



British  
High Commission  
New Delhi

CARBON DISCLOSURE PROJECT

# Carbon Disclosure Project 2010

## India 200 Report

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



Confederation of Indian Industry  
Since 1895



CII-ITC Centre of Excellence  
for Sustainable Development



## Carbon Disclosure Project 2010

This report and all of the public responses from corporations are available to download free of charge from [www.cdproject.net](http://www.cdproject.net).

### CARBON DISCLOSURE PROJECT

#### MEMBER 2010

**ABRAPP - Associação Brasileira das Entidades Fechadas de Previdência Complementar**

**Aegon N.V.**

**Akbank T.A.S.**

**Allianz Global Investors AG**

**ATP Group**

**Aviva Investors**

**AXA Group**

**Banco Bradesco S.A.**

**Bank of America Merrill Lynch**

**BBVA**

**BlackRock**

**BP Investment Management Limited**

**California Public Employees' Retirement System**

**California State Teachers' Retirement System**

**Calvert Group**

**Catholic Super**

**CCLA Investment Management Ltd**

**Co-operative Asset Management**

**Essex Investment Management, LLC**

**Ethos Foundation**

**Generation Investment Management**

**HSBC Holdings plc**

**INGKLP Insurance**

**Legg Mason, Inc.**

**The London Pensions Fund Authority**

**Mergence Africa Investments (Pty) Limited**

**Mitsubishi UFJ Financial Group (MUFG)**

**Morgan Stanley**

**National Australia Bank Limited**

**Neuberger Berman**

**Newton Investment Management Limited**

**Nordea Investment Management**

**Northwest and Ethical Investments LP**

**PFA Pension**

**Raiffeisen Schweiz**

**RBS Group**

**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**

## CDP Signatories 2010

534 financial institutions with assets of over US \$64 trillion were signatories to the CDP 2010 information request dated February 1, 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 Alapkezelő Zrt.  
 Aegon N.V.  
 AEGON-INDUSTRIAL Fund Management Co., Ltd  
 Aeneas Capital Advisors  
 AGF Management Limited  
 AIG Asset Management  
 Akbank T.A.S.  
 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.S.  
 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.S.  
 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 Brasil  
 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  
 Comité 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 - Fundacao 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	Hospitals of Ontario Pension Plan (HOOPP)	Lombard Odier Darier Hentsch & Cie
Florida State Board of Administration (SBA)	HSBC Global Asset Management (Deutschland) GmbH	The London Pensions Fund Authority
Folketrygdfondet	HSBC Holdings plc	Lothian Pension Fund
Folksam	HSBC INKA Internationale Kapitalanlagegesellschaft mbH	Macif Gestion
Fondation CSN	Hyundai Marine & Fire Insurance	Macquarie Group Limited
Fondation de Luxembourg	IDBI Bank Limited	Magnolia Charitable Trust
Fonds de Réserve pour les Retraites – FRR	Illinois State Treasurer	Maine State Treasurer
Forward Management, LLC	Ilmarinen Mutual Pension Insurance Company	Man Group plc
Fourth Swedish National Pension Fund, (AP4)	Impax Asset Management Ltd	Maple-Brown Abbott Limited
Frankfurter Service Kapitalanlage-Gesellschaft mbH	Industrial Bank	Marc J. Lane Investment Management, Inc.
FRANKFURT-TRUST Investment Gesellschaft mbH	Industrial Bank of Korea	Maryland State Treasurer
Friends Provident Holdings (UK) Limited	Industry Funds Management	Matrix Asset Management
Front Street Capital	Infrastructure Development Finance Company Ltd. (IDFC)	McLean Budden
Fukoku Capital Management, Inc.	ING	MEAG Munich Ergo Asset Management GmbH
Fundação AMPLA de Seguridade Social - Brasiletros	Insight Investment Management (Global) Ltd	Meeschaert Gestion Privée
Fundação Atlântico de Seguridade Social	Instituto de Seguridade Social dos Correios e Telégrafos - Postalis	Meiji Yasuda Life Insurance Company
Fundação Banrisul de Seguridade Social	Instituto Infraero de Seguridade Social - INFRAPREV	Merck Family Fund
Fundação Codesc de Seguridade Social - FUSESC	Insurance Australia Group	Mergence Africa Investments (Pty) Limited
Fundação de Assistência e Previdência Social do BNDES - FAPES	Investec Asset Management	Meritas Mutual Funds
Fundação Forluminas de Seguridade Social	Irish Life Investment Managers	MetallRente GmbH
Fundação Itaúsa Industrial	Itaú Unibanco Banco Múltiplo S.A.	Metzler Investment GmbH
Fundação Promon de Previdência Social	J.P. Morgan Asset Management	MFS Investment Management
Fundação São Francisco de Seguridade Social	Janus Capital Group Inc.	Midas International Asset Management
Fundação Vale do Rio Doce de Seguridade Social - VALIA	The Japan Research Institute, Limited	Miller/Howard Investments
FUNDIÁGUA - Fundação de Previdência da Companhia de Saneamento e Ambiental do Distrito Federal	Jarislowsky Fraser Limited	Mirae Asset Global Investments Co. Ltd.
Futuregrowth Asset Management	The Joseph Rowntree Charitable Trust	Mistra, The Swedish Foundation for Strategic Environmental Research
Gartmore Investment Management Limited	Jubitz Family Foundation	Mitsubishi UFJ Financial Group (MUFG)
Generali Deutschland Holding AG	Jupiter Asset Management	Mitsui Sumitomo Insurance Co.,Ltd
Generation Investment Management	K&H Investment Fund Management / K&H Befektetési Alapkezelő Zrt	Mizuho Financial Group, Inc.
Genus Capital Management	KB Asset Management	Mn Services
Gjensidige Forsikring	KB Financial Group	Monega Kapitalanlagegesellschaft mbH
GLG Partners LP	KB Kookmin Bank	Morgan Stanley
GLS Gemeinschaftsbank eG, Germany	KBC Asset Management NV	Motor Trades Association of Australia Superannuation Fund Pty Ltd
Goldman Sachs & Co.	KCPS and Company	Mutual Insurance Company Pension-Fennia
GOOD GROWTH INSTITUT für globale Vermögensentwicklung mbH	KDB Asset Management Co., Ltd.	Natcan Investment Management
Governance for Owners LLP	Kennedy Associates Real Estate Counsel, LP	The Nathan Cummings Foundation
Government Employees Pension Fund (“GEPF”), Republic of South Africa	KEPLER-FONDS Kapitalanlagegesellschaft m. b. H.	National Australia Bank Limited
Green Cay Asset Management	KfW Bankengruppe	National Bank of Canada
Green Century Funds	KLP Insurance	National Bank of Kuwait
Groupe Investissement Responsable Inc.	Korea Investment & Trust Management	National Grid Electricity Group of the Electricity Supply Pension Scheme
GROUPE OFI AM	Korea Technology Finance Corporation	National Grid UK Pension Scheme
Grupo Banco Popular	KPA Pension	National Pensions Reserve Fund of Ireland
Gruppo Monte Paschi	Kyobo AXA Investment Managers	National Union of Public and General Employees (NUPGE)
Guardian Ethical Management Inc	La Banque Postale Asset Management	Natixis
Guardians of New Zealand Superannuation	La Financiere Responsable	Nedbank Limited
Guosen Securities Co., LTD.	Landsorganisationen i Sverige	Needmor Fund
Hang Seng Bank	LBBW - Landesbank Baden-Württemberg	Nelson Capital Management, LLC
HANSAINVEST Hanseatische Investment GmbH	LBBW Asset Management Investmentgesellschaft mbH	Nest Sammelstiftung
Harbourmaster Capital	LD Lønmodtagernes Dyrtdisfond	Neuberger Berman
Harrington Investments, Inc	Legal & General Group plc	New Amsterdam Partners LLC
The Hartford Financial Services Group, Inc.	Legg Mason, Inc.	New Jersey Division of Investment
Hastings Funds Management Limited	Lend Lease Investment Management	New Mexico State Treasurer
Hazel Capital LLP	Light Green Advisors, LLC	New York City Employees Retirement System
HDFC Bank Ltd	Living Planet Fund Management Company S.A.	New York City Teachers Retirement System
Health Super Fund	Local Authority Pension Fund Forum	New York State Common Retirement Fund (NYSCRF)
Henderson Global Investors	The Local Government Pensions Institution	Newton Investment Management Limited
Hermes Fund Managers	Local Government SA-NT	NFU Mutual Insurance Society
HESTA Super	Local Government Super	NGS Super
		NH-CA Asset Management

