Carbon Disclosure Project 2010
South Africa JSE 100

On behalf of 534 investors with assets of US$ 64 trillion

Lead Partner
National Business Initiative

Report written by
Incite Sustainability

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CARBON DISCLOSURE PROJECT

MEMBER 2010

ABRAPP - Associação Brasileira das Entidades Fechadas de Previdência Complementar
Aegon N.V.
Akbank T.A.Ş.
Allianz Global Investors AG
ATP Group
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Banco Bradesco S.A.
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CCLA Investment Management Ltd
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Ethos Foundation
Generation Investment Management
HSBC Holdings plc
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KLP Insurance
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Robeco
Rockefeller & Co. SRI Group
Russell Investments
Schroders
Second Swedish National Pension Fund (AP2)
Sompo Japan Insurance Inc.
Standard Chartered PLC
Sun Life Financial Inc.
TD Asset Management Inc. TDAM USA Inc.
The Wellcome Trust
Zurich Cantonal Bank

Cover picture

The United Nations has declared 2010 to be the year of biodiversity in order to draw attention to the need to conserve biological diversity, not only for its inherent value, but as an absolute necessity for our sustainable future (www.unep.org/iyb). For this reason, we have chosen this image of the Karoo – a biodiversity hotspot – to preface this year's South African CDP Report.

Carbon Disclosure Project 2010

534 financial institutions with assets of over US$ 64 trillion were signatories to the CDP 2010 information request dated February 1st, 2010, including:

Aberdeen Asset Managers
Aberdeen Immobilien KAG
Active Earth Investment Management
Acuity Investment Management
Addenda Capital Inc.
Advanced Investment Partners
Advantage Asset Managers (Pty) Ltd
AEGON Magyarország Befektetési Alapkezeló´Zrt.
Aegon N.V.
AEGON-INDUSTRIAL Fund Management Co., Ltd
Aeneas Capital Advisors
AGF Management Limited
AIG Asset Management
Akbank T.A.Ş.
Alberta Investment Management Corporation (AIMCo)
Alberta Teachers Retirement Fund
Alcyone Finance
Allianz Global Investors AG
Allianz Group
Altshuler Shaham
AMP Capital Investors
AmpegaGerling Investment GmbH
Amundi Asset Management
ANBIMA - Brazilian Financial and Capital Markets Association
APG Asset Management
Aprionis
ARIA (Australian Reward Investment Alliance)
Arma Portföy Yönetimi A.Ş.
ASB Community Trust
ASM Administradora de Recursos S.A.
ASN Bank
Assicurazioni Generali Spa
ATP Group
Australia and New Zealand Banking Group Limited
Australian Central Credit Union incorporating Savings & Loans Credit Union
Australian Ethical Investment Limited
AustralianSuper
AVANA Invest GmbH
Aviva Investors
Aviva plc
AvivaSA Emeklilik ve Hayat A.Ş.
AXA Group
Baillie Gifford & Co.
Bakers Investment Group
Banco Bradesco S.A.
Banco de Crédito del Perú BCP
Banco de Galicia y Buenos Aires S.A.
Banco do Brazil
Banco Santander
Banco Santander (Brasil)
Banesprev Fundo Banespa de Seguridade Social
Banesto (Banco Español de Crédito S.A.)
Bank of America Merrill Lynch
Bank Sarasin & Co, Ltd
Bank Vontobel
Bankhaus Schelhammer & Schattera Kapitalanlagegesellschaft m.b.H.
BANKINTER S.A.
BankInvest
Banque Degroof
Barclays Group
BBC Pension Trust Ltd
BBVA
Bedfordshire Pension Fund
Beutel Goodman and Co. Ltd
BioFinance Administração de Recursos de Terceiros Ltda
BlackRock
Blue Marble Capital Management Limited
Blue Shield of California Group
Blumenthal Foundation
BMO Financial Group
BNP Paribas Investment Partners
BNY Mellon
Boston Common Asset Management, LLC
BP Investment Management Limited
Brasilprev Seguros e Previdência S/A.
British Columbia Investment Management Corporation (bcIMC)
BT Investment Management
The Bullitt Foundation
Busan Bank
CAAT Pension Plan
Cadiz Holdings Limited
Caisse de dépôt et placement du Québec
Caisse des Dépôts
Caixa de Previdência dos Funcionários do Banco do Nordeste do Brasil (CAPEF)
Caixa Econômica Federal
Caixa Geral de Depósitos
Caja de Ahorros de Valencia, Castellón y Valencia, BANCAJA
Caja Navarra
California Public Employees' Retirement System
California State Teachers' Retirement System
California State Treasurer
Calvert Group
Canada Pension Plan Investment Board
Canadian Friends Service Committee (Quakers)
CAPESESP
Capital Innovations, LLC
CARE Super Pty Ltd
Carlson Investment Management
Carmignac Gestion
Catherine Donnelly Foundation
Catholic Super
Cbus Superannuation Fund
CCLA Investment Management Ltd
Celeste Funds Management Limited
The Central Church Fund of Finland
Central Finance Board of the Methodist Church
Ceres, Inc.
Cheyne Capital Management (UK) LLP
Christian Super
Christopher Reynolds Foundation
CI Mutual Funds' Signature Advisors
CIBC
Clean Yield Group, Inc.
ClearBridge Advisors
Climate Change Capital Group Ltd
Close Brothers Group plc
The Collins Foundation
Colonial First State Global Asset Management
Comite syndical national de retraite Bâtirente
Commerzbank AG
CommInsure
Companhia de Seguros Aliança do Brasil
Compton Foundation, Inc.
Connecticut Retirement Plans and Trust Funds
Co-operative Asset Management
Co-operative Financial Services (CFS)
The Co-operators Group Ltd
Corston-Smith Asset Management Sdn. Bhd.
Crédit Agricole S.A.
Credit Suisse
Daegu Bank
Daiwa Securities Group Inc.
The Daly Foundation
de Pury Pictet Turrettini & Cie S.A.
DekaBank Deutsche Girozentrale
Deutsche Asset Management
Deutsche Bank AG
Deutsche Postbank Vermögensmanagement S.A., Luxemburg
Development Bank of Japan Inc.
Development Bank of the Philippines (DBP)
Dexia Asset Management
DnB NOR ASA
Domini Social Investments LLC
Dongbu Insurance Co., Ltd.
DWS Investment GmbH
Earth Capital Partners LLP
East Sussex Pension Fund
Ecclesiastical Investment Management
Economus Instituto de Seguridade Social
The Edward W. Hazen Foundation
EEA Group Ltd
Element Investment Managers
ELETRA - Fundação Celg de Seguros e Previdência
Environment Agency Active Pension Fund
Epworth Investment Management Ltd
Equilibrium Capital Group
Erste Group Bank AG
Essex Investment Management, LLC
Ethos Foundation
Eureko B.V.
Eurizon Capital SGR
Evangelical Lutheran Church in Canada Pension Plan for Clergy and Lay Workers
Evli Bank Plc
F&C Management Ltd
FAELCE - Fundação Coelce de Seguridade Social
FASERN Fundação Cosern de Previdência Complementar
Fédéris Gestion d'Actifs
FIDURA Capital Consult GmbH
FIM Asset Management Ltd
Financière de Champlain
FIRA. - Banco de Mexico
First Affirmative Financial Network
First Swedish National Pension Fund (AP1)
FirstRand Ltd.

Five Oceans Asset Management
Florida State Board of Administration (SBA)
Folketrygdfondet
Folksam
Fondaction CSN
Fondation de Luxembourg
Fonds de Réserve pour les Retraites – FRR
Forward Management, LLC
Fourth Swedish National Pension Fund, (AP4)
Frankfurter Service Kapitalanlage-Gesellschaft mbH
FRANKFURT-TRUST Investment Gesellschaft mbH
Friends Provident Holdings (UK) Limited
Front Street Capital
Fukoku Capital Management, Inc.
Fundação AMPLA de Seguridade Social - Brasiletros
Fundação Atlântico de Seguridade Social
Fundação Banrisul de Seguridade Social
Fundação Codesc de Seguridade Social - FUSESC
Fundação de Assistência e Previdência Social do BNDES - FAPES
Fundação Forluminas de Seguridade Social
Fundação Itaúsa Industrial
Fundação Promon de Previdência Social
Fundação São Francisco de Seguridade Social
Fundação Vale do Rio Doce de Seguridade Social - VALIA
FUNDIÁGUA - Fundação de Previdência da Companhia de Saneamento e Ambiental do Distrito Federal
Futuregrowth Asset Management
Gartmore Investment Management Limited
Generali Deutschland Holding AG
Generation Investment Management
Genus Capital Management
Gjensidige Forsikring
GLG Partners LP
GLS Gemeinschaftsbank eG, Germany
Goldman Sachs & Co.
GOOD GROWTH INSTITUT für globale Vermögensentwicklung mbH
Governance for Owners LLP
Government Employees Pension Fund ("GEPF"), Republic of South Africa
Green Cay Asset Management
Green Century Funds
Groupe Investissement Responsable Inc.
GROUPE OFI AM
Grupo Banco Popular
Gruppo Monte Paschi
Guardian Ethical Management Inc
Guardians of New Zealand Superannuation
Guosen Securities Co., LTD.
Hang Seng Bank
HANSAINVEST Hanseatische Investment GmbH
Harbourmaster Capital
Harrington Investments, Inc
The Hartford Financial Services Group, Inc.
Hastings Funds Management Limited
Hazel Capital LLP HDFC Bank Ltd
Health Super Fund
Henderson Global Investors
Hermes Fund Managers
HESTA Super
Hospitals of Ontario Pension Plan (HOOPP)
HSBC Global Asset Management (Deutschland) GmbH
HSBC Holdings plc
HSBC INKA Internationale Kapitalanlagegesellschaft mbH
Hyundai Marine & Fire Insurance
IDBI Bank Limited
Illinois State Treasurer
Ilmarinen Mutual Pension Insurance Company
Impax Asset Management Ltd
Industrial Bank
Industrial Bank of Korea
Industry Funds Management
Infrastructure Development Finance Company Ltd. (IDFC)
ING
Insight Investment Management (Global) Ltd
Instituto de Seguridade Social dos Correios e Telégrafos - Postalis
Instituto Infraero de Seguridade Social - INFRAPREV
Insurance Australia Group
Investec Asset Management
Irish Life Investment Managers
Itaú Unibanco Banco Múltiplo S.A.
J.P. Morgan Asset Management
Janus Capital Group Inc.
The Japan Research Institute, Limited
Jarislowsky Fraser Limited
The Joseph Rowntree Charitable Trust
Jubitz Family Foundation
Jupiter Asset Management
K&H Investment Fund Management / K&H Befektetési Alapkezelo Zrt
KB Asset Management
KB Financial Group
KB Kookmin Bank
KBC Asset Management NV
KCPS and Company
KDB Asset Management Co., Ltd.
Kennedy Associates Real Estate Counsel, LP
KEPLER-FONDS Kapitalanlagegesellschaft m.b.H.
KfW Bankengruppe
KLP Insurance
Korea Investment & Trust Management
Korea Technology Finance Corporation
KPA Pension
Kyobo AXA Investment Managers
La Banque Postale Asset Management
La Financière Responsable
Landsorganisationen i Sverige
LBBW - Landesbank Baden-Württemberg
LBBW Asset Management Investmentgesellschaft mbH
LD Lønmodtagernes Dyrtidsfond
Legal & General Group plc
Legg Mason, Inc.
Lend Lease Investment Management
Light Green Advisors, LLC
Living Planet Fund Management Company S.A.
Local Authority Pension Fund Forum
The Local Government Pensions Institution
Local Government Super
Lombard Odier Darier Hentsch & Cie
The London Pensions Fund Authority
Lothian Pension Fund
Macif Gestion
Macquarie Group Limited
Magnolia Charitable Trust
Maine State Treasurer
Man Group plc
Maple-Brown Abbott Limited
Marc J. Lane Investment Management, Inc.
Maryland State Treasurer
Matrix Asset Management
McLean Budden
MEAG Munich Ergo Asset Management GmbH
Meeschaert Gestion Privée
Meiji Yasuda Life Insurance Company
Merck Family Fund
Mergence Africa Investments (Pty) Limited
Meritas Mutual Funds
MetallRente GmbH
Metzler Investment GmbH
MFS Investment Management
Midas International Asset Management
Miller/Howard Investments
Mirae Asset Global Investments Co. Ltd.
Mistra, The Swedish Foundation for Strategic Environmental Research
Mitsubishi UFJ Financial Group (MUFG)
Mitsui Sumitomo Insurance Co.,Ltd
Mizuho Financial Group, Inc.
Mn Services
Monega Kapitalanlagegesellschaft mbH
Morgan Stanley
Motor Trades Association of Australia Superannuation Fund Pty Ltd
Mutual Insurance Company Pension-Fennia
Natcan Investment Management
The Nathan Cummings Foundation
National Australia Bank Limited
National Bank of Canada
National Bank of Kuwait
National Grid Electricity Group of the Electricity Supply Pension Scheme
National Grid UK Pension Scheme
National Pensions Reserve Fund of Ireland
National Union of Public and General Employees (NUPGE)
Natixis
Nedbank Limited
Needmor Fund
Nelson Capital Management, LLC
Nest Sammelstiftung
Neuberger Berman
New Amsterdam Partners LLC
New Jersey Division of Investment
New Mexico State Treasurer
New York City Employees Retirement System
New York City Teachers Retirement System
New York State Common Retirement Fund (NYSCRF)
Newton Investment Management Limited
NFU Mutual Insurance Society
NGS Super
NH-CA Asset Management

Nikko Asset Management Co., Ltd.
Nissay Asset Management Corporation
NORD/LB Kapitalanlagegesellschaft AG
Nordea Investment Management
Norfolk Pension Fund
Norges Bank Investment Management (NBIM)
Norinchukin Zenkyouren Asset Management Co., Ltd
North Carolina State Treasurer
Northern Ireland Local Government Officers' Superannuation Committee (NILGOSC)
Northern Trust
Northwest and Ethical Investments LP
Oddo & Cie
Old Mutual plc
OMERS Administration Corporation
Ontario Teachers' Pension Plan
OP Fund Management Company Ltd
Oppenheim Fonds Trust GmbH
Opplysningsvesenets fond (The Norwegian Church Endowment)
OPSEU Pension Trust
Oregon State Treasurer
Orion Asset Management LLC
OTP Fund Management Plc.
Pax World Funds
Pensioenfonds Vervoer
Pension Fund for Danish Lawyers and Economists
The Pension Plan For Employees of the Public Service Alliance of Canada
Pension Protection Fund
Pensionsmyndigheten
PETROS - The Fundação Petrobras de Seguridade Social
PFA Pension
PGGM
Phillips, Hager & North Investment Management Ltd.
PhiTrust Active Investors
Pictet Asset Management SA
The Pinch Group
Pioneer Alapkezeló´Zrt.
PKA
Pluris Sustainable Investments SA
Pohjola Asset Management Ltd
Portfolio 21 Investments
Portfolio Partners
Porto Seguro S.A.
PRECE Previdência Complementar
The Presbyterian Church in Canada
PREVI Caixa de Previdência dos Funcionários do Banco do Brasil
PREVIG Sociedade de Previdência Complementar
Principle Capital Partners
Psagot Investment House Ltd
PSP Investments
Q Capital Partners Co. Ltd
QBE Insurance Group Limited
Rabobank
Raiffeisen Schweiz
Railpen Investments
Rathbones / Rathbone Greenbank Investments
RBS Group
Real Grandeza Fundação de Previdência e Assistência Social
Rei Super
Resona Bank, Limited
Reynders McVeigh Capital Management
Rhode Island General Treasurer
RLAM
Robeco
Robert Brooke Zevin Associates, Inc
Rockefeller & Co. SRI Group
Rose Foundation for Communities and the Environment
Royal Bank of Canada
RREEF Investment GmbH
The Russell Family Foundation
Russell Investments
SAM Group
Sampension KP Livsforsikring A/S
Samsung Fire & Marine Insurance
Samsung Life Insurance
Sanlam Investment Management
Santa Fé Portfolios Ltda
Sauren Finanzdienstleistungen GmbH & Co. KG
Schroders
Scotiabank
Scottish Widows Investment Partnership
SEB
SEB Asset Management AG
Second Swedish National Pension Fund (AP2)
Seligson & Co Fund Management Plc
Sentinel Investments
SERPROS Fundo Multipatrocinado
Service Employees International Union Benefit Funds
Seventh Swedish National Pension Fund (AP7)
The Shiga Bank, Ltd.
Shinhan Bank
Shinhan BNP Paribas Investment Trust Management Co., Ltd
Shinkin Asset Management Co., Ltd
Siemens Kapitalanlagegesellschaft mbH
Signet Capital Management Ltd
SIRA Asset Management
SMBC Friend Securities Co., LTD
Smith Pierce, LLC
SNS Asset Management
Social(k)
Sociedade Ibgeana de Assistência e Seguridade (SIAS)
Solaris Investment Management Limited
Sompo Japan Insurance Inc.
Sopher Investment Management
SPF Beheer bv
Sprucegrove Investment Management Ltd
Standard Bank Group
Standard Chartered PLC
Standard Life Investments
State Street Corporation
Storebrand ASA
Strathclyde Pension Fund
Stratus Group
Sumitomo Mitsui Banking Corporation
Sumitomo Mitsui Card Company, Limited
Sumitomo Mitsui Finance & Leasing Co., Ltd
Sumitomo Mitsui Financial Group
Sumitomo Trust & Banking
Sun Life Financial Inc.
Superfund Asset Management GmbH
Sustainable Capital
Svenska Kyrkan, Church of Sweden
Swedbank Ab (publ)
Swiss Reinsurance Company
Swisscanto Holding AG
Syntrus Achmea Asset Management
TD Asset Management Inc. TDAM USA Inc.
Teachers Insurance and Annuity Association – College Retirement Equities Fund (TIAA-CREF)
Tempis Capital Management Co., Ltd.
Terra Forvaltning AS
TfL Pension Fund
The University of Edinburgh Endowment Fund
Third Swedish National Pension Fund (AP3)
Threadneedle Asset Management
Tokio Marine & Nichido Fire Insurance Co., Ltd.
Toronto Atmospheric Fund
The Travelers Companies, Inc.
Trillium Asset Management Corporation
TRIODOS BANK
TrygVesta
UBS AG
Unibanco Asset Management
UniCredit Group
Union Asset Management Holding AG
Unipension
UNISON staff pension scheme
UniSuper
Unitarian Universalist Association
The United Church of Canada - General Council
United Methodist Church General Board of Pension and Health Benefits
United Nations Foundation
Universities Superannuation Scheme (USS)
Vancity Group of Companies
Veritas Investment Trust GmbH
Vermont State Treasurer
VicSuper Pty Ltd
Victorian Funds Management Corporation
VietNam Holding Ltd.
Visão Prev Sociedade de Previdência Complementar
Waikato Community Trust Inc
Walden Asset Management, a division of Boston Trust and Investment Management Company
WARBURG - HENDERSON Kapitalanlagegesellschaft für Immobilien mbH
WARBURG INVEST KAPITALANLAGEGESELLSCHAFT MBH
The Wellcome Trust
Wells Fargo
West Yorkshire Pension Fund
WestLB Mellon Asset Management Kapitalanlagegesellschaft mbH (WMAM)
The Westpac Group
Winslow Management Company
Woori Bank
YES BANK Limited
York University Pension Fund
Youville Provident Fund Inc.
Zegora Investment Management
Zurich Cantonal Bank

Business remains a key partner in helping government to drive the agenda to secure a sustainable future.

Minister's Foreword

The year 2009 was a challenging year in that the hope of reaching a legally binding global agreement on climate change, and the international community fell short of that in Copenhagen albeit progress was made. This was despite the urgent call by the scientific community to move swiftly to curb the global greenhouse gas (GHG) emissions whilst the window of opportunity exists. However, South Africa was one of the countries that remained steadfast in maintaining the global focus on the importance of climate change and the urgent need for a global agreement to address climate change at the 15th Conference of Parties (COP 15) in Copenhagen. This decision was informed by the vulnerability of Africa to the anticipated climate change based on the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC).

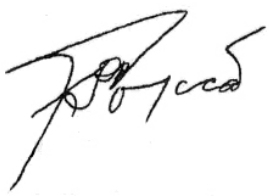
Equally important is that South Africa is a member of the BASIC countries, which with other developing countries share a common goal of ensuring that there is a balance between climate and development imperatives in the bid to reduce poverty in these countries. South Africa is amongst the first countries to work on a Green Economy strategy seeking to harness ecosystem goods and services as well as ensuring that our development follows a low carbon development path.

Consequently, South Africa continues to play a significant role in addressing the challenge of climate change globally, hence we undertook to deviate from Business As Usual in our GHG emissions by 34% by 2020 and by 42% by 2025 subject to availability of means of implementation emanating from a global agreement. Several initiatives are under way by various government departments to help us in policy development and implementation to increase the country's resilience to climate change, enhance competitiveness internationally and also contribute to the global effort to contain climate change.

It is important to note that business is a key stakeholder in the country's effort to address climate change whilst on the other hand it is vulnerable to the devastating impacts thereof. As a stakeholder, business is expected to play a significant role in reducing GHG emissions since the bulk of these emanate from this sector. As a vulnerable sector, business needs to move swiftly to identify the risks and opportunities and increase its resilience to remain in business. All this begins with measuring, verifying and reporting of the GHG emissions and making climate change a core of the business strategy.

The current Carbon Disclosure Project (CDP) report is highly commended since it demonstrates leadership by companies to mitigate climate change. It is also commendable that the number of companies participating in the CDP increases year on year despite the absence of legislation. This confers the added advantage of readiness to deal with policy initiatives that will eventually include mandatory reporting of GHG emissions. Given Africa's vulnerability, I do encourage South African companies to give equal consideration to adaptation activities as an imperative especially in terms of impacts of climate change on water.

In conclusion, I'd like to say that business remains a key partner in helping government to drive the agenda to secure a sustainable future.



Ms Buyelwa Sonjica, MP

Minister of Environmental Affairs and Water

Partner and Sponsor Forewords

Foreword by Paul Dickinson, CEO Carbon Disclosure Project

This year began with the clouds of global recession hanging over the economy. It was also tainted with heavy disappointment at the failure to reach agreement on a global deal at Copenhagen and smears against climate change science. Many asked us whether this would decrease corporate engagement in climate change. Would companies abandon commitments to carbon reporting and management to focus instead on shorter term wins? Would companies throw out their carbon reduction plans due to the lack of a global framework? The answers to these questions lie in CDP's 2010 dataset and I am delighted to say, that the answer is a categorical 'no'.

Fuelled by opportunities to reduce energy costs, secure energy supply, protect the business from climate change risk and damaged reputation, generate revenue and remain competitive, carbon management continues to rise as a strategic priority for many businesses. Companies globally are seizing commercial carbon opportunities, often acting ahead of any policy requirements. More companies than ever before are reporting through CDP and measuring and reporting their emissions.

In South Africa, an important potential business driver will be coming from government, who has recently made a conditional international commitment to reduce national greenhouse gas emissions by 34% by 2020 and 42% by 2025 against the business-as-usual scenario. This undertaking, together with the recent introduction of climate change measures such as the green paper on climate change and the initial carbon tax, sends a clear signal to business that the country is entering a regulatory phase to curb GHG emissions.

The demand for primary corporate climate change data is growing too – it is now accessed through Bloomberg and Google Finance. It is also used by an increasing number of investment research providers and sell-side brokers to generate new insights into the impacts of climate change on global industry and to highlight the associated opportunities. The demand for analysis of CDP data is also growing and this year we launch a new performance score, which identifies companies who exhibit leadership in managing their carbon risks and exposures. We have also launched two index products based on CDP data – the FTSE CDP Carbon Strategy Index series and the Markit Carbon Disclosure Leadership Index. These products give investors exposure to companies better positioned in the transition to a low carbon economy.

CDP has set three key focus areas for the immediate future. One is to work with companies and the users of our data to continue improving quality and comparability. Data that supports action is central to fulfilling CDP's mission, to accelerate solutions to climate change by putting relevant information at the heart of business, policy and investment decisions. We have given greater weighting within our scoring to verification this year and advancing reporting consistency is crucial. In addition, we are also launching a new package, Reporter Services, exclusively for responding companies, to help them develop their carbon management strategies through increased data quality, deeper analysis and the sharing of best practice.

Never forget that climate change is a global problem and we need a global solution. That is why our second key focus is on globalizing CDP's programs in all major economies in the coming years. Beyond CDP's Investor program, which sits at the heart of CDP, we intend to grow our Supply Chain and Public Procurement programs, as well as CDP Water Disclosure, to ensure that we maximize the fulfilment of CDP's mission.

Our third key focus is mitigation and emissions reduction. The number of companies within the Global 500 (FTSE Global Equity Series) reporting reduction targets has already increased fourfold since CDP's first reporting year. But this is just the first step. We know that we can do far more to help advance emissions reductions and are fully committed to working with investors and industry to achieve this.

It is through partnerships that we can achieve the largest impact. In South Africa we are delighted to be working with the National Business Initiative (NBI). In addition, our global advisor, PricewaterhouseCoopers and our global sponsor Bank of America, as well as Accenture, Microsoft and SAP help accelerate our mission and highlight the huge opportunities for business to capitalize on the transition to a low carbon economy.

These are exciting times for business, with significant changes coming to the way we produce and consume energy. New power from low or zero emissions sources is an urgent priority for climate change policy that simultaneously helps deliver energy security. New technologies such as smart grids, electric vehicles, alternative fuel sources, advanced telepresence videoconferencing, are showing a clear case for business growth with reduced emissions. The opportunities for business are enormous – it is through the intelligent investment of capital into the right solutions, identified by the business community, that we will achieve the low carbon future we need.

National Business Initiative

It is heartening to see the year-on-year progress South African companies are making in responding to climate change through the Carbon Disclosure Project (CDP). This is especially commendable given that companies are responding voluntarily in the absence of incentives or a regulatory framework. Arguably though, there are sufficient business imperatives such as cost, reputation, competiveness and business viability to act as drivers towards the transition into a low carbon economy.

The conditional undertaking by the South African government to reduce greenhouse gas emissions and the recent Green Economy summit are clear signals that indicate the regulator's intention to begin the transformation of all sectors of society including business to conform to a low carbon economy. The sustainability agenda in a South African context is very much an economic and social one as much as it is an environmental one. Business is expected to play a significant role in helping the country achieve the low carbon economy. But the question still remains: does business as a collective have the appropriate strategy and accessories to respond to the magnitude of change required?

The 2010 report is rich in company level mitigation activities whilst it also highlights areas for improvement. Data collection and data integrity remains a critical aspect for constant consideration and improvement as reflected by the noticeably higher levels of uncertainty in accuracy of emissions reporting. However, there is a leeway for improvement based on the emerging sources of concerns identified in the report. It is also appropriate to commend companies that have significantly improved on measurement, verification and reporting of GHG emissions. These companies will realize the benefits of voluntary reporting through the CDP when mandatory reporting is instituted in the near future.

The report also demonstrates growing awareness among South African companies of the risks and opportunities of climate change albeit that these are still fairly general. Future climate projections for South Africa indicate that companies must move beyond the general identification of risks and opportunities to implementation of adaptation activities. A good balance between mitigation and adaptation will enable companies to adopt and utilize a systems approach to tackle climate change. This is imperative for strategic decision-making and long term planning.

This report also provides evidence that through participating in the CDP, companies have recognized the need to consider their impacts beyond the fence and went further to formulate partnerships with NGOs, scientific and research organisations, suppliers and consumers to respond to some of the complexities they are faced with. Such endeavours inevitably come with some financial investment and this in itself is to be applauded.

Globally the green race is on and South Africa has also joined the trend by beginning the process of transforming the country's economy to a low carbon intensive one. Companies that identified opportunities associated with this change will have the competitive advantage whilst those who procrastinate are likely to be faced with reputational, physical and regulatory risks that can undermine their competitiveness. As international and local investors become increasingly interested in the long term safety of their assets and investments on behalf of their clients and as weather patterns change and threats to energy and water security become in themselves, drivers of change, business is required to take the lead in forecasting and finding solutions to new challenges.

Given all of the above the NBI would like to congratulate companies who have at least made the start and regardless of where companies find themselves in the disclosure and performance ratings, their participation in the CDP initiative is a demonstration of leadership, transparency, accountability and action.

Finally, the report is definitely an indispensable resource to a variety of stakeholders that include academia, innovative entrepreneurs and serves as evidence-based input for government planning and decision-making. The challenge remains to correlate the necessary transition with the supporting skills, technology, financial and leadership requirements.

Valerie Geen

Director, Climate and Energy, NBI

Incite Sustainability

As we noted in the foreword to last year's CDP report, most climate scientists and policy commentators believe that we have a very short decision-window in which to respond effectively and efficiently to the climate change challenge. Finding timely solutions to this challenge will require high levels of cooperation across all sectors of society. The disappointing outcome of the Copenhagen climate change negotiations in December last year – and the recent failure of the US Senate to approve climate-related legislation – suggests that we cannot rely solely on international and national governance processes to address global societal challenges. Understandably, this is placing increasing expectations on business to show particular leadership.

Taking the necessary decisions, and implementing the required response measures for a resource- and carbon-constrained future, will not be easy; doing so will involve confronting some of the structural assumptions that inform current market behaviour, including most notably the tendency of markets and individual organisations to privatise gains and socialise losses. In this context, following a business-as-usual approach with slightly refined risk management and eco-efficiency practices will not be enough. As leading environmentalist William McDonough puts it in a telling analogy: if we are driving south and realise that we are heading in the wrong direction, driving south more slowly won't take us north. We need to change direction.

Making this change in direction will be greatly facilitated by a business community that fully appreciates the nature of the risks and opportunities that climate change presents, that has a good understanding of the actions required to mitigate its emissions and to adapt to a changed environment, and that is receptive to potentially vigorous policy reform. Such a collaborative and proactive business community requires business leaders who are willing partners in encouraging a regulatory and policy framework that provides the right price signals and the long-term certainty that is necessary for innovation.

At Incite Sustainability, we believe that the CDP – through its active engagement with the business community – is making an important contribution in addressing these needs.

We are pleased to have been associated with bringing the CDP to South Africa, in partnership with the NBI, and to have once again undertaken the analysis for this year's CDP report.

We are encouraged by the high response rate that the local CDP has demonstrated (placing South Africa amongst the global leaders), as well as by the valuable increase in the number of South African companies that are now voluntarily assessing their carbon footprints and committing to emissions reduction targets. This provides a useful foundation for the actions that will be required if we are to meet the government's conditional targets of achieving a 34% reduction in emissions from 'business as usual' by 2020 and 42% by 2025.

While we hope that this year's CDP response shows a growing and welcome appreciation amongst some within the business sector of the link between climate change and shareholder value, we nevertheless believe that there is scope for more active and more ambitious engagement of business on this issue. We leave readers of this report to make their own assessment as to whether we are currently seeing the required levels of leadership across the South African corporate sector.

Next year South Africa will be hosting the 17th Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC). In the expectation that negotiators will not be able to conclude a binding agreement at COP-16 in Mexico this year, the meeting in South Africa will take on added significance in the final stages of developing and hopefully agreeing a legally binding post-Kyoto climate regime.

We anticipate that South Africa's hosting of this meeting will further raise the profile amongst the local business community of the full implications of climate change, and that it will build on the successful work of the CDP in encouraging the development of climate leadership within the South African business sector.

Jonathon Hanks

Managing Director, Incite Sustainability

KPMG

In the inaugural year of the Carbon Disclosure Project (CDP) for South Africa, André Fourie (former Chief Executive: National Business Initiative) said "Climate change is the defining challenge of the 21st century and one of the most critical issues that the business world faces today". While this surely remains true, the recent global economic meltdown and continued uncertainty as to where we currently find ourselves in terms of the recovery cycle, on-going regulatory reforms, heightened demands for help of those in need and, more widely, radical changes in stakeholder expectations around the world have made this a whole lot more complex – it seems almost overnight.

