

Carbon Disclosure Project 2009 Europe 300

On behalf of 475 investors with assets of US \$55 trillion



Written for the CDP by:

 CHEUVREUX

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Carbon Disclosure Project 2009

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Russell Investments	UK
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475 institutional investors with assets of over US\$55 trillion were signatories to the CDP 2009 information request dated 1st February 2009, including:

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AmpegaGerling Investment GmbH	Germany
APG Investments	Netherlands
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Arkitekternes Pensjonskasse	Denmark
Artus Direct Invest AG	Germany
ASB Community Trust	New Zealand
ASN Bank	Netherlands
ATP Group	Denmark
Australia and New Zealand Banking Group Limited	Australia
Australian Ethical Investment Limited	Australia
AustralianSuper	Australia
Aviva Investors	UK
Aviva plc	UK
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Banco	Sweden
Banco Bradesco S.A	Brazil
Banco de Galicia y Buenos Aires S.A.	Argentina
Banco do Brazil	Brazil
Banco Santander, S.A.	Spain
Banesprev – Fundo Banespa de Seguridade Social	Brazil
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Bank Sarasin & Co, Ltd	Switzerland
Bank Vontobel	Switzerland
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Barclays Group	UK
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BBVA	Spain
Bedfordshire Pension Fund	UK
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BlackRock	US
Blue Marble Capital Management Limited	Canada
BMO Financial Group	Canada
BNP Paribas Investment Partners	France
Boston Common Asset Management, LLC	US
BP Investment Management Limited	UK
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BT Investment Management	Australia
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Caisse de dépôt et placement du Québec	Canada
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California State Teachers Retirement System	US
California State Treasurer	US
Calvert Group	US
Canada Pension Plan Investment Board	Canada
Canadian Friends Service Committee (Quakers)	Canada
CAPESESP	Brazil
Capital Innovations, LLC	US
CARE Super Pty Ltd	Australia
Carlson Investment Management	Sweden
Carmignac Gestion	France
Catherine Donnelly Foundation	Canada
Catholic Super	Australia
Cbus Superannuation Fund	Australia
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Central Finance Board of the Methodist Church	UK
Ceres, Inc.	US
Cheyne Capital Management (UK) LLP	UK
CI Mutual Funds' Signature Advisors	Canada
CIBC	Canada
Clean Yield Group, Inc.	US
ClearBridge Advisors, Socially Aware Investment	US
Close Brothers Group plc	UK
Colonial First State Global Asset Management	Australia
Comite syndical national de retraite Bâtirente	Canada
Commerzbank AG	Germany
CommInsure	Australia
Companhia de Seguros Aliança do Brasil	Brazil
Compton Foundation, Inc.	US
Connecticut Retirement Plans and Trust Funds	US
Co-operative Financial Services (CFS)	UK
Corston-Smith Asset Management Sdn. Bhd.	Malaysia
Crédit Agricole Asset Management	France
Credit Suisse	Switzerland
Daegu Bank	South Korea
Daiwa Securities Group Inc.	Japan

DB Advisors Deutsche Asset Management	Germany
DEFO – Deutsche Fonds für Immobilienvermögen GmbH	Germany
DEGI Deutsche Gesellschaft für Immobilienfonds mbH	Germany
Deka FundMaster Investmentgesellschaft mbH	Germany
Deka Investment GmbH	Germany
DekaBank Deutsche Girozentrale	Germany
Deutsche Bank	Germany
Deutsche Postbank Privat Investment Kapitalanlagegesellschaft mbH	Germany
Development Bank of Japan	Japan
Development Bank of the Philippines (DBP)	Philippines
Dexia Asset Management	France
DnB NOR ASA	Norway
Domini Social Investments LLC	US
DPG Deutsche Performancemessungs-Gesellschaft für Wertpapierportfolio mbH	Germany
East Sussex Pension Fund	UK
Economus Instituto de Seguridade Social	Brazil
ELETRA – Fundação Celg de Seguros e Previdência	Brazil
Environment Agency Active Pension fund	UK
Epworth Investment Management	UK
Erste Group Bank AG	Austria
Essex Investment Management, LLC	US
Ethos Foundation	Switzerland
Eureko B.V.	Netherlands
Eurizon Capital SGR	Italy
Evangelical Lutheran Church in Canada Pension Plan for Clergy and Lay Workers	Canada
Evli Bank Plc	Finland
F&C Management Ltd	UK
Faelba	Brazil
FAELCE – Fundação Coelce de Seguridade Social	Brazil
Fédérés Gestion d'Actifs	France
First Affirmative Financial Network	US
First Swedish National Pension Fund (AP1)	Sweden
FirstRand Ltd.	South Africa
Fishman & Co.	Israel
Five Oceans Asset Management Pty Limited	Australia
Florida State Board of Administration (SBA)	US
Folksam	Sweden
Fondaction CSN	Canada
Fonds de Réserve pour les Retraites – FRR	France
Fortis Bank Nederland	Netherlands
Fortis Investments	Belgium
Forward Management, LLC	US
Fourth Swedish National Pension Fund, (AP4)	Sweden
Frankfurter Service Kapitalanlagegesellschaft mbH	Germany
FRANKFURT-TRUST Investment Gesellschaft mbH	Germany
Franklin Templeton Investment Services GmbH	Germany
Frater Asset Management	South Africa
Friends Provident	UK
Front Street Capital	Canada

Fukoku Capital Management Inc	Japan
Fundação AMPLA de Seguridade Social – Brasileiros	Brazil
Fundação Atlântico de Seguridade Social	Brazil
Fundação Banrisul de Seguridade Social	Brazil
Fundação CEEE de Seguridade Social – ELETROCEEE	Brazil
Fundação Codesc de Seguridade Social – FUSESC	Brazil
Fundação de Assistência e Previdência Social do BNDES – FAPES	Brazil
Fundação Forluminas de Seguridade Social – FORLUZ	Brazil
Fundação Promon de Previdência Social	Brazil
Fundação São Francisco de Seguridade Social	Brazil
Fundação Vale do Rio Doce de Seguridade Social – VALIA	Brazil
FUNDIÁGUA - Fundação de Previdência da Companhia de Saneamento e Ambiental do Distrito Federal	Brazil
Gartmore Investment Management Ltd	UK
Generation Investment Management	UK
Genus Capital Management	Canada
Gjensidige Forsikring	Norway
GLG Partners LP	UK
Goldman Sachs & Co.	US
Governance for Owners	UK
Government Employees Pension Fund (“GEPF”), Republic of South Africa	South Africa
Green Cay Asset Management	Bahamas
Green Century Funds	US
Groupe Investissement Responsable Inc.	Canada
GROUPE OFI AM	France
GrowthWorks Capital Ltd.	Canada
Grupo Banco Popular	Spain
Grupo Santander Brasil	Brazil
Gruppo Monte Paschi	Italy
Guardian Ethical Management Inc	Canada
Guardians of New Zealand Superannuation	New Zealand
Hang Seng Bank	Hong Kong
HANSAINVEST Hanseatische Investment GmbH	Germany
Harrington Investments	US
Hastings Funds Management Limited	Australia
Hazel Capital LLP	UK
Health Super Fund	Australia
Helaba Invest Kapitalanlagegesellschaft mbH	Germany
Henderson Global Investors	UK
Hermes Fund Managers	UK
HESTA Super	Australia
Hospitals of Ontario Pension Plan (HOOPP)	Canada
HSBC Holdings plc	UK
Hyundai Marine & Fire Insurance Co, Ltd	South Korea
IDBI Bank Limited	India
Ilmarinen Mutual Pension Insurance Company	Finland
Impax Group plc	UK
Industrial Bank	China
Industry Funds Management	Australia

Infrastructure Development Finance Company Ltd. (IDFC)	India
ING	Netherlands
Inhance Investment Management Inc	Canada
Insight Investment Management (Global) Ltd	UK
Instituto de Seguridade Social dos Correios e Telégrafos- Postalís	Brazil
Instituto Infraero de Seguridade Social – INFRAPREV	Brazil
Insurance Australia Group	Australia
Internationale Kapitalanlagegesellschaft mbH	Germany
Investec Asset Management	UK
Itaú Unibanco Banco Múltiplo S.A.	Brazil
J.P. Morgan Asset Management	US
Janus Capital Group Inc.	US
Jarislowsky Fraser Limited	Canada
Jubitz Family Foundation	US
Jupiter Asset Management	UK
K&H Investment Fund Management/K&H Befektetési Alapkezelő Zrt	Hungary
KB Kookmin Bank	South Korea
KBC Asset Management NV	Belgium
KCPS and Company	Israel
KDB Asset Management Co., Ltd.	South Korea
Kennedy Associates Real Estate Counsel, LP	US
KfW Bankengruppe	Germany
Kibo Technology Fund	South Korea
KLP Insurance	Norway
Korea Investment Trust Management Co., Ltd.	South Korea
KPA Pension	Sweden
Kyobo Investment Trust Management Co., Ltd.	South Korea
La Banque Postale Asset Management	France
La Financiere Responsable	France
LBBW – Landesbank Baden-Württemberg	Germany
LBBW Asset Management GmbH	Germany
LD Lønmodtagernes Dyrtdidsfond	Denmark
Legal & General Group plc	UK
Legg Mason, Inc.	US
Lend Lease Investment Management	Australia
Libra Fund, L.P.	US
Light Green Advisors, LLC	US
Living Planet Fund Management Company S.A.	Switzerland
Local Authority Pension Fund Forum	UK
Local Government Superannuation Scheme	Australia
Local Super SA-NT	Australia
Lombard Odier Darier Hentsch & Cie	Switzerland
London Pensions Fund Authority	UK
Lothian Pension Fund	UK
Macif Gestion	France
Macquarie Group Limited	Australia
Magnolia Charitable Trust	US
Maine State Treasurer	US
Man Group plc	UK
Maple-Brown Abbott Limited	Australia
Marc J. Lane Investment Management, Inc.	US
Maryland State Treasurer	US
McLean Budden	Canada

MEAG Munich Ergo Asset Management GmbH	Germany
MEAG Munich Ergo Kapitalanlagegesellschaft mbH	Germany
Meeschaert Gestion Privée	France
Meiji Yasuda Life Insurance Company	Japan
Merck Family Fund	US
Mergence Africa Investments (Pty) Limited	South Africa
Meritas Mutual Funds	Canada
Metzler Investment GmbH	Germany
Midas International Asset Management	South Korea
Miller/Howard Investments	US
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
Mn Services	Netherlands
Monega Kapitalanlagegesellschaft mbH	Germany
Morgan Stanley Investment Management	US
Motor Trades Association of Australia Superannuation Fund Pty Ltd	Australia
MP Pension – Pensionskassen for Magistre og Psykologer	Denmark
Munich Re Group	Germany
Mutual Insurance Company Pension-Fennia	Finland
Natcan Investment Management	Canada
Nathan Cummings Foundation, The	US
National Australia Bank Limited	Australia
National Bank of Canada	Canada
National Bank of Kuwait	Kuwait
National Grid Electricity Group of the Electricity Supply Pension Scheme	UK
National Grid UK Pension Scheme	UK
National Pensions Reserve Fund of Ireland	Ireland
Natixis	France
Needmor Fund	US
Nest Sammelstiftung	Switzerland
Neuberger Berman	US
New Alternatives Fund Inc.	US
New Jersey Division of Investment	US
New Mexico State Treasurer	US
New York City Employees Retirement System	US
New York City Teachers Retirement System	US
New York State Common Retirement Fund (NYSCRF)	US
Newton Investment Management Limited	UK
NFU Mutual Insurance Society	UK
NH-CA Asset Management	South Korea
Nikko Asset Management Co., Ltd.	Japan
Nissay Asset Management Corporation	Japan
Nordea Investment Management	Sweden
Norfolk Pension Fund	UK
Norges Bank Investment Management (NBIM)	Norway
Norinchukin Zenkyouren Asset Management Co., Ltd	Japan
North Carolina State Treasurer	US
Northern Ireland Local Government Officers’ Superannuation Committee (NILGOSC)	UK

Northern Trust	US
Northwest and Ethical Investments LP	Canada
Oddo & Cie	France
Old Mutual plc	UK
OMERS Administration Corporation	Canada
Ontario Teachers Pension Plan	Canada
Opplysningsvesenets fond (The Norwegian Church Endowment)	Norway
Oregon State Treasurer	US
Orion Asset Management LLC	US
Pax World Funds	US
PBU – Pension Fund of Early Childhood Teachers	Denmark
Pension Fund for Danish Lawyers and Economists	Denmark
Pension Protection Fund	UK
Pensionskassen for Jordbrugsakademikere og Dyr læger	Denmark
PETROS – The Fundação Petrobras de Seguridade Social	Brazil
PFA Pension	Denmark
PGGM	Netherlands
Phillips, Hager & North Investment Management Ltd.	Canada
PhiTrust Active Investors	France
Pictet Asset Management SA	Switzerland
Pioneer Alapkezelő Zrt.	Hungary
Pioneer Investments Kapitalanlagegesellschaft mbH	Germany
PKA	Denmark
Portfolio 21 Investments	US
Portfolio Partners	Australia
Porto Seguro S.A.	Brazil
PPM Premiepensionsmyndigheten	Sweden
PRECE Previdência Complementar	Brazil
PREVI Caixa de Previdência dos Funcionários do Banco do Brasil	Brazil
Principle Capital Partners Limited	UK
PSP Investments	Canada
QBE Insurance Group Limited	Australia
Q Capital Partners	South Korea
Railpen Investments	UK
Rathbones/Rathbone Greenbank Investments	UK
Real Grandeza Fundação de Previdência e Assistência Social	Brazil
Rei Super	Australia
Rhode Island General Treasurer	US
RLAM	UK
Robeco	Netherlands
Rose Foundation for Communities and the Environment	US
Royal Bank of Canada	Canada
RREEF Investment GmbH	Germany
Russell Investments	UK
SAM Group	Switzerland
Sanlam Investment Management	South Africa
Santa Fé Portfolios Ltda	Brazil
Sauren Finanzdienstleistungen	Germany
Savings & Loans Credit Union (S.A.) Limited.	Australia
Schroders	UK
Scotiabank	Canada
Scottish Widows Investment Partnership	UK
SEB	Sweden
SEB Asset Management AG	Germany
Second Swedish National Pension Fund (AP2)	Sweden
Seligson & Co Fund Management Plc	Finland
Sentinel Funds	US
SERPROS Fundo Multipatrocinado	Brazil
Service Employees International Union Benefit Funds	US
Seventh Swedish National Pension Fund (AP7)	Sweden
Shinhan Bank	South Korea
Shinhan BNP Paribas Investment Trust Management Co., Ltd	South Korea
Shinkin Asset Management Co., Ltd	Japan
Shinsei Bank Limited	Japan
Siemens Kapitalanlagegesellschaft mbH	Germany
Signet Capital Management Ltd	Switzerland
Skandia Nordic Division	Sweden
SMBC Friend Securities Co., LTD	Japan
Smith Pierce, LLC	US
SNS Asset Management	Netherlands
Social(k)	US
Société Générale	France
Sompo Japan Insurance Inc.	Japan
Souls Funds Management Limited	Australia
SPF Beheer bv	Netherlands
Sprucegrove Investment Management Ltd	Canada
Standard Chartered PLC	UK
Standard Life Investments	UK
State Street Corporation	US
Statewide Superannuation Trust	Australia
Storebrand ASA	Norway
Strathclyde Pension Fund	UK
Stratus Group	Brazil
Sumitomo Mitsui Banking Corporation	Japan
Sumitomo Mitsui Card Company, Limited	Japan
Sumitomo Mitsui Finance & Leasing Co., Ltd	Japan
Sumitomo Mitsui Financial Group	Japan
Sumitomo Trust & Banking	Japan
Sun Life Financial Inc.	Canada
Superfund Asset Management GmbH	Germany
Svenska Kyrkan, Church of Sweden	Sweden
Swedbank	Sweden
Swiss Reinsurance Company	Switzerland
Swisscanto Holding AG	Switzerland
Syntrus Achmea Asset Management	Netherlands
TD Asset Management Inc. and TDAM USA Inc.	Canada
Teachers Insurance and Annuity Association – College Retirement Equities Fund (TIAA-CREF)	US
Tempis Capital Management	South Korea
Terra Forvaltning AS	Norway
TfL Pension Fund	UK
The Bullitt Foundation	US
The Central Church Fund of Finland	Finland
The Collins Foundation	US
The Co-operators Group Ltd	Canada
The Daly Foundation	Canada
The Dreyfus Corporation	US
The Japan Research Institute, Limited	Japan
The Joseph Rowntree Charitable Trust	UK
The Local Government Pensions Insitution (LGPI) (keva)	Finland
The Presbyterian Church in Canada	Canada
The RBS Group	UK
The Russell Family Foundation	US
The Shiga Bank, Ltd.	Japan
The Standard Bank of South Africa Limited	South Africa
The Sustainability Group at the Loring, Wolcott & Coolidge Office	US
The Travelers Companies, Inc.	US
The United Church of Canada – General Council	Canada
The University of Edinburgh Endowment Fund	UK
The Wellcome Trust	UK
Third Swedish National Pension Fund (AP3)	Sweden
Threadneedle Asset Management	UK
Tokio Marine & Nichido Fire Insurance Co., Ltd.	Japan
Toronto Atmospheric Fund	Canada
Trillium Asset Management Corporation	US
Triodos Bank	Netherlands
TrygVesta	Denmark
UBS AG	Switzerland
Unibanco Asset Management	Brazil
UniCredit Group	Italy
Union Asset Management Holding AG	Germany
Union Investment Institutional GmbH	Germany
Union Investment Privatfonds GmbH	Germany
Union Investment Service Bank AG	Germany
Union PanAgora Asset Management GmbH	Germany
UniSuper	Australia
Unitarian Universalist Association	US
United Methodist Church General Board of Pension and Health Benefits	US
United Nations Foundation	US
Universal Investment Gesellschaft mbH	Germany
Universities Superannuation Scheme (USS)	UK
Vancity Group of Companies	Canada
VERITAS SG INVESTMENT TRUST GmbH	Germany
Vermont State Treasurer	US
VicSuper Pty Ltd	Australia
Victorian Funds Management Corporation	Australia
Visão Prev Sociedade de Previdencia Complementar	Brazil
Waikato Community Trust Inc	New Zealand
Walden Asset Management, a division of Boston Trust and Investment Management Company	US
Warburg-Henderson Kapitalanlagegesellschaft für Immobilien mbH	Germany
West Yorkshire Pension Fund	UK
WestLB Mellon Asset Management (WMAM)	Germany
Westpac Investment Management	Australia
Winslow Management Company	US
WOORI BANK	South Korea
YES BANK Limited	India
York University Pension Fund	Canada
Youville Provident Fund Inc.	Canada
Zurich Cantonal Bank	Switzerland



Foreword

I am delighted to introduce the 2009 Europe 300 Carbon Disclosure Project report. The CDP has been a valuable partner in our fight to combat climate change. I am particularly pleased that this year, for the first time, climate change information will be presented from the 300 largest corporations in the European Union in Western Europe.

I believe that the research done by the Carbon Disclosure Project has helped strengthen responsible business practices, and that CDP performance scores help measure corporations' actual performance in responding to and reducing their contributions to climate change.

I am glad to note that seven of the top twelve companies scoring highest in performance points are European, and five are North American. Europe has the highest average disclosure and performance scores of all the geographical regions within the Global 500 sample.

I am convinced that every company should set a CO₂ reduction target, and these targets must have clear baselines and target years. The European Union is taking big steps towards confronting challenges posed by climate change.

For now, the European Union is the only region in the world that currently has a functioning emissions trading system which has put a price on carbon. We are working towards our 2020 deadline for our 20/20/20 targets of reducing our overall emissions to at least 20% below 1990 levels and increasing the share of renewables in energy use to 20%.

To help in this process, the European Parliament adopted a climate energy package in December 2008 which had four elements:

- A revised directive on EU Emissions Trading Scheme
- An effort sharing decision which set binding national targets for CO₂ reduction
- A directive for pilot projects on carbon storage
- A directive on renewable energy in electricity generation, transport, heating and cooling.

We have also adopted a long-term reduction target for CO₂ emissions from new cars and asked for environmentally and socially sustainable biofuels.

Currently the EU share in global costs for mitigating the effects of climate change are estimated to be at around EUR60 billion annually, and can reach up to EUR194 billion in high-cost scenarios. In the long run we believe the benefits far outweigh the costs.

The important research done by the Carbon Disclosure Project is one of the tools that will aid us in our discussions at the United Nations Conference on Climate Change in December. I hope that in Copenhagen we may be able to find an agreement which will help to lay the foundation of the green economy of the future. We must succeed since this is what our populations expect, and it is the legacy we leave to future generations.

Jerzy Buzek
President of the European Parliament
29 September 2009



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Rising to the Climate Challenge

Why does climate change warrant AXA's attention? Because the science and the economics are now clear: climate change is not only an environmental issue, but a broader threat to society as a whole. Businesses will not succeed in societies that fail – in fact, insurers are among the first hit when this happens.

As a result, insurance companies will need to do more than adapt, they will need to play a proactive role in limiting this threat, as some players such as AXA have started to do.

AXA is committed to protect the environment by improving its own environmental footprint, but also by innovating solutions within its business lines. Alongside other insurance industry leaders, AXA has signed the "Kyoto Statement" of the Geneva Association, thus committing to improve research on the impacts of climate change, adapt insurance products to encourage "green" behaviors, help redefine environmental standards, such as building codes, and promote environmental investments.

In this respect, the Carbon Disclosure Project (CDP), and its signatory investors who support better carbon-related disclosures amongst listed companies, is a key component of this new equation. AXA has been a CDP partner since 2006, and we have co-produced the publication and presentation of the French results since then. This year, AXA is proud to be a partner of the first European CDP report, highlighting the need for a common framework in order to improve the level and quality of "environmental data" available to investors. In the run-up to the key climate talks at Copenhagen this December, AXA hopes that this first European report will highlight where risks and opportunities lie and encourage the contribution of investors to building a low-carbon economy.

A handwritten signature in dark ink, appearing to read 'Henri de Castries'.

Henri de Castries
Chairman of the Management Board and CEO, AXA

CA Cheuvreux and the Carbon Disclosure Project

CA Cheuvreux's collaboration with the CDP aims to improve the quality of carbon-related information and analysis available to investors. It reflects our ambition to place the issue of climate change at the heart of our research and our investment services.

Writing the CDP Europe report represents a natural extension of both the Crédit Agricole Group's endorsement of the Climate Principles and CA Cheuvreux's commitment as the first equity broker worldwide to become a signatory to the Principles for Responsible Investment in 2008. We are gradually integrating these principles into all our activities with a view to making CA Cheuvreux a leading player in the evolution towards responsible financial markets at the service of a sustainable economy.

The preparation of the 2009 CDP Europe report also fits in with our ambition, since 2005, to develop innovative analysis of climate change issues. Our Carbon Research thus pursues two concomitant objectives: 1) making investors aware of the importance of the climate challenge for their assets and the impact on the wider environment; and 2) measuring the impact of climate change on European sectors and companies. CA Cheuvreux factors in a prospective carbon cost/opportunity benefit when valuing all European carbon-intensive companies it covers. Our 100 analysts also take into account the quality of these companies' climate change strategies when they establish their recommendations for the medium term.

As this report demonstrates, disclosure by European companies has improved substantially in recent years, from both a quantitative and a qualitative standpoint. However, there is further room for improvement, as the accuracy and pertinence of our research is still hampered by challenges faced in gathering and interpreting climate change-related information.

The objective is to move beyond existing levels of disclosure and to capture the considerable political and investment momentum in favour of taking these issues into account more fully. Hence we believe that it is our responsibility to work alongside the initiatives with the greatest legitimacy, such as the Carbon Disclosure Project. This commitment is in line with our contribution to the IIGCC (the Institutional Investors Group on Climate Change) in defining a reporting framework for the utilities sector, which is now embedded in the CDP. In this report, our team of analysts has endeavoured to extract the most value added out of corporate disclosures this year. We hope this effort will benefit the investment community, as well as the 300 companies under review, as they pursue their carbon reduction strategies.



François Simon,
Chairman and CEO, Crédit Agricole Cheuvreux

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Executive Summary

In light of key Copenhagen UNFCCC negotiations taking place at the end of this year, the first edition of the Europe 300 report brings some encouraging surprises, as European companies seem prepared to face carbon regulation and even tend to see it as bringing new business opportunities.

Disclosure improvements

The companies of the Europe 300 sample demonstrate high standards in disclosure quality and response rate.

The response rate for the Europe 300 reaches 82%, whereas other regional indexes such as US S&P 500 and Japan 500 achieve rates of respectively 66% and 37%. Disclosure of greenhouse gas emissions (Scopes 1 + 2) is also among the highest of all CDP samples, and maybe more importantly, reported European emissions figures are twice as likely to be externally verified than the overall CDP average. The Europe 300 responding companies have a strong awareness of risks associated with climate change and have integrated this into their strategy. In relative terms, no other CDP sample reports more climate change risks than the Europe 300. 85% of companies have allocated responsibility for climate change issues at the Board level and 89% have set an emissions reduction plan/target.

Interestingly, most companies in the Europe 300 sample consider climate change regulation as creating opportunities. For instance, more than half of banks have seized the opportunity to create business with carbon markets. Although energy-intensive industries identify carbon leakage risk (relocation) due to the Emissions Trading Schemes, the use of sector benchmarks for allocation of free CO₂ rights post-2012 has lessened fears, in the building materials sector for instance.

From disclosure to performance

Secondly, with regards to performance, emissions reduction plans reveal encouraging signs and proactive plans for investment in low-carbon and energy efficiency measures. The aggregation of 208 European companies' reduction targets points to a 2.2% average annual improvement in carbon-intensity, mostly as a result of the Utilities sector commitments. Although this figure seems too low to achieve the EU target to cut absolute emissions by 1% to 1.8% in average p.a. by 2020, we believe there is an upside potential if U.N. climate talks bring more visibility on post-2012 climate policy (which many companies call for), as companies might then revise their reduction targets upwards.

Action plans are backed by substantial investments: 54 responding companies report intended investments of a total of almost EUR100 billion in the coming years, aiming to reduce the companies' individual carbon intensity. Among energy-intensive sectors, the financial effort is the greatest for sectors with the most aggressive reduction targets: Transportation and Utilities, which plan to invest more than one year of EBITDA (2008).

Although energy efficiency is the most commonly mentioned mitigation lever (~50% mention energy efficiency/reduction as a mitigation action), the greatest share (>EUR 50 billion) of identified investments will be directed toward low carbon solutions (e.g. wind, nuclear, CCS¹, etc). Among renewable energies, solar energy is the technology the most frequently quoted by companies (47 examples) and the planned power generation capacities of 5 utility companies point to a 87% Compound Annual Growth Rate (CAGR*) by 2012 for solar power capacity, compared to +23% for biomass CHP² and +24% for wind.

Scope 3 emissions: The next challenge

Although this Europe 300 edition allows for some optimism, there are still further improvements to be achieved to allow for a comprehensive and specific analysis of climate change-related risks borne by different economic sectors. Indirect carbon risk may be poorly identified, as suggested by low disclosure rates for Scope 3 emissions (which often lack common methodologies). Low disclosure of forecasted future emissions and investments planned to support mitigation action plans, combined with a lack of historical figures on sector specific key performance indicators (KPIs), often prevent accurate analysis of achievements against stated emissions reduction targets, and intra-sector comparisons.

1 CCS: Carbon Capture & Storage

2 CHP: Combined Heat & Power

2

Overview of CDP

The turmoil in the financial markets and the global economy over the last year has highlighted the importance of effective disclosure and high-quality risk management. The financial crisis of 2008 suggests we need to better understand systemic risks that can cause significant de-stabilising impacts in the global economy. Climate change has the potential to cause disruption in the form of unforeseen, high-impact events (such as extreme weather) as well as a longer term re-assignment of value across countries, industries and corporations.

The Intergovernmental Panel on Climate Change (IPCC) predicts that 'future climate impacts show that the consequences could vary from disruptive to catastrophic'¹. So it is vital that policymakers, companies and investors have a full understanding of the associated risks and opportunities. According to **HSBC** research², governments around the world have allocated US\$430 billion in fiscal stimulus to key climate change themes. Those providing the low carbon solutions are very well positioned to benefit, while those who ignore the risks gamble on being left behind.

By convening the collective power of the investment community, represented in 2009 by more than 475 investors, with US\$55 trillion in assets under management, CDP motivates more than 1800 companies globally to report their climate change strategies and greenhouse gas emissions. This global system provides the market, investors, policymakers and procurement directors with a clear understanding of how companies are positioned as we move towards a low carbon economy and ensures corporations provide full transparency on climate change.

This year has seen considerable growth in responses from emerging economies such as China, South Africa and Korea, and CDP expanded in Russia in 2009 where major companies such as **Gazprom** and **Novatek** reported. CDP's reach continues to grow with the launch of the first CDP Western Europe report, covering the largest 300 European listed companies, as well as expansion into countries within Central and Eastern Europe. CDP has also opened new offices in Germany and Brazil, both key economies in the fight against climate change.

While the quantity and quality of data available has increased significantly, so has the use of the data, which is acting as a catalyst for changing business behavior. CDP data is increasingly being integrated into mainstream financial analysis, is available through Bloomberg Professional Services, and used to provide sector based analysis to CDP signatory members. A recent report produced by Mercer supports this view.

Some CDP signatories, such as **CalSTRS** are going a step further, using shareholder resolutions to encourage companies to report through CDP and implement climate change management strategies. We are also working with the Principles of Responsible Investment (PRI) to drive awareness and improve climate change reporting. CDP has recently entered a new partnership with financial information services company **Markit** to build a suite of indices based on the Carbon Disclosure Leadership Index, which will be licensed to exchange-traded fund (ETF) and structured product providers.

CDP now works with more than 55 organisations including **Dell**, **Unilever**, **Wal-Mart Stores** and departments of the British Government to measure and assess climate change risk and opportunity through the supply chain. More than 800 companies report their climate change strategies through the CDP system to their customers and as a result we have seen a significant increase in the use of CDP data in procurement operations. Now procurement professionals can understand how their supply chains may be impacted and as a result begin to future-proof their procurement systems against climate change.

The process of measuring emissions is central to emissions management and reduction. As regulatory frameworks develop to mandate emission reductions, CDP's role will expand. We will continue to work with corporations, policymakers and information users to produce practical and robust results that complement the development of mandatory reporting rules.

In order to continue to provide the global hub for carbon reporting, CDP is currently undergoing a significant systems upgrade, designed to improve data comparability, facilitate benchmarking services and ultimately deliver data that is appropriate for investment analysis and regulatory submissions. In countries like the US and UK, where mandatory carbon reporting is on the horizon, CDP's systems will help companies prepare for such requirements and will eventually integrate with existing national registries to enable corporations to disclose more detailed and standardised data. Climate change is a global problem which requires a global solution, and by bridging the gaps between national governments and international businesses across the globe, CDP will help to connect the national and international climate change ecosystem.

¹ http://unfccc.int/essential_background/feeling_the_heat/items/2905.php

² HSBC Global Research: A Climate for Recovery The colour of stimulus goes green.

Table 1: Key trends snapshot³

This table outlines some of the key findings from CDP 2009 by geography and industry data-set.⁴

Sample: geography/ number of companies	% of sample answering CDP 2009	% of sample answering CDP6 (2008) ⁵	% of responders with Board level responsibility for climate change	% of responders seeing regulatory risks	% of responders seeing regulatory opportunities	% of responders seeing physical risk	% of responders seeing physical opportunities	% of responders disclosing Scope 1 emissions	% of responders disclosing Scope 2 emissions	% of responders externally verifying emissions disclosures	% of responders engaged/considering participation in emissions trading	% of responders with an emissions reduction/energy reduction plan	% of responders engaging with policy- makers on climate change
Asia-ex JICK 100 ⁶	31	[35]	76	55	76	66	55	66	69	31	17	59	62
Australia 200	52	48	80	79	81	82	56	81	83	46	50	67	73
Brazil 80	76	[83]	49	61	73	73	53	61	55	22	25	61	49
Canada 200	49	55	70	57	68	56	46	81	76	27	34	49	61
Central & Eastern Europe 100	8	-	75	50	50	75	25	75	25	75	50	100	50
China 100	10	5	56	67	78	67	44	22	22	22	11	67	44
Europe 300	82	-	85	80	90	75	63	91	85	77	58	89	79
France 120	58	63	77	69	84	66	61	79	77	63	47	81	66
Germany 200	51	55	65	58	70	44	47	63	57	45	33	63	55
Global 500	81	77	80	78	84	78	63	85	80	63	54	80	74
Global Electric Utility 250	49	52	71	79	84	75	62	81	50	61	57	60	77
Global Transport 100	67	58	84	81	84	79	50	79	68	50	43	72	74
India 200	18	19	52	14	66	62	48	48	48	17	17	55	38
Ireland 40	33	-	71	71	71	64	43	71	50	50	43	57	43
Italy 60	35	[46]	52	67	86	67	48	81	62	71	33	67	57
Japan 500	37	[72]	85	87	83	80	64	77	72	33	90	49	49
Korea 100	50	[32]	61	67	76	69	57	55	55	33	35	63	55
Latin America 50	50	[52]	58	79	79	58	47	79	68	37	26	47	58
Netherlands 50	62	52	97	74	90	65	61	90	90	58	42	81	71
New Zealand 50	52	50	65	69	77	69	65	58	54	35	27	58	54
Nordic 200	65	[58]	77	76	81	63	54	83	77	46	33	78	59
Portugal 20	38	-	75	88	75	88	63	100	88	88	25	63	75
Russia 50	13	-	33	0	33	33	33	33	33	0	33	33	33
South Africa 100	68	58	86	73	86	89	68	83	86	38	33	68	65
Spain 85	41	[71]	80	66	77	63	54	91	83	86	34	80	74
Switzerland 100	56	57	74	44	72	48	48	72	67	35	19	65	43
UK FTSE 100	95	90	83	89	91	83	66	98	95	73	77	88	79
UK FTSE 250	57	58	79	78	76	72	53	81	80	36	43	61	49
US S&P 500	66	64	68	70	77	70	52	77	74	41	31	65	61

³ The numbers in this table are based on the total respondents at 10th July 2009. They may therefore vary from numbers in the rest of the report which are based on the number of companies who responded on time (e.g. 30th June for Global 500).

⁴ In some cases, the number of responses analyzed is slightly less than the number answering CDP 2009 due to takeovers, mergers and acquisitions.

⁵ Percentages in square brackets reflect a different sized sample in 2008, e.g.: in 2008 we wrote to 75 companies in Brazil, not 80; and in Japan we wrote to 150 companies in 2008, not 500. A dash (-) shows that sample was not in CDP6 (2008).

⁶ Asia excluding Japan, India, China and Korea.

Highlights in carbon regulation and outlook for Copenhagen

2009 has witnessed significant progress in the global approach to climate change. The Obama administration has introduced a new era in climate change policy in the US and, as a result, a global deal in Copenhagen this December appears more tangible. China, so integral to the success of Copenhagen, is set to meet ambitious renewable energy and energy efficiency targets and hosts some of the world's largest renewable energy companies. Brazil entered the new year with a new National Plan on Climate Change and national governments in industrialised countries including Japan and Australia are introducing new legislation to reduce emissions.

Whilst the July G8 meeting agreed to prevent global temperatures rising beyond 2° Celsius (3°-4° Fahrenheit) against pre-industrial levels, and agreed on aims to cut greenhouse gas emissions by between 50 and 80% by mid-century they disappointed many by ducking the issue of medium term targets. Although the multilateral architecture still needs work, there is much to report on at a regional level.

In Europe, the Energy and Climate Change package was approved in December 2008 which sets out the policy framework and accompanying measures to reduce emissions through the continuation (and expansion) of the EU Emissions Trading Scheme (EU ETS); targets for non-ETS sectors and new targets for the promotion of renewable energy.

In the US, the Obama administration moved early to set out its ambitions around climate change mitigation: "We will harness the sun and the winds and the soil to fuel our cars and run our factories."

The Waxman-Markey bill was finally put before the House of Representatives in June and passed by a narrow margin. The proposed legislation would commit the US to reduce greenhouse gas emissions by 17% below 2005 levels by 2020 through a cap-and-trade

system beginning in 2012. The bill will pass through various Senate Committees where amendments will be debated, before being put to a vote, most likely in October.

In Australia, further work has progressed on the detail of the Carbon Pollution Reduction Scheme (CPRS) despite political challenges over possible competitive impacts in the face of the economic downturn. The Scheme, which would cover around 75% of total Australian emissions, is due to face a key vote later this year.

Given the multinational nature of many companies, the evolution of these policies is likely to have significant implications on strategic direction and operations and many of the world's largest companies want to seize early mover advantage.

Of course, the role of government is crucial in providing the regulatory frameworks. But investors and businesses will also play an essential role by driving capital flows towards the technologies which will allow economies to flourish and innovation to thrive as we transition to a low carbon economy.

Already these same investors and businesses are being directly affected by climate change. Many companies report to CDP the material impacts of climate change on their operations, through increased flooding, water shortage, spread of disease and changing local weather patterns. Within the public sector, cities reporting through CDP also explain how they are planning to adapt to changes in weather patterns such as extreme heat and extreme precipitation.

Investors, policymakers, procurement directors and other stakeholders need to build up the necessary comparable datasets in order to monitor and analyse changes; both in terms of the response to mitigation measures (such as carbon regulation) and adaptation policies and programmes. Integral to the success of the deal in Copenhagen will be the availability of this accurate reported data: if businesses don't measure current emissions now, it will be impossible for them to manage and reduce them in the future. This is where CDP's role is crucial.

Progress on reporting standards

While CDP has set the tone on matters of disclosure over the years and, for the first time this year, is now widening its approach to encompass performance, there are other valuable and complementary initiatives underway to address the clear requirement for the creation of a global carbon measurement and reporting system.

While the financial accounting system has taken several hundred years to develop, carbon accounting is in its infancy. In order to achieve a coherent global system CDP is leading the work of the Climate Disclosure Standards Board (CDSB), working with **Deloitte, Ernst & Young, KPMG** and **PricewaterhouseCoopers** to develop robust accounting standards to enable carbon reporting through annual financial reports. CDP and CDSB will also work with the World Economic Forum to advise the G20 group of nations on climate change accounting in 2010.

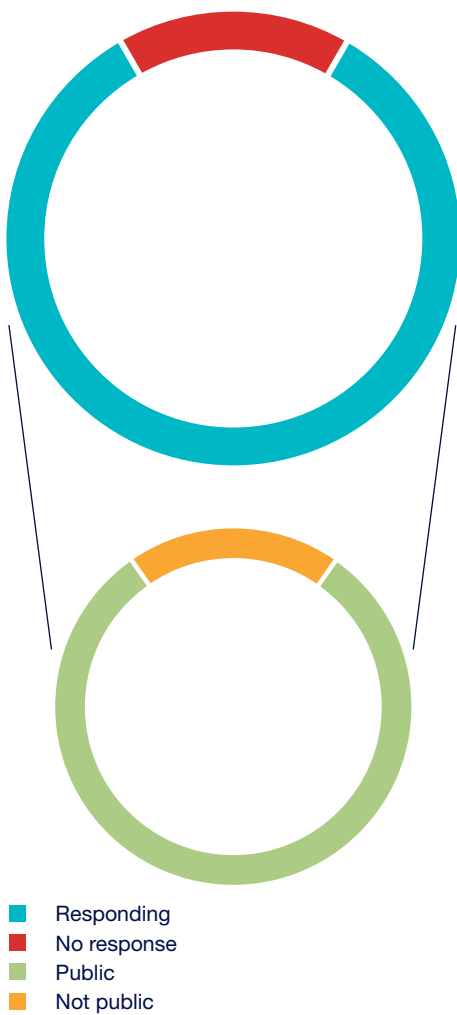
The CDP process demonstrates that corporations can lead the way in taking action that can be Measured, Reported & Verified (MRV). It also shows how international companies can reduce their emissions across the entirety of their operations on a global basis, even when subject to a range of different regulatory requirements. As more and more countries introduce climate change regulation, the CDP system supports companies by bridging the gap between international business and national reporting requirements and helps reduce the reporting burden on companies.

The CDP Global Forum was part of the inaugural Climate Week NYC, when business leaders, heads of state and the world's major investors congregate in New York to prepare for negotiations at COP15. An agreement there will be a vital step towards success, but it is just as important to look beyond Copenhagen and to build the global systems required to combat dangerous climate change. CDP remains focused on and dedicated to this work and thanks all of the organisations that work together to help realise this goal.

3

Analysis of responses and CDLI scores

Figure 1: Response status of Europe 300 companies

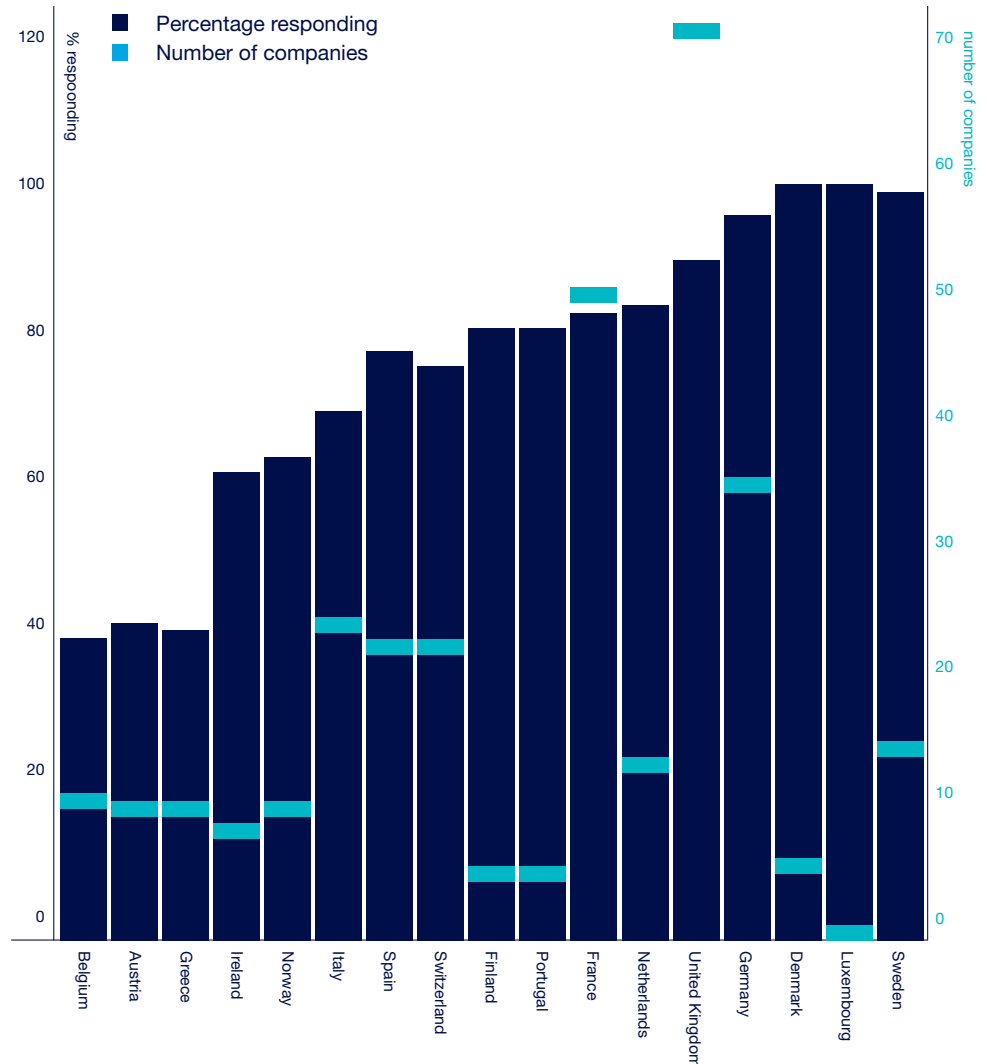


Response rate reaches 82%

The first CDP Europe 300 report had a high response rate. 247 companies provided an answer to the CDP 2009 questionnaire, with a response rate of 82% – the joint highest response rate (with Global 500) among CDP samples this year.

