
NA	NA	NA	NA	NA	NA	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NO	NA	NA	NA	NA	NA	NO	A	NA	YES	A	NO	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NO	NA	NA	NA	A	NO	NA	NA	NA	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
YES	A	A	NA	NA	NA	YES	A	A	YES	A	NO	NA	NA	NA	NA	NA	NA
YES	A	A	NA	A	NA	YES	A	A	YES	A	NO	NA	NA	NA	A	A	A
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
YES	A	A	NA	A	A	YES	A	A	YES	A	NO	NA	NA	A	NA	NA	NA
YES	A	A	NA	NA	A	NO	NA	NA	NO	A	NO	NA	NA	A	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

2c Identified Scope 3 emissions	2c a Main sources of Scope 3 emissions	2c b i Employee business travel	2c b ii External distribution/ logistics	2c b iii Use/disposal of products and services	2c b iv Suppliers	2d i External verifications	2d ii Result / audit report transmitted	2d iii Standard or protocol used	2e System for checking data accuracy	2f Variation of emissions	2g i Facilities subject to EU ETS	2g i a /b Details furnished (emissions credits allocated in Phase I, EU ETS)	2g i c Impact of EU ETS on the company's profitability	2g ii Strategy for emissions quota trading	2h i Total cost of the consumption	2h ii Percentage of operating costs	2h iii Portion of renewable energy
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
YES	A	NA	NA	A	A	NO	NA	NA	YES	A	NO	NA	NA	NA	A	A	A
YES	A	A	NA	A	A	NO	A	A	NO	no	NO	NA	NA	NA	A	A	A
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NA	NA	NA	NA	NA	NA	NO	NA	NA	YES	A	NO	NA	NA	NA	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NO	NA	NA	NA	NA	NA	NA	NA	NA	A	A	A
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NO	NA	NA	NA	NA	NA	YES	NA	A	YES	A	NO	NA	NA	NA	A	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
YES	A	NA	NA	NA	NA	NO	NA	NA	NO	A	NO	NA	NA	NA	A	A	NA

Performance

Company name (SMI Expanded®)	3a i Reduction schedule and targets	3a ii Baseline year used	3a iii Emissions reduction targets and period	3a iv Actions undertaken to reduce emissions	3a v Investments needed
ABB	YES	2007	A*	A	NA**
Adecco	NO	NA	NA	A	NA
Bâloise	YES	2007	A	A	NA
Barry Callebaut	NA	NA	NA	NA	NA
Ciba	YES	2006	A	A	A
Clariant	YES	2005	A	A	NA
Credit Suisse	YES	2005	A	A	R
Geberit International	YES	2006	A	A	A
Georg Fischer	YES	NA	A	A	NA
Givaudan	NP	NP	NP	NP	NP
Holcim	YES	1990	A	A	A
Julius Baer	NP	NP	NP	NP	NP
Kuoni Travel	NP	NP	NP	NP	NP
Lindt & Sprüngli	NP***	NP	NP	NP	NP
Logitech International	NP	NP	NP	NP	NP
Lonza Group	YES	2000	A	A	A
Nestle	YES	1997	A	A	A
Novartis	YES	1990	A	A	A
Panalpina	NP	NP	NP	NP	NP
Richemont	NP	NP	NP	NP	NP
Rieter	NO	NA	NA	NA	NA
Roche	YES	2005	A	A	NA
Schindler	NP	NP	NP	NP	NP
SGS	NO	NA	A	A	NA
Straumann	NO	NA	NA	A	NA
Sulzer	NP	NP	NP	NP	NP
Swiss Life	NP	NP	NP	NP	NP
Swiss Re	YES	2003	A	A	A
Swisscom	YES	2002	A	A	A
Syngenta International	NP	NP	NP	NP	NP
UBS	YES	2004	A	A	NA
Vontobel	YES	2000	A	A	NA
Zurich Financial Services	NP	NP	NP	NP	NP