Tackling this requires concerted global action but where does one start? It seems almost pointless – and certainly irresponsible – fuelling a business that is not sustainable. And yet, for many businesses where economic survival has become the immediate order of the day, climate change issues that apparently have a more distant horizon may tempt one to put these on the 'back burner', albeit with the inevitable adverse consequences. Our belief is that it is at these very times that one needs to invest in securing a sustainable future – hence KPMG's major investment in our own Climate Change Strategy, called the Global Green Initiative, with the aim of reducing our carbon footprint worldwide. Earlier this year, we appointed Yvo de Boer, one of the world's leading authorities on climate change and sustainability, to KPMG International, moving across from the United Nations.

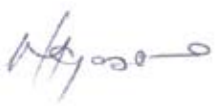
A first priority in terms of climate change must surely be around awareness – which is not surprisingly a fundamental tenet of the CDP. This is typically a relatively accessible element of a clear response to climate change. And it works. For instance, there isn't much that any of us can do immediately in South Africa around the actual generation of our electricity – a major contributor to our alarming carbon footprint – but together we can, far quicker than anyone might have expected, change our widespread consumer behaviours through education.

At KPMG, we pride ourselves in cutting through the complexity, inspiring our high-performing people to work with our clients in finding ways of positively shaping the world around us. Climate change is something that affects us all. It starts with us inspiring our own people to do what they can at home and at work in terms of reducing carbon emissions, and extends through us helping our clients to unpack their issues into manageable chunks, with realistic responses that are capable of step changes while remaining economically justified.

We applaud all of the contributors to the CDP, knowing that even the first step of disclosure demonstrates your unquestioned commitment and belief in a better future for everybody. As we collectively learn more about the unique challenges of climate change, within the context of each of our needs to nurture a sustainable business, we look forward to continuing to work with you in practically focusing your efforts towards reducing your organisation's carbon emissions.

KPMG is particularly proud to be the lead sponsor of the CDP in South Africa and proud to be part of the company this initiative keeps. As the leading businesses in our market, we all have a responsibility to lead by example. By measuring and disclosing our own carbon footprints and practically seeking ways to significantly reduce these, we're not only changing our own organisations but over time influencing countless others to do likewise.

The CDP allows us to build further bridges of profound change, revealing those realities and responses that, in turn, will go on to challenge and inspire others.



Mr Moses Kgosana

Chief Executive, KPMG in South Africa

Element Investment Managers

In December 2009 just before the start of COP 15 in Copenhagen, South Africa promulgated the intention to reduce its greenhouse gas emissions in 10 years by 34% and in 15 years by 42% against a business as usual scenario. These goals have material implications for the economy and will require government to put policy and plans in place to meet the commitments. As investors we make long-term decisions on behalf of our clients and investors. Climate policy and resulting regulation can have a material impact on the economy and the underlying different investment asset classes. Investors require policy certainty so they can make the best possible investment decisions on behalf of their clients.

Element Investment Managers (Element) has been a CDP signatory investor and sponsor since the introduction of CDP in South Africa in 2007. CDP appealed to Element because it is a powerful tool to enhance awareness of climate change, help companies to identify potential risks and opportunities due to climate change and encourage action to mitigate these risks and take advantage of the opportunities.

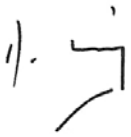
Even though broad climate change policy and regulation in South Africa will emerge, some companies have not used the window of opportunity, created by the CDP to put processes in place to accurately measure emissions. Only with accurate emission information can companies take appropriate action to reduce their emissions, mitigate climate risk and differentiate themselves from their competitors.

Element is committed to encouraging and engaging South African companies to carefully consider climate change risks and opportunities and improve disclosure where necessary.

We are active equity owners and encourage positive climate change action through our participation in the international Emerging Market Disclosure Project (EMDP) to improve

environmental, social and governance disclosure. We work with global investors to improve reporting and the setting of emission reduction plans through the Principles for Responsible Investment (PRI) collaborative engagement on the CDP. We also engage directly with specific investee companies to improve their disclosure and awareness of climate change risks and opportunities.

Element is a member of the PRI South Africa Network which has 30 members with Rand 2,084 Billion aggregate assets under management. The Network is pursuing opportunities to encourage certainty with climate change policy.



David Couldridge

Investment Analyst, Element Investment Managers

Webber Wentzel

In December 2009, South Africa emerged as a leading nation at the 15th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, also known as the Copenhagen Summit. At the Copenhagen Summit, President Jacob Zuma committed to reduce carbon emissions by 34% from the business-as-usual emissions trajectory by 2020, and by 42% by 2025. The South African government has since confirmed its resolve to seriously and urgently address the issue of climate change through a variety of measures, including increasing environmental regulatory requirements for business.

In our foreword to the Carbon Disclosure Project report in 2009, we anticipated that a carbon tax in whatever form would be one such measure that business would need to start taking into account. As was indicated by Finance Minister, Pravin Gordhan, in his 2010 budget speech, environmental taxes are indeed being investigated both to raise more revenue and to meet environmental objectives.

The 2010 Budget Review noted that the electricity levy announced in 2008 was the first step towards a carbon tax in South Africa, but that the feasibility of a more comprehensive carbon tax is under discussion. The Budget Review also indicated that South Africans may see the introduction of environmental taxes and charges comprising:

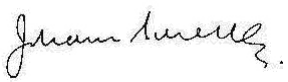
- a waste water discharge levy in terms of the Water Act;
- pollution charges in terms of the new Air Quality Act;
- levies on the waste streams of various products; and
- a landfills tax at municipal level.

More immediately, as of 1 September 2010, a tax on the sale of new passenger vehicles will be implemented. This vehicle emissions tax will be imposed at R75 per gram of carbon dioxide emitted per kilometre and will be levied on new vehicles whose emissions exceed 120g/km. The tax will initially apply only to passenger vehicles, but will be extended to commercial vehicles once carbon emissions standards are set. Whilst it had been expected that the tax would only apply to new passenger vehicles, the Minister of Finance reported recently that government is considering applying the vehicle emissions tax to all cars – old and new.

Companies should learn how to take advantage of tax incentives for investments in energy efficiency. For example, tax exemptions for income generated from the sale of carbon credits in South Africa has come into effect with the introduction of section 12K to the Income Tax Act.

As environmental fiscal reform gains ground, the private sector is set to play a critical role in South Africa's transition to a low-carbon economy. Business should thus be well-informed about the risks and opportunities brought about by climate change and, as part of good corporate citizenship, should engage in the policy making process. Webber Wentzel has led the market by establishing a Climate Change and Carbon Trading Practice Group. The Practice Group is positioned to advise clients within a range of industries on the legal and commercial requirements necessary for participation in the carbon economy.

The implementation of the vehicle emissions tax and proposals for a more comprehensive carbon tax system has wide legal and economic implications for individuals and businesses. Companies should anticipate shareholders increasingly considering the 'green bottom line' and compliance with the legal and regulatory framework for carbon taxes in company profiles. In this regard, the CDP is becoming increasingly influential as an important tool. Webber Wentzel is therefore proud once again to sponsor the CDP.



Johann Scholtz

Partner and Head, Webber Wentzel Climate Change and Carbon Trading Practice Group

Executive Summary

The active participation of business across all sectors – including through data gathering initiatives such as the CDP – is essential if we are to develop national policy that finds the right balance between environmental effectiveness, economic efficiency and social equity. This places increased expectation on business leadership.

The corporate response rate to South Africa's CDP places us amongst the highest internationally and suggests that local companies are largely willing to engage in climate change issues.

Introduction

Since 2000, the Carbon Disclosure Project (CDP) has, on behalf of institutional investors, challenged the world's largest companies to measure and report their carbon emissions, integrating the long-term value and cost of climate change into their assessment of the financial health and future prospects of their business.

This year, CDP – backed by 534 institutional investors representing more than US$ 64 trillion in assets under management – sent questionnaires to more than 4,500 of the world's largest corporations requesting information on their greenhouse gas (GHG) emissions, on the potential climate-related risks and opportunities to their businesses and on their strategies for managing these risks and opportunities. The corporations' individual responses, as well as regional reports assessing these responses, have been published in almost 30 countries around the world and are freely available at www.cdproject.net. The CDP continues to be the global leader in capturing and analysing data that records the business response to climate change; whether it be risks and opportunities, absolute emissions levels, performance over time or governance.

This report, prepared by Incite Sustainability on behalf of the National Business Initiative (NBI), analyses the responses from the 74 of the 100 largest corporations on the South African JSE that chose to voluntarily participate in the CDP 2010.

The CDP questionnaire

An underlying objective of CDP is to review and assess the action and disclosure of companies and sectors against what is seen as a best practice response to the challenges of climate change. In line with what are seen to be the key elements of an effective climate change strategy (see Box 1; page 31), the CDP questionnaire focuses on four key areas of corporate climate change management: climate change governance practices, risks and opportunity identification; GHG emissions accounting; and performance. These questions provide companies with an opportunity to identify the strengths and current limitations in different aspects of their management of climate change related issues.

CDP 2010 Highlights

Improved response rate in South Africa despite the economic downturn

- **South Africa's fourth CDP generated a response rate of 74%** (as compared with last year's 68%), ranking the South African response as the joint fourth highest CDP response rate internationally. This suggests that, notwithstanding short-term concerns and the pressures associated with the economic downturn, climate change remains sufficiently high on the South African corporate agenda.
- **General improvement in response rate across most sectors.** While the more carbon-intensive sectors – such as Energy, Industrials and Materials – continue to display the highest response rates, it is encouraging to see that certain sectors that may be less obviously exposed to climate risk nevertheless have reasonable response rates, and that there has been positive progress since 2008 and 2009.
- **Concerns remain, however, regarding the poor response rate of certain sectors.** Certain sub-sectors continue to have fairly low response rates, including most noticeably Real Estate (only two out of twelve companies responded and three companies that participated last year declined participation this year); Food Products (two out of the five declining for the second consecutive year); and Hotels & Resorts (neither of the two companies responded).

Improved levels of disclosure is evident on most key issues

- **The level of disclosure on most issues showed valuable improvement since 2009.** Disclosure levels have improved across all key issues – namely risks and opportunities, GHG emissions, GHG reduction targets and activities, and climate governance practices. The level of disclosure of emission figures has shown the greatest year-on-year improvement.
- **94% of responding companies disclosed their GHG emissions.** This is an important increase on last year's 87% disclosure rate, and is accompanied by a significant increase in the disclosure of Scope 3 emissions across most sectors, as well as in the reporting of emissions intensity data. There has also been an increase in the number of companies verifying their data (29 compared with 24 last year), and in those reporting on their emissions in annual and/or sustainability reports (61 companies as compared with 50).
- **Growing awareness among South African companies of the risks and opportunities of climate change, although often at a general level.** While most responding companies recognise that climate change will entail potentially significant regulatory, physical and general risks and opportunities for their operations, few companies show evidence of being rigorous in quantifying the potential financial implications of climate change. Some questions remain regarding the extent to which companies are responding at a sufficiently strategic level to the risks and opportunities that they identify.
- **Increase in the number of companies with GHG emissions reduction targets.** This year, 31 companies have specific performance targets relating to GHG emissions reduction, while 22 have committed to developing such targets; two companies had targets that they achieved within the reporting year. Last year, 20 companies reported having GHG targets.
- **There has once again been an increase in disclosure on climate change response measures, with the greatest focus being on energy efficiency initiatives.** While there has been a further increase in investment in renewable energy opportunities, the level of investment continues to remain comparatively small against its full potential.
- **Limited evidence of climate adaptation strategies.** It appears that local companies are insufficiently advanced in their adaptation initiatives; while this may be partly a result of the nature of the CDP questionnaire, which focuses predominantly on mitigation activities, it is suggested that there be scope for a more structured focus by companies on adaptation opportunities.

Increased evidence of partnerships and climate change governance practices

- **Climate change issues appear to be increasingly integrated in companies' governance activities.** Sixty-eight companies (96% of respondents) report having a Board Committee or executive body with responsibility for climate change; 36 companies (51%) provide incentives to management on achievement of climate change goals (an increase of 20% from last year). While there are indications that companies have increased their focus on partnership opportunities, valuable additional possibilities remain.
- **Continuing evidence of business partnerships.** The disappointing outcome of the Copenhagen climate negotiations highlights the need for a more collaborative approach involving business, government, labour and civil society. While it is encouraging to see evidence of South African businesses entering into partnerships – with colleagues, critics and competitors – there is nevertheless seen to be scope for further developments in this area along the lines of some of the progressive partnership initiatives that have been pursued for example in Europe.

94%

of responding companies have disclosed their GHG emissions, and there has been an increase in disclosure on Scope 3 emissions.

The focus of the disclosure ratings is on a company's disclosure: while the rating suggests good internal data management practices, and is an indication of the company's transparency and accountability, it is not a metric of a company's performance in relation to climate change management.

South Africa's industrial GHG emissions continue to be dominated by a few companies

- A few carbon-intensive companies continue to dominate South Africa's direct ('Scope 1') GHG emissions. South Africa's estimated total emissions level from all sources has been estimated at approximately 500 million metric tonnes of CO_2-e. For the 67 JSE companies that reported their emissions – including those companies whose emissions have not been made public – the total Scope 1 emissions (i.e. excluding emissions associated with electricity usage) for the South African operations is 98 million metric tonnes of CO_2-e. In terms of direct local emissions, the data highlights the predominant contribution of *Sasol* (with reported annual Scope 1 emissions of 60 million metric tonnes of CO_2-e), followed by *ArcelorMittal SA* (10.7 million metric tonnes), *Pretoria Portland Cement Co* (5.1 million metric tonnes), *Sappi* (4.8 million metric tonnes), *BHP Billiton* (3.4 million metric tonnes), and *Anglo American* (3.05 million metric tonnes). Eskom's publicly reported calculated emissions of carbon dioxide for the year ending March 2010, is 224,7 million tonnes,[1] constituting around 45% of total estimated South African emissions.

- **There are some encouraging signs regarding efforts to reduce emissions within companies' sphere of influence.** While it is important to track the performance of the larger direct emitters, this should not be at the cost of losing focus on those companies that have the potential to inform the behaviour of organisations and individuals within their sphere of influence. Banks, for example, might have comparatively small direct emissions, but collectively they have the ability to exert a material influence on the carbon performance of the broader business sector; large purchasers often have a similar ability to effect change through their supply chain. Although it is encouraging to see an increase in Scope 3 emissions accounting, there is nevertheless seen to be potential for an improved understanding of the risks and opportunities – and the potential for mitigation measures – throughout organisations' sphere of influence.

1 Eskom 2010 Annual Report

The Carbon Disclosure Leadership Index and Performance Rating

This year all companies that responded to the CDP questionnaire using the CDP's Online Response System (ORS) have been scored according to the CDP's 2010 Rating Methodology, developed jointly by CDP and their global advisor, PricewaterhouseCoopers LLP (PwC).[2] Using a strict application of this methodology, Incite Sustainability has awarded a 'disclosure rating' and a 'performance rating' to each of the eligible companies, other than for those South African companies that fall within the Global 500[3] which were scored exclusively by PwC as part of their international review.

Recognising Leadership in Carbon Disclosure in South Africa

All those companies that scored more than 50 points in their disclosure rating have been included in the South African Carbon Disclosure Leadership Index (CDLI) for 2010 (Table 14). In considering the disclosure ratings and the list of companies in the CDLI, it is important to bear in mind that the focus of the rating is on a company's *disclosure*: while the rating suggests good internal data management practices, and is an indication of the company's transparency and accountability, it is *not* a metric of a company's performance in relation to climate change management; the rating does not make any judgement over absolute levels of emissions, emission reduction achievements, or carbon intensity or data reliability.

In general the results for the CDLI are comparable with CDP 2009, reflecting a similar breakdown in sectoral

2 The methodology is explained at www.cdproject.net/en-US/Respond/Pages/CDP-Investors.aspx

3 The following companies fall within the CDP 2010 Global 500 sample and were scored by PwC: *Anglo American, Anglo Platinum, AngloGold Ashanti, BHP Billiton, Compagnie Financière Richemont SA, Capital Shopping Centres Group PLC, Dimension Data Holdings, Investec, Lonmin, MTN Group, Naspers, Old Mutual, SABMiller, Sasol* and *Standard Bank Group*.

representation and many of the same companies appearing. As with previous years, the best performers in terms of disclosure tend to come from the Materials and Energy sector (eight of the top 20), followed by the Financials sector (with five of the top 20). This year, *Gold Fields* and *FirstRand* qualified as the joint overall leaders with 93 normalised points, followed in joint second place by *Anglo Platinum* and *Medi-Clinic Corporation* with 89 points.

Of the fifteen South African companies that form part of the Global 500, one company (*Anglo Platinum*) made it into the Global 500 CDLI. *Sasol* also receives specific mention in the Global 500 report, being one of the five highest scoring companies based in developing countries; the others are *Anglo Platinum* (South Africa), Samsung Electronics (South Korea), POSCO (South Korea), and VALE (Brazil).

Carbon Performance Rating: Recognising Performance

Following the success of the performance scoring system that was piloted last year, an assessment of performance has been formally included in the CDP 2010 Rating Methodology. The 'performance rating' is a new metric and will continue to develop over future reporting cycles.

Performance points have been awarded where a company highlights that it is undertaking, or has undertaken, a 'positive' climate change action that contributes to climate change mitigation, adaptation and transparency. The rating is limited in its consideration of the materiality of actions relative to a company's sector and business; answers are considered equally, irrespective of sector.

Rather than disclosing the individual ratings, the ratings were used to assign companies to one of four Performance Bands: Leading, Fast Following, On the Journey, and Just Starting. The Performance Band ratings of those companies that made it onto the CDLI are presented jointly with their disclosure ratings in Figure 10 (Chapter 5).

Engaging Investors

Earlier this year well known US investor, Jeremy Grantham, wrote in one of his highly regarded quarterly newsletters, that climate change "will be the most important investment issue for the foreseeable future." An important goal of the CDP process is to encourage greater engagement of the investment community on this issue, as they have the capacity to effect meaningful change, both by being selective in where to invest, and by asking probing questions of those companies in which they choose to invest. Although the CDP process is an investor-driven process – and from the start has had the support of some forward-looking institutional investors – there remains scope for the local investment community to become more actively engaged on climate change issues and to exert greater pressure through their investment activities.

It is hoped that the information provided in this year's CDP report will be useful in assisting investors, and the companies in which they invest, to fulfil their fiduciary responsibilities, and in so doing to more effectively address the climate change challenge.

It is important for investors to keep in mind that the CDP carbon performance score is not an assessment of the extent to which a company's actions have reduced carbon intensity relative to other companies in its sector.

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1 CDP 2010 (South Africa): Introduction and Overview

"By participating in the CDP, Lonmin is able to track its progress in responding to the risks and opportunities presented by climate change. Lonmin recognises how valuable the reporting experience has been in guiding its plans to mitigate climate change risk."

Lonmin

Since 2000, the Carbon Disclosure Project (CDP) has, on behalf of institutional investors, challenged the world's largest companies to measure and report on their carbon emissions, and to disclose the nature of their strategic response to the challenge of climate change. This has assisted the investment community to integrate the long-term value of climate change into their assessment of the financial health and future prospects of businesses.

This year, CDP – backed by 534 institutional investors representing more than US$ 64 trillion in assets under management – sent questionnaires to more than 4,500 of the world's largest corporations requesting information on their greenhouse gas emissions, on the potential climate-related risks and opportunities to their businesses and on their strategies for managing these risks and opportunities. The corporations' individual responses, as well as regional reports assessing these responses, have been published in more than 20 countries around the world and are freely available at www.cdproject.net. The CDP continues to be the global leader in capturing and analysing data that records the business response to climate change; whether it be risks and opportunities, absolute emissions levels, performance over time or governance.

The South African CDP, which is run as a partnership between the National Business Initiative (NBI) and the London-based CDP office, is now in its fourth year. Originally brought to South Africa at the initiative of Incite Sustainability in 2007, it was made possible through an initial partnership between the CDP, the NBI and Incite Sustainability, with the support of three founding sponsors. The NBI is now the lead partner with the CDP. This role includes managing the partnership with CDP and all stakeholders including business, the JSE and government. The NBI also solicits the support of local investors and sponsors of the CDP in South Africa and has led advocacy and capacity building programmes linking CDP to its broader role in climate change and energy efficiency.

The 2010 South African CDP report is supported by lead sponsor KPMG, with Element Investment Management and Webber Wentzel as continuing co-sponsors. This report, prepared by Incite Sustainability, analyses the responses from the 74 of the 100 largest corporations on the South African JSE that chose to voluntarily participate in the CDP 2010.

The CDP 2010 Report Objectives

The CDP 2010 report has the following four key objectives:

- to serve as a stimulus to companies to improve their understanding of the commercial risks and opportunities of climate change, and to encourage greater disclosure and improved management of these risks and opportunities;
- to provide institutional investors and other stakeholders with information that facilitates a better understanding of the nature of the business response, enabling them to assess the action and disclosure of companies and sectors against what is seen as a global best practice response;
- to analyse key issues in relation to climate change disclosure and to comment broadly on the differences in responses on a sector-by-sector basis; and
- to enable decision-makers to use these responses as a way of identifying key concerns, challenges and future directions around broader corporate sustainability practice and government's climate change policy.

In meeting these objectives, the CDP 2010 South Africa report has been split into five chapters:

- **Chapter 1** introduces the global and local CDP, and outlines the objectives of CDP 2010 South Africa.
- **Chapter 2** provides a broad overview of recent developments in the climate change arena, setting the context for the subsequent analysis.
- **Chapter 3** describes the sample (the JSE 100) and analyses the 2010 response rate.
- **Chapter 4** presents the bulk of the analysis of the JSE 100 responses, assessing the nature of the corporate awareness of climate change and reviewing current levels of disclosure on greenhouse gas emissions and climate change response strategies.
- **Chapter 5** provides the results of the disclosure and performance ratings, and presents the 2010 Carbon Disclosure Leadership Index.
- **Chapter 6** provides a closing commentary on the CDP report.

The analysis and information provided in this report is complemented by a comprehensive on-line database of global responses to the CDP questionnaires covering the past eight years. Experience has shown that these reports are used by a wide range of stakeholders from investors through to corporations, policymakers, consultants and academics.

"The process of climate change reporting through CDP has assisted us to create a baseline, which is vital for planning for the future. Over time the reporting process has enabled Implats to track strategy development through responses year on year and allows trend analysis, which can drive further efficiencies and reductions. The CDP process has furthermore resulted in a group focus on its climate change profile both internally within its operations and in terms of its external profile."

Impala Platinum Holdings

2 Climate: Changing the business context

"What's happening with the planet's climate right now needs to be a wake-up call to all of us, meaning all heads of state, and all heads of social organisations and business, to take a more energetic approach to countering the global changes to the climate."

Russian President Dmitri Medvedev

"As a developing country we cannot miss the opportunity of transition towards a low carbon economy. Sustainable economic development is not a luxury, but a requirement to strategically position our economy for this century."

Sizwe Nxasana, CEO of FirstRand

For climate change policy observers, it has been a fascinating year since the launch of the CDP 2009 South Africa report, in October 2009. The twelve months since then did not get off to an auspicious start: first there was the 'Climategate' email scandal at the University of East Anglia, then the disappointing end game of the Copenhagen climate summit, followed early in 2010 by the forced retractions of the Intergovernmental Panel on Climate Change (IPCC) regarding some of its statements in the Fourth Assessment Report.[4]

At the time, these events were seen to strengthen the arguments of climate sceptics, supposedly providing further evidence of inaccuracy, a lack of transparency, and misplaced 'alarmism' by the scientific and NGO community. Polls suggest that these events led to an increase in public scepticism regarding the existence and/or the urgency of climate change.[5] Many sceptics have long argued that adopting policy measures in response to climate change would be a misplaced allocation of resources, and that efforts should focus instead on alleviating more immediate concerns such as poverty and unemployment.[6] Similar sentiments were evident amongst many of those who were engaged in a survey of South African citizens and opinion leaders in late 2009.[7]

Since then, there have been some developments that suggest that we may soon be approaching a significant change in the level of understanding and response to the climate issue. This has been reflected both by the continuing evidence of physical changes in line with climate projections, as well as by some significant shifts in the statements, activities and expectations of influential players in the global market place, if not quite yet amongst global policy-makers.

Feeling the Physical Impacts of Climate Change

August 2010 (the month during which this CDP analysis was undertaken) was an interesting month in the global greenhouse: it saw fire, drought and record-breaking temperatures in Russia, floods in Pakistan, a 'once-in-a-thousand-year storm' in Tennessee, mudslides in China, and a 260 km^2 ice-sheet break off a Greenland glacier. Not only was there an obvious and profound human cost to these events, but there were also visible impacts on the global market: wheat prices hit a 22-month high; stock and bond trading was at one stage curbed in Russia by as much as 60% following wildfires east of Moscow; and unseasonal wet weather delayed the offloading of sugar from a record 122 ships at Brazil's ports, causing one market analyst to suggest that weather-related issues will result in "this year's worst performing commodity to rise more than gold".[8]

While one must be cautious before attributing any of these events to climate change, the increasing temperatures over northern Europe and increased rainfall over parts of South East Asia, are entirely consistent with our understanding of the physics of the atmosphere, and conform with climate projections published in 1999. The head of climate monitoring and attribution at the UK Met Office, Peter Stott, has argued for example that "our climate change predictions support the emerging trend in observations and show a clear intensification of extreme

4 A principal error acknowledged by the IPCC relates to its assertion that Himalayan glaciers could disappear by 2035. A recently completed review overseen by the Inter-Academy Council (IAC), an international umbrella body for science academies, has called for greater transparency and proposed changes to the management of the IPCC.

5 A February 2010 poll by the BBC found, for example, that 10-15% of British people have become more sceptical about climate change. This increase is attributed to the impact of the 'climategate' scandal and the economic downturn.

6 These include notably Bjørn Lomborg and the Copenhagen Consensus (www.copenhagenconsensus.com) and former UK Chancellor Nigel Lawson who accuses the climate change establishment of 'intellectual bankruptcy' (The Global Warming Policy Foundation www.thegwpf.org).

7 BBC World Service Trust 2010 www.africatalksclimate.com

8 Quoted in http://www.bloomberg.com/news/2010-08-02/sugar-rallying-as-ships-clog-brazil-ports-while-india-monsoon-disappoints.html

rainfall events in a warmer world". He concludes: "the odds of such extreme events are rapidly shortening and could become considered the norm by the middle of this century".

In the context of these events, there is increasing scientific and policy consensus that the rise in average global temperatures should be limited to less than 2°C on pre-industrial levels: if we go beyond this level, there is concern that runaway feedback mechanisms will come into play and that human activity will have caused irreversible changes to the climate.[9] To achieve this target, it has been argued that we will need to limit the atmospheric concentration of CO_2 to 350 - 450 parts per million (ppm); the global levels in July 2010 were estimated at 390 ppm.[10] Meeting this limit of 2°C will require a peak in global emissions in the next ten years, followed by a decline of at least 50% by 2050 on the levels of CO_2 concentrations in 2000. Looking at it another way, some have suggested that to have "more than an even chance of limiting warming to 2°C within the next ten years," global emissions of greenhouse gases will need to be below 40-44 billion tonnes per year; the estimated annual level in 2008 was 46 billion tonnes.

Africa is seen to be particularly vulnerable to the impacts of a changing climate: the region has high dependency on natural resources and agriculture for incomes, tax, exports, employment and food; Africa's poorer communities tend to have a higher share of assets and wealth tied up in natural resource assets; and much of the region's infrastructure is already poor and is thus more likely to be adversely impacted by extreme weather events, further constraining both economic development and the region's adaptive capacity. Commenting on the influential *Stern Review on the Economics of Climate Change*, Sir Nicholas Stern has since suggested that the report "underestimated the risks and the damage from inaction", and has argued that policy-makers should be preparing for possible temperature increases of between 3-6 degrees. Studies suggest that such a temperature increase would lead, amongst other things, to a 30-50% reduction in water availability in Southern Africa, a 15%-35% reduction in agricultural yields throughout the continent, and potentially place up to 300 million more people at risk of coastal flooding each year.[11]

Although there is still much uncertainty regarding some of the specifics of climate change,[12] there is no longer a debate within the mainstream scientific community on the underlying premise that climate change is human-induced, that it is happening and that (if unchecked) its implications are profound. Some business leaders seem to use the fact that there is uncertainty on climate issues as a reason for inaction. Yet businesses are comfortable with uncertainty in other areas – such as stock markets, housing prices and exchange rates – and they are used to making decisions in that context. The same approach should apply for climate change: uncertainty should not be a pretext for inaction. From a purely risk management perspective, when there is uncertainty and where the potential impacts are hugely significant, it is better business practice to adopt cost effective measures that err on the side of caution, even where the probability (based on past experience) might be seen to be low.[13]

In response to the concern as to whether the costs of mitigation are costs that a developing country such as South Africa can afford to carry, the more appropriate question is whether South Africa – as one of the more vulnerable regions – can afford *not* to be playing a role in developing a more resource-efficient, low carbon economy. Even without climate change, the global economy will be hard-pressed to meet the demands of an estimated nine billion people by 2050, most of whom aspire to the resource-intensive lifestyles of developed countries. Designing

"For the year-to-date, the global combined land and ocean surface temperature of 14.5°C was the warmest January-July period on record. Finland set a new all-time maximum temperature on July 29 when temperatures soared to 37.2°C. On July 30, Moscow set a new all-time temperature record when temperatures reached 39°C."

US National Oceanic and Atmospheric Administration (August 2010)

9 More recently there have been efforts – led primarily by the Alliance of Small Islands States (AOSIS) – to push for a target of '1.5 to stay alive', but these efforts were defeated at the June 2010 climate negotiations.

10 http://co2now.org/

11 2006 Stern Review on the Economics of Climate Change

12 Some of the issues on which there is uncertainty include, for example, the contribution of clouds to warming, the specific impacts at a local level, how much carbon will be absorbed by the carbon cycle or trapped by the greenhouse layer, and the exact nature of the climate's sensitivity to greenhouse gases.

13 In other words, smart business leaders are those who appreciate the potential for "black swan" events and who are willing to take measures in anticipation of such events.

a resource-efficient economy that contributes to greater energy independence, stimulates job creation, and provides a potential source of competitive advantage, is a no-lose objective.

Changing Stakeholder Expectations

Amidst the context of this growing scientific concern – and having been given a vivid demonstration of the potential nature and scale of extreme weather events – it is perhaps not surprising that there have been some recent high-profile u-turns amongst some of the more well known climate sceptics. Russian President Dmitri Medvedev, for example, who once suggested that climate change is "some kind of tricky campaign made up by some commercial structures to promote their business projects"[14] now argues that recent events were "a wake-up call to all of us… to take a more energetic approach to countering the global changes to the climate." Bjørn Lomborg, the quintessential 'sceptical environmentalist', has similarly done an abrupt u-turn, recently describing climate change as "undoubtedly one of the chief concerns facing the world today... a challenge humanity must confront".

There have also been strong calls for greater climate action from some unexpected quarters. In December last year, the 92-year-old US Republican Senator Robert Byrd – who represented the interests of West Virginia's coal miners over his long political career – published a letter to his constituents, calling on coal to "embrace the future". In his letter, he stated that "to deny the mounting science of climate change is to stick our heads in the sand ... The future of coal and indeed of our total energy picture lies in change and innovation".

Reflecting these changes is a continuing shift in expectations, across most of business's key stakeholder groups, regarding the role that business should play in addressing the climate challenge.