The highest response rates (>90%) came from countries like Sweden, Denmark, Germany and the U.K where CDP has been active for several years. Country seems to be a more important factor than sector bias in understanding answer rates.

Figure 2: Percentage of respondents by country



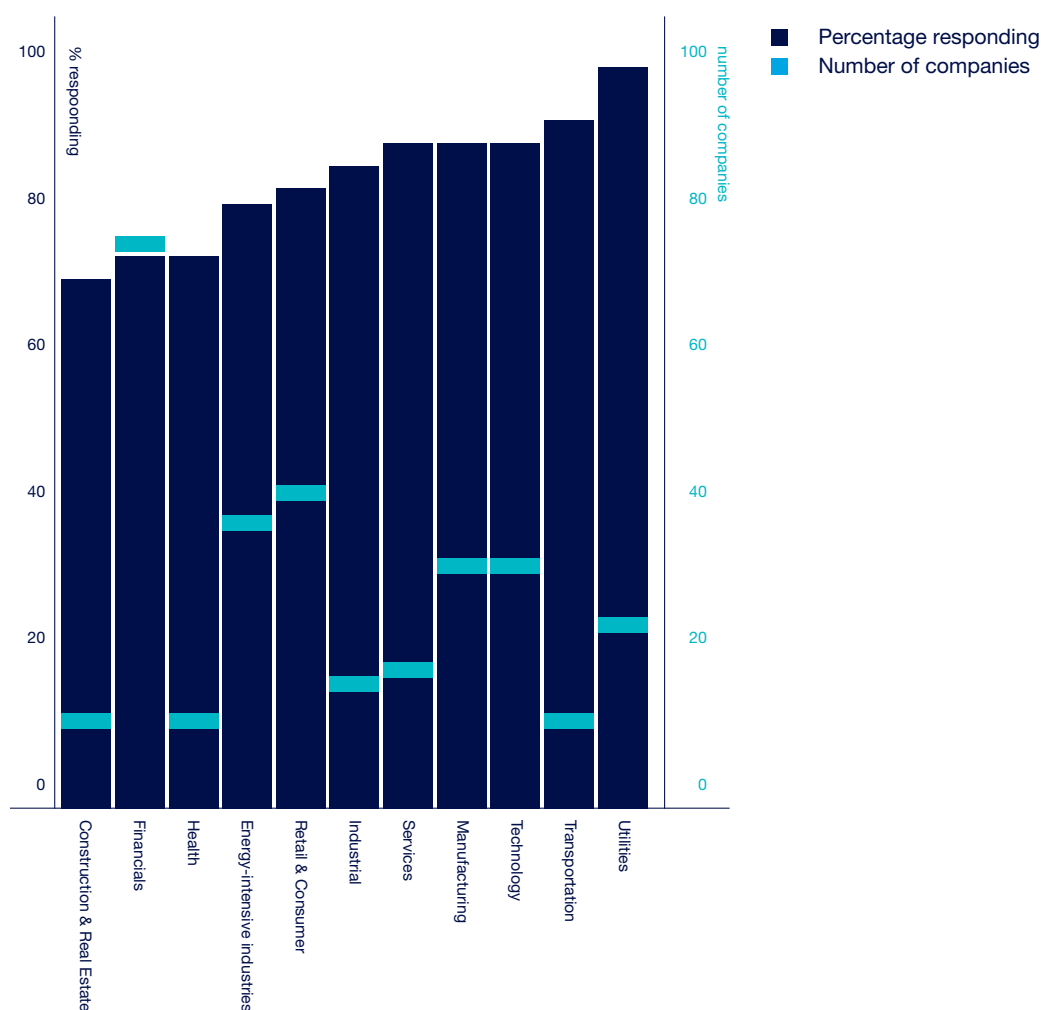
16 companies responded to the CDP questionnaire for the first time in 2009, and achieved good or above average disclosure, as measured by the CDP Carbon Disclosure Leadership Index (CDLI) Methodology. The CDLI scores of the new respondents ranged from 44 to 72 points. However, the majority of these companies did not respond publicly.

Three Portuguese, two Greek and one Belgian companies responded to the questionnaire for the first time this year as members of the Europe 300 sample; four of these companies made non-public responses; two made public responses and Banco Espírito Santo achieved a CDLI score (72) above its sector average.

Table 1: CDLI scores for new respondents to CDP

Company Name	Country	CDP 2009	CDLI Score
Banco Comercial Português BCP	Portugal	AQ	46
Banco Espírito Santo BES	Portugal	AQ	72
Belgacom	Belgium	AQ	44
Coca-Cola Hellenic	Greece	AQ	65
EFG Eurobank Ergasias Bank	Greece	AQ	46
Portugal Telecom	Portugal	AQ	49

Figure 3: Percentage of respondents by sector



Another group of new entrants is made up of ten companies which had previously declined to participate, or did not fully answer the questionnaire (see Table 2). A.P. Moller – Maersk, a new entrant in the CDLI rankings, achieved a score well above the Europe 300 average in 2009.

Top six non-disclosing companies by market capitalisation

Among the largest non-responding companies, we find: British American Tobacco, Criteria Caixa Corp., Hermes International, Galp Energia, Eurasian Natural Resources and Christian Dior.

The Europe 300 Carbon Disclosure Leadership Index 2009

An introduction to the CDLI 2009

All companies in the Europe 300 that responded on time to CDP in 2009 have been scored on the quality of their disclosure using a standardised methodology developed by CDP and PricewaterhouseCoopers LLP (PwC): see www.cdproject.net

The Europe 300 Carbon Disclosure Leadership Index 2009 includes the top scoring 10% of the Europe 300: 30 companies in total.

The CDLI 2009 is based on disclosure and companies are ranked by their disclosure score alone. Although a section on performance scores was included in this year's CDLI methodology, it was not taken into account in compiling the CDLI for this year. However, performance scores are likely to become integrated into CDLI scoring in the near future.

Eligibility for inclusion in the Europe 300 CDLI in 2009 depended on the following conditions being satisfied:

- The company must score in the highest 10% of companies overall (across all industries);
- The response must be publicly available;
- The response must have been submitted using CDP's Online Response System.

Table 2: Previous non-responders* who answered in 2009

Company Name	Country	CDP 2009	CDP 2008	CDLI Score
A.P. Moller - Maersk	Denmark	AQ	DP	67
ACS Actividades de Construcción y Servicios	Spain	AQ	IN	59
Antofagasta	UK	AQ	NR	60
Atlantia	Italy	AQ	NR	57
Kuehne + Nagel International	Switzerland	AQ	NR	50
MAPFRE	Spain	AQ	NR	59
Porsche AG	Germany	AQ	NR	53
Saipem	Italy	AQ	NR	47
Royal Ahold	Netherlands	AQ	IN	45
Unibail-Rodamco	France	AQ	DP	53

* Non-responders are companies who did not complete the questionnaire.

Table 3: The Europe 300 CDLI 2009

Company	CDLI Score
Bayer	95
BASF	94
HSBC	92
Carnival	87
Rio Tinto	87
PSA	86
Union Fenosa	86
Siemens	85
Centrica	84
Lafarge	84
Allianz	83
RWE	83
BHP Billiton	82
Total	81
Aviva	80
Lloyds Banking	80
Reckitt Benckiser	80
Renault	80
BMW	79
DSM	79
Fortum	79
GlaxoSmithKline	79
Nokia	78
Scottish & Southern Energy	78
VINCI	78
RBS	77
Vestas	77
Reed Elsevier	76
Scania	76
Veolia Environnement	76

Public availability of responses: the flip side of high response rates

Although 82% of companies responded, almost a quarter of them (23%) did not respond publicly. While public responses are available for download from www.cdproject.net, non-public responses are exclusively available to CDP signatory investors.

For example, Sweden and Germany had a high proportion of non-public responses (respectively 43% and 36%) although more than 90% of companies from those countries responded. This can be seen as the flip side of high response rates.

All public responses from companies to CDP are available to download from www.cdproject.net

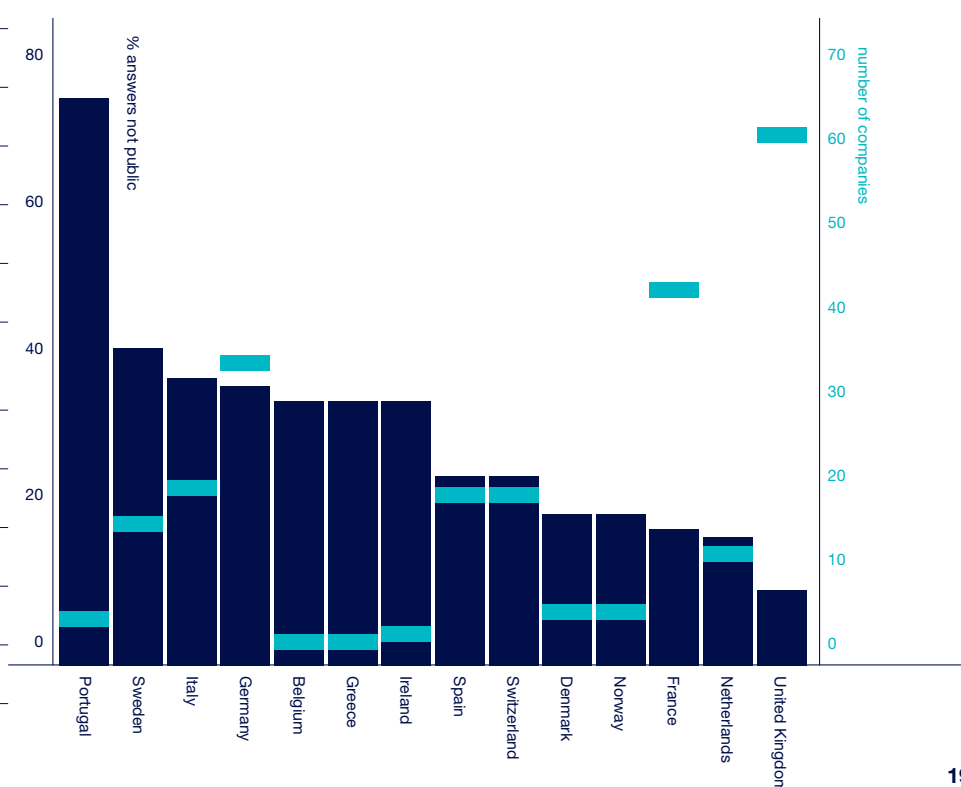
Figure 4: Public availability of answers by location of companies

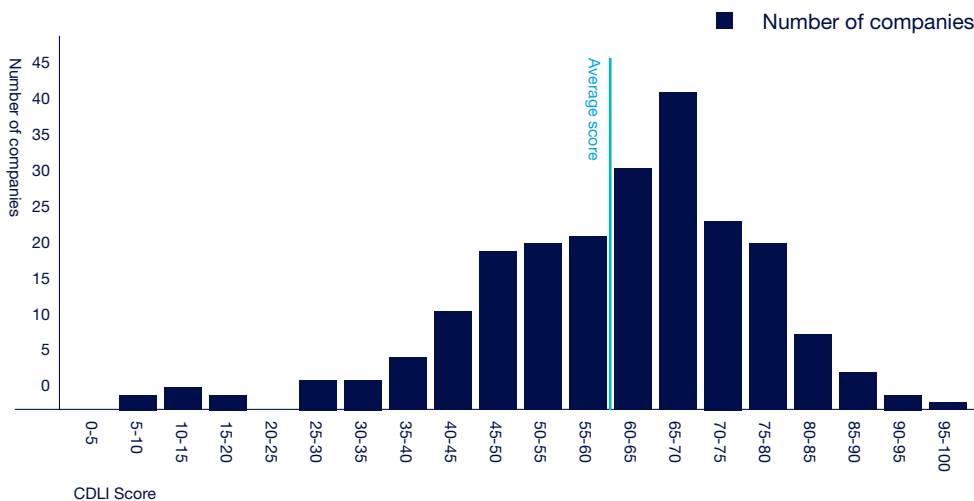
Table 4: General statistics on CDLI scores

Average CDLI score Europe 300	60
Median	62
Max score	95
Min score	7
% of respondents Euro 300	82%
- % of responding Scope 1	88%
- % of responding Scope 2	83%
- % for Scope 3: Employee business travel	61%
- % for Scope 3: External distribution/logistics	31%
- % for Scope 3: Use/disposal of company's products and services	31%
- % for Scope 3: Company supply chain	22%

Overview of results of CDLI scores

CDLI scores achieved by Europe 300 respondents ranged between 7 and 95, with an average score of 60. With regards to the disclosure of greenhouse gas emissions, 88% of companies reported their Scope 1 (direct) GHG emissions and 83% reported their Scope 2 (indirect) emissions.

Far fewer companies reported Scope 3 emissions. The definition of Scope 3 was divided into five different sub-headings: employee business travel (disclosed by 61% of responding companies), external distribution/logistics (31%), use/disposal of products and services (31%), corporate supply chain (22%) and 'other' (6%).

Figure 5: Breakdown of CDLI scores

Does size matter?

The size of companies can create a bias in ESG (Environment, Social and Governance) scoring, as companies with higher market capitalisation tend to have more resources including dedicated teams for external communication on sustainability issues.

Although the five largest companies by market capitalisation all have above average CDLI scores, statistical analysis fails to demonstrate any systematic link between the size of the company and its CDLI score. Applied at a sector level, the results are the same.

Nevertheless, only two companies with market capitalisation above 15 billion EUR achieved a CDLI score below 50. Size also seems to be important for the overall response rate: only 6% of the largest 150 companies by market capitalisation did not respond to CDP.

Does company location affect CDLI score?

Companies face differing disclosure requirements on sustainability issues depending on the country where they are listed, and may additionally face tougher climate policies in their home country, thus raising their level of consciousness about climate change. Therefore, we might expect to see disclosure trends at national level.

However, there is little evidence of a significant country bias in the Europe 300 sample. If we exclude countries with less than five companies in the sample, average scores by country range between 56 (Italy) and 64 (UK). Denmark, represented with five companies, has an average score of 70 (see figure 8).

Figure 8: Responding companies by country with percentage response rate and average CDLI score

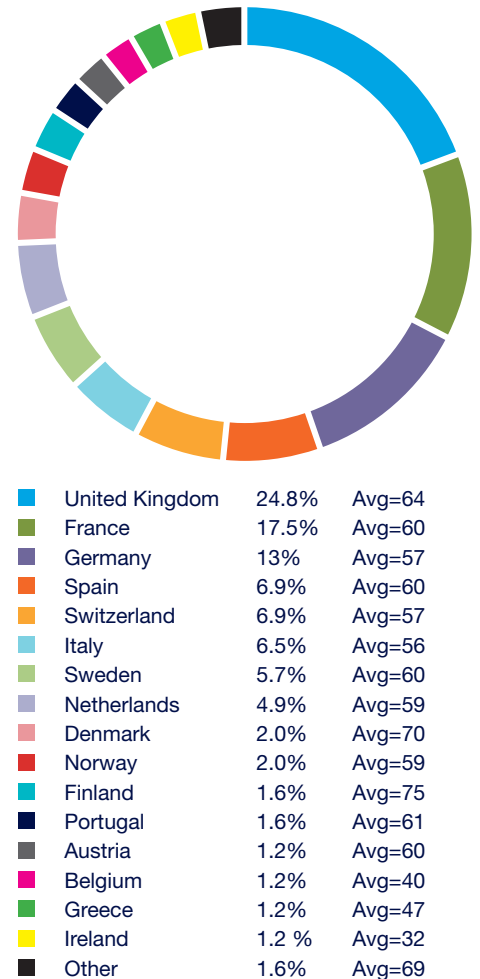
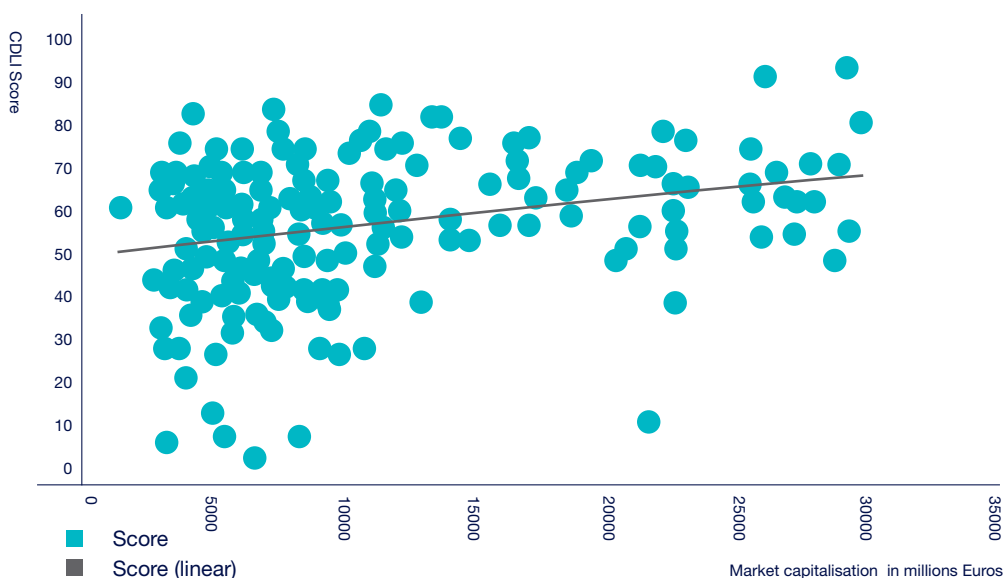


Figure 7: Statistical analysis: Size matters?



The Europe 300 sample largely outperforms other regional indices in terms of disclosure and governance standards.

As seen in figure 9, the Europe 300 sample has the highest share of companies with Board level responsibility for climate change (85% equal with Japan). It is also largely differentiated when it comes to setting emissions reduction plans (at 89%, with the Australia 200 sample in second place at 67%).

The same observation can be made concerning the reporting of Scope 1 & Scope 2 emissions (91%), and perhaps more importantly their external verification (77%; Australia is in second place again with 46%). Both Europe and Australia have mandatory emissions reporting requirements in place, which can explain the high levels of verification.

Figure 9: Climate change in group strategies

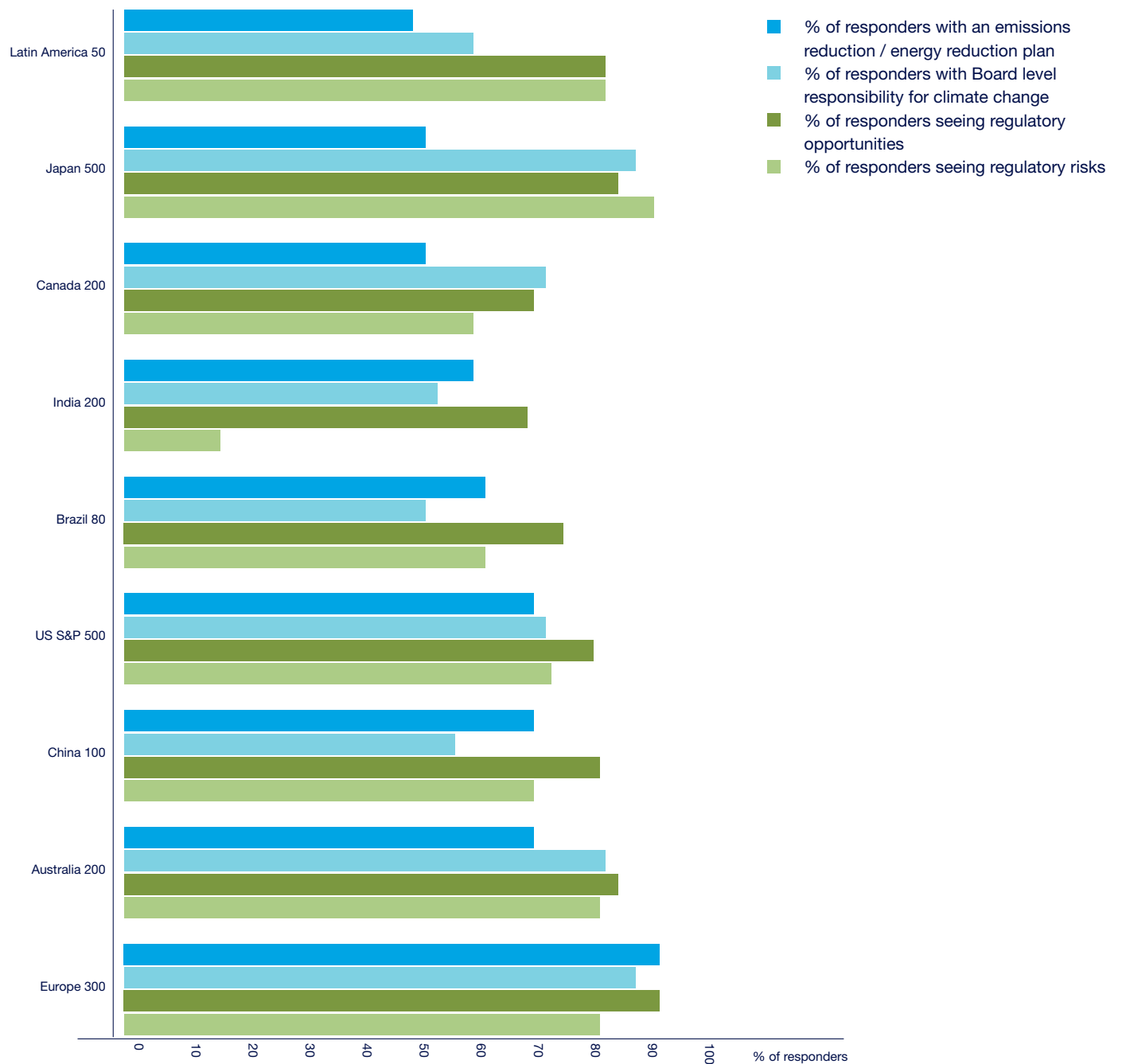


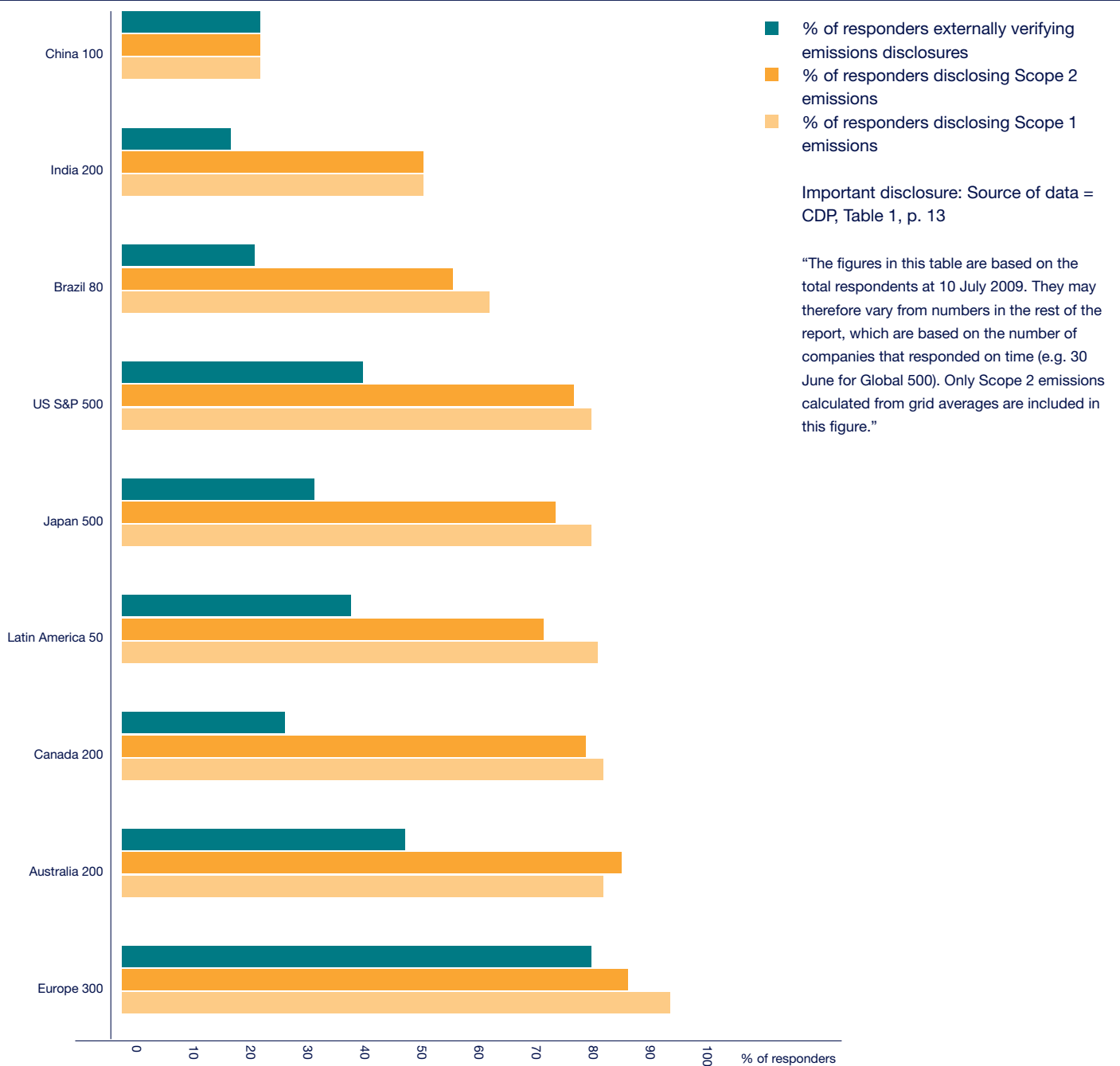
Figure 10: Monitoring and disclosure of emissions

Figure 11: Europe 300 2009
Responding companies by sector



Financials	24%
Retail and Consumer	14%
Energy-intensive Industries	11%
Manufacturing	11%
Technology	11%
Utilities	9%
Services	5%
Industrials	4%
Health	4%
Transportation	4%
Construction and Real Estate	3%

Carbon-intensive and comprehensive disclosure: is there a link?

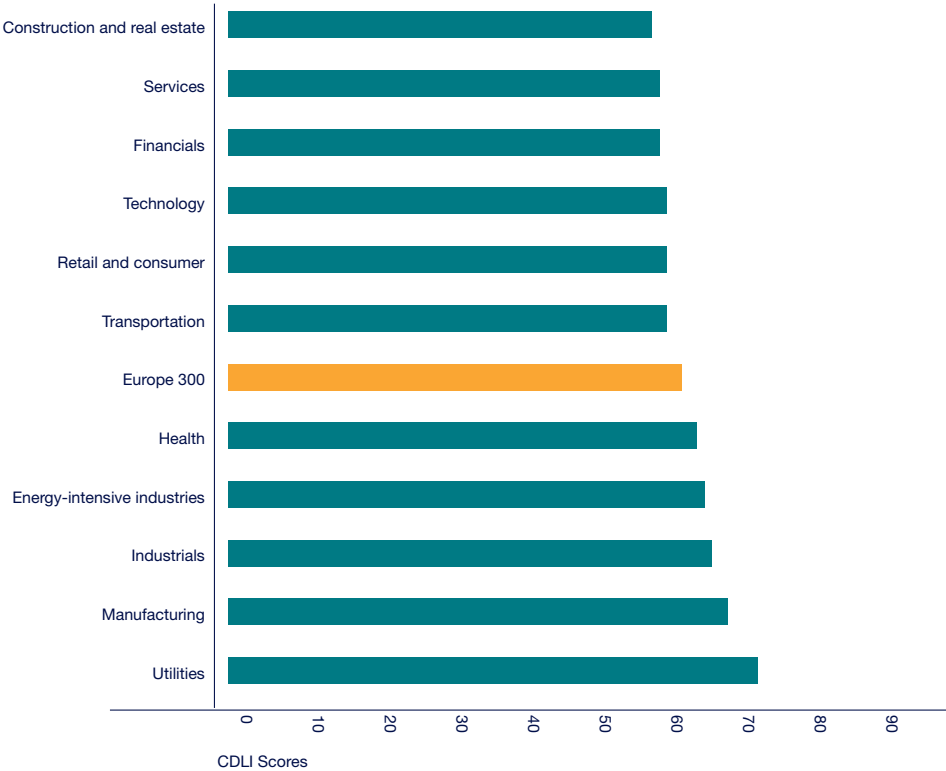
Figure 11 shows the CDP 2009 response rate for Europe 300 companies companies by sector.

Five sectors achieved median CDLI scores above the Europe 300 average, with the highest scoring sectors being Utilities, Manufacturing, Industrials, Energy intensive Industries, and Health.

Interestingly, three of these five top ranking sectors are large consumers of energy and emitters of greenhouse gases. This suggests the existence of a sector bias, as the climate change issue is of greater concern for carbon-intensive businesses and/or the CDP questionnaire better applies to their management of carbon issues.

Qualitatively, a correlation can be found between the carbon-intensity (Scope 1+2 emissions / EBITDA) of sectors and their average CDLI score. However, it is clear from figure 12 that this relationship does not appear to be true for some sectors.

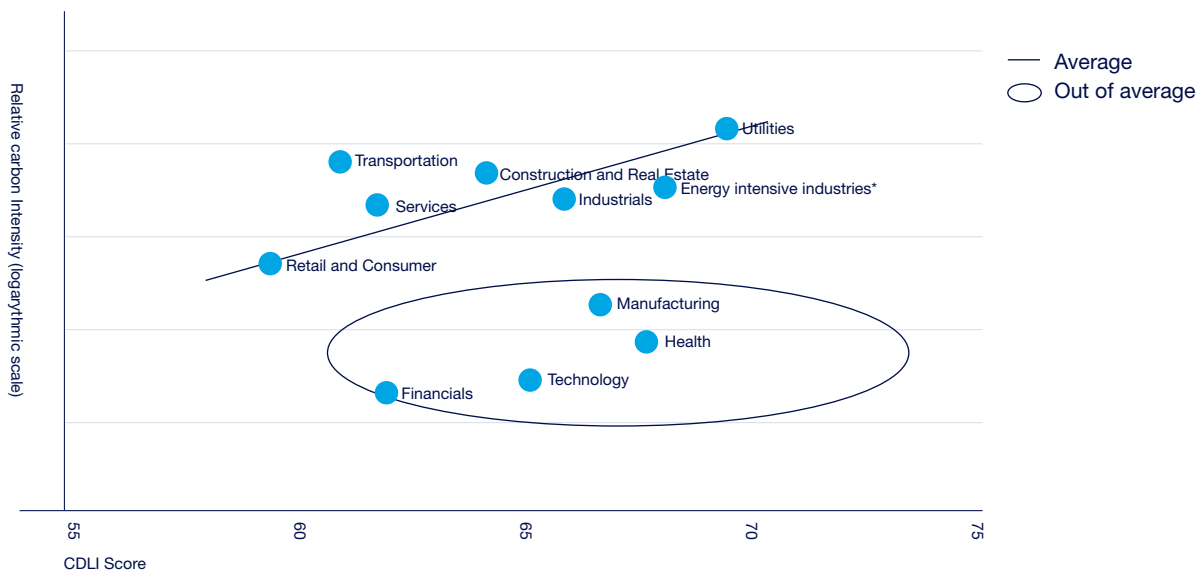
Figure 12: Median CDLI scores by sector



The fact that these sectors do not follow the general pattern can be explained by the fact that Scope 1 and Scope 2 alone fail to capture their entire exposure to climate change risk. Some sectors for instance such as Manufacturing (incl. Capital Goods, Auto) have a high overall carbon footprint through the product they sell.

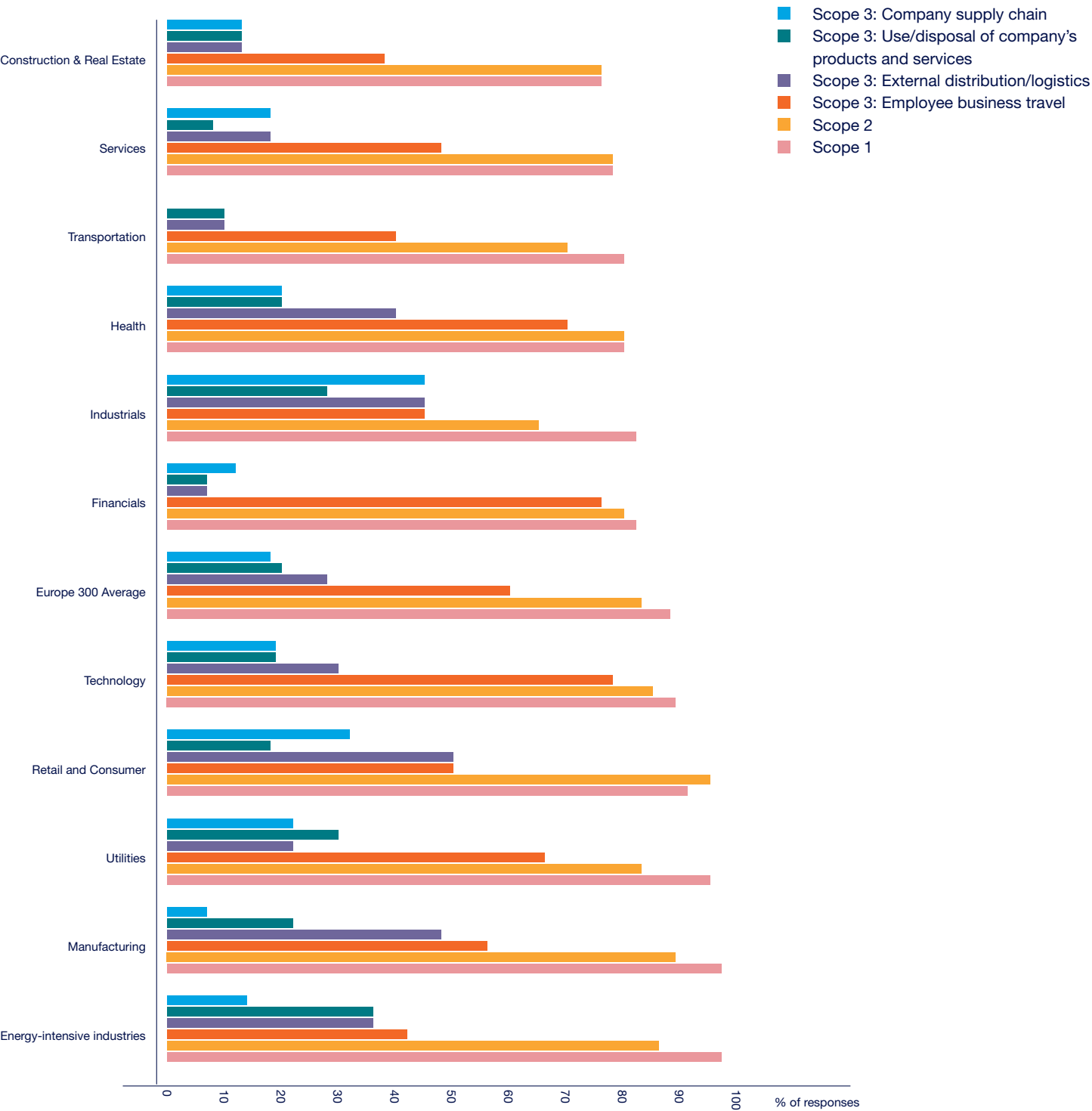
Integrating Scope 3 emissions into the calculation of carbon-intensity (relative to EBITDA) may lead to further conclusions. However, as summarised in figure 13, the disclosure of Scope 3 emissions remain too weak (lack of data, and various methodologies used) to perform such an analysis.

Figure 13: Looking into a link between carbon-intensity and CDLI scores



* Energy intensive industries includes subsectors Metals & Mining, Building Materials, Oil & Gas, Paper Products

Figure 14: Scope 3 emissions reporting



CDLI Scores by section

The CDP 2009 questionnaire is made of four sections:

- Risks and opportunities
- GHG emissions accounting, verification and trading
- Performance (achieved reductions, reduction targets, investments)
- Governance

As highlighted in the charts figure 15 to figure 18, the Utilities sector ranks first or second in all four sections.

Figure 15: Risk & opportunities – Median CDLI scores by sector

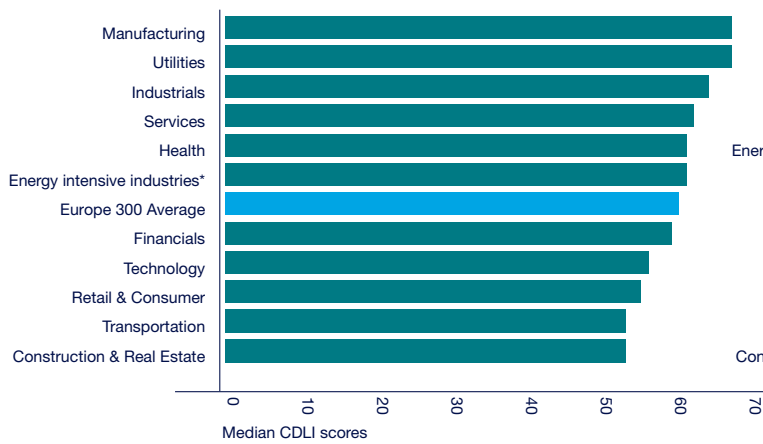


Figure 16a: GHG Emission accounting – Median CDLI scores by sector

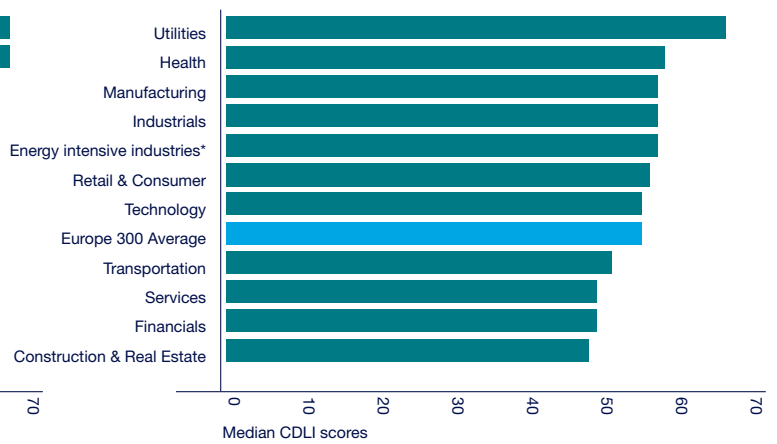


Figure 16b: Verification & trading – Median CDLI scores by sector

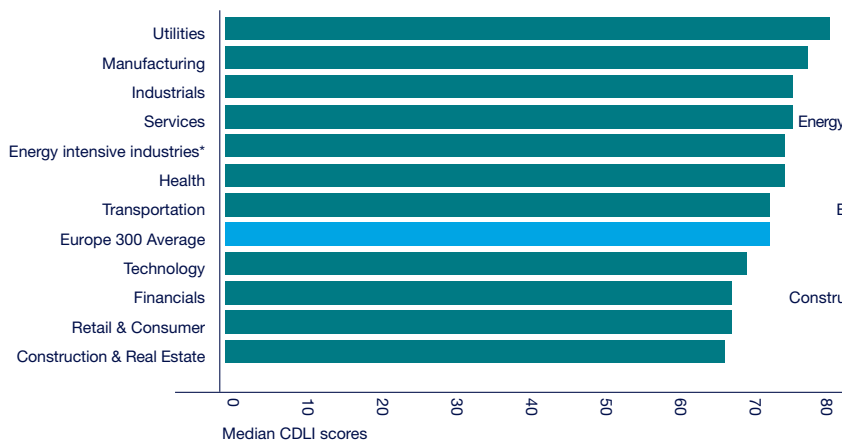


Figure 17: Performance – Median CDLI scores by sector

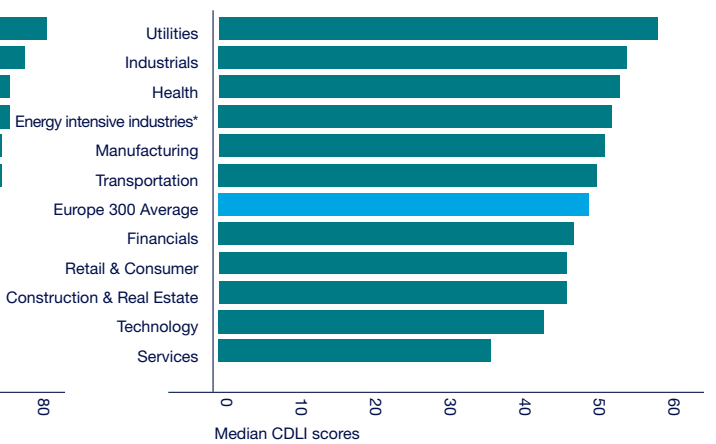


Figure 18: Governance – Median CDLI scores by sector



* Energy intensive industries includes subsectors Metals & Mining, Building Materials, Oil & Gas, Paper Products

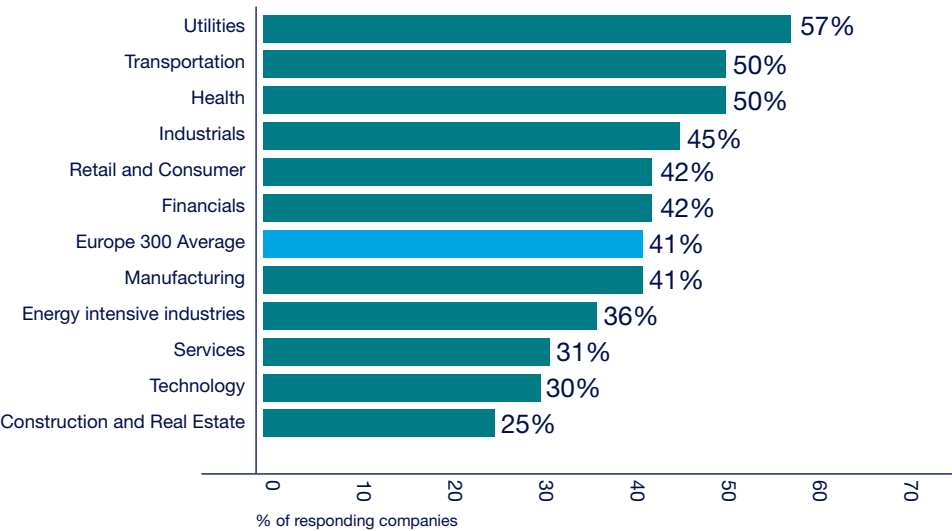
Future emissions and Governance

Disclosure of future emissions remains weak

Only 41% of companies disclose forecasts of their greenhouse gas emissions for future years. This ratio varies from 25% for Construction & Real Estate to 57% for Utilities. Reasons provided for not disclosing this data include uncertainty on future activity level, and the wish to protect commercially sensitive data. Some companies prefer to forecast a future intensity.