*A: answer **NA: no answer ***NP: not public

Company name (next 50 shares in the SPI®)	3a i Reduction schedule and targets	3a ii Baseline year used	3a iii Emissions reduction targets and period	3a iv Actions undertaken to reduce emissions	3a v Investments needed
Arpida	NP	NP	NP	NP	NP
Bank Sarasin & Cie	NP	NP	NP	NP	NP
Basler Kantonalbank	NO	NA	NA	A	NA
Berner Kantonalbank	YES	2007	A	A	A
Bellevue	NP	NP	NP	NP	NP
Bobst	NP	NP	NP	NP	NP
Burckhardt Compression	NP	NP	NP	NP	NP
Galenica	NO	NA	NA	NA	NA
Gottex Fund Management	NP	NP	NP	NP	NP
Huber + Suhner	NP	NP	NP	NP	NP
Implenia	NP	NP	NP	NP	NP
Inficon	NP	NP	NP	NP	NP
Jelmoli	NA	NA	NA	NA	NA
Komax	NO	NA	NA	NA	NA
Luzerner Kantonalbank	NP	NP	NP	NP	NP
Micronas Semiconductor	YES	1995	A	NA	A
Partners Group	NP	NP	NP	NP	NP
Schmolz+Bickenbach	NP	NP	NP	NP	NP
Tecan Group	NA	NA	NA	NA	NA
Valiant	NP	NP	NP	NP	NP
Valora	NP	NP	NP	NP	NP
VP Bank	NO	NA	NA	NA	NA

3a vi Reduction volumes already recorded / associated costs and/or savings	3b i Intensity ratio best representing the company's performance	3b ii Intensity of GHG emissions	3b iii Intensity reduction targets	3c Schedule	3c i Estimates and methodology	3c ii Cost taken into account in investments	3c iii Impact on investment decisions
A	A	A	YES	NO	NA	NA	NA
NA	NA	NA	NO	NO	NA	NA	NA
A	A	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA
A	A	NA	YES	YES	A	A	A
A	A	A	YES	NO	NA	NA	NA
A	A	NA	NO	NO	A	A	A
A	A	A	YES	YES	A	A	A
A	A	A	NO	YES	A	A	A
NP	NP	NP	NP	NP	NP	NP	NP
A	A	A	YES	YES	A	A	A
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
A	A	A	NO	NO	NA	NA	NA
A	A	A	YES	YES	A	A	A
A	A	A	NO	YES	A	A	A
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NA	A	NA	NA	NO	NA	NA	NA
NA	A	NA	YES	NO	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP
A	A	NA	NO	NO	NA	NA	NA
NA	A	A	NA	NA	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
A	A	A	YES	NA	NA	NA	NA
A	A	A	NO	YES	NA	A	A
NP	NP	NP	NP	NP	NP	NP	NP
A	A	A	NO	YES	NA	NA	NA
NA	A	A	NO	NA	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP

3a vi Reduction volumes already recorded / associated costs and/or savings	3b i Intensity ratio best representing the company's performance	3b ii Intensity of GHG emissions	3b iii Intensity reduction targets	3c Schedule	3c i Estimates and methodology	3c ii Cost taken into account in investments	3c iii Impact on investment decisions
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NA	A	A	NO	NO	A	NA	NA
A	A	NA	NO	YES	A	A	A
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NA	A	NA	NA	NO	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	YES	A	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP
A	A	NA	NA	NO	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NA	NA	NA	NA	NA	NA	NA	NA
NP	NP	NP	NP	NP	NP	NP	NP
NP	NP	NP	NP	NP	NP	NP	NP
NA	A	NA	NO	NO	NA	NA	NA