- *The financial community* is showing more active engagement on this issue. Major investors, such as CalPERS and Calsters in the US, and large pension funds in Europe, are exerting pressure on companies to disclose their climate change activities, while investor bodies such as the IIGCC in Europe and Ceres in the US are lobbying companies and producing advocacy reports aimed at stimulating increased understanding of investor exposure to climate change. During the year, the US Securities and Exchange Commission (SEC) issued guidance requiring listed companies to disclose their climate-related risks. The responses from some of this year's CDP participants similarly suggests that some of South Africa's institutional investors are coming to appreciate the financial materiality of environmental, social and governance issues.
- *Customers* (in both the B2B and B2C context) are increasingly including climate considerations in their purchasing decisions: Wal-Mart[15] and other leading global organisations have partnered with the CDP to engage its supply chain across all levels on climate issues, while Tesco has implemented an ambitious product carbon footprint labelling initiative aimed at engaging their consumers on this issue.
- Many *NGOs and civil society organisations* are motivating strongly for changes in government policy and business practice, in some instances pursuing court action against companies similar to the class action lawsuits previously taken against the tobacco and asbestos industries. Insurance giant Swiss Re has suggested, for example, that "climate change-related liability will develop more quickly than asbestos-related claims" and that "the frequency of climate change-related litigation could become a significant issue within the next few years…".[16] Recently a group of conservationists won the first round in their legal battle to stop the building of a 300-megawatt coal-fired electricity plant in Malaysia; some anticipate that similar action may be taken in South Africa.
- *Business peers* are also responding, both individually and collectively. Globally, the World Business Council on Sustainable Development (WBCSD), a CEO-led association of some of the world's 200 most influential companies, has played a crucial role, for example, in disseminating the leading international standard on carbon footprint measurement, as well as driving a number of significant sector-based projects. At a regional level, initiatives such as the UK-based Corporate Leaders Group on Climate Change (comprising executives from companies such as Tesco, Philips, Vodafone and Unilever) have been seeking to trigger a necessary step-change in government policy and action. Similarly, in the United States various leading companies have been pushing publicly for more decisive climate change legislation. In February, for example, a coalition of US nonprofits and large companies (including Nike, Timberland, Virgin and Gap) launched an initiative aimed at promoting binding climate change legislation in Congress; a number of US CEOs were later vocal in expressing their disappointment at Senate's failure to approve this legislation.

A Changing Policy Context

The most significant development in terms of climate change policy over the past twelve months was undoubtedly the disappointing outcome of the UNFCCC's 15th Conference of the Parties (COP 15) in Copenhagen in December 2009, followed closely (arguably) by the failure of the US Senate to approve the proposed cap-and-trade bill. The Copenhagen Accord – a non-binding document that was taken 'note of', rather than properly adopted by the parties – sets the goal of limiting the

14 Quoted at http://watchingthedeniers.wordpress.com

15 Wal-Mart and other leading global organisations are members of CDP Supply Chain, a standardised programme that enables companies to successfully implement supplier engagement strategies around greenhouse gas emissions and risk management in a changing climate. Wal-Mart recently committed to cutting 20 million metric tonnes of GHG emissions from its supply chain by the end of 2015, and requires certain suppliers to review the carbon lifecycle of their products (focusing initially on categories with highest embedded carbon: milk, bread, meat, clothing).

16 Daniel Hays, "Climate Claims are the new asbestos, Swiss Re suggests" National Underwriters Property and Casualty, May 29, 2009 (available at www.property-casualty.com/News/2009/5/Pages/default.aspx)

rise of global temperatures by 2°C on pre-industrial levels. The Accord, which was endorsed by all major emitters including the US and China, also provides for an increase in financial aid to developing nations, promotes emissions transparency via international monitoring, and calls for a review of progress by 2015.

This outcome was much less than what most had been hoping for. The Accord contains no legally binding long-term global emission reduction target, and it fails to establish peaking data for emissions. The resulting lack of regulatory certainty not only undermines efforts to ensure the appropriate pricing of carbon, but it also impedes the potential for business investment in innovative solutions. Furthermore, as an outcome, it is likely that adaptation will become an increasingly real concern.

Since the conference, countries representing over 80% of global emissions have submitted their proposed emissions reductions targets in terms of the Accord. A recent analysis of these targets argues, however, that the best proposals on the table, many of which are conditional on financial support being provided to developing countries, "are only half way to what the science indicates is needed for a good chance of limiting warming to 2°C or 1.5°C".[17] Not surprisingly, there is an increasing sense amongst many observers that it is unlikely that this 2°C target will be met.

The outcome of Copenhagen may result in efforts shifting to national and regional initiatives; in the short term, it is evident that national climate change policies will have a more important and immediate bearing on business. For the South African business sector, the implications of national climate policy are potentially profound. At the Copenhagen climate summit, the South African government formally committed to a 34% reduction below a business-as-usual emissions trajectory by 2020 and to a 42% reduction by 2025, conditional on international technological and financial assistance.

This commitment builds on the Cabinet's July 2008 climate mitigation policy vision and subsequent policy development process that was informed by the Long Term Mitigation Scenario (LTMS) process. Over the longer term, Cabinet has committed to "redefine our competitive advantage and structurally transform the economy by shifting from an energy-intensive to a climate-friendly path as part of a pro-growth, pro-development and pro-jobs strategy". It is anticipated that a climate change White Paper will be gazetted in December 2010 or early 2011, introducing the legislative, regulatory and fiscal measures necessary to give effect to policy by 2012.

Meeting the government's (conditional) international commitment to a 34% and 42% relative reduction in emissions will be especially challenging for the South African economy, particularly given the anticipated addition of the Medupi and Kusile power stations. A recent study by the University of Cape Town's Energy Research Centre suggests that, in effect, the absolute annual emissions levels in 2020 and 2025 will need to be the same as they are currently, an estimated 500 Mt of CO_2-e. Achieving this will require an accelerated focus on energy efficiency across all sectors, a significantly expanded low-carbon electricity supply programme, the introduction of carbon capture and storage technologies, the achievement of ambitious targets for vehicle efficiency, electric vehicles and passenger modal shifts, and the promotion of enhanced agricultural practices.

The cost implications of implementing these measures will vary significantly across the different sectors. Finding an appropriate policy solution will require an informed national discussion based on a good understanding of the relative contribution of each sector and of its ability to effect change. The active participation of business across all sectors – including through data gathering initiatives such as the CDP – is essential if we are to develop national policy that finds the right balance between environmental effectiveness, economic efficiency and social equity. This places increased expectation on business leadership.

> "If you're waiting for leadership from the Beltway Denizens on climate change, settle in. Rhetoric aplenty … leadership, not a whit."
>
> **Jeff Swartz CEO, Timberland**

17 www.climateactiontracker.org

"Decisions where you can analyse the numbers for an answer don't need leaders. Ditto moments when everyone knows what to do."

Ronan Dunne, CEO of Telefonica O2

Toward Business Leadership on Climate Change

Responding meaningfully to the climate challenge will require uncommon levels of leadership from decision-makers in business, government and civil society across national and commercial boundaries. If we are to develop a regenerative economy that promotes social justice while decoupling economic development from resource use, then we will need leaders who have sufficient imagination, vision and courage to acknowledge and challenge the 'system flaws' that underpin current business and economic models. Doing so will not be easy: we have grown up in a generation that has become hard-wired to price signals that suggest limitless availability of resources, despite the fact that some of the most fundamental feedstocks of the economy – fossil fuels, phosphorous and water – may soon be facing significant supply and policy constraints.

Given the failure of political leaders in Copenhagen and Washington to seal a deal on climate change, there is now greater responsibility and expectation on forward-looking business executives to deliver what is required. Arguably, though, when it comes to addressing societal challenges, many business leaders have in the past tended to demonstrate 'followership', acting largely in response to the demands of regulators, activists and a small pool of informed responsible investors. On social and environmental issues, many companies appear to be driven more by the desire to outperform their peers on socially responsibility investment (SRI) rating schemes, than by a real understanding of the imperative to engage actively in developing the new economy.

Yet South African business has shown in the past that it has the capacity to be an effective instrument of change. While big business was often closely implicated in the country's apartheid past, some in the business community sought to ameliorate the worst elements of the apartheid state, with a small group of business leaders and representative bodies playing an important role in the transition to democracy. Arguably, the response of this progressive group of business leaders was informed more by an economic imperative than it was by any moral imperative, with a key driver being the realisation that the human and societal costs of apartheid were destroying the foundation upon which business's longer-term prosperity depended.

As it was with apartheid, so it should be in addressing the challenges of sustainability and climate change: businesses flourish best in societies that prosper; unless and until business leaders appreciate the interdependency between economic prosperity, social justice and functioning ecosystems, society's and business's longer-term interests will continue to be compromised.

If South African business is serious about making a contribution to containing warming below a 2°C rise on pre-industrial levels, then it will need to be an active participant in this transition. We will need to see business leaders becoming willing advocates in the readjustment of pricing risks and resources. This demonstrates a commitment to move away from a business model that externalises the societal costs of its activities, and towards one that actively identifies and captures all feasible emissions abatement opportunities. Doing so will require not just technical innovation, but also at times a shift in values and a willingness to challenge existing assumptions.

An important objective of the CDP is to inform an assessment of the extent to which the leadership of South Africa's largest companies is up to this challenge. It is up to the readers of this report to make that assessment.

3 CDP 2010: The JSE 100 Sample

The JSE 100 sample for CDP 2010 was identified on the basis of market capitalisation as at 30 December 2009. At the time of selection, the list included 100 companies from thirty different industry sectors (see Table 2), identified using the Global Industry Classification Standards (GICS).

To facilitate a higher level of sectoral analysis, and to maintain comparability with the previous year's reporting, the companies have been clustered into the following seven top-level sectors (the associated sub-sectors are identified in parenthesis):

- *Consumer* – (Apparel Retail; Brewers; Department Stores; Food Products; Food Retailing; Home-furnishing Retail; Hotels, Resorts and Cruise Lines; Packaged Foods and Meats; Personal Products; Publishing; Textiles, Apparel & Luxury Goods)
- *Energy* – (Oil and Gas)
- *Financials* – (Asset Management; Diversified Banks, Diversified Financials, Financial Services; Insurance Brokers; Real Estate)
- *Health Care* – (Health Care Providers & Services; Pharmaceuticals)
- *Industrials* – (Construction & Engineering; Diversified Industrial; Industrial; Industrial Conglomerate / Machinery; Trading Companies & Distributors; Electrical Components & Equipment)
- *Information Technology & Telecommunications* – (Electronic Equipment & Instruments; Integrated Telecommunication Services; Internet Software Services, Technology Distributers; Wireless Telecommunications Services)
- *Materials* – (Chemicals; Construction Materials; Gold; Industrial Gases; Metals & Mining; Paper Packaging; Paper Products; Precious Metals & Mining; Steel)

- In terms of the number of companies, the JSE 100 is dominated by the Financials (30), Consumer (26), and Materials (20) sectors (Figure 1). By market capitalisation, there is an obvious dominance by Materials (42.5%), followed by Consumer and Financials (both 20%) (Figure 2).

The CDP 2010 Response Rate

Encouraging Increase in the South African Response Rate

An overview of the response status of each JSE 100 company is provided in Table 2. Some of the key implications of the data presented in this table are discussed below.

- Of the 100 companies that were sampled, 74 answered the questionnaire, 24 declined to participate[18], while two companies (Gold Reef Resorts and Datatec) did not respond in any manner, which is notably less than last year's 16 non-respondents. The South African CDP 2010 thus achieved an overall response rate of 74%, an encouraging increase on last year's 68% (Figure 3). This ranks South Africa as the fourth highest CDP response rate internationally (equal rank with the FTSE All-World 800), and places it as the developing-country benchmark just above Brazil (72%) (Table 1).
- Globally, the CDP response rates are led by the Europe 300 (84%), US Bonds 180 (82%) and Global 500 (82%). South Africa compares favourably with larger international samples such as US S&P 500 (70%), Australia 200 (47%) and Germany 200 (61%), and is particularly favourable in comparison to developing region samples such as China 100 (11%), India 200 (21%) and Asia 135 (32%).

18 Many of the 24 companies that declined to participate did so as they felt ill-equipped to respond in a comprehensive manner, but indicated a desire to participate next year.

Fig. 1: Composition of JSE 100 by number of companies per sector

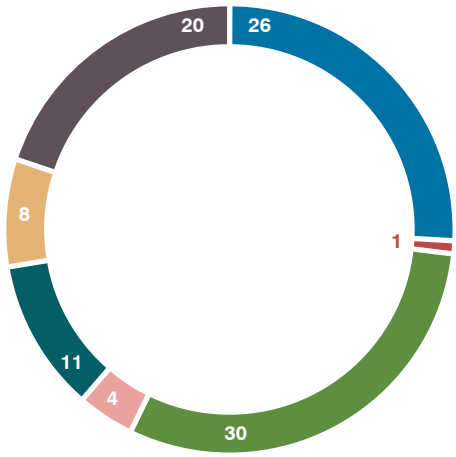
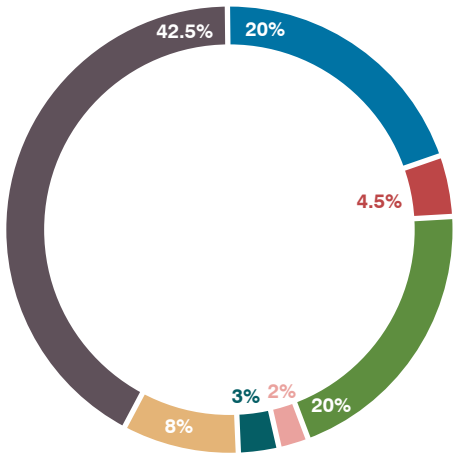
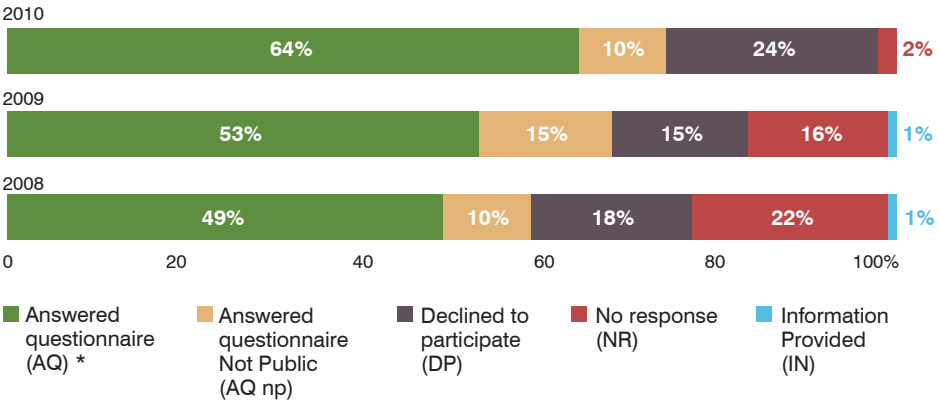


Fig. 2: Composition of JSE 100 by market capitalisation



'm' denotes millions

Fig. 3: JSE 100 response rate - CDP 2010 vs. CDP 2009 and CDP 2008



* Includes 'SA' which denotes 'See Another' i.e. one company that responded via their parent company not listed on the JSE (African Oxygen); and two companies that responded via a parent company listed in the JSE 100 (RMB Holdings, Investec).

- Of the 74 companies that answered the questionnaire, ten elected to have their response 'Not Public', as compared with 15 last year, a welcome trend towards greater transparency. Two of these, the *JSE* and *Reunert*, had previously made their response public, but this year chose not to. Most of the other ten were first time respondents. For the purposes of this report, the data from these ten companies will only be used in aggregated trends, and will not be reflected by company name.
- Six companies which participated last year opted not to participate this year: *African Bank Investments, Emira Property Fund, Fountainhead Property Trust, Redefine Income Fund, Aspen Pharmacare Holdings* and *Telkom*. Reasons for this varied: two companies state that they are undergoing internal restructuring and express their preference to only report once the internal reporting boundaries have been clarified; others feel that the process is too onerous and does not currently add sufficient value.
- There were three voluntary responses from companies not included in the JSE Top 100: *Hulamin*, *Airpower* and *NCS Resin*. They chose to participate at their own initiative, recognising the benefit of increased transparency and disclosure on climate change issues, and appreciating the value of the structured benchmarking process offered by the CDP. While their CDP responses are available online, their data has not been used for the quantitative analysis in this South Africa 100 report. A summary of their key performance data has however been included beneath Table 2. Several other companies have communicated their desire to participate in future on a voluntary basis; this is an encouraging development and seems to be a trend that will continue to grow.

For the purposes of the quantitative analysis, although 74 companies answered the questionnaire, three companies submitted a response via their parent company. Two of these (*RMB Holdings*, and *Investec*) have parent companies also listed in the Top 100 JSE, and one (*African Oxygen*) reported via its FTSE-listed parent (*Linde Group*). As the *Linde Group* is not listed on the JSE, in this report their submission is reviewed qualitatively only. Thus, although the overall response rate is 74%, for the purposes of this report, a total number of 71 company questionnaires were analysed quantitatively.[19]

19 The JSE 100 sample included Mondi Limited and Mondi Group as one entity for reporting purposes.

Table 1: CDP 2010 - Global trends[i]

This table outlines some of the key findings from CDP 2010 by geography or industry data-set.[ii]

Sample: geography / number of companies	% of sample answering CDP 2010[iii]	% of responders with Board or other executive level responsibility for climate change	% of responders with management incentives	% of responders with emissions reduction targets	% of responders taking actions to reduce emissions	% of responders indicating that their products and services help third parties to avoid GHG emissions	% of responders seeing regulatory risks	% of responders seeing regulatory opportunities	% of responders engaging policymakers on climate issues to encourage mitigation or adaptation	% of responders reporting the company's response to climate change in mainstream annual filings / CSR reports	% of responders independently verifying any portion of Scope 1 emissions data	% of responders independently verifying any portion of Scope 2 emissions data
Asia ex-JICK 135[iv]	32	80	46	56	73	41	65	70	60	80	48	40
Australia 200	47	83	46	40	73	55	69	76	73	88	43	43
US Bonds 180	82	78	62	70	87	55	60	71	88	91	54	46
Brazil 80	72	68	29	23	57	55	61	78	66	74	28	28
Canada 200	46	72	41	32	63	47	51	65	64	73	28	21
Central & Eastern Europe 100	12	85	57	57	71	43	71	100	85	57	57	57
China 100	11	57	57	57	57	43	71	71	57	86	43	29
Emerging Markets 800	29	77	50	47	74	49	70	84	68	78	39	37
Europe 300	84	94	62	79	87	71	74	87	77	97	68	60
FTSE All-World 800	74	83	61	70	77	65	69	78	85	92	57	49
France 250	30	89	48	69	79	60	72	86	62	93	57	46
Germany 200	61	70	33	47	50	57	43	68	42	66	35	23
Global 500	82	84	63	70	87	66	66	77	80	93	59	52
Global Electric Utilities 250	48	86	47	60	72	75	85	90	88	92	58	31
Global Transport 100	25	88	60	89	72	52	88	72	64	84	44	36
India 200	21	88	33	33	69	39	39	90	63	64	25	19
Ireland 40	50	80	26	60	80	33	66	53	46	80	33	33
Italy 60	35	66	57	76	85	71	76	80	66	90	62	62
Japan 500	41	89	61	91	84	73	81	81	60	94	28	28
Korea 200	42	60	52	46	61	44	70	73	50	56	29	29
Latin America 50	54	72	25	15	50	53	68	84	40	78	31	32
Netherlands 50	66	93	63	70	76	71	66	86	70	97	61	65
New Zealand 50	46	78	21	39	39	16	60	43	60	52	22	22
Nordic 200	65	88	44	69	77	67	68	79	62	93	45	37
Portugal 40	30	83	41	41	83	83	91	91	58	91	67	67
Russia 50	8	50	0	100	50	50	50	50	0	50	0	0
South Africa 100	74	95	50	42	82	42	77	85	80	92	39	41
Spain 85	40	87	53	71	84	72	81	84	62	97	69	63
Switzerland 100	58	77	26	52	59	56	38	63	42	82	40	35
Turkey 50	24	75	87	37	62	0	88	72	37	50	25	25
UK FTSE 600	51	96	49	61	73	48	68	74	59	87	41	39
US S&P 500	70	67	48	53	77	53	50	61	63	80	35	29

i The key trends table provides a snapshot of response trends based on headline data. The numbers in this table are based on the online responses submitted to CDP as of 14 July 2010. They may therefore differ from numbers in the rest of the report which are based on the number of companies which responded by the deadline.

ii For some samples the number of companies included in the table may be lower than the original sample size due to takeovers, mergers, and acquisitions.

iii Includes offline responses to the CDP 2010 questionnaire and indirect answers submitted by parent companies. All other key trend indicators are based on direct and online company responses only.

iv Asia excluding Japan, India, China and Korea.

Table 2: CDP 2010 - Overview of company responses

Sector (Sub-sector)	Company	CDP 2010	CDP 2009	CDP 2008	Scope 1 (t CO_2-e)	Scope 2 (t CO_2-e)	Scope 3	Verified	GHG Target	Disclosure Score (%)	Performance Band
Consumer											
Apparel & Luxury Goods	Compagnie Financière Richemont SA	AQ np	/	/							
Apparel Retail	Mr Price Group	AQ np	DP	DP							
Brewer	SABMiller	AQ	AQ	AQ	1,449,442	1,182,614	Yes	No	Yes	65	B
Department Stores	Massmart Holdings	AQ	AQ	AQ	19,775	271,534	Yes	No	Yes	76	B
Department Stores	New Clicks Holdings	AQ	AQ np	AQ	5,943	90,499	Yes	Yes	No	83	C
Food Products	Illovo Sugar	DP	DP	AQ							
Food Products	Pioneer Food Group	DP	NR	/							
Food Products	Rainbow Chicken	AQ	AQ np	AQ np	120,296	321,065	Yes	No	No	84	C
Food Products	Tiger Brands	AQ	DP	NR	470,522	274,972	Yes	No	No	68	C
Food Products	Tongaat Hulett	AQ	AQ	NR	787,711	309,388	Yes	No	No	64	C
Food Retailing	Pick n Pay Holdings	AQ	AQ	AQ	155,098	586,268	Yes	No	Yes	77	B
Food Retailing	Shoprite Holdings	DP	DP	DP							
Food Retailing	The Spar Group	AQ	NR	DP	33,134	35,925	Yes	No	Yes	73	C
Food Retailing	Woolworths Holdings	AQ	AQ	AQ	27,706	329,024	Yes	Yes	Yes	83	A
Homefurnishing Retail	JD Group	DP	NR	DP							
Homefurnishing Retail	Lewis Group	AQ np	DP	NR							
Hotels, Resorts & Cruise lines	Gold Reef Resorts	NR	NR	NR							
Hotels, Resorts & Cruise lines	Sun International	DP	NR	DP							
Packaged Foods & Meats	Astral Foods	DP	/	/							
Packaged Foods & Meats	Avi	DP	DP	AQ np							
Packaged Foods & Meats	Oceana	AQ	/	/	161,323	68,575	Yes	Yes	No	82	C
Personal Products	Steinhoff International Holdings	AQ np	AQ np	AQ							
Publishing	Caxton CTP Publishers & Printers	AQ	AQ	DP	14,993	95,758	Yes	Yes	No	72	C
Publishing	Naspers	AQ np	NR	NR							
Textiles, Apparel & Luxury Goods	Foschini	AQ np	AQ np	DP							
Textiles, Apparel & Luxury Goods	Truworths International	AQ	AQ np	AQ	462	75,022	Yes	No	No	73	C
Energy											
Energy	Sasol	AQ	AQ	AQ	61,768,000	9,553,000	Yes	Yes	Yes	84	B
Financials											
Asset Management & Custody Banks	Reinet Investments	DP	/	/							
Diversified Banks	Absa Group	AQ	AQ	AQ	23,957	364,901	Yes	Yes	Yes	64	C
Diversified Banks	African Bank Investments	DP	AQ np	NR							
Diversified Banks	Investec plc – See Investec	AQ	AQ	AQ np							
Diversified Banks	Investec (incl. Investec plc)	AQ	AQ	/	2,206	38,644	Yes	No	No	45	
Diversified Banks	Nedbank	AQ	AQ	AQ	429	167,754	Yes	Yes	Yes	88	A
Diversified Banks	RMB Holdings – See FirstRand	AQ	AQ	AQ							
Diversified Banks	Standard Bank Group	AQ	AQ	AQ	10,284	138,894	Yes	Yes	No	74	B
Financial services	FirstRand Limited	AQ	AQ	AQ	12,215	211,543	Yes	Yes	Yes	93	B
Insurance Brokers	Liberty Holdings	AQ	AQ	AQ	3,116	42,437	Yes	Yes	No	76	C
Insurance Brokers	Metropolitan Holdings	AQ	AQ	AQ np	982	30,973	Yes	No	No	72	C
Insurance Brokers	Old Mutual	AQ	AQ	AQ	6,946	598,639	Yes	No	Yes	82	B
Insurance Brokers	Sanlam	AQ	AQ	AQ np	36	38,651	Yes	No	Yes	86	B
Insurance Brokers	Santam	AQ	AQ	AQ	2	3,753	Yes	No	Yes	79	C
Diversified Financial services	Discovery Holdings	AQ	AQ	AQ	1,275	98,851	Yes	No	No	70	C
Diversified Financial services	Hosken Consolidated Investments	AQ	DP	/	75,832	280,130	No	No	No	78	D
Diversified Financial services	JSE	AQ np	AQ	AQ							
Other Diversified Financial Services	Remgro	AQ	AQ np	AQ	303,616	349,311	Yes	No	No	85	B
Real Estate	Acucap	DP	/	/							
Real Estate	Emira Property Fund	DP	AQ np	DP							
Real Estate	Fountainhead Property Trust	DP	AQ np	DP							
Real Estate	Growthpoint Properties	AQ	AQ	NR	268	956	No	No	No	46	
Real Estate	Hyprop Investments	DP	NR	/							
Real Estate	Pangbourne Properties	DP	NR	DP							
Real Estate	Redefine Income Fund	DP	AQ	AQ							
Real Estate	Resilient Property Income Fund	DP	NR	/							
Real Estate	SA Corporate Real Estate Fund	DP	NR	NR							
Real Estate	Sycom	DP	/	/							

Sector (Sub-sector)	Company	CDP 2010	CDP 2009	CDP 2008	Scope 1 (t CO_2-e)	Scope 2 (t CO_2-e)	Scope 3	Verified	GHG Target	Disclosure Score (%)	Performance Band
Real Estate	Capital Shopping Centres (previously Liberty International)	AQ	AQ	AQ	6,961	43,742	No	Yes	Yes	49	
Real Estate	Capital Property Fund	DP	/	/							
Health Care											
Health Care Providers & Services	Medi-Clinic Corporation	AQ	AQ	AQ	11,804	154,237	Yes	Yes	No	89	B
Health Care Providers & Services	Netcare Limited	AQ	AQ	AQ	27,906	366,360	Yes	Yes	Yes	81	C
Pharmaceuticals	Adcock Ingram Holdings	AQ	NR	/	12,616	27,130	Yes	No	No	68	C
Pharmaceuticals	Aspen Pharmacare Holdings	DP	AQ np	NR							
Industrials											
Construction & Engineering	Aveng	AQ np	AQ np	DP							
Construction & Engineering	Group Five	AQ	/	/	803,177	185,506	Yes	No	No	74	C
Construction & Engineering	Murray and Roberts Holdings	AQ	AQ	AQ	513,739	286,767	Yes	No	No	84	B
Construction & Engineering	Raubex	DP	/	/							
Construction & Engineering	Wilson Bayly Holmes-Ovcon	AQ	AQ np	DP	58,024	32,737	Yes	No	No	65	D
Electrical Components & Equip	Reunert	AQ np	AQ	AQ np							
Industrial Conglomerate	The Bidvest Group	AQ	AQ	AQ	277,009	387,943	Yes	No	Yes	77	B
Industrial Machinery	Barloworld	AQ	AQ	AQ np	115,241	91,148	No	Yes	Yes	80	A
Trading Companies & Distributors	Grindrod	AQ	DP	DP	321,199	7,010	Yes	No	Yes	61	C
Trading Companies & Distributors	Imperial Holdings	AQ	AQ	AQ	758,011	156,468	No	No	No	71	C
Trading Companies & Distributors	Trencor	DP	DP	DP							
IT & Telecomms											
Electronic Equipment & Instruments	Allied Electronics Corporation (Altron)	AQ	AQ	AQ	11,562	42,688	Yes	No	No	81	C
Integrated Telecomm services	Telkom SA	DP	AQ	DP							
Internet Software services	Datatec	NR	/	NR							
Internet Software services	Dimension Data Holdings	AQ	AQ	AQ	13,107	67,533	Yes	No	Yes	80	B
Technology Distributers	The Blue Label Telecomms	AQ np	/	/							
Telecommunication Services	Allied Technologies	DP	NR	AQ							
Wireless Telecomm services	MTN Group	AQ	AQ	AQ	280,246	281,201	Yes	No	No	71	C
Wireless Telecomm services	Vodacom Group	AQ	/	/	26,970	339,462	Yes	No	No	85	B
Materials											
Chemicals	AECI	AQ	AQ np	NR	299,114	176,980	No	No	No	36	
Construction Materials	Pretoria Portland Cement Co	AQ	AQ	AQ	5,129,030	577,990	Yes	No	Yes	73	C
Gold	AngloGold Ashanti	AQ	AQ	AQ	1,183,000	3,489,000	No	Yes	Yes	79	C
Gold	Gold Fields	AQ	AQ	AQ	1,308,764	5,093,511	Yes	Yes	Yes	93	A
Gold	Harmony Gold Mining Co	AQ	AQ	AQ	146,036	3,444,600	Yes	Yes	Yes	74	B
Industrial Gases	African Oxygen - See Linde Group	AQ	AQ	AQ	5,400,000	9,000,000	Yes	Yes	No	71	/
Metals & Mining	African Rainbow Minerals	AQ	NR	AQ	647,720	1,735,289	No	No	No	37	
Metals & Mining	Anglo American	AQ	AQ	AQ	8,850,000	10,252,000	Yes	Yes	Yes	85	B
Metals & Mining	BHP Billiton	AQ	AQ	AQ	21,355,000	27,688,000	No	Yes	Yes	71	B
Metals & Mining	Exxaro Resources	AQ	AQ	AQ	542,000	2,238,794	Yes	Yes	Yes	87	B
Metals & Mining	Kumba Iron Ore	AQ	AQ	AQ	246,909	454,104	Yes	Yes	Yes	82	B
Metals & Mining	Lonmin	AQ	AQ	AQ	81,277	1,488,755	Yes	Yes	Yes	77	B
Paper Packaging	Mondi Group	AQ	AQ	AQ	4,420,810	1,447,991	Yes	Yes	Yes	87	B
Paper Packaging	Nampak	AQ	AQ np	AQ np	87,911	503,642	Yes	No	No	63	D
Paper Products	Sappi	AQ	AQ	AQ	4,778,698	2,118,889	Yes	Yes	Yes	75	B
Precious Metals & Mining	Anglo Platinum	AQ	AQ	AQ	427,290	5,152,793	Yes	Yes	Yes	89	B
Precious Metals & Mining	Impala Platinum Holdings	AQ	AQ	AQ	693,145	2,930,324	Yes	Yes	No	79	B
Precious Metals & Mining	Northam Platinum	AQ	AQ	AQ	15,293	645,745	Yes	Yes	No	85	B
Steel	ArcelorMittal SA	AQ	AQ	AQ	10,730,360	4,330,419	Yes	No	Yes	63	B
Steel	Highveld Steel and Vanadium Corporation	AQ	DP	DP	**	**	**	**	**	65	B
TOTAL	**100**	**74**					**56**	**29**	**31**		

VOLUNTARY (NON JSE 100) SUBMISSIONS		CDP 2010	CDP 2009	CDP 2008	Scope 1 (t CO_2-e)	Scope 2 (t CO_2-e)	Scope 3	Verified	GHG Target
Industrials	Airpower	AQ	/	/	68	14	No	Yes	No
Materials	Hulamin	AQ	AQ	/	299,329	224,912	No	No	No
Materials	NCS Resin	AQ	/	/	1,163	2,247	No	No	Yes

Answered questionnaire (AQ) *

Answered questionnaire Not Public (AQ np)

Declined to participate (DP)

No response (NR)

** No Emissions data

' / ' Company not included in the JSE 100 sample

The reported quantitative emissions data must be read with the explanatory information provided in Table 4.
The total counts include the counts for not public companies.
For explanation of the Disclosure Score and Performance Band refer to Chapter 5.