Only 22% of companies say that they made investments in order to achieve past emissions reductions. The percentage reporting their planned investments for future emission reductions is lower, at 19%.

Figure 19: Percentage of companies providing estimates of future emissions

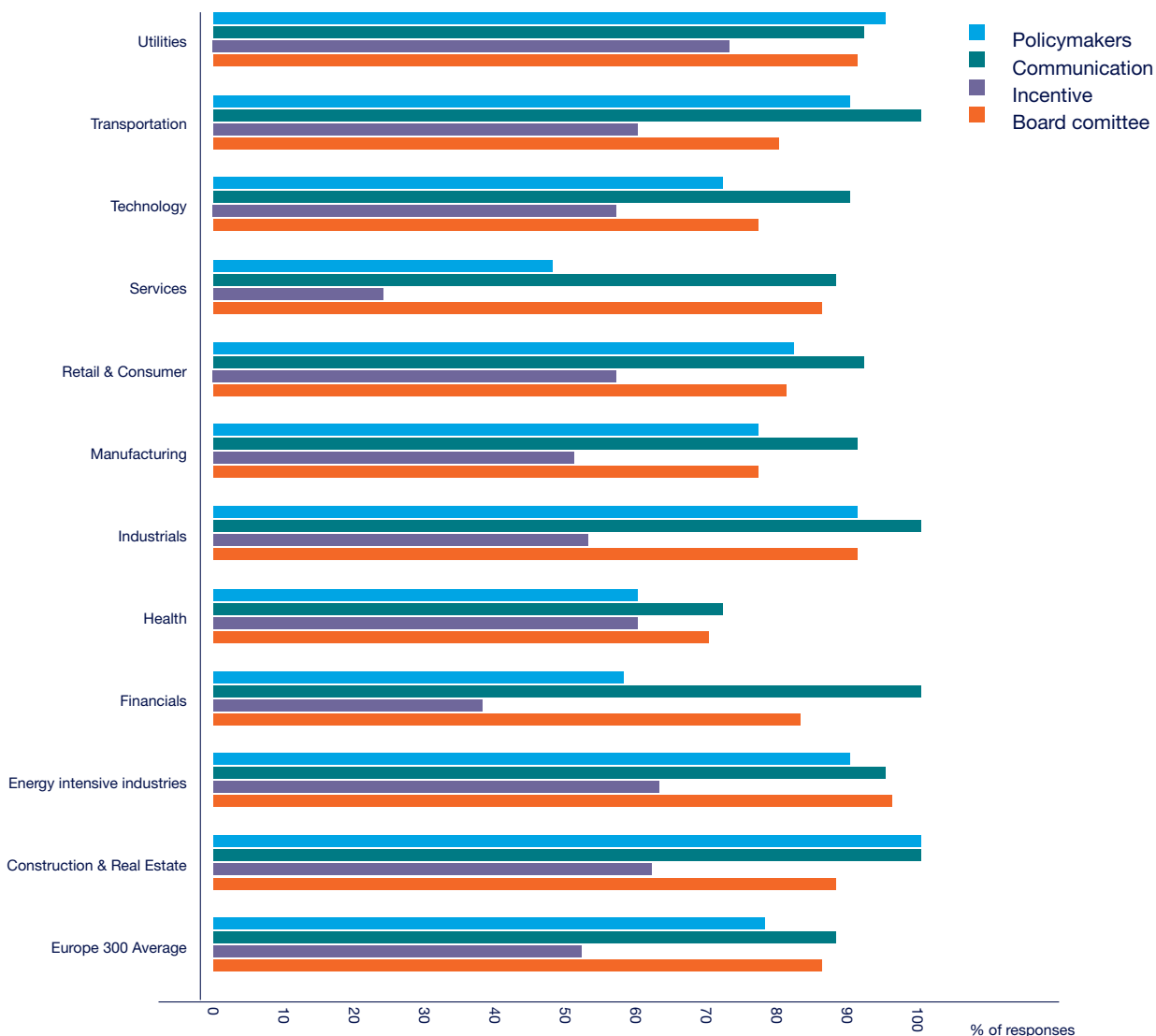


Governance

84% of companies have a Board-level committee or other executive body responsible for climate change. However, only 52% provide incentives for individual management of climate change issues including attainment of GHG targets.

78% are engaged with policymakers on possible responses to climate change including taxation, regulation and carbon trading. The Utilities, Industrials, and Construction/Real Estate tend to be the most involved.

Figure 20: Corporate governance indicators



4

Climate change policies: developments since CDP 2008

A global carbon footprint

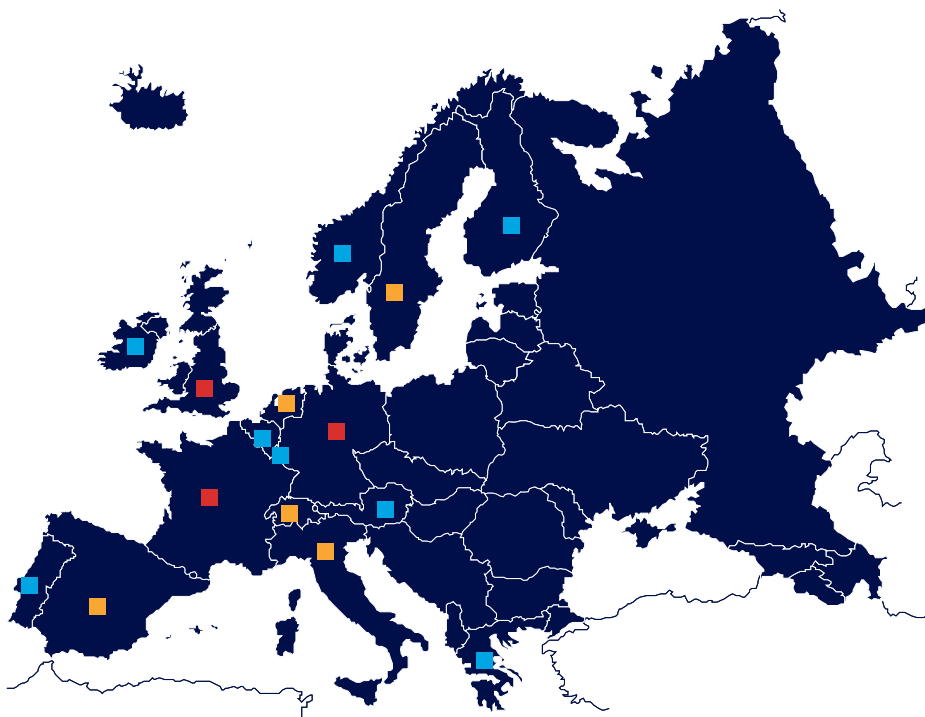
The 88% of companies that provided a figure for their direct (Scope 1) greenhouse gas emissions emitted more than two billion tonnes of CO₂e in 2008. This is equivalent to the quantity of CO₂ emissions regulated under the EU ETS. However, although Europe 300 groups are based in European countries their carbon footprint is global.

Responding companies emitted 2,026 mt CO₂e globally. Some companies, representing 69% of total reported emissions, provide a geographical breakdown of their emissions. These companies emitted:

- Less than 50% of their emissions in the EU-27 area, plus a further 12% elsewhere in Europe (undefined country or non-EU27)
- 10% was emitted in Asia
- 10% in North America.

Europe 300 groups are consequently exposed not only to EU climate policies, but also to the development of climate change policies across the globe. The following chapter summarises how climate regulations have evolved since CDP 2008.

Figure 21a: Europe 300 companies' home countries



Geographical repartition of answers

- 0-10 companies
- 10-20 companies
- >20 companies

% of respondents (by country)

Norway, 5: 63%
Sweden, 14: 100%
Finland, 4: 80%
Denmark, 5: 100%
Ireland, 3: 60%
UK, 61: 92%
Netherlands, 12: 86%
Germany, 33: 97%
Belgium, 3: 38%

Luxembourg, 1: 100%
Austria, 3: 43%
Switzerland, 17: 77%
France, 43: 84%
Italy, 16: 70%
Spain, 17: 77%
Portugal, 4: 80%
Greece, 3: 43%

Little progress made on the way to Copenhagen

The Kyoto Protocol commitment period will end in 2012. The Bali Road Map set in December 2007 set out a framework for a new agreement to be reached in Copenhagen in December 2009. The Road Map guides signatory countries of the United Nations Framework Convention on Climate Change (UNFCCC) to define a new plan to cope with climate change at an international level. This year a number of international meetings have been held to prepare for the final negotiation at Copenhagen.

Many companies are calling for harmonised carbon markets and for policies that will provide long-term visibility for investment decisions.

Main issues to be agreed

Reduction targets: The G8 has endorsed the 2°C limit for global warming but failed to set mid-term (2020) and long-term (2050) emissions reduction targets. Upcoming climate talks will have to establish burden-sharing between countries to achieve the 50% emission cut by 2050 recommended by the IPCC. The IPCC has suggested that industrialised countries will need to commit to a 25%

to 40% reduction by 2020, and that fast-developing economies will need to commit to a 15-30% emissions reduction from a business as usual scenario and to implement national carbon mitigation strategies.

So far in 2009 the ongoing climate negotiations have failed to make any serious advances. Developing countries criticise rich nations for making insufficient commitments, as the latter have failed to propose aggregated reduction targets higher than 10 to 16% by 2020 relative to 1990 levels. Negotiations are moving too slowly, and “If we continue at this rate, we are not going to make it”, according to Yvo de Boer, the Executive Secretary of the UNFCCC.

US – a new decisive player in the negotiation field? With the election of President Barack Obama in November 2008, the position of the US in international talks has radically changed in one year. The US has re-entered the talks with “energy and engagement” (Todd Stern, US Climate Change Envoy). President Obama’s election manifesto included a promise to cut back emissions to 1990 levels by 2020 (a 15% decrease from today). However this is not enough to meet IPCC targets as even including US action the emissions

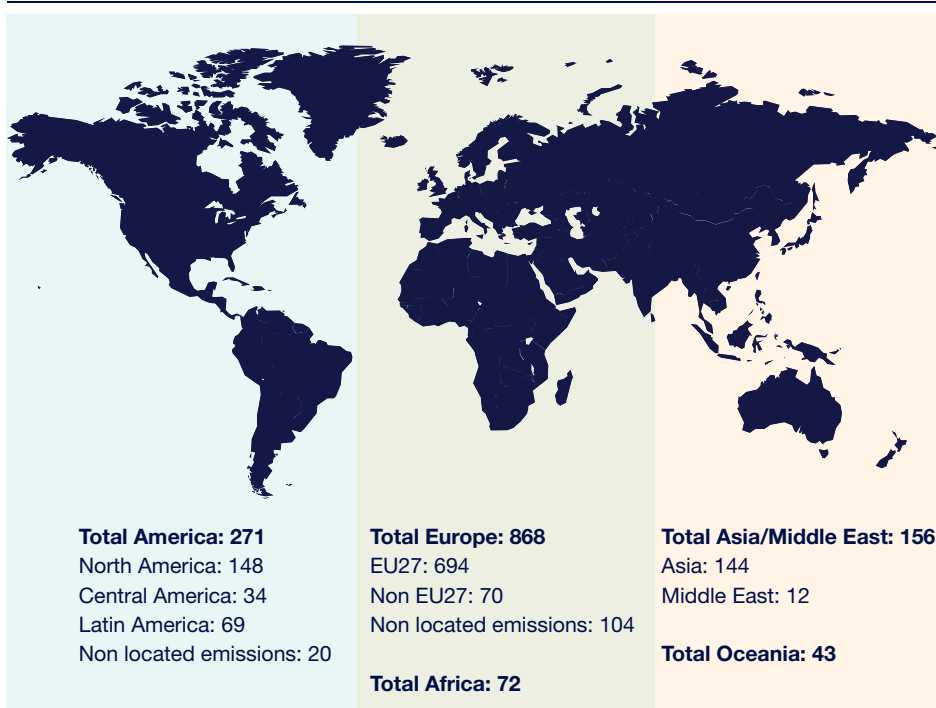
“As an increasing number of nations set up carbon trading schemes, the Copenhagen agreement should also step up efforts to link these schemes together and create a global carbon market.”

Unilever

“Recent investment research suggests that in a strong public policy action scenario, a global emissions trading scheme could make carbon the world’s largest commodity market by 2025 with a value of US\$4 trillion.”

Barclays

Figure 21b: Reported direct emissions by region, in mtCO₂e



“Veolia Environmental Services has an important CDM (Clean Development Mechanism) development activity. The future of these mechanisms after the end of the Kyoto Protocol, i.e after 2012, is still unclear. Project developers are waiting for a clear signal that will guarantee that there will be a successor to the Kyoto Protocol and that the project mechanisms (CDM and Joint Implementation) will be maintained. So far, questions arise regarding the value of emission reduction credits post-2012 and the duration of projects. Besides, there are potential threats resulting from the possibility of widening the number of countries committed, which would reduce CDM project opportunities in most advanced emerging countries becoming Annex I countries and hence imposing GHG caps.”

Veolia Environnement

reductions proposed by rich countries to date are only at 16% overall. In the US much depends on the success of domestic legislation, and the passing of a emissions-regulating climate bill in Congress.

Among developing countries, some like Brazil, Indonesia, Mexico, South Africa and South Korea have already moved forward in setting clear targets within their national climate change strategies.

Financing and technology transfer:

Another objective is the definition of conditions for technological and financial assistance from industrialised to developing countries for climate change mitigation and adaption actions. China asks rich countries

to dedicate 1% of their GDP to help developing countries to finance their climate change plans. A UN report has suggested a figure of US \$600bn. Developed countries have so far failed to commit to a concrete figure. The EU position includes the aim to reform current flexible mechanisms – the dedicated tool for transferring low-carbon technologies – in order to combine this scheme with sector agreements.

Specific issues: some specific issues such as defining schemes to avoid deforestation and the development of Carbon Capture & Storage technologies, or to regulate GHG emissions from airlines or shipping, are to be discussed.

Table 5: Emission objectives by 2020 proposed by Annex I countries*

	Emission limit targeted in 2020	vs. 2005	vs. 1990
Australia	396	-25%	-5%
Canada	577	-22%	-3%
EU-27	3900	-24%	-30%
Japan	1154	-15%	-9%
Russian Federation	2827	33%	-14%
Ukraine	738	73%	-20%
United States	5685	-20%	-7%
Total	15278	-12%	-16%

* If agreement or most ambitious

Source: CA Cheuvreux, UNFCCC

The EU has passed its Climate & Energy package

The EU heads of State passed the EU Climate & Energy legislative package in December 2008.

This set of Directives sets 3 key targets to be reached by 2020:

- 20% reduction in greenhouse gas emissions (mandatory)
- 20% of renewable energy in the energy mix (mandatory), and
- 20% increase in energy efficiency (indicative)

20% cut in GHG emissions compared with 1990 levels: Sectors regulated under the EU ETS have to reduce emissions by 21% by 2020 compared to 2005 levels, whereas a 10% cut has been imposed on other sectors. The revision of the EU ETS includes: 1) an expansion of the scope to include non-CO₂ greenhouse gases such as N₂O and F-gases, and new sectors such as Aluminium, and Petrochemicals; 2) limited access to offset credits for EU companies; 3) new allocation rules for sectors with a planned phase-in of CO₂ rights auctioning.

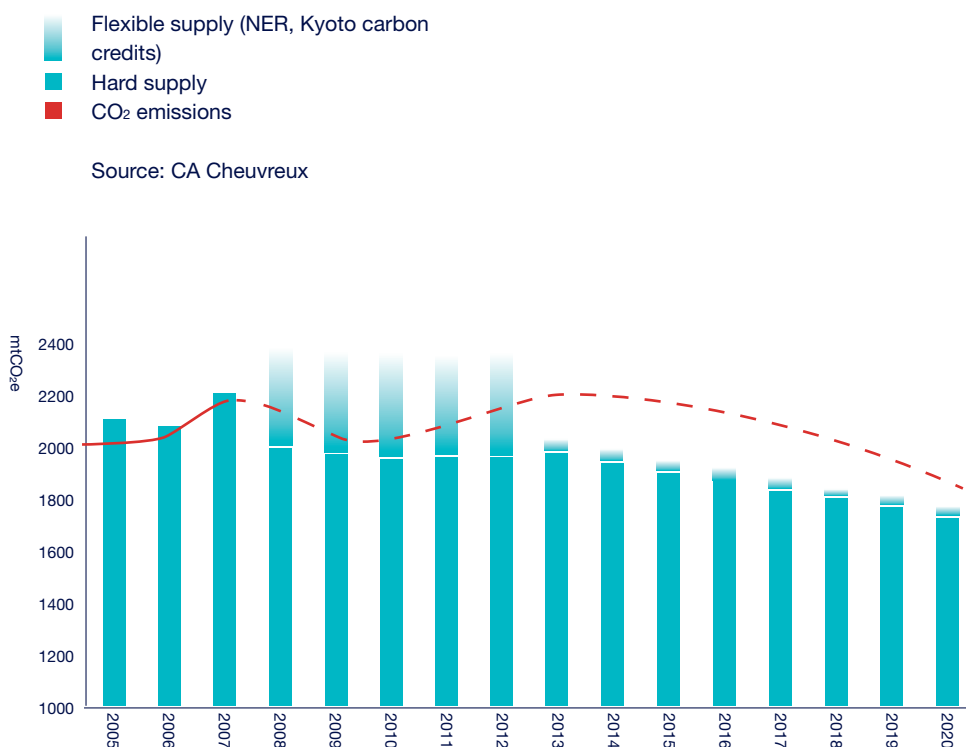
Airlines: In July 2008, EU MPs approved the inclusion of airlines into the EU ETS from 2012 onwards. The cap will initially be set at 3% under 2004-2006 emission levels, and 15% of CO₂ rights will be auctioned. All airlines which operate flights departing or landing in Europe will be affected by the scheme. The sector is likely to be short of CO₂ rights (~55 m CO₂ rights in 2012 – CA Cheuvreux estimate).

Carbon Capture & Storage: 300 million tonnes of EU CO₂ rights will be set aside to help the funding of carbon capture & storage technologies development programmes including the selection of 12 demonstration projects by 2020.

“For 2020, the EU has targeted a 20% reduction of greenhouse gas (GHG) emissions compared with its 1990 level. In the past, Bayer benefited from free allowances within phase I of the EU ETS and had no additional costs for its direct emissions. Indirect costs amounted to less than 1% of Bayer’s 2008 EBITDA. In the third trading period of the EU ETS starting in 2013, Bayer will be required to purchase certificates for 100% of its emissions resulting from electricity generation and for 20% of emissions resulting from steam generation. At the same time, the cost of allowances is expected to rise as demand increases and the amount of allowances available on the market decreases. Starting with phase III, the EU ETS system will likely cause a carbon-triggered increase in electricity prices.”

Bayer AG

Figure 22: Theoretical supply / demand balance on the EU carbon market by 2020.



“[Alstom is] ... engaged along other industry players and non-governmental organizations (Shell, Bellona, E3G, Vattenfall and Climate Change Capital) to be an influential voice within the policy debate, particularly on the issue of carbon capture and storage (CCS). It notably worked extensively with the European Parliament on the opportunity for CCS mandation for new fossil fired-power plants.”

Alstom

“The increased use of renewables will also provide an opportunity for HSBC to mobilise the necessary finance and, in doing so, support low carbon technologies in Europe.”

HSBC

Growth in renewable energy:

In 2020, 20% of European energy consumption will have to come from renewable energy sources. The 20% overall EU target is spread between EU countries on the basis of GNP, with the minimum requirement at 5.75%. France should reach at least 23%. Some flexibility is allowed to reach these targets (e.g. exchange of certificates if a country has overshoot its target, accounting for ‘physical’ importations of energy). This includes a target to reach 10% of alternative/renewable fuels in the transportation sector by 2020, with sustainability criteria set for biofuels, which will have to demonstrate a life cycle carbon footprint 45% better than oil by 2013 (and 50% by 2017). 4% of this target will have to be met by solutions which do not interfere with food markets.

20% gain in energy efficiency:

compared to 2005 consumption levels, the target implies an annual 1% reduction in energy consumption by 2020. Although the target remains indicative, the Council of the European Union has planned to present an efficiency plan by November 2009, and could make this target binding. EU level specific legislation by sector is being developed to create a framework for energy efficiency standards.

Figure 23: Airlines set to create additional demand from 2012 onwards

■ Aviation emissions, all departing and arriving flights (Estimates)
■ Emissions cap
source: CA Cheuvreux



AUTO: EU legislation guidelines

Extract from CA Cheuvreux report: Green Cars – Electrify me!

Average emissions from new cars sold in the EU-27 would have to reach 120g/km of CO₂ target by 2015. Improvements in engine technology would have to reduce average emissions to 130g/km, while complementary measures (tyres, air conditioning systems, biofuels, etc.) will add a further emissions cut of 10g/km.

Between 2012 and 2015, a phase-in period for the Directive was introduced, with 65% of the fleet to be concerned in 2012, 75% in 2013, 80% in 2014 and 100% in 2015.

To achieve the fleet average target for new cars of 130g/km, the draft legislation defines a limit value curve of permitted CO₂ emissions for new vehicles according to a utility parameter, the mass of the vehicle:
Permitted specific emissions of CO₂ = 130g/km + 0.0457g/km (mass-1,289kg) as 1,289kg is the average weight of European cars.

A penalty premium of EUR5g/km has been proposed for the first gram of excess emissions between 2012 and 2015, rising to EUR15 for the second gram in excess and to EUR25 for the third, then to EUR95 thereafter (each gram per kilometre above the target, times the number of vehicles sold by the manufacturer).

Federation of European Accountants

FEE (Federation of European Accountants) acknowledges the urgent nature of the challenge of sustainability, in which climate change and the carbon emissions debate play a central role. In the current climate of financial and economic crisis, FEE wishes to raise the strategic importance of providing financial information in a more comprehensive and meaningful way, and the part played by sustainability disclosures including the disclosure of carbon emissions information. Greater transparency can play a role in helping to restore wider trust in business. FEE recognises that the growing demand for carbon emissions data by users of corporate reports is only being partially satisfied at present. FEE believes that it is in the best interest of all parties to see carbon measurement, disclosure and assurance approaches standardised.

Whilst accountants and accounting firms frequently become involved in policy, management and finance decisions, FEE believes that the key area of the carbon debate where the accountancy profession can add most value is the area of measurement, disclosure and assurance. Over the last year FEE has published relevant research and statements on sustainability disclosures and carbon emissions information aiming at fostering the progress on reporting, including carbon disclosures in business reporting:

- Call for Action Sustainability Disclosures in Financial Information Can Be Improved (July 2009)
- FEE Policy Statement on Sustainability: Carbon Emissions Information (July 2009)
- Discussion Paper on Sustainability Information in Annual Reports- Building on Implementation of the Modernisation Directive (December 2008)
- FEE Alert on Emission Trading (January 2005)

Nancy Kamp - Roelands
Chair of the FEE Sustainability Working Party
www.fee.be

Eurosif engaging the European institutions on mandatory ESG reporting:

The current financial crisis has raised a number of issues related to the financial sector and its role in the healthy fostering of long term, sustainable capitalism within the EU. Major causes of the crisis include short-termism, poor governance and regulation, misaligned compensation and/or incentive systems and a lack of transparency. While much discussion is currently being focused on governance issues in the crisis, Eurosif, the European Sustainable Investment Forum, asserted in a recent public policy position paper that financial markets would be much better served by reliable and consistent information on ESG issues. In its position paper, Eurosif recommended that European Institutions should mandate disclosure of ESG data by publicly traded, large corporations. Such reporting would be principles-based and use a limited number of standardised KPIs, some of them being sector specific.

Currently, the EU Modernisation Directive states:

"To the extent necessary for an understanding of the company's development, performance or position, the analysis shall include both financial and, where appropriate, non-financial key performance indicators relevant to the particular business, including information relating to environmental and employee matters."

Nevertheless, at the current time, this requirement has not been readily enforced nor have companies disclosed substantive ESG information that could help investors. Eurosif believes that European institutions should make reporting on ESG data no longer an option subject to interpretation but a requirement. It is increasingly understood that financial statements capture less than 20% of corporate risks and value creation potential, with the balance deriving from intangible factors such as human capital and resource efficiency. ESG data are relevant, material information that investors should have and increasingly want as a means to better gauge longer term risks such as climate change. Without such mandatory disclosure, investors will continue to lack the means of assessing substantial numbers of material factors as they arise. Incomplete data makes for inefficient markets and a lack of transparency leads to unstable financial systems.

Eurosif suggested that the European Commission explore a number of existing initiatives (Global Reporting Initiative, the Carbon Disclosure Project, recent guidelines by the International Corporate Governance Network (ICGN), and the current work of the Climate Disclosure Standards Board, for instance) and use them to amend existing regulation. While voluntary disclosure schemes play a very important role, Eurosif believes that a purely voluntary approach does not guarantee significant, relevant and comparable data from all issuers: information is often provided selectively and often, with the absence of common standards, the information cannot be compared with other companies, or over time. As an outcome of a Roundtable discussion on 'Sustainability Disclosure' organised by Eurosif in late April 2009 at the European Parliament, the European Commission (EC) decided to organise a series of workshops on the subject of 'sustainability disclosure' from the perspective of different stakeholder groups (including investors), with the following aim:

- *Identify the most efficient way(s) to promote a better and more widespread disclosure of ESG information, which should be useful for the companies that disclose it and for stakeholders that may require it. Without pre-judging any outcomes, this will involve, amongst other things, exploring both the desirability and the feasibility of stakeholders moving towards an agreed core set of KPIs for ESG performance.*
- *Facilitate better coordination and communication between existing initiatives in the field of ESG disclosure.*

The outcomes of these workshops could well be a regulatory decision about how to better include ESG disclosures into company annual reports. Eurosif will continue to engage with the European institutions to this end.

EUROSIF, the European Sustainable Investment Forum
www.eurosif.org

September 2009

ECO-DESIGN REQUIREMENT FOR ENERGY-USING PRODUCTS: The year 2008/09 has seen increasing momentum from EU regulators to tackle the energy efficiency of energy-using products.

Source: Euractiv.com

Actual measures are to be decided over the next two years by the Commission on a product-by-product basis under the supervision of a designated panel of EU member state experts as part of the so-called fast-track comitology procedure. Priority products include heating, electric motors, lighting and domestic appliances.

16 July 2008:

The Commission adopts a proposal for a directive to extend the scope of the framework Ecodesign Directive to cover other energy-related as well as energy-using products.

26 September 2008:

EU governments endorse two proposals to add lighting and TV 'set-top' boxes to the list of regulated equipment (EurActiv 29/10/08).

17 October 2008:

EU governments approve a proposal to improve the energy performance of external power supplies (EPS), which convert power for household and office products (EurActiv 20/10/08)

21 October 2008:

Commission unveils a list of ten priority energy-using product groups for which it wants energy-efficiency standards to be established within the next three years (EurActiv 24/10/08).

8 December 2008:

EU national representatives vote in favour of phasing out energy-guzzling incandescent light bulbs and inefficient halogen bulbs between 2009 and 2012 (EurActiv 09/12/08).

17 December 2008:

Commission adopts regulation to reduce standby power consumption of electronic household and office equipment.

4 February 2009:

Commission adopts efficiency standards for simple set-top boxes.

18 March 2009:

Commission adopts two regulations to improve the energy efficiency of house lamps and office, street and industrial lighting (EurActiv 19/03/09).

6 April 2009:

Commission adopts regulation to reduce electricity consumption of external power supplies.

24 April 2009:

Parliament approves extension of the Eco-design Directive to cover products with an indirect impact on energy use (EurActiv 27/04/09).

22 July 2009:

Commission adopts four regulations to make industrial motors, water circulators, televisions, refrigerators and freezers more efficient (EurActiv 23/07/09).

“The EU Eco-design requirements for energy-using products (EuP) require measures to be decided over the next few years by the Commission on a product-by-product basis under the supervision of a designated panel of EU member state experts as part of the so-called fast-track comitology procedure. Priority products include heating, electric motors, lighting and domestic appliances and will therefore include telecommunications consumer equipment. We anticipate that our adoption of the current European voluntary code of practice for energy consumption in telecommunication equipment will fulfil any future requirements however.”

British Telecom

“The forthcoming Carbon Reduction Commitment will require C&W to enter a new carbon trading scheme. It is likely that after a 3 year introductory phase a cap on emissions will be set in line with the government 5 year carbon budgets. There will be financial and reputation risks associated with the published league table. There are business opportunities associated with this scheme, for example where C&W can offer data centre services that are more energy efficient than customer in-house options, however limited consideration is made for business growth so C&W’s league table position could suffer, even if it means our services contribute to the nation’s overall emissions reducing.”

Cable & Wireless

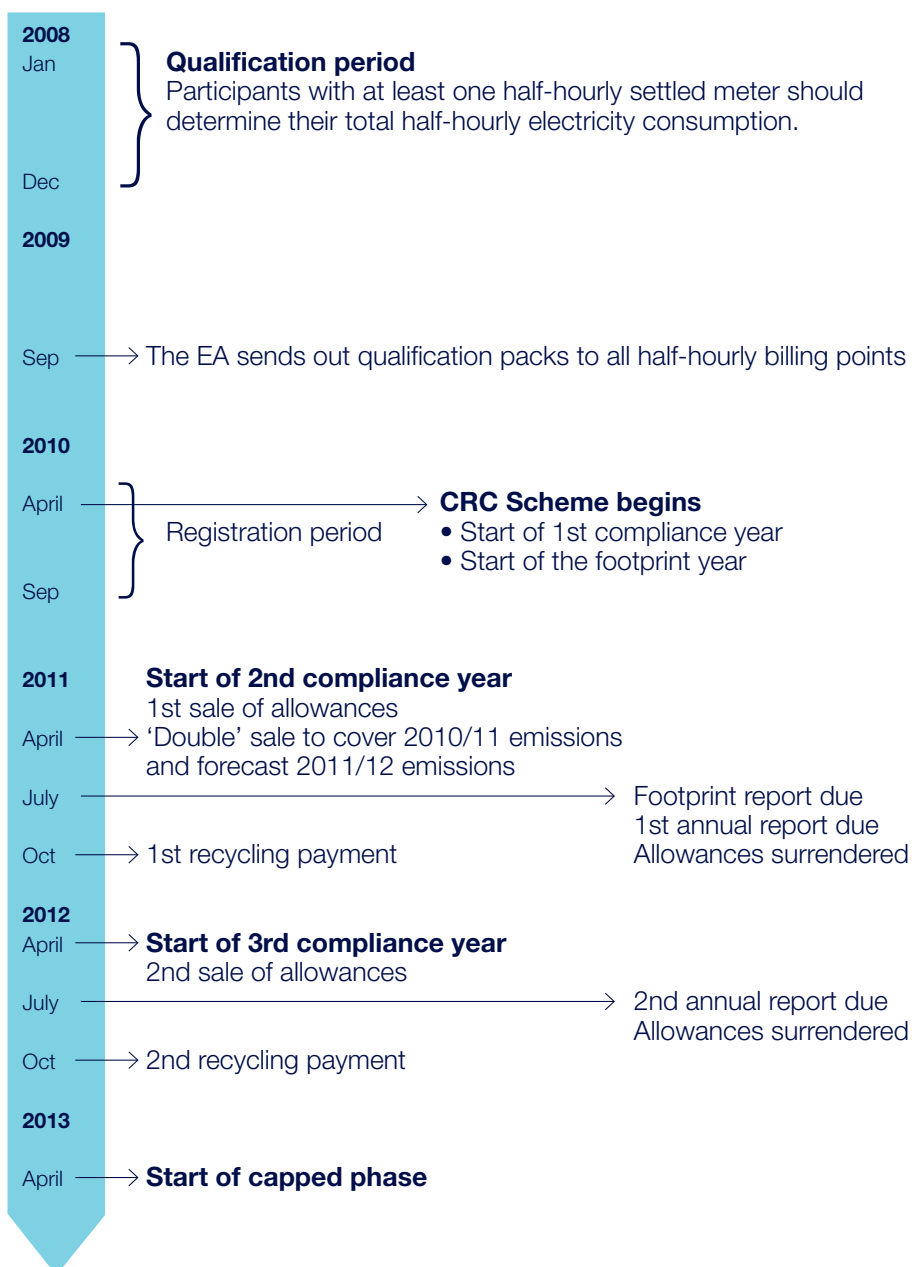
National policies to meet the carbon challenge; UK, France, Germany and US

The UK Low Carbon Transition Plan

In July 2009, the UK government proposed a national strategy for climate and energy. The plan compiles a set of policies that will help the UK to meet EU Directives and to deliver a 18% emissions reduction by 2020 on 2008 levels. The Carbon Reduction Commitment is one of these policies: “The Government is also helping many other businesses which, while large, are less energy intensive than those

covered by the EU ETS, to reduce their emissions by introducing the Carbon Reduction Commitment to drive a reduction in their energy consumption. This new scheme, which will begin in April 2010, will require large non-energy intensive organisations to purchase carbon allowances, the total amount of which will be limited from 2013 onwards, to cover their energy use emissions. Revenue raised from the sale of allowances will then be recycled to participants according to how they perform in reducing emissions. An annual league table ranking the performance of all participants will also be published.”

Figure 24: Carbon Reduction Commitment (CRC) timeline



“A failure to adequately anticipate future developments would leave the company more vulnerable when more stringent regulations come into effect in the future, especially the regulations that France plans to implement following the ‘Grenelle de l’Environnement’. Eventually, this would substantially modify Group purchasing and procurement policy, as well as its project costing methods but more likely such a tax would probably be considered as an opportunity.”

Bouygues

France's carbon tax for diffuse emissions

France intends to set a carbon tax – also called the Climate-Energy Contribution, as soon as 2010. The tax would apply only to so-called ‘diffuse’ CO₂ emissions, or 60-70% of country's emissions. The aim is to increase the cost of fossil fuel use, through a tax rate indexed to CO₂-intensity (coal>oil>gas). Industries regulated under the EU ETS will not fall under the scope of the tax. Therefore the cost will be borne mostly by households, business offices and the transportation sector. The rate for the first year has yet to be decided (EUR14-32/tCO₂). At EUR17/t, the tax would raise gasoline and diesel prices by 3-5%, and heating fuels by 7%.

Germany: tackling car emissions

In 2007 Germany set a target to cut national greenhouse gas emissions by 40% by 2020. In 2008/2009, Germany intensified the set of measures around this objective, notably on car emissions. In January, the decision was taken to tax vehicles based on their CO₂-efficiency. More recently Germany approved a EUR500m electric car investment plan that aims to put one million electric vehicles on German roads by 2020.

The US: elections have brought new climate ambitions

The election of President Barack Obama in November 2008 has led a radical change in the position of the US towards the fight against climate change. Passing a climate bill that would bring US GHG emissions back to their 1990 levels by 2020 and to incentivise the development of green technologies is one of the key priorities of Obama's Presidency. The US Congress is pressed to pass legislation by the Copenhagen deadline in December 2009.

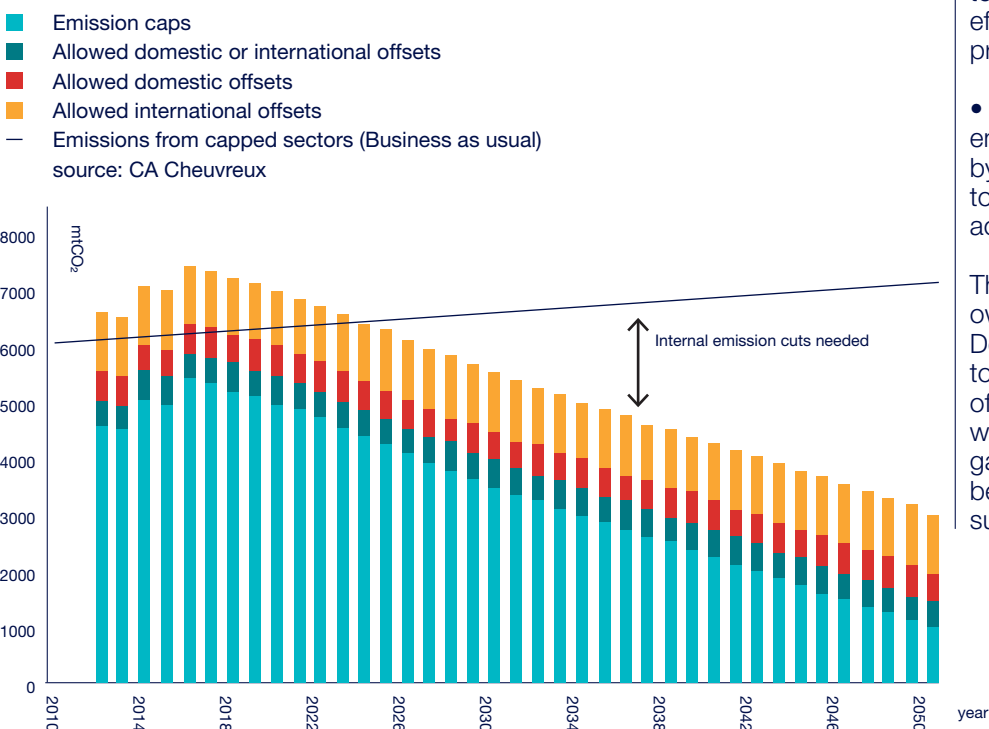
In June 2009, the House of Representatives passed the Waxman-Markey American Clean Energy and Security Act (Climate Bill). The bill notably plans to:

- create an economy-wide cap & trade scheme (covering 85% of US greenhouse gas emissions) starting in 2012 and gradually phasing in sectors up to 2016. The text plans a transition period of free allowances by 2025-2030 for regulated sectors (except transportation fuels). The cap imposes a 17% emissions reduction by 2020 compared to 2005 levels, but a large amount of offset carbon credits (up to 2bn p.a.) is allowed for compliance. The EPA expects a USD16/tCO₂ carbon price signal to emerge from this scheme by 2020. A share (13-16%) of CO₂e allowances will be dedicated to funding renewable energies, energy efficiency, CCS and alternative vehicles projects.

- bolster the share of renewable energy in the electrical mix to 20% by 2020, and allows 5% of this target to be reached by energy efficiency actions

The Senate now has to design its own draft legislation for a climate bill. Dedicated committees had planned to make a draft proposal by the end of September. Uncertainty remains whether the Senate will have time to gather enough support for the bill to be passed before the Copenhagen summit deadline.

Figure 23: Emissions cap and allowed offsets under the WM US Climate Bill



“[Bayer]... assumed a baseline certificate cost of 20 EUR/t CO₂ in 2008, increasing to 30 EUR/t by 2013 with further cost increases assumed thereafter.”

Bayer

“Our assumption made for the cost of carbon is 25 Euros / tonne” GHG emissions are included in our long term strategic planning exercise performed every year.”

Total SA

“The decision of all investments (product or materials) is now taken according to their carbon emission. It is related to an average cost of CO₂ which the Group decides on annually.”

Danone

“Currently our hypotheses for capital expenditure planning and all other simulations are the following: EUR20/tonne of CO₂ for the 2008-2012 period, EUR40/tonne of CO₂ for the 2013-2020 period.”

Lafarge

The Carbon price signal

Integrating a strategic CO₂ price signal: a key performance indicator

Think tanks on the International Accounting Standards Board (IAFB) are discussing regulation to impose companies with the implementation of a specific carbon price in their reporting standard. In the meantime, the decision of a company to integrate a price for carbon in all investment decisions, when duly managed and disclosed, is certainly a major key performance indicator of this company's commitment to tackle climate change.

Price as a signal

It is useless to discuss carbon constraint without discussing its price. The EU ETS market provides one which is obviously a reference for implementing strategic response for regulated companies: “The cost of (Scottish and Southern's) future CO₂ emissions is gauged by forecasting the value of CO₂ emissions in the EU Emissions Trading Scheme”. But other types of regulations (Building, Transport) provide other prices for carbon and the implied risks facing the business model of companies moves accordingly.

Integration of a carbon price in investment decisions

Companies exposed to the EU ETS are obviously incentivised to incorporate a carbon price signal model as it has now become a ‘normal operational cost’ (EON) and directly drives hedging and abatement strategies. This CO₂ signal “is used to predict operational costs, to decide on investments and Capex” (EDP). Still, the vast majority of companies do not disclose a price given internally for this signal, although the information is likely to be key for investors. The price issue is a confidential one as is their position in the CO₂ trading scheme.

A wide disclosure gap on carbon price signal for sectors with diffuse emissions

Some EU ETS included companies disclosed their carbon price signal well beyond the scope of the CO₂ market but this becomes exceptional for companies outside the scheme. Aviva stands out within the Financial sector by providing a specific carbon price applicable to UK business, though this is low at £12 per tonne. The automotive sector, although strongly impacted by the carbon price signal implied in the new EU directive, does not report any commitment on this front.

Figure 26: Carbon prices evolution since 2008



CA Cheuvreux' carbon price forecasts

CO₂ price: Rumours of my death have been exaggerated

Extract from CA Cheuvreux report, published in March 2009

Climate change policies strengthen, CO₂ prices weaken: a paradox?

Carbon prices have fallen by 60% since their peak in July 2008, with an all-time low of EUR8/tCO₂ reached for EU rights in February. This current weakness looks paradoxical in the face of strengthening climate change policies, in the EU and the US notably, which points to much stricter emission caps by 2020 (15-21% below recent levels). The efficiency of carbon markets can be questioned, but President Obama's commitment to a US-style ETS ensures, in our view, the continuity of a market-based option over a carbon tax, while further auctioning in the future can be seen as a solution for improved price stability.

China's carbon price floor offers a safety net for EU CO₂ prices...

The recession is hitting the EU carbon market at a weak point as production cuts are likely to achieve two-thirds of the required CO₂ emission cuts by 2012. However, after factoring in two years of declining CO₂ emissions (down 3.4% and 4.2% in 2008 (estimate) and 2009 (estimate)), we still see a deficit of EU CO₂ rights in the system, which means EU companies will have to buy cheap offset Kyoto credits primarily to comply with their caps. In the short term, we believe China's price floor (currently EUR8-12/t) for Kyoto credits thus offers a strong safety net for EU CO₂ prices. We have adapted our price scenario to reflect the lower deficit of CO₂ rights on the EU carbon market (40-125mtCO₂ p.a. versus 256mtCO₂ previously) and lower oil price assumptions (2009E: USD45/bbl), and thus slashed our short-term carbon price forecast to EUR12/tCO₂ (vs. EUR23/tCO₂ previously) for 2009E.

...and the long-term constraint points to a strong recovery

In contrast, emission caps by 2020 are unchanged, already in place and challenging. Bringing emissions down to 15% below 2009 (estimate) levels will require a higher CO₂ price signal to drive investments in low-carbon technologies. As a result, we have only trimmed our long-term CO₂ price assumption to EUR30/tCO₂ (vs. EUR35/tCO₂). By 2012, the timing of a price recovery will hinge on the behaviour of market participants. We believe in a rapid recovery starting in second half of 2009 as we expect electricity utilities will take the advantage of the low CO₂ price to start hedging their full post-2012 deficit of CO₂ rights, hence pushing up the forward curve. Airlines will also add to the demand side as of 2012. We consequently expect CO₂ prices to almost double by 2012.