Governance

Company name (SMI Expanded®)	4a i Responsi-bility	4a ii Mechanism by which the special committee measures the situation	4b Individual performance	4c Communications
Adecco	NO	NA**	NO	YES
Bâloise	YES	YES	NO	YES
Barry Callebaut	NA	NA	NA	NA
Ciba	YES	YES	NO	YES
Clariant	YES	YES	NO	YES
Credit Suisse	YES	YES	YES	YES
Geberit International	YES	YES	NO	YES
Georg Fischer	YES	YES	NO	YES
Givaudan	NP***	NP	NP	NP
Holcim	YES	YES	YES	YES
Julius Baer	NP	NP	NP	NP
Kuoni Travel	NP	NP	NP	NP
Lindt & Sprüngli	NP	NP	NP	NP
Logitech International	NP	NP	NP	NP
Lonza Group	YES	YES	NO	YES
Nestle	YES	YES	YES	YES
Novartis	YES	YES	YES	YES
Panalpina	NP	NP	NP	NP
Richemont	NP	NP	NP	NP
Rieter	YES	NA	YES	YES
Roche	YES	YES	YES	YES
Schindler	NP	NP	NP	NP
SGS	YES	NA	NO	NO
Straumann	YES	YES	NA	YES
Sulzer	NP	NP	NP	NP
Swiss Life	NP	NP	NP	NP
Swiss Re	YES	YES	YES	YES
Swisscom	YES	YES	NO	YES
Syngenta International	NP	NP	NP	NP
UBS	YES	YES	YES	YES
Vontobel	YES	YES	NA	YES
Zurich Financial Services	NP	NP	NP	NP

**NA: no answer ***NP: not public

Company name (next 50 shares in the SPI®)	4a i Responsi-bility	4a ii Mechanism by which the special committee measures the situation	4b Individual performance	4c Communications
Arpida	NP	NP	NP	NP
Bank Sarasin & Cie	NP	NP	NP	NP
Basler Kantonalbank	YES	YES	NO	YES
Berner Kantonalbank	YES	YES	YES	YES
Bellevue	NP	NP	NP	NP
Bobst	NP	NP	NP	NP
Burckhardt Compression	NP	NP	NP	NP
Galenica	NO	YES	NO	YES
Gottex Fund Management	NP	NP	NP	NP
Huber + Suhner	NP	NP	NP	NP
Implenia	NP	NP	NP	NP
Inficon	NP	NP	NP	NP
Jelmoli	YES	YES	NO	YES
Komax	NO	YES	NO	YES
Luzerner Kantonalbank	NP	NP	NP	NP
Micronas Semiconductor	YES	NR	NO	NO
Partners Group	NP	NP	NP	NP
Schmolz+Bickenbach	NP	NP	NP	NP
Tecan Group	NR	NR	NR	NR
Valiant	NP	NP	NP	NP
Valora	NP	NP	NP	NP
VP Bank	NO	NR	NO	YES

4c i Annual Report	4c ii Other official publications	4c iii Social responsibility and environmental reports	4d Public policy
NO	NO	YES	NO
NO	NO	NO	NO
NA	NA	NA	NA
YES	NO	NO	YES
YES	YES	YES	YES
YES	YES	YES	YES
YES	YES	YES	NO
NO	NO	YES	YES
NP	NP	NP	NP
YES	YES	YES	YES
NP	NP	NP	NP
NP	NP	NP	NP
NP	NP	NP	NP
NP	NP	NP	NP
NO	NO	NO	YES
YES	YES	YES	YES
YES	YES	YES	YES
NP	NP	NP	NP
NP	NP	NP	NP
NO	NO	YES	NO
NO	NO	NO	YES
NP	NP	NP	NP
NO	NO	NO	YES
NO	NO	NO	NA
NP	NP	NP	NP
NP	NP	NP	NP
YES	YES	YES	YES
NO	NO	NO	YES
NP	NP	NP	NP
YES	YES	YES	YES
YES	NO	NO	YES
NP	NP	NP	NP

4c i Annual Report	4c ii Other official publications	4c iii Social responsibility and environmental reports	4d Public policy
NP	NP	NP	NP
NP	NP	NP	NP
NO	NO	NO	NO
YES	YES	YES	YES
NP	NP	NP	NP
NP	NP	NP	NP
NP	NP	NP	NP
YES	NO	NO	NO
NP	NP	NP	NP
NP	NP	NP	NP
NP	NP	NP	NP
NP	NP	NP	NP
YES	NO	NO	YES
NO	NO	YES	NO
NP	NP	NP	NP
NO	YES	NO	NO
NP	NP	NP	NP
NP	NP	NP	NP
NR	NR	NR	NR
NP	NP	NP	NP
NP	NP	NP	NP
YES	NO	NO	NO