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





# Foreword



I am delighted to learn that the Carbon Disclosure Project (CDP) is releasing its fourth India Report 2010.

This report is important in many ways. First, I believe that we need industry as partners in our efforts towards low-carbon development. India has announced a goal of reducing the emissions intensity of its GDP by 20-25% by the year 2020, as compared to 2005. Industry will have to play an important role in achieving this goal, and in this context, it is very important to share best practices. This report does exactly that and can provide useful insights for industry. Second, the CDP report shows the level of transparency and accountability that Indian industry is demonstrating in tracking and monitoring its carbon footprint and the initiatives it is taking to reduce it. Voluntary disclosure initiatives, such as the CDP, help us challenge our limits for improvement and can serve as a basis for future technological innovations that can lower our carbon intensity without affecting economic growth, which is a key requirement. Third, the report lays out the broad framework and perceptions on recent Indian domestic policy – what businesses think about regulation and how they will like to engage with policy-makers and regulators on climate change. This is an excellent way to foster more dialogue between businesses and the government.

As you know, India is taking a proactive role in addressing climate change. We have set up an Expert Group on Low Carbon Strategies for Inclusive Growth, a multi-stakeholder group given the mandate to develop a roadmap for India to achieve low-carbon development. Indeed, Confederation of Indian Industry (CII) and other representatives of industry are represented in this group and we eagerly look forward to its recommendations, which will feed into the Twelfth Five-Year Plan. The government is also trying to incentivise industry to move towards better energy efficiency and lower emission procedures by introducing market-driven initiatives, such as the Perform, Achieve & Trade (PAT) system. We are also undertaking a major push on renewables. To this end, the Jawaharlal Nehru National Solar Mission seeks to generate 20,000 MW of electricity through solar energy by the end of the Thirteenth Five-Year Plan. India has also set in motion a unique federal approach to mitigation and adaptation with State-level Action Plans that require states to implement concrete actions to address climate change.

These and several other recent government measures, in combination with steps taken by business, send out a clear signal to the world that we are a carbon-conscious society and we will do our part. We look forward to working with industry and making this synergy even more concrete.

I once again commend the CII and WWF-India for taking up this initiative along with the CDP.

A handwritten signature in red ink that reads "Jairam Ramesh".

Jairam Ramesh

# Executive Summary

In the past, the term ‘environment’ was primarily associated with ‘regulatory compliance’ for many Indian businesses. This has now changed to a better macro-level understanding of the environment and its interlinkages with business. This is particularly evident with climate change and its impact on society, environment and the economy at large. As a result, companies across the world are looking to understand the risks and opportunities associated with climate change and its effect on their bottom line.

With every end product or service, there is an associated resource, energy and emissions footprint. Actions to reduce these footprints make business sense, as they can lower energy requirements and ultimately, the price of the end products/services. Whether from an energy intensive sector or not, most companies will be affected by climate change and its impacts in different ways. Businesses that have the vision to identify and act on the opportunities, while managing the risks, are going to be well placed to meet current and future market challenges. These early movers, with their actions and innovations, will not only reduce their overall carbon footprint, but will also have a competitive advantage.

The Carbon Disclosure Project (CDP) 2010 - India 200 Report presents the strategies adopted by Indian businesses in response to climate change. These strategies have been disclosed, as part of their response to the CDP 2010 questionnaire.<sup>1</sup> The report illustrates how market leaders have positioned themselves to effectively deal with climate change, integrating long-term value and costs of climate change impacts into their business decisions. The CDP 2010 report focuses on the level of companies’ understanding of risks and opportunities, carbon footprint, actions taken to reduce their carbon footprint, policy engagement and finding strategic advantages. CDP provides a unique platform for investors to engage with companies, requesting them to disclose their long-term strategies to address climate change. The aggregate reporting and analysis of company responses can provide inputs and influence the future of climate policies, carbon market mechanisms and greenhouse gas (GHG) regulations. It also enables businesses to develop or transform their climate strategy in order to charter a low-carbon roadmap for the future. The following section summarises response of Indian businesses to CDP 2010.

<sup>1</sup> The CDP 2010 questionnaire is available on the CDP website ([www.cdproject.net/CDP%20Questionnaire%20Documents/CDP\\_Investor\\_2010.pdf](http://www.cdproject.net/CDP%20Questionnaire%20Documents/CDP_Investor_2010.pdf)). Companies were invited to submit their response via CDP’s Online Response System (ORS) between February 1 and May 31, 2010.