Table 6: Our revised carbon credits price scenario

	2008A	2009f	2010f	2011f	2012f	LT(f)
European Union Allowance (EUA) (EUR/tCO ₂ e)	22	12	15	18	23	30
Certified Emission Reduction (CER) (EUR/tCO ₂ e)	17	10	13.5	16	21	20



5

From disclosure to performance

Introduction

CDLI scores can be a useful indicator for investors that want to engage companies on higher disclosure standards and also on climate change risks & opportunities. However if this score only reflects the comprehensiveness of provided information, it does not allow us to determine how well a specific company is responding to climate change issues beyond reporting.

With an increasing quantity and quality of information provided by companies, we believe that the next step now is to show how this data and information can also help improve investors' assessments of climate change-related risks, and can help them to take informed investment decisions and to mitigate carbon risks in their portfolios.

An experimental scoring methodology has been implemented this year with the aim of assessing the performance of companies and supplementing their CDLI scores. We note that the results are not very different from CDLI scores. Companies that are highly ranked in the CDLI also have high Performance scores.

As a research equity brokerage house, we strive to integrate carbon risks into company valuation models. The CDP database is an increasingly valuable source of information that might otherwise be scattered in corporate communication documents. In the following section we have performed analyses of sector carbon profiles by selecting indicators which allow us to position companies' risk profiles in their sector, and have relied solely on responses made to the CDP 2009 questionnaire:

- How much does the company emit?
- Does it emit in areas where carbon costs are materialised or are expected to?
- What is a company's sensitivity to energy prices?
- Does the group plan to mitigate its carbon footprint/risk significantly in the mid-term?

Historical data of emissions on a like-for-like basis and sector specific carbon-intensity figures, along with other sector specific carbon key performance indicators, would allow us to go further in the assessment of companies' carbon mitigation performance and their positioning within their sector.

Carbon risks scorecard

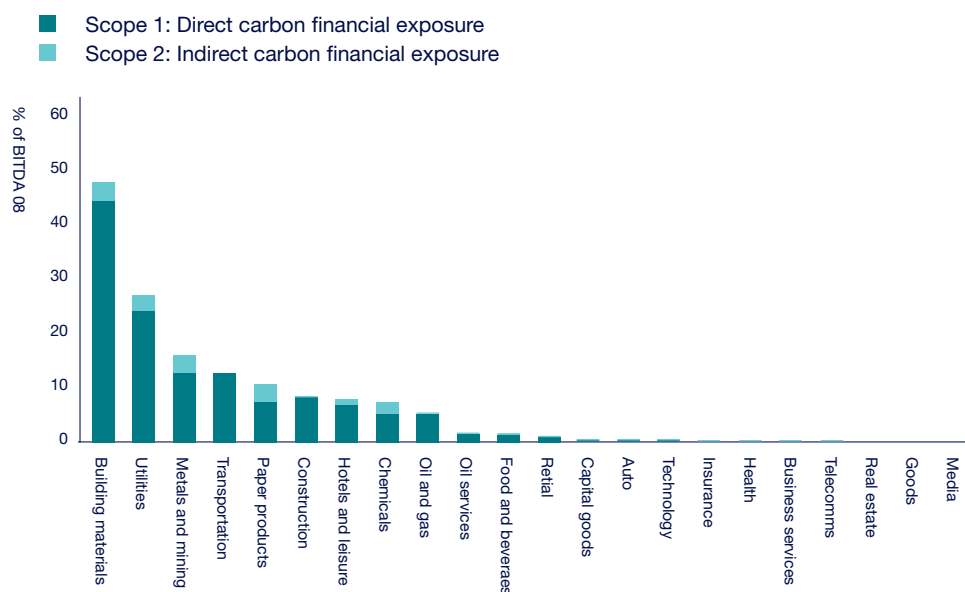
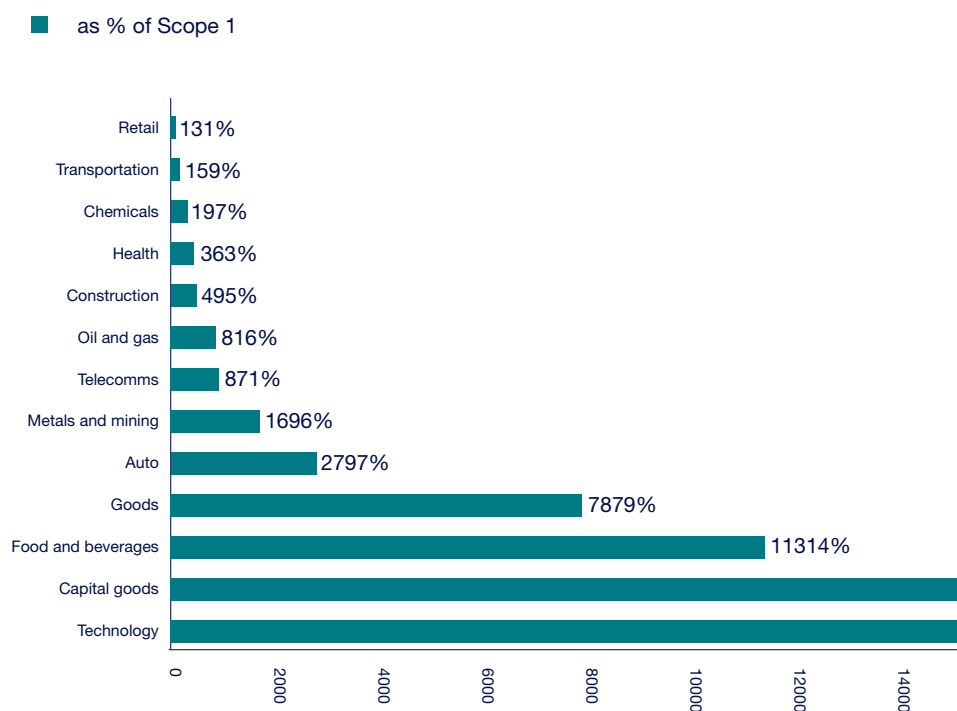
Figures 27 to 32 provide an overview of the sector carbon profiles. The following questions were considered:

Where does the carbon risk lie in the value chain (Scopes 1, 2, or 3)?

To assess the financial exposure to carbon costs, we multiply absolute emissions (Scope 1+2) by a carbon price of EUR30/tCO₂ (assumption on carbon price) and divide this number by companies' EBITDA. This shows what percentage of sector or companies results would be at risk in case of full materialisation of carbon costs. Building materials appears the most exposed to carbon costs. This ratio is extremely low for non carbon-intensive sectors.

The indicator "Scope 3 emissions as a percentage of Scope 1 (direct) emissions" allows for the identification of sectors for which carbon risks or opportunities lie downstream or upstream in the value chain.

¹ We used EBITDA of last fiscal year (2008) from the Factset ExcelConnect database

Figure 27: Carbon financial exposure index (Scope 1 & 2)**Figure 28: End use and disposal of products (Scope 3)**

Where are GHG emissions generated, and what type of GHG is involved (as carbon regulation is flourishing mostly in developed countries)?

Depending on the geographical location, climate change regulation can bring carbon risks (e.g. compliance costs in EU-27) or opportunities (Clean Development Mechanisms in emerging countries). In the same manner, carbon regulations do not apply equally to all greenhouse gases. The charts allow to differentiate between sectors.

Figure 29: Exposure to regional climate policies

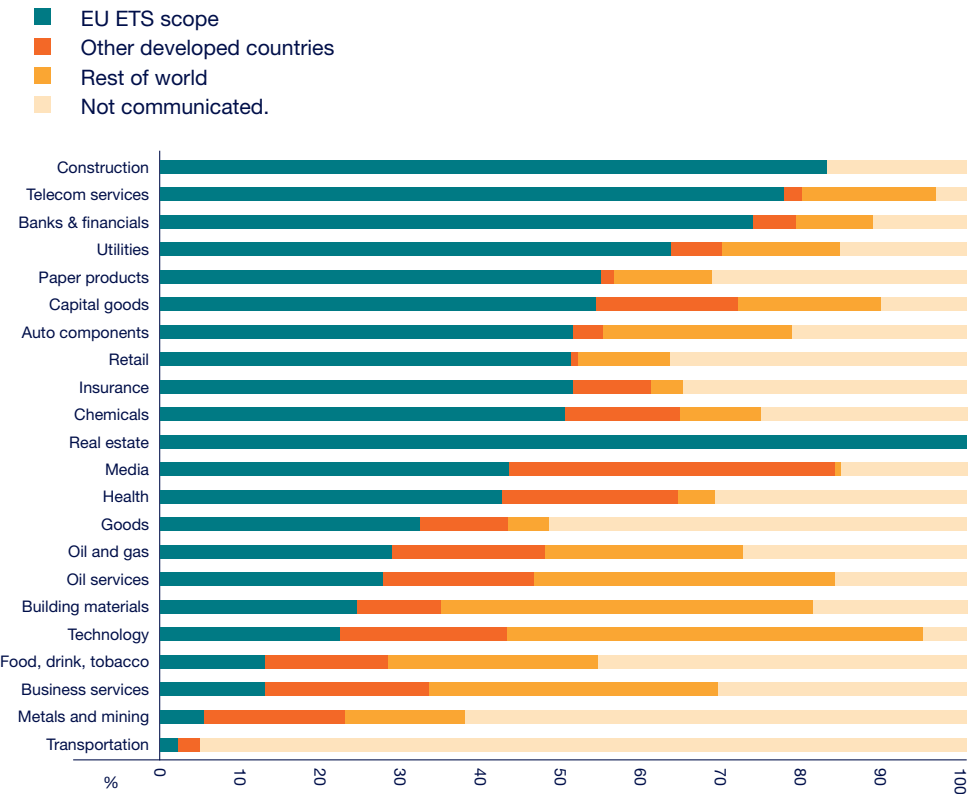
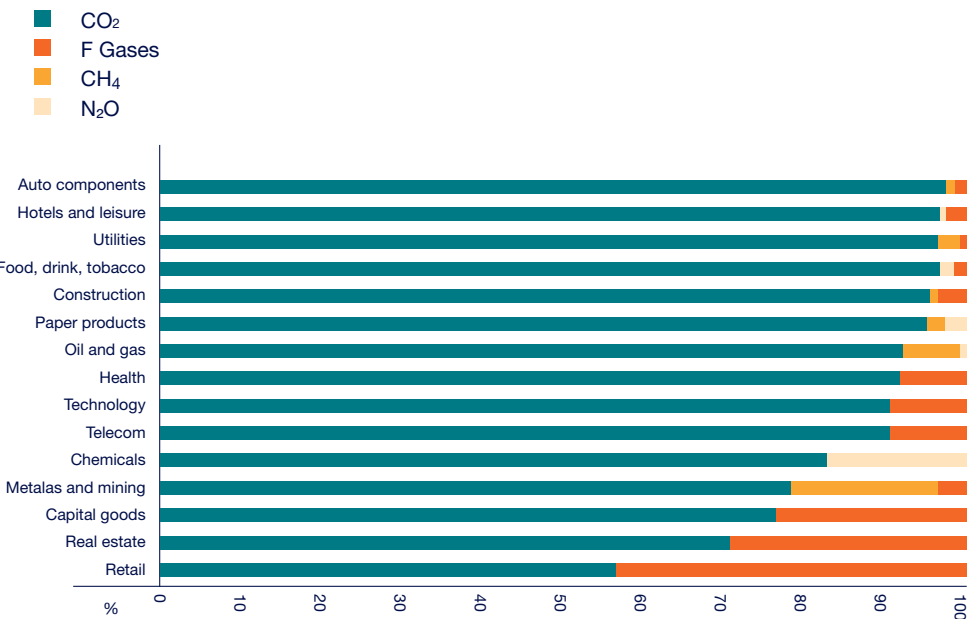


Figure 30: Regulatory risk – GHG breakdown



How sensitive is the cost structure of industries to energy prices, which are now affected by the carbon market in Europe?

Climate change policies are closely linked with energy issues and are expected to affect energy prices, either directly (e.g. integration of a carbon price signal into electricity prices in Europe) or indirectly (e.g. reduction of the demand for fossil fuels). Therefore, the higher energy costs are in sector total costs, and the more the sector is dependent on third-parties for energy supply, the more sector cost structure is sensitive to climate policies.

Figure 31: Energy costs, as a percentage of total costs

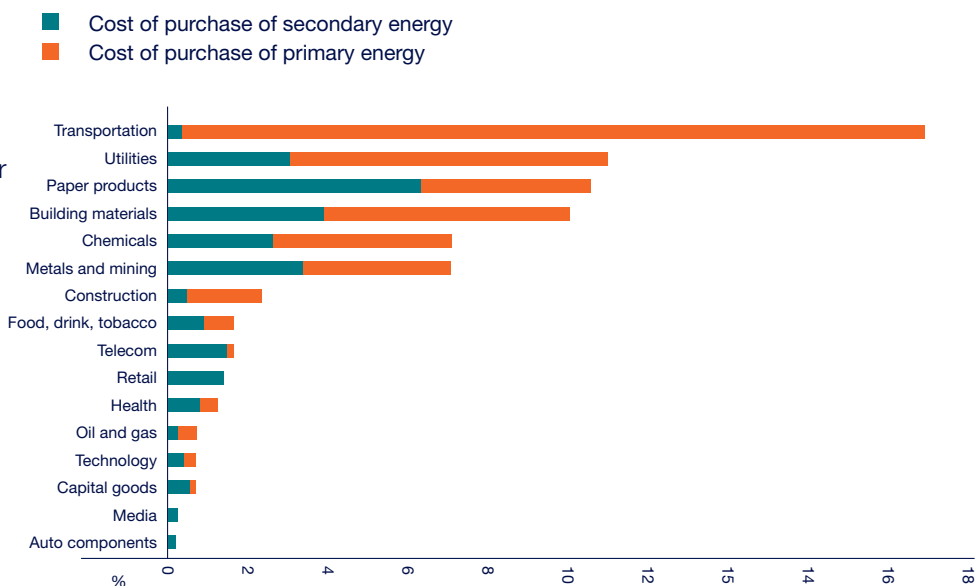
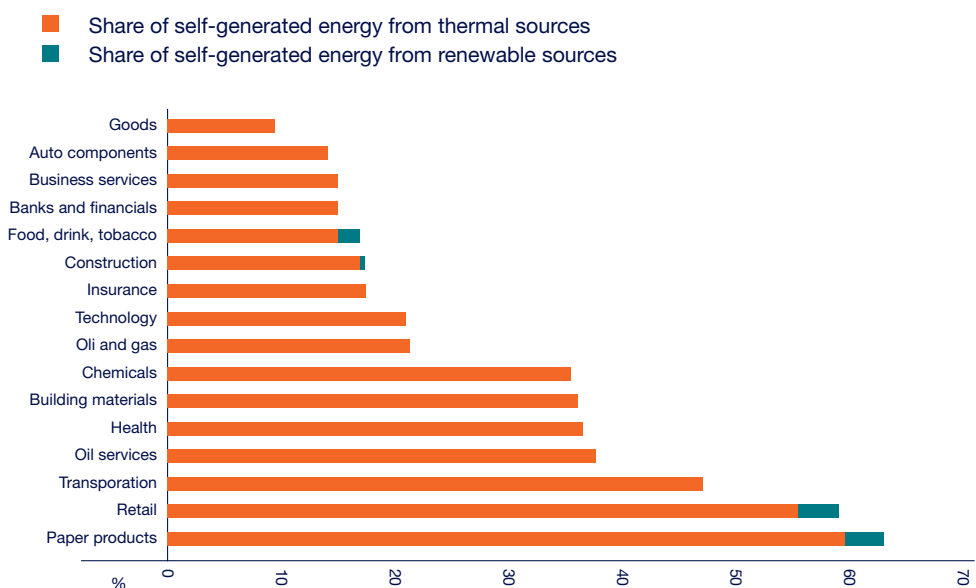


Figure 32: Self-sufficiency in energy supply



Reduction plans: in line with regulation targets?

84% of respondents have reduction targets

Europe 300 companies show a high level of commitment to reducing their carbon footprint, as 84% of respondents have set quantified reduction targets. This ratio reaches 100% in ten sectors.

These emissions reduction targets are set on various timescales and take various forms. They are expressed in absolute or specific terms (e.g. grams CO₂ per employee, kg CO₂ per sq. m, or other industry-specific indicators). They may apply to carbon emissions and/or energy consumption, to the whole group and/or to specific business divisions.

More than half of the sample uses incentives (monetary or other) to increase the commitment of managers and/or employees. This ratio is above 78% in the Oil & Gas, Technology Hardware & Equipment, and Automobile & Auto Components sectors.

Figure 33: Percentage of companies without reduction target, by sector

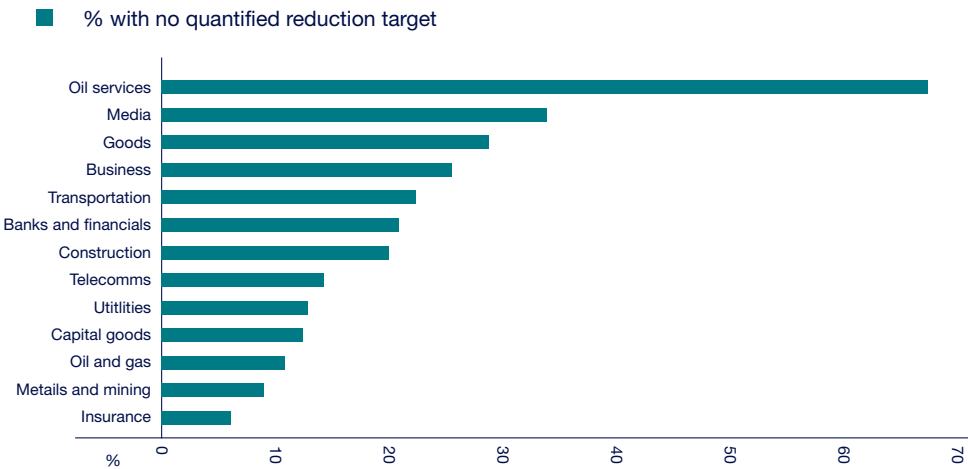


Figure 34: Percentage of companies by sector with a reduction target and incentives for employees



A 2.2% annual improvement in carbon efficiency

The overall aggregate calculation is complicated. The aggregated reduction target has been calculated notably by looking at targets proposed by companies in six sub-sectors responsible for 93% of the Europe 300 sample's Scope 1 and Scope 2 emissions. In order to better represent reality, individual targets have been weighted based on the absolute carbon footprint of groups (Scopes 1+2) (see table 7a).

Most companies give their reduction targets in specific terms, i.e. relative to an indicator representing a level of activity. Some targets that appear to be expressed in absolute terms contain statements such as "assuming no change in business volumes". For only a few companies, we have adjusted their absolute targets in order to present an aggregated Europe 300 target expressed in terms of carbon intensity.

Table 7a: Aggregated emission reduction target for large emitters

Sector	Weighted annual average reduction target (%)	Weight in GHG Emissions
Metals & mining	-0.9%	17%
Building materials	-1.1%	13%
Chemicals	-1.2%	3%
Oil & gas	-1.4%	15%
Transportation	-1.9%	5%
Utilities	-3.2%	40%
Top 6	-2.0%	93%
Other	-1.5% to -3.9%	7%
Europe 300	-2.2%	100%

Table 7b: Energy statistics in EU-27 (Source: European Commission DG Energy & Transport)

EU-27	1990	1995	2000	2005	2006	Trend 2000-2006	Trend 1995-2006
Energy intensity (toe/ MEUR'00)	215	209	188	182	177	-1.0%	-1.5%
Carbon intensity (tCO ₂ / MEUR'00)	591	545	474	453	443	-1.1%	-1.9%
GHG intensity (tCO _{2e} / MEUR'00)	744	680	579	543	528	-1.5%	-2.3%

Overall, we find that the aggregation of individual targets points to a 2.2% annual improvement in the GHG efficiency of Europe 300 players on average in the mid-term.

Although these targets do not apply to EU operations alone, it is worth comparing them to:

Historical trends in the EU-27, where CO₂ and GHG intensity of the economy (relative to GDP) improved by respectively 1.1% and 1.5% p.a., respectively, on average over 2000-2006.

The EU target to reduce GHG emissions by 20% compared to 1990 levels implies a 1% p.a. cut in absolute emissions up until 2020.

Although a 2% improvement in carbon intensity may not be enough to achieve a 1% cut in absolute emissions, this is encouraging, especially as:

- 1) some targets will end prior to 2020 and may then be increased; and
- 2) the aggregate target fails to capture all the emission reductions that can be expected from these groups (e.g. impact of energy-efficient electric appliances, cars, etc., used by individual consumers).

Reduction plans backed by EUR100bn of planned investments

54 companies provide clear figures on the amount they plan to invest in their emission reduction programmes. For some sectors, it is difficult to make a strict distinction of investments specifically dedicated to carbon reductions. (e.g. a new plant with high energy-efficiency).

This sample plans to devote almost EUR100bn in the next years for investments that will improve companies' carbon intensity. The financial effort is the greatest for the transportation, utilities and chemicals sectors, which plan to spend from 64% to 220% of their 2008 EBITDA. Of note, this figure includes the airlines renewable fleet programme.

The two main levers for reduction are: 1) reduction of energy consumption; 2) the use of low-carbon fuels. Although the first lever is the most commonly mentioned by companies (~50% mention energy efficiency/reduction as a mitigation action), the greatest share of identified investments will be directed towards low-carbon solutions (e.g. wind, nuclear, carbon capture & storage (CCS); refer to figure 35).

Figure 35: Planned investments by cluster

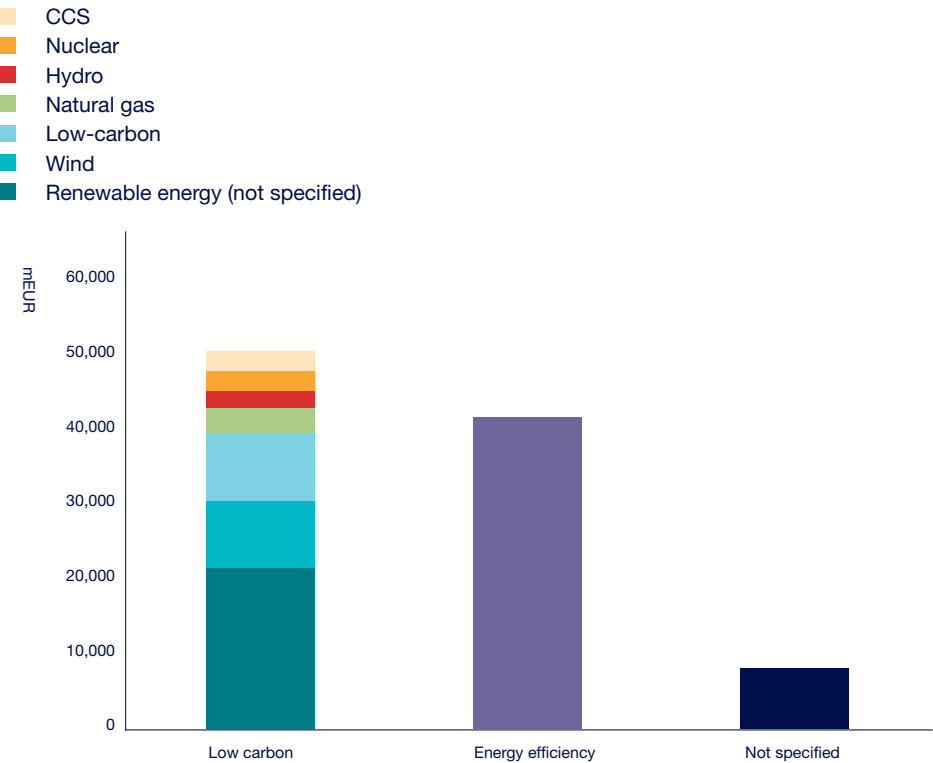
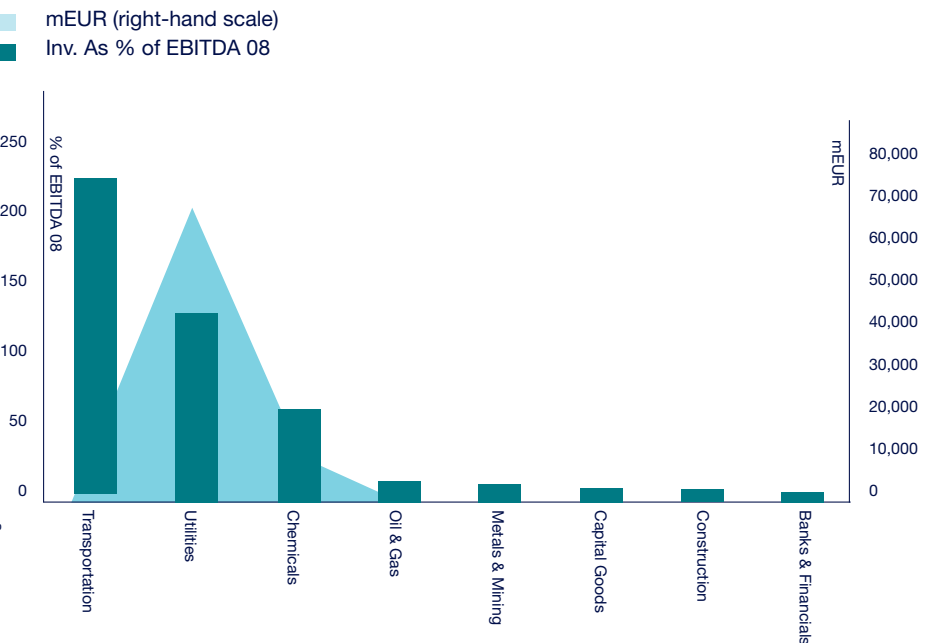


Figure 36: Planned investments by sector



Initial effects of reduction plans: achievements in 2008

A large portion of companies (40%) state that their GHG emissions decreased in 2008. However, overall, emissions of the Europe 300 sample rose by more than 5%*. It is difficult to assess what portion is attributable to carbon efficiency, given the interference of other factors such as production volumes and acquisition/divestments.

By stripping out five companies from the Utilities sector, whose emissions

increased in 2008 mostly due to acquisitions or reporting scope expansion, the total emissions actually decreased by 2.5% in 2008. RWE and ArcelorMittal contributed more than one-third of this reduction, with the latter clearly mentioning lower production volumes as the main cause.

Disclosure by companies of the portion of emissions reductions that can be attributed to carbon reduction programmes would help track their target reduction progress.

Figure 37: Evolution of Europe 300 companies—Scopes 1 & 2

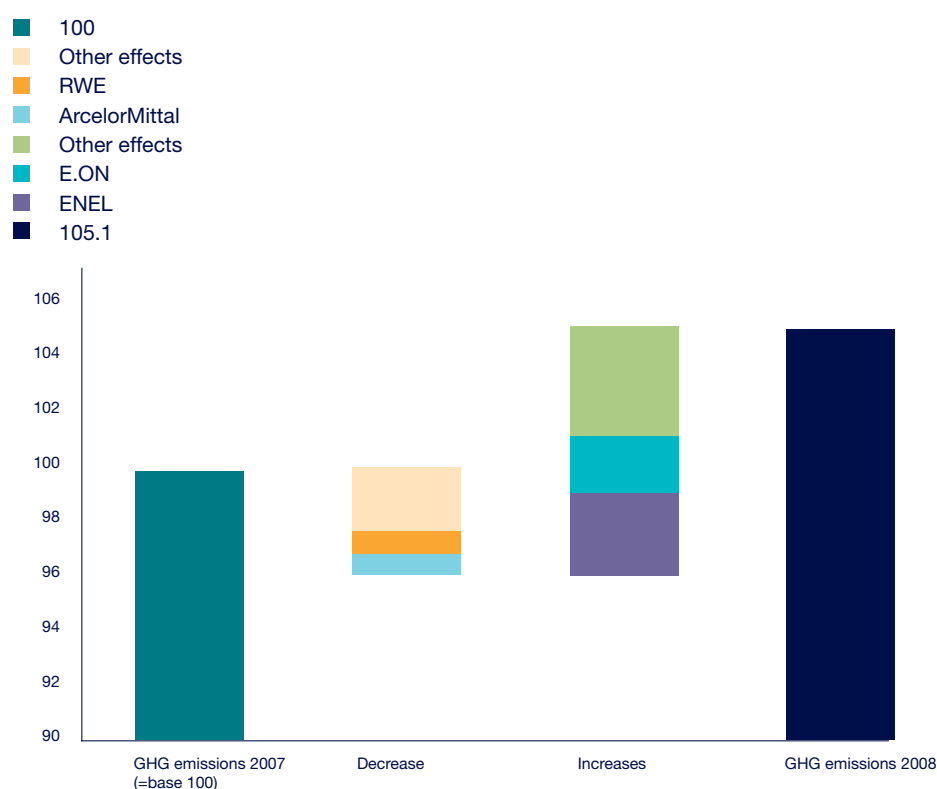


Table 8: Number of companies mentioning low-carbon technology by type

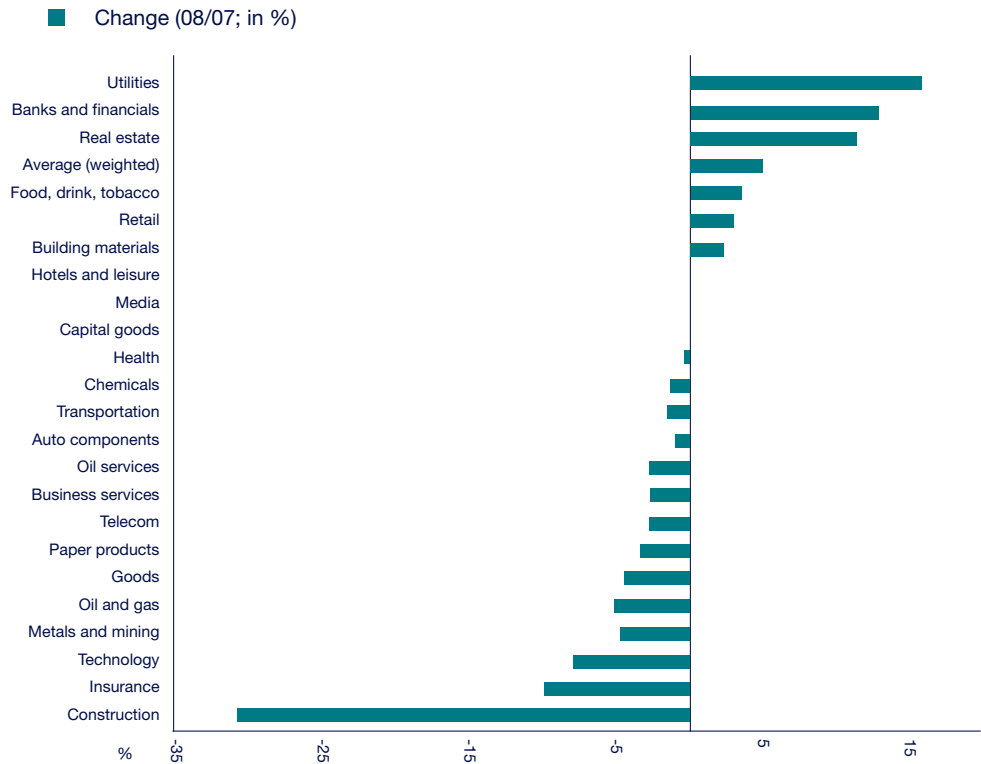
Technology	number of companies
Renewable	87
Wind	31
Solar	46
Biomass	30
Hydro	31
CCS	29
Nuclear	8
CHP	22
Natural gas	31

Table 9: Number of companies mentioning energy-efficiency actions by type

Word	number of companies
Energy efficiency	123
Building	96
Lighting	52
Office	61
CHP	22
HVAC / cooling / air condition	56
Insulation	15

*figure calculated by aggregating disclosed emissions trends, weighted by companies' absolute emissions.

Figure 38: Emission trend by sector in 2008



“In general, unilateral CO₂ cost burdening leads to market distortions for the chemical industry, as most of our products are traded globally. This may result in carbon leakage and destruction of the very efficient chemical production ‘Verbund’ (network) and our value chains in Europe, which would significantly affect our business as we produce and sell the biggest part of our products in Europe. Therefore, BASF advocates a truly global climate treaty for cost-efficient and effective climate protection with ultimately one single global price for carbon.”

BASF

Impact of carbon markets: the right signal?

The Europe 300 companies emitted at least 40% of CO₂ emissions regulated under the EU ETS in 2008. Ten sectors comprise groups that disclose their regulated emissions, but 70% come from the Utilities sector. In some sectors, like Metals & Mining, such data have not been disclosed.

An analysis of the position of sectors in the EU carbon market reveals now well-known patterns. Utilities need to buy CO₂ rights to cover ~30% of their CO₂ emissions. If bought at the average EUA price in 2008 (EUR21/t), this represents a compliance cost of EUR3.7bn, or 4% of sector EBITDA for 2008.

The Oil & Gas sector was slightly short (7%) of carbon credits in 2008, whereas other sectors got more CO₂ rights than needed. The Paper products sector received 29% more credits than needed. Stora Enso, paper producer, stated: “the combination of the Emission Trading Scheme and the present energy markets in the EU has caused an extreme wealth transfer from energy consumers to energy producers”.

In addition, at least one company in the Metals & Mining, Building Materials, Transportation, and Chemicals sectors expressed fears of distortion of competitiveness on global markets due to carbon regulation, leading to a risk of carbon leakage (relocation to non-capping countries). In order to avoid such risks, companies are calling for global policies.

Figure 39: Europe 300 in the EU ETS

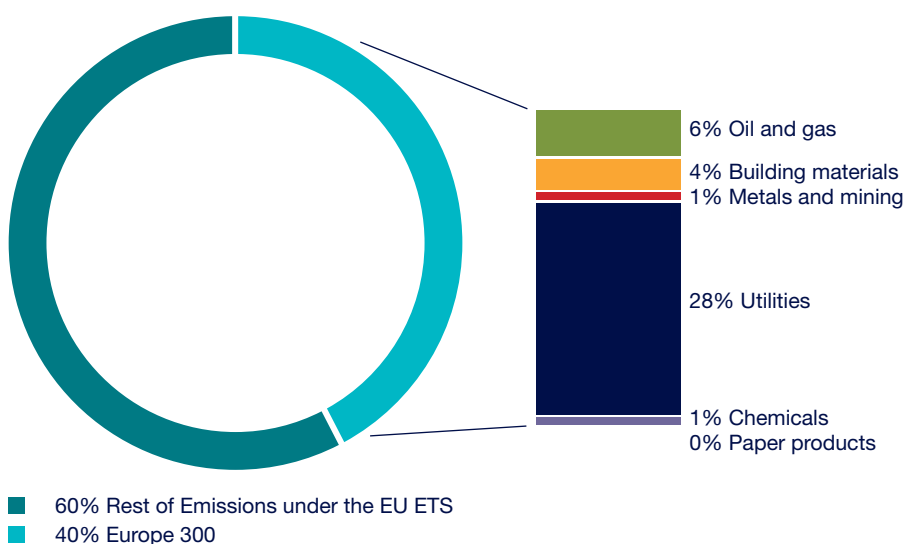
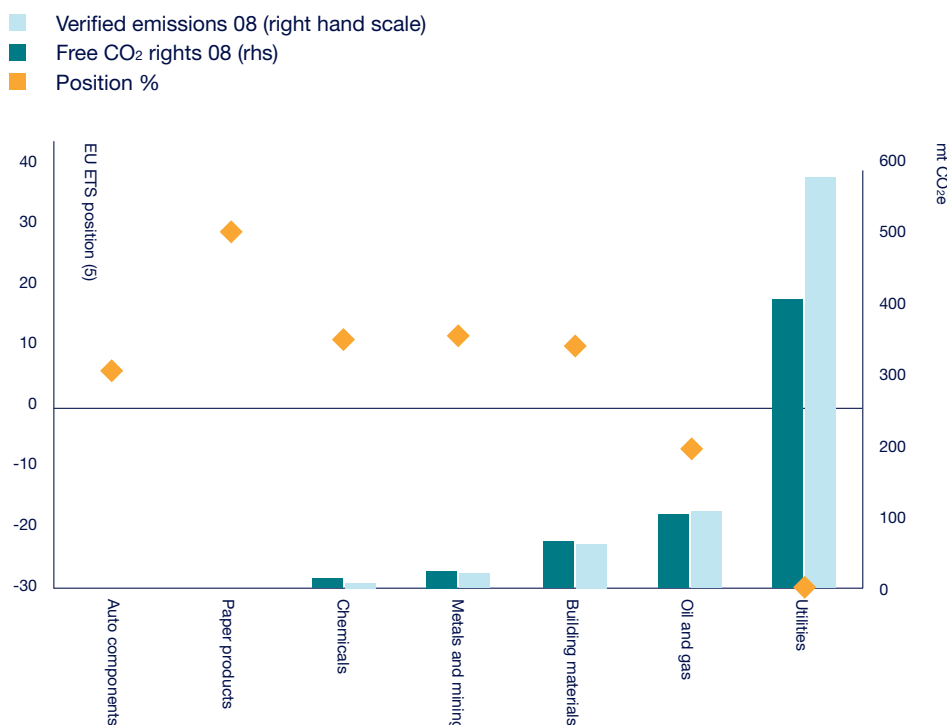


Figure 40: Trading position of sectors in 2008



Carbon trading: Although not all sectors are directly regulated under the EU ETS, many participate in carbon markets. For instance, 55% of companies in the Banks sector have set up a carbon trading activity.

Use of project-based carbon credits: 37% of companies have purchased project-based carbon credits. All sectors are represented except Retail, Business Services, and Technology Hardware & Equipment. Interestingly, although most of the time these credits are primarily used for compliance or voluntary offset purposes, they are also used in commercial offers for carbon neutrality of products or services provided in the Telecom Services, Transportation and Banks & Financials sectors.

Figure 41: Carbon trading as a specific business activity

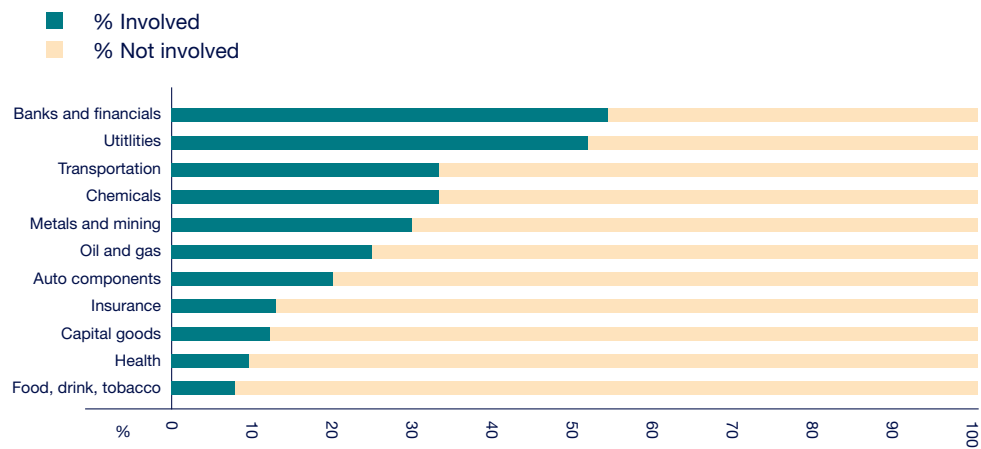
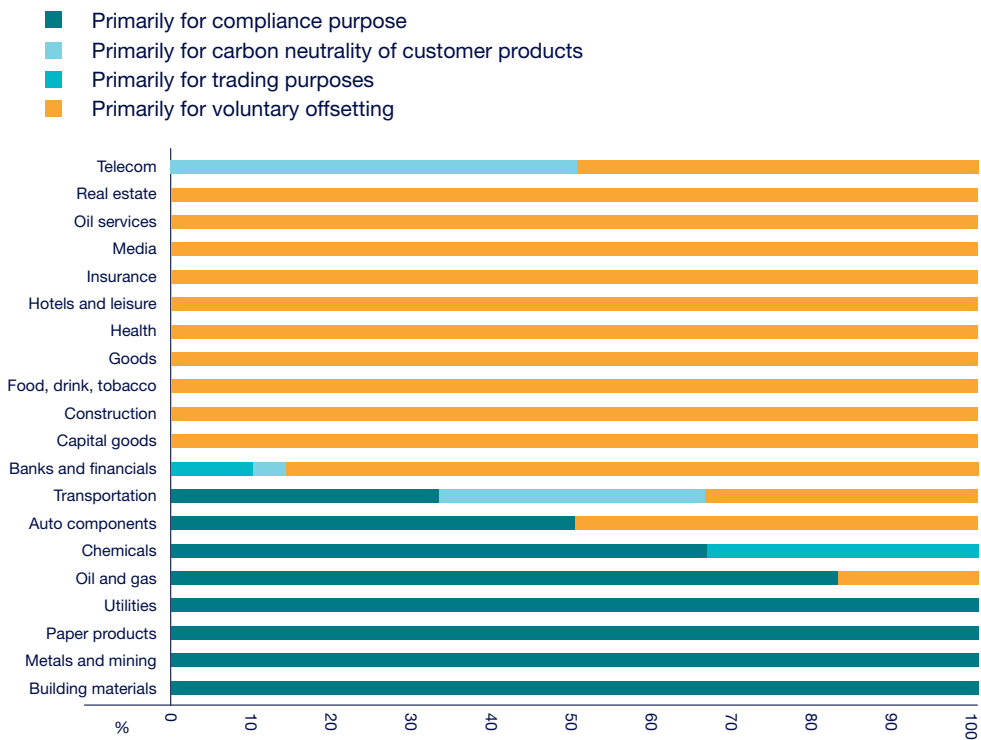


Figure 42: Use of project-based carbon credits by sector type



6

Sector analysis

In this section, we carried out similar analyses to those in section 5, again with a view to differentiating carbon profiles, but this time with regard to companies within the same sector. In order to have more accurate comparisons, CA Cheuvreux's sub-sector levels have been used.

For most of the sectors, we selected a set of charts to illustrate our analysis. In order to facilitate the reading of these charts, we explain below the recurring analyses that we have carried out.

Assessment of carbon profiles and financial exposure to carbon costs

In order to assess each company's financial exposure to potential carbon costs, we calculated a so-called 'carbon financial exposure index' by adding together direct on-site GHG emissions (Scope 1) and indirect emissions due to power purchases (Scope 2), multiplying this number by a long-term carbon price assumption of EUR30/tCO₂e and finally dividing the results by the company's EBITDA (earnings before interest, tax, depreciation and amortisation).

Whenever another source of GHG emissions proved to be significant (e.g. employee travel), we generally compared this figure to direct emissions. Lastly, when a sector emits non-CO₂ GHG emissions, we provide a breakdown of emissions by gas type.

Exposure to carbon regulation

Although the above carbon exposure index provides a view of potential financial exposure, it fails to capture the reality of carbon regulations, which differ radically in terms of constraint - or even existence - across the different regions of the globe. We therefore provide a breakdown of each company's GHG emissions by major geographical region ('EU-27', 'other developed countries', 'rest of the world', etc.) applying the simplified assumption that carbon costs are either a reality (in the EU-

27 due to the EU ETS and other regulations) or a future reality in other developed countries, whilst climate change policies tend to provide more opportunities in emerging countries, thanks to UN Clean Development Mechanisms.

For sectors regulated under the EU ETS (e.g. utilities, building materials, metals & mining), the charts show: 1) each company's total regulated emissions, and, when provided, 2) the companies' positions (shortage/surplus of EU CO₂ allowances) in 2008. In order to assess the potential financial impact of these positions, we estimated the potential costs incurred (or revenue raised) by multiplying the emissions by the average price of EU CO₂ allowances in 2008, and dividing this result by respective operating profit figures (EBITDA).