7

Remarks and conclusions

7. Remarks and conclusions

The excellent response rate (78%) recorded in 2007 for the launch of CDP Switzerland and the quality of the feedback encouraged Pictet Asset Management and Ethos to support its second survey, with the addition of several improvements. As well as a higher number of companies invited to participate (up from 50 to 100 of the largest capitalisations on the Swiss stock exchange), the quality of the responses was more closely analysed (the previous survey presented only the qualified results). These two changes to the survey, as well as a detailed chapter on the political and regulatory context surrounding climate change, allow a better understanding of the stakes involved in climate change for the companies in question and of their responses.

7.1 Participation in the 2008 survey

In 2008, 55 of the 96 companies approached responded to CDP Switzerland. Communication with the companies in the CDP6 universe was both positive and interesting. For most of the companies approached last year who replied to the questionnaire, interest in the CDP remained high, with a very satisfactory response rate. For the large and medium-capitalisation companies in the SMI Expanded®, participation reached 70%. For the rest (the next 48 companies in the SPI®), who were approached for the first time on this subject, the outcome was also positive in that awareness was created on the matter. For this universe of 48 companies, the response rate (46%, or 22 participants) is not an accurate reflection of their level of interest in the issues of climate change. In fact, some of them felt they were not quite ready to reply to the CDP6 survey, a highly detailed and technical questionnaire, but did express their interest in the initiative. Such contact nonetheless provided an opportunity to inform listed companies of the concrete expectations of them with respect to climate change, as expressed by a growing number of their shareholders.

The importance of publishing information on the risks of climate change has entered a new phase in the United States, where Xcel Energy, a major electricity and natural gas company, was subject to an inquiry into the volume of its CO_2 emissions by the New York Attorney General. The two parties eventually reached an agreement in August in which Xcel agreed to continue to disclose and expand on information on financial risks from current and future laws, from litigation and from physical impacts of climate change and to provide a strategic analysis of its emissions management.

It must be remembered that companies operating in Switzerland are not currently subject to any legal requirements in terms of environmental reporting. In the absence of any frame of reference, those companies that do agree to disclose information on this subject opt for a variety of approaches, depending on the business in which they operate, which makes it difficult to draw up a meaningful comparison of the various scores analysed.

CDP is thus the only initiative in Switzerland at present that seeks to compile structured information on GHG emissions. In light of the partial but encouraging results obtained from the two CDP Switzerland surveys, Ethos and Pictet will thus

continue to encourage the systematic and structured reporting of companies' strategies, emissions and targets in the face of climate change, in an effort to encourage an economy emitting less carbon dioxide.

7.2 Results of the 2008 survey

Risks and opportunities

- The direct risks (and, to a lesser extent, the indirect risks) and opportunities associated with climate change are correctly identified and understood. The responses are not merely a general list of risks and opportunities but go into further detail, making concrete links with the company's activities and, in most cases, indicating that the issue of climate change is being integrated.

Concerning the identification of regulatory risks, the variation in the replies from companies in the same sector speaks in favour of the introduction of a more systematic strategic watch over the prevailing legislation. This concerns laws being drafted all over the world, and not only in those countries in which the companies have operations, given the significance and the diversity of products involved in a value chain.

As developed in the part on climate-related legislation, the current uncertainty surrounding the evolution of climate-related policies and the development of a real carbon-trading market on a worldwide scale does not make for a solid basis for companies to develop their long-term projects.

In Switzerland, many large companies decided to participate in the EnAW agreement so as to avoid having to pay CO_2 tax. However, the Swiss CO_2 Law allows companies to scale back their emissions even more and to sell the surplus on the Swiss CO_2 market, which unfortunately is practically inexistent at present. In light of the sectoral structure of the economy, the volumes envisaged would not be sufficient to create a new market that is liquid and efficient, and would penalise those companies wishing to benefit financially from an efficient management of their GHG reduction potential. Thus, harmonisation with the international trading systems will be necessary if Swiss firms are to remain competitive over time in adjusting to future requirements concerning GHG emissions.