Given the South African government's stated policy commitment to climate change, and the potential impact this could have on the Property sector, it is remarkable that we are not seeing greater levels of informed engagement from this sector.

Varying Response Rate by Sector

An overview of the sectoral response rate for 2010, and a comparison with the response rates for CDP 2009, is provided in Figure 4, which also includes an indication of the level of disclosure of carbon emissions within each sector. The nature of the varying sector and company-specific response rates over the past three years is also reflected by the colour scheme used in Table 2. Not surprisingly, those sectors that are generally more carbon-intensive and exposed to carbon risks – such as Energy, Industrials and Materials – have continued to show the highest response rates.

There have been some encouraging developments this year:

- There is now a 100% public response rate from the Materials sector, with only one of the 20 companies not having undertaken a carbon footprint analysis (*Highveld Steel & Vanadium*).
- There is also a high public response rate from within the Diversified Banks, Financial Services and Insurance sectors, with only two out of 17 companies not providing a publicly available response: *African Bank Investments* (declined to participate) and the *JSE* (non public response).
- There has been a welcome increase in the response rate of the Consumer sector, with the new participation and new public disclosure from companies such as *The Spar Group, Truworths International, Tiger Brands, New Clicks Holdings* and *Rainbow Chicken*. *Naspers* has also participated this year, although it has chosen not to make its response public.

There are some remaining concerns, however, with the responses of a number of sub-sectors:

- In the Real Estate sector, only two out of the twelve companies responded. This is of particular concern given both the role that the sector can play in climate mitigation, as well as its potential exposure to the policy and physical impacts of climate change.[20] In light of the South African government's stated policy commitment to climate change, and the potential impact this could have on the property sector, it is remarkable that we are not seeing greater levels of informed engagement from this sector.
- While there have been some encouraging improvements in the Food Products and Packaged Foods sectors, there are still a number of companies in the sector – including *Illovo Sugar, Pioneer Food Group, Astral Foods* and *Avi* – that have once again declined to participate. This is perhaps surprising, given their particular susceptibility to changing weather patterns and global agricultural commodity prices (both of which have shown volatility over the past year), as well as their potential contribution in terms of new energy opportunities.
- In the Hotels & Resorts sector neither of the two companies responded. One of these (*Sun International*) did not do so primarily because of concerns regarding the reliability of its data. The other did not respond at all.

Levels of disclosure improves on most issues

Figure 5 provides a comparison between the overall response rates of the participants in CDP 2010 and CDP 2009 on a series of key trend indicators (structured around the CDP questions). Once again, there have been some encouraging developments this year.

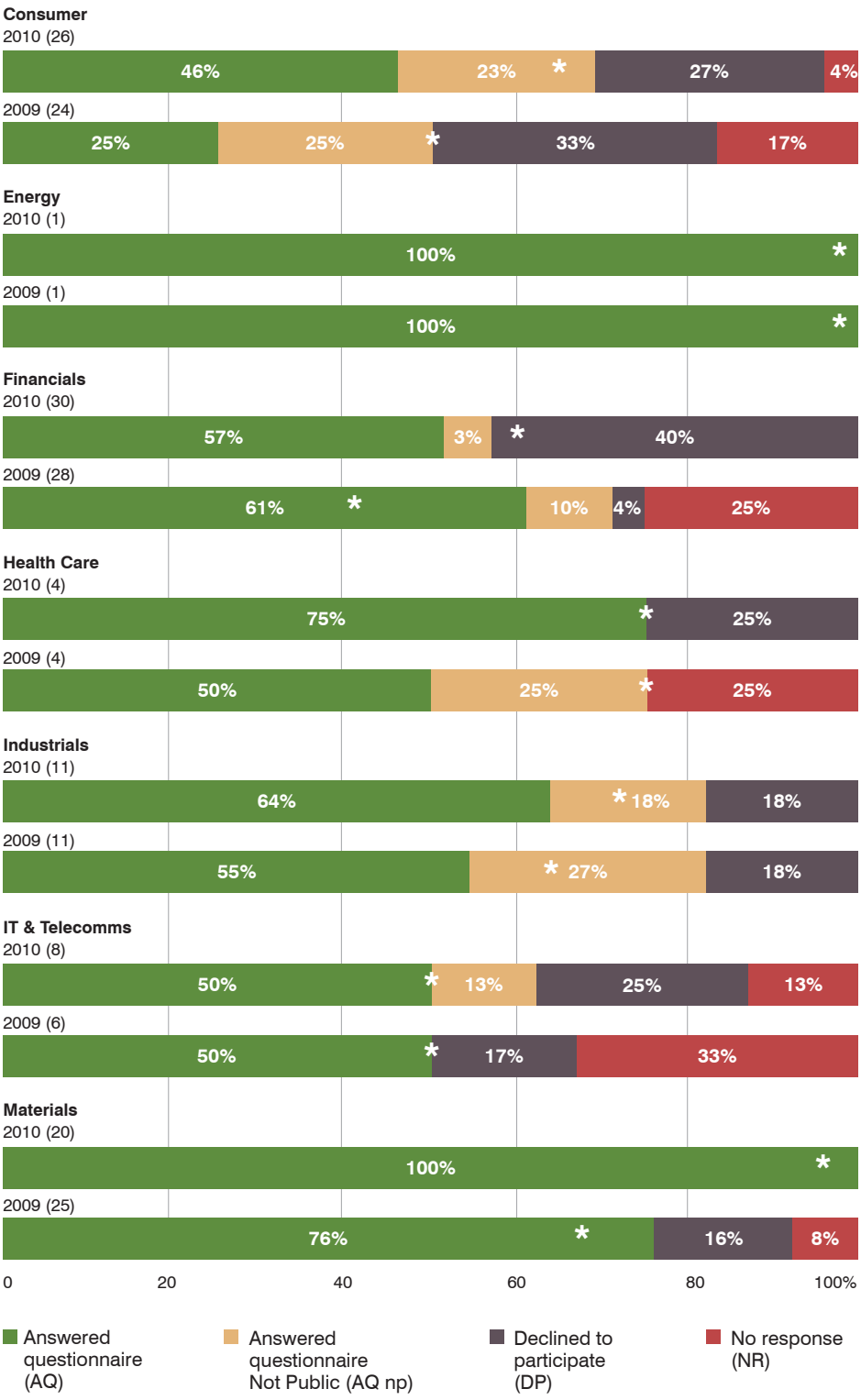
- There has been an increase in the assessment and reporting of company GHG emissions. This year, 94% of the responding companies have assessed their Scope 1 and Scope 2 emissions, up from 87% last year. In terms of publicly available emissions data, 58 companies have made their CDP emissions profiles public, as compared with 42 companies in 2009.
- There has once again been an increase in the assessment and reporting of Scope 3 emissions

20 In the US, for example, studies have shown that buildings account for 40% of primary energy use, 72% of US energy consumption, 29% of CO_2 emissions, and 88% of potable water consumption.

and of company emissions intensity data. The continuing increase in reporting Scope 3 emissions is encouraging, as it suggests that the larger companies are beginning to exert some influence over the supporting activities that contribute to their indirect emissions. For some companies – particularly those in the Services sector – their indirect emissions offer the greatest potential to effect emissions reductions, albeit indirectly.

- Although there has been a slight increase in the external verification of emissions, at 41% this is still low in comparison with international peers[21]; the Global 500, for example, reports a rate of 59%. The marginal increase in verification scores may in fact hide a larger actual increase, as it was apparent that there was previously some misunderstanding as to what is meant by 'external verification'.[22] This is positive in that one may hope that the data integrity is on the increase.
- There has been a significant increase in the number of companies that report having GHG emissions reduction targets, up from 20 companies last year to 31 companies this year (see Table 11). This is a commendable increase, particularly for companies in a developing country that currently lacks legislated national emissions reduction targets.
- In terms of governance practices, there has been an increase in the number of companies that are now including climate change issues in their annual reporting practices (92% of respondents as compared with 79%). Similarly there has been an increase in the use of reported internal management incentives on climate change, up from 30% to 50%.

Fig. 4: JSE 100 response by sector - CDP 2010 vs. CDP 2009

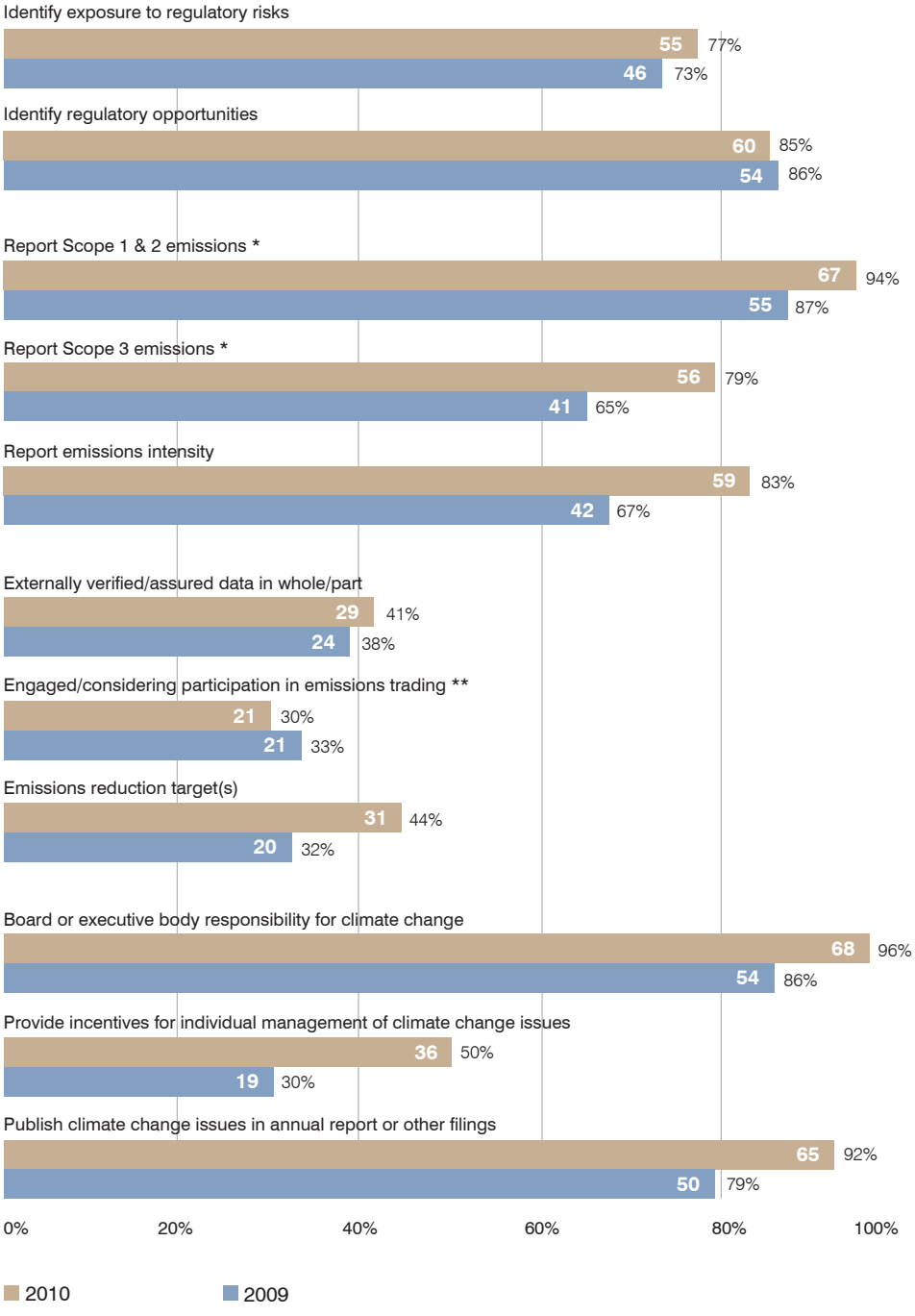


GHG emissions disclosure rate for each sector is denoted by the position of ' * ' as plotted on the x axis.
Number in brackets indicates total number of companies in the sector.

21 This percentage includes companies that verified Scope 1 or 2 or 3 emissions in whole or in part. Of these 29 companies, only 13 actually attached a verification certificate.

22 Last year some companies suggested for example that the fact that external consultants performed the carbon footprint was sufficient to constitute verification. This year, the CDP guidance for responding companies required the attachment of verification certificates issues by independent auditors to avoid any ambiguity.

Fig. 5: Response rates for key trend indicators - CDP 2010 vs. CDP 2009 (count and percentage)



Each key trend is represented by both the absolute number of companies responding yes (count superimposed on bar), and the count as the percentage of total responding companies (indicated on x-axis).
* Some companies disclose partial data.
** Indicates the number of companies participating in EU ETS and/or considering participation in trading schemes.

4 Climate Change: Reviewing the SA Business Response

This chapter provides an analysis of the South African corporate responses to the CDP 2010. To facilitate year-on-year comparison, the chapter is structured in a broadly similar manner to the CDP 2009 report. Based on what are seen to be the key elements of an effective strategic response to climate change (see Box 1), the analysis assesses the actions of the responding companies in terms of each of the following components of a climate response strategy:

- understanding and responding to the risks and opportunities of climate change (pages 31-36);
- measuring, reporting and verifying direct and indirect GHG emissions and energy usage (pages 36-49);
- developing and implementing GHG emissions reduction targets (pages 50-51);
- implementing effective emissions reduction and adaptation measures (pages 51-56);
- integrating climate considerations within internal governance practices (pages 56-57); and
- entering into partnerships and engaging in policy development processes (pages 57-58).

This analysis informed the company disclosure and performance ratings – and the rankings in terms of the Carbon Disclosure Leadership Index – presented in Chapter 5.

Understanding Climate Change Value-at-Risk and Opportunities for Value Creation

Ideally the corporate response to climate change should be based on an informed assessment of the company-specific risks and opportunities that climate change presents, as well as by a sound understanding of the nature of the company's contribution (both current and potential) to addressing the issue throughout its sphere of influence.

Box 1: Elements of an effective strategic response to climate change

A typical climate change response strategy should include the following key elements.

- *Executive understanding and commitment to climate change*, based on an informed assessment of the company-specific risks and opportunities and a sound appreciation of the business case drivers, with the result that climate considerations are appropriately integrated within the company's vision and strategy.
- *A comprehensive greenhouse gas emissions profile (or 'carbon footprint')* – this involves:
  - identifying relevant and significant sources of GHG emissions
  - defining a common set of metrics for monitoring / calculating and reporting emissions, using a consistent and agreed set of emissions factors
  - quantifying all Scope 1 and 2 emissions, as well as agreed priority Scope 3 emissions (Table 3)
  - agreeing a process (if any) for external or internal verification of emissions data
- *Setting and updating GHG reduction targets* – this involves:
  - evaluating available action options informed by a risks and opportunities assessment throughout the company's value chain, by the outcomes of the GHG emissions profile and by an emissions forecast
  - defining the GHG reduction targets, with an agreed baseline, reference scenario and target date
  - integrating these targets within internal key performance indicators and decision-making processes
- *Identifying and implementing appropriate emissions reduction and adaptation measures* – this involves:
  - assessing and implementing internal opportunities relating, for example, to energy efficiency, renewable energy, transport and logistics, and internal behavioural change
  - engaging suppliers and customers to identify and implement opportunities through the value chain
  - identifying opportunities associated with emissions trading, CDM and/or viable offset projects
  - implementing proactive measures associated with adaptation
- *Integrating climate change consideration in internal governance practices; this involves*:
  - ensuring appropriate board oversight on climate change issues
  - assigning management responsibilities and integrating climate change performance into incentives
  - providing a regular account of the company's climate strategy and performance
  - identifying and realising opportunities for partnerships with relevant stakeholders
  - engaging positively in policy development processes

"Investors increasingly recognise that if companies manage environmental, social and governance (ESG) risks better, they will be better investments in the long run. It is therefore not only an opportunity, but Sanlam's fiduciary duty to give appropriate consideration to ESG issues in the way that we manage funds on behalf of our policyholders and investors as this may materially affect the performance of investment portfolios."

Sanlam

"Sustainability at Bidvest offers employees a fresh way of thinking that inspires them and enables a new generation of entrepreneurs to create business value that integrates evolving financial, social and environmental needs and expectations."

The Bidvest Group

Such an assessment is essential if the company is going to move beyond paying lip service to climate change or to see its response simply in terms of ticking-the-box of compliance. It is only when the company understands the business case drivers – and can see the real potential for protecting and creating business value – that climate change issues will be effectively integrated within the company's vision and strategy.

The corporate responses to CDP 2010 generally reflect an improved level of understanding across most sectors of the potential business implications of climate change, although the nature of this understanding at the firm level remains very variable. While there has been an increase this year in the number of companies that are beginning to quantify the potential financial implications of climate change, this remains amongst a small minority, with many companies continuing to submit rather generic responses. Although it is encouraging to see an increase in the number of companies that are responding more strategically to the company-specific risks and opportunities they identify – with some of these companies making significant investments in terms of managing risks and/or realising new opportunities – there is nevertheless seen to be significant potential for further improvement. Most companies continue to see 'opportunities' primarily in terms of options for saving costs or mitigating risks, rather than as new opportunities for generating revenue. It is also often difficult to tell whether a company perceives a risk/opportunity as being material; in many cases it appears as though companies are simply identifying a range of potential risks and opportunities that they are aware of. While valuable, this does not provide an indication of the extent of a company's exposure.

Some companies are frank in reporting that the potential risks to their business are unknown and that this uncertainty has precluded any action being taken. While some of the responses are thorough in reporting on the possible risks and opportunities – and provide a compelling case as to why these are not seen to be material (such as that by *Massmart Holdings*) – other responses seem to show a remarkable lack of understanding of the nature of the risks. One company, for example, suggests that "we are not in control of weather patterns so we cannot plan for a non-event"; such a response is in contrast to that of many companies which express concern with the business impacts associated with the anticipated increase in extreme weather events, and which thus emphasise the need to plan accordingly. As outlined in more detail later in the report, most companies have identified specific climate response measures, either internally or in partnership with suppliers, government, organisations and industry.

At a sector level, most sectors have provided a useful assessment of the possible risks and opportunities facing each sector (the sector-specific issues are reviewed in more detail below). The response from the Property sector, however, is particularly poor. Not only do few companies from this sector respond, but those that do seem to suggest that climate change is not a material issue, demonstrating a worrying lack of awareness of the potential implications, and (arguably) reflecting a failure of fiduciary responsibility.

The predominant risks and opportunities that were identified across all sectors – some of which are of greater relevance to specific sectors – include:

- increased costs throughout the value chain associated with changing policy measures aimed at pricing carbon and/or mandating greenhouse gas emissions reductions and greater energy efficiency;
- increased frequency in extreme weather events, resulting in damage to infrastructure and potential disruptions to supply chains (while predominantly a negative impact, this also presents significant opportunities in particular for the Construction sector);
- anticipated challenges relating to access to water supplies throughout the region; and
- various new commercial opportunities associated with the provision of products and services

in a lower-carbon economy, including, for example, increased potential for renewable energy technologies and infrastructure, energy efficiency advisory services, and carbon financing mechanisms, as well as greater demand for particular products that contribute to climate mitigation or adaptation needs.

An overview of the sector-specific risks and opportunities identified by the CDP 2010 respondents is presented below. These are presented using a slightly different sector breakdown used elsewhere in the report, reflecting broadly common sets of risks and opportunities. *(Note: companies cited in brackets below are quoted in the margins of the report; they are not the only companies to raise these issues. In those instances where a quoted response is from a company that chose not to be public, the company's sector is identified below the quote).*

Food Products and Beverages
There was generally a high level of awareness within this sector of the potential risks associated with climate change. Some of the specific risks identified by companies in this sector include:

- extreme weather conditions threatening the security of the agricultural supply chain in the short to medium term (*SABMiller*);
- unpredictable rainfall increasing the need for mechanised irrigation systems and potentially causing companies to shift investment to areas outside South Africa where crops are already irrigated (*Non-public response*);
- extreme weather events interrupting harvesting operations and distribution networks, requiring a redesign of these networks;
- potential water restrictions and reduced water quality impacting production activities (*Remgro*); and
- increased customer awareness on climate change issues causing less proactive firms to lose customers due to brand differentiation.

Identified opportunities include:

- the potential to use food product waste to generate energy (*Tongaat Hulett*);
- gaining competitive advantage by using alternative (more drought resistant) crops for food / beverage production (*SABMiller*); and
- benefiting from a possible shift in consumer demand in favour of particular food types with smaller carbon footprints, with resulting potential gains in market size (*Rainbow Chicken*).

"While the physical impacts of climate change will certainly provide a challenge, SABMiller also see potential for the company to look into alternative crops to provide the adjuncts we require for the brewing process and potentially is a replacement for barley. We have an alternative crop growing strategy well underway across our operations in Africa and Latin America."

SABMiller

"Heavy rains make harvesting problematic. The risk is higher in the more rain-fed South African operations as opposed to the highly irrigated sugar cane operations in Malawi, Tanzania and Mozambique. Potentially US$ 25 million per annum of revenue could be at risk."

Non-public response, Holding company

"An increase in temperature could have an effect on maize and soya crops as well as sugar cane. The result will be supply risks in agricultural products, increased irrigation requirements and increased prices of feedstock such as maize, soya and sugar cane."

Remgro

"Discussions are under way with national government, renewable electricity traders and end users in order to facilitate a market for large-scale cogeneration of renewable electricity by the sugar industry."

Tongaat Hulett

"A change in consumer attitude could increase the market size for chicken and chicken-based products. The result could be an increase in Rainbow's sales of chicken and expansion of its chicken-based product range."

Rainbow Chicken

Construction Materials
Companies in the Construction sector identified a series of potential climate-related risks and opportunities that are seen as having a material impact on their businesses. Some of the identified risks include:

- the impact of extreme weather events on the ability to carry out projects and meet project deadlines (*non-public response*);
- increased risk of damage to construction sites due to extreme weather events, resulting in increased insurance claims and decisions to limit construction periods to avoid wet seasons;
- the introduction of a carbon tax with a resulting increase in the cost of raw materials such as cement and steel (*Wilson Bayly Holmes-Ovcon*);
- demand for new building materials, requiring the Construction industry to move into a period of experimentation and learning without the security of tried and tested methods; and
- changes to the construction risk profile, with many large customers successfully passing significant additional risk onto the contractor with no commensurate increase in return.

On the upside the sector has identified significant potential business opportunities, including:

- increased infrastructure projects arising from the physical impacts of climate change; this includes providing construction services in response to damaged infrastructure, as well as investing in infrastructure projects to

"Climate change could impact on our ability to deliver on our projects and contracts in the following ways: lengthening of delivery cycles; project delays and cancellations; and changes in specifications of projects. All these impacts could result in increased costs on delivering projects; contracts will need to provide for such changes to protect the group's long-term economic sustainability."

Non-public response, Construction company

"The introduction of carbon tax and its resulting impact on concrete and steel prices presents an opportunity for WBHO to get involved in the production and application of green building materials made from renewable plant materials, straw, timber etc."

Wilson Bayly Holmes-Ovcon

"Climate change provides overall more opportunities than risks for Group Five. The opportunities lie in responding to demands in the market for rebuilding roads and buildings damaged in storms, the construction of containment infrastructure (e.g. storm water handling systems, ocean retaining walls, etc) and the increasing demand for new energy efficient office space and retail properties."

Group Five

withstand extreme weather events, for example storm-water handling systems (*Group Five*);

- growing demand for particular construction services as the demand for renewable and alternative energy (including nuclear) increases, and as new 'green' building standards are enforced; and
- increased demand for less carbon-intensive building materials, stimulating process and product innovation (*Wilson Bayly Holmes-Ovcon*).

Metals & Mining, Energy, Chemicals, Paper & Packaging, and Industrials

Not surprisingly, companies in this sector have identified a fairly comprehensive list of potential risks and opportunities. Some of the principal risks include:

- increased energy costs, resulting in potentially significant increases in the cost of producing a unit of mined metals (some mining companies report that in some cases energy accounts for around 12.5% of operating costs);
- the possibility of border tax adjustments, aligned to the lifecycle carbon footprint of imported goods, being enforced in regions such as Europe, which would dramatically increase the tax burden (*Gold Fields*);
- the impact of extreme weather events on infrastructure, resulting in disruptions to productivity and distribution networks, as well as increasing safety risks for employees (*Anglo American*);
- increased temperatures leading to a harsher working environment in mining operations, possibly necessitating a shift from manpower to mechanised techniques, leading to adverse economic and social consequence for local communities and public relations crises for mining operations;
- increased competition for access to water driving up the price of water, leading to possible restrictions in industrial activity, and imposing additional costs associated for example with the redesign of mining processes;
- the potential for legal liabilities (*Exxaro Resources*); and
- decreasing downstream demand for jewellery products as a result of increases in the cost of living due to climate-related pressure on energy, fuel and food prices.

Some of the climate-related opportunities identified by the sector include:

- increased demand for certain products, such as platinum for fuel cell catalysts, fertiliser in response to changing weather conditions, and secondary metals and other products (e.g. uranium and natural gas) used for new energy generation;
- creating viable business opportunities associated with up-scaling and improving existing alternative energy technologies, and realising opportunities for energy co-generation (*Sasol*);
- increased demand for stable assets such as gold, as a result of increased uncertainty and volatility in markets; and
- benefiting from local climatic conditions that might favour certain local commodities (*Sappi*).

Consumer

Various climate-related risks have been identified by companies in the Consumer sector, including:

- increases in the cost of imported goods, pushing the retail prices up and affecting retailers whose customer base is price sensitive (*Retail company*);
- potential weather-related impacts on transport and distribution networks, putting upward pressure on retail prices;
- a failure to anticipate a possible shift in South African consumers who could begin to take climate change more seriously, following European trends (*Massmart Holdings*);
- extreme weather events limiting the availability of certain food retail products; and

"Anglo Platinum's Amandelbult mine experienced a once in 200-year flood in 2008. The mine was shut for two months. This illustrates the susceptibility of some of Anglo Platinum's facilities to extreme weather events. The concern is that climate change could result in a once in 200-year flood now occurring more frequently. To illustrate the possible impact of an extreme weather event, should platinum production be interrupted for two weeks, this is equivalent to R1.3bn in revenue at current spot prices of $1700/oz. This is more than 3.5% of Anglo Platinum's 2009 revenue."

Anglo American

"[Mining companies] may be exposed to litigation as a result of [their] role as a coal producer. An example of such litigation is the ongoing class action suit brought by residents from southern Mississippi… following the devastation caused by Hurricane Katrina. The plaintiffs allege that defendants' operation of energy, fossil fuels and chemical industries in the United States caused the emission of greenhouse gases that contributed to global warming."

Exxaro Resources

"One of the global financial risks associated with the Copenhagen failure lies in the possible implementation of 'border tax adjustments' in which countries/areas like Europe may impose life cycle greenhouse gas taxes on their borders to level the greenhouse gas emission reduction playing field."

Gold Fields

"Thin Film Solar Technologies are showing significant promise and therefore we have made an investment in developing this technology together with the University of Johannesburg. Furthermore, we will be looking to upscale and possibly improve existing renewable energy technologies to the extent that they could become viable businesses in their own right."

Sasol

"The vastly greater tree growth rates (7-12 times more that in N Europe and N America) in SA present an opportunity for this region to increase the raw fibre proportion that our NA and European mills draw from SA."

Sappi

"The implementation of mandatory international targets for the reduction of shipping emissions is also possible. Since a high percentage of the goods/products sold by our retail outlets are imported, this would impact the Group and its suppliers by increasing the cost of imported goods. This would in turn force prices upwards, which is extremely risky for us as our customer base is very price-sensitive."

Non-public response, Retail company

"Market research initiated by Massmart shows that consumer buying behaviour in certain market segments is being influenced increasingly by a desire to make responsible product choices at the right price. This influences new market opportunities for our Group to grow our Eco-wise environmental brand and product endorsement programme."

Massmart Holdings

"Demand for environmentally-friendly products is definitely on the increase and Caxton CTP has experienced this demand first hand from one of its bigger customers."

Caxton CTP Publish Print

- increases in energy and fuel prices having a generally negative impact on the South African economy, reducing consumer disposable income and consumption patterns.

Companies in the sector have also identified a range of possible opportunities, including:

- the potential for brand differentiation based on transparent efforts to be more environmentally responsible; and
- increased demand for products with lesser environmental impact (*Caxton CTP Publish Print*).

Financial Services

Most companies in the Financial Services sector – other than Real Estate companies – demonstrate high levels of awareness of the potential risks and opportunities that climate change could present. Identified risks include:

- an increase in insurance claims, putting upward pressure on premiums and eroding the client base eligible for insurance policies;
- the potential for financial service providers who target lower Living Standards Measure (LSM) groups[23] to carry a greater burden of the materialisation of risks associated with climate change, with their clients being the hardest hit, losing disposable income and increasing the rate of claims against life insurance and funeral policies (*Metropolitan Holdings*); and
- risks to financial service providers which fail to respond to changes in the mandate for fund managers (*Metropolitan Holdings*).

Numerous opportunities were identified by most of the responding companies in the sector, including:

- increased opportunities for bankable transactions in, amongst others, renewable energy, telecommunications, and green buildings (*Investec; Standard Bank Group*);

23 The Living Standards Measure (LSM) is the most widely used marketing research tool in Southern Africa. It divides the population into ten LSM groups – from 10 (highest) to 1 (lowest) – using criteria such as degree of urbanisation and ownership of cars and major appliances.

"Our clients are mostly the lower socio-economic end of the market, which will be the hardest hit by physical risks, including increasing water incidents (flooding or drought), lack or shortage of food and resources. All of these factors will result in a lack of disposable income, which will impact on policy sales, and could result in an increase in claims on life policies and funeral benefits."

Metropolitan Holdings

"Currently the main mandate for fund managers is to show the best return on investment, irrespective of where these funds are invested. This thinking is changing very slowly, with funds such as the GEPF demanding more ESG (environmental, social and governance) management of funds. This will mean a change in the way we currently do business."

Metropolitan Holdings

"The Investec Responsible Investment Equity Fund, a responsible investment equity proposition that invests in high quality, attractively valued companies with compelling environmental, social and/or governance characteristics. We are increasingly asked to pitch for mandates involving environmental or sustainable investing and are investigating launching an anti-climate change fund and establishing a responsible investing proposition."

Investec

"Standard Bank is exploring ways to invest in alternative energy projects (solar, wind, gas), which will assist in reducing the energy demand on the national grid."

Standard Bank Group

"We believe that current or anticipated physical aspects associated with climate change do not pose a significant material risk to HCI. We also believe that the climate in South Africa is relatively stable and weather events are predictable. South Africa is not exposed to extreme conditions and therefore we are able to plan around the activities that may affect us."