Carbon reduction strategies

The tables summarise the carbon reduction plans and targets of companies within a sector, and present an average annual reduction rate for each company to enable comparison. With respect to emission reductions achieved in 2008, a breakdown of different factors that help explain the emission trends, based on qualitative statements from the companies, has been presented.

When enough data is provided, the amount of investments planned to support emission reduction plans, either by type of investment (e.g. low-carbon technologies), or relative to companies' EBITDA, has been given in order to better assess the financial effort.

Sector specific climate change-related issues

For non-carbon intensive sectors, an emphasis has been put on issues that are more specific to their activities, namely their carbon reduction strategies, as well as climate change-related issues.

Top disclosers by CDLI Score:

Total SA (81), Royal Dutch Shell (75), Repsol YPF(75)

Average CDLI Score: 64

Average Performance score: 23/41

Largest non-respondents by market capitalisation:

Galp Energia, Cia Espanola De Petroleos

Number of companies responding: 12 out of 15, publicly: 11

Total GHG emissions:

Scope 1: 319mtCO_{2e},
Scope 2: 28.7mtCO_{2e}

“The financial implications are estimated at 1.5 billion euros per year (i.e. about 60 million tonnes of GHG emissions times a cost of 25 euros per tonne of CO₂).”

Total SA

“For the oil sands industry, more stringent requirements are likely to emerge for upcoming projects that may include requirements for significant reductions, including the implementation of large scale carbon capture and sequestration.”

BP**Carbon-intensive sectors****Oil and gas****Exposure to carbon costs**

ENI, RD Shell, BP and Total SA have an estimated direct carbon exposure ranging between 6% and 7%. The cost of Repsol YPF's carbon footprint relative to its operating profit is 10%, while the carbon exposure levels of BG and Statoil Hydro are lower than the sector average (at 4% and 2%, respectively). However, the carbon footprint of the sector mostly comes from the use and disposal of products: seven companies estimated an aggregated 2.5bn tonnes of CO₂ emitted as a result of product use. The product portfolios of BP, BG and ENI have the lowest emissions per euro of operating profit (EBITDA) generated.

Regulation, risks and opportunities

Tullow Oil and OMV emit the bulk of their CO₂ in the EU-27, where they are subject to the EU ETS. Other players have more diversified geographical exposure. BP, RD Shell, and BG are the most exposed to future regulation in North America. For instance, BP states a “Potential to participate in: National Systems: Australia, New Zealand and State/Province Systems: California, Alberta” in the next two

years. Oil & Gas companies already fall under the scope of the EU ETS, in which they emitted 116m (6%) of the 2.1bn tonnes of CO₂ regulated in 2008. Except for Statoil Hydro, which faced a significant shortage of CO₂ allowances in 2008 (76%), all received enough CO₂ allowances in 2008 and expect to receive similar amounts each year until 2012. Five companies reported purchasing project-based carbon credits for compliance purposes.

Emission reduction plans

Achievements in 2008: The majority of companies state that their emissions decreased in 2008. At the sector level, this amounts to a 5% cut in GHG emissions. However, only one-quarter of this reduction is directly attributed to sustainable emissions reductions, the biggest share coming from a decrease in activity/production or divestments. Plans: Only Tullow Oil has no reduction plans/targets. The annual average reduction rates implied by disclosed reduction targets (excluding gas flaring) range between 0.3% and 2%, with a timeframe between 2010 and 2015. Of those companies disclosing planned investments to achieve their targets, BP appears the most committed with EUR3.5bn to be invested in low-carbon activities.

Table 10: Emission reduction plans

	Activity / Action	Reduction target (%)	Timescale	Annual av. rate (%)	Absolute / Intensity*	Investments planned
BG	Operations	-11%	2006-2012	-2.0%	Absolute	
BP	Low-carbon business	N/A	2005-2015	N/A	Absolute	EUR3.5bn
ENI	Group	-9%	2008-2012	-1.9%	Absolute	
	Gas flaring	-70%	2007-2012	-21.4%	Absolute	EUR1.3bn
	Refining – efficiency	N/A	2008-2012	N/A	Absolute	
OMV	Efficiency	-10%	2007-2015	-1.3%	Absolute	EUR3bn (plant modernisation)
Repsol YPF	Diverse	-9%	2005-2013	-1.2%	Absolute	EUR3m (R&D) in biofuels
Royal Dutch Shell		-5%	1990-2010	-0.3%	Absolute	
Total SA	Gas flaring	-50%	2005-2012	-9.4%	Absolute	EUR0.3bn + EUR0.8bn R&D budget 2009
	Refining - efficiency	-1% per annum	2007-2012	-1%	Intensity	
	Efficiency in E&P and petrochemicals	-2% per annum	2007-2012	-2%	Intensity	

* Emission reduction targets are expressed in either absolute terms (i.e. emission volumes) or in terms of intensity (i.e. emissions relative to production levels)

“We believe biofuels could grow to as much as 7-10% of the fuel mix in a few decades, driven by regulatory developments such as renewables standards (e.g. in the EU) and Low Carbon Fuel Standards (e.g. in California). ... because of their close fit with our fuels business, transport biofuels will increasingly be the priority area for our renewable energy spending.”

Royal Dutch Shell

Figure 43: Carbon financial exposure index (Scope 1 & 2)

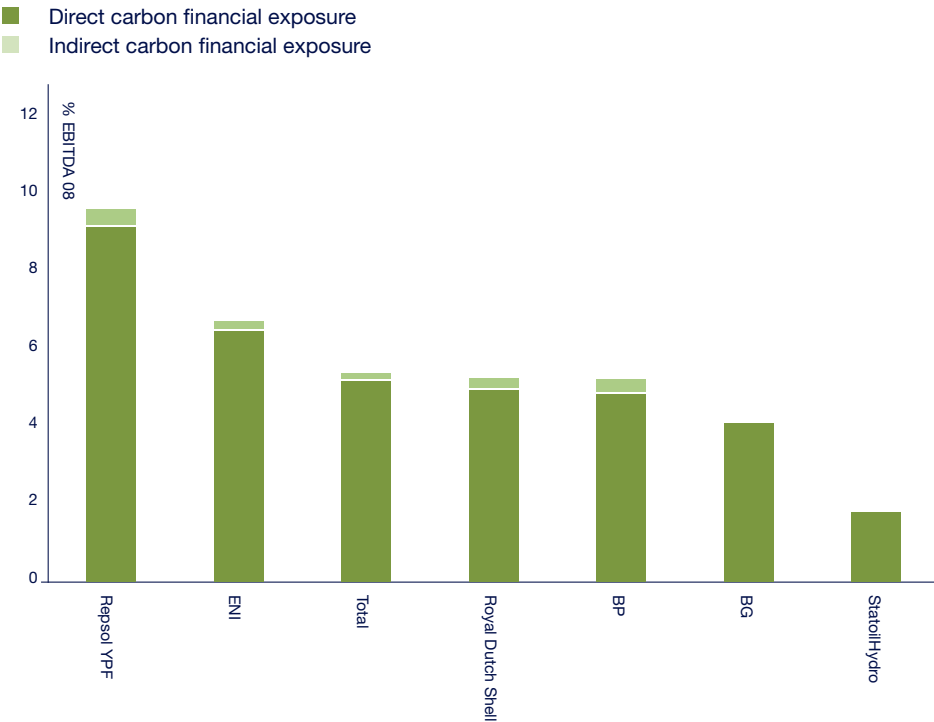


Figure 44: End-use and disposal of products – Scope 3

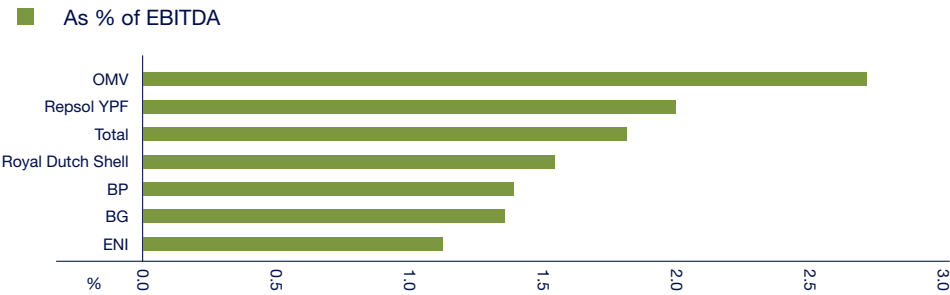


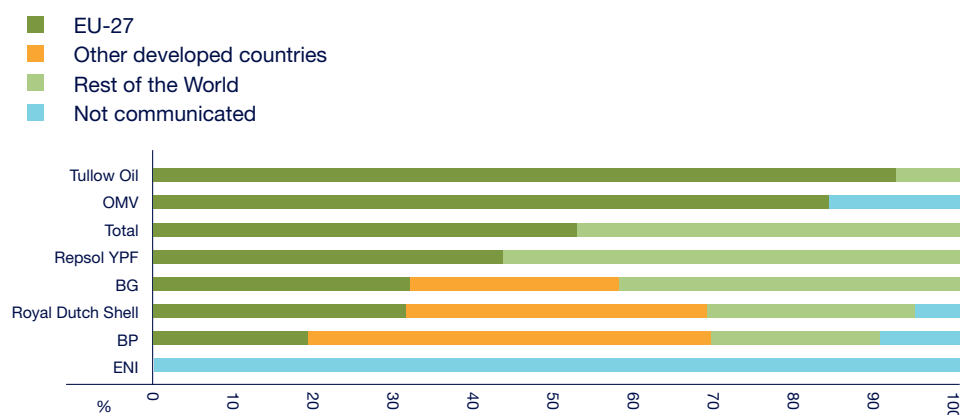
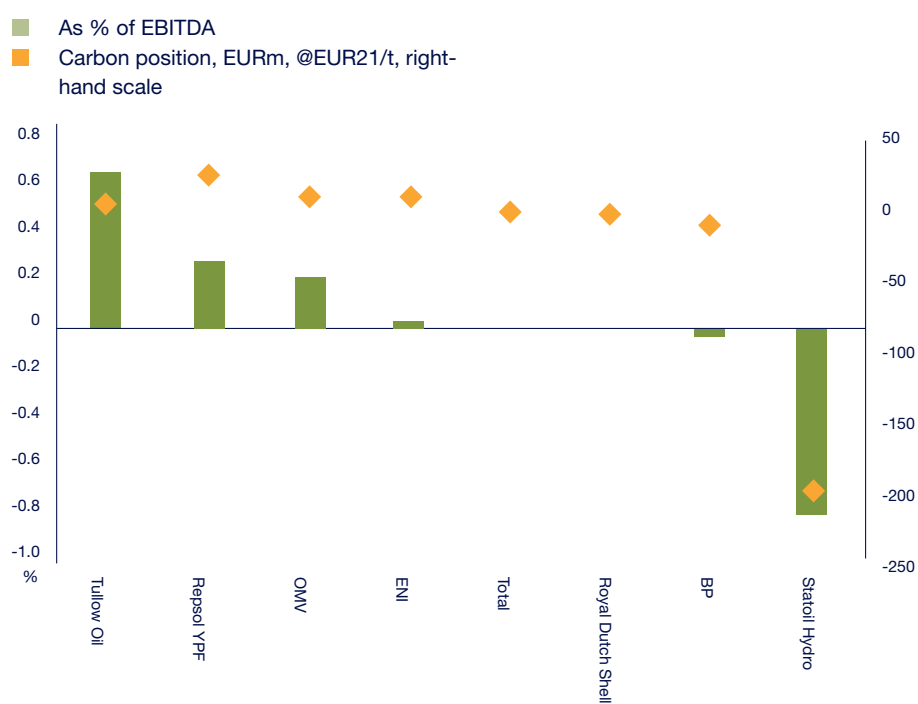
Figure 45: Exposure to regional climate policies**Figure 46: Trading position in the EU ETS and relative to 2008 EBITDA**

Figure 47: Emission reductions in 2008

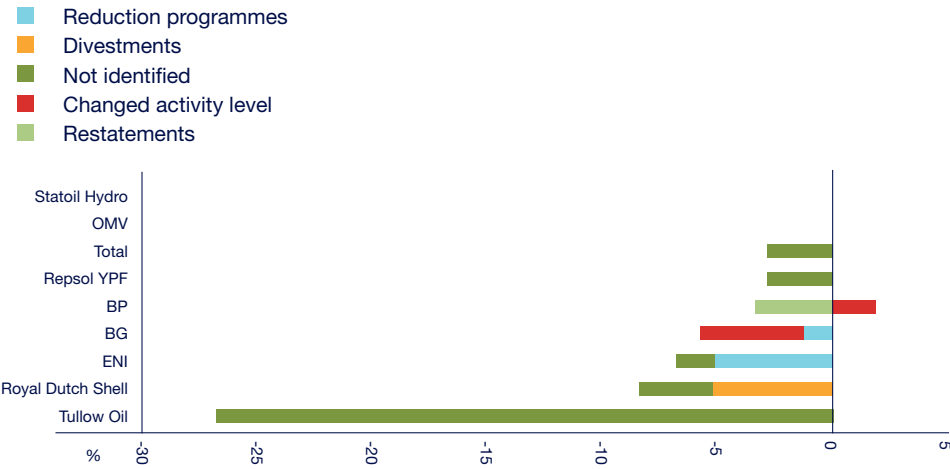
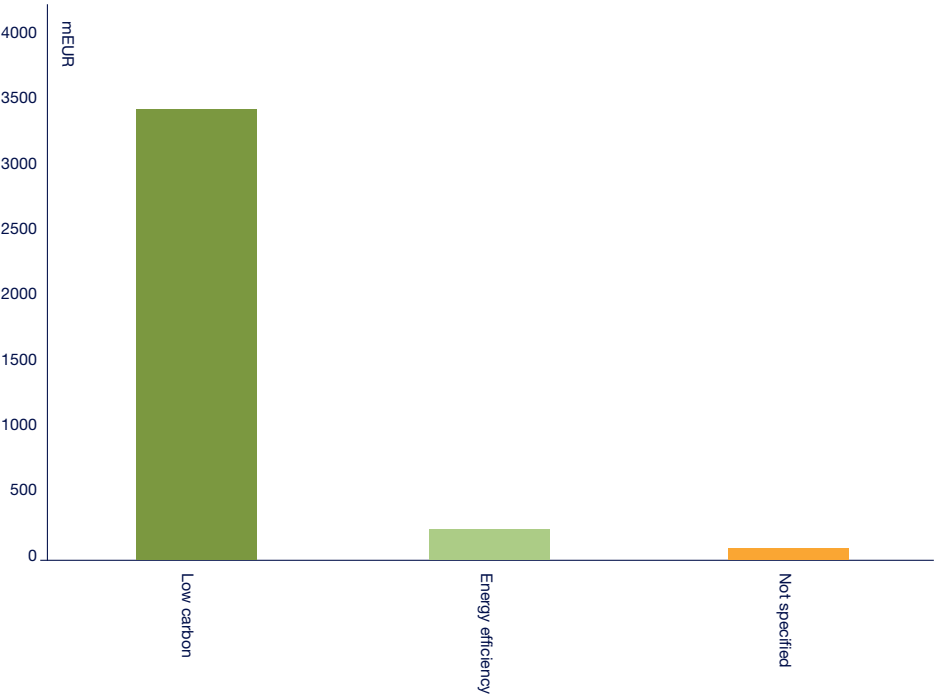


Figure 48: Investment plans by investment type



Building materials

Exposure to carbon costs

Integrated cement producers Holcim and Lafarge have an extremely high financial exposure to carbon costs, with more than 77% of their EBITDA potentially at risk. This figure falls to less than 16% for CRH and Saint-Gobain which have more diversified product portfolios. Energy costs represent a significant share of the cost structure in this sector – ranging from 5% to 15% of total costs.

Regulation, risks and opportunities

The bulk of CRH's emissions are located in Europe, whereas Lafarge and Holcim emit more than 52% of their CO₂ in emerging markets. All four companies have CO₂ emissions regulated under the EU ETS, which – according to Lafarge – is “the only geographical zone where this distortion of competition ... is already a reality”. They all received between 8% and 15% more CO₂ allowances than needed in 2008, which - if monetised at an average 2008 carbon price in 2008 - may have brought in from 0.2% to 1.7% of 2008 EBITDA. Allocations of CO₂ allowances are expected to be fairly stable by 2012. For the period 2013-2020, “the cement sector is now considered as eligible for the ‘free allocation up to the benchmark’

mechanism which reduces significantly, but not totally, the regulatory risks related to the implementation of the EU-ETS” (Lafarge). “In this context, CRH, due to recent investments in modern cement and lime plants in the EU, will be well positioned.” (CRH) The sector seeks a sectoral global agreement for the post-Kyoto period. With a portfolio of light materials, Saint-Gobain considers itself well positioned to benefit from a toughening of regulation on the energy efficiency of buildings.

Emission reduction plans

Achievements: Overall, the four responding companies increased their direct GHG emissions by 2.9% in 2008. The rise is mostly due to Lafarge (acquisition of Orascom's assets), and hides a 1.5% emission reduction attributable to carbon efficiency plans. Plans: All companies have reduction targets ending in 2010 (except CRH in 2015), which imply average annual reduction rates of between 0.6% and 2% of specific emissions since the baseline year. The use of decarbonated clinker substitutes, substitution of fossil fuels and improvement of energy efficiency are actions cited to mitigate carbon emissions. All the companies use Kyoto flexible mechanisms to originate project-based carbon credits with projects in their own asset base.

Top disclosers by CDLI Score:

Lafarge (84), Saint-Gobain (67), Holcim (61)

Average CDLI Score: 63

Average Performance Score: 23/41

Number of companies responding: 5 out of 5, publicly : 4

Total GHG emissions:

Scope 1: 291mtCO₂e,
Scope 2: 28.6mtCO₂e

“Benchmarking should be based on the final product to ensure that all reduction levers can be utilized to reduce CO₂ emissions. As a consequence, cement benchmarking should be utilized in the cement industry and not clinker benchmarking.”

Holcim

“We are currently reassessing our investment scenarios in Europe and in North America by including the most recent information related to future regulations (phase III of the ETS in Europe, new scheme in the US) and the different simulations we have conducted.”

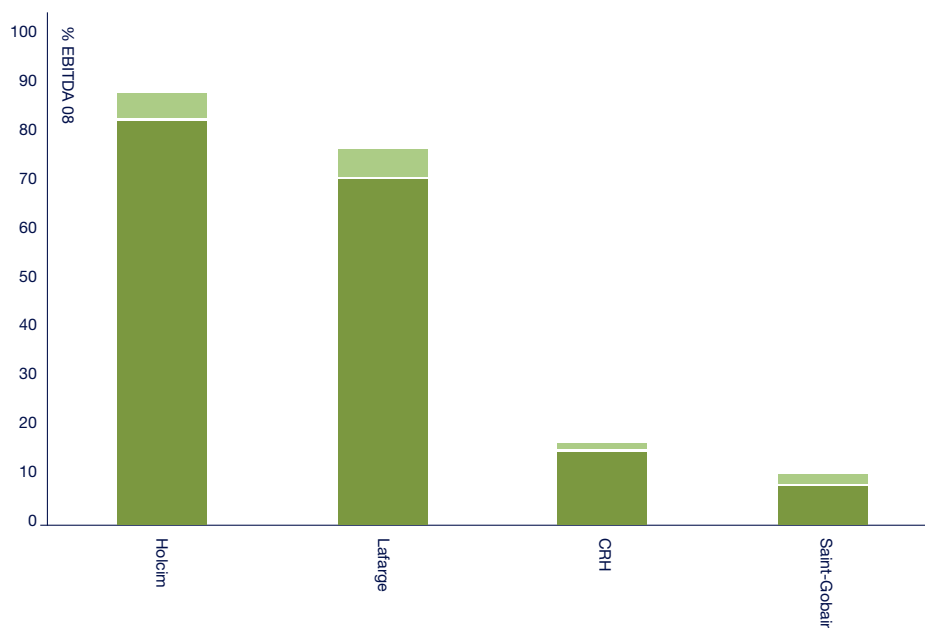
Lafarge

Table 11: Emission reduction plans

	Reduction target (%)	Baseline	End year	Time-scale (yrs)	Implicit Annual av. rate (%)	Absolute / Intensity	Investments planned
CRH	-15%	1990	2015	25	-0.6%	Intensity	EUR700m over 3 years in major cement development projects
Holcim	-20.0%	1990	2010	20	-1.1%	Intensity	"Investing in process and production optimisation"
Lafarge	-20%	1990	2010	20	-1.1%	Intensity	EUR9m in French plant for clinker and fossil fuel substitution
Saint-Gobain	-6%	2007	2010	3	-2.0%	Intensity	N/C (env. spendings ~EUR100m p.a.)

Figure 49: Carbon financial exposure index (Scope 1 & 2)

- Direct carbon financial exposure
- Indirect carbon financial exposure

**Figure 50: Exposure to regional climate policies**

- EU-27
- Other developed countries
- Rest of the World
- Not communicated

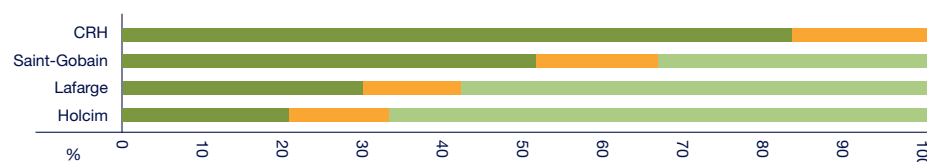
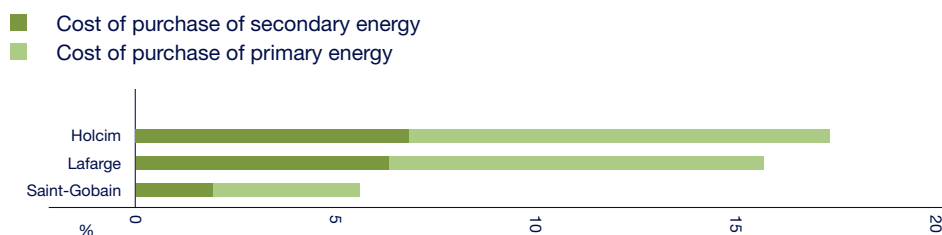


Figure 51: Energy costs, as % of total costs – 2008

Saint-Gobain “produces building materials that significantly help to reduce energy consumption for heating and air conditioning. ...Tests have shown that the energy saved by using glass wool in building insulation is over a hundred times greater than the energy consumed in its manufacture and transportation.”

Saint-Gobain

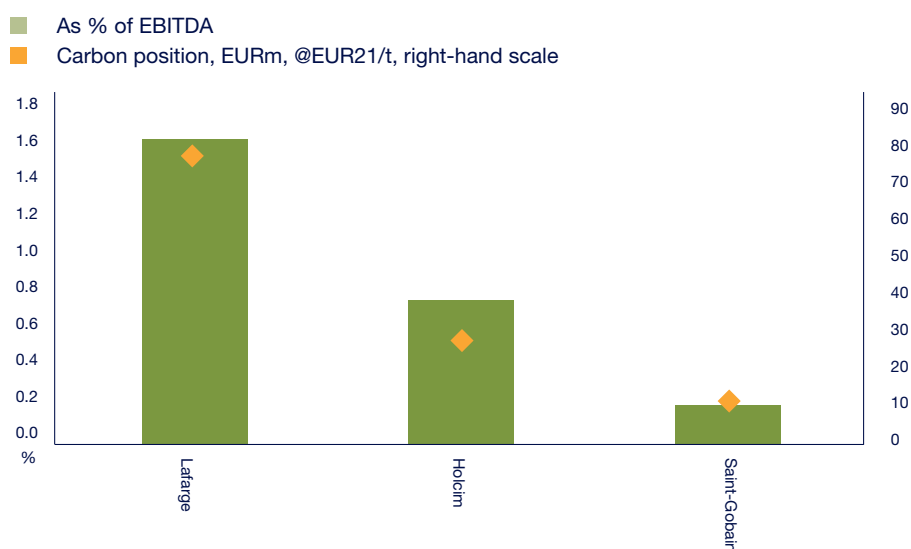
Figure 52: Trading position in the EU ETS and relative to 2008 EBITDA

Figure 53: Emission reductions in 2008

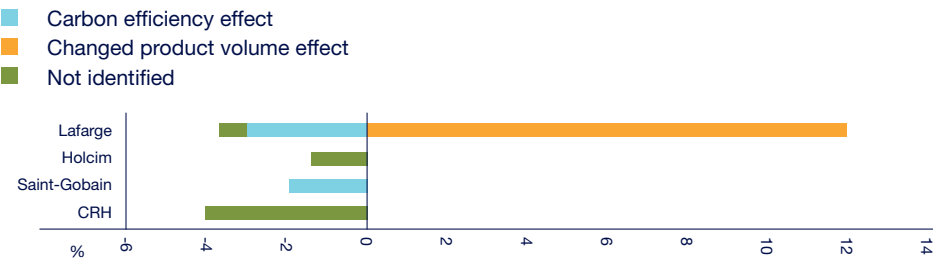
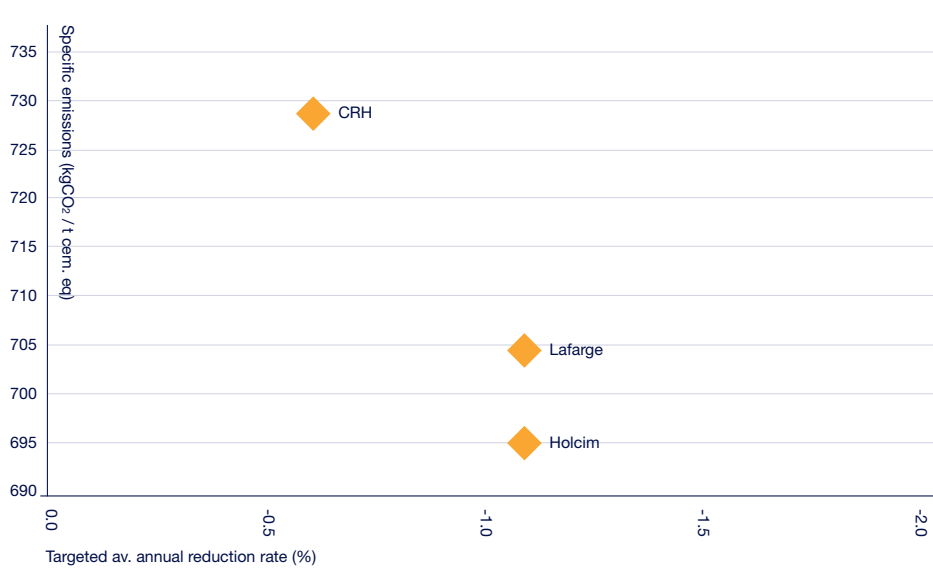


Figure 54: Carbon profiles and emission reduction objectives



Metals & mining

Exposure to carbon costs

Metals companies Hydro and ArcelorMittal have significant financial exposure to carbon. A full materialisation of carbon costs at EUR30/tCO₂ could potentially wipe out more than one-third of their operating profit. Mining companies' direct financial exposure is lower, although they are also large electricity consumers, which makes them sensitive to the level of hydro-electric power production (e.g. rainfall levels) and to the pass-through of CO₂ into power prices. Some of these companies are also exposed to climate change regulations through the products they sell (e.g. coal). Three mining companies (Rio Tinto, Xstrata, BHP Billiton) have estimated carbon emissions due to the end use of their products that are more than 10 times higher than their direct CO₂ emissions.

Regulatory, risks and opportunities

Except for Hydro, these companies' exposure to the EU ETS in Europe is relatively low. ArcelorMittal and Lonmin do not report where they emit. Very few companies disclose their emissions and allocations under the EU ETS. In other regions where they operate (e.g. Australia, New Zealand, North America and South Africa), companies highlight exposure to carbon regulations expected to come into effect between 2010 and 2012. Lonmin: "South Africa has embarked on the development of a

national climate change policy which is envisaged to be finalised by 2010. It is further planned that this policy is to be translated into a legislative, regulatory and fiscal package by 2012." As these regulations are still being designed, companies are engaging with regulators. BHP Billiton: "will participate in the Australian Carbon Pollution Reduction Scheme (CPRS), which is anticipated to commence in 2011. We are currently consulting with the government to determine our eligibility for free permits under the Emissions Intensive Trade Exposed (EITE) Assistance Program and financial assistance under the Coal Sector Adjustment Scheme."

Emission reduction plans

Achievements: Sector emissions decreased by approximately 6% in 2008, but changes mostly result from acquisitions/divestments or drops in activity. Except for Anglo American, CO₂ efficiency deteriorated slightly overall. Plans: All companies have set targets to reduce their specific emissions or energy consumption, ranging from 0.6% (ArcelorMittal) to 4.7% (Hydro) in annual emissions reductions on average over the period of the reduction plan. Aggregated at the sector level, this points to an annual reduction effort of 0.9% in specific terms. Some companies plan to make efficiency improvements through reduced electricity consumption and generation of power from coal mine methane.

Top disclosers by CDLI Score:

Rio Tinto (87), BHP Billiton (82), SSAB (72)

Average CDLI Score: 61

Average Performance Score: 17/41

Largest non-respondents by market capitalisation: Eramet, Salzgitter AG, Vedanta Resources

Number of companies responding: 11 out of 16, publicly : 7

Total GHG emissions:

Scope 1: 298mtCO₂e;
Scope 2: 103mtCO₂e

"As a large coal producer, regulation which does not support lower emissions coal use could affect our customers. As a large uranium producer there is a positive risk from regulation that supports the expansion of nuclear power."

Rio Tinto

The EU ETS "will not until 2013 include aluminium production. However, as the CO₂ cost was included in the power pricing, power prices in Europe rose significantly. This hits the aluminium producers as their long-term power contracts expired and the new contracts were fully exposed to the CO₂ cost."

Hydro

"Australia has announced that a new GHG Emissions Trading Scheme will commence in the year 2011. BHP Billiton's operating assets in Australia will be required to report their direct CO₂ emissions and acquire permits to cover those emissions either through purchase, trading, or administrative allocation."

BHP Billiton

Table 12: Emission reduction plans

	Activity / Action	Reduction target (%)	Baseline	End year	Timescale (years)	Annual av. rate (%)	Absolute / Intensity
Anglo American	All business - Scope 1 & 2	-10%	2004	2014	10	-1.0%	Intensity
ArcelorMittal	Steel production	-8.0%	2007	2020	13	-0.6%	Intensity
BHP Billiton	Carbon-intensity	-6%	2006	2012	6	-1.0%	Intensity
Lonmin	Energy intensity	-10%	2007	2012	5	-2.1%	Intensity
Hydro	Primary aluminium	-21%	2007	2012	5	-4.7%	Intensity
Rio Tinto	Scope 1 + 2	-4%	2003	2008	5	-0.8%	Intensity
Xstrata	Alloys, copper, nickel, zinc-lead	-5%	2005	2010	5	-1.0%	Intensity

Figure 55: Carbon financial exposure index (Scope 1 & 2)

■ Direct carbon financial exposure
■ Indirect carbon financial exposure

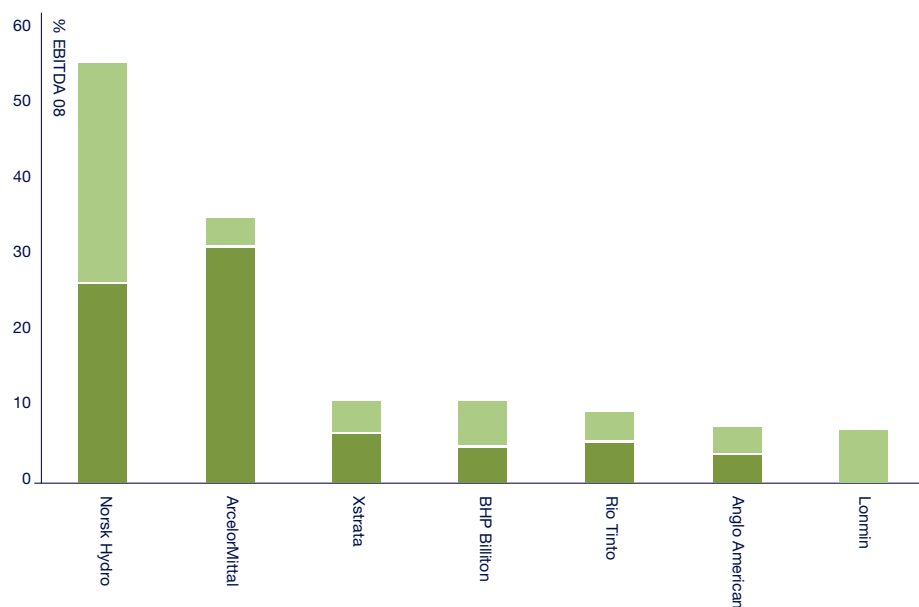


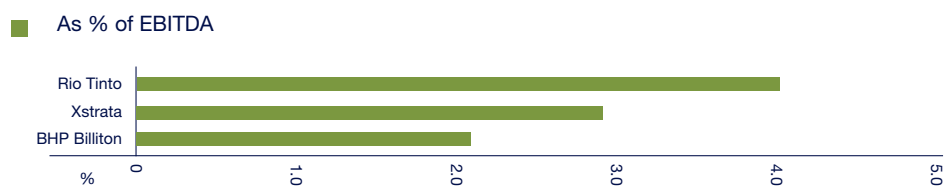
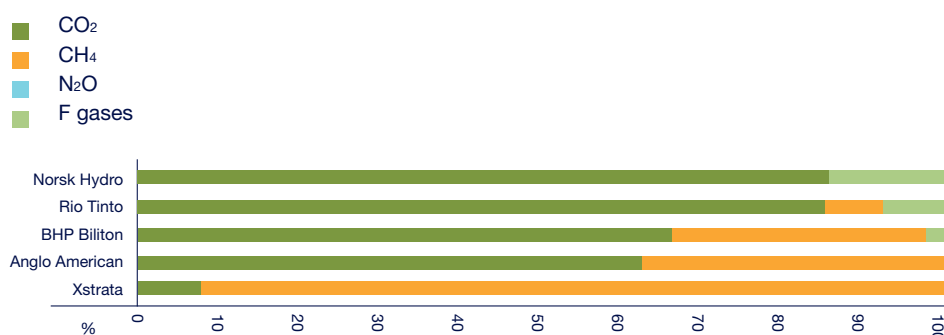
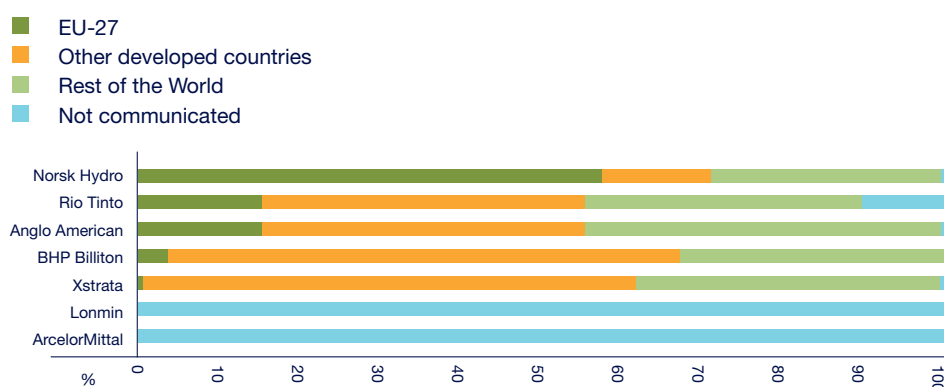
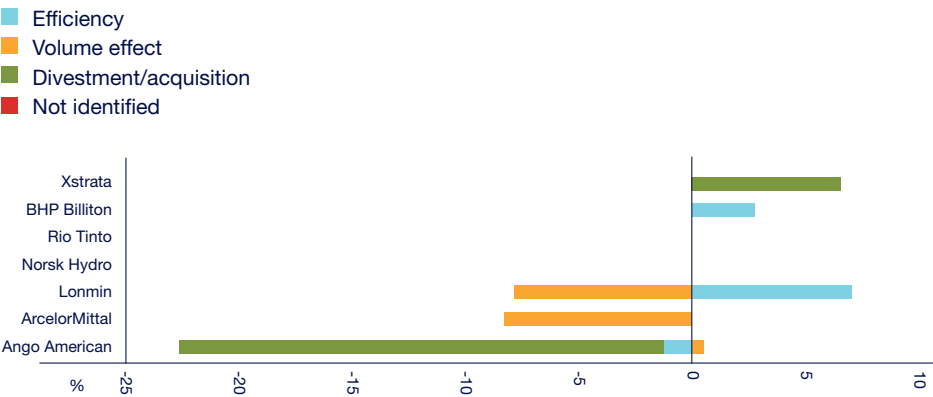
Figure 56: Carbon footprint – end use of products – Scope 3**Figure 57: Breakdown of GHG emissions by gas****Figure 58: Exposure to climate change policies**

Figure 59: Emission reductions in 2008



“In some of its plants, ArcelorMittal has reached the technical limits of reducing CO₂ per tonne of steel. With technology changes, it will reach its technical limits in other plants in the future.”

ArcelorMittal

Figure 60: Carbon profiles and emission reduction objectives



*BHP Billiton data overlaps with Xstrata data and is shown by a single diamond

Transportation

Companies disclosing publicly in the Transportation sector belong to the following subsectors: transport logistics, airlines, transportation infrastructure, and shipping. We have included cruise ship operator Carnival in this sector due to its similar carbon profile.

Exposure to carbon costs

Air France-KLM's carbon exposure (88% of EBITDA) is much higher than that for companies in other sub-sectors, for which the ratio does not exceed 13%. The carbon footprint through electricity purchases is not a key issue for this sector.

Regulation, risks and opportunities

Only A.P. Moller – Maersk, with business divisions in energy, shipping and industry sectors, has installations regulated under the EU ETS for the time being. However, some companies foresee tougher carbon regulations in the future. For instance, the inclusion of aviation in the European Union Emissions Trading Scheme has been adopted for implementation in 2012. AF-KLM predicts that this is likely to distort competitiveness, and companies tend to call for global solutions with regards to climate change regulation.

Emission reduction measures

In the airlines sector, Air France-KLM has launched a Climate Action Plan, aimed at: 1) reducing GHG emissions with support for research into improving energy efficiency; 2) providing customers with information

on GHG emissions and opportunities for carbon compensation; and 3) promoting renewable energy. At the same time, Air France-KLM is upgrading its fleet to reduce fuel consumption and lower aircraft mass, and investing to obtain electricity from renewable sources.

In the shipping sector, A.P. Moller – Maersk set up a comprehensive plan in 2008, including a series of energy saving measures: waste heat recovery systems on ships, which can save up to 8–10% of fuel in optimal conditions; slow steaming, which reduces fuel consumption by more than 15% without increasing the number of days at sea; software in containers to reduce energy consumption for cooling; and route optimisation. The group is also investigating future Carbon Capture & Storage projects, including the potential for Maersk Tankers to enter the CO₂ transportation market.

In the transportation infrastructure segment, Cintra provides numerous examples of efforts to reduce the carbon footprint either of infrastructure or users. For car parks: condenser batteries that cut power consumption by adjusting the reactive energy coefficient used, lighting with electronic ballasts, systems detecting users when they enter car parks and automatically raising lighting levels, and solar panels to produce nearly 40KWh more than the energy consumed by the car park. For toll roads: automatic roll systems that allow savings of between 10% and 30% when a vehicle passes through the toll line.

Top disclosers by CDLI Score:

TNT (71), Air France – KLM (68), A.P. Moller – Maersk (67)

Average CDLI Score: 57

Average Performance Score: 17/41

Largest non-respondent by market capitalisation: Soc Des Autoroutes Paris-Rhin-Rhone

Number of companies responding: 10 out of 11 companies, publicly: 6

GHG emissions:

Scope 1: 108mtCO₂e,
Scope 2: 1 mtCO₂e

“Inclusion of aviation in the European Union Emission Trading Scheme has just been adopted for implementation in 2012. This unilateral decision is opposed by most of non-EU countries. The regional mechanism will thus create traffic diversion and carbon leakage : traffic and the related emissions will partly shift to non-European hubs. ... International aviation needs international support and global commitment to fight climate change efficiently.”

Air France-KLM

Table 13: Emission reduction plans

		Reduction target (%)	Base-line	End year	Time-scale (yrs)	Annual av. rate (%)	Absolute / Intensity
A.P. Moller - Maersk	Systems to control energy consumption, energy efficiency, CCS, Waste heat recovery system	Maersk Line = 20% TEU/km by 2017 based on 2007 levels	2007	2017	10	-2.2%	Intensity
Air France - KLM	Climate Action plan, reducing aircraft mass, energy efficiency, route optimisation	AF : -20% on flights to French overseas territories/ -5% on domestic flights -300,000 tons / year from 2012 KLM: CO ₂ neutral growth	2005	2012	7	-3.1%	Both
Carnival Corp.	Control by system for heating, ventilating, air conditioning, efficiency lighting, EE	No targets set at the corporate level	N/A	N/A	N/A	N/A	N/A
CINTRA	Control by system energy consumption	-5%	2008	2009	1	-5.0%	Absolute
Deutsche Post AG		-30%	2007	2020	13	-2.7%	Absolute
TNT		Targets in the near future					

“As we are a global company, we are exposed to regulatory risks and we strive to comply with all evolving regulatory requirements – these are very likely to be more stringent by 2020 than today. Where legislation is concerned, we are determined to find global solutions for the industries.”

Maersk

“Urban planning and sustainable mobility are strongly related to energy consumption and GHG emissions in cities. Cintra promotes partnership with local governments and public institutions to encourage citizens to leave their cars in the outskirts of the biggest towns, and to use public transport to access to the urban areas.”

Cintra

“TNT’s operational vehicles strategy focuses on five main areas:
- network optimisation,
- driving behaviour,
- fuel,
- technology,
- subcontractors.”

TNT

Utilities

Exposure to carbon costs

RWE runs the most carbon-intensive energy mix in the European sector, with a CO₂ intensity (per MWh produced) more than twice the sector average. Our 'carbon financial exposure index' (see introduction to this section) shows that water and multi-utilities have lower financial exposure to the materialisation of carbon costs (see chart). Scope 2 emissions are relatively low for this sector. RWE has disclosed an estimate for CO₂ emissions relating to electricity purchased from third parties for resale to customers (75mtCO₂), but this figure is excluded from the charts to ensure comparability.

Regulation, risks and opportunities

All companies but Fortum and National Grid emit more than 57% of their GHG emissions in Europe, where they fall within the scope of the EU ETS. 2008 EBITDA was thus already impacted by carbon costs, as companies reported a shortage of 173m CO₂ allowances in 2008, with Fortum and German E.ON and RWE already having to cover over 39% of their emissions through the purchase of carbon credits. All electric utilities purchase project-based carbon credits for compliance purposes.