Emissions

- Many of the companies replying to the questionnaire systematically identify those stages which, throughout their value chain (providers, production, utilisation), could be improved with respect to their carbon exposure.
- Apart from a few exceptions, the replies on the measurement of greenhouse gases are unfortunately all too often lack sufficient detail. The companies refer to systems for collecting and managing data, which appear to vary greatly in terms of quality, with very few companies having implemented GHG emissions data management systems that are really convincing and cover all of their activities.
- As a direct consequence of this situation, only very few companies have as yet set quantitative reduction targets. This lack of systematisation in the management and reporting of carbon emissions makes it impossible to gauge the carbon footprint left by the company all along the various stages of its value chain. Unfortunately, such a situation limits the potential for improving the carbon intensity of products and services.

Nonetheless, Switzerland is a pioneer in the scientific analysis of life cycles in industry. The ecoinvent database (www.ecoinvent.ch), born of an initiative of the ETH in Zurich and the EPFL in Lausanne, contains more than 400 industrial life cycles. Updated on a regular basis, this database aims to promote an integrated product policy among companies so as to assist in environmental design and in impact studies. Based on this type of data, and using other recognised input/output matrixes, the Centre Info

sustainability consultancy has developed, at the request of Pictet and Ethos, an environmental assessment methodology for screening investments (EnvImpact). This tool is already used in portfolio management for analysing companies' CO_2 emissions all along their value chain.

Governance

- There was a clear improvement in the part of the questionnaire covering the governance of climate change issues within companies: responsibilities have been drawn up and implemented for both the Board of Directors and operational management. Nonetheless, the number of companies that include climate change as a specific issue in their governance mechanisms remains low.

Several companies that replied in 2007 failed to meet the deadline for submitting their questionnaires in 2008 because of organisational changes. Such cases illustrate, in general, the importance of and the need for setting up a governance function on climate issues: clear rules and mechanisms are required to ensure continuous and efficiency management of the climate question.

By the same token, those companies that say they are interested in CDP but claim to have insufficient means available to participate in it indicate a lack of vision and of planning of resources in the governance of climate change.

7.3 Quality of the replies

At the request of Pictet and Ethos, Centre Info developed a methodology for evaluating the appropriateness of the responses given by the SMI Expanded companies on the challenges of climate change for each industry sector. This classification reveals that only a few of the larger companies systematically identify the stakes involved along their entire value chain and develop their strategy accordingly. The setting of quantitative reduction targets for all the phases of products and services is the area where companies need to make the most progress.

7.4 Transparency

- Companies agreeing to participate in the CDP initiative need to show considerably more transparency. Slightly less than half of the participating companies (26) did not wish to have the data in their questionnaires disclosed publicly.
- This is probably more a reflection of a certain reticence on the part of the companies concerning the quality of their feedback than a genuine issue of confidentiality of the data requested in the CDP questionnaire. It is true that the data on CO_2 emissions can actually inform the competition about a company's energy efficiency. However, the same could be said about profitability figures, which are necessarily disclosed in annual reports, yet this is simply accepted as a standard condition of competition for listed companies.
- For the company itself, the benefits of participating in CDP are noteworthy. The qualitative and quantitative responses provide it with a useful point of reference in terms of its past scores, to benchmark itself against the competition, and to improve its compliance with the prevailing standards, whether mandatory or adopted voluntarily.

- Finally, in completing the questionnaire in a thorough and transparent manner, the company shows that it meets the expectations and the needs expressed by some of its direct and indirect stakeholders (employees, customers, as well as local communities and society at large). The value of a company is largely dependent upon its intangible assets, of which its reputation stands at the forefront. The manner in which a company responds to consumers' expectations in terms of ecological responsibility is at the heart of many initiatives. In 2007, 80% (50% in 2006) of CO_2 reduction certificates were purchased by companies seeking voluntary offsets, in an effort to neutralise their carbon emissions and ultimately add weight and credibility to their environmental engagement.