### CDP 2010 – India 200

This is the fourth successive year for CDP in India, with each year getting a very encouraging response from the Indian corporate sector. Similar to past years, climate change and investment related information was requested from the top 200 companies<sup>2</sup> in 2010. This year, the information request was backed by 534 institutional investors, with more than US \$64 trillion assets under management. Indian institutional investors such as HDFC Bank Ltd, IDBI, IDFC, Reliance Capital and Yes Bank Ltd. were part of these 534 global institutional investors. This report, prepared by WWF-India, in partnership with CII-ITC CESD and CDP, analyses the responses from these corporations. It provides an insight on how top 200 Indian companies, by market capitalisation, are driving innovation and taking action to embrace a low-carbon future. Fifty one companies from diverse sectors,<sup>3</sup> responded to the information request, representing 25.5 per cent of the top 200 Indian companies (see Figure 1). This year 12 new companies responded to CDP’s information request. Responses from some sectors were particularly noteworthy, such as Energy, Materials and Information

Technology, leading both in terms of the quality of information disclosure as well as participation.

### Governance

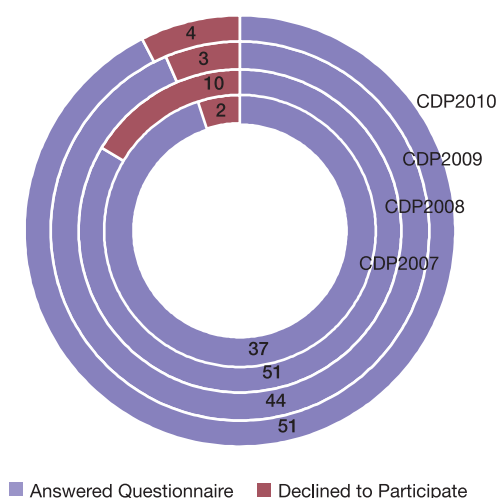
Climate change has become an important topic for the Indian corporate sector. This is clearly reflected by the growing responsiveness of senior management. The majority (84%) of the respondents have put in place or assigned a senior level committee or an executive body to develop their climate change strategy. This is in sharp contrast to the senior level engagement in CDP 2007, with only 39% of respondents assigning board-level responsibility to address climate change issues.

In addition, companies are becoming more transparent and increasingly sharing information with stakeholders on their actions to mitigate climate change. Policy engagement at the national level also highlights the constructive role that businesses are playing in advocacy on climate change. Sixty-eight per cent of the respondents advocate policy engagement with the government, regulatory bodies and policymakers on possible responses to climate change.

This year, the information request was backed by 534 institutional investors, with more than US \$64 trillion assets under management.

Fifty one companies from diverse sectors, responded to the information request, representing 25.5% of the top 200 Indian companies.

**Fig. 1: CDP India Response Rate (No. of Responses)**



<sup>2</sup> The top 200 companies have been identified based on their market capitalisation as per the National Stock Exchange (NSE), December 15, 2009.

<sup>3</sup> As on the last submission date (15/09/2010).

Nearly 97% of the respondents identify opportunities arising from addressing climate change, in comparison to 80% identifying risks, as a result of regulatory, physical or commercial drivers.

In CDP 2008, 33% of the responding companies shared their GHG emissions data. This number increased to 62% in CDP 2009 and to over 85% (33 companies) in CDP 2010.

With growing levels of participation, the total GHG emissions reported to CDP 2010 is 114 million tonnes, compared to 68.9 million tonnes in CDP 2009 and 36.3 million tonnes in CDP 2008.

## Risks & Opportunities

CDP 2010 responses from Indian companies suggest that there has been a shift in emphasis from an approach dominated by risk, to one that now embraces opportunity. Nearly 97% of the respondents identify opportunities arising from addressing climate change, in comparison to 80% identifying risks, as a result of regulatory, physical or commercial drivers.

Forty-four per cent of the respondents to CDP 2010 identify regulatory risks as one of the risks affecting them, either directly or indirectly. Amongst the most frequently cited policy concerns are the Kyoto Protocol, National Action Plan on Climate Change (NAPCC), Perform Achieve & Trade Scheme and ECBC Guidelines. Sixty-seven per cent of the respondents identify direct or indirect physical risks arising from the physical consequences of climate change. The most frequently disclosed physical risks are exposure to extreme weather events, weather-related disruptions of the value chain and increases in utility and fuel overheads. Similarly, 67% of the respondents perceive other risks from climate change encompassing market, reputation and supply chain concerns.

Ninety per cent of the respondents see or anticipate opportunities for their organisations emerging from climate regulation. As in the case of regulatory risks, Indian companies are acting upon opportunities presented in both global and national regulatory spheres. Identification of physical opportunities presented by climate change is considerably lower than regulatory and other opportunities. Only half of the responding companies (51%) find opportunities for their businesses related to the physical effects of climate change. In addition to the regulatory and physical opportunities already identified, 82% of the respondents perceive other opportunities in relation to climate change. These opportunities can be broadly classified into benefits

earned through reputational gains and market opportunities.

## GHG Performance

The CDP 2010 provides an important global platform for the Indian companies to share their climate change strategies and report their GHG emissions performance. This is clearly evident from the increasing number of companies disclosing their GHG emissions. In CDP 2008, 33% of the responding companies shared their GHG emissions data. This number increased to 62% in CDP 2009 and to over 85% (33 companies) in CDP 2010.

With growing levels of participation, the total GHG emissions<sup>4</sup> reported to CDP 2010 is 114 million tonnes, compared to 68.9 million tonnes in CDP 2009 and 36.3 million tonnes in CDP 2008.

The percentage of responding companies reporting Scope 1 emissions has increased from 33% (17) in CDP 2008, 63% (24) in CDP 2009 to 85% (33) for CDP 2010. A similar trend was observed for Scope 2 emissions reporting. However, the most noteworthy change from last year's response is the reporting for Scope 3 emissions, which doubled from 26% in CDP 2008 to 46% for CDP 2010.

## Performance Targets

India has not mandated any GHG emissions reduction targets for industrial sectors/activity yet. Despite this, Indian businesses have been proactive in setting their own voluntary reduction targets. This positive and transparent approach by the Indian industry will create a conducive environment for future regulatory policy discussions both at the national and international levels.

Thirty-three per cent of the responding companies report that they have set targets to improve their energy efficiency and emissions reduction performance, while 24% of the rest are in the process of developing one. A unique feature of CDP 2010 is that most of the targets

<sup>4</sup> Scope1, Scope 2 and Scope 3 emissions

formulated by the Indian industry focus on GHG emissions; this is different from CDP 2009 wherein the targets were directed more towards improving energy efficiency.

Some of the key areas that responding companies focus on, to achieve GHG reduction targets, include, process and product improvements, adoption of clean fuel, technological innovations/improvements, green energy procurement, green buildings, renewable energy, energy audits, and robust planning. Indian companies have adopted an aggressive approach towards exploring opportunities in the area of renewable energy. These initiatives reduce the dependence of these companies on conventional fossil fuels, helping them reduce their overall GHG footprint.