Emissions reduction plans

Achievements: Although companies altogether reported a 16% increase in their GHG emissions in 2008, most of this can be attributed to acquisitions or increased activity (up ~19%). This suggests that specific emissions decreased overall. Plans: Only A2A, an Italian company, has no reduction plan or reduction target. Most targets are set in specific terms, and implied average annual reduction rates range from -0.7% to -11.1%. The top 3 fast movers are EDP, RWE and Iberdrola. Overall, the sector plans to cut its specific emissions by 3.2% p.a. Nine companies disclose the investments they have planned in order to reach these targets. More than EUR72bn (over one year of companies' EBITDA) is to be invested within the next few years in: renewable energies (EUR33bn), other low-carbon energies such as nuclear power, natural gas, as well as CCS (EUR13.4bn) and the energy efficiency of power generation assets (EUR21bn). Planned capacities disclosed by five companies point to the most rapid growth in solar (CAGR 87% out to 2012), wind (24%) and biomass CHP (23%).

Top disclosers by CDLI Score: Union Fenosa (86), Centrica (84), RWE (83)

Average CDLI Score: 70

Average Performance Score: 25/41

Largest non-respondent by market capitalisation: None (British Energy acquired by EDF)

Number of companies responding: 23, publicly: 19

Total GHG Emissions: Scope 1: 867 mtCO₂e, Scope 2: 97mtCO₂e

"The opportunity provided by the flexibility mechanisms for acquiring CO₂ credits exists in particular in the CDM and JI market. Enel is now a leading player in the global emissions market..."

Enel

"We have set ourselves a stretching target. ... it is the right response to a world which will become increasingly carbon-constrained. With a £3 billion programme of investment in renewables, we're putting our money where our mouth is."

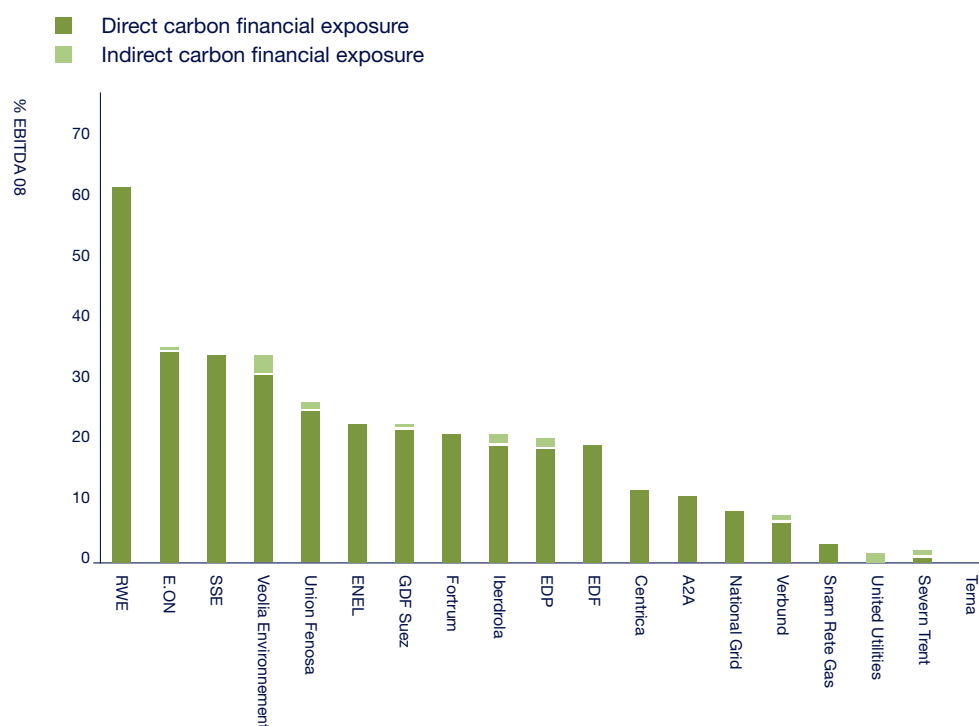
Scottish & Southern Energy

Table 14: Emission reduction plans

		Reduction target (%)	Baseline	End year	Timescale (years)	Annual av. rate (%)	Absolute / Intensity
Centrica	Direct Energy	-9%	2007	2012	5	-1.8%	Absolute
E.ON		-50%	1990	2030	40	-1.7%	Intensity
EDP		-56%	2005	2012	7	-11.1%	Intensity
EDF	France only	-50%	1990	2020	30	-2.3%	Intensity
ENEL	Through CDM	-22%	2004	2012	8	-3.0%	Absolute
Fortum	Heat production	-10%	2006	2020	14	-0.7%	Intensity
Iberdrola		-42%	2001	2010	9	-5.9%	Intensity
National Grid	All business lines	-45%	1990	2020	30	-2.0%	Absolute
RWE		-34%	2008	2015	7	-5.7%	Absolute
SSE	Power stations	-50%	2005	2020	15	-4.5%	Intensity
Snam Rete Ga	Transmission	-10%	2008	2012	4	-2.6%	Intensity
Union Fenosa		-40%	1990	2010	20	-2.5%	Intensity
United Utilities		-26%	2005	2012	7	-4.2%	
Veolia Env.	Dalkia	-23%	2005	2011	6	-4.3%	Intensity
Verbund	Thermal power plant	-20%	2004	2008	4	-5.4%	Intensity

“A further key element is CCS. RWE is developing the world’s largest and first IGCC/ CCS power station on commercial scale to be built near Cologne / Germany (415 MW) and to be commissioned in 2013/2014.”

RWE

Figure 61: Carbon financial exposure index (Scope 1 & 2)**Figure 62: Exposure to climate change policies**

- EU ETS scope
■ Other developed countries
■ Rest of the World
■ Not communicated

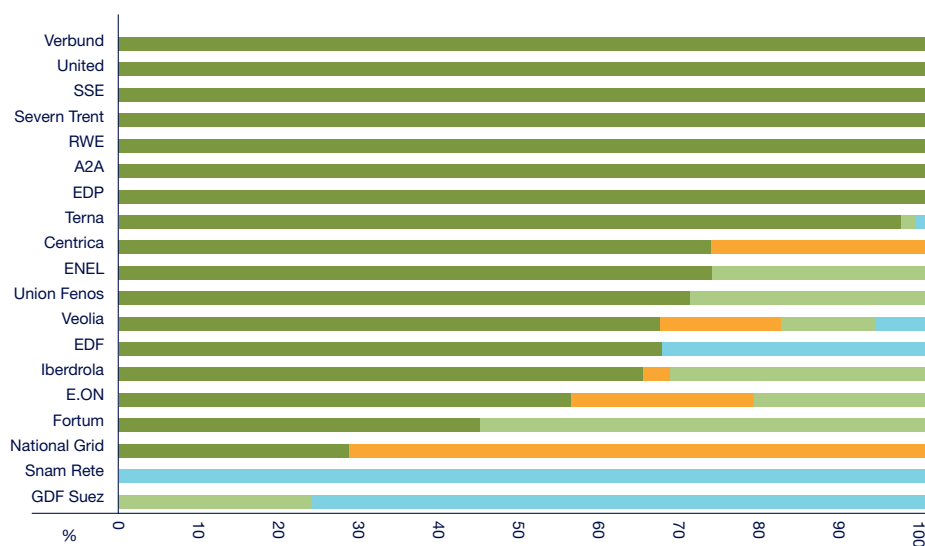


Figure 63: Trading position in the EU ETS

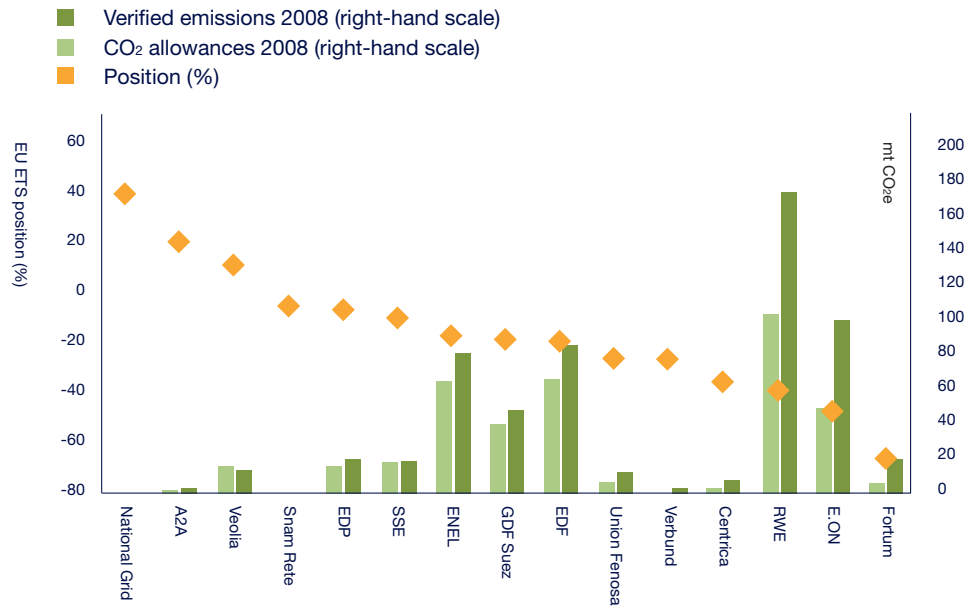


Figure 64: Planned trend of capacities by 2012 (5 companies)

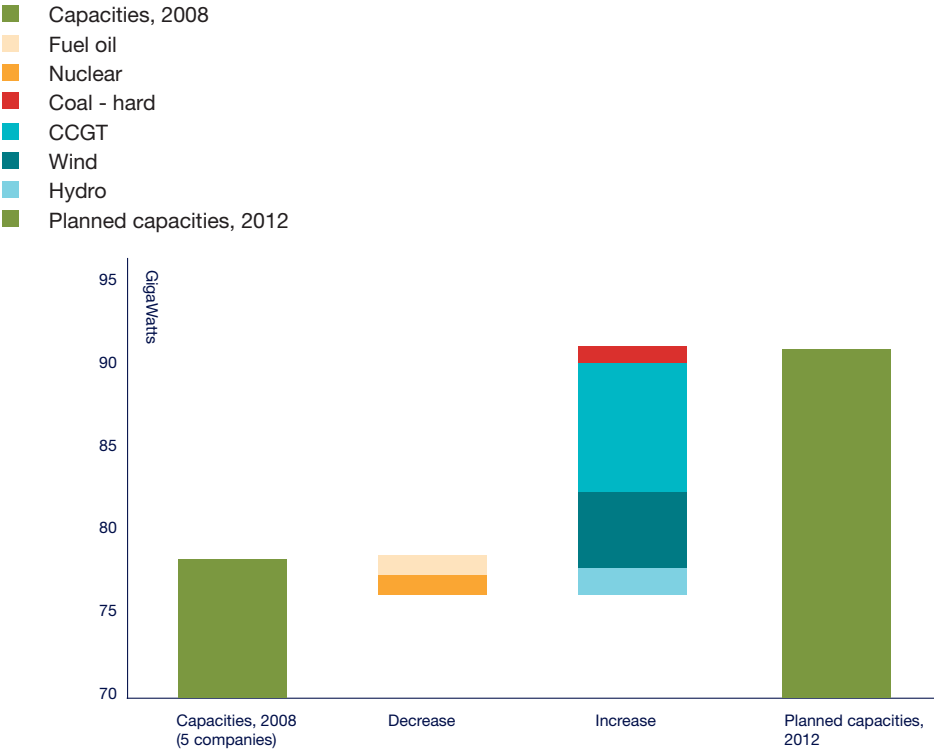


Figure 65: Investment planned for target achievement

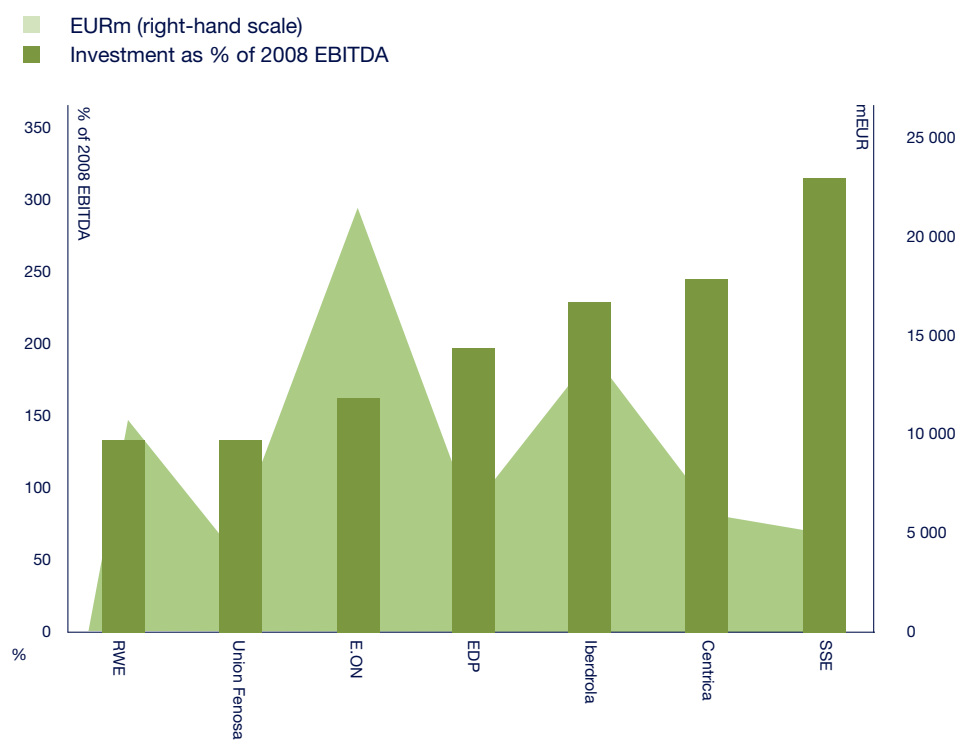
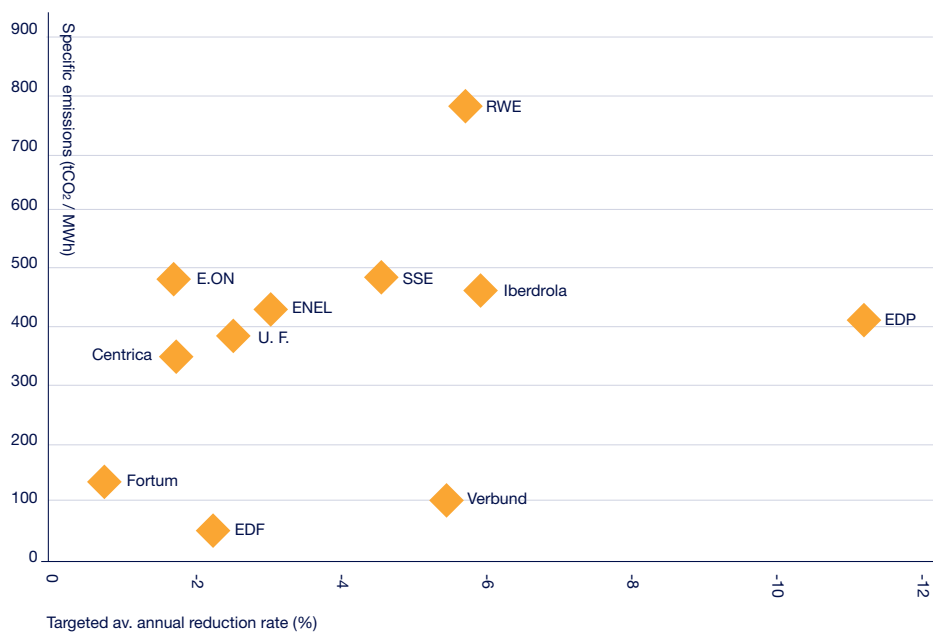


Figure 66: Carbon profiles and emission reduction objectives



Top disclosers by CDLI Score:

UPM-Kymmene Corporation (72),
Stora Enso (71)

Average CDLI Score: 69

Average Performance Score:
23/41

**Largest non-respondent by
market capitalisation:** none

**Number of companies
responding:** 3; Publicly: 3

Total GHG emissions:
Scope 1: 9.65mtCO₂e ;
Scope 2: 7mtCO₂e

Stora Enso “has taken advantage of wood’s versatility, cost effectiveness and sustainability by developing a prefabricated cross-laminated timber (CLT) for use in walls, ceilings and roofing.”

Stora Enso

UPM “has been a forerunner in the use of forest biomass as fuel – currently in Finland more than 80% and globally 62% of fuels used at UPM’s mills are biomass-based and CO₂-neutral.”

UPM-Kymmene

Pulp & paper

Exposure to carbon costs

Stora-Enso, UPM-Kymmene and SCA have an estimated direct carbon exposure ranging from 6% to 10% of EBITDA. Stora Enso has the highest direct exposure relative to its operating profit (14%). Indirect carbon exposure (from electricity consumption) varies from 2% to 4%. On this aspect, SCA seems more sensitive to changes in electricity prices, since it purchases more gigawatt-hours from external suppliers per million euros of revenues than its peers. The transportation of products is also a significant issue for the industry. Emissions from transport and logistics represent between 24% (UPM-Kymmene) and 63% (Stora Enso) of companies’ direct emissions.

Regulation, risks and opportunities

UPM-Kymmene is relatively more diversified with regard to geographical exposure to carbon regulation, because only 66% of its emissions are subject to the EU ETS, compared to 89% for Stora Enso. This is mainly due to its activities in China (29% of its Scope 1 emissions are generated in China). Both companies also have emissions in the US (e.g. UPM-Kymmene has one paper mill there). Under the EU ETS, groups received from 20% (SCA) to 38% (UPM-Kymmene) more CO₂ allowances

than needed in 2008, pointing to a potential positive effect on EBITDA of 0.5% to 1.6% in 2008. However, Stora Enso emphasised the negative financial impact of the EU ETS, stating that the cost of the EU ETS (including higher electricity prices) has not been counterbalanced by sales of excess allowances. UPM-Kymmene and SCA have purchased project-based carbon credits (primarily for compliance purposes), while Stora Enso has not.

Emission reduction plans

Achievements in 2008: The three paper product companies achieved a reduction in their emissions thanks to investments and projects designed to increase the use of biomass and energy efficiency in both production and consumption. Plans: The two companies disclosing their reduction targets have nearly the same objective: annual average reduction rates implied by disclosed reduction targets range between 1.5% and 1.6%, with 2020 as a timeframe. However, only UPM-Kymmene reported its investments by geographical region. The total of these investments, mainly dedicated to power plants using biomass-based fuel, is EUR650m. Investments to achieve these targets are in the same activity areas: improving energy efficiency, replacing fossil energy with non-fossil energy, and increasing the use of recovered fibre in the paper production process.

Table 15: Emission reduction plans

	Activity / Action	Reduction target (%)	Timescale	Annual av. rate (%)	Absolute / Intensity	Investments
SCA	Operations	-20%	2005-2020	-1.5%	Intensity	N/A
Stora Enso	Operations	-20%	2006-2020	-1.6%	Intensity	N/A
UPM-Kymmene	N/A	No target	N/A	N/A	N/A	EUR0.65bn

Stora Enso “is working with Neste Oil to jointly develop technology to produce next generation renewable fuel made from wood residues.”

Stora Enso

“By investing in carbon efficient energy production such as Combined Heat and power generation (2460 GWhe), Production of Biofuel (3TWh) and not least Wind Power (2400 GWh) SCA takes a strong grip preparing for changes in energy production and supply. SCA and the Norwegian Statkraft are making a major investment in Wind Power and formed a joint venture for wind power production in northern Sweden 2007.”

SCA

Figure 67: Carbon financial exposure index (Scope 1 & 2)

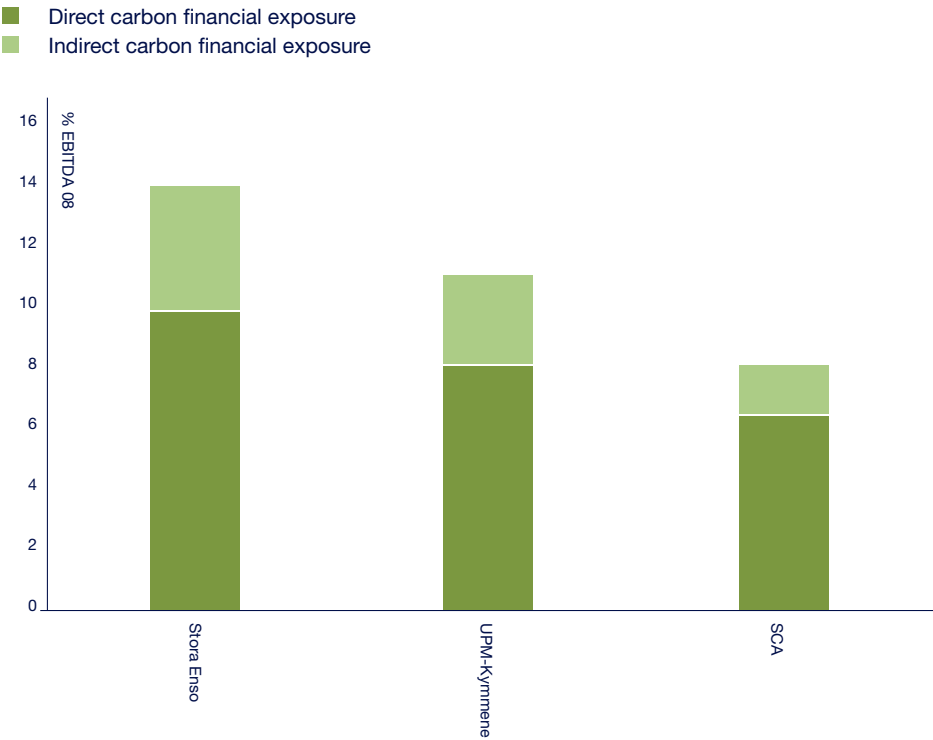


Figure 68: Transport/logistics – Scope 3

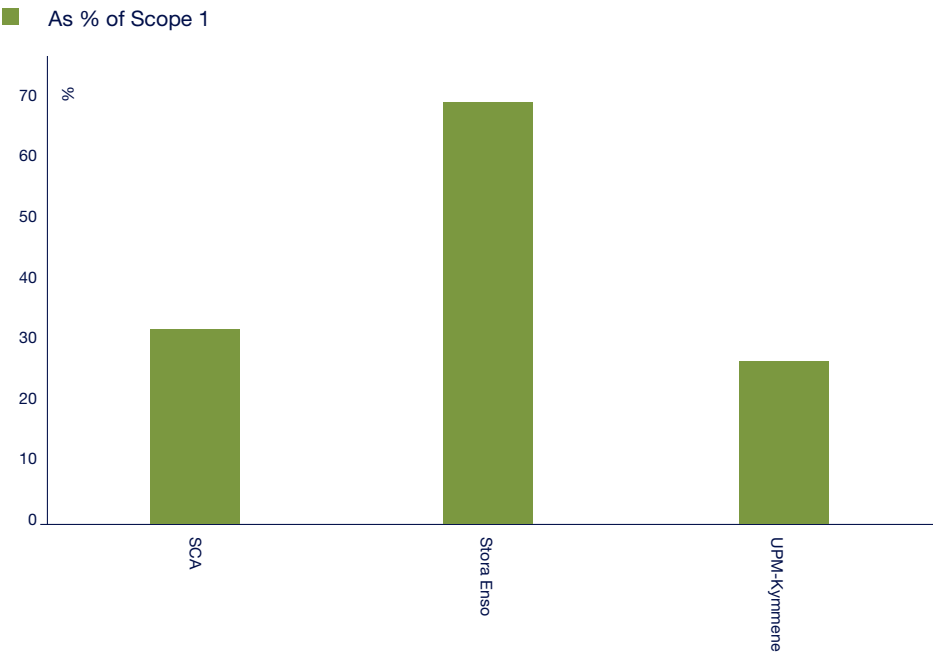


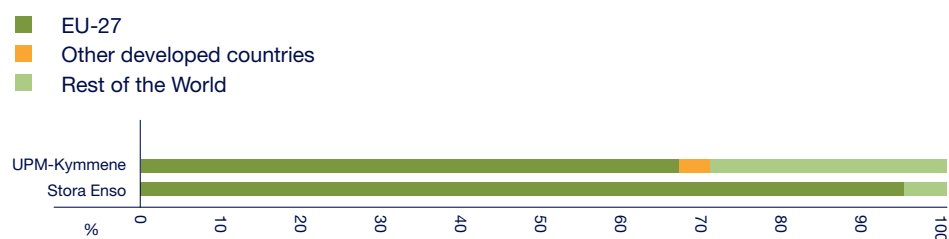
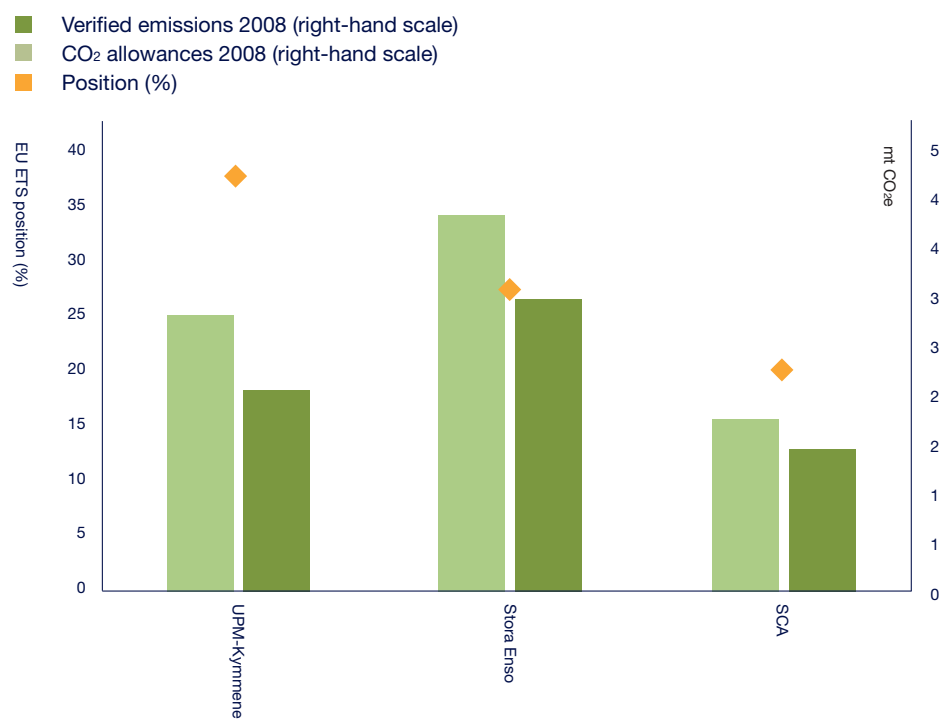
Figure 69: Exposure to climate change policies**Figure 70: Trading position in the EU ETS and relative to 2008 EBITDA**

Figure 71: Allocations of CO₂ allowances by 2012

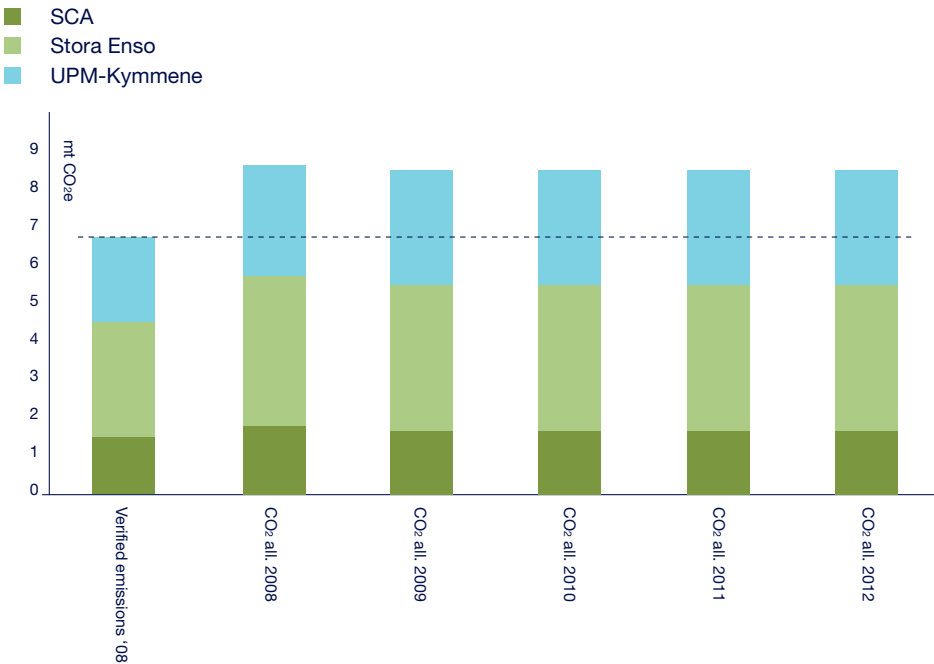
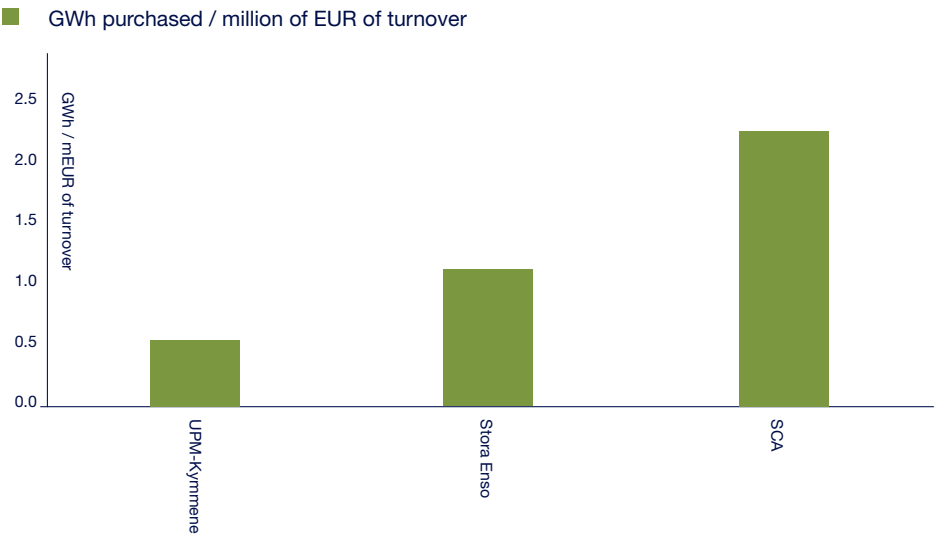


Figure 72: Exposure to electricity purchased from the grid



Chemicals

Exposure to carbon costs

Chemicals companies have estimated direct carbon exposure ranging between 7% and 11%. In industrial gases (Air Liquide, Linde), the carbon exposure as a proportion of operating profit (EBITDA) reaches almost 17%. The carbon footprint of this sector mainly consists of CO₂ and N₂O emissions.

Regulation, risks and opportunities

Five companies are subject to the EU ETS (Akzo Nobel, BASF, Bayer, DSM and Wacker Chemie), but these companies are responsible for only 0.7% of total regulated emissions. DSM and BASF have favourable EU ETS trading positions with CO₂ allowances that more than cover their verified emissions. However, although Akzo Nobel faces a slight shortage of CO₂ allowances, this has very limited impact on financial results. Four companies purchase project-based carbon credits: two do this for compliance purposes, one uses them more for trading purposes, while the fourth has not disclosed its motivation.

Emission reduction plans

Achievements in 2008: BASF, Bayer, Lonza and Royal DSM state that their emissions decreased in 2008. These reductions are attributed to energy efficiency improvements, energy consumption reduction programmes, and new technology aimed at removing N₂O emissions. Two companies have kept the same emissions level, while Akzo Nobel and Syngenta's emissions have increased due to a higher level of business. Plans: All the companies have reduction plans/targets. The disclosed reduction targets have a time horizon of between 2009 and 2020. BASF and Bayer AG have disclosed planned investments that will help them achieve their targets: EUR6.9bn in energy efficiency for BASF, and EUR3.6bn for Bayer AG

Top disclosers by CDLI Score: Bayer AG (95), BASF (94), Royal DSM (79)

Average CDLI Score: 64

Average Performance Score: 22/41

Largest non-respondents by market capitalisation: Solvay, Yara International

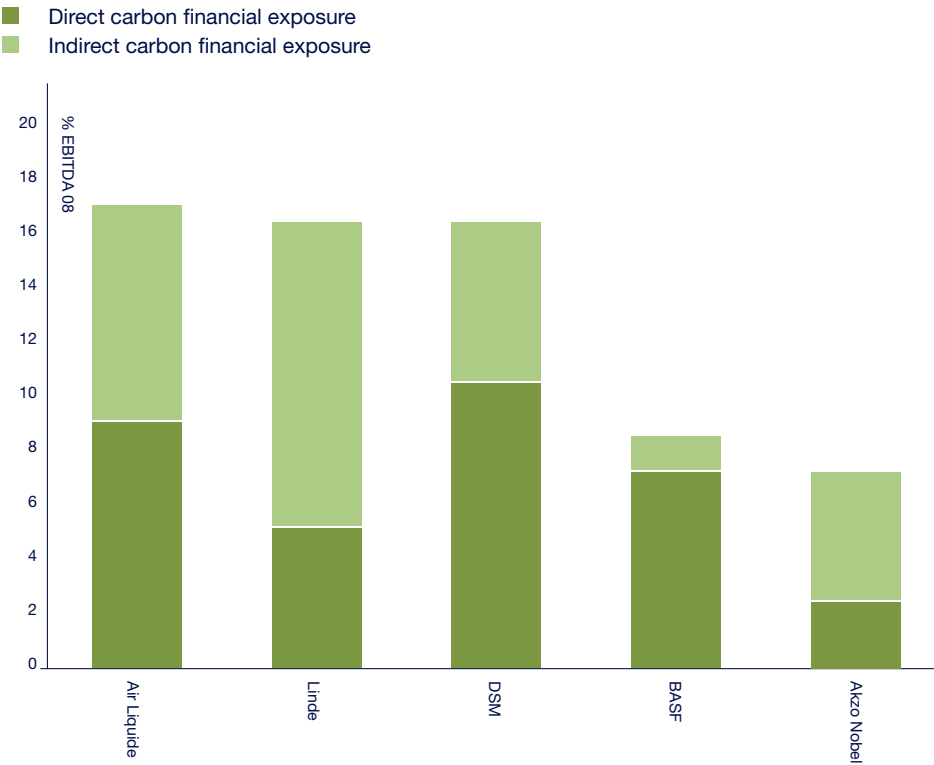
Number of companies responding: 11 out of 13 companies; publicly: 9

Total GHG emissions: Scope 1: 49 mtCO_{2e}, Scope 2: 32 mtCO_{2e}

Table 16: Emission reduction plans

	Actions/ Activities	Reduction target	Baseline	End year	Time-scale	Annual av. rate (%)
Air Liquide	Energy efficiency, new technologies, CCS	140,000 tonnes of CO ₂	2005	2009	4	N/A
Akzo Nobel	Energy efficiency, fuel mix, CO ₂ efficient products	-10%	2009	2015	6	-1.7%
BASF	Awareness of employees, energy efficiency, N ₂ O reduction	-25%	2002	2020	18	-1.6%
Bayer AG	Energy efficiency, energy savings in production processes	Stable between 2007 and 2020	2005	2020	15	0.0%
K + S AG	Cogeneration, energy efficiency, waste incineration	28 kg/tonne raw ore	1990	2012	22	N/A
Linde	Energy conservation programs	No global target	N/A	N/A	N/A	N/A
Lonza Group AG	Energy efficiency	-32%	2000	2015	15	-2.5%
Royal DSM	Energy efficiency, renewable energy, N ₂ O reduction, biotechnology	-15%	2005	2010	5	-3.2%
Syngenta International AG	Resource efficiency	-40%	2006	2012	6	-8.2%

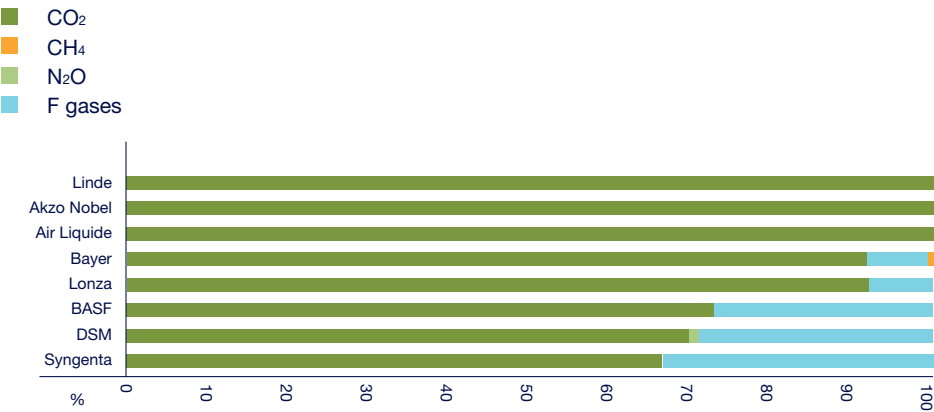
Figure 73: Carbon financial exposure index (Scope 1 & 2)



“We have set a target of 25% reduction of greenhouse gases for the period 2008-2020, [...] an average annual energy efficiency improvement of 1.7 % is necessary, as well as successful development and application of new technologies to reduce the N₂O emissions.”

Royal DSM

Figure 74: GHG emissions by gas type



“Climate protection is an integral part of BASF’s global corporate strategy [...]. BASF is committed to climate protection around the globe by constantly striving to optimize its processes to achieve greater energy and resource efficiency and by providing innovative products and technologies that contribute to climate protection by enabling customers to reduce their own greenhouse gas emissions.”

BASF

Figure 75: CO₂ emissions under the EU ETS

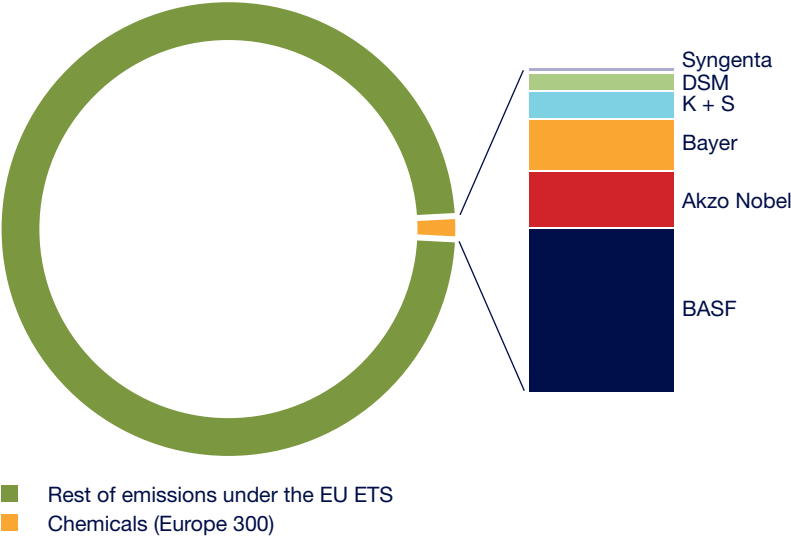
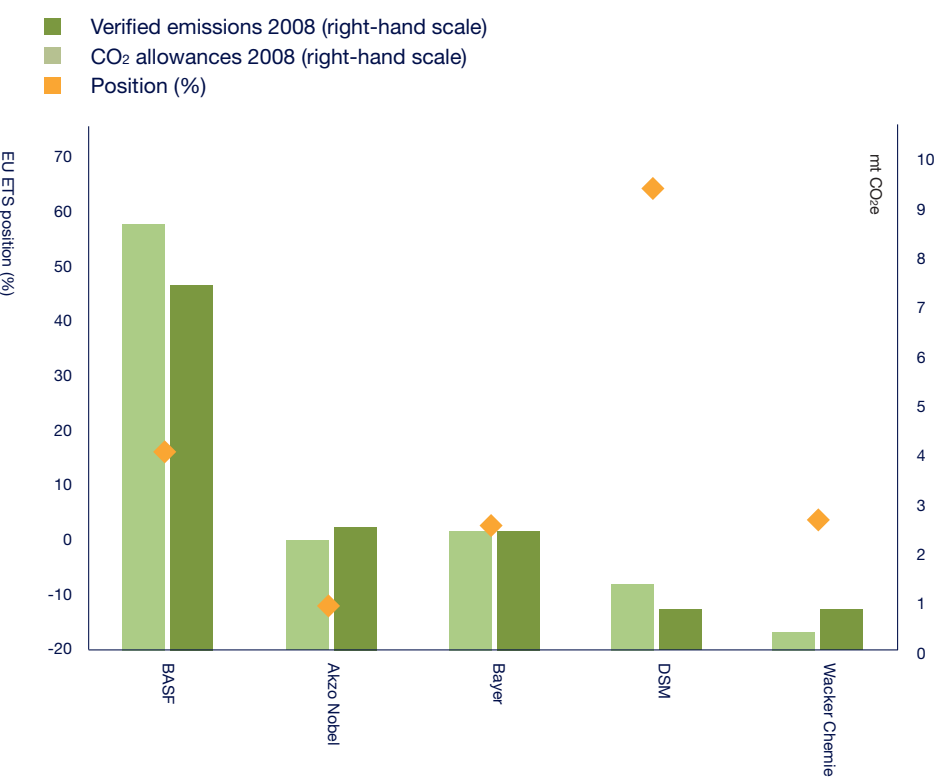


Figure 76: Position under the EU ETS



Top disclosers by CDLI Score:

Royal KPN (73), Telia Sonera (71),
Vodafone (67)

Average sector CDLI Score: 61**Average Sector Performance score: 22/41**

Largest non-respondents by market capitalisation: Hellenic Telecom, Telecom Austria

Number of companies responding: 14; Publicly: 11

Total GHG emissions:

Scope 1: 1.9 mtCO₂e ;
Scope 2: 10.3 mtCO₂e

Solutions providers**Telecom services****Internal carbon mitigation actions**

The main source of emissions for this sector is related to electricity consumption. On average, Scope 2 counts for 81% of financial carbon exposure, although in some cases refrigeration gas can represent 41% of total emissions. Energy consumption mainly powers transmission stations, data centres and their cooling systems. Disclosure of Scope 3 emissions is low, and the importance of Scope 3 for this sector also seems to be low. Only travel, accounting for a maximum 10% of total emissions, could be another lever for reducing the sector's carbon footprint.

The following are the main mitigation strategies implemented:

- 1) As heavy electricity consumers, companies focus on efficiency measures (equipment replacement,

High Voltage Direct Current, sharing of facilities, automatic shutdown of underloaded stations, etc.).
2) Another strategy concerns reducing emissions from data centres, for example through sizing, high-temperature chips, free cooling, HFC substitution (HFC use will be prohibited in 2014), virtualisation, IP protocol switch, etc.
3) Use of Renewable Energy Certificates (REC) to lower the carbon intensity of energy purchases.

Climate friendly solutions/ technology developed

Dematerialisation is the key to reducing emissions from telecom services. All respondents propose dedicated low-carbon or carbon-free services. The Smart 2020 report (www.gesi.org) proposes a potential emissions cut of 7.8bn tonnes of CO₂ by 2020, via virtual offices, e-health, e-security, e-shopping, video conferencing, etc.