7.5 Implications for investors

- The CDP data also form a basis for investors' research in the long term, promoting best practice by means of constructive dialogue programmes with the companies. Ethos Engagement Pool[1], which comprises Swiss pension funds and, since 2004, has led a number of initiatives to promote best practice in social, environmental and governance aspects of the 100 biggest Swiss listed companies. In this respect, the promotion of CDP Switzerland lies at the core of the generally fruitful and constructive communication with the companies in question.

In terms of investment decisions, it would hardly be rational to simply take note of the companies' responses and continue investing as before. Of course, the impact of climate change may seem a little far-fetched at present, and the responses to the CDP questionnaire cannot be used to draw the sort of straightforward and direct comparisons between companies that could provide some guidance on short-term investment decisions.

However, for quite a large number of companies, there is a clear discrepancy between their current exposure to climate change and their response to this new challenge, which is bad news for investors in companies whose revenues or business model will be seriously affected by climate change. Considering that, in valuating a company, future cash flows and, most especially, the residual value of companies (which, in itself, often represents more than 50% of the total value of the company) will certainly be influenced by the impact of climate change, investors cannot afford to ignore or miscalculate this factor. For investors, therefore, it makes sense to steer clear of companies that are poorly prepared, or to seek a large discount to compensate for the risk of a strategy that does not fully address the impact of climate change.

Likewise, for companies that actively manage their exposure to climate change all along their value chain and identify their risks and opportunities, a premium that reflects their better potential to adjust to climate change in the long term would seem fully justifiable.

The issue is probably not so clear-cut, however. Even if the very essence of certain businesses comes under direct fire from measures aiming to mitigate the impact of climate change (e.g. long-distance flights, motor industry, cement manufacturers), it would also be somewhat risky to take investment decisions based solely on companies' communications on their climate change strategy as, it has to be said, the business world has realised that climate change can also prove an excellent vector of promotion.

[1] www.ethosfund.ch

As for those companies emitting large volumes of GHG, the introduction of the European emissions quota system, giving a price to negative externalities in terms of CO_2, has forced the least efficient companies to catch up rapidly with the best standards of production. The CO_2 emissions of more than 10 000 sites in Europe now have a direct financial impact on the performance of the companies concerned. Moreover, with sectors such as aviation and shipping to be included in the second phase of this emissions quota system, it is only a matter of time before all businesses will be affected in some way or another by current or future legislation, given the increasing integration of the global economy.

Finally, although the financial consequences of climate change are now a matter of concern to investors, it should be remembered that most institutional investors also aim to integrate the objectives of sustainable development into their decisions. As these represent the interests of large number of individuals and institutions, it is quite understandable that their own interests are similar to those of society as a whole. It is thus quite justifiable to manage financial assets in a manner that seeks to promote sustainable development. Investors have a direct interest in seeking to optimise the carbon emissions of their portfolios so that climate change and the attendant changes do not pose a threat to economic prosperity. What's more, as central players on the market, investors share a moral responsibility to contribute to the fight against climate change, the most dramatic consequences of which are likely to be felt by the poorest populations of the world.

- The CDP results can be used to incorporate strategies to minimise CO_2 emissions into innovative financial products. Based on the experience made by Pictet and Ethos, which already explicitly incorporate CO_2 emissions reduction targets into their sustainable investment management, this dimension generates investment opportunities and a means of diversifying the risks associated with climate change.

We thus conclude with the words of the Partner of Pictet & Cie and the Chairman of Ethos: "In the light of the challenges that lie ahead, a coherent and convincing strategy on how to address climate change probably provides just as much information on a company's economic outlook as the next quarterly results."

Annex: CDP6 Questionnaire

The CDP questionnaire has been developed over six years through consultation with signatory investors, corporations and other stakeholders. The CDP6 questionnaire represents a best practice framework for the information companies should measure and report regarding the impact of climate change on their business.