### **Monetary Savings Performance**

Adoption of best practices across systems and processes by Indian companies is well reflected in the reported emissions reductions and monetary savings achieved. While describing their actions to reduce GHG emissions, 68% of the responding companies report energy savings and 74% report emissions reductions. Companies from the Materials and Energy sector report the highest monetary savings. Although, in total only 10 companies disclose monetary savings as a result of their actions, the reported amount stands at a staggering Rs. 3,933 million (ca. US \$85 million) and the achieved emissions reductions come to 6.2 million metric tonnes of CO<sub>2</sub>-e per year. These savings represent a significant potential for economic gains, an important focus area for companies while making their future investment plans.

### **Carbon Disclosure Leadership Index (CDLI)**

The last four years have seen an increase in the quality of responses to the CDP questionnaire from Indian companies. In keeping with these trends and with an intention to

further encourage and reward high quality responses, this year sees CDP India introduce the Carbon Disclosure Leadership Index (CDLI) in India. The CDLI disclosure scores are based on the methodology<sup>5</sup> developed by CDP and ranks the organisation in terms of the 'quality of its disclosure' response to the CDP information request. It is not a measure of the performance of the business or the effectiveness of their management plans. This year top 10 scores of Indian companies has been disclosed under CDLI.

### **CDP India and Global Comparison**

Participation in CDP in India, like any other developing economy, is gaining ground. Developed economies have much higher participation, due to increased awareness and public pressure. However, the participation rate of CDP India is much higher when compared to other developing economies like China or Central and Eastern Europe (see Appendix 1). Moreover, the Indian companies that participate in CDP are those which are proactive and have started several initiatives. They are helping to shape the future of Indian business.

In terms of involving senior management in addressing climate change concerns, CDP 2010 finds Indian companies not far behind in comparison with companies from developed economies. Similarly, CDP 2010 finds that a very high percentage of Indian responding companies are taking action to reduce GHG emissions and this trend is comparable with the best in the world. Indian companies have adopted a proactive approach and see future national and existing international regulations as an opportunity. However, some companies still feel the need to improve their measurement, reporting and verification (MRV) practices and systems for GHG emissions accounting. Companies that audit their data, generally tend to be companies that require it for meeting carbon market regulations.

India has not mandated any GHG emissions reduction targets for industrial sectors/activity yet. Despite this, Indian businesses have been proactive in setting their own voluntary reduction targets.

Although, in total only 10 companies disclose monetary savings as a result of their actions, the reported amount stands at a staggering Rs. 3,933 million (ca. US \$85 million) and the achieved emissions reductions come to 6.2 million metric tonnes of CO<sub>2</sub>-e per year.

CDP 2010 finds that a very high percentage of Indian responding companies are taking action to reduce GHG emissions and this trend is comparable with the best in the world.

<sup>5</sup> see Appendix 2



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# 1

## Overview of CDP

CDP is an independent not-for-profit organisation holding the largest database of primary corporate climate change information in the world.

CDP was launched in the year 2000 to accelerate solutions to address climate change, by putting relevant information at the heart of business, policy and investment decisions. CDP furthers this mission by harnessing the collective power of corporations, investors and political leaders to accelerate unified action on climate change.

In 2009, 2,500 organisations in some 60 countries around the world measured and disclosed their GHG emissions and climate change strategies through CDP. In 2010, even more companies are reporting through CDP and managing their emissions. This data is made available for use by a wide audience including institutional investors, corporations, policymakers and their advisors, public sector organisations, government bodies, academics and the public.



Climate change is not a problem that exists just within national boundaries. That is why CDP harmonises climate change data from organisations around the world and develops international carbon reporting standards. CDP operates the only global climate change reporting system on behalf of 534 institutional investors (holding US \$64 trillion in assets under management) and some 60 purchasing organisations such as Dell, EADS, PepsiCo and Walmart.

### 1.1 Key focus areas

CDP has set three key focus areas for the immediate future. One is to work with companies and the users of its data to continue improving quality and comparability. Data that supports action is central to fulfilling CDP's mission. As part of this process, CDP is 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.

Climate change is a global problem and requires a global solution. That is why CDP's second key focus is on globalising all programmes in the major economies in the coming years. Going beyond CDP's Investor programme, which sits at the heart of the initiative, CDP intends to grow its Supply Chain and Public Procurement programmes, as well as CDP Water Disclosure, in order to maximise the fulfillment of CDP's mission.

The third key focus is mitigation and emissions reduction. The number of companies within the Global 500 sample (FTSE Global Equity Series) reporting reduction targets has already increased fourfold since CDP's first reporting year. But this is just the first step. CDP remains committed to help advance emissions reductions and works with investors and industry to achieve this.

### 1.2 Looking ahead

It is through partnerships that CDP can achieve the largest impact. CDP is delighted to be working with local partners and report writers such as WWF-India, CII-ITC Centre of Excellence for Sustainable Development and its sponsors and supporters such as British High Commission (BHC) and Yes Bank Limited. These partnerships help accelerate CDP's mission and highlight opportunities for Indian businesses to capitalise on the transition to a low-carbon economy.

The Government of India has been proactive in addressing climate change related challenges, with a comprehensive policy framework. Besides, the announcement of the National Action Plan for Climate Change by the Prime Minister in 2008, eight National Missions are being readied for implementation through the respective nodal Ministries. Further, the Planning Commission is now finalising a blueprint for the five year plans to enable the Indian economic growth story to not only follow a low-carbon route, but also to fulfill the voluntary GHG emission reduction targets announced in 2009.

These are exciting times for businesses, with significant changes underway to modify the way we produce and consume energy. Changing the energy mix is an urgent priority for climate change policy that simultaneously helps deliver energy security. New technologies that help reduce emissions, such as smart grids, electric vehicles, alternative fuel sources, advanced telepresence and videoconferencing to demonstrate strong growth potential. It is through this intelligent investment of capital into cost effective solutions, that we will achieve the low-carbon future we need.

CDP was launched in the year 2000 to accelerate solutions to address climate change, by putting relevant information at the heart of business, policy and investment decisions.

The Planning Commission is now finalising a blueprint for the five year plans to enable the Indian economic growth story to not only follow a low-carbon route, but also to fulfill the voluntary GHG emission reduction targets announced in 2009.

# 2

## Policy Action on Climate Change – India

Weighed down under an enormous burden of expectations, the 15th Conference of the Parties (COP 15) held in Copenhagen in December 2009 was projected to be a turning point in climate change negotiations. However, the less-than-ambitious outcome and its non-binding nature reflected very clearly the lack of synergy between the two blocks of the developed and the developing nations.