Table 17: Emission reduction plans

	Main carbon mitigation actions	Reduction target (%)	Timescale	Annual av. rate (%)
British Telecom	Efficiency, Renewable energy production & RECs	-80%	19	-8.1%
Cable & Wireless	Smart cooling, Electroflow, EC plug fan, Liquid pressure amplification	-7.3%	3	-2.4%
Deutsche Telekom	RECs, data centers down sizing, Green data centre, H2 fuel cells	-20%	20	-1.1%
France Telecom	Energy consumption	-20%	14	-1.6%
KPN	Consumption monitoring, efficiency, auto-shutdown, virtualisation.	-20%	15	-1.5%
Telia Sonera	Energy efficiency, travel (video conferences), alternative backup power	N/A	N/A	-4%
Vodafone	High temperature servers, free cooling, auto-shutdown, energy efficiency, gathering facilities (antennas & radioheads)	-50%	13	-5.2%

Table 18: Summary of technologies and solutions developed

Company	Climate friendly applications	Users (customers)	Substitute for	Source/potential/ achieved emission reductions due to products/services
British Telecom	Video conference	Internal use (may be extended in future)	Travel	£14 million in 2008/2009 and 9,000tCO ₂ avoided
Vodafone	Machine to machine connection	Customers / Corporates	Server connection	91 mtCO ₂ per annum by 2020
Telefonica	The Connected household	Householder / building		20% to 30% of cost saving
Telefonica	Universal charger	Customers	Branded charger	2.8kWh per year / head

“Third party GHG avoidance through use of tele-services. Estimates based on the ETNO ... and GeSI SMART 2020 studies, giving a factor between 5 and 8 (ratio direct emissions over third parties savings).”

Swisscom

“Mobile technology is key to enabling the coordination of many smart systems, and is the lowest-cost option to provide connectivity to decentralised infrastructure. Vodafone’s own analysis shows the potential of the mobile industry to enable a saving of approximately 112 million tonnes of carbon dioxide equivalent emissions per annum by the year 2020, across the EU. This saving equates to a projected saving of EUR43 billion from reduced energy purchasing.”

Vodafone

“We continue to believe that regulations within the auto industry will create opportunities for telecommunications. It will enhance the usage of distant working and other services that are location-free solutions for our customers. We expect the change in business travel to occur the way we have noticed them to occur within our own operations. In 2008, we have calculated that we reduced CO₂ emissions by 170tn with cost savings worth 5,8 MSEK simply by boosting the videoconferencing between two cities, Stockholm & Helsinki.”

Telia Sonera

Top disclosers by CDLI score:
Siemens (85), Vestas (77), Rolls-Royce (76)

Average CDLI score: 62

Average Performance Score:
23/41

Largest non-respondents by market capitalisation:
Schindler, Zardoya Otis

No. of companies responding:
17; Publicly: 14

Total GHG emissions:
Scope 1: 4.4 mtCO₂e;
Scope 2: 6mtCO₂e

“Schneider Electric, the global specialist in energy management, is committed to reducing energy consumption for its customers by offering a wide range of Active Energy Efficiency products and services including advice, implementation strategies, monitoring and control solutions and compliant products all backed by an excellent service to help maintain the savings. In 2008, Schneider Electric’s solutions offer counted for 30% of its revenues or 5.7 billion orders. It has designed dedicated solutions for its customers, such as EcoStruXure for buildings.”

Schneider Electric

Capital goods

Internal carbon mitigation measures

The risk of carbon costs for the sector mostly comes from emissions related to electricity consumption that represent 60% of the carbon emissions on average. In 2008, sector emissions decreased 11% (Scope 1 & 2). Scope 3 emissions from the use and disposal of products are sometimes considered as negative given that some products actually help avoid emissions (e.g. Gamesa’s wind turbines). Other Scope 3 emissions represent 53% of total emissions (supply chain, 31%), with Scope 2 accounting for 27%, and Scope 1 20%.

As supply chain emissions depend on the carbon intensity of products purchased, which depends on suppliers, measures to reduce carbon emissions are mainly focused on Scope 2:

- a) reduction of energy consumption in production by improving process efficiency (heat recuperation, replacing pneumatics by electric systems, etc)
- b) implementation of ISO 14001 or a carbon footprint accounting tool to track carbon leaks.
- c) use of renewable energy to mitigate the carbon intensity of energy consumption (purchase of green certificates, direct investment in own facilities)
- d) cooperation with suppliers to develop low-carbon solutions

Measures implemented are aimed at a 3.4% reduction rate p.a. between 2009 and 2015 according to the plans.

Climate friendly solutions/ technologies developed

The carbon footprint of capital goods companies is mainly upstream and downstream. Scope 3 (product use) could represent between two to three fold and a thousand times the amount of Scope 1 emissions. Thus, Scope 3 emission reductions by means of low-carbon solutions can compensate for the rest of emissions many times over. Driven forward by regulation on product efficiency (the EUP Directive), all capital goods companies have developed various eco-products that help reduce emissions and lower energy cost for their customers. To respond to this new challenge some companies have even transformed their business model and now present themselves as ‘efficiency services providers’ (see Schneider Electric’s insert).

Table 19: Summary of technologies and solutions developed

Company	Climate friendly applications	Users (customers)	Substitute for	Source/potential/achieved emission reductions due to products/services
Atlas Copco	New refrigerant dryer			An average reduction in energy consumption of 40%.
Atlas Copco	Water well DTH hammer using water as lubricant	Mining & drilling industry	Oil	The oil-free hammer saves 600-1000 litres of oil over product lifetime.
EADS	Air Traffic Management system	Airports/Airlines		Single European Sky (SESAR) will reduce emissions from aircraft by 5% to 10%.
Legrand	Presence detectors (2 million units sold)	Customers/ Corporates	Conventional	208,000 tCO ₂ , 319 million of kwh.
Rolls-Royce	Bergen K thruster			20% less carbon dioxide
Sandvik	Recovery cement cartridge			-70% in energy consumption, -50% CO ₂ emissions.
ABB	High Voltage Direct Current facilities	Utilities	Alternative current	More and better integration of renewable energy in grids with fewer energy losses.
Gamesa	Wind farms	Utilities	Fossil energies	16,000 MW installed saved 24 million tons
Man AG	CO ₂ Compressor	Carbon Capture & Storage projects		Helps send CO ₂ captured in the atmosphere to underground reserves.

“We have also joined this year’s CDP Supply Chain Initiative, through which we will collect GHG data from 10 key suppliers as a first step in gaining a better understanding of our supply chain emissions.”

Rolls-Royce

“A record number of AirScan™ audits were performed, resulting in recommendations for how customers could reduce their energy costs and carbon footprints. These audits went beyond the installed Atlas Copco equipment by looking at other practical aspects of the system configuration, such as the management of air leaks in the hose/ pipe connections to the compressors.”

Atlas Copco

Table 20: Emission reduction plans

Company	Activity / Action	Reduction target (%)	Baseline	End year	Timescale	Annual av. rate (%)	Invstmts
ABB	Energy use	-5%	2007	2009	2	-2.53%	
Finmeccanica	Energy demand	5% per year	2005	N/A	N/A	5%	EUR5m over 3 years
Rolls-Royce	Energy consumption	-10%	206	2009	3	-3.45%	
Thales	GHG emissions & energy consumption	-10%	2007	2010	3	-3.45%	
Alstom	GHG emissions	-20%	2007	2015	8	-2.75%	EUR100k
Atlas Copco	GHG emissions	2% per year	2008			-2%	
Q-Cell	GHG emissions	1% per year	2006			-1%	
Siemens	Energy consumption	-20%	2006	2011	5	-4.36%	EUR610m

Automobiles & auto components

Exposure to carbon costs

Although greenhouse gas emissions generated in the automobile manufacturing process are significant, the main emissions issue for automobiles lies in use of the automobile i.e. Scope 3 (the highest direct carbon financial exposure for a carmaker does not account for more than 1% of its EBITDA while automobiles are responsible for approximately 19% of CO₂ emissions in the EU).

Process: Internal carbon mitigation measures

Car manufacturers have developed new strategies in order to cope with the main GHG regulation for industrial sites, namely the EU ETS. Achievements in 2008: 90% of the respondents received enough CO₂ allowances in the EU ETS. BMW, PSA and Renault managed to decrease their emissions by 4%, 4% and 13% respectively.

Plans: All carmakers have reduction plans and have set targets to reduce emissions generated by the use of fuel in the production process. Volkswagen states that “the main part of direct CO₂ emissions is caused by the use of fuel at the plant”. In addition to CO₂ targets shown in the chart below, some companies have developed their own indicators (e.g. BMW’s efficiency ratio).

The main measures planned to reduce the carbon footprint are:

- a) establish a reduction of energy needs (e.g. through increasing the use of natural gas)
- b) improve energy efficiency (e.g. Renault’s commitment to the “... renovation of boilers, compressed air, and lighting, speed variation on central filtration, renewal of refrigeration unit”)
- c) cogeneration-trigeneration plants
- d) recuperation and recycling of energy (e.g. Volkswagen mentioned its action on conversion of community heating based on biomass)

Top disclosers by CDLI score:

PSA Peugeot Citroen (86), Renault (80), BMW Bayerische Motorenwerke AG (79),

Average CDLI Score: 70

Average Performance Score: 26/41

Largest non-respondent by market capitalisation: none

Number of companies responding: 10; Publicly: 5

Total GHG emissions:

Scope 1: 4.75mtCO₂
Scope 2: 11mtCO₂e

“As of 2012, the new directive on the EU Emissions Trading Scheme will impact Renault plants in the world, as initial information indicate that the allocations will be auctioned and studies confirm an impact on the cost of electricity, as well as the price of certain materials (steel, plastic, chemical products....), related to the repercussions cost of CO₂ on the sale prices. The plants will have to buy their emission rights, and there will be fewer emission rights for a larger scope of installations.”

Renault

Table 21: Emission reduction plans

Company	Main carbon mitigation actions	Reduction target	Timescale	Annual av. rate (%)	Absolute/Intensity
BMW	Combined heat and power generation facilities, cooling systems, methane gas, solar photovoltaic	-30%	2006-2012	-5.8%	Intensity
PSA	Green materials, natural gas, replacing fuel oil and coal, cogeneration, training plan for workers, implementation of energy spare management	2.1 MWh/car	2007-2010	N/A	Intensity
Renault	Natural gas, replacing fuel oil and gas, cogeneration, energy management, workers' training	-10% per annum	2007-2012	-10%	Intensity
Volkswagen	Conversion of community heating based on biomass, minimising testing periods based on preheating of motors	-10%	2009-2013	-2.6%	Absolute

Products: Regulation of automotive CO₂ emissions

The main regulatory drivers of the industry are:

- 1) EU regulation of CO₂ emissions with the average target of 120g CO₂/km by 2015 for new vehicles sold and the ambitious target of 95g/km by 2020 (similar regulations are expected for heavy vehicles, although these have yet to be defined).
- 2) Tax incentives that have massively distorted demand towards smaller and more practical vehicles (18 countries had already adopted measures in Europe as of 2008, accounting for more than 80% of the European market). Renault mentioned: "Both the bonus/malus tax system and the scrapping incentive scheme in force in numerous European countries since January 2008 promote the increased availability of vehicles with low CO₂ emissions."

A threat stated by some respondents is the development of city toll systems: PSA noted that "at the initiative of some cities, restricted access to city centres may develop according to car CO₂ emission levels".

Corporate average fuel economy

Carmakers are clearly focused on gaining leadership in internal combustion engines (ICE), hybrids (gasoline/diesel), full electric vehicles

(EVs) and alternative energies in order to be better able to meet stringent CO₂ targets and to benefit from tax incentives. Advanced internal combustion engines mainly refer to innovations in downsizing, gearboxes, weight management and powertrain efficiency. Volkswagen, for example, has developed the dual clutch gearbox, which uses no more fuel than a manual clutch.

In the longer term, there is also a growing interest in the use of renewably-produced hydrogen. For example, BMW has created one of the few prototypes currently in development: the BMW Hydrogen 7, billed as "the world's first hydrogen-powered luxury sedan for day-to-day use", which was tested by a sample in 2008.

The figures provided by BMW and Renault regarding their sales-weighted CO₂ emissions for petrol-powered vehicles during the last decade illustrate this trend towards more efficient and practical vehicles. Over 2003-2008, Renault managed to reduce its sales-weighted CO₂ emissions by an average of 0.6% per year in Western Europe (-0.9% for its diesel-powered vehicles), while BMW reduced the same figure by 3.6% on average for the same geographical region and period and by 0.92% in the US (however, BMW had a higher initial base: 195 vs. 158 for Renault).

"The regulatory framework is likely to focus on fuel taxes, road tolls, environmental zones, tougher exhaust emission standards, including fuel efficiency standards for heavy duty vehicles."

Scania

"Through the EU's Hydrogen Storage Systems for Automotive Application (StorHy) research project, PSA Peugeot Citroën has focused on improving gaseous hydrogen storage technology, in order to significantly increase the range of hydrogen vehicles. Test results from the four-and-a-half-year project, which ended in June 2008, show that doubling the pressure of the stored hydrogen (from 350 to 700 bar) is a technically viable solution."

PSA

Table 22: Main mitigation measures for vehicle fleets

Company	Average fleet objectives			Main mitigation actions by technology/solution		
	Average fleet (g/km)	Target	Timescale	Hybrids	Electricity	Alternative fuels
BMW	156	N/A	N/A	BMW ActiveHybrid (e.g. the hybrid models of the BMW X6 and the BMW 7 series will be ready for series production in 2009)	Mini E vehicle (pilot project) and thermoelectric generator	All BMW models are suited to 5% blending of either bio-ethanol in gasoline engines (DIN EN228) or bio-diesel in diesel engines (DIN EN590), and can also handle higher biofuel blends in Europe such as E10 and B7
PSA	N/A	Sell 2 million vehicles emitting less than 120g/km	2007-2010	Work on a plug-in hybrid to offer a more affordable EV for individual carbuyers and techniques to hybridise powertrains (e.g. Stop & Start, Hybrid Hdi)+HYbrid4 (full-hybrid diesel technology)	Development of an electric vehicle for the European market based on MMC's i MiEV car, with launch scheduled for 2010	Redesign of engines to use biofuels (bioethanol, biodiesel, CNG). PSA is now encouraging French authorities to explore the possibility of introducing B10 fuel, a 10% blend of biofuel in diesel
Renault	142.5	N/A	N/A	N/A	Electrical systems (from Stop and Start to battery EV) and electric vehicles (ZE concept and Scenic ZEV H2)	Alternative fuels, compressed natural gas (CNG) and liquefied petroleum gas (LPG)
Volkswagen	159	-20%	2006-2015	Development of a new vehicle platform, the Modularer Querbaukasten (MQB)	Research cooperation in the field of battery technology	EcoFuel (expansion of the range of natural gas vehicles)
Scania	N/A	N/A	N/A	Extensive field test with hybrid-electric ethanol fuelled buses in Stockholm	N/A	All diesel engines can run on 100% FAME (standard EN14214, i.e. biodiesel)

Construction

Exposure to carbon costs

Construction companies carry out different types of activities: building construction, infrastructure works (road, water, electricity), concessions (motorways, airports, hospitals), and engineering. The carbon footprint of companies thus depends on the divisional make-up of the company. With regards to Ferrovial and VINCI, financial carbon exposure fluctuates between 1.2% and 1.8% of EBITDA. A large proportion of their activity consists of concessions, which is a fairly carbon-free business (compared to construction). Concessions represent 32% and 14% of total sales, respectively, for these companies.

Regulation, risks and opportunities

The building construction business has to face increasingly stiff requirements concerning building energy efficiency, notably from regulatory authorities, via laws such as the Energy Performance of Building Directive, and from financial backers that require high environmental performance to ensure cost savings management. As a result, engineering services are likely to look closely at and anticipate changes in high-performance building standards such as HQE (France), BREEAM (UK), LEED (US).

Similarly, water and waste facilities are exposed to increasingly stringent regulatory constraints. Thus, companies should be able to design and build innovative solutions such as biogas power generation facilities.

Emission reduction plans

Companies in this sector do not have overall reduction plans. Due to the different natures of each business line targets are set at a subsidiary level.

With regard to construction activities, the main emissions are generated on the materials side. VINCI incurs 3-5 mtCO_{2e} through its supply chain. Thus, the companies should involve their suppliers in assessing the carbon footprint of materials, improve the use of recycled materials and design low-carbon processes. For example, Eiffage has developed a low-temperature coated aggregate, and a biosphalt made from vegetable oil.

Ecofriendly solutions

Construction companies have developed specific tools (Eiffage with its CO₂calculator, VINCI with EQUER and Ferrovial with its internal DCMP04 procedure) to help customers assess the environmental impact (for compliance with regulation) and the level of cost savings that can be achieved.

Top disclosers by CDLI Score:
VINCI (78), Ferrovial (68)

Average sector CDLI Score: 54

Average Performance Score:
19/41

Largest non-respondents by market capitalisation: Acciona, FCC

Number of companies responding: 5; Publicly: 3

Total GHG emissions:
Scope 1: 26.8 mtCO₂;
Scope 2: 1.03 mtCO_{2e}

“Several waste management facilities are intensive in producing GHG emissions (mostly methane – biogas). Future regulations regarding GHG reduction on waste management are more than likely in several European countries (for instance: Spain, UK). This is considered as an opportunity for Ferrovial’s waste management facilities, taking into account such facilities are positioned as best in class, and have implemented best environmental technologies to reduce GHG emissions.”

Ferrovial

Table 23: Emission reduction plans

Company	Reduction target (%)	Timescale	Implicit av. annual rate (%)	Activity target
Ferrovial - BAA	-30%	1990-2020	-1.2%	Airport concession emissions
Ferrovial - CESP	-10%	2008-2009	-10%	Staff transport emission reduction
Ferrovial - Agroman	-20%	N/A	N/A	Electricity consumption of head office
Ferrovial - Amey	-10%	2008-2010	-5.1%	Reduction of CO ₂ emitted per million of pounds of turnover
VINCI Road	-2.5%	2009-2010	-2.5%	GHG emissions
VINCI Concessions	-3%	2009-2011	-1.5%	GHG emissions

“Materials are responsible for 70 to 90% of the carbon footprint VINCI’s subsidiaries. For VINCI Construction, supply of concrete and steel are by far the most important source of emissions of the supply chain. They represent respectively 60% and 15% of VINCI Construction Scope 3.”

VINCI

“In 2007, the ‘CO₂ calculator’ was developed for use by the analysts who produce business proposals; the purpose of this tool is to convert all the operations involved with a project into their energy- or carbon dioxide-equivalent, allowing the customer to compare the respective carbon costs of the various proposed solutions.”

Eiffage

Other sectors

Banks

Exposure to carbon costs

The banks sector has one of the lowest carbon footprints and, as a result, low carbon exposure. The main component of the sector's carbon footprint relates to the consumption of electricity (Scope 2), ahead of GHG emissions generated by employee business travel. Barclays: "Barclays direct carbon emissions are made up of approximately 80% (energy use), and 20% (business travel)".

Regulation, risks and opportunities

As financial services providers, the responding banks identify the main regulatory risks as those that affect them indirectly through the potential effects on their clients and through all their investment classes. They are especially focused on regulatory changes driving carbon markets (e.g. the EU ETS, the forthcoming UK Carbon Reduction Commitment (CRC) and the proposed Waxman-Markey Bill in the US), sectors sensitive to climate change (e.g. agriculture, forestry, and oil & gas) and renewable energy. Banks are therefore attempting to assess the degree to which these risks could affect their business and are designing innovative climate-related products and solutions. Most of the banks are actively involved in carbon markets through a wide range of activities such as liquidity providing or carbon credit issuance. Banco Santander: "Santander Carbon Finance is actively involved in the primary carbon sector through offering a number of products that combine the acquisitions by Santander of carbon credits with the provision of financing, enabling promoters to collateralize or monetize their carbon assets."

For investments as well as lending activities, leading financial institutions are integrating current and future regulation into investment analysis and decisions in order to avoid client portfolios being negatively impacted. For example, in their real estate divisions, this means a focus on additional costs generated by Energy Performance Certificates (EPC), as introduced by the Energy Performance of Buildings Directive. Products developed include funds, indices and structured products for private and institutional clients. Credit Suisse: "Another new product launched in 2008 is the Credit Suisse Global Resource Efficiency Index, which focuses on the more efficient use and reuse of environmentally relevant resources such as water, energy and raw materials."

Regarding their research, some banks have recruited SRI teams to provide clients with advice on investment solutions, with respect to CO₂, renewable energies and other environmental issues that impact economic sectors. There is also growing collaboration between these teams and mainstream financial analysis. Involvement in SRI activities (on either the sell or the buy-side) was quoted by 21% of the responding banks.

Top disclosers by CDLI Score:

HSBC Holdings (92), Lloyds Banking Group (80), Royal Bank of Scotland Group (77)

Average CDLI Score: 54

Average Performance Score: 19

Largest non-respondents by market capitalisation:

Alpha Bank, Banca Popolare, Mediobanca

Number of companies responding: 42 out of 54 companies, publicly: 29

Total GHG emissions:
Scope 1: 1.0 mtCO₂e,
Scope 2: 4.5 mtCO₂e

"In recognition that deforestation may account for 20% of global warming, our Forest Land and Forest Products Policy requires that we only support projects on a credible path to achieving certification for their sustainable practices. We do not support land clearance by burning. The policy also advises on other climate change issues such as palm oil, bio-fuels, peat and soy."

HSBC

“It is in non-OECD countries that the Equator Principles are particularly pertinent. Although the laws and regulations in these emerging countries may be as, if not more, stringent than international standards, often it is the enforcement of these laws that can be lacking. The Equator Principles framework provides a means for financial institutions to ensure enforcement of these laws.”

Royal Bank of Scotland

“Many of our investments are in the area of adaptation to climate change. For example, agribusiness and the development of technologies that support agriculture, such as improved irrigation technologies in response to water scarcity, development of new information technologies.”

Deutsche Bank

Project finance

There is growing appreciation of climate-related risks vis-à-vis project finance (mainly reputational and credit risks). As a result, environmental principles are increasingly integrated into key financial processes in particular in the framework of the Equator Principles (e.g. through Performance Standard 3 on Pollution Prevention and Abatement). Reputational risk is clearly seen as a key driver to further examine the environmental impact of their transactions.

Lloyds Banking Group: “There is a quasi-legal obligation to meet certain obligations, and a breach of the Equator Principles could result in negative reputational impact on the Group.” However, this trend is currently limited among banks: only 22% of the respondents stated that they are signatories to the Equator Principles. In other words, these banks are considering advanced measures to anticipate and lower

the environmental impact of their portfolios and operations through the implementation of specific policies, procedures and standards. UBS: “Investment Bank deal teams identify potential environmental risks including climate change regulatory risks in the initial due diligence phase and alert the Environmental Advisory Group of any significant potential risks. Assessments by lawyers and/or external consultants are routinely sought for certain sectors and products.”

Emission reduction plans

Achievements in 2008: eight companies stated that their emissions decreased in 2008. These reductions are mainly attributed to the use of green electricity, a decrease in paper or energy consumption, and optimisation of employees business travel. Plans: Deutsche Bank has set the most ambitious target of reaching carbon neutrality by 2012, with 2007 as the baseline year (ca. 460,000 tonnes of CO2 emissions).

Figure 77: Emission trend in 2008

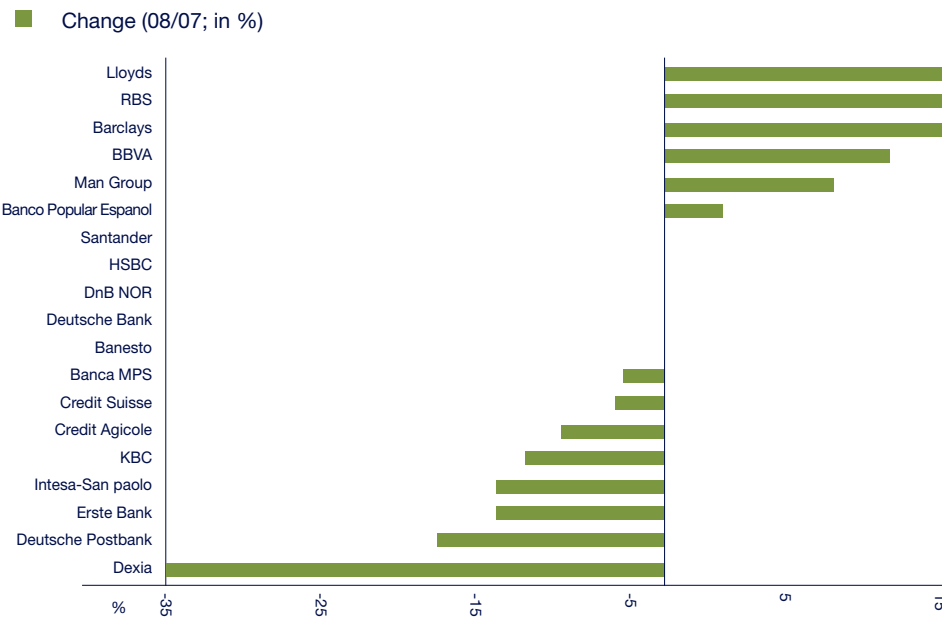


Table 24a: Emission reduction targets

	Action reduction	Reduction target (%)	Baseline	End year	Timescale (years)	Annual rate
Allied Irish Bank	Energy Management System (EMS), print on demand, diesel cars, server virtualisation project, CHP	-20% (Carbon Footprint)	2008	2014	6	-3.7%
Banca Monte dei Paschi di Siena Group	Efficient property management, reduce business travels, videoconferences	-3% p.a. between 2007 and 2009	2007	2009	2	-3.0%
Banco Santander	ISO 14001, lighting efficiency, awareness campaigns, encouragement for employees	>6% renewal of company car fleet		Before 2012	N/A	N/A
Barclays	Climate Action Program, Energy Efficiency, reduce energy demand, CO ₂ offset, Lighting efficiency, HVAC efficiency, reduce business travels	-6 % CO ₂ per employee by the end of 2011, -2% per year	2009	2011	2	-2.0%
BBVA	ISO 14001, Energy Efficiency, videoconferences, reduce business travel, CO ₂ offset	20 % CO ₂ reduction per employee	2008	2012	4	-5.4%
Credit Agricole	Lower emissions due to electricity, gas and heat consumption, transports and procurement	-15%	2007	2010	3	-5.3%
Credit Suisse	CO ₂ offset, green, hydro power, Energy Efficiency investments, Building Efficiency, new cooling systems	-13 %	2005	2012	7	-2.0%
Deutsche Bank	Awareness campaigns, renewable energy, innovative heating and cooling systems, building and lighting efficiency, energy efficiency, business travels, videoconferences	Carbon neutral by 2012 (460.000 tonnes in 2007)	2007	2012	5	-14.9%
Deutsche Postbank AG	Information campaigns, 68% of green electricity	-20%	2007	2012	5	-4.4%
DEXIA	Reduce energy consumption, purchase green energy, Energy Efficiency, business travel	Neutral carbon	2006	N/A	0	N/A
HSBC Holdings	Energy consumption, business travel, green electricity, CO ₂ offset, lighting and ventilation control, building efficiency, renewable energy, videoconferences	-6%	2008	2011	3	-2.0%
Intesa Sanpaolo S.p.A	Reduce energy consumption, Energy Efficiency, hydro power	-74,000 tCO ₂ per annum	2009	2011	2	N/A
KBC Group	Building efficiency, green electricity, ISO14001	-20%	2006	2020	14	-1.6%

Table 24b: Emission reduction plans (continued)

Lloyds Banking Group	EMS, environmental performance building, business travel	-6%	2008	2009	1	-6.0%
Man Group	EMS, CHP, innovative cooling systems, energy efficiency, water and waste management, business travel	-5% per employee per year	2006	N/A	N/A	-5.0%
Royal Bank of Scotland Group	Encouragement for employees, energy efficiency, collaboration suppliers	N/A	2008	2011	3	N/A
SEB	EMS, low-energy electronics, collaboration with suppliers, business travel, encouragement for employees, renewable energy	-45%	2009	2015	6	-9.5%
Societe Generale	Green IT program, videoconferences, energy and paper consumption	-11% per employee	2008	2012	4	-2.9%
Standard Chartered	EMS, business travel, lighting efficiency, air conditioning, optimising heating systems	N/A	2009	2019	10	N/A
UBI Banca	Building renovation and construction, automatic shutdown for PCs, green electricity purchasing	N/A	N/A	N/A	N/A	N/A
UBS	Energy efficiency, renewable energy, CO ₂ offset, energy consumption	-40%	2004	2012	8	-6.2%
Unicredit Group	GQ plans, renewable energy, awareness programs for employees	-30%	2009	2020	11	-3.2%

Insurance

Exposure to carbon costs

The insurance sector, including reinsurance businesses, generates relatively low direct GHG emissions. However, climate change has a material impact on the sector, as it creates new or extreme weather events and health hazards. In addition to contributing to mitigation solutions, insurance and reinsurance companies play a key role in implementing a market signal on climate change adaptation, an open area for disclosure. The main component of the sector's direct carbon footprint relates to the consumption of electricity (Scope 2). Responding companies were also keen to report employee's personal travel emissions in order to raise staff awareness of alternative means of transport.

Regulatory overview

Through their various activities (insurance, property and asset management), insurance and reinsurance companies clearly see that tighter environmental regulation poses a threat to their clients. They especially emphasised the risks related to carbon markets (e.g. risk of non-compliance with the EU ETS), as well as those generated by an increase in litigation (e.g. for companies that have generated excess CO₂ emissions). These regulatory changes have also increased the reputational risk for insurers, obliging them to consider more sustainable strategies. For example, AXA mentioned pressure on French insurance companies from the local office of the Friends of the Earth NGO, which has begun to use the new US National Association of Insurance Commissioners (NAIC) to start disclosing how climate change is likely to affect their business.

Internal carbon mitigation measures

In all, 44% of the respondents plan to participate in the forthcoming Carbon Reduction Commitment, the UK's first carbon trading scheme, which is due to start up in April 2010. Most of these companies have purchased project-based carbon credits primarily for voluntary offsetting of their own emissions. Old Mutual : *"The estimated financial implication of the CRC includes an upfront cost of required permits, approximately £100,000 from 2011, and staff management and administration time from 2009"*.

Achievements in 2008: 63% of the sector's responding companies reported a decrease in emissions. Energy savings were mainly achieved thanks to an improvement in the energy performance of buildings, as well as growing use of new technology and renewable electricity. Plans: All respondents have energy reduction plans including targets. The strategies undertaken by companies are mainly focused on energy efficiency and alternative solutions to employee travel (e.g. enhanced telecommunications and videoconferencing, and IT upgrades).

Climate change mitigation solutions developed

Regulatory and consumer momentum on climate change mitigation is a driver behind new insurance policies and product opportunities in the sector, especially in green buildings and renewable energy, which are the areas most often quoted. The involvement of insurers in sources of renewable energy is critical, as companies often face difficulties securing financing because of high risks and long payback periods. AXA: *"Insurers can facilitate the development of new, sustainable technologies by correctly pricing premiums to reassure investors."*

Top disclosers by CDLI Score:

Allianz SE (83), Aviva (80), Legal and General Group (78)

Average CDLI Score: 63

Average Performance Score: 22/41

Largest non-respondents by market capitalisation: Alleanza Assicurazioni, Generali, Sampo plc

No. of companies responding: 16; Publicly: 13

Total GHG emissions:

Scope 1: 0.4mtCO₂
Scope 2: 1.9mtCO₂e

"By adapting their pricing (when possible) and by auditing risks, insurers can actively help their clients anticipate the impacts of climate change and reduce, by adapting their behaviour, their contribution to this phenomenon."

AXA Group

“Since 2007, Allianz has accessed the capital markets repeatedly sourcing protection against peak risks such as UK flood, US earthquake and European windstorm. For example, the Flood Catastrophe Bond (‘cat bond’) [...] enables Allianz to transfer potential losses from insurance claims resulting from severe flood damage in the UK, and Global earthquake damage in Canada and the USA (excluding California), to the capital markets. The cat bond on windstorms in Europe transfers to investors the risks of windstorms in Austria, Belgium, France, Germany, Ireland, the Netherlands and the UK, using a parametric index trigger.”

Allianz SE

The implementation of carbon markets is another business opportunity. Some insurers mention different types of credit risk coverage. Munich Re: *“Victoria Versicherung offers insurance cover to publicly appointed, certified inspectors against pecuniary loss resulting from verification of emission reports and applications for allocations under the European Emissions Trading Scheme.”*

Most insurers have also started to be proactive in developing new retail products and services for mitigating climate change despite the lack of standardised regulated products such as the specific credits implemented in the bank sector. However, only the best responses mention a range of insurance products such as motor insurance (Pay As You Drive / Limited mileage policies / Reduced premiums for low emission vehicles) or special policies / premiums for green SMEs.

Last but not least, although this was only quoted by a limited number of companies (8% of the respondents), integrating environmental criteria in asset management through Socially Responsible Investment is a key issue, by means of which the insurance sector can highly leverage and incentivise climate change mitigation.

Adaptation: the big issue

Insurance companies recognise the fact that addressing the increase in frequency and intensity of natural catastrophes is a crucial factor of differentiation. As a result, their strategy is increasingly focused on improving their risk assessment and forecasting of weather events. Another key area of action is bridging the gap between total losses and insured losses in industrialised economies (e.g. only 34% of the total losses caused by Hurricane Katrina were insured) and especially in emerging economies where this gap is even wider. Allianz SE: *“There has been a fifteen-fold increase in weather-related insurance claims over last 30 years. In Allianz’s global industrial insurance business, 40% of damages are due to natural catastrophes. Between 2010-2019, Allianz estimates average losses for the insurance industry could grow to USD41 billion per annum.”* Diversifying risk in capital markets thanks to products such as catastrophe bonds is a strategy favoured by insurers in order to cope with the increase in losses due to adverse weather events. The market for cat bonds has exceeded USD23bn since its inception in 1997.

Lastly, it should be noted that only 11% of the respondents mentioned explicitly their willingness to play a key role in adaptation measures. Swiss Re: *“Adaptation needs amount to up to 100bn on a yearly basis. If regulated as part of a UN Adaptation fund and assuming 10% is diverted to insurance, this would make 10bn per year.”*

Table 25: Emission reduction plans

	Activity / Action	Reduction target (%)	Timescale	Annual av. rate (%)	Absolute / Intensity
Allianz SE	Employee travel, energy efficiency and green energy	-20%	2006-2012	-3.7%	Absolute
AMB Generali Holding AG	Regenerative electricity	-30%	2008-2013	-6.9%	N/A
Aviva	Energy savings, employee travel	-5% per annum	2006-2009	N/A	N/A
AXA Group	Energy savings, renewable energy, employee travel	-5%	2007-2009	-2.5%	Intensity
Munich Re	Energy savings, renewable energy	-10%	2006-2012	-1.7%	Intensity
Old Mutual	Energy savings, employee travel	-2% per annum	2009-2010	-2% per annum	Absolute
Royal & Sun Alliance Insurance Group	Employee travel, waste	-2.5% this year	2008-2009	N/A	Absolute
Standard Life	Employee travel, energy saving	-20%	2006-2012	-3.7%	Absolute
Swiss Re	Energy efficiency, employee travel, green energy	-30%	2003-2013	-3.5%	Intensity

“Swiss Re’s subsidiary Conning was selected as the investment manager of the EUR 125 million Post 2012 Carbon Credit Fund by a consortium of European development banks. This pioneering carbon credit fund will promote the development of the post-Kyoto carbon market.”

Swiss Re

“The sequestration of carbon is a important area of research in climate change mitigation. Aviva is providing five years funding for an Earthwatch investigation into the sequestration potential of mangroves.”

Aviva

“We can offer support to our customers in transferring risk to the capital markets through special instruments we are able to set up. Investments in such Cat Bonds could be an attractive opportunity.”

Allianz SE

Figure 78: Emission trend in 2008

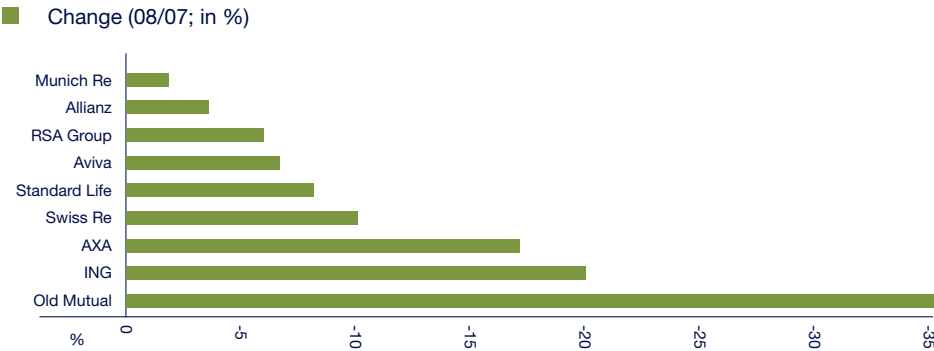
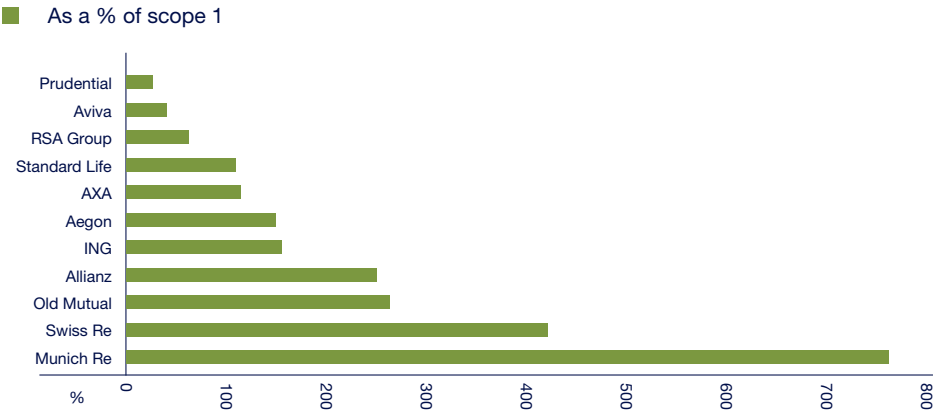


Figure 79: End-employee business travel – Scope 3



Real estate

Exposure to carbon costs

Due to their relatively low direct and indirect GHG emissions, the trend in carbon costs is not likely to have a significant impact on Real Estate Investment Trusts (their carbon exposure as a percentage of their EBITDA ranges from 0.01% to 0.06%).

Regulation, risk and opportunities

Compliance with the Energy Performance in Buildings Directive (EPBD) and the requirement for Energy Performance Certificates (EPC), amendments to the Building Regulation, and Climate Change Act including the Carbon Reduction Commitment: all these regulatory drivers provide opportunities for better cost management (e.g. with regard to a potential rise in energy prices in the future) and higher tenant satisfaction. All the leading players within the industry see a reputation risk and as a result an opportunity to gain a competitive advantage.

Adopting voluntary rating systems (e.g. BREEAM) and seeking certification (e.g. ISO 14001) therefore play a growing role in Real Estate Investment Trusts' strategies. Unibail-Rodamco, for example, has planned to ensure that all its assets in Spain will be externally certified ISO 14001 in 2009.

A new strategy for compliance with the UK Carbon Reduction Commitment (CRC) is being studied by Land Securities, which is looking at a "scheme within a scheme" in order to reward tenants that make efforts to save energy and to apply the Polluter Pays Principle.

Physical risk

Extreme weather conditions, especially those caused by wind damage and flooding, are increasingly integrated into development design and the construction phase. The respondent companies emphasised opportunities

for cooperation with authorities, tenants and suppliers. British Land stated that: "development design is required to consider the future needs of occupiers in light of climatic changes to the environment and buildings' adaptability to those needs".

Emission trading

Land Securities and British Land will participate in the UK Carbon Reduction Commitment (CRC) as of April 2010. These two companies have already purchased project-based carbon credit primarily for voluntary offsetting of their own emissions. Land Securities indicated a potential negative impact of the CRC on the industry, stating that "the CRC has serious flaws in its current format with respect to facilitating the desired carbon savings within the commercial property [sector]".

Emission reduction plans

Achievements in 2008: The two companies that communicated the trend in their emissions (British Land and Land Securities) both noted an increase, of 30% and 19% respectively, in their emissions mainly due to an improvement in their reporting (e.g. a broader reporting scope for British Land) or asset acquisitions (Land Securities). It should be noted that Land Securities reduced its emissions by 28% across its entire portfolio between 2004-05 and 2008-09. Plans: Initiatives mainly focus on setting plans and incentives for occupiers as well as local managers. For example, Land Securities is planning to offer free energy audits to London tenants and setting up memoranda of understanding (MOU) and local environmental plans with occupiers of managed London offices. Unibail-Rodamco is "exploring opportunities to increase the percentage of purchased renewable energy (upstream)" and "orientating the compensation of carbon emissions in the coming years".

Top disclosers by CDLI Score:

British Land (55), Land Securities (62), Unibail-Rodamco (53)

Average CDLI Score: 57

Average Performance Score: 16

Largest non-respondent by market capitalisation: Gecina

Number of companies responding: 3; Publicly: 3

Total GHG emissions:

Scope 1: 0.02mtCO_{2e}
Scope 2: 0.02mtCO_{2e}

"At our Stephens Shopping Centre in Hull, rainwater from the large roof area is harvested and re-used to flush public toilets, saving 6.2 million litres of mains water each year. This also mitigates flood risk by reducing the amount of water flowing down the drains during peak rains. This is something of particular interest to local people following severe flooding in the region in 2007."

British Land

Table 26: Emission reduction plans

Company	Activity / Action	Reduction target (%)	Timescale	Av. annual rate (%)	Absolute / Intensity
British Land	Setting plans with occupiers and retailers, offsetting direct emissions	-20%	2008-2012	-5.4%	Intensity
Land Securities	Individual KPIs, setting plans and guides for occupiers, free energy audits	-10%	2006-2010	-2.6%	Intensity
Unibail-Rodamco	Management instructions, replacement of equipment, renewable energy	-25%	2006-2016	-2.3%	Intensity

Unibail-Rodamco “has in Spain an active energy reduction programme in place and incorporated in this programme is the investment in photovoltaic panels which have been installed in seven shopping centers (50% of the portfolio). In 2008 727,783 kWh of green electricity has been generated and as a result 258 tonnes of CO₂ emissions have been avoided.”

Unibail-Rodamco

Food, beverages & tobacco

Sector components

This sector is composed of three sub-sectors:

Beverages: Anheuser Busch InBev, Carlsberg A/S, Coca-Cola Hellenic, Diageo Plc, Heineken NV, Pernod-Ricard and SABMiller

Food: Associated British Foods, Cadbury, Danone, Nestlé, Orkla ASA, and Unilever.

Tobacco: Imperial Tobacco Group

Exposure to carbon costs

Orkla ASA & Associated British Foods have an estimated total carbon exposures ranging between 11% and 16% of EBITDA, respectively. The other companies do not exceed total carbon exposure of 4%. However, within Scope 3 supply chain emissions amount to 58mtCO₂ (almost triple Scope 1 in the case of 6 companies), and emissions from the use and disposal of products total 191mtCO₂ (10 times higher than Scope 1 in the case of 2 companies).

Unilever: *“The use phase is the major contributor to the GHG emissions of many of our products although the precise contribution depends upon a number of factors including: electricity/energy supply, machine technologies – washing machines and consumer behaviour (temperature of water/shower time etc).”*

Emission reduction plans

Achievements in 2008: Pernod-Ricard, Orkla ASA, Cadbury, Danone, Unilever and Imperial Tobacco state that their emissions decreased in 2008. These reductions are attributed to the use of Combined Heat and Power (CHP), the use of biomass, the purchase of certified renewable energy, and changes in business levels. Associated British Foods and Carlsberg’s emissions have increased because of new acquisitions. Plans: All the companies have reduction plans/targets. One beverage and three food companies are investing in low-carbon plans (a total of EUR2.4m) and energy efficiency (manufacturing processes, CHP, energy savings, lighting efficiency, a total of EUR56m).