Annex: CDP6 Questionnaire

1 Risks and Opportunities

Objective: to identify strategic risks and opportunities and their implications

a Risks (CDP5 Question 1a)

i Regulatory risks

How is your company exposed to regulatory risks related to climate change?

ii Physical risks

How is your company exposed to physical risks from climate change?

iii General risks

How is your company exposed to general risks as a result of climate change?

iv Risk management

Has your company taken or planned action to manage the general and regulatory risks and/or adapt to the physical risks you have identified?

v Financial and business implications

How do you assess the current and/or future financial effects of the risks you have identified and how those risks might affect your business?

b Opportunités (CDP5 Question 1b)

i Regulatory opportunities

How do current or anticipated regulatory requirements on climate change offer opportunities for your company?

ii Physical opportunities

How do current or anticipated physical changes resulting from climate change present opportunities for your company?

iii General opportunities

How does climate change present general opportunities for your company?

iv Maximising opportunities

Do you invest in, or have plans to invest in products and services that are designed to minimise or adapt to the effects of climate change?

v Financial and business implications

How do you assess the current and/or future financial effects of the opportunities you have identified and how those opportunities might affect your business?

2 Greenhouse Gas (GHG) Emissions Accounting

Objective: to determine actual absolute greenhouse gas emissions

The term GHG Protocol below refers to The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). This may be found on the GHG Protocol Website (www.ghgprotocol.org).

a Accounting parameters (CDP5 Question 2a)

i Reporting Boundary

Please indicate the category that best describes the company, entities or group for which your response is prepared:

a. Companies over which financial control is exercised – through consolidated audited Financial Statements

b. Companies over which operational control is exercised

c. Companies in which an equity share is held

d. Other (please provide details)

Please use the same approach for all answers.

ii Reporting year

Please explicitly state the dates of the accounting year or period for which GHG emissions are reported.

iii Methodology

Please specify the methodology used by your company to calculate GHG emissions.

b Direct and indirect emissions – Scope 1 and 2 of the GHG Protocol (CDP5 Question 2b)

i Are you able to provide a breakdown of your direct and indirect emissions under scopes 1 and 2 of the GHG Protocol and to analyse your electricity consumption? If so, please provide the following information together with a breakdown of the emissions reported under each category by country where possible. If not, please proceed to question 2b ii.

Scope 1 of GHG Protocol: Direct GHG emissions

a. Total global Scope 1 activity in metric tonnes CO_2-e emitted

b. Total Scope 1 activity in metric tonnes CO_2-e emitted for annex B countries

Scope 2 of GHG Protocol: Indirect GHG emissions

c. Total global Scope 2 activity in metric tonnes CO_2-e emitted.

d. Total Scope 2 activity in metric tonnes CO_2-e emitted for annex B countries

Electricity consumption

e. Total global MWh of purchased electricity

f. Total MWh of purchased electricity for Annex B countries

g. Total global MWh of purchased electricity from renewable sources

h. Total MWh of purchased electricity from renewable sources for Annex B countries

ii If you are unable to detail your Scope 1 and Scope 2 GHG emissions and/or electricity consumption, please report the GHG emissions you are able to identify together with a description of those emissions.

c Other Emissions – Scope 3 of the GHG Protocol (CDP5 Question 2c)

How do you identify and/or measure scope 3 emissions? Please provide where possible:

a. Details of the most significant Scope 3 sources for your company.

b. Details in metric tonnes CO_2-e of GHG emissions in the following categories:

i Employee business travel

ii External distribution/logistics

iii Use/disposal of company's products and services

iv Company supply chain

c. Details of the methodology you use to quantify or estimate Scope 3 emissions.

d External verification (CDP5 Question 2a iii)

i Has the information reported in response to questions 2b – c been externally verified or audited or do you plan to have the information verified or audited? If so:

ii Please provide a copy of the audit or verification statement or state your plans for verification.

iii Please specify the Standard or Protocol against which the information has been or will be audited or verified.