Mitigation burden sharing continues to be the primary obstacle when it comes to climate negotiations. The pressing policy issue today is the equitable distribution of the available carbon space, which is currently dominated by the developed nations. Inherent in this equity issue is the fact that without the developed nations significantly reducing their emissions, the developing countries cannot get their fair share of the atmospheric commons for economic growth and development.

As COP 16 in Cancun, Mexico, nears, particular attention needs to be given to two very important aspects. First, the need for a sound scientific approach towards specifying mitigation action. Since climate change is caused by cumulative emissions and not just the present and future ones, considering cumulative emissions is a very important component of an approach which correctly articulates the mitigation responsibility. Second, since future emissions would have significant contributions from the developing nations, the latter are not only required to innovate and create low-carbon growth paths, but also take the lead in the global arena when it comes to developing financial and technology transfer mechanisms.

## 2.1 The BASIC Approach

While developed nations have to drastically reduce their emissions, developing nations must deviate from business-as-usual trajectories of economic growth if the climate change challenge is to be addressed successfully. On the one hand, they must necessarily pursue rapid economic development, while on the other hand, they need to continuously innovate to be able to both adapt to and mitigate climate change.

Recognising the common challenges facing them, four large developing nations – Brazil, South Africa, India and China – formed themselves into a geo-political alliance now known as BASIC. More than a group focused just on negotiations, BASIC is a forum for collaboration among experts from various developing countries working on adaptation and mitigation action plans and scenarios. Committed to act together, the group has defined a common position on emission reductions and climate aid money. The BASIC countries agree to the postulate that without support from the developed world, it is not possible for developing nations to undertake sufficient and relevant mitigation actions.

The BASIC approach identifies equity as the fundamental issue for any legal agreement, and outlines the following points on the road to COP 16 in Cancun in December 2010:

1. Multilateral agreement for an equitable burden-sharing while addressing the need to keep the temperature increase to below 2°C.
2. Comprehensive outcome for negotiations under the Ad Hoc Working Group on Long-Term Cooperative Action under UNFCCC, and the Ad Hoc Working Group on Further Commitments by Annex-I Parties under the Kyoto Protocol.
3. Fast-start finance which covers, in a balanced way, all the pillars of the Bali Action Plan, including adaptation, technology development and technology transfer.

4. Distinction between the measurement, reporting and verification (MRV) of emissions reduction commitments by developed countries, which is related to compliance and comparability, and the MRV of nationally appropriate mitigation actions (NAMAs) by developing countries, which is related to transparency.
5. Advancing the MRV of international support, including the development of common procedures for the reporting of finance.
6. Only supported NAMAs may be subject to international MRV in conjunction with the MRV of international support, while for non-supported NAMAs, the developing nations will apply only a domestic MRV.

## 2.2 Proactive Domestic Measures

Being one of the fastest growing economies in the world, India faces both the challenge of the need for rapid growth, as well as the escalating GHG emissions. Acknowledging the importance of vigorous domestic actions in combating climate change and driving global policy, the Government of India has initiated numerous initiatives to lead the way towards low-carbon growth. The Minister of State for Environment and Forests, Mr. Jairam Ramesh, sums up the essence of policy making required to address climate change in the form of the “3M’s” – Measurement, Modelling and Monitoring.

Some of the key domestic policy imperatives that have been introduced in India are detailed below.

### (a) Indian Network of Climate Change Assessment (INCCA)

Established in October 2009, INCCA is a network comprising 127 research institutions and will undertake research on the science of climate change, and its impacts on different sectors of the economy across the country.

The pressing policy issue today is the equitable distribution of the available carbon space, which is currently dominated by the developed nations. Inherent in this equity issue is the fact that without the developed nations significantly reducing their emissions, the developing countries cannot get their fair share of the atmospheric commons for economic growth and development.

PAT is an initiative under the National Mission on Enhanced Energy Efficiency (NMEEE) and will cover facilities that account for more than 50% of the fossil fuel used in India. It is projected to reduce CO<sub>2</sub> emissions by 25 million tonnes per year by 2014-15.

With the aim of enabling informed decision-making and to ensure transparency, INCCA released India's GHG Emissions Inventory for 2007 in May 2010, making India the first developing nation to publish such updated numbers. Further, the Government of India has expressed its intent to publish this emissions inventory in a two-year cycle (more frequent than its National Communication commitments to the UNFCCC).

**(b) Expert Group on a low-carbon strategy and inclusive growth**

A multi-stakeholder group has been set up within the Planning Commission with 37 representatives from industry, think tanks, research institutions, civil society and the government. It will recommend prioritised actions in sectors such as Electricity, Transport, Industry, Oil & Gas, Buildings and Forestry. It has been given the mandate to develop a roadmap for low-carbon development in India. The group's recommendations will provide direction to India's Twelfth Five-Year Plan which will come into effect in 2012.

**(c) Carbon tax on coal to fund clean energy**

A clean energy tax on coal, at the rate of Rs. 50 (~US \$1) per tonne, will apply to both domestically produced and imported coal. The expected earnings from this tax are around US \$500 million for the financial year 2010-2011. The government plans to channel these into a National Clean Energy Fund that will be used to fund research, innovative projects in clean energy technologies, and environmental remedial programmes.

**(d) Perform, Achieve & Trade (PAT) Mechanism for energy efficiency**

PAT is an initiative under the National Mission on Enhanced Energy Efficiency (NMEEE) and will cover facilities that account for more than 50% of the fossil fuel used in India. It is projected to reduce CO<sub>2</sub> emissions by 25 million tonnes per year by 2014-15. Under the PAT mechanism:

- Each of the 714 energy intensive industrial units in India will be mandated to reduce their specific energy consumption by a specified percentage that would depend on its current level of efficiency. The most efficient facility in a sector would have a lower percentage reduction requirement, and vice versa.
- In order to encourage the adoption of this mechanism, facilities which achieve savings in excess of their mandated reduction would be issued Energy Savings Certificates (ESCerts) for the savings that are in excess of their mandated target. These ESCerts can be used by other facilities for compliance if they are unable to meet their reduction target.

**(e) Climate change science**

The INCCA is undertaking a major "4x4" assessment of the impacts of climate change on four impact areas (water resources, agriculture, forests and human health), in four critical regions of India (Himalaya, North-East, Western Ghats and Coastal India). Further, India is also planning to launch a satellite to monitor GHG emissions by 2013.

**(f) India's First CDM PoA - Bachat Lamp Yojana**

The Bachat Lamp Yojana is the first registered Clean Development Mechanism (CDM) Programme of Activity from India. It plans for mass distribution of compact fluorescent lamps (CFLs) in India and has been registered successfully by the CDM Executive Board.