Top disclosers by CDLI Score:

Unilever (76), Cadbury (72), Carlsberg A/S (71)

Average CDLI Score: 60

Average Performance Score: 21/41

Largest non-respondent by market capitalisation: British American Tobacco

Number of companies responding: 14 out of 15 companies, publicly: 14

Total GHG emissions:

Scope 1: 19 mtCO_{2e},
Scope 2: 12 mtCO_{2e}

“Climate change poses a wide variety of risks both within our own operations and across the value chain of our products (our suppliers and consumers).”

Unilever

“The main sources of emissions within our supply chain are energy use by providers of processed products, emissions arising as the result of use of fertilisers and pesticides for agricultural production and methane and nitrous oxide emissions associated with dairy farming to produce the milk that we use in some of our products.”

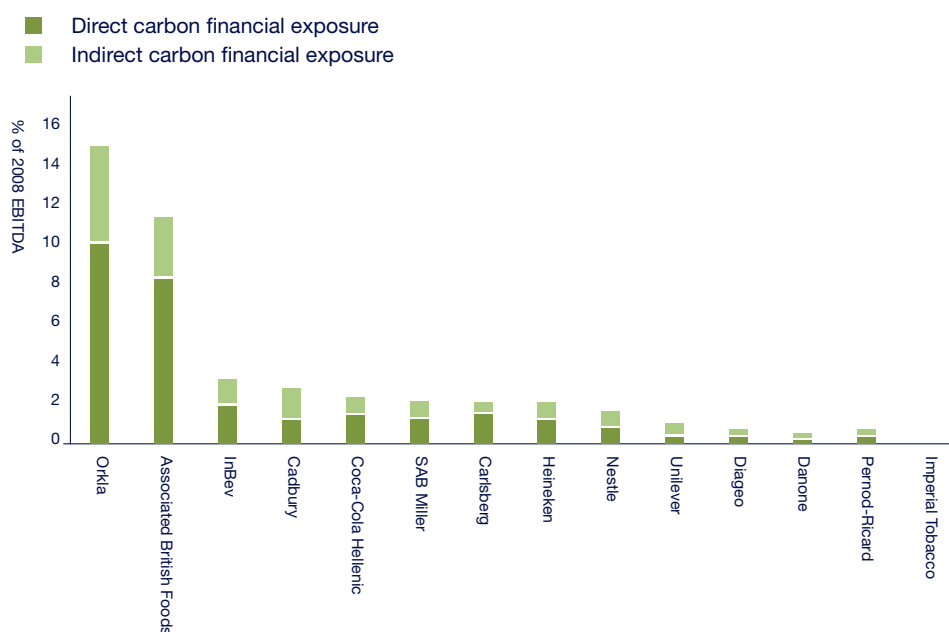
Cadbury

“Activities such as improving operational processes, using technology in new and innovative ways, and rethinking business strategy can result in improving environmental, operational and business performance.”

Anheuser Busch InBev

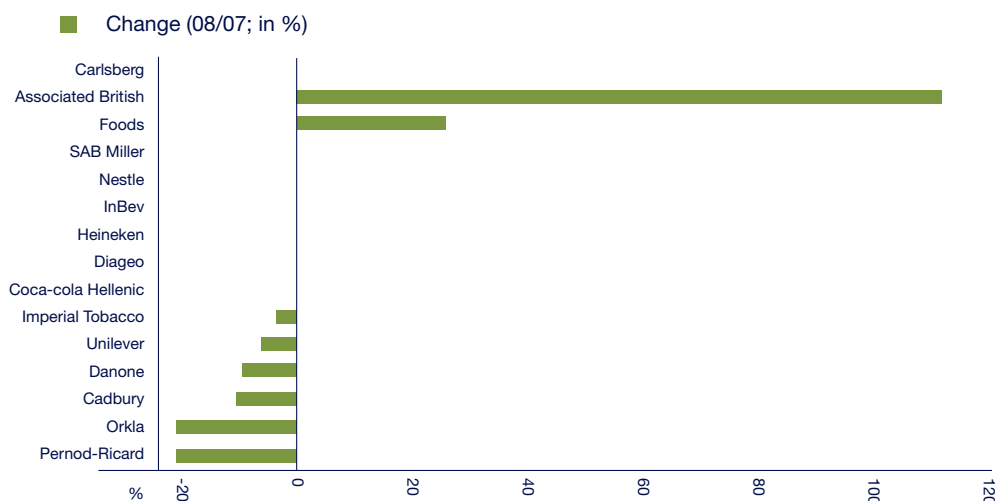
Table 27: Emission reduction plans

Companies	Actions	Reduction target	Baseline	End year	Timescale (yrs)	Annual rate
Anheuser Busch InBev	Partnerships, environmental events, employee training, renewable energy	-10% per hectolitre	2007	2010	3	
Associated British Foods	N/A	N/A	N/A	N/A		
Cadbury	Reduction program, low carbon products & processes, optimization of supply chain	-50%	2006	2020	14	-4.8%
Carlsberg A/S	Several projects	8.8 kg per hectolitre	2008	2012	4	
Coca-Cola Hellenic	CHP, reduction programs, collaboration with suppliers, formation for employees, energy efficiency	3% in bottling plants and coolers with 30% more energy efficiency	2003	N/A		
Danone	Carbon expert in each subsidiary, bonuses on carbon criteria for executives, manufacture plastic packaging or orders locally	-30% (carbon footprint)	2000	2011	11	-3.2%
Diageo Plc	Reduce consumption, renewable energy, offset	-50%	2007	2015	8	-8.3%
Imperial Tobacco	Reduce consumption, low carbon energy sources, offset	-10%	2001	2010	9	-1.2%
Nestle	Global and local targets, CDM, cogeneration plants, renewable energy	Energy efficiency improvements of 5%	N/A	N/A	N/A	N/A
Orkla ASA	Recycle, produce electricity from excess heat, energy efficiency	No overall target for the group	2004	2020	16	
Pernod-Ricard	Reduce consumption, impact of the packaging, preserve water resources, sustainable agriculture	-10% direct energy per litre of distilled alcohol	2007	2011	4	
SABMiller	Energy efficiency, renewables, cleaner sources, lower carbon packaging, transport, lower emissions from fridges	<50% of energy use from fossil fuels	2008	2020	12	-5.6%
Unilever	CHP, biogenic material, energy efficiency, renewable, purchase of certified renewable energy, collaboration with suppliers/ customers	-25%	2004	2012	8	-3.5%

Figure 80: Carbon financial exposure index (Scope 1 & 2)

“By supporting long-term sustainable farming methods, each project aims to deliver benefits to poor rural communities, while delivering climate change mitigation, watershed protection, biodiversity, adult education and economic benefits. Examples include forest management in Uganda, tree and bamboo planting in Malawi, agricultural and forest conservation in Mozambique and Jatropha biofuel crops in Burkina Faso.”

Imperial Tobacco Group

Figure 81: Emission trend in 2008

Top disclosers by CDLI Score:

Reckitt Benckiser (80), LVMH (72), L'Oreal (63)

Average CDLI Score: 56

Average Performance Score: 20/41

Largest non-respondents by market capitalisation: Hermes International, Swatch Group, Luxottica Group

Number of companies responding: 7 out of 10 companies; publicly : 5

Total GHG emissions:
Scope 1: 0.3 mtCO₂e,
Scope 2: 0.6 mtCO₂e

“We are committed to mitigating climate change at source within our own operations and in consumers’ use of our products. [...] Reckitt Benckiser launched a ground-breaking initiative to measure and reduce by 20% per unit its global products Total Carbon Footprint across their entire lifecycle, ‘from cradle-to-grave’, including consumer use and the raw & packaging material supply chain.”

Reckitt Benckiser

Goods

The goods sector includes very diversified sub-sectors, such as luxury, household, health & personal care, sports goods, skin & beauty care, and clothing.

Exposure to carbon costs

Goods companies have an estimated carbon exposure ranging between 0.1% and 0.5% of EBITDA. Emissions from Scope 3 are higher, thus 16mtCO₂e are caused by the use and disposal of products sold by L'Oreal and Reckitt Benckiser, 6mtCO₂e are the result of L'Oreal, LVMH and Reckitt Benckiser supply chains and 1mtCO₂e are emitted by the transport and logistics operations of L'Oreal, LVMH and Reckitt Benckiser. L'Oreal describes its carbon footprint, allocating 28% of GHG emissions to raw materials & packaging, 5% to production, 7% to distribution, 58% to consumer use, and lastly 2% to disposal.

Regulation, risks and opportunities

No relevant regulatory risk at present. However, there are other risks for this business: reputational risk and market risk. LVMH: *“The activities could be directly (transport of products...) or indirectly (decrease or evolution of consumer demand) affected by economic factors such as energy costs, transport costs, CO₂ taxes.”*

Emission reduction plans

Achievements in 2008: Beiersdorf (-13%), Reckitt Benckiser (-10%), and L'Oréal (-7%) state that their emissions decreased in 2008. These reductions are attributed to energy savings and energy efficiency improvements, and the use of efficient natural gas boiler systems. Plans: Adidas and Beiersdorf do not have reduction targets.

Table 28: Emission reduction plans

	Action	Reduction target (%)	Baseline	End year	Time-scale	Annual av. rate (%)
L'Oréal	Energy efficiency, reduce consumption, purchase green energy, HVAC, efficiency building, bio-methane cogeneration, PV panels	-50%	2005	2015	10	-6.7%
LVMH	Optimisation of distillery processes, insulation in buildings, energy efficiency, renewable, efficiency HVAC	-5%	2006	2011	5	-1.0%
Reckitt Benckiser	Packaging and raw materials, recycle, energy efficiency, CHP, renewables, agricultural waste, offsetting, reduction of energy & water consumption	-20% per unit	2007	2020	13	-1.7%

“Climate change developments might trigger the identification of further opportunities for our company in terms of operational efficiencies and new product developments ... Potential areas are e.g. material selection, product engineering or streamlining product development processes and supply chain management. Potential opportunities are actually reviewed in the context of the strategy development.”

Adidas Group

Top disclosers by CDLI Score:

Carrefour (73), Tesco (69),
Kingfisher (67)

Average CDLI Score: 53

Average Performance Score:
21/41

**Largest non-respondents
by market capitalisation:**

PPR, Colruyt, Casino Guichard-
Perrachon

**Number of companies
responding:** 11 out of 14
companies; publicly: 10

Total GHG emissions:
Scope 1: 6 mtCO₂e,
Scope 2: 9 mtCO₂e

“Every aspect of our
business has a carbon
footprint, but we are
aiming to reduce our
emissions across the
board. Our goal is to
become carbon neutral
by 2012 in our UK and
Republic of Ireland
operations.”

Marks & Spencer

Retail

Exposure to carbon costs

All retail stocks have carbon financial
exposure below 4%. Retail is not a
carbon-intensive sector, but the supply
chain, use/disposal of products and
transport/logistics emissions in Scope
3 can be relatively high. For instance,
Marks & Spencer reported 3m tonnes
of CO₂ from its supply chain.

Regulation, risks and opportunities

At present, regulation does not
have a real financial impact on these
businesses.

Emission reduction plans

Achievements in 2008: Only Marks
& Spencer decreased its emissions,
with a 10% improvement in energy
efficiency and renewable electricity
accounting for 29% of total energy
consumption.

Kingfisher: “Our customers are
increasingly looking for products,
services and information to help them
create more sustainable homes. There
is now heightened recognition that
homes that are more resource efficient
are also more cost efficient. So for
Kingfisher, putting sustainability at the
heart of the company’s commercial
agenda creates tremendous
opportunities. Using our position
as one of the world’s leading home
improvement retailers, we can help
our customers create more eco and
energy efficient homes.”

Table 29: Emission reduction plans

Companies	Action	Reduction target (%)	Baseline	End year	Time-scale	Annual av. rate (%)
Carrefour	Reduced consumption, energy efficiency, program "Eco-Attitude" program, collaboration with suppliers, building efficiency, transport, logistics	-20% energy consumption n per sq. m of sales area	2004	2020	16	
H&M		-10% per EUR m of sales	2004	2009	5	
Inditex	Renewable energy, several energy efficiency projects	-20% (logistics)	2005	2020	15	-1.5%
Sainsbury		-25%	2005	2012	7	-4.0%
Kingfisher	Energy efficiency, low carbon energy, transport efficiency, reduce waste	-20% per GBP m of sales	2006	2011	5	-4.4%
Marks & Spencer		-25% per sq. m	2006	2011	5	-5.6%
Metro		-15% per sq. m	1990	2015	25	-0.6%
Morrison Supermarkets	Several projects aimed at reducing emissions	-36%(carbon footprint)	2005	2010	5	-8.5%
Ahold		-20% per EUR m of sales	2008	2015	7	-3.1%

"Our customers are increasingly looking for products, services and information to help them create more sustainable homes ... So for Kingfisher, putting sustainability at the heart of the company's commercial agenda creates tremendous opportunities."

Kingfisher

"Investment in low carbon buildings and distribution systems is a high priority for the business. In 2007 we backed our targets with a £100million Sustainable Technology Fund to support large-scale carbon reduction technologies in our stores, distribution centres and supply chains worldwide."

Tesco

"More than just providing information on the impact, Carrefour believes that consumers expect industry and retail to work on reducing the environmental impacts of goods manufacturing and product use in the most efficient way."

Carrefour

Top disclosers by CDLI score:

Reed Elsevier (76), Pearson (57), WPP (56)

Average CDLI score: 48

Average Score Performance score: 17

Largest non-respondents by market capitalisation:

Mediaset, Wolters Kluwer

No. of companies responding:

7; Publicly

Total GHG emissions:

Scope 1: 90 526 tCO₂e;

Scope 2: 387 472 tCO₂e

“Electrical consumption represents over 90% of total calculated CO₂ equivalent emissions, with the remaining less than 10% of calculated emissions attributable to group owned and operated fleet vehicles, natural gas consumed for space heating and steam used for space heating.”

Vivendi

Media**Exposure to carbon costs**

The financial carbon exposure of media companies is very low (below 0.4% of EBITDA). The bulk of the carbon exposure is related to electricity consumption (Scope 2). For Pearson, WPP, Reed Elsevier and Vivendi, scope 2 emissions vary between 63% and 92% of the total emissions. This is mainly due to the sector's high electricity consumption.

Green opportunities

The media industry is based on a dematerialised business model. Thus, regulation dealing with GHG emission reduction is considered as a major opportunity to push new 'green' business.

For example, Lagardère is working on digital media with a view to replacing physical supports (e.g.: e-books, on-line magazines). Green publishing is also a promising market. A WPP-TNS survey showed that 52% of clients would agree to pay a price premium for environmental performance. Thus, WPP is implementing “bespoke sustainability services” in its many fields of activity (advertising, communication, consulting, etc).

Similarly, 36% of the articles published by Reed Elsevier concern global science and the company is constantly developing environmental content in its newspapers and magazines. Pearson has launched a new imprint called 'Made with care'.

Emission reduction strategies

Achievements in 2008: The majority of the companies state that their emissions decreased in 2008. At the sector level, this points to a 10% cut in GHG emissions.

Plans: Most of the emissions stem from energy consumption in buildings and services. Thus, companies are implementing many efficiency measures to lower both energy cost and carbon emissions. Notable measures include controlled switching off of computers and lights, low energy buildings (LEED, BREEAM certifications), cooling system improvement, reducing the number of servers, etc.

In addition, as companies incur major electricity costs, they are beginning to purchase renewable energy certificates or produce such energy in house. This helps reduce emissions and prevents future high prices of conventional energy. Note that BSkyB only buys renewable electricity for its UK division, and WWP purchases 70% of its needs in the UK, 50% in Germany and 20% in the US.

With regards to Scope 3, business travel represents a fairly heavy carbon-intensive expense. For some companies, this cost could represent 3 to 6 times the amount of Scope 1 emissions. As a result, many companies promote video-conferences and a low-carbon car fleet (4 respondents).

Table 30: Emission reduction plans

	Activity / Action	Reduction target (%)	Baseline	End year	Time-scale (yrs)	Av. annual rate (%)	Absolute / Intensity	Invstmt
British Sky	Sustainable facility (investment)	-10%	2003	2010	7	-1.49%	Absolute	£233m
Pearson	Energy use in building & air travel	-25%	2007	2012	5	-5.6%	Absolute	
Reed Elsevier	CO ₂ emissions scope 1, 2 & travel	-10%	2003	2010	7	-1.49%	Absolute	\$1.9 m
WPP	Scope 1, 2 & 3	-20%	2006	2010	4	-5.4%%	Absolute	\$2.7m

“Climate change reinforces the opportunity for Lagardère to develop its skills in the ICT sector and consequently to be at the head of ICT innovation. Our company would be able to develop new media platforms such as digital media to replace the traditional printed media.”

Lagardère

“A global programme involving 1,500 servers from operations in the UK, the US, Canada and Australia has helped us reduce our energy bills by \$1m and save approximately 4,500 tons of CO₂.”

Pearson

“At the present time, the only potential Greenhouse Gas emissions generated by Vivendi’s various operations which are subject to direct regulation are certain refrigerants (e.g., R-22, R-407A, etc.) used in air conditioning systems at various company facilities.”

Vivendi

7

Appendix

Glossary

Carbon Dioxide Equivalent (CO₂e):

The universal unit of measurement used to indicate the global warming potential of each of the six greenhouse gases. Carbon dioxide — a naturally occurring gas that is a byproduct of burning fossil fuels and biomass, land-use changes, and other industrial processes — is the reference gas against which the other greenhouse gases are measured.

Project-Based Emission Reductions:

Emission reductions that occur from projects pursuant to JI or CDM (as opposed to “emissions trading” or transfer of assigned amount units under Article 17 of the Kyoto Protocol).

Clean Development Mechanism (CDM):

The mechanism provided by Article 12 of the Kyoto Protocol, designed to assist developing countries in achieving sustainable development by permitting industrialised countries to finance projects for reducing greenhouse gas emission in developing countries and receive credit for doing so.

Certified Emission Reductions (CERs):

A unit of greenhouse gas emission reductions issued pursuant to the Clean Development Mechanism of the Kyoto Protocol, and measured in metric tonnes of carbon dioxide equivalent. One CER represents a reduction of greenhouse gas emissions of one tCO₂e.

Emission Reduction Units (ERUs):

A unit of emission reductions issued pursuant to Joint Implementation. This unit is equal to one metric ton of carbon dioxide equivalent.

Emission Reductions Purchase Agreement (ERPA):

Agreement which governs the purchase and sale of emission reductions.

United Nations Framework Convention on Climate Change (UNFCCC):

The international legal framework adopted in June 1992 at the Rio Earth Summit to address climate change. It commits the Parties to the UNFCCC to stabilise human induced greenhouse

gas emissions at levels that would prevent dangerous manmade interference with the climate system.

European Union Emission Trading Scheme (EU ETS):

The EU ETS was launched on January 1, 2005 as a cornerstone of EU climate policy towards its Kyoto commitment and beyond. In its first phase from 2005 to 2007, the EU ETS regulates CO₂ emissions from energyintensive installations representing some 40% of EU emissions. Those emissions are capped at 6,600 MtCO₂ over the 2005-2007 period. Following this pilot phase, Phase II of the EU ETS (extending from 2008 to 2012) should see a tighter constraint on obligated installations, given that the decisions so far rendered on 19 NAPs set on average the annual cap at 5.8% below 2005 verified emissions (adjusted for Phase II perimeter). To meet their compliance requirements, installations may use EUAs, CERs and ERUs (the latter for Phase II only). Supplementary rules restrict the use of CERs and ERUs in Phase II, at different levels in each Member State. Further information may be found at <http://ec.europa.eu/environment/climate/emission.htm>

European Union Allowances (EUAs):

the allowances in use under the EU ETS. An EUA unit is equal to one metric ton of carbon dioxide equivalent.

Offsets: Offsets designate the emission reductions from project-based activities that can be used to meet compliance – or corporate citizenship – objectives vis-à-vis greenhouse gas mitigation.

Baseline: The emission of greenhouse gases that would occur without the contemplated policy intervention or project activity.

Sequestration: Sequestration refers to capture of carbon dioxide in a way that prevents it from being released into the atmosphere for a specified period of time.

EU-27: Group of the 27 Member States of the European Union (Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland,

Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.)

CAGR: Compound Annual Growth Rate. The year-over-year growth rate of an investment over a specified period of time.

Annex I countries: Annex I countries are the 36 industrialised countries and Economies in Transition (EIT*) listed in Annex I of the UNFCCC. These countries have taken emission caps – regulatory devices that set a ceiling on emissions that can be released into the atmosphere from any one country within a designated timeframe. Full list available at: http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php

NER: New Entrant Reserve. Under the EU ETS, governments set aside a certain number of allowances in a NER to allow eligible new entrants, free of charge, into the EU ETS.

CO₂ right: term equivalent to carbon quota, CO₂ emission right, CO₂ emission allowance.

20XXE, 20XXf, 20XXA: following dates, letters E, f, and A refer respectively to Estimate, Forecast, and Actual, and apply to the figure which is associated to these dates.

BaU: Business-as-usual. The scenario in which policies to reduce emissions are not enacted.

RoW: Rest of the World

EBITDA: Earnings Before Interest, Taxes, Depreciation, and Amortization.

ESG: Environment, Social, Governance

toe: tonne of oil equivalent
mt: million tonnes, example: mtCO₂

tCO₂e: tonne of carbon dioxide equivalent.

CCS: Carbon Capture & Storage technology

CHP: Combined Heat & Power

Company (alphabetic order)	Country	Sector (FTSE Eurofirst)	Status	CDLI Score	Not public
A.P. Moller - Maersk	Denmark	Transportation	AQ	67	
A2A	Italy	Multi-Utilities & Unregulated Power	AQ	55	
ABB	Switzerland	Electrical Equipment	AQ	57	
Abertis Infraestructuras	Spain	Commercial Services & Supplies	AQ	52	
ACCIONA	Spain	Diversified Industrial	NR		
Accor	France	Hotels, Restaurants & Leisure	AQ	66	NP
ACS Actividades de Construcción y Servicios	Spain	Construction & Engineering	AQ	59	NP
Adecco SA	Switzerland	Human Resource & Employment Services	AQ	45	
Adidas Group	Germany	Textiles, Apparel & Luxury Goods	AQ	53	
ADP	France	Services	AQ	30	NP
Aegon	Netherlands	Financial services	AQ	58	
Air France - KLM	France	Airlines	AQ	68	
Air Liquide	France	Speciality Chemicals	AQ	60	
Akzo Nobel	Netherlands	Diversified Chemicals	AQ	62	
Alcatel - Lucent	France	Telecommunications	AQ	69	
Alleanza Assicurazioni	Italy	Insurance - Europe	NR		
Allianz	Germany	Insurance - Europe	AQ	83	
Allied Irish Bank	Ireland	Banks - Europe	AQ	26	
Alpha Bank	Greece	Banks - Europe	NR		
Alstom	France	Energy Equipment & Services	AQ	63	
AMB Generali Holding	Germany	Insurance - Europe	AQ	15	
Anglo American	United Kingdom	Metals & Mining	AQ	58	
Anglo Irish Bank	Ireland	Banks - UK & Ireland	IN		
Anheuser Busch InBev	USA	Beverages & Tobacco	AQ	50	
Antofagasta	United Kingdom	Metals & Mining	AQ	60	NP
Arcelor Mittal	United Kingdom	Steel	AQ	35	
ASML Holding	Netherlands	Semiconductor Equipment & Products	AQ	7	
Associated British Foods	United Kingdom	Food Products	AQ	54	
AstraZeneca	United Kingdom	Pharmaceuticals	AQ	71	
Atlantia	Italy	Transportation	AQ	57	NP
Atlas Copco	Sweden	Industrial Products & Services	AQ	67	
Aviva	United Kingdom	Insurance - Europe	AQ	80	
AXA Group	France	Insurance - Europe	AQ	65	
BAE Systems	United Kingdom	Aerospace & Defense	AQ	56	NP
Banca Monte dei Paschi di Siena Group	Italy	Banks - Europe	AQ	56	
Banca Popolare	Italy	Banks - Europe	NR		
Banco Comercial Português BCP	Portugal	Banks - Europe	AQ	46	NP
Banco Espírito Santo BES	Portugal	Banks - Europe	AQ	72	NP
Banco Popular Espanol	Spain	Banks - Europe	AQ	50	

Company (alphabetic order)	Country	Sector (FTSE Eurofirst)	Status	CDLI Score	Not public
Banco Sabadell	Spain	Banks - Europe	AQ	52	NP
Banco Santander	Spain	Banks - Europe	AQ	59	
Banesto	Spain	Banks - Europe	AQ	16	
Bank of Ireland	Ireland	Banks - UK & Ireland	AQ	15	NP
Bank of Piraeus (Cr)	Greece	Banks - Europe	NR		
Barclays	United Kingdom	Banks - UK & Ireland	AQ	74	
BASF	Germany	Diversified Chemicals	AQ	94	
Bayer	Germany	Diversified Chemicals	AQ	95	
BBVA	Spain	Diversified Financials - Europe	AQ	63	
Beiersdorf	Germany	Household & Personal Products	AQ	45	
Belgacom	Belgium	Telecommunication Services	AQ	43	
BG Group	United Kingdom	Integrated Oil & Gas	AQ	66	
BHP Billiton	Australia	Materials	AQ	82	
BMW Bayerische Motorenwerke	Germany	Automobiles	AQ	79	
BNP Paribas	France	Banks - Europe	AQ	52	
Bouygues	France	Construction & Engineering	AQ	31	NP
BP	United Kingdom	Oil & Gas Refining & Marketing	AQ	66	
British American Tobacco	United Kingdom	Beverages & Tobacco	IN		
British Energy Group (see EDF)	United Kingdom	Electric Utilities - International	AQ		
British Land	United Kingdom	Real Estate Management & Development	AQ	55	
British Sky Broadcasting	United Kingdom	Broadcasting & Cable TV	AQ	42	
BT Group	United Kingdom	Integrated Telecommunication Services	AQ	65	
Cable and Wireless	United Kingdom	Telecommunications	AQ	65	
Cadbury	United Kingdom	Food Products	AQ	72	
Cap Gemini	France	IT Consulting & Services	AQ	47	
Capita Group	United Kingdom	Support Services	AQ	58	
Carlsberg A/S	Denmark	Beverages & Tobacco	AQ	71	
Carnival	USA	Hotels, Restaurants & Leisure	AQ	87	
Carrefour	France	Food & Drug Retailing	AQ	73	
Casino Guichard-Perrachon	France	Food & Drug Retailing	NR		
Celesio	Germany	Trading Companies & Distributors	AQ	10	NP
Centrica	United Kingdom	Multi-Utilities & Unregulated Power	AQ	84	
Christian Dior	France	Consumer	NR		
Cia Espanola De Petroleos	Spain	Oil & Gas	NR		
CINTRA	Spain	Transportation	AQ	49	
Cnp Assurances	France	Insurance - Europe	AQ	54	
Coca-Cola Hellenic	Greece	Beverages & Tobacco	AQ	65	
Colruyt	Belgium	Food & Drug Retailing	NR		
Commerzbank	Germany	Banks - Europe	AQ	51	NP
Compagnie Financière Richemont	Switzerland	Textiles, Apparel & Luxury Goods	AQ	43	NP

Company (alphabetic order)	Country	Sector (FTSE Eurofirst)	Status	CDLI Score	Not public
Compagnie Nationale à Portefeuille	Belgium	Diversified Financials - Europe	NR		
Compass	United Kingdom	Support Services	AQ	46	
Credit Agricole	France	Banks - Europe	AQ	51	
Credit Suisse	Switzerland	Banks - Europe	AQ	68	
CRH	Ireland	Construction Materials	AQ	54	
Criteria Caixa	Spain	Diversified Industrial	NR		
Daimler	Germany	Automobiles	AQ	65	NP
Danone	France	Food Products	AQ	42	
Danske Bank A/S	Denmark	Banks - Europe	AQ	63	NP
Deutsche Bank	Germany	Banks - Europe	AQ	66	
Deutsche Boerse	Germany	Diversified Financials - Europe	AQ	31	NP
Deutsche Lufthansa	Germany	Airlines	AQ	64	NP
Deutsche Post	Germany	Air Freight & Logistics	AQ	63	
Deutsche Postbank	Germany	Banks - Europe	AQ	51	
Deutsche Telekom	Germany	Integrated Telecommunication Services	AQ	66	
DEXIA	France	Diversified Financials - Europe	AQ	67	
Diageo	United Kingdom	Beverages & Tobacco	AQ	66	
DnB NOR	Norway	Banks - Europe	AQ	62	
E.ON AG	Germany	Electric Utilities - International	AQ	74	
EADS	Netherlands	Aerospace & Defense	AQ	69	NP
Edison	Italy	Energy	AQ	45	NP
EDP - Energias de Portugal	Portugal	Electric Utilities - International	AQ	75	
EFG Eurobank Ergasias Bank	Greece	Banks - Europe	AQ	46	NP
Eiffage	France	Construction & Engineering	AQ	32	
Elan	Ireland	Pharmaceuticals	IN		
Electricite de France (EDF)	France	Electric Utilities - International	AQ(L)		
ENEL	Italy	Electric Utilities - International	AQ	55	
ENI	Italy	Integrated Oil & Gas	AQ	63	
Eramet	France	Metals & Mining	NR		
Ericsson	Sweden	Communications Equipment	AQ	63	
Erste Group Bank	Austria	Banks - Europe	AQ	45	
Essilor International	France	Health Care Equipment & Supplies	AQ	36	NP
Eurasian Natural Resources	United Kingdom	Metals & Mining	DP		NP
Experian Group	United Kingdom	Services	AQ	55	
FERROVIAL	Spain	Construction & Engineering	AQ	68	
Fiat	Italy	Automobiles	AQ	70	NP
Finmeccanica	Italy	Aerospace & Defense	AQ	56	
Fomento De Construc Y Contra	Spain	Environmental Services	NR		
Fortis NV	Netherlands	Diversified Financials - Europe	NR		
Fortum	Finland	Electric Utilities - International	AQ	79	

Company (alphabetic order)	Country	Sector (FTSE Eurofirst)	Status	CDLI Score	Not public
France Telecom	France	Integrated Telecommunication Services	AQ	49	
Fresenius Medical Care KGaA	Germany	Health Care Providers & Services	AQ	41	NP
Fresenius SE	Germany	Health Care Equipment & Supplies	AQ	36	NP
Galp Energia	Portugal	Integrated Oil & Gas	NR		
GAMESA	Spain	Energy Equipment & Services	AQ	63	
Gas Natural SDG	Spain	Gas Distribution	AQ	77	NP
GBL (see Pernod-Ricard and GDF Suez)	Belgium	Diversified Financials - Europe	AQ		
GDF Suez (formerly Gaz de France / Suez)	France	Energy	AQ	67	
Gecina	France	Real Estate Investment Trusts	NR		
Generali	Italy	Insurance - Europe	NR		
Gk Org Fball Prgntc	Greece	Leisure Entertainment & Hotels	NR		
GlaxoSmithKline	United Kingdom	Pharmaceuticals	AQ	79	
H&M Hennes & Mauritz	Sweden	Textiles, Apparel & Luxury Goods	AQ	58	
HBOS (see Lloyds Banking Group)	United Kingdom	Banks - UK & Ireland	AQ		
Heidelberg Cement	Germany	Construction Materials	AQ	47	NP
Heineken	Netherlands	Beverages & Tobacco	AQ(L)		
Hellenic Telecom	Greece	Telecommunication Services	NR		
Henkel KGaA	Germany	Household & Personal Products	AQ	66	
Hermes International	France	Textiles, Apparel & Luxury Goods	DP		
Holcim	Switzerland	Construction Materials	AQ	61	
HSBC Holdings	United Kingdom	Diversified Financials	AQ	92	
I.F.I.L.	Italy	Diversified Financials - Europe	NR		
Iberdrola	Spain	Electric Utilities - International	AQ	73	
Imperial Tobacco Group	United Kingdom	Beverages & Tobacco	AQ	62	
Inditex	Spain	Textiles, Apparel & Luxury Goods	AQ	59	
ING Group	Netherlands	Diversified Financials - Europe	AQ	56	
International Power	United Kingdom	Electric Utilities - International	AQ	67	NP
Intesa Sanpaolo S.p.A	Italy	Banks - Europe	AQ	51	
Investor AB	Sweden	Diversified Financials - Europe	AQ	64	NP
J Sainsbury	United Kingdom	Food & Drug Retailing	AQ	49	
Julius Baer Holding	Switzerland	Diversified Financials - Europe	AQ	49	NP
K + S AG	Germany	Speciality Chemicals	AQ	39	
Kazakhmys	United Kingdom	Metals & Mining	NR		
KBC Group	Belgium	Banks - Europe	AQ	64	
Kingfisher	United Kingdom	Speciality Retail	AQ	67	
Kuehne + Nagel International	Switzerland	Air Freight & Logistics	AQ	50	NP
L' Oreal	France	Consumer	AQ	63	
Lafarge	France	Construction Materials	AQ	84	
Lagardere S. C. A.	France	Publishing	AQ	36	

Company (alphabetic order)	Country	Sector (FTSE Eurofirst)	Status	CDLI Score	Not public
Land Securities	United Kingdom	Real Estate Management & Development	AQ	62	
Legal and General Group	United Kingdom	Insurance - UK & Ireland	AQ	78	
LEGRAND	France	Electrical Equipment	AQ	48	
Linde	Germany	Chemicals	AQ	60	
Lloyds Banking Group	United Kingdom	Banks - UK & Ireland	AQ	80	
Lonmin	United Kingdom	Metals & Mining	AQ	47	
Lonza Group	Switzerland	Pharmaceuticals	AQ	47	
Luxottica Group	Italy	Speciality Retail	DP		NP
LVMH	France	Textiles, Apparel & Luxury Goods	AQ	72	
MAN	Germany	Industrial Machinery	AQ	59	
Man Group	United Kingdom	Diversified Financials - UK & Ireland	AQ	65	
MAPFRE	Spain	Diversified Financials	AQ	59	NP
Marks & Spencer Group	United Kingdom	Multiline Retail	AQ	65	
Mediaset	Italy	Broadcasting & Cable TV	NR		
Mediobanca	Italy	Diversified Financials - Europe	NR		
Metro	Germany	Multiline Retail	AQ	50	
Michelin	France	Auto Components	AQ	64	NP
Morrison Supermarkets	United Kingdom	Food & Drug Retailing	AQ	43	
Munich Re	Germany	Insurance - Europe	AQ	72	
National Bank Of Greece	Greece	Banks - Europe	AQ	30	
National Grid	United Kingdom	Utilities	AQ	69	
NATIXIS	France	Banks - Europe	AQ	25	NP
Nestle	Switzerland	Food Products	AQ	60	
Nokia Group	Finland	Telecommunications	AQ	78	
Nordea Bank	Sweden	Banks - Europe	AQ	58	NP
Norsk Hydro	Norway	Metals & Mining	AQ	61	
Novartis	Switzerland	Pharmaceuticals	AQ	70	
Novo Nordisk	Denmark	Pharmaceuticals	AQ	73	
Old Mutual	United Kingdom	Diversified Financials	AQ	74	
OMV	Austria	Integrated Oil & Gas	AQ	65	
Orkla ASA	Norway	Diversified Industrial	AQ	68	
Pargesa Holding SA	Switzerland	Diversified Financials - Europe	DP		NP
Pearson	United Kingdom	Publishing	AQ	57	
Pernod-Ricard	France	Beverages & Tobacco	AQ	59	
Philips Electronics	Netherlands	Personal Care & Household	AQ	73	
Porsche	Germany	Automobiles	AQ	53	NP
Portugal Telecom	Portugal	Telecommunications	AQ	49	NP
PPR	France	Multiline Retail	DP		NP
Prudential	United Kingdom	Financial services	AQ	57	
PSA Peugeot Citroen	France	Automobiles	AQ	86	
Q-Cells	Germany	Industrial Renewables	AQ	63	

Company (alphabetic order)	Country	Sector (FTSE Eurofirst)	Status	CDLI Score	Not public
Raiffeisen International Bank Holding	Austria	Diversified Financials - Europe	IN		
REC Group	Norway	Energy Equipment & Services	NR		
Reckitt Benckiser	United Kingdom	Household & Personal Products	AQ	80	
Reed Elsevier	United Kingdom	Publishing	AQ	76	
Renault	France	Automobiles	AQ	80	
Repsol YPF	Spain	Integrated Oil & Gas	AQ	75	
Rio Tinto	United Kingdom	Metals & Mining	AQ	87	
Roche Holding	Switzerland	Pharmaceuticals	AQ	45	
Rolls-Royce	United Kingdom	Aerospace & Defense	AQ	76	
Royal & Sun Alliance Insurance Group	United Kingdom	Insurance - UK & Ireland	AQ	53	
Royal Ahold	Netherlands	Food & Drug Retailing	AQ	45	
Royal Bank of Scotland Group	United Kingdom	Banks - UK & Ireland	AQ	77	
Royal DSM	Netherlands	Chemicals	AQ	79	
Royal Dutch Shell	Netherlands	Oil & Gas	AQ	75	
Royal KPN	Netherlands	Telecommunications	AQ	73	
RTL Group	Belgium	Broadcasting & Cable TV	AQ	11	
RWE	Germany	Electric Utilities - International	AQ	83	
SABMiller	United Kingdom	Beverages & Tobacco	AQ	54	
Safran	France	Aerospace & Defense	DP		
Saint-Gobain	France	Building Products	AQ	67	
Saipem	Italy	Oil & Gas	AQ	47	NP
Salzgitter AG Stahl und Technologie	Germany	Steel	IN		
Sampo	Finland	Insurance - Europe	DP		NP
Sandvik AB	Sweden	Industrial Products & Services	AQ	73	NP
Sanofi-Aventis	France	Pharmaceuticals	AQ	76	NP
SAP	Germany	Software	AQ	54	
SCA	Sweden	Paper & Forest Products	AQ	63	
Scania	Sweden	Construction & Farm Machinery & Heavy Trucks	AQ	76	
Schindler Holding	Switzerland	Industrial Machinery	IN		NP
Schneider Electric	France	Electrical Equipment	AQ	60	
Scottish & Southern Energy	United Kingdom	Energy	AQ	78	
Seadrill Management AS	Norway	Energy Equipment & Services	NR		
SEB	Sweden	Banks - Europe	AQ	67	
Ses	Luxembourg	Broadcasting & Cable TV	AQ	56	
Severn Trent	United Kingdom	Water Utilities	AQ	58	
SGS SA	Switzerland	Commercial Services & Supplies	AQ	55	
Shire	United Kingdom	Pharmaceuticals	AQ	71	
Siemens	Germany	Electronic Equipment & Instruments	AQ	85	
Smith & Nephew	United Kingdom	Health Care Equipment & Supplies	AQ	63	
Smiths Group	United Kingdom	Industrial Conglomerates	AQ	32	

Company (alphabetic order)	Country	Sector (FTSE Eurofirst)	Status	CDLI Score	Not public
Snam Rete Gas	Italy	Gas Utilities	AQ	65	
Soc Des Autoroutes Paris-Rhin-Rhone	France	Public Services	NR		
Societe Generale	France	Banks - Europe	AQ	68	
Sodexo	France	Services	AQ	38	NP
Solvay A	Belgium	Diversified Chemicals	NR		
SSAB	Sweden	Steel	AQ	72	NP
Standard Chartered	United Kingdom	Banks - UK & Ireland	AQ	66	
Standard Life	United Kingdom	Financial services	AQ	57	
StatoilHydro	Norway	Integrated Oil & Gas	AQ	40	
STMicroelectronics	Italy	Semiconductor Equipment & Products	AQ	59	NP
Stora Enso	Finland	Paper & Forest Products	AQ	71	
Suez Environnement	France	Environmental Services	AQ	62	NP
Svenska Handelsbanken	Sweden	Banks - Europe	AQ	11	NP
Swatch Group	Switzerland	Textiles, Apparel & Luxury Goods	DP		NP
Swedbank	Sweden	Banks - Europe	AQ	42	
Swiss Life	Switzerland	Insurance - Europe	DP		NP
Swiss Re	Switzerland	Insurance - Europe	AQ	76	
Swisscom	Switzerland	Integrated Telecommunication Services	AQ	55	
Syngenta International	Switzerland	Speciality Chemicals	AQ	60	
Synthes	Switzerland	Health Care Equipment & Supplies	DP		NP
Technip	France	Energy Equipment & Services	AQ	67	
Telecom Italia	Italy	Integrated Telecommunication Services	AQ	66	NP
Telefonica	Spain	Telecommunications	AQ	59	
Telekom Austria	Austria	Telecommunication Services	DP		NP
Telenor Group	Norway	Integrated Telecommunication Services	AQ	65	NP
TeliaSonera	Sweden	Telecommunications	AQ	71	
Terna	Italy	Electric Utilities - International	AQ	60	
Tesco	United Kingdom	Food & Drug Retailing	AQ	69	
Thales	France	Aerospace & Defense	AQ	49	
ThyssenKrupp	Germany	Industrial Conglomerates	AQ	45	NP
TNT	Netherlands	Transportation	AQ	71	
Total	France	Integrated Oil & Gas	AQ	81	
Tullow Oil	United Kingdom	Oil & Gas Exploration & Production	AQ	43	
UBI Banca	Italy	Banks - Europe	AQ	43	
UBS	Switzerland	Banks - Europe	AQ	68	
UCB Cap	Belgium	Pharmaceuticals	DP		NP
Unibail-Rodamco	France	Real Estate Management & Development	AQ	53	

Company (alphabetic order)	Country	Sector (FTSE Eurofirst)	Status	CDLI Score	Not public
Unicredit Group	Italy	Banks - Europe	AQ	48	
Unilever	United Kingdom	Food Products	AQ	76	
Union Fenosa	Spain	Utilities	AQ	86	
United Utilities	United Kingdom	Utilities	AQ	71	
UPM-Kymmene	Finland	Paper & Forest Products	AQ	72	
Vallourec	France	Industrial Machinery	AQ	61	
Vedanta Resources	United Kingdom	Metals & Mining	AQ	50	NP
Veolia Environnement	France	Multi-Utilities & Unregulated Power	AQ	76	
Verbund	Austria	Utilities	AQ	69	
Vestas Wind Systems A/S	Denmark	Energy Equipment & Services	AQ	77	
Vienna Insurance	Austria	Insurance - Europe	NR		
Vinci	France	Construction & Engineering	AQ	78	
Vivendi Universal	France	Telecommunication Services	AQ	54	
Vodafone Group	United Kingdom	Wireless Telecommunication Services	AQ	67	
Voestalpine	Austria	Diversified Industrial	NR		
Volkswagen	Germany	Automobiles	AQ	69	
Volvo	Sweden	Automobiles	AQ	60	NP
Wacker Chemie	Germany	Chemicals	AQ	40	NP
Wolters Kluwer	Netherlands	Support Services	NR		
WPP	United Kingdom	Advertising	AQ	56	
Xstrata	United Kingdom	Metals & Mining	AQ	68	
Yara International ASA	Norway	Speciality Chemicals	NR		
Zardoya Otis	Spain		NR		
Zurich Financial Services	Switzerland	Insurance - Europe	AQ	63	NP

Notes

This image shows a single sheet of white paper with horizontal blue lines, similar to standard notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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