e Data accuracy (New to CDP6)

Does your company have a system in place to assess the accuracy of GHG emissions inventory calculation methods, data processes and other systems relating to GHG measurement? If so, please provide details. If not, please explain how data accuracy is managed.

f Emissions history (CDP5 Question 2a iv)

Do the emissions reported for your last accounting year vary significantly compared to previous years? If so, please explain the reasons for the variations.

g Emissions trading (CDP5 Question 4b)

i Does your company have facilities covered by the EU Emissions Trading Scheme (EU ETS)? If so:

a. Please provide details of the annual allowances awarded to your company in phase I for each of the years from 1 January 2005 to 31 December 2007 and details of allowances allocated for phase II commencing on 1 January 2008.

b. Please provide details of actual annual emissions from facilities covered by the EU ETS with effect from 1 January 2005.

c. What has been the impact on your company's profitability of the EU ETS?

ii What is your company's strategy for trading or participating in regional and/or international trading schemes (eg: EU ETS, RGGI, CCX) and Kyoto mechanisms such as CDM and JI projects?

h Energy costs (CDP5 Question 4d)

i Please identify the total costs in USD of your energy consumption eg from fossil fuels and electric power.

ii What percentage of your total operating costs does this represent?

iii What percentage of energy costs are incurred on energy from renewable sources?

3 Performance

Objective: to determine performance against targets and plans to reduce GHG emissions

a Reduction plans (CDP5 Question 1d et 4a)

i Does your company have a GHG emissions reduction plan in place? If so, please provide details along with the information requested below. If there is currently no plan in place, please explain why.

ii What is the baseline year for the emissions reduction plan?

iii What are the emissions reduction targets and over what period do those targets extend?

iv What activities are you undertaking to reduce your emissions eg: renewable energy, energy efficiency, process modifications, offsets, sequestration etc? What targets have you set for each and over what timescales do they extend?

v What investment has been or will be required to achieve the targets and over what time period?

vi What emissions reductions and associated costs or savings have been achieved to date as a result of the plan?

b Emissions intensity (CDP5 Question 4c)

i What is the most appropriate measurement of emissions intensity for your company?

ii Please state your GHG emissions intensity in terms of total tonnes of CO_2-e reported under Scope 1 and Scope 2 per USD m turnover and EBITDA for the reporting year.

iii Has your company developed emissions intensity targets? If so:

a. Please state your emissions intensity targets.

b. Please state what reductions in emissions intensity have been achieved against targets and over what time period.

If not, please explain why.

c Planning (CDP5 Question 4e)

Do you forecast your company's future emissions and/or energy use? If so:

i Please provide details of those forecasts, summarise the methodology used and the assumptions made.

ii How do you factor the cost of future emissions into capital expenditure planning?

iii How have these considerations made an impact on your investment decisions?

4 Gouvernance

Objective: to determine responsibility and management approach to climate change

a Responsibility (CDP5 Question 5a)

Does a Board Committee or other executive body have overall responsibility for climate change? If not, please state how overall responsibility for climate change is managed. If so:

i Which Board Committee or executive body has overall responsibility for climate change?

ii What is the mechanism by which the Board or other executive body reviews the company's progress and status regarding climate change?

b Individual performance (CDP5 Question 5b)

Do you assess or provide incentive mechanisms for individual management of climate change issues including attainment of GHG targets? If so, please provide details.

c Communications (New to CDP6)

Please indicate whether you publish information about the risks and opportunities presented to your company by climate change, details of your GHG emissions and plans to reduce emissions through any of the following communications:

i the company's Annual Report or other statutory filings, and/or

ii formal communications with shareholders or external parties, and/or

iii voluntary communications such as Corporate Social Responsibility reporting.

If so, please provide details and a link to the document(s) or a copy of the relevant excerpt.

d Public policy (New to CDP6)

Do you engage with policymakers on possible responses to climate change including taxation, regulation and carbon trading? If so, please provide details.

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Eden 2 (2004) - Lambda print - 40 X 72 inches

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