- The programme has been developed to promote energy efficient lighting in India. State-level electricity distribution companies (Discoms) that join this programme would distribute high quality CFLs at about Rs. 15 per piece.
- The programme would not only help the reduction of peak load in the country but also lead to a potential reduction of over 6,000 MW in electricity demand.

**(g) REDD+**

Reducing Emissions from Deforestation and Forest Degradation [REDD] has been readily accepted by BASIC nations. The Government of India has announced a number of initiatives related to its preparedness for REDD+:

- A Technical Group has been set up to develop methodologies and procedures to make assessment and monitoring of REDD+ actions.
- A National REDD+ Coordinating Agency has been given in-principle approval and methodologies for National Forest Carbon Accounting are being institutionalised.

**(h) Sub-National state-level actions**

- State governments are preparing state-specific action plans on climate change that draw upon India's National Action Plan on Climate Change [NAPCC], and to implement state level measures in mitigation and adaptation.
- Delhi and Orissa are the two states which have launched their action plans while most other states are still finalising their action plans.
- Himachal Pradesh is on track to becoming the first Indian state to negotiate a large (US \$450 million) loan on sustainable environmental growth and climate change from the World Bank.

**National Missions under the Prime Minister's National Action Plan on Climate Change (NAPCC)**

There are eight National Missions under the NAPCC, that provide an overview of how the Government of India is trying to achieve a leadership position in addressing the challenge of climate change.

- Solar energy
- Energy efficiency
- Sustainable habitat
- Water
- Sustaining the Himalayan ecosystem

- Green India
- Sustainable agriculture
- Strategic knowledge for climate change

**(i) National Mission on Sustainable Habitat (NMSH)**

Key objectives of the NMSH are:

- Promoting energy efficiency in residential and commercial sectors by bridging the knowledge gap on designing green infrastructure, by ensuring better implementation of government schemes, and by offering appropriate financial incentives.
- Developing a comprehensive approach to manage water, solid waste and wastewater that takes into account potential for recycling, reuse and energy creation.
- Refurbishing urban transportation to increase usage and energy efficiency through a combination of promotional, regulatory and fiscal measures, including mandatory fuel efficiency standards to be notified shortly.

**(ii) Jawaharlal Nehru National Solar Mission (JNNSM)**

The JNNSM is an ambitious mission to make India a global leader in solar energy. It aims:

- At generating 20,000 MW of solar power by 2022.
- 2,000 MW of off-grid solar plants, and 20 million square metres of solar collectors to be installed.
- 20 million solar lighting systems will be created/distributed in rural areas, saving about one billion litres of kerosene every year.

**(iii) Green India Mission (GIM)**

The GIM is now being finalised; it aims to increase the quality of India's forest cover, taking a holistic view of forestry and not merely focus on plantations to meet carbon sequestration targets, and it will achieve this through decentralisation and by involving existing local



This Enhanced Energy Efficiency Mission seeks to create a market for energy efficiency, estimated to be Rs. 74,000 crore. By 2015, about 23 million tonnes oil-equivalent of fuel savings are expected in coal, gas and petroleum products annually, with an avoided capacity addition of 19,000 MW, and CO<sub>2</sub> emissions reductions of 98.55 million tonnes annually.

governance institutions. Forests remain the main source of livelihood for over 200 million people in India. Hence GIM will actively try to secure the participation of local communities. Its targets are:

- Double the area taken up for afforestation/eco-restoration in the next 10 years.
- A total area of 20 million hectares to be afforested or eco-restored.
- Increase above- and below-ground biomass in 10 million hectares of forests/ecosystems.
- Increased carbon sequestration of 43 million tonnes CO<sub>2</sub>-e annually.

#### **(iv) Sustaining the Himalayas**

This National Mission focuses on evolving suitable management and policy measures for sustaining and safeguarding the Himalayan glacier and mountain ecosystem. It will establish an observational and monitoring network for the Himalayan environment to assess freshwater resources and health of the ecosystem, and pursuing regional cooperation with neighbouring countries.

#### **(v) Enhanced Energy Efficiency**

This National Mission seeks to create a market for energy efficiency, estimated to be Rs. 74,000 crore. By 2015, about 23 million tonnes oil-equivalent of fuel savings are expected in coal, gas and petroleum products annually, with an avoided capacity addition of 19,000 MW, and CO<sub>2</sub> emissions reductions of 98.55 million tonnes annually. The flagship of the mission is the PAT initiative (described earlier), with energy efficiency improvement targets to be set under section 14 of the Energy Conservation Act, 2001.

The Mission will institute two innovative fiscal instruments: the Partial Risk Guarantee Fund (PRGF) and Venture Capital Fund for Energy Efficiency (VCFEE). While the PRGF will be a risk-sharing mechanism that will provide commercial banks with partial coverage of risk exposure against loans made for energy efficiency projects, the VCFEE will ease a significant barrier from the

viewpoint of risk capital availability to ESCOs and other companies which invest in the supply of energy efficient goods and services. The establishment of an associated commercial organisation, Energy Efficiency Services Limited (EESL), was announced in November 2009. It has since been incorporated as a joint venture of NTPC, PFC, REC and Power Grid with equity of Rs. 190 crore, with equal contribution from the four stakeholders.

#### **(vi) National Water Mission**

Since many parts of the country are already water stressed, there is growing concern that climate change may worsen the availability and distribution of fresh water. This mission addresses the growing need of efficient management of water resources within the country. It lays emphasis on developing appropriate regulatory structures and pricing mechanisms towards adopting water neutral and water positive technologies. Some key features of this mission are:

- Studies on management of surface water resources.
- Regulation of ground water resources.
- Upgrading systems for freshwater storage and wastewater drainage.
- Conservation of wetlands.
- Development of desalination technologies.

#### **(vii) National Mission for Sustainable Agriculture**

Agriculture is a vital component of the Indian economy; agriculture and allied products accounted for over 15% of GDP in 2008-09. The mission will focus on four areas crucial to agriculture in adapting to climate change, viz., dry-land agriculture, risk management, access to information and use of biotechnology.

#### **(viii) National Mission of Strategic Knowledge for Climate Change**

Although the Fourth Assessment Report of the IPCC addressed the general global trends in climate change, India-specific spatial details



were not available. The mission addresses the urgent need to improve the understanding of certain key atmospheric processes and phenomena (e.g. the monsoon); it also seeks to create the necessary research and technological infrastructure.