Hosken Consolidated Investments

"It is envisaged that the effect of climate change on viral and bacterial distribution will impact on population health. This could result in increased need for treatment for diseases and ailments caused by these distribution shifts. As a provider of primary and secondary healthcare, the company would directly derive a monetary benefit from an increase in patients requiring healthcare."

Netcare

- commercial opportunities associated with developing climate-related financial instruments and services; and
- the potential to generate an income stream from the sale of carbon credits.

While most companies across all sectors (including Financial Services) identified the physical impacts of climate change as a concern, interestingly two of the companies in this sector suggested that South Africa is not particularly exposed to extreme weather events (see e.g. *Hosken Consolidated Investments*).

Health Care
Principal risks identified by companies in the sector include: an increased strain on the supply of utilities, especially water and electricity, threatening the ability of hospitals to function; the potential for damage to facilities and infrastructure due to extreme weather events; and upward pressure of the price of raw material required to produce pharmaceuticals.

In terms of opportunities, companies in this sector suggest that the anticipated increase in viral and bacterial distribution resulting from climate change, as well as the possible harsher living conditions, could result in increasing rates of illness and injury, thus benefitting healthcare providers by increasing the demand for medication and health care services (*Netcare*).

"We have developed a range of carbon-reducing solutions and services, which cater to growing client requirements stemming from pressures of energy and carbon reduction."

Dimension Data

Information Technology & Telecommunications
A principal risk identified by companies in this sector was the impact of extreme weather events on infrastructure, with associated increases in maintenance costs and potential damage to reputation due to breaks in service delivery. Some companies in this sector have identified commercial opportunities associated with the provision of low-carbon products and services to clients (*Dimension Data*).

Greenhouse Gas Emissions Monitoring and Reporting: Results and Trends

While developing a 'carbon footprint' should not be an end in itself – and in certain sectors need not be a highly costly or onerous process – having an informed appreciation of a company's GHG emissions within its sphere of influence is the foundation upon which an effective climate response strategy should be based. Identifying the source of emissions within the company's production and management processes, through the life cycle of its key products and services, and throughout its broader value chain, enables the prioritisation of cost-effective mitigation measures, facilitates the identification of climate

risks and opportunities, and enhances the company's understanding of potential exposure to GHG policy measures. Without an understanding of current and anticipated future emissions levels it is impossible to set GHG reduction targets, or participate meaningfully in carbon trading opportunities.

To assist in the prioritisation of emissions reduction opportunities, and to avoid double-counting, it is necessary for companies to distinguish between direct and indirect emission sources. To facilitate effective GHG accounting and reporting, a distinction is thus made between three GHG emissions 'Scopes' (Table 3). For the purposes of CDP, and following the GHG Protocol, participating companies are asked to report on all three emissions types. As noted earlier, there has been an encouraging increase in the number of companies measuring and reporting their emissions across all three Scopes: this year, 94% of responding companies have disclosed their Scope 1 and Scope 2 emissions (up from 87% last year); while 79% have also assessed and reported on some of their Scope 3 emissions (as compared with 65% in 2009).

Increased Reporting of Scope 1 & 2 Emissions

Of the 71 submissions analysed, 67 companies (94% of respondents) provided quantitative information on their Scope 1 & 2 emissions. A breakdown of the reported Scope 1 and Scope 2 emissions for each of the publicly reporting companies is provided in Table 2. The data presented in this table must be read in the context of the important company-specific qualifying remarks and explanatory notes provided in Table 4.

The increase in the number of companies reporting their GHG emissions is accompanied by an increase both in the verification of reported data (29 companies in CDP 2010 compared with 24 last year), as well as an increase in the number of companies that report publicly on their emissions in their annual and/or sustainability reports (65 companies as compared with 50). While it is most encouraging to see this continued increase in monitoring and reporting,

Box 2: Communicating environmental risk to decision-makers: The South African Risk and Vulnerability Atlas (SARVA)

Guest contribution by Dr Bob Scholes (CSIR)

It is true throughout the world that much more is known within the research community about the phenomenon of global change than is apparent to the decision-makers who ought to be acting on the information. At a time when technical information is becoming more and more critical to our future, the science seems to become less and less intelligible.

South Africa has a very active global change research community, covering issues such as climate change, biodiversity loss, greenhouse gas emissions and sinks, social, economic and biological vulnerability and adaptation. Global change is one of the five 'grand challenges' that will guide the research investments by the Department of Science and Technology (DST) over the next decade. In order to effectively address the 'gap' in science-policy communication identified above, the DST has created a mechanism for information transfer, right from the beginning. That mechanism is called the South African Risk and Vulnerability Atlas (SARVA).

A big part of the communication problem is the lack of a common language. The scientists often think their job is done when they have worked out the answer in scientific terms, such as Watts/m^2 or the ensemble median temperature anomaly. For the people potentially most affected by these projections that information is gobbledygook, even if they had time to read the arcane scientific journals in which it is published, and wade through all the claims and counterclaims.

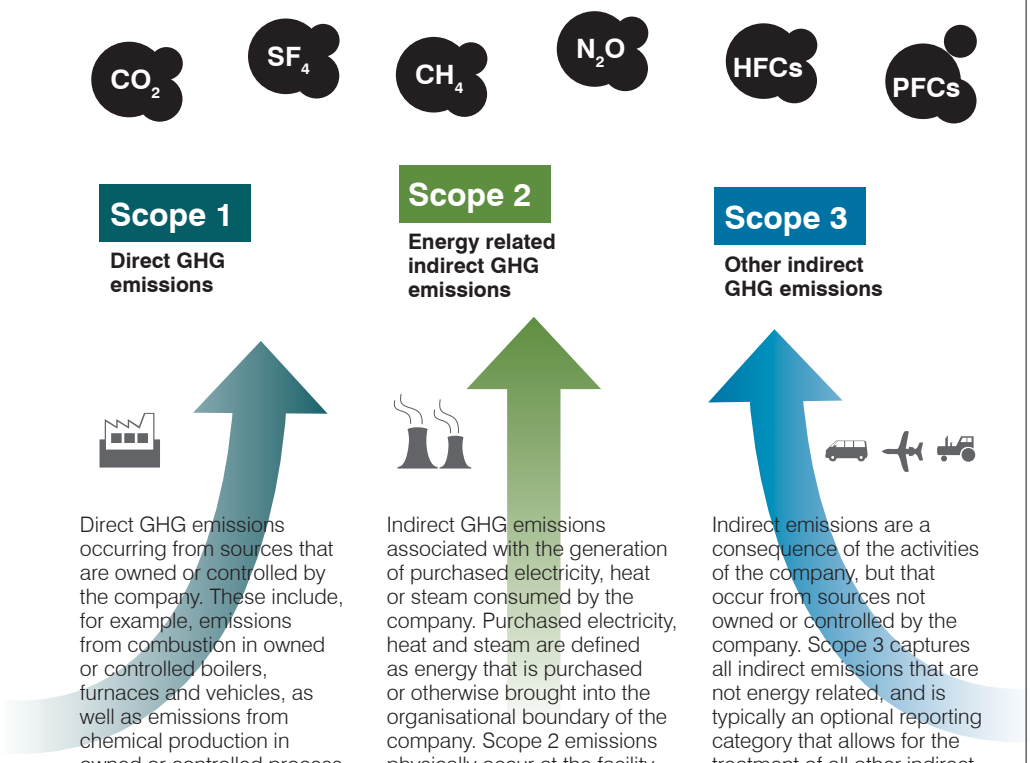
Sometimes it is possible to further interpret the scientific findings, for instance to convert them into economic cost and benefit terms, which then makes action-oriented decisions easier. But often even this step is too big a jump. A middle ground is provided by the concept of 'risk'. Risk captures the inherently uncertain nature of the future, and is widely grasped by stakeholders in government, the private sector and the public. Corporates have risk management subcommittees in their Boards. Ordinary people evaluate risks all the time in their everyday life. So the concept of risk is central to the communication strategy.

South Africa is not averse to change. We realise that change is in the nature of things, and adaptability is one of our strengths. But not all sectors of society or the environment have the same adaptive capability – those who are faced with a high chance of significant future impacts, but have a poor adaptive capacity, we define as vulnerable. It is in the areas of greatest vulnerability that we must concentrate our interventions. The other areas simply need quality information, and they can adapt largely by themselves.

Why call it an 'atlas'? Much, but not all, of the information is in the form of maps. The word 'atlas' captures the user-friendly idea of easily-accessed information. In practice the core of SARVA is an electronic database, searchable by topic or location. Physical products, such as books and maps, are derived from the database, which is continuously updated, accessible and in the public domain.

One of the performance conditions of global change work funded by the DST is that the outputs be delivered to SARVA in a user-ready form, helping to ensure that the database remains current and comprehensive. It is our hope that SARVA, through the feedback of users, will also act as a mechanism to help steer the research into the areas of greatest need. The South African Risk and Vulnerability Atlas can be accessed at www.rvatlas.org.

Table 3: GHG Reporting Protocol - defining emissions Scopes 1, 2 & 3[24]



Direct GHG emissions occurring from sources that are owned or controlled by the company. These include, for example, emissions from combustion in owned or controlled boilers, furnaces and vehicles, as well as emissions from chemical production in owned or controlled process equipment.

Indirect GHG emissions associated with the generation of purchased electricity, heat or steam consumed by the company. Purchased electricity, heat and steam are defined as energy that is purchased or otherwise brought into the organisational boundary of the company. Scope 2 emissions physically occur at the facility where the energy is generated.

Indirect emissions are a consequence of the activities of the company, but that occur from sources not owned or controlled by the company. Scope 3 captures all indirect emissions that are not energy related, and is typically an optional reporting category that allows for the treatment of all other indirect emissions. Examples of Scope 3 activities include the extraction and production of purchased materials, employee transportation in vehicles not owned by the company, and the use of the company's sold products and services.

24 The definition of Scope 1, 2 and 3 emissions appears in The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard. World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), March 2004.

it is evident that there are still some concerns with the accuracy and comprehensiveness of the data. This is readily acknowledged by several of the participating companies which cite changes in their reporting methodologies – relating, for example, to the definition of boundaries, the nature of data collected and/or the method for measuring or calculating emissions – that have had an important bearing on the reliability of their year-on-year performance data.

This uncertainty relating to the data means that caution is needed when making comparisons, both between companies, as well as within a particular company in terms of its reported emissions year-on-year. With the exception of a few of the larger companies that have been reporting for many years and that have sound emissions accounting practices, most companies in South Africa are still relatively new in terms of carbon accounting, and it is thus important to 'hold the numbers lightly'.

Notwithstanding these concerns, it is nevertheless possible to get a general sense of some key trends regarding the participating companies' emission levels. The following assessment of the changes in Scope 1 & 2 emissions is based on a comparison between the emissions data reported in CDP 2009 and CDP 2010, with provision being made for any restated figures where companies made specific mention of these restatements.

Some companies report reductions in emissions – primarily reflecting the economic downturn?

Taken collectively, the total Scope 1 & 2 emissions for those 51 companies that reported emissions data both in CDP 2010 and CDP 2009 amounted to 220 million metric tonnes of CO_2-e for the 2010 reporting period. This compares with 216 million metric tonnes for the same companies in 2009 and represents a small increase of 1.8%.[25] Total direct emissions (Scope 1 only) in South Africa for these same companies is 94 million metric tonnes of CO_2-e in 2010 as compared with 100 million metric tonnes in 2009. As noted earlier, it is important to read these emissions levels in the context of the caveats provided in Table 4, and to note in particular that there were some significant changes in reporting metrics and boundaries in certain companies, as well as some significant reporting errors.

Most companies that reported a significant decrease in their total global emissions attribute this primarily to declining production levels attributable to the economic downturn. This trend is most evident in the Materials sector:

- *BHP Billiton* report a reduction of 2,849,825 t CO_2-e (a 5.5% decrease): "Our absolute emissions have decreased [by] approximately three million tonnes from the previous reporting year. The main reason is decreased production activity due to the global financial crisis."
- *ArcelorMittal SA* report a reduction of 1,116,479 t CO_2-e (a 6.9% decrease) primarily as a result of reduced production volumes.
- *Pretoria Portland Cement Co* report a reduction of 304,939 t CO_2-e (5.1% decrease): While the company suggests that efficiencies have been realised from "project investments including the new kiln line at Dwaalboom and other operational improvements", they recognise that the scale of this

25 This figure is based on the reported emissions from companies that provided emissions data in 2009 and 2010. It includes data from companies that chose not to make their data publicly available. Efforts have been taken to avoid double-counting (for example by excluding reported emissions from *Anglo Platinum* and *Kumba Iron Ore* as these are reported in *Anglo American*'s emissions, as well as emissions from the *Nedbank Limited* (*Old Mutual*) and *Rainbow Chicken* (*Remgro*)). The reported data is subject to the caveats provided in Table 4.

decrease should be viewed in the context of the decreased product output.

Notwithstanding the predominant contribution of the economic downturn, several companies suggest that sizeable emissions reductions were achieved at least in part as a direct result of emissions or energy reduction activities. Some examples are listed below, in the order of absolute emissions reduction achieved.

- *Sappi* report a reduction of 0.65% in aggregate terms, but when the four new operations acquired during this last period are excluded, the reduction equates to one million metric tonnes CO_2-e (a 15.3% decrease). "This is regarded as very significant and occurred as a result of much effort through all three *Sappi* regions to reduce fossil based GHG emissions. Not many large companies can claim to have made fossil based GHG reductions of this extent."
- *Harmony Gold Mining Co* report a reduction of 636,451 t CO_2-e (a 15.1% decrease): "There has been a decrease in South African Scope 2 emissions due to energy efficiency initiatives and the downscaling of assets that have reached the end of their life."
- *Mondi* report a reduction of 134,000 t CO_2-e (a 2.2% decrease): "In 2009 absolute CO_2 emissions have been reduced by 2.2%. The main reasons for the reduction are an optimisation in energy efficiency of our energy production as well as of our pulp and paper production, and on the other side a slight reduction of production volume due to a reduction of customers demand."
- *FirstRand* report a reduction of 48,800 t CO_2-e (a 13% decrease), despite the new inclusion of OUTsurance in their reporting boundary. "This reduction can be assigned to the FirstRand Energy Efficiency programme which simultaneously saved ZAR 7 million."
- *Barloworld* report a reduction of 5,619 t CO_2-e (a 2.7% decrease). Although some of the reduction is attributed to a reduction in business activity, they also report that that "the focus on fuel efficiency and efforts to reduce energy consumption during the year supported this result".

Other companies report increases in absolute emissions

Many companies report increased emissions despite the economic downturn:

- *Kumba Iron Ore*, for example, report a 22% increase in absolute emissions. "This is as a result of a 25% increase in emissions associated with electricity consumption and a 17% increase in emissions associated with diesel consumption."
- *Exarro Resources* report an increase of 504,400 t CO_2-e (22%) in absolute emissions. The increase is seen to be primarily due to increased electricity consumption and more comprehensive data gathering.
- *Old Mutual* report an increase of 80,000 t CO_2-e. "The increase in the emissions of our property investment portfolio is largely due to an increase in the m^2 of the portfolio."
- *Dimension Data* report an increase in absolute emissions of 18% from FY2008 to FY2009, as well as continuing increases in emissions intensities; the absolute increase is primarily attributable to the expansion of Internet Solutions, an energy-intensive data centre, in combination with other increases in energy consumption.
- *The Spar Group* report an increase of 11% increase due primarily to electricity consumption and the opening of new facilities.
- *Woolworths Holdings* report a 2.8% increase in total emissions from 2008 to 2009, which "is predominantly due to an increase in electricity consumption by 14%, due to expansion of the store network".

Changes in accounting practices continue to have an impact

Many companies report that changes in their year-on-year emissions are primarily a result of changes in accounting practices or are a function of historic calculation errors, resulting in either over-estimation or under-estimation of previous data:

- *Remgro's* reported emissions have decreased significantly (by 81%) as last year there was the "incorrect inclusion of emissions from the burning of bagasse for the generation of renewable electricity." They have restated last year's figures, and suggest that this year's data is an accurate reflection.
- *Murray and Roberts* revised last year's emissions calculation downwards by 34%, following methodological corrections; the restated figures are now more comparable to their 2010 figures (given the boundary increases).
- *The Bidvest Group* report a 21.8 % increase in emissions and only a 2% increase in turnover: "The increase in reported emissions is as a result of more accurate data due to better measurement processes, more rigorous auditing and improved controls."
- *Nedbank* report a rise of 67,051 t CO_2-e, (66.3%) year-on-year. "For 2009, Nedbank has further expanded the GHG reporting boundary with the addition of 491 regional, service centre and retail branch premises and now includes

"Our absolute emissions have decreased [by] approximately three million tonnes from the previous reporting year. The main reason is decreased production activity due to the global financial crisis."

BHP Billiton

"For 2009, Nedbank has further expanded the GHG reporting boundary with the addition of 491 regional, service centre and retail branch premises and now includes the activities of 100% of South African full-time employees."

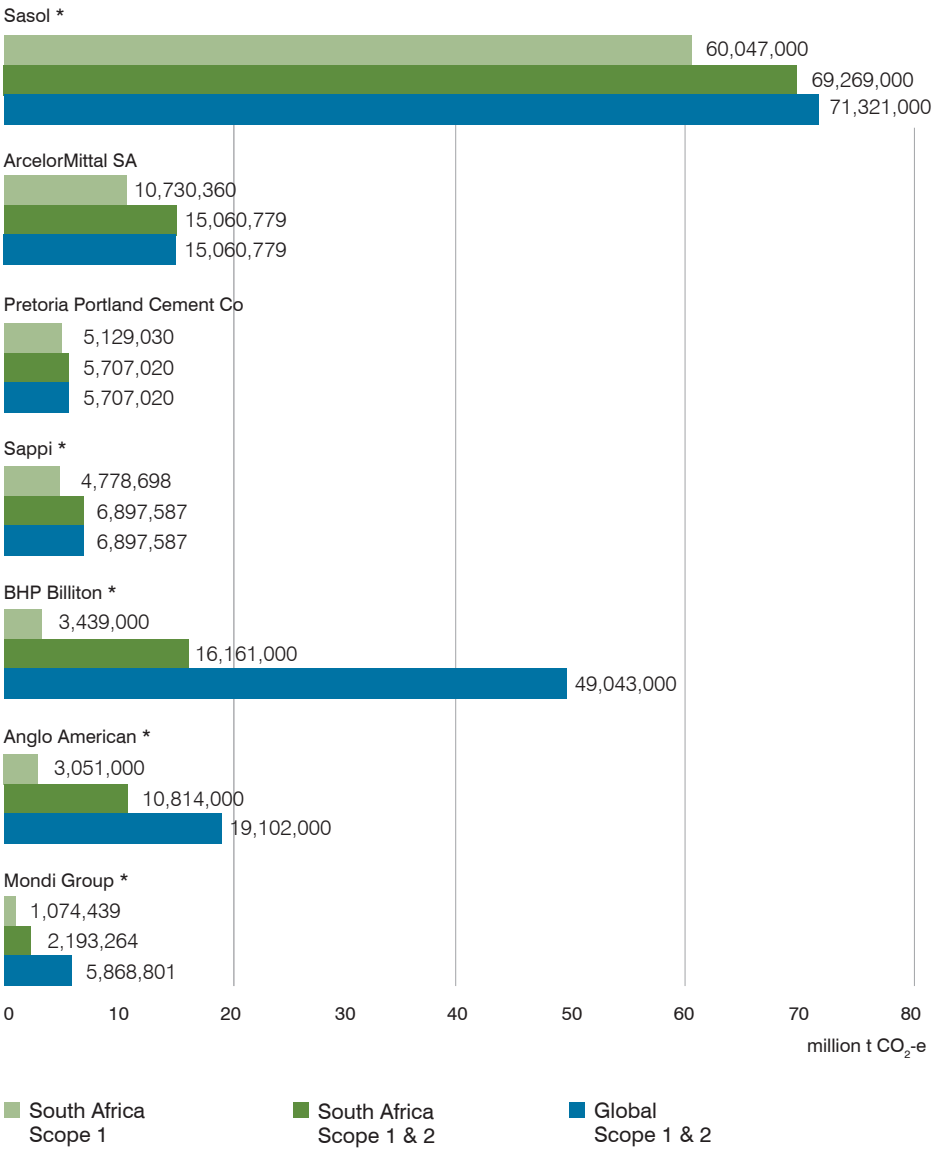
Nedbank

Table 4: Exclusions and qualifying remarks on CDP 2010 reported GHG emissions

Sector	Exclusions and Qualifying Remarks *This table identifies what was not included within the Scope 1 and/or Scope 2 emissions provided in Table 2. Where provided in the response, a reason for the exclusion is noted in parenthesis.*
Consumer	
Massmart Holdings	Scope 1 & 2: Excludes some emissions from stores outside of South Africa (8.3% of Group turnover). E.g. electricity and HFC gases from refrigeration and air conditioning, but emissions from company cars and generators are included (data inaccuracies).
Pick n Pay Holdings	Scope 1: Excludes Diesel used in generators. Scope 1 & 2: Excludes Boxer-branded stores, stores in Australia and other areas of Southern Africa (incomplete data).
Rainbow Chicken	Scope 1: Excludes refrigerants and/or air conditioning gases (no data).
SABMiller	Scope 1 & 2: Excludes operations newly acquired or built (required to report within two years).
Tiger Brands	Scope 1 & 2: Excludes warehouse & distribution (first year of participation in the CDP). Only third party sites where Tiger has direct control, e.g. Head office, have been included.
Tongaat Hulett	Scope 1 & 2: Excludes Botswana & Namibia (very small warehouse/packing plants make it difficult to gather data).
Woolworths Holdings	Scope 1 & 2: Excludes Australian operations (Country Road has individual carbon footprint).
Energy	
Sasol	Scope 1 & 2: Excludes Joint Venture Qatar operation (49% shareholding) (still establishing inventory).
Financials	
Absa Group	Scope 1: Excludes motor travel data for Mozambique and Tanzania (considered insignificant).
Discovery Holdings	Scope 1 & 2: Excludes Discovery Consulting Services (200 very small offices in leased buildings deemed insignificant).
FirstRand	Scope 1 & 2: Excludes Advantage Asset Management (incomplete date and deemed immaterial) and Rentworks (incomplete date and deemed immaterial). Scope 1: Excludes fuel used by generators and refrigerants at Momentum, Outsurance and FNB buildings other than head offices (incomplete data). Scope 2: Excludes Momentum and Outsurance operations outside head office (incomplete data).
Growthpoint Properties	Scope 1 & 2: Excludes mobile fuels, stationary fuels, refrigerants, electricity in satellite offices and common area, and HVAC refrigerants from other buildings (three regional offices included).
Hosken Consolidated Investments	Scope 1: Excludes company-owned mobile fuels (partial), fugitive emissions, company owned stationary fuel consumption fuel, company-owned specialised machinery, and specialised processing (data not collected).
Liberty Holdings	Scope 1: Excludes fuel consumption in generators, and refrigerant use in air conditioning and refrigeration (data not available and deemed negligible).
Metropolitan Holdings	Scope 1: Excludes: diesel usage in African subsidiaries (no data); company owned cars in some African subsidiaries; air-conditioning gas refills in all properties except MHG and Metropolitan head office (no data). Scope 2: Excludes most branch offices with landlord lease (no data).
Nedbank	Scope 1 & 2: Excludes offshore operations. Scope 2: Excludes ATM (automated teller machines), SST (self Service terminals) and POS (point of sale) devices (no reliable data for electricity consumption); Excludes Bancassurance and Wealth Financial Advisors; Excludes approximately 100 units of Pick n-Pay in-store Nedbank outlets (separate electricity meters are not installed).
Old Mutual	Scope 1 & 2: Excludes Spanish operations.
Remgro	Scope 1 & 2: Excludes Remgro International (deemed materially insubstantial), Remgro Finance Corporation (emission included in RMS). Scope 1: Excludes Tsb Sugar electricity generated from bagasse (neutral greenhouse gas impact), and refrigerants and/or air conditioning gases (owned equipment at Wispeco, Rainbow and RMS not available).
Sanlam	Scope 1 & 2: Excludes Rest of Africa, India, Australia, United States of America (USA), United Kingdom (UK) (immaterial). Facilities – 25% of SA staff excluded. Subsidiary – Santam (individual footprint).
Santam	Scope 1 & 2: Excludes everything except the head office; Namibia also excluded (considered immaterial, data not available).
Standard Bank Group	Scope 1 & 2: Excludes branches (information not readily available). Scope 1 excludes: Combustion of fuel boilers or furnaces (no equipment).
Health Care	
Adcock Ingram Holdings	Scope 1 & 2: Excludes operations in Kenya, Ghana and India. Scope 1: operations in fugitive emissions (all not measured).
Medi-Clinic Corporation	Scope 1 & 2: Excludes hospitals in Middle East and Switzerland (no data capture).

Sector	Exclusions and Qualifying Remarks *This table identifies what was not included within the Scope 1 and/or Scope 2 emissions provided in Table 2. Where provided in the response, a reason for the exclusion is noted in parenthesis.*
Industrials	
Grindrod	Scope 1: Excludes HFC refrigerant gas emissions (incomplete data, <1% significance). Scope 2: Excludes electricity <2%.
Group Five	Scope 1 & 2: Excludes operations outside of South Africa (first year data capture). Scope 1: Excludes Acetylene (immaterial to overall footprint).
The Bidvest Group	Scope 1: Excludes GHG refills of air conditioning and refrigeration equipment owned or operated (partial data available).
Wilson Bayly Holmes-Ovcon	Scope 1 & 2: Excludes African (other than South Africa) and Australian operations (no data).
IT & Telecomms	
Allied Electronics Corporation	Scope 1 & 2: Excludes: Bytes (Botswana, Mozambique, Mauritius, NOR Paper) and electricity data for BMS P.E., BMS George; Powertech – electricity data for Battech properties (Elandsfontein, Epping), and DPM (Booysen Reserve); Altech – Arrow Altech and electricity data for Altech UEC Australia.
Dimension Data Holdings	Scope 1: Excludes natural gas, synthetic gas, fuel combustion for stationary energy, fuel combustion for own fleet (data is extrapolated for some offices where FTE count and/or office space is less than 1% of total global FTE count and/or office space). Scope 2: Excludes purchased electricity from renewable and non-renewable sources (data is extrapolated as above). Suspected data gap (less than 1% of GHG emissions thus immaterial) in Scope 2 emissions (possible incorrect categorisation of purchased electricity as Scope 3 in smaller offices within Asian operations).
MTN Group	Scope 1 & 2: Excludes certain geographies (footprint only includes: MANCO, South Africa, Uganda, Nigeria, Ghana, Cameroon, and Syria = 62.2% subscribers and 61.7% employees). Scope 1 excludes: fugitive emissions from fire equipment (South Africa, Ghana, Cameroon: deemed immaterial); refrigerant use (Nigeria, Ghana, Syria: deemed minimally significant); mobile combustion (Syria: deemed immaterial); stationary combustion of diesel (South Africa, Nigeria: disaggregated data for diesel use in generators). Scope 2 excludes: electricity purchased (South Africa: disaggregated data for electricity use as one value; a formula had to be developed using the South African electricity invoices to calculate the kWh consumption); Nigeria: disaggregated data for electricity use (data provided for outdoor BTS sites and one data centre/switch); formula also applied to electricity consumption for Nigeria; Ghana: No electricity use values (kWh) were submitted).
Vodacom Group	Scope 1 & 2: Excludes Mauritian operations (deemed immaterial) and Gateway (business segment) (no data/newly acquired).
Materials	
AECI	Scope 1 & 2: Excludes AEL operations outside of Modderfontein (small and no available data).
Anglo American	Scope 1 & 2: Excludes exploration activities outside South Africa and some Greenfields exploration within South Africa.
Anglo Platinum	Scope 1 & 2: Excludes head office belonging to Anglo American plc, exploration activities outside South Africa and some Greenfields exploration within South Africa (deemed immaterial).
AngloGold Ashanti	Scope 1: Excludes GHG refills of air conditioning and refrigeration equipment owned or operated (partial data available).
Exxaro Resources	Scope 1: Excludes coal discard dumps (in process of assessing, especially Grootgeluk due to size).
Gold Fields	Scope 1: Excludes mine methane at all operations except Beatrix (small, variable, difficult to obtain).
Harmony Gold Mining Co	Scope 2: Excludes electricity in Harmony head office in SA (deemed negligible).
Impala Platinum Holdings	Scope 1 & 2: Excludes Two Rivers. Scope 1: Excludes refrigerant gas loss (none in 2009).
Kumba Iron Ore	Scope 1 & 2: Excludes head office (electricity used and business travel at head office considered immaterial); Scope 1 & 2: Excludes Kolomela Mine (new mine).
Lonmin	Scope 1 & 2: Excludes Lonmin Johannesburg and London head office, and exploration portfolio (deemed immaterial).
Mondi Group	Scope 1 & 2: Excludes non-material operations (convertor sites) and operations owned for part of 2009.
Nampak	Scope 1 & 2: Excludes sources outside South Africa.
Northam Platinum	Scope 1 & 2: Excludes corporate office in Johannesburg (deemed immaterial).
Pretoria Portland Cement Co	Scope 1 & 2: Excludes Zimbabwe operations and Botswana milling operation (incomplete, unreliable data).
Sappi	Scope 1 & 2: Excludes research facilities, Lomati saw mill; and Sappi forestry operations (in setup process).

Fig. 6: Company emissions by Scope and location
(High emitters only, listed in order of SA Scope 1 emissions)



Company data that is externally verified is denoted by ' * '.

the activities of 100% of South African full-time employees."

- *Pick n Pay Holdings* report an increase of 14.8% (96,000 t CO_2-e). "There is a significant increase in Scope 1 emissions this year because we have expanded our carbon footprint to include refrigeration gases."

Other companies that report increased emissions due to increased boundary, data completeness or improved accuracy include *Liberty Holdings, Truworths International, Absa Group, MTN Group, Wilson Bayly Holmes-Ovcon, Caxton Cpt Publish Print* and *Impala Platinum Holdings*.

The corporate contribution to direct emissions in South Africa

For the purposes of informing national climate change policy it is useful to have an understanding of the direct contribution of each company to total GHG emissions levels in South Africa. This is best assessed by considering the reported Scope 1 emissions for their South African based operations.

This year 49 responding companies provided a breakdown of their emissions by region (as compared with 27 last year).[26] The total Scope 1 emissions in South Africa for all the reporting companies in CDP 2010 amounts to 98 million metric tonnes of CO_2-e.[27]

Figure 6 provides an overview of the Scope 1 emissions in South Africa for the seven largest emitting participating companies, as well as their total global and total South African emissions. The data highlights the predominant contribution of *Sasol* (with reported local annual direct emissions of 60 million metric tonnes of CO_2-e), followed by *ArcelorMittal* SA (10.7 million metric tonnes), *Pretoria Portland Cement Co* (5.1 million metric tonnes), *Sappi*, *BHP Billiton*, *Anglo American*, and *Mondi Group*. These figures should be seen in the context of the total estimated emissions in South Africa – from all sources – of approximately 500 million metric tonnes.[28] This underscores the influence of Eskom and *Sasol*, both in terms of their contribution to total industrial emissions as well as to emissions in South Africa as a whole. Eskom's publicly reported calculated emissions of carbon dioxide for the year ending March 2010, is 224,7 million tonnes,[29] constituting around 45% of total estimated South African emissions, while *Sasol's* direct emissions amount to 12% of total national emissions.