The mission aims to develop the following areas in climate change science:

- Climate modelling
- Better access to climate data
- Integrated national knowledge networks
- Human resource development

### 2.3 The Road Ahead: Opportunities for Business

Despite the limitations of the Copenhagen Accord, one positive outcome of COP 15 is that countries have set a baseline comprising of all possible lowest common denominators of policy elements. This baseline should now become the basis for developing appropriate policy instruments post-2012, which will trigger investments.

Moreover, it has been observed that when countries voluntarily launch measures and set targets, the chances of them succeeding are high. Fuelled by India's domestic initiatives, Indian companies have increasingly begun to develop and implement strategies for low-carbon growth. They have started to invest in carbon and energy management systems, which are integrated in their operations and key performance indicators. The positive link between good environmental practices, profitability and long-term business sustainability makes it increasingly important for businesses to make more efficient use of resources and reduce their overall footprint through all their products, services and activities.

A significant section of the Indian industry has now begun to eagerly anticipate regulations in areas like energy efficiency and GHG emissions, and has started pre-empting new regulations. Aware of

the apparent competitive advantage, businesses have started to perceive regulatory changes as opportunities. On the PAT scheme, Tata Steel says, *“Trading Energy Saving Certificates under the National Action Plan on Climate Change may present an opportunity for Tata Steel to benefit from and implement additional mitigation measures.”*

Technology solution providers are faced with the opportunity of developing innovative solutions to help society adapt to climate change. In this regard, Indian companies with a portfolio of products designed to curb emissions and energy intensive practices are already accounting for sizeable profits associated with these opportunities. This is best illustrated by the following comment from Wipro: *“We have one of the most comprehensive and integrated portfolios of sustainability solutions for customers. Our portfolio covers clean energy and energy efficiency, green computers, green IT and green lighting. The first three alone accounted for US \$150 million of revenues during 2009-10, representing more than 2% of our total revenues”.*

When it comes to converting policies to implementation on the ground, it is the Business and Financial sector that will contribute a major chunk of the anticipated US \$500 billion in investment requirements to develop and implement clean technologies. It is clear that, at present, the world leaders have not done enough to script a radical change in business strategy, which is what is necessary to instill confidence to make crucial investments in clean technology.

India is one of the few countries that is willing to address climate change issues in a strategic transparent manner, and is the only country in the world which has a separate national Ministry for Renewable Energy. However, like many other nations, India, too, needs to address several related issues pertaining to water, agriculture and waste, simultaneously. Only then will the UN Millennium Development Goals also be addressed.

**“Trading Energy Saving Certificates under the National Action Plan on Climate Change may present an opportunity for Tata Steel to benefit from and implement additional mitigation measures”.**

#### **Tata Steel**

**“We have one of the most comprehensive and integrated portfolios of sustainability solutions for customers. Our portfolio covers clean energy and energy efficiency, green computers, green IT and green lighting. The first three alone accounted for US \$150 million of revenues during 2009-10, representing more than 2% of our total revenues.”**

#### **Wipro**

# 3

## Overview of the India 200

There is a visible 'shift' within the Indian industry to mitigate and adapt to climate change impacts, despite lack of any regulatory requirements for GHG abatement.

India, with its vast population and fast growing gap between energy demand and supply, is striving to curb its energy shortage to sustain its economic and social growth in the coming decades.<sup>6</sup> With the second-fastest growing economy and a middle class projected to grow from 50 million to 500 million in the next few decades, GHG emissions are likely to further increase.

The Indian government recognises that its development imperatives are closely intertwined with climate change externalities. It has adopted a proactive approach and chosen a green path to transit to a low-carbon economy. In June 2008, India released its first National Action Plan on Climate Change (NAPCC), prepared under the guidance and direction of the Prime Minister's Council on Climate Change. It has also set up an expert committee to develop the low-carbon strategy for the country.

<sup>6</sup> In the year ending December 2006, India faced a peak shortage of 14%, i.e. 14,000 MW (Source: Report of the Working Group on Power for 11th Plan, Ministry of Power 2007).

Given the Indian economic growth projections and spurt in energy demand with consequent impact on GHG emissions' growth, the role of Indian business becomes critical to demonstrate sustainable planning, action and transparency towards climate change. There is a visible 'shift' within the Indian industry to mitigate and adapt to climate change impacts, despite lack of any regulatory requirements for GHG abatement. The positive response of Indian businesses to CDP over the last four years is an indication of this change and their willingness to address climate change.

This year, CDP (backed by 534 institutional investors representing more than US \$64 trillion of assets under management) sent questionnaires to more than 4,700 of the world's largest corporations, requesting information on GHG emissions, on the significant risks and opportunities related to climate change and on the actions companies are taking to manage those risks and opportunities. In 2010, CDP in partnership with WWF-India and CII-ITC Centre of Excellence for Sustainable Development asked India's largest 200 companies on the National Stock Exchange (NSE) to disclose the actions they are taking to address climate change (see Appendix 3).

This chapter summarises the overall response of Indian business to the

risks and opportunities posed by climate change, covering GHG emissions, performance targets, performance benefits and governance structures.

### 3.1 Risk & Opportunity Analysis

#### 3.1.1 Methodology

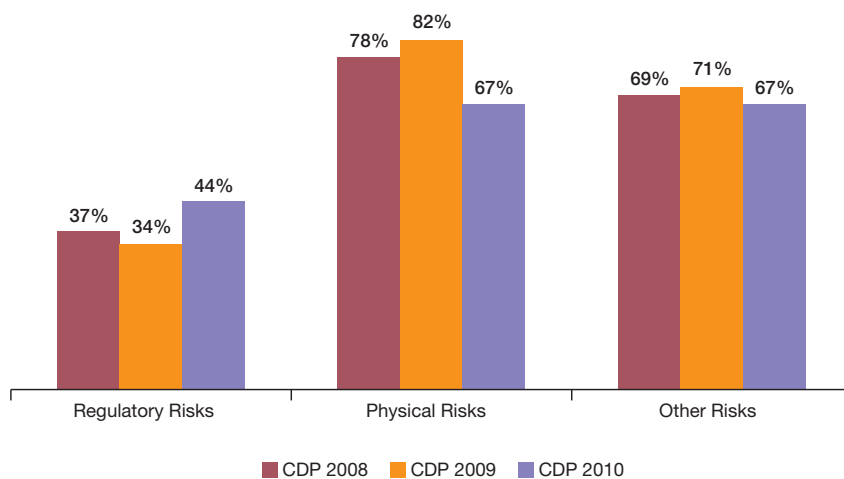
This section assesses the extent and manner in which companies are responding to the risks and opportunities related to climate change. As in previous years, three categories of risks and opportunities are highlighted in the CDP questionnaire – regulatory, physical and other. The analysis considers the financial implications associated with the identified risks/opportunities and the ways in which they influence businesses and their value chains. It also describes any actions that companies may have taken to manage or adapt to the risks/opportunities that have been identified, including the cost of those actions.