Sector dominance of Scope 1 & 2 emissions

With sector-based approaches being mooted by some negotiators as a possible policy option for engaging developing countries within a post-

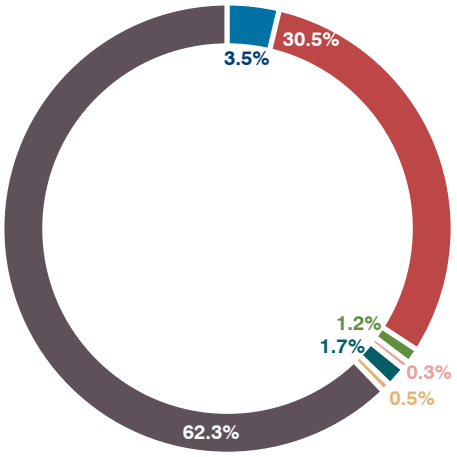
26 Of the 49 companies that provided detail of their emissions data at the regional level, this was led by the Consumer sector (14), followed by Financials (12) and Materials (11). Thirty-eight companies provided a break-down by business division, and 26 by facility (Scope 2) and 18 by facility (Scope 1).

27 Not all companies have separated their direct South African emissions from their global emissions; it is suggested, however, that for most reporting companies that have not done so this is unlikely to have a significant impact on the general emission levels reported here. This figure includes data from companies that have replied to the CDP questionnaire, but have chosen not to make their data publicly available; efforts have been taken to avoid double-counting. The data is subject to the caveats provided in Table 4.

28 This estimate is based on figures provided by the University of Cape Town's Energy Research Centre.

29 Eskom 2010 Annual Report.

Fig. 7: Sector contribution to total Scope 1 & 2 emissions



- Consumer (8,214,992 t CO_2-e)
- Energy (71,321,000 t CO_2-e)
- Financials (2,867,298 t CO_2-e)
- Health Care (600,053 t CO_2-e)
- Industrials (4,069,601 t CO_2-e)
- IT & Telecomms (1,062,706 t CO_2-e)
- Materials (145,459,183 t CO_2-e)

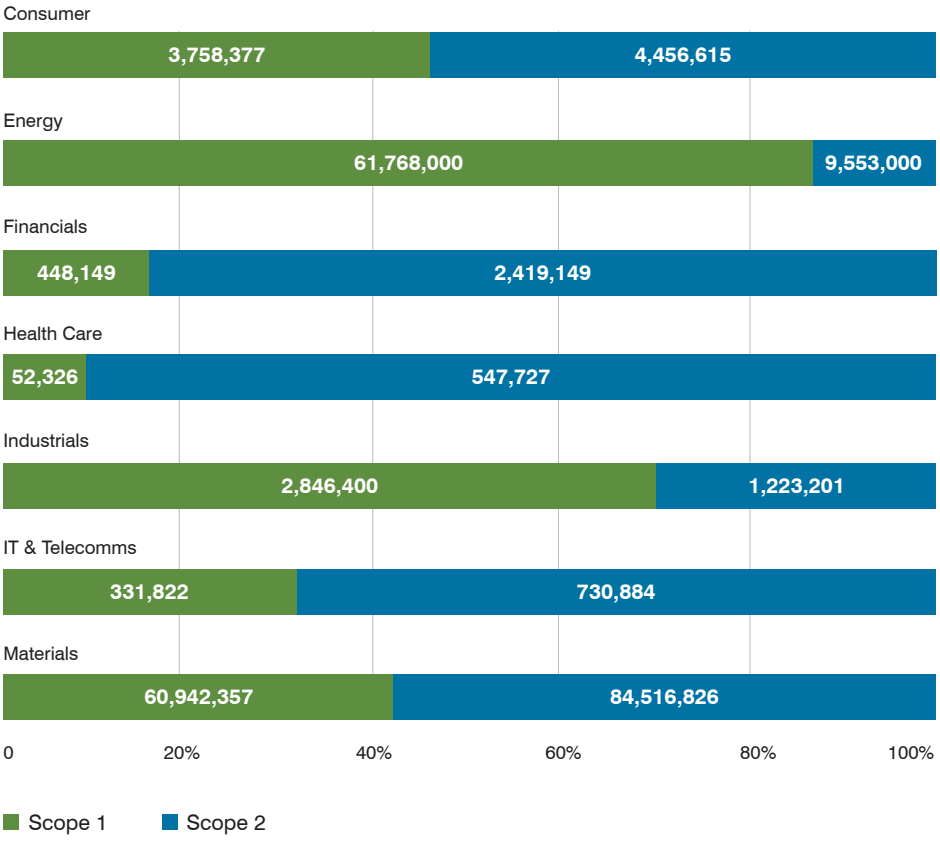
Eskom currently generates approximately 95% of South Africa's electricity and about 45% of electricity used in Africa, from 27 power stations with generation capacity of over 44,000 MW. Although as a non-listed company Eskom does not form part of the CDP sample, it has contributed each year to the CDP South Africa report. It has reported publicly on its CO_2 emissions annually since the mid-1990s, based primarily on the calculation of total carbon in coal burned relative to electricity generated. Eskom has recently developed a customised Carbon Footprint Calculator Tool that allows its footprint to be segmented by site, emission source and scope. For FY2010, Eskom's absolute CO_2 emissions were 224,7 Mt, up from 221,7 Mt in 2009. Its relative emissions stayed the same at 1,03 CO_2 eq kg/kWh. In future Eskom's calculated carbon footprint results will be benchmarked with similar utilities.

Table 5: Sub-sector contribution to total Scope 1 & 2 emissions

Total reported Scope 1 & 2 emissions	233,594,905 (t CO_2-e)	% of total reported JSE 100 emissions
Sub-sector*		
Metals & Mining (*incl. precious metals and gold*)	110,857,349	47.5%
Energy (*Sasol*)	71,321,000	30.5%
Steel (*ArcelorMittal SA*)	15,060,779	6.4%
Pulp & Paper (*Mondi Group, Sappi, and Nampak*)	13,357,941	5.7%
Construction (*Pretoria Portland Cement Co*)	5,707,020	2.4%
Brewers (*SABMiller*)	2,632,056	1.1%

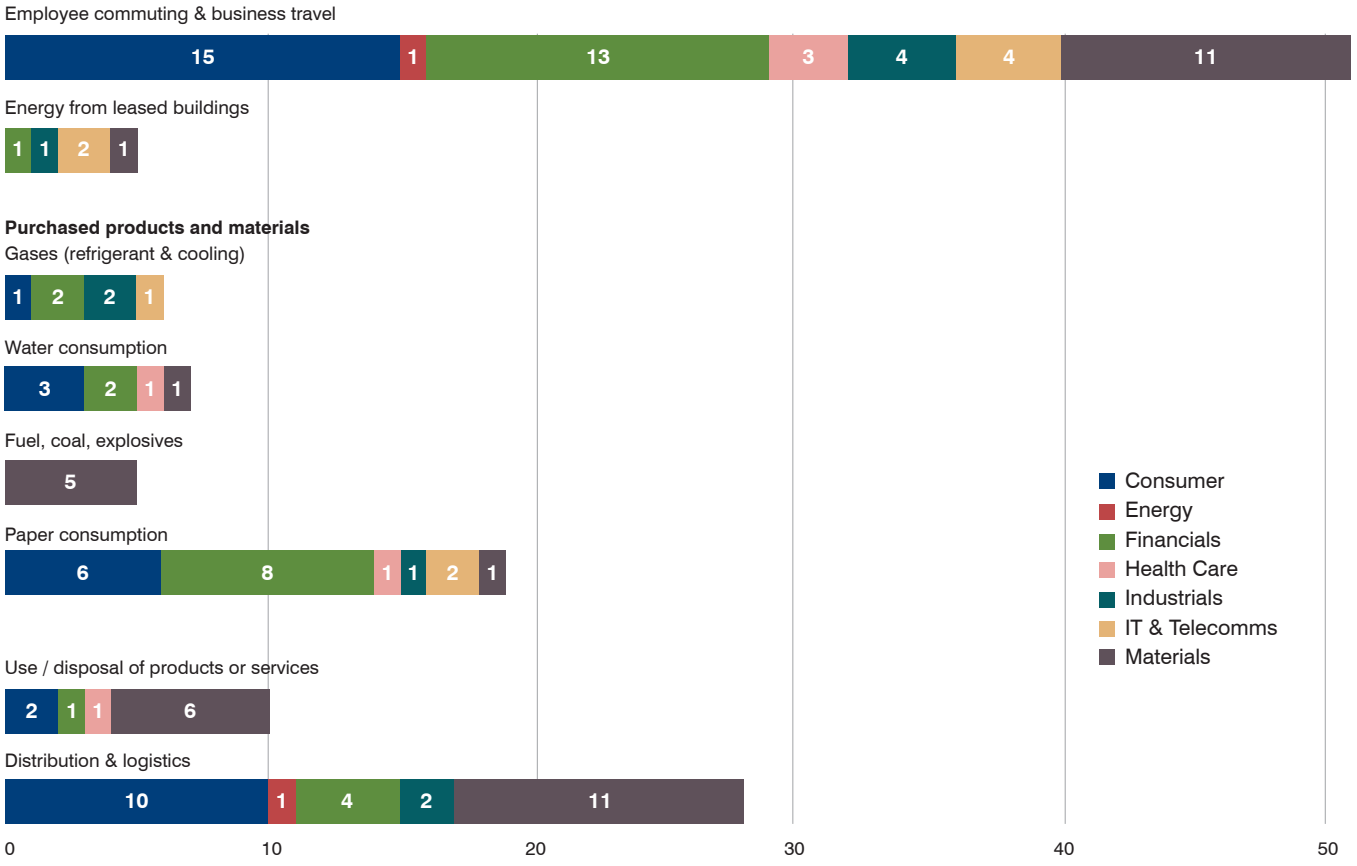
* The sub-sector reflects those publicly responding companies in the JSE 100 that make up that sector (as listed in the table). Only subsectors that contribute to more than 1% of the total reported emissions are listed in this Table.

Fig. 8: Contribution of Scope 1 & 2 emissions to total emissions in each sector (absolute emissions and percentage)



Numbers superimposed on the bars reflect absolute emissions in t CO_2-e.

Fig. 9: Number of companies in each sector reporting Scope 3 emissions per emissions type



Kyoto climate framework,[30] it is valuable for policy-makers – in assessing the feasibility and potential impact of such options – to have an understanding of the emissions associated with different sectors.

An overview of the total reported Scope 1 & 2 emissions by sector is provided in Figure 7, highlighting the predominant contribution of the Metals & Mining and Energy sectors (Table 5). Figure 8 shows the contribution of Scope 1 & 2 emissions to total emissions in each sector, highlighting the predominant role of electricity consumption in terms of company GHG emissions, and underlining the significant impact that decisions relating to the nature of Eskom's generation mix will have on corporate efforts to reduce emissions.

30 For a review of recent debates surrounding the potential role that sectoral approaches could play in a post-Kyoto framework see e.g. UNEP / Incite Sustainability *Industry Sectoral Approaches and Climate Action, From Global to Local Level in a Post-2012 Climate Framework: A Review of Research, Debates and Positions* (UNEP, January 2010).

Growth in Monitoring and Reporting of Scope 3 Emissions

In addition to assessing and reporting on their direct and electricity-related emissions, companies were also requested whether they monitor and report on their Scope 3 emissions. This refers to the indirect emissions relating to an organisation's business operations and products, and include, for example, employee business travel, external logistics, the use and disposal of the company's products and services, and emissions in the company's supply chain.

Although there has once again been an increase in the number of companies measuring and reporting their Scope 3 emissions in some form (56 companies in 2010 as compared with 41 in 2009), the nature of the disclosure nevertheless remains of variable quality. Many of the responding companies highlight the need to ensure appropriate prioritisation, firstly, in terms of clarifying the merit in measuring and reporting indirect emissions, and secondly in identifying the types of indirect emissions that should be monitored. While for large direct emitters certain types of Scope 3 emissions (such as employee travel) are likely to be very small in terms of the total percentage of their emissions, for smaller emitters these indirect emissions present the greatest opportunity for achieving reductions. This underlines the greater importance for certain sectors to assess and manage their Scope 3 emissions.

Figure 9 identifies the number of companies within each sector that are tracking the following different categories of Scope 3 emissions:

- employee commuting and business travel;
- electricity from leased buildings
- emissions associated with purchased products and materials (paper, water, refrigerant gases,

and fuel, coal and explosives);

- use/disposal of a company's products and services; and
- external distribution and logistics.

A brief review of the responses relating to each of these emissions types is provided below.

- *Employee commuting and business travel:* Reflecting a trend that was apparent last year and in the international CDP reports, employee business travel remains the most widely measured Scope 3 emissions type. This year, 51 companies (76% of respondents) reported emissions data on employee business travel and commuting, with total emissions amounting to 520,847 t CO_2-e. This is a significant increase on last year, both in terms of the number of disclosing companies (38 in 2009) and the volume of emissions (the 2010 data is more than double the 2009 total of 227,000 t CO_2-e). While for most companies this reported data is based primarily on calculations derived from company air travel and car-hire, some companies also provide for the use of private vehicles for business purposes (based on submitted travel claims) and for emissions associated with hotel accommodation. There is definite evidence of improvements in the level of detail and specificity of data collection this year. In several instances – most notably in the service-oriented sectors – business travel constitutes a significant percentage of the company's emissions and represents a viable focus area for emissions reduction opportunities.
- *Electricity from leased buildings:* Five companies provided disclosure on the emissions associated with energy usage in leased buildings, amounting to 198,345 t CO_2-e. There is seen to be significant scope for lease agreements to be restructured in such a way as to encourage the reduction of these emissions.
- *Purchased products and materials:* Thirty-one companies report on the emissions associated with the use of purchased products and materials, including water, paper, refrigerant gas, and purchased fuel. This is double the number of companies that reported on these issues in 2009.
- *Use/disposal of a company's products and services:* Ten companies provided data on the emissions associated with their products and services, with total reported emissions in this category amounted to 86 million t CO_2-e. This is made up almost entirely of the reported emissions associated with the use of *Exxaro Resources'* sold product.
- *Distribution and logistics:* A total of 28 companies, across a range of sectors, provided data on the emissions associated with transportation and distribution of raw materials, intermediate and/or sold product, and/or waste. This is up from 18 companies reporting in 2009. Total reported emissions in this area amounted to 10,748,415 t CO_2-e, with 90% of this relating to the transportation and distribution of sold product from *Kumba Iron Ore* (this includes the transport by rail of iron ore from Sishen to Saldanha and the export of product via ship to mainly China, Japan, Korea and Western Europe).

Although the largest companies are generally showing significant improvements in their management of climate change risks and opportunities, it is suggested that for most companies there remain valuable opportunities for better understanding and reducing their Scope 3 emissions. This will drive greater climate change management throughout the economy as a whole. An interesting development in this area has been the work done by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) regarding the development of a Scope 3 (Corporate Value Chain) Accounting and Reporting Standard. In June of this year, 62 companies from a range of sectors and 17 countries completed the road testing of this standard. A summary of their feedback is available on the GHG Protocol website (www.ghgprotocol.org).

"Due to the fact that there are gaps in the emissions inventory an intensity metric would be inaccurate and would not reflect the true emission intensity of the company."

Hosken Consolidated Investments

"MTN, and the broader Telecommunications sector, broadly measure value in terms of number of subscribers. Therefore the use of an activity-related intensity specific to number of subscribers is more important to MTN."

MTN Group

"An activity related intensity measurement is not relevant to our operations because of the diverse nature of our products. Some products are measured in carats (diamonds), some in tonnes, some in barrels (oil) and some in cubic feet (natural gas)."

BHP Billiton

"We produce a wide range of products and are aiming to produce intensity metrics on a per tonne basis for each product, but cannot meaningfully aggregate these product intensities to give a Group intensity metric. We have internal emissions targets for each business unit, which applies to both Scope 1 and Scope 2 emissions. Fluctuations in commodity prices also render any performance analysis on this basis meaningless."

Anglo American

Greater Levels of Emissions-Intensity Disclosure

While monitoring and reporting *absolute* GHG emissions is essential for assessing progress towards achieving global and national mitigation objectives, reporting on an *emissions intensity* basis is valuable for tracking the relative impact of an organisation's operations, and for assessing carbon efficiency. Monitoring emissions intensities is particularly informative for internal comparison over time or for external comparison with companies in the same sector.

Emissions intensity measurements may relate, for example, to the level of emissions per unit of product output, area of floor space, Rand / Dollar of company turnover, or number of employees. The choice of preferred intensity measure will be informed by the underlying objective for tracking comparative performance and the nature of the company's business. Companies that have interests in diverse fields of business, and/or that have different product types, often find it difficult to identify one particular measure for their emissions intensity. In such cases, it may be more valuable to use separate product- or company-specific measures, while at a group level it is perhaps most practical to relate carbon emissions to an economic figure such as turnover or earnings before interest, taxes, depreciation and amortisation (EBITDA).

The CDP questionnaire includes a request for such economic carbon intensities from all responding companies, in addition to any company-specific intensity measure. This year 53 respondents (75%) reported a *financial* emissions intensity measure (as compared with 40 companies (64%) last year), and 53 companies (75%) reported an *activity-related* emissions intensity measure (contrasting with 39 companies (62%) last year). Some companies chose not to report emissions intensity data for various reasons. Some expressed the concern that insufficiently complete Scope 1 and 2 emissions data would result in data that is inaccurate and misleading (*Hosken Consolidated Investments*), while others maintain that the suggested intensity measures are not relevant for their particular business (*MTN Group*), or that their business is too diverse for certain intensity measures to be meaningfully integrated into one measure (*BHP Billiton, Anglo American*).

Table 6: Examples of reported GHG per ounce of gold or PGM

Sector	Company	t CO_2-e per ounce gold or PGM
Materials - Gold	Gold Fields	1.64
	AngloGold Ashanti*	0.94
Materials - PGM	Northam Platinum	2.13
	Lonmin	2.30
	Impala Platinum	2.13
	Anglo Platinum	1.17

* *AngloGold Ashanti* argue that this metric is not an ideal measure as gold production is not a direct driver of GHG emissions. "The drivers of energy consumption and GHG emissions are the depths and distances at which gold is being mined."

To facilitate a preliminary assessment of the reported carbon-intensities of different companies, the following tables reflect some examples of data submitted by the participating companies:

- *Emissions per ounce of gold or platinum group metal (Table 6)* – Notwithstanding the caveats expressed earlier regarding the quality of some of the reported data (see e.g. Table 4), it is suggested that the data in this table provides an initial indication of the comparative production efficiencies of the reporting companies. Interestingly, the table suggests that *Anglo Platinum* has almost double the GHG efficiency per ounce of Platinum Group Metal (PGM) than its competitors.
- *Emissions per tonne of selected product (Table 7)* – This data is provided for broad indicative purposes only, and is not directly comparable, as the nature of the listed products varies significantly (other than for *Sappi* and *Mondi Group*, which show similar emissions efficiencies).
- *Emissions per full time employee (Table 8)* – In total, 29 companies reported a figure for this measure, primarily from the Financials and Consumer sectors. This table shows the emissions efficiencies per full time employee (FTE) from a selection of companies in the Financials and IT & Telecommunications sectors. Due to the different reporting boundaries and methodologies used by the responding companies (with differences, for example, in the number of offices included or in the nature of employees' Scope 3 emissions provided for) this data should be interpreted with some caution when seeking to make comparisons.
- *Emissions per square metre of floor space (Table 9)* – A total of 13 companies reported a figure for the measure, primarily from the Consumer and Financials sectors.

Recognising that the boundaries and methodologies may differ between companies, and that many of these companies are at an early stage in their reporting processes (note e.g. the qualifying remarks in Table 4), one needs to apply caution in undertaking any comparative analysis based on this reported data. There is nevertheless seen to be great value in the principle of publicly disclosing the emissions intensities of similar companies and products, as this facilitates the identification of potential inefficiencies and contributes to more informed decision-making. As companies become more consistent in the quality of their reporting, the reliability of this data will improve and the merit of making decisions based on these comparisons will increase.

Towards Improved Accuracy in Emissions Reporting

Although the trend towards greater disclosure of GHG emissions among responding companies is encouraging, some concerns remain regarding the reliability of some of the reported data.

Table 7: Examples of reported GHG per tonne of product or output

Sector	Company	t CO_2-e per tonne of output/product (unless otherwise indicated)	
Consumer	SABMiller	0.014	Per hectolitre beer produced
	Oceana	0.33	
	Tiger Brands*	0.06	
	Rainbow Chicken	1.24	Per tonne chicken sold
Energy	Sasol	3.24	
Materials	Pretoria Portland Cement Co	0.96	
	Exxaro Resources	0.06	
	Gold Fields	0.13	Per tonne of ore milled
	Kumba Iron Ore	0.02	
Materials	Mondi Group	0.98	
	Sappi	1.02	

* First year of measurement with intention to become more accurate.

Table 8: Examples of reported GHG per full time employee (FTE)

Sector	Company	t CO_2-e per FTE
Financials	Discovery Holdings	19.6
	FirstRand	5.70
	Investec	8.77
	Liberty Holdings	9.78
	Metropolitan Holdings	5.05
	Nedbank	6.90
	Old Mutual	2.82
	Sanlam	8.74
	Santam	4.53
IT & Telecomms	Allied Electronics Corporation	5.10
	Dimension Data	7.36

Table 9: Examples of reported GHG per square metre of floor or trading space

Sector	Company	t CO_2-e per m^2 floor space
Consumer	Truworths International	0.34
	Massmart Holdings	0.26
	New Clicks Holdings	0.23
	Pick n Pay Holdings	0.42
	Woolworths Holdings	0.67
Financials	Capital Shopping Centres	0.04
	Remgro	0.44
	Liberty Holdings	0.38
	Discovery Holdings *	0.63
	Nedbank	0.32
Health Care	Adcock Ingram	0.40
	Medi-Clinic Corporation	0.29
Materials	Nampak	0.51

* *Discovery Holdings* suggests that these figures may not be relevant for the following reasons: electricity consumption figures may not be accurate, and *Discovery* operations include a 24 hour call centre, and therefore hours of operations may be significantly longer when benchmarking on a per meter squared basis alone.

In many instances these concerns are recognised by the reporting companies and openly reported by them. The principal sources of concerns relating to data uncertainty, listed in order of frequency of citing, include:

- inadequate internal data capture processes and systems (*The Bidvest Group*);
- gaps in available data;
- the nature of certain assumptions (such as default emissions factors) in emissions calculations (*BHP Billiton*);
- variable quality of third party information, including differences in published emissions factors;
- constraints associated with metering and measuring;
- the inevitable uncertainties and assumptions associated with extrapolations; and
- human error associated with the manual capture of data.

Several companies expressed concern in particular with the reliability of Scope 2 emissions data:

- *Absa Group*: "The uncertainty is as a result of the lack of utility bills as well as the unavailability of accurate readings."
- *Discovery Holdings*: "An energy audit undertaken at the site has revealed that billing data (used in this assessment) is inaccurate, and that metering facilities are not effective to assess the real electricity consumption at this site. It is anticipated that the billing data used shows a slightly higher consumption than real consumption."
- *Massmart Holdings*: "There are concerns regarding the accuracy of some Eskom and municipal metering measurement in South Africa and the installation of Performance Monitoring Equipment is presently under investigation to address these inaccuracies."

The perceived levels of uncertainty generally reported this year are noticeably higher than in 2009: 11 companies declare a level

"The main source of uncertainty is the capture and provision of source data by the myriad of companies within the Group. The accuracy of the aggregate data is naturally dependent on the quality of the source data collected by the individual companies and divisions. Bidvest has invested heavily during the past financial year to improve the Group's data gathering systems. A streamlined internet-based data-gathering system has been developed and implemented, and business unit representatives have been trained and are using the system. This has improved the overall consistency, accuracy and reliability of energy consumption information and consequently the GHG measure."

The Bidvest Group

"BHP Billiton's main sources of data uncertainty are the use of default emission factors instead of site-specific methods, in particular for fugitive emissions."

BHP Billiton

of uncertainty less than 2%, 16 companies declare levels between 2% and 5%, and 23 from 5% to 10%. Put another way, 32% of the responding companies report levels of uncertainty greater than 10%.

The emissions data of only 29 of the responding companies (or 41% of the total respondents) has been externally verified. Of these, approximately half of the companies have expressed confidence that the assurance is at a reasonable level, while the rest suggest that the assurance is rather limited, expressing the concern, for example, that it only covers a selection of emissions disclosures.

Measuring and Managing Energy Consumption

In addition to requesting data on a company's carbon footprint, the CDP also seeks data specifically on the company's purchased energy (in MWh for electricity, heat, steam and cooling). As typically the highest contributor to a company's overall carbon emissions, energy consumption is a useful general indicator of a company's carbon emissions, depending of course on the nature of the energy source. Encouraging improved measurement and disclosure of energy consumption is valuable in catalysing improved management of the company's energy consumption and thus in turn of its GHG emissions. Having good data on purchased energy consumption – especially electricity – is also particularly important in South Africa given continuing concerns relating to electricity generating capacity, and the strong role that energy efficiency is seen to play in terms of future scenarios for meeting the government's conditional GHG reduction targets.

This year 68 of the 71 responding companies provided data on their energy usage. The reported global total of purchased electricity for 66 of these 68 responding companies amounted to 160,978,928 MWh.[31] This compares with the reported 151,071,080 MWh of energy usage for 45 companies in CDP 2009. A breakdown of the reported levels of purchased energy for 59 of the participating companies is provided in Table 10.

Following is a brief description of some of the reasons for the more significant increase in reported electricity use:

- *Exxaro Resources:* The increase occurred mainly at the *Exxaro Sands Division*, where electricity increased by 99% following the operation of a second furnace that had been down in 2008; additionally only partial data was reported in 2008.
- *MTN Group:* The company's 2010 response includes additional data from Uganda, Nigeria, Cameroon, Ghana and Syria.
- *Nedbank:* The company further expanded its GHG reporting boundary with the addition of 491 regional, service centre and retail branch premises; it now includes the activities of 100% of Nedbank's full-time employees in South Africa.
- *Truworths International:* The company has opened more stores and has improved the accuracy of its data capturing.
- *Wilson Bayly Holmes-Ovcon:* The increase is as a result of more complete data being reported this year.

Amongst some of the more significant reported decreases in electricity:

- *Sappi:* The company reports the achievement of impressive reductions in energy use primarily due to "much effort through all three *Sappi* regions to reduce fossil based GHG emissions".
- *FirstRand:* It achieved a reduction of 14,612,732 kWh of electricity in the last year due to dedicated electricity consumption reduction initiatives.
- *Barloworld:* "Significant reductions were achieved as a result of specific energy efficiency initiatives, as well the reduction in business activity".

Further background on some of the reported changes in energy consumption is provided in the context of the explanatory notes relating to the changes in GHG emissions provided earlier in this report.

31 The reported data for two of the companies was at such variance with their reported figures for 2009, and also significantly different to those of comparable companies that they were not included in these calculations.

Table 10: Examples of total reported energy consumption

A: Companies with data for 2009 and 2010	2009 (MWh)	2010 (MWh)	Change
Consumer	10,443,130	3,812,910	- 6,630,220
Nampak	573,025	488,972	-84,053
New Clicks Holdings	100,788	94,467	-6,321
Pick n Pay Holdings	613,000	569,192	-43,808
Rainbow Chicken	300,975	311,714	10,739
SABMiller	7,297,948	1,532,271	-5,765,677
Tongaat Hulett	1,209,747	424,018	-785,729
Truworths International	46,782	72,836	26,054
Woolworths Holdings	300,865	319,440	18,575
Energy	8,823,669	9,417,000	593,331
Sasol	8,823,669	9,417,000	593,331
Financials	1,367,452	1,393,793	26,341
FirstRand	386,865	302,119	-84,746
Growthpoint Properties	1,287	796	-491
Investec	53,085	38,644	-14,441
Metropolitan Holdings	30,327	30,071	-256
Nedbank	95,750	162,868	67,118
Old Mutual	602,211	677,393	75,182
Sanlam	34,884	37,525	2,641
Santam	3,818	3,644	-174
Standard Bank Group	159,225	140,733	-18,492
Health Care	143,242	147,973	4,731
Medi-Clinic Corporation	143,242	147,973	4,731
Industrials	1,363,512	912,788	- 450,724
Barloworld	570,226	89,282	-480,944
Imperial Holdings	182,564	162,813	-19,751
Murray and Roberts Holdings	206,112	288,819	82,707
Remgro	399,693	339,137	-60,556
Wilson Bayly Holmes-Ovcon	4,917	32,737	27,820
IT & Telecomms	284,743	554,541	269,798
Allied Electronics Corporation	165,007	41,445	-123,562
Dimension Data Holdings	119,515	81,344	-38,171
MTN Group	221	431,752	431,531
Materials	129,237,774	94,571,715	- 34,666,059
Anglo American	13,084,013	12,971,385	-112,628
Anglo Platinum	5,233,895	5,152,793	-81,102
AngloGold Ashanti	8,154,493	3,955,000	-4,199,493
ArcelorMittal SA	4,173,920	4,204,290	30,370
BHP Billiton	35,051,727	32,177,000	-2,874,727
Exxaro Resources	1,570,583	2,173,587	603,004
Gold Fields	5,012,355	5,093,511	81,156
Harmony Gold Mining Co	4,109,945	2,871,275	-1,238,670
Impala Platinum	2,817,638	2,981,771	164,133
Lonmin	1,575,917	1,481,744	-94,173
Mondi Group	20,400,000	17,217,000	-3,183,000
Northam Platinum	666,703	626,936	-39,767
Sappi	27,386,585	3,665,423	-23,721,162
Total	**151,663,522**	**110,810,720**	**-40,852,802**

B: Companies with data for 2010 only	2010 (MWh)
Absa Group	398,799
Adcock Ingram	26,340
AECI	182,880
African Rainbow Minerals	1,855,549
Bidvest Group	472,165
Capital Shopping Centres	103,750
Discovery Holdings	95,972
Grindrod	16,776
Group Five	180,103
Highveld Steel And Vanadium	1,519,500
Hosken Consolidated Investments	277,459
Kumba Iron Ore	454,104
Liberty Holdings	41,201
Massmart Holdings	23,570
Oceana	66,577
Pretoria Portland Cement Co	618,171
The Spar Group	35,925
Tiger Brands	324,259
Vodacom Group	336,328
Total	**7,029,428**

This table presents the reported energy consumption data for a selection of publicly reporting companies. Table A is for companies with data in 2009 and 2010; and Table B for companies with data in 2010 only. This data must be read in the context of the explanatory notes provided in Table 4.

"Standard Bank is committed to providing access to housing finance for low-income customers in South Africa. The bank's first housing project in the Western Cape included residential units that were constructed with features such as solar water heating systems and the ability to use grey water in the gardens and toilet system."

Standard Bank Group

Box 3: Absolute and intensity-based GHG emissions targets

There are two broad types of GHG targets:

- *absolute reduction targets* – typically expressed as a percentage reduction in total emissions on a defined baseline year by an agreed target date; and
- *intensity-based targets* – most frequently stated as a reduction in the ratio of GHG emissions relative to another business metric, such as product output, turnover or floor space.

While absolute reduction targets are environmentally robust – expressing a clear commitment to reduce total emissions by a defined amount – they are challenging in the context of significant structural changes within an organisation: the targets may be difficult to attain if the company unexpectedly grows, or conversely may be met simply by reducing output (for instance in an economic downturn) or by divesting carbon-intensive businesses. Intensity-based targets, on the other hand, reflect improvements in the company's GHG performance independently of its economic growth (or decline), and facilitate comparability with similar companies. However, they suffer the disadvantage that even if ambitious intensity targets are met, absolute emissions can increase if outputs increase at a faster rate.

Significant Increase in the Adoption of GHG Targets

Setting quantitative performance targets is an important element of any robust business strategy. Targets assist in focusing the mind of top management, guide future decision-making processes, and provide a valuable indicator of the level of ambition, commitment and strategic intent of the company.

A detailed review of the reported GHG reduction targets of the responding companies is provided in Table 11. This year, 31 companies (44% of respondents) report having GHG emissions reductions targets, while another 22 companies state that they are in the process of defining such targets. This compares with 20 companies that reported having company-wide GHG emissions targets last year, with 11 stating that targets were in the process of being defined. Five of the 11 companies which last year stated that targets were being defined (*Investec, Growthpoint Properties, Medi-Clinic Corporation, Murray & Roberts* and *Northam Platinum*) this year still did not report any such targets having been developed.

Of the 31 companies that report having GHG reduction targets, seven companies have *absolute* reduction targets, 20 have *intensity-based* targets, while four companies have a combination of both types of target (see Box 3 for an explanation of the difference between the target types).

As many of the companies with targets are based primarily in South Africa and surrounding developing countries – none of whom have national emissions reduction commitments – it is most encouraging to see this voluntary adoption of GHG targets by so many companies across a broad cross-section of sectors. In evaluating the level of ambition of the responding companies' GHG targets it is useful to assess these in the context of the following considerations:

- the extent to which these targets are sufficiently aligned with the South African government's recent (conditional) policy commitment to a 34% reduction below a business-as-usual emissions trajectory by 2020 and a 42% reduction by 2025;
- the nature of the options that are seen to be both technologically and economically feasible, as reflected for example by global benchmarking studies (several such studies have been undertaken at a sector level by

global business organisations); [32] or

- the nature of emissions targets being set by leading industry peers.

Increase in Emissions Reduction Activities

In addition to the significant increase in the adoption of GHG targets, there has been an accompanying increase in the level of emissions reduction activities. Almost all of the responding companies described initiatives they are taking to promote emissions reductions.

There has been a continued focus on energy efficiency measures in emissions reduction activities, as the cost and supply of electricity remains under pressure. The following measures have been implemented across sectors, repeating last year's trends:

- more efficient management of air conditioners, lighting, geysers and extraction fans;
- installing lighting retrofits, smart energy meters, motion sensors, waste heat recovery units and heat pumps;
- specifying energy and water efficient air-conditioning and/or refrigeration units in stores and offices;
- implementing energy saving settings and remote shutdown of all computers, lighting and temperature control;
- installing building insulation such as double glazing to reduce heating and cooling;
- switching to solar water heating;
- upgrading equipment to more energy efficient models;
- engaging staff in order to ensure effective implementation of efficiency strategies.

Many companies are investing in initiatives for improved efficiencies in transportation and logistics activities, including:

- improving maintenance and operating practices for trucks;
- introducing computerised routing systems to optimise routes;
- converting used cooking oil into biodiesel for use in truck fleets;
- switching to less harmful fuels such as liquid petroleum gas or tree bark for energy needs;
- enhancing the provision of public transport for staff;
- sourcing locally to reduce air freighting; and
- introducing video conferencing facilities and being more stringent on office flight travel.

The responses this year also show an encouraging increase in investments in renewable projects; some examples of these investments are provided in Table 12. Several companies, primarily among the larger emitters in the Materials and Energy sector, are integrating climate abatement assessment requirements and carbon pricing in their investment appraisal processes. There is also encouraging evidence of moves to engage organisations on climate issues throughout the value chain – such as packaging companies, property tenants, suppliers and consumers – as well as integrating climate considerations with corporate social investment projects (*Standard Bank Group; Pick n Pay Holdings*). Many companies are also engaging employees in identifying innovative climate response measures.

The level of activity amongst companies in terms of their activities relating to emissions trading and Clean Development Mechanism (CDM) projects remains relatively low in comparison with other high emitting developing countries such as India, China and Brazil (Table 13). There are currently only 17 successfully implemented CDM projects in South Africa.[33]

"To increase supplies from shorter distance while also addressing the human impact of climate change on communities, we have started a 'Patch per store' project, currently mainly focused in emerging low income areas which aims to empower local communities to grow their own food, while also providing them with a market to sell their products through their local Pick n Pay store."

Pick n Pay Holdings

32 Note for example the work done by the WBCSD's Cement Sustainability Initiative and their Getting The Numbers Right (GNR) performance system: www.wbcsdcement.org/

33 Details of registered CDM projects are provided at http://cdm.unfccc.int/index.html

Table 11: GHG emissions reduction targets by company

Company	Type	Target Year	Baseline	Scope	Target
Consumer					
Massmart Holdings	Absolute	2011	2008	Scope 2	12% reduction from base year. (249,716 t CO_2-e reported in base year).
Pick n Pay Holdings	Absolute	2013	2009	Scope 1, 2 & 3	15% reduction from base year. (768,583 t CO_2-e reported in base year).
SABMiller	Intensity	2020	2008	Scope 1 & 2	50% reduction in onsite fossil fuel consumed per hectolitre of beer produced from base year. (14 t CO_2-e reported in base year).
The Spar Group	Intensity	2010	2009	Scope 1 (diesel and petrol)	200g CO_2-e per case. (33,134 t CO_2-e total reported Scope 1 emissions in base year).
	Intensity	2010	2009	Scope 2 (electricity only)	218g CO_2-e per case. (35,926 t CO_2-e total reported Scope 2 emissions in base year).
	Intensity	2010	2009	Scope 3 (air travel)	10g CO_2-e per case. (1,890 t CO_2-e total reported Scope 3 emissions in base year).
Woolworths Holdings	Intensity	2012	2007	Scope 1, 2 & 3	30% reduction in kg of CO_2-e per square metre of trading space from base year. (700 t CO_2-e total reported emissions in base year).
Energy					
Sasol	Intensity	2020	2005	Scope 1 & 2	15% reduction from base year. (81,600,000 t CO_2-e reported in base year).
	Absolute	2020	2005	Scope 1 & 2	20% reduction on the 2005 coal to liquids design.
	Absolute	2030	2005	Scope 1 & 2	30% reduction on the 2005 coal to liquids design.
Financials					
Absa Group	Absolute	2009	2008	Scope 1, 2 & 3	2% reduction from base year. (338,324 t CO_2-e in base year).
Capital Shopping Centres Group	Intensity	2010	2009	Scope 1 & 2	5% reduction per year.
FirstRand	Intensity	2011	2008	Scope 1, 2 & 3	A reduction of the average of the metric tonnes of CO_2-e per capita per permanent employee equivalent to 8.6 metric tonnes in target year.
	Intensity	2020	2008	Scope 1, 2 & 3	A reduction of the average of the metric tonnes of CO_2-e per permanent employee equivalent to 5.7 t by target year. Baseline average = 10.1 t.
Nedbank	Intensity	2015	2007	Scope 1, 2 & 3	12% reduction per full-time employee equivalent (FTE) relative to base year. 9 t CO2-e in base year.
	Intensity	2015	2005	Scope 2	12% reduction per FTE relative to base year.
	Intensity	2010	2007	Scope 3	10% reduction per FTE relative to base year. Target achieved.
Old Mutual	Absolute	2009	2008	Scope 1 & 2	2% reduction from base year. (166,093 t CO_2-e in base year). Target achieved.
Sanlam	Intensity	2010	2007	Scope 2 (electricity only)	13.6% reduction per FTE relative to base year by 2010 (2007 baseline). (8.65 t CO_2-e reported in base year).
	Intensity	2010	2007	Scope 1, 2 & 3	15% reduction per FTE relative to base year. (11.1 t CO_2-e reported in base year).
	Intensity	2010	2007	Scope 3	10% reduction per FTE relative to base year. (0.11 t CO_2-e reported in base year).
Santam	Intensity	2010	2008	Scope 2 (electricity only)	10% reduction per FTE relative to base year. (5.65 t CO_2-e reported in base year).
	Intensity	2010	2008	Scope 1, 2 & 3	15% reduction per FTE relative to base year. (9.54 t CO_2-e reported in base year).
	Intensity	2010	2008	Scope 3 (office paper consumption only)	10% reduction per FTE relative to base year. (0.33 t CO_2-e reported in base year).
Health Care					
Netcare	Intensity	2011	2008	Scope 1, 2 & 3	150 kg CO_2-e per patient days. (base year: 147.11kg).
	Intensity	2011	2008	Scope 1, 2 & 3	25 t CO_2-e per R1m revenue. (base year: 26.86).
Industrials					
Barloworld	Intensity	2014	2009	Scope 1 & 2	12% reduction. (206,389 t CO_2-e reported in base year).
The Bidvest Group	Absolute	2050		Scope 1 & 2	2.5% reduction per year until 2050 against business as usual. Target achieved to date.
	Absolute	2015	2008	Scope 1 & 2	20% reduction from baseline.

Company	Type	Target Year	Baseline	Scope	Target
Grindrod	Intensity	2015	2009	Scope 1	5% reduction in the average CO_2-e per tonne/NM (ship-based transport) (baseline: 9).
	Intensity	2015	2010	Scope 1	5% reduction in the average CO_2-e per km (land-based transport) (baseline: 1.14).
	Absolute	2015	2008	Scope 2 (electricity only)	5% reduction from base year (baseline: 2010).
Pretoria Portland Cement Co	Intensity	2020	2008	Scope 1 & 2	15% reduction from base year. Intensity target. (6,362,086 t CO_2-e reported in base year).
IT &Telecomms					
Dimension Data	Intensity	2012	2007	Scope 3 (business travel only)	10% reduction per FTE relative to base year.
Materials					
Anglo American	Intensity	2014	2004	Scope 1 & 2	10% reduction from base year. (32,692,000 t CO_2-e reported in base year).
Anglo Platinum	Intensity	2014	2004	Scope 1 & 2	10% reduction per unit of production from baseline. (4,869,000 t CO_2-e reported in base year).
AngloGold Ashanti	Intensity		2007	Scope 1 & 2	30% reduction of CO_2-e per ounce of gold produced in the medium to long term.
ArcelorMittal SA	Absolute	2020	2007	Scope 1, 2 & 3	8% reduction from base year. (16,330,621 t CO_2-e reported in base year).
BHP Billiton	Intensity	2012	2006	Scope 1 & 2	6% reduction from base year in tonnes of GHG emissions per unit of product. (100 t CO_2-e reported in base year).
Exxaro Resources	Absolute	2012	2009	Scope 1 & 2	10% reduction from base year. (2,694,866 t CO_2-e reported in base year).
Gold Fields	Intensity	2009	2008	Scope 1 & 2	Beatrix Mine: 2.01 t CO_2 per ounce of gold corrected for ore grade by 2009 (2008 baseline: 899,230 t CO_2-e). Scope 1 & 2 excluding mine methane.
	Intensity	2009	2008	Scope 1 & 2	Driefontein Mine: 1.78 t CO_2 per ounce of gold corrected for ore grade. Baseline: 1,618,329 t CO_2-e total reported emissions. Target not achieved.
	Intensity	2009	2008	Scope 1 & 2	South Deep Mine: 2.56 t CO_2 per ounce of gold corrected for ore grade. Baseline: 463,446 t CO_2-e total reported emissions. Target achieved.
	Intensity	2009	2008	Scope 1 & 2	Kloof Mine: 1.95 t CO_2 per ounce of gold corrected for ore grade. Baseline: 1,421,180 t CO_2-e total reported emissions.
	Intensity	2009	2008	Scope 1 & 2	Tarkwa Mine: 0.33 t CO_2 per ounce of gold corrected for ore grade. Baseline: 212,575 t CO_2-e total reported emissions. Target not achieved.
	Intensity	2009	2008	Scope 1 & 2	Damang Mine: 0.44 t CO_2 per ounce of gold corrected for ore grade. Baseline: 84,713 t CO_2-e total reported emissions. Target achieved.
	Intensity	2009	2008	Scope 1 & 2	St Ives Mine: 0.59 t CO_2 per ounce of gold corrected for ore grade Baseline: 444,743 t CO_2-e total reported emissions. Target achieved.
	Intensity	2009	2008	Scope 1 & 2	Emissions Intensity: 0.59 t CO_2 per ounce of gold corrected for ore grade. Baseline: 200,932 t CO_2-e total reported emissions. Target achieved.
Harmony Gold Mining Co	Intensity	2013	2005	Scope 2 (electricity only)	15% reduction from base year. Baseline: 5,277,727 t CO_2-e.
	Intensity	2013	2008	Scope 1	15% reduction from base year. Baseline: 42,086 t CO_2-e .
	Absolute	2013	2008	Scope 1	30% reduction from base year by 2013 (2008 baseline).
Kumba Iron Ore	Intensity	2012	2008	Scope 1 (diesel only)	15% reduction from base year. Baseline: 202,500 t CO_2-e. Target not yet achieved.
	Absolute	2014	2006	Scope 2 (electricity only)	10% reduction from base year. Baseline: 320,000 t CO_2-e. Target not yet achieved.
	Intensity	2014	2004	Scope 1 & 2	10% reduction from base year. Baseline: 488,000 t CO_2-e. Target not yet achieved.
Lonmin	Intensity	2012	2007	Scope 2 (electricity only)	10% Reduction of aggregate energy consumption per unit of production.
	Intensity	2012	2007	Scope 1, 2 & 3	5% improvement of GHG efficiency.
Mondi Group	Intensity	2014	2004	Scope 1 & 2	15% reduction of specific CO_2 emissions. 6,682,145 t CO_2-e in base year.
Sappi	Intensity	2015	2000	Scope 1 & 2	SA operations: 1.92 t CO_2 per air-dry tonne product.
	Intensity	2012	2007	Scope 1 & 2	North American operations: 0.38 t CO_2 per air-dry tonne product.
	Intensity	2010	2009	Scope 1 & 2	European operations: 0.58 t CO_2 per air-dry tonne product.

Table 12: Selected examples of activities to promote renewable energy

Sector	Renewable Energy Initiatives
Consumer	
Massmart Holdings	The Group retails alternative energy products such as solar pool heaters.
Pick n Pay Holdings	In Port Elizabeth three pilot wind turbines were installed in 2008 which to date generate about 3% of the regional office's electricity needs and forms part of the Group's learning curve in securing electricity from renewable sources.
SABMiller	SABMiller has recently launched a renewable energy toolkit that allows its global operations to select renewable energy technology options that are most appropriate to their market and geographic location. Renewable energy use increased from 1.8 % (FY2009) to 3% (FY2010).
Tongaat Hulett	Tongaat Hulett generated 360,142 MWh from its sugar mills predominantly from the renewable fuel bagasse.
Woolworths Holdings	Solar water heating systems have been installed; recycled cooking oil is used in a 5% bio-diesel mix for the company fleet.
Energy	
Sasol	The New Energy division focuses on new technologies including solar, wind, bio-fuels and biomass. Thin Film Solar Technologies is being developed in partnership with the University of Johannesburg.
Industrials	
Barloworld	Approximately 62% of electricity used by Norwegian car rental operations is either wind or hydro-power generated. Voluntary project based carbon credits from the Govindapuram Wind Power Project (Tamil Nadu state in India) and Bundled Wind Power Projects (Satara and Supra, Maharashtra State, India).
The Bidvest Group	3663 purchases over 97% of electricity from certified renewable sources.
Group Five	Group Five's Energy and E+C business units are gearing up to offer engineering, procurement and construction support to dedicated renewable energy technologies. The key focus is on concentrated solar thermal power, wind energy and small hydro plants to be built in South Africa. Group Five is actively pursuing opportunities in the renewable energy sector in Southern Africa and has recently acquired a major shareholding in Kayema, a locally based company that specialises in solar water heating.
IT & Telecomms	
Allied Electronics Corporation (Altron)	Powertech has invested in Rentech: a renewable photovoltaic retailing company that acts as a reseller of various photovoltaic systems and solar water heating systems. Willard batteries (a subsidiary of Powertech) has developed a solar battery that is used by Rentech in its photovoltaic systems.
MTN Group	Uses 100% renewable energy (primary sources are wind and solar; the secondary source is a hydrogen fuel cell) at a Base Station site at Kleinaarpen in South Africa. A variety of hybrid, solar, wind and hydrogen fuel cell technology is being trialled for base stations in Sudan, Swaziland, Guinea Conakry, Rwanda, Liberia, Nigeria, Uganda and Guinea-Bissau.
Materials	
Anglo American	Anglo American has an agreement with a local power supply company to reopen the La Ermita hydro-electric power station in the San Francisco River (near Los Bronces) and is evaluating other potential sites for small-scale hydro-electric power plants. Another initiative involves research into the construction of a pilot power generator based on vertical-axis wind turbines. Lisheen wind farm in Ireland (part of the Lisheen zinc and lead mine's closure plan) currently meets all of the mine's electricity needs and 57% of the local community's.
Anglo Platinum	A rock hydro project is being investigated. It operates on a similar premise to a water wheel. Rocks at the end of conveyor belt fall on a wheel causing it to turn and generate electricity. There is a pilot plant at Mogalakwena, which is testing to see what torque can be delivered to a generator.
BHP Billiton	BHP Billiton has a strategic agreement with Pacific Hydro (signed in November 2007) to develop one or more wind farms in Region I and II in Chile, with an installed capacity of over 100 MW, generating clean and renewable energy. The company also has an agreement with the Government of the DRC (signed in October 2007) to jointly investigate the development of an aluminium smelter in the Bas Congo region of the DRC, using electricity from the proposed Inga 3 hydropower station at Inga on the Congo River.
Exxaro Resources	Exxaro has invested in a number of wind and solar energy projects based on the recently announced Renewable Energy Feed-In Tariff (REFIT). Exxaro has also submitted Prior Consideration forms (notification of the commencement of the project activity and the intention to seek CDM status) for the following CDM projects: • Wittekleibosch wind energy project, a 40 MW wind farm with possible expansion to 100 MW • Lephalale solar project, 200 MW concentrated solar power plant • Rietfontein wind energy project, a 100 MW wind farm Exxaro is part of the Tsitsikamma community wind farm consortium, which plans to generate 40 MW of wind power by 2013, from a R1-billion project in the Eastern Cape. Exxaro is also investigating the feasibility of constructing a 100 MW wind farm at Brand-se-Baai in the West Coast.
Gold Fields	Gold Fields has placed an order for a pre-feasibility study of a renewable energy project at Driefontein that could generate 5 MW in the first phase, but has the opportunity to generate up to 50 MW in later phases.
Harmony Gold Mining Co	Harmony is in negotiation with suppliers to make the switch from diesel powered generation to hydropower for Hidden Valley operations in Papua New Guinea.
Impala Platinum	In Zimbabwe the electricity is generated from 43% of coal and 57% of hydropower.
Mondi Group	Mondi Group increased its use of renewable energy from 47% to 53%, using biomass, solar power and wind.
Northam Platinum	Northam Platinum uses hydro-powered equipment for drilling, cooling and cleaning operations.
Sappi	Sappi uses 83% renewable energy in North America and 32% renewable energy in South Africa. In South Africa the company's Tugela Mill coal fired boiler converted to operating on bark.

Table 13: Selected examples of CDM and related emissions trading activities

Sector	CDM and related emissions trading activities
Energy	
Sasol	No CDM credits were generated for the reporting period.
Financials	
FirstRand	RMB has a Carbon Finance team who also provide financing services to clients for CDM projects. FirstRand is currently exploring the opportunities related to the financing of renewable energy products and CDM.
Nedbank	Carbon credit purchases: Body Coal and Clamp Kiln Fuel Switch at Allbrick, South Africa (CDM); Wildlife Works Inc. Kasigau Corridor REDD Project - Phase I - Rukinga Sanctuary, Kenya (CCBS).
Standard Bank Group	Standard Bank has been active in carbon credit markets since 2003. Carbon is traded through the international office in London. There are dedicated specialists in Brazil, China, Nigeria, Singapore and South Africa. In 2009, Standard Bank provided carbon financing to projects (25 million tonnes of GHG's in developing countries).
IT & Telecomms	
MTN Group	MTN are currently in the process of registering a tri-generation project as a CDM project.
Materials	
Anglo American	Anglo Thermal Coal's New Denmark colliery is commissioning a US$ 1.2 million methane gas-flaring project. The mobile flare is a joint New Denmark-Gemini Carbon concept and is a CDM world-first. Anticipated CO_2-e emissions reduction: 100,000 tonnes per year. A CDM fuel-switch project at Scaw's Union Junction site has been submitted as a CDM project. The Project Design Document has been accepted by the Chicago Climate Exchange. Estimated CERs: 110,000. A pre-feasibility study for a potential CDM project will be carried out in 2010 – using waste heat to generate electricity at the DRI kilns at Scaw.
Anglo Platinum	A revision was requested for the CDM project: Rock Drill Energy Efficiency Improvement Project at Lebowa Platinum Mine. One possible CDM project that is a bit further progressed than the others is the installation of a thermal cogeneration heat recovery process on a high pressure cooling system. The project location is the Waterval Smelter plant.
AngloGold Ashanti	A CDM project (NPV: R22m) is currently being developed. Another two projects (NPV: R68m) eligible for CDM are under consideration internally. Most projects are electricity efficiency projects in South Africa and are eligible for Eskom DSM financing.
ArcelorMittal SA	CDM opportunities currently lie with electricity generation projects using waste heat and gas and registering it as CDM projects with CER's for sale. The cost to implement is in the region of $1,000 to $3,500/kW installed. Future growth will depend on the implementation time lines of such projects.
BHP Billiton	BHP Billiton is a project participant in various CDM projects with a stream of credits expected over the next few years to end 2012. BHP Billiton generates a profit stream from sale of CERs to the market and creates bundled energy products.
Exxaro Resources	Exxaro has submitted Prior Consideration forms (notification of the commencement of the project activity and the intention to seek CDM status) for the following CDM projects: • Lephalale solar project, 200 MW concentrated solar power plant • Rietfontein wind energy project, a 100 MW wind farm • Botswana coal bed methane (CBM) project, a 50MW CBM generation plant • Wittekleibosch wind energy project, a 40 MW wind farm with possible expansion to 100 MW. A computational fluid dynamics approach is proceeding with the CSIR conducting a study to determine the CO_2 emissions generated by the Grootegeluk dump. This is being pursued as a CDM project.
Gold Fields	The Kloof Hard Ice Plants project is in validation as a CDM project. It will be commissioned by the end of 2010. The Beatrix methane project to generate 4 MW from mine methane is in validation as a CDM project.
Mondi Group	Planned JI/CDM projects: • Russia: bark boiler project delayed due to missing Russian legislation; • Turkey: generation of biogas and combustion in gas boiler

"We have conducted extensive research on the use of alternate crops and drought resistant crops in order to find viable alternatives to our current procurement portfolio."

SABMiller

"Across all the divisions in the Group, action is being taken to respond to the physical risks impacting on the individual business. For example, depot and warehousing infrastructure design now considers the increased likelihood of floods."

The Bidvest Group

"We are not in control of the weather patterns so cannot plan for a non-event."

Non-public response, Financials company

"Current, incremental changes towards sustainability are not sufficient – we need a fundamental shift in the way companies and directors act and organise themselves."

King III Report on Governance

Preparing for Climate Adaptation

The earlier review of the company responses on the corporate value-at-risk and commercial opportunities associated with climate change, highlighted some of the increasing concerns relating to the potential physical impacts of climate change. In anticipation of these impacts, several companies are beginning to develop appropriate strategies for adaptation. Following are some examples of measures being taken by a cross-section of responding companies, many of which relate to managing impacts associated primarily with the agricultural value chain:

- *Massmart Holdings* has engaged with suppliers of food products that are vulnerable to climate change impacts to understand their ability to overcome potential disruption to the food supply chain; they have also initiated a pilot process to assess the impact of un-seasonal weather events on sales volumes and on patterns of consumer demand.
- *SABMiller* has undertaken various studies aimed at assessing and responding to the physical risks of climate risks issues, including research into the development of drought-resistant crops, the use of alternative crops, and the identification of new growing regions.
- *Tongaat Hullet* is investigating the potential for new maize varieties that yield at higher rates, as well as examining alternative starch feedstock such as cassava.
- Several respondents (including both *Woolworths Holdings* and *Pick n Pay Holdings*) are working with local and international environmental groups – such as WWF, Endangered Wildlife Trust, the Landmark Foundation and Trees for Africa – to improve their understanding of the impacts of climate change on biodiversity and raw materials.
- *Rainbow Chicken* has built additional reservoirs to deal with potential water restrictions, and is implementing water consumption reduction initiatives, particularly at rearing farms, broiler farms and processing plants.
- *Group Five* is managing its workplans to reduce weather-related risks. Activities include, for example, locating plant and temporary project structures above the floodline even in the dry seasons; limiting road base exposure to between 2-6 km depending on rain intensity statistics in the region; and introducing a building embargo in the winter periods where bitumen products are involved, such as road surfacing projects.

Notwithstanding these various reported initiatives, the CDP responses generally suggest that – as with previous years – there is limited activity in terms of adaptation measures being taken. While this may in part be a result of the nature of the CDP questionnaire, which focuses predominantly on assessing companies' climate mitigation activities, it is also probably an indication of a prevalent perception that the impacts of climate change will be felt in the longer term.

Towards Improved Climate Change Governance

Effective implementation of a climate change response strategy is ultimately dependent on the extent to which climate issues are effectively being integrated within the company's broader governance activities. An outline of some of the key elements of climate change governance practices – and the extent to which these are covered in the CDP assessment – is provided in Box 4.

This year's responses suggest that many South African companies are beginning to make provision for climate issues within their broader governance activities.

- Sixty-eight of the responding companies (96%) report having a Board Committee or executive body with responsibility for climate change, as compared with 54 companies in 2009. While this trend would suggest an encouraging level of executive engagement on climate issues, it is not possible from this response to meaningfully assess the nature and extent of the executive bodies'

Box 4: Assessing climate change governance practices

Among those companies regarded as global leaders in climate change, the following climate change governance practices have emerged:*

- *Top commitment* – The CEO is visible in expressing commitment to the issue, speaking out publicly and frankly on climate policy, risks and opportunities, and clearly defining the company's vision. (Due to elements of its subjectivity this issue is not specifically tracked in the CDP questionnaire).
- *Board oversight* – The board has formal oversight responsibility for climate change issues, conducts periodic reviews of its climate response strategies and regularly monitors progress against its agreed performance targets. (While there is a specific CDP question on board responsibility, it is difficult from the responses to the CDP 2010 to assess the extent and quality of the board engagement on these issues).
- *Management responsibilities and incentives* – Executive officers have been formally assigned responsibility to monitor and report on climate change issues and to co-ordinate response strategies, and their compensation is linked to the attainment of environmental goals and GHG targets. (The issue of executive incentives is specifically included in the CDP questionnaire).
- *Transparent disclosure* – The company regularly provides a comprehensive and transparent account of its climate change strategy and its performance against defined performance targets. (The CDP specifically queries the extent to which companies report annually on their climate change performance).
- *Strategic partnerships* – Leading companies have developed and implemented collaborative partnerships with their corporate peers and/or with external critics, and they engage effectively in national and global policy development processes. (The CDP specifically asks companies to report on their partnership activities).

* This overview is based on that which was provided in the CDP 2009 report; it is informed amongst other things by the regular review of corporate climate governance practices that is provided by Ceres (www.ceres.org).

engagement specifically on climate change issues. Most companies have established 'sustainability' and/or 'transformation' committees of some sort – largely in responses to King II (and more recently King III) governance recommendations. The extent to which such committees actually engage in informed discussion on climate change and related risks is not evident. Some companies (e.g. *Capital Shopping Centres Group*) report specifically on the establishment of a dedicated climate advisory body.

- Thirty-six companies report that they have made provision for management performance incentives relating to the achievement of climate change goals and objectives; this is a significant increase on the 11 companies that reported such incentives last year (see e.g. *Dimension Data* quote).
- In terms of annual reporting on climate issues, sixty-one companies (86% of respondents) state that they include climate change issues in their annual financial reports, as compared with 50 (79%) last year. Some have also mentioned the adoption of more rigorous internal reporting requirements (see e.g. *Liberty Holdings* quote).

Greater Engagement in Public Policy and Partnerships

The disappointing outcome of the Copenhagen climate negotiations, and the recent failure of the US Senate to approve the proposed climate legislation, provides a

"We have created an executive body, the Carbon Alternative Review Group, comprising representatives of all elements of our business. It is an internal think-tank that is charged with considering climate change issues and how they might affect the business in the immediate future and the longer term."

Capital Shopping Centres Group

"In 2010, the Dimension Data Group will also be including environmental performance indicators, specifically energy consumption and air travel, in our Balanced Scorecard Review."

Dimension Data

"Barloworld provides incentives for the management of issues related to climate change, which is incorporated into sustainable development objectives. Management of this process is facilitated through an integrated performance scorecard system."

Barloworld

"Liberty is planning to increase sustainability reporting by the business units by making it a mandatory requirement to report on sustainability and climate change concerns with the monthly financial reporting. Liberty hopes that this will assist in integrating and embedding sustainability within the organisation."

Liberty Holdings

"Discussions are under way with national Government, renewable electricity traders and end users in order to facilitate a market for large-scale cogeneration of renewable electricity by the sugar industry."

Tongaat Hulett

"We are growing our research capabilities and understanding of the impacts of climate change on biodiversity and raw materials used in our products by working with local and international environmental groups, such as WWF, Endangered Wildlife Trust, Beauty without Cruelty and Food and Trees for Africa to conserve the longer-term availability of these raw materials."

Woolworths Holdings

"Standard Bank, together with the United Nations Environment Programme (UNEP) and the German Government, have launched the Africa Carbon Asset Development (ACAD) facility. The ACAD facility is a public private partnership between UNEP and African banks that aims to stimulate the growth of Africa's carbon market through investor outreach and seed capital."

Standard Bank Group

"RMB invested 25% of their CSI funds during FY08/09 into climate change related activities through their involvement with the World Wildlife Fund (WWF) and various other projects that include for example deforestation projects and research into species extinction."

Rand Merchant Bank

compelling invitation for business to demonstrate the required leadership. It is evident that an effective response to climate change – both in terms of the development of mitigation and adaptation response measures – will require a more collaborative approach involving leading players from business, government, labour and civil society. It will require business leaders to get engaged, not only in lobbying for more effective and more ambitious climate legislation (as some top US CEOs have demonstrated recently), but also to enter into genuine partnerships – with colleagues, critics or competitors – informed by mutual trust and a commitment to shared learning.

Globally, there is an abundance of climate-related business partnerships. These include:

- business-to-business climate initiatives, such as those administered by the World Business Council on Sustainable Development (WBCSD), sector-based organisations such as the World Steel Association, or regional bodies such as the UK-based Corporate Leaders Group on Climate Change;
- business/NGO partnerships such as the WWF's Climate Saver's Initiative; and
- business/government initiatives such as the UK's Carbon Trust.

While the South African business community doesn't currently have any partnership initiatives that are quite as structured as those outlined above, there are nevertheless various examples of partnership initiatives (broadly defined) identified in the CDP 2010 responses. These include structured arrangements with NGOs such as WWF (*Woolworths Holdings, FirstRand*), as well as initiatives aimed at engaging business peers, suppliers, and government (*Tongaat Hulett, Standard Bank Group*).

5 The 2010 Carbon Disclosure and Performance Ratings

Each year, as part of the analysis of the responses to the CDP, formal recognition has been given to those companies that have demonstrated particular transparency in their CDP disclosure practices by including these leading companies on the CDP's Carbon Disclosure Leadership Index (CDLI). While encouraging greater transparency and disclosure is important, there is also a clear need to give recognition to those companies that are demonstrating leadership in terms of their performance on climate change issues. Recognising this need, in 2009 the CDP piloted a performance scoring system. This year, following the pilot exercise, the CDP introduced a performance rating system. This chapter provides a brief review of the outcomes of an assessment of the responding South African companies using the CDP's rating methodology.

The Carbon Disclosure and Carbon Performance Ratings

This year all companies that responded to the CDP questionnaire using the CDP's Online Response System (ORS) and that made their responses publicly available have been scored according to the CDP's 2010 rating methodology that has been developed jointly by CDP and their global advisor, PricewaterhouseCoopers LLP (PwC). Incite Sustainability undertook the scoring for the South African companies, following a strict application of the CDP's 2010 scoring methodology.[34] Those South African companies that fall within the Global 500[35] were scored exclusively by PwC as part of their international review.

Using this methodology, each company was awarded a 'disclosure rating'. All companies with sufficient disclosure received a performance score; the qualifying threshold to receive a performance score was a minimum disclosure score of 50. Disclosure scores lower than 50 do not necessarily indicate poor performance; rather, they indicate insufficient information to evaluate performance. Companies with the top scores for disclosure qualify to be listed in the South African CDLI. The assessment for the ratings is based entirely on the information provided in the companies' CDP responses; this information has not been verified by either the CDP or by the report-writers, although some companies have provided verification statements commissioned for their own purposes. Where responses included material that appeared to be incorrect, reasonable attempts have been be made to clarify matters directly with responding companies, but no formal due diligence or any other form of assurance was undertaken by either CDP or report-writers on the responses or underlying data.

The methodology takes account of the fact that not all questions are applicable to all companies. For example, a company was only asked to provide details of its emissions trading scheme activities if it had indicated that it is a participant in a trading scheme. A company that has indicated that it is not a participant in a scheme was not scored on the questions that were not applicable and this did not adversely affect its score.

A normalised scoring approach was used whereby the number of points awarded to a company was divided by the number of points available depending on the route they took in answering the questionnaire. This score was multiplied by 100 to obtain a rating that is comparable across all sectors. Unless otherwise stated, *only* information provided in the text box or field specified in the ORS has been assessed. A full description of how the scores were allocated is provided in the CDP 2010 rating methodology available from the CDP website (www.cdproject.net).

The focus of the disclosure ratings is on a company's disclosure: while the rating suggests good internal data management practices, and is an indication of the company's transparency and accountability, it is not a metric of a company's performance in relation to climate change management.

34 The methodology is explained at /www.cdproject.net/en-US/Respond/Pages/CDP-Investors.aspx

35 The following companies fall with the CDP Global 500 sample and were scored by PwC: *Anglo American, Anglo Platinum, AngloGold Ashanti, BHP Billiton, Compagnie Financière Richemont SA, Capital Shopping Centres Group PLC, Dimension Data Holdings, Investec, Lonmin, MTN Group, Naspers, Old Mutual, SABMiller, Sasol,* and *Standard Bank Group.*

It is important for investors to keep in mind that the CDP carbon performance score is not an assessment of the extent to which a company's actions have reduced carbon intensity relative to other companies in its sector.

Recognising Leadership in Carbon Disclosure in South Africa

This year all companies who responded to the CDP, and who are willing to make their responses publicly available, received a CDP 'disclosure rating'. The term 'CDLI' is used to indicate those companies that received top scores for their disclosure. For the South African CDP, all those companies that scored more than 50 points in their disclosure rating have been included in the Carbon Disclosure Leadership Index for 2010.[36] These companies are presented in Table 14.

In considering the disclosure ratings and the list of companies in the CDLI, it is important to bear in mind the following issues:

- The rating is based solely on the disclosure information provided in the company's CDP response; it does not consider other carbon or wider sustainability disclosures provided by companies through corporate responsibility reporting, environmental statements in annual reports, or through meetings and engagement with stakeholders and policymakers.
- The focus of the rating is on a company's *disclosure*: while the rating suggests good internal data management practices, and is an indication of the company's transparency and accountability, it is *not* a metric of a company's performance in relation to climate change management; the rating does not make any judgement over absolute levels of emissions, emission reduction achievements, or carbon intensity.

Recognising these clarifications regarding the nature of the ratings and the CDLI, the following observations can be made regarding the outcome of the 2010 CDLI process:

- This year *Gold Fields* and *FirstRand* qualified as the joint overall leaders with 93 normalised points, followed in joint second place by *Anglo Platinum* and *Medi-Clinic Corporation* with 89 points.
- In general the results are comparable with CDP 2009, reflecting a similar breakdown in sectoral representation and many of the same companies appearing. As with previous years, the best results in terms of disclosure tend to come from the Materials and Energy sector (eight of the top 20), followed by the Financials sector (with five of the top 20).
- The disclosure ratings have improved significantly on previous years. Although the rating methodology and the questionnaire have changed slightly, there is nevertheless value in comparing 2009 scores with 2010 ratings. The average of all publicly responding companies in 2009 was 62. This increased to 74 in 2010.This improvement can be explained in part by the revised online response system, which has been redesigned to make it easier for companies to respond to the questionnaire in a way that elicits the type of information that the CDP deems to be valuable and therefore assesses. Due to the changes made, company responses in 2010 have been more closely aligned with the rating methodology and therefore ratings as a whole have improved considerably.

  Of the fifteen South African companies that form part of the Global 500, one company (*Anglo Platinum*) made it into the Global 500 CDLI. *Sasol* also receives specific mention in the Global 500 report, being one of the five highest scoring companies based in developing countries; the others are *Anglo Platinum* (South Africa), Samsung Electronics (South Korea), POSCO (South Korea), and VALE (Brazil).

36 Following some consultation with previous participants, a score of 50 points was chosen as this was seen to provide a good indication as to whether companies had disclosed sufficient information for investors to make a meaningful judgement of their performance.

Table 14: Carbon Disclosure Leadership Index - JSE Top 100

Rank	Company	Sector	Score
1	FirstRand	Financials	93%
	Gold Fields	Materials	93%
2	Anglo Platinum	Materials	89%
	Medi-Clinic Corporation	Health care	89%
3	Nedbank	Financials	88%
4	Exxaro Resources	Materials	87%
	Mondi Group	Materials	87%
5	Sanlam	Financials	86%
6	Anglo American	Materials	85%
	Northam Platinum	Materials	85%
	Remgro	Financials	85%
	Vodacom Group	IT & Telecomms	85%
7	Murray & Roberts Holdings	Industrials	84%
	Rainbow Chicken	Consumer	84%
	Sasol	Energy	84%
8	New Clicks Holdings	Consumer	83%
	Woolworths Holdings	Consumer	83%
9	Kumba Iron Ore	Materials	82%
	Oceana	Consumer	82%
	Old Mutual	Financials	82%
10	Allied Electronics Corporation (Altron)	IT & Telecomms	81%
	Netcare	Health care	81%
11	Barloworld	Industrials	80%
	Dimension Data Holdings	IT & Telecomms	80%
12	AngloGold Ashanti	Materials	79%
	Impala Platinum	Materials	79%
	Santam	Financials	79%
13	Hosken Consolidated Investments	Industrials	78%
14	Bidvest Group	Industrials	77%
	Lonmin	Materials	77%
	Pick n Pay Holdings	Consumer	77%
15	Liberty Holdings	Financials	76%
	Massmart Holdings	Consumer	76%
16	Sappi	Materials	75%
17	Group Five	Industrials	74%
	Harmony Gold Mining Co	Materials	74%
	Standard Bank Group	Financials	74%
18	Pretoria Portland Cement Co	Industrials	73%
	The Spar Group	Consumer	73%
	Truworths International	Consumer	73%
19	Caxton CTP Publish Print	Consumer	72%
	Metropolitan Holdings	Financials	72%
20	BHP Billiton	Materials	71%
	Imperial Holdings	Industrials	71%
	MTN Group	IT & Telecomms	71%
21	Discovery Holdings	Financials	70%
22	Adcock Ingram	Health care	68%
	Tiger Brands	Consumer	68%
23	SABMiller	Consumer	65%
	Highveld Steel And Vanadium Corporation	Materials	65%
	Wilson Bayly Holmes-Ovcon	Industrials	65%
24	Absa Group	Financials	64%
	Tongaat Hulett	Consumer	64%
25	Arcelor Mittal South Africa	Materials	63%
	Nampak	Consumer	63%
26	Grindrod	Industrials	61%

Note: Incite Sustainability undertook the scoring for the South African CDLI (2010) based on the CDP 2010 Rating Methodology (www.cdproject.net/en-US/Respond/Pages/CDP-Investors.aspx).

Box 5: The CDP Performance Bands

Each company that responded publicly via the ORS and achieved a disclosure score equal to or higher than 50 points has been given a normalised performance rating using the global methodology. On the basis of this rating, companies have been assigned to one of four Performance Bands:

- *Band A (Leading)*: Score more than 80 normalised points
- *Band B (Fast Following)*: Score 51-80 normalised points
- *Band C (On the Journey)*: Score 21-50 normalised points
- *Band D (Just Starting)*: Score 0-20 normalised points

The company rating in terms of these Bands is presented in Figure 10.

Carbon Performance Rating: Recognising Performance

In 2009, the CDP piloted a performance scoring system that assessed the nature of a company's climate mitigation and adaptation actions, with the aim of providing investors with greater insight into the extent to which companies are preparing to transition to, and compete in, a low carbon economy. The pilot was applied to the Global 500 and the South African samples (South Africa was the only country level sample to apply the pilot methodology in 2009).

Following the success of the system, an assessment of performance has been formally included in the CDP 2010 rating methodology. The 'performance rating' is a new metric and will continue to develop over future reporting cycles. For the purposes of the South African performance rating, the same approach has been followed as that used by PwC for the Global 500 assessment, namely:

- each company that responded publicly and that used the ORS was given a normalised performance rating using the global methodology;
- rather than disclosing the individual ratings, the ratings were used to assign companies to one of four Performance Bands (Box 5);
- those companies that scored below 50 for disclosure were not scored for performance and thus were not assigned to a Performance Band.

In reviewing the performance rating that has been allocated to the South African respondents it is important to bear in mind the following considerations:

- Performance points have been awarded where a company highlights that it is undertaking, or has undertaken, a 'positive' climate change action that contributes to climate change mitigation, adaptation and transparency.
- The rating is limited in its consideration of the materiality of actions relative to a company's sector and business; answers are considered equally, irrespective of sector.
- The relative weighting of performance indicators within the Rating Methodology does not take into consideration certain sector-specific issues and challenges, such as customer expectations, regulatory requirements, or cost of doing business.
- It is important for investors to keep in mind that the CDP carbon performance score is not:
  - an assessment of the extent to which a company's actions have reduced carbon intensity relative to other companies in its sector;
  - an assessment of how material a company's actions are relative to the business or to climate mitigation – the score simply recognises evidence of forward-looking action; or
  - a comprehensive measure of how 'green' or low carbon a company is, but rather is an indicator of the extent to which a company is taking action to manage its impacts on, and from, climate change.

While performance scoring is an instructive exercise for all stakeholders, CDP recognises that this is a process that will evolve over time. CDP recommends that investors review individual company disclosures in addition to performance rankings in order to gain the most comprehensive understanding of company performance.

The Performance Band ratings of the eligible JSE 100 respondents are presented jointly with their CDLI ratings in Figure 10. The figure shows all those companies that qualified for the CDLI, and allocates them to one of four quadrants based on their disclosure rating and their Performance Band. Companies are presented in each quadrant in alphabetical order.

Fig. 10: Joint Carbon Disclosure and Carbon Performance Ratings

Disclosure	D	C	B	A
75 - 100%	Hosken Consolidated Investments	Allied Electronics Corporation Ltd (Altron) AngloGold Ashanti Liberty Holdings Netcare New Clicks Holdings Oceana Rainbow Chicken Santam	Anglo American Anglo Platinum Dimension Data Holdings Exxaro Resources FirstRand Impala Platinum Holdings Kumba Iron Ore Lonmin Massmart Holdings Medi-clinic Corporation Mondi Group Murray and Roberts Holdings Northam Platinum Old Mutual Pick n Pay Holdings Remgro Sanlam Sappi Sasol The Bidvest Group Vodacom Group	Barloworld Gold Fields Nedbank Woolworths Holdings
50 - 74%	Nampak Wilson Bayly Holmes-Ovcon	ABSA Adcock Ingram Caxton CTP Publish Print Discovery Holdings Grindrod Group Five Highveld Steel and Vanadium Corporation Imperial Holdings Metropolitan Holdings MTN Group Pretoria Portland Cement Co The Spar Group Tiger Brands Tongaat Hulett Truworths International	Arcelor Mittal SA BHP Billiton Harmony Gold Mining Co SABMiller Standard Bank Group	

Performance

Band A: Leading (81-100 normalised points)
Band B: Fast Following (51-80 normalised points)
Band C: On the Journey (21-50 normalised points)
Band D: Just Starting (0-20 normalised points)

JSE Top 100 companies that are not represented in the above table for the following reasons:

Not rated for performance (scored less than 50 on Carbon Disclosure)	Not eligible (response not public)	Did not participate in CDP 2010	
AECI African Rainbow Minerals Capital Shopping Centres Group Growthpoint Properties Investec	Aveng Blue Label Telecomms Foshini JSE Lewis Group Mr Price Group Naspers Reunert Compagnie Financière Richemont SA Steinhoff International Holdings	Acucap African Bank Investments Allied Technologies Aspen Pharmacare Holdings Astral Foods Avi Capital Property Fund Datatec Emira Property Fund Fountainhead Property Trust Gold Reef Resorts Hyprop Investments Illovo Sugar	JD Group Pangbourne Properties Pioneer Food Group Raubex Redefine Income Fund Reinet Investments Resilient Property Income Fund SA Corporate Retail Estate Fund Shoprite Sun International Sycom Telkom SA Trencor

All those companies that qualified for the CDLI have been allocated to one of four quadrants based on their CDLI rating and Performance Band; companies are presented in each quadrant in alphabetical order.

6 Concluding Commentary: Towards Responsible Business Leadership

"The past is no longer a good indicator of the future. It's exactly because your grandfather did this that you shouldn't do it, because the context has changed radically… This is something completely new: to make decisions not on facts or statistics from the past, but on the probabilities for the future."

Michel Jarraud, Director-General of the World Meteorological Organisation

During 2010 the eyes of the world were on South Africa as the country hosted the world's most watched sporting event, the 2010 FIFA World Cup South Africa™. In 2011, South Africa will once again come under the global spotlight, this time as the hosts of the world's most watched (and arguably most misunderstood) global negotiation process, the Conference of the Parties (COP) to the UNFCCC. Following the disappointment of the Copenhagen meeting, and the slim likelihood that the December 2010 meeting in Cancun will reach a legally binding agreement, the pressure will be on negotiators at the 17th COP in South Africa to seal a deal in late 2011.

Hosting this potentially all-important global meeting, at the same time as the country grapples with tough questions relating to energy security and supply, will undoubtedly raise the national profile – and hopefully the quality of the debate – about the nature of the response to the climate change challenge. Add to this the possible backdrop of further extreme weather events, the continuing volatility in global commodity prices, and the release of the national climate change policy, and one would assume that even the most recalcitrant of corporate lawyers, accountants, property developers and business journalists would be tempted to recognise that climate change is a fundamental business issue.

The nature of the Copenhagen Accord, and the process by which it was agreed, suggests that we need to look beyond traditional international process in finding solutions to global challenges. The subsequent failure of the US Senate to approve climate legislation – described by the President of investor-group Ceres as a "breath-taking act of historic and inter-generational irresponsibility"[37] – further underlines the need to look beyond current political mechanisms, and places greater expectation on business leadership to deliver.

Speaking about the imminent climate meeting in Mexico, Yvo de Boer, the former Executive Secretary of the UNFCCC, argues that "discussions about targets have become largely irrelevant in the context of the Copenhagen outcome; I don't think that we're going to see a dramatic increase in the level of ambition".[38] In this context, he maintains that business has a "big contribution" to make in achieving the needed reductions, noting the International Energy Agency's estimate that US$ 20 trillion needs to be spent on energy infrastructure from now to 2030. "In a number of areas, there really are tipping points. There is a certain electricity price which does not make wind energy viable, but go up by two cents, and it does. When you reach tipping points like that on wind, on solar, on battery technology, on hybrid cars, then the change will be very dramatic."

There is no doubting that business has the inventiveness, the entrepreneurial dynamism and the global reach to play a meaningful role in finding solutions. The question is whether they have sufficient vision and incentive to deliver solutions that sometimes fundamentally challenge current business assumptions, particularly when it comes to pushing for the right pricing of risks and resources. Recently there have been encouraging signs that some in business are up to the challenge, with some of the world's larger companies coming to appreciate the commercial imperative – and the potentially significant business opportunities – associated with preparing for a resource- and carbon-constrained future. But to reach the tipping point that Yvo de Boer speaks of, will require more than the engagement of a select few from the global business community. It will require the participation of a critical mass within the business community,

37 Quoted at www.huffingtonpost.com/mindy-s-lubber/the-senate-punts-reckless_b_659753.html

38 Quoted in www.bloomberg.com/news/2010-09-07/co2-target-debate-is-irrelevant-former-un-climate-chief-says.html

who collectively share an appreciation both of the nature of the challenge and of the required response to this challenge. An important objective of the CDP is to assess the extent to which the South African business community shares this appreciation.

What lessons from the 2010 CDP responses?

Having analysed the South African CDP responses for the past three years, we have found ourselves treading a fine line between seeking to encourage further corporate participation in the CDP process on the one hand, and being brutally honest in holding companies to account on the other. Our approach to dealing with this conundrum is to focus primarily on presenting an objective and largely quantitative account of the corporate responses – and to leave the numbers and responses to speak for themselves. Our goal with a report of this nature is to pull together the information in a manner that will assist investors, policy-makers, climate change practitioners and other interested parties to undertake their own analysis, to draw their own conclusions and to adopt their own approach in seeking to foster corporate accountability.

With this caveat in mind, in this closing commentary we seek to provide some high-level reflections and observations on the nature of the CDP 2010 responses that we believe will be useful in assisting others to draw their own conclusions from the information that is provided, both in the company-specific responses and in this consolidating review of these responses.

In doing so, it is important to acknowledge and emphasise upfront the various positive features associated with the responses; these are positive features that we hope the local media, in any of their stories on the CDP, will pick up and report on. We need, firstly, to recognise the impressive response rate from the South African companies, which puts the country up amongst the CDP leaders globally (see Table 1). This encouraging response rate has been accompanied by high levels of disclosure across most of the reporting parameters, characterised in particular by the fact that 94% of responding companies disclosed their GHG emissions this year. This compares with 77% of the responding JSE 100 who were measuring their carbon footprint two years ago, and only 52% of the responding JSE Top 40 the year before that. Not only has there been a significant increase in the levels of disclosure of emissions across most sectors, but there are also now seen to be higher levels of accuracy in the data.

Accompanying this general increase in the quantity and quality of disclosure, has been a significant increase in stated commitments to mitigate corporate GHG emissions – and it is important to recognise that these have been made in the absence of any regulatory requirements to do so. This year, 31 companies have performance targets relating specifically to GHG emissions reduction, while 22 have committed to developing such targets. This compares with 20 companies in 2009 and only 12 companies in 2008, reflecting a significant shift in the nature and scale of commitment.

Notwithstanding these positive developments, there are nevertheless some remaining issues of concern, particularly when one considers the context of the (conditional) GHG emissions reduction targets that the South African government committed to in Copenhagen last year. When one appreciates the role to be played in meeting these targets by sectors such as property developers and the agricultural sector, it is worrying that these sectors are characterised by comparatively poor response rates. Amongst those sectors where the response rate is high – and where there are clear commitments to emissions reductions – the concern remains that there is a disconnect between the level of ambition of these corporate targets and the targets being envisaged by government. While we need to be realistic in what we should expect in terms of voluntary and unilateral corporate commitments, this disconnect is important in highlighting the scale of the potential challenge that lies ahead.

Underpinning the possibility of a meaningful and genuine commitment by business to addressing the climate challenge is the need for

> "Sustainability is the primary moral and economic imperative for the 21st century, and it is one of the most important sources of both opportunities and risks for business. Nature, society and business are interconnected in complex ways that need to be understood by decision-makers. Most importantly, current, incremental changes towards sustainability are not sufficient – we need a fundamental shift in the way companies and directors act and organise themselves."
>
> **King III Report on Governance in South Africa**

We need leaders who have the vision and imagination to understand the current systemic flaws – characterised in particular by an under-pricing of risks and resources, and by a tendency to 'privatise gains and socialise losses' – and who have the necessary courage to be lead agents in addressing these flaws, difficult though this may be.

companies to fully internalise the scale of the challenge; the extent to which companies have done so is best assessed by reviewing their level of understanding of the strategic risks and commercial opportunities that climate change presents for their business. On this issue, there is a lingering concern that some of the corporate responses sound more like the slick wording of consultants than the considered outcome of a genuine internal assessment of company practice. While there are obvious benefits in engaging external skills on an issue of this nature, this should not be done at the expense of developing internal competencies. It is easy for a consultancy to answer a questionnaire 'well', but this gives no indication as to the actual level at which the organisation has integrated the concepts into its business. It is difficult to assess this from the responses alone, but the fact that some of the responses from different companies are at times almost verbatim does little to allay this fear.

If it is indeed the case that some companies are, in effect, outsourcing the management of their strategy process, and are failing to properly internalise the implications of climate change for the development of their organisational competencies, then this is worrying on several grounds. Such responses can lull companies, and their stakeholders, into the illusion that something is being done and serves as a decoy for real action and change. They also suggest an understanding of sustainability that, if anything, is characterised by 'incremental change' rather than the 'fundamental shift' that is being called for. And not only do such responses reify an approach based on business-as-usual, but if unchallenged they undermine the credibility and value of the CDP process as a whole.

In reviewing the CDP, we welcome and appreciate those companies that 'cut the fluff' and that deliver responses that are clear, credible, informed, to-the-point and company-specific (these are characteristics that would also significantly enhance the value of most corporate sustainability reports!). While there are certainly examples of responses that meet these expectations, these remain in the minority – and to be honest they are responses that are not always sufficiently recognised and rewarded by the CDLI metrics. We believe that it is only when we see genuine and well-informed company-specific responses as the norm, that we will be seeing the level of business leadership needed to deliver the required solutions at scale.

Toward business leadership on climate change

As Michel Jarraud, Director-General of the World Meteorological Organisation, suggests in the opening quote to this chapter, we need business leaders who are willing to think and act in very different ways to their behaviours of the past, and who have the charisma to inspire others to do the same. We need leaders who have the vision and imagination to understand the current systemic flaws – characterised in particular by an under-pricing of risks and resources, and by a tendency to 'privatise gains and socialise losses'[39] – and who have the necessary courage to be lead agents in addressing these flaws, difficult though this may be. And we need business leaders who demonstrate both empathy and integrity, whose activities are characterised by humility over hubris, by an openness to exploring opportunities for collaboration, and by an ability to remain calm in times of crisis.

These are all characteristics that were identified at the launch of the CDP 2009 report – and they are characteristics that observers may choose to use in their assessment of the CDP 2010 responses.

With some notable exceptions, businesses function best in a flourishing and stable economy. To be successful, businesses cannot ignore the extraordinary socio-economic, environmental and financial challenges that threaten to undermine the stability of global and national economies. They can no longer afford to be bystanders, awaiting leadership from government or civil society; instead they must become active players in anticipating and, as far as possible, averting the challenges ahead. We believe that businesses should be using their leverage to push for broader reform, engaging with government to shift policy, with suppliers to change their practices, with consumers to inform their purchasing decisions, and with investors to promote more responsible investment practices.

An important goal of the CDP process is to engage exactly these investors, who have the capacity to effect meaningful change, both by being selective in where to invest, and by asking probing questions of those companies in which they choose to invest. Although the CDP process is an investor-driven process – and from the start has had the support of some forward-looking institutional investors – we nevertheless believe that in South Africa there remains scope for the local investment community to become more actively engaged on climate change issues and to exert greater, more informed pressure through their investment activities.

Earlier this year the ever-prescient US investor, Jeremy Grantham, wrote in one of his highly regarded quarterly newsletters, that climate change "will be the most important investment issue for the foreseeable future." Should this sentiment come to be shared by more investors in South Africa, then we hope that the information provided in this year's CDP report will be useful in assisting them, and the companies in which they invest, to fulfil their fiduciary responsibilities, and in so doing to more effectively address the climate change challenge.

Note: This concluding commentary reflects the professional opinion of Incite Sustainability. For more information, please contact Jonathon Hanks on +27 (0)21 447 2043 or jon@incite.co.za.

39 Friedman, Thomas L. (2008) *Hot, Flat, and Crowded: Why we need a green revolution and how it can renew America.* New York: Farrar, Straus and Giroux.

Box 6: Climate Change in the 21st Century: lessons from the first decade

Contribution from KPMG

Actions to combat climate change represent some of the most ambitious attempts ever to realign the inter-related components of the economic system. Over the past 10 years, an improved understanding of the social and economic impacts of climate change has made it a mainstream issue for businesses, governments and civil society. In charting the trajectory of sustainability in the 21st century, much can be learnt from where we stand today and the drivers of this new paradigm.

The mandate for sustainability is wide-ranging, and highly compelling

The oil price shock of the mid-2000s firmly established the cost implications of a fossil fuel-dominated energy mix. Equally, the economic disruption caused by power shortages in South Africa drove home the need for a security of energy supply. On both accounts, the economic case for a major and rapid transition to a low-carbon economy is now widely recognised.

Moreover, carbon pricing mechanisms are making it increasingly costly to continue emitting greenhouse gases (GHG). Over the past decade, a suite of economic measures has been developed at an international level, as well as through actions by individual governments (see map below).

In South Africa, carbon pricing mechanisms will likely be used as a means of meeting the national goal of reducing emissions by 42% by 2025 relative to business-as-usual.

The private sector as an agent of change

While action by governments will provide the necessary policy framework, companies can and indeed, are leading the response to the sustainability challenge. Not only is corporate sustainability backed by an economic case, it also delivers on evolving societal expectations of large companies. In 2005, 95 of the top 150 economic entities in the world were corporations. Their commensurate power and influence is associated with a responsibility to provide leadership and facilitate change.

By realigning systems of production and consumption to reduce the strain on natural resources, the private sector can lead the transition to a low-carbon, sustainable economy. The potential returns of ushering in this new paradigm are unprecedented – governments globally have allocated more than US$ 530 billion in fiscal stimulus to key climate change investment themes.

Sustainability must be an integrated response

Sustainability is increasingly being seen as core to any business model and a key indicator of organisational performance. Over the past decade, a number of initiatives have been developed to evaluate and report the performance of companies on sustainability indicators. Today, 84% of the top 100 Australian listed companies use a measure other than statutory profit to measure their performance.

In South Africa, the King III Code of Corporate Governance released in 2009 reflects the integrated nature of sustainability in corporate strategy and reporting. Strategy, risk, performance and sustainability have become inseparable, and need to be treated as such. Accordingly, reporting in a manner that integrates economic, social and environmental performance is critical for organisations to be seen as credible, reliable and solid.

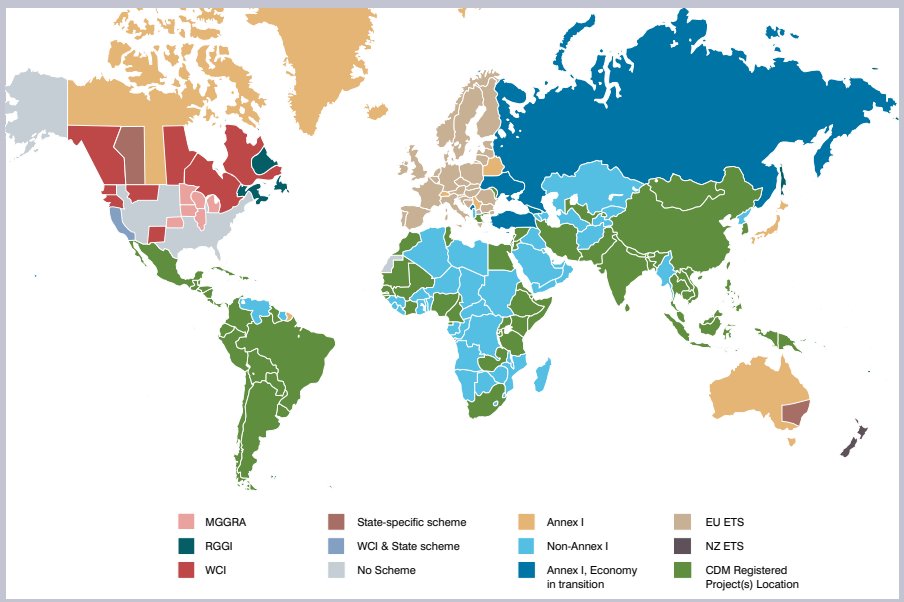
Charting the landscape of sustainability over the next decade

In cutting through the complexity surrounding action on climate change, there are a number of key drivers that will influence corporate sustainability over the next decade. A greater range of national and sub-national mitigation actions are likely to develop alongside international agreements such as the Kyoto Protocol. These will present unprecedented, localised economic drivers for corporate sustainability, presenting new risks and opportunities.

Additionally, sustainability reporting and performance standards for companies will become more robust and mainstream through codes of corporate governance, disclosure requirements and assurance. In preparing for these new changes, the time for action is now.

For more information, please contact Shireen Naidoo (Director, Climate Change and Sustainability Services) on e-mail shireen.naidoo@kpmg.co.za or +27 (0)11 647 5581.

Economic instruments to reduce GHG emissions*



Annex-I includes developed countries that face quantified emission reduction commitments under the Kyoto Protocol. Market-based mechanisms (such as MGGRA, RGGI, WCI, EU ETS and NZ ETS) have been developed in many of these regions, as shown in the map. Non Annex-I countries are developing nations that do not face binding emission cuts, but may play host to CDM projects financed by Annex-I parties.

* Source: Ecosystems Marketplace

ACRONYMS

AR4	Fourth Assessment Report
BASIC	Brazil, South Africa, India and China
B2B	Business-to-business
B2C	Business-to-consumer
CDLI	Carbon Disclosure Leadership Index
CDM	Clean Development Mechanism
CDP	Carbon Disclosure Project
CEO	Chief executive officer
CER	Certified Emission Reductions
CO_2-e	Carbon dioxide (CO_2) equivalent
COP	Conference of the Parties
DSM	Demand-side management
EBITDA	Earnings before interest, taxes, depreciation and amortisation
ERU	Emission Reduction Unit
ESG	Environmental, social and governance
EU ETS	European Union Emissions Trading Scheme
FIFA	Fédération Internationale de Football Association
FTE	Full time employee
FTSE	Financial Times Stock Exchange
FY	Financial year
GHG	Greenhouse gas
GICS	Global Industry Classification Standards
IT	Information technology
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
JSE	Johannesburg Stock Exchange
LSM	Living Standards Measure
LTMS	Long Term Mitigation Scenarios
MGGRA	Midwestern Greenhouse Gas Reduction Accord
Mt	Megatonne
MW	Megawatt
MWh	Megawatt Hour
NBI	National Business Initiative
NGO	Non-governmental organisation
NZ ETS	New Zealand Emissions Trading Scheme
ORS	Online Response System
PGM	Platinum Group Metal
PRI	Principles for Responsible Investment
REFIT	Renewable Energy Feed-in Tariff
RGGI	The Regional Greenhouse Gas Initiative
SA	South Africa(n)
SARVA	South African Risk and Vulnerability Atlas
SRI	Socially responsible investment
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WBCSD	World Business Council for Sustainable Development
WCI	Western Climate Initiative
WWF	World Wide Fund for Nature

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Our sincere thanks are extended to the following

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Finally, a special note of thanks goes to those JSE Top 100 companies that responded to the 2010 questionnaire, as well as our various independent contributors to the report. We are confident that it will fulfil its main purpose of supporting investors in their decision-making processes, but also that it will provide valuable information for a variety of initiatives in the fields of energy and climate change.

For further information on how you may become involved in the NBI's key initiatives, please visit our website (www.nbi.org.za) or contact Valerie Geen on geen.valerie@nbi.org.za.

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