#### 3.1.2 Comparative Overview

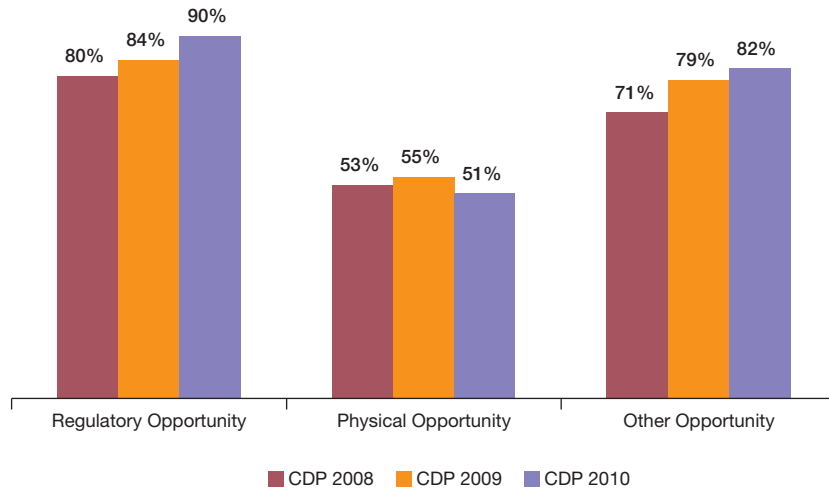
The number of responding companies, which perceive some sort of risks posed by climate change has marginally decreased in CDP 2010, as compared to previous years. Fifty-nine per cent of respondents identify some form of risk arising from climate change, as compared to 62% in CDP 2009. At

Fifty-nine per cent of respondents identify some form of risk arising from climate change, as compared to 62% in CDP 2009.

**Fig. 2: Risk Exposure- Comparative Summary & Trends**



**Fig. 3: Opportunities Perception - Comparative Summary & Trends**



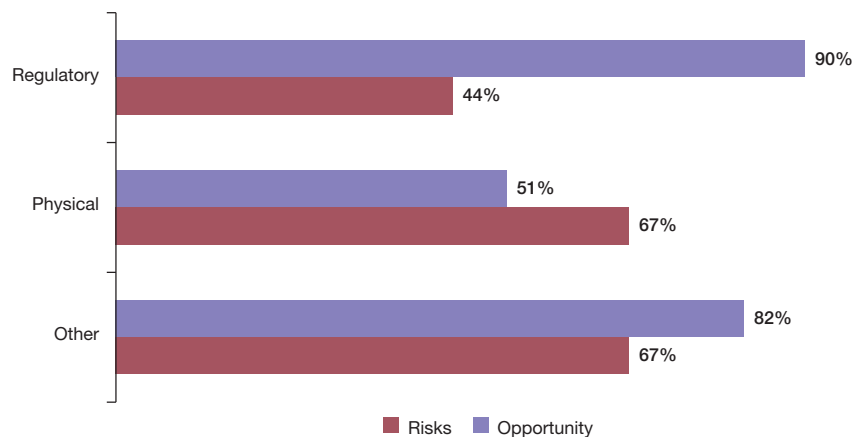
“CDP has played an important role in our recognition of risks and opportunities related to climate change, associated with our operations.”  
**Ambuja Cement Limited**

74%, identification of climate change related business opportunities remains largely unchanged from last year (73%). However, there were minor variations in observation of regulatory and physical opportunities. Figure 2 and Figure 3 provide a snapshot of the evolution of risk and opportunity perceptions amongst Indian responding companies over the last three years.

One of the most significant findings this year, is that fewer companies find that their businesses are susceptible to the

physical threats of climate change. Compared to CDP 2009, there is a marked decrease (15%) in the number of respondents identifying direct or indirect physical risks, which may arise from extreme weather events or changes in weather patterns. Also, evident from Figure 2 is the increase (10%) in identification of regulatory risks arising from current and/or anticipated domestic and global policy on climate change. Other risks encompassing market, reputational and supply chain concerns show a minor decrease

**Fig. 4: Identification of Risks and Opportunities**



(4%) from 2009 levels. “CDP has played an important role in our recognition of risks and opportunities related to climate change, associated with our operations.” **Ambuja Cements Limited**

There has been little change in overall anticipation of business opportunities arising from climate change. Seventy-four per cent of the respondents identified some form of regulatory, physical or other opportunity associated with climate change. However, as depicted in Figure 3, minor variations can be observed for regulatory, physical and other opportunities. In CDP 2010, 6% more respondents find that current or anticipated climate change regulations present opportunities for their organisations and 4% fewer respondents identify any business opportunities to be gained from the physical consequences of climate change. Three per cent more identify other opportunities. Figure 4 summarises risk and opportunity perceptions among CDP 2010 respondents.

### 3.1.3 Risks

#### a. Regulatory Risks

Fifty-six per cent (22) of the respondents note the absence of any regulatory risks. This is largely attributed to India’s non-Annex 1 status under the Kyoto Protocol and the lack of any statutory derivatives for mandatory GHG emissions reductions. Indian companies understand the impact that a legal binding agreement can have on their businesses and responses show that the absence of any such international agreement is the main reason for low regulatory risk perceptions. The outcome of negotiations at the UNFCCC 15th Conferences of the Parties (COP 15) in Copenhagen in December 2009 has also played a role in shaping companies’ perception of low immediate regulatory risks this year.

“Failure to reach agreement on a legally binding outcome in Copenhagen has slowed progress on regulation in many areas, but does not seem to have stopped the

process entirely. Further regulations are expected in developed countries, e.g. the OECD countries, but at a much slower pace than if COP 15 had resulted in an agreement.” **ABB**

On the other hand, 44% (17) of the CDP 2010 respondents report exposure to regulatory risk. Amongst the most frequently cited regulatory concerns are the Kyoto Protocol, National Action Plan on Climate Change (NAPCC), Perform Achieve & Trade Scheme and ECBC Guidelines. Responses show that companies are closely following both global as well as domestic climate policy developments. This is particularly evident in the case of companies with operations and customers in Annex 1 countries where stricter environmental norms are more likely to materialise or are already being implemented.

Regarding localised regulatory risks, Indian companies appear to be placing a considerable amount of significance on the NAPCC and more specifically, on the National Mission on Enhanced Energy Efficiency and its Perform Achieve & Trade (PAT) Scheme, a cap and trade mechanism for energy savings. This initiative allows nine large energy-intensive industries and facilities to engage in the trading of certified energy savings and is expected to help reduce CO<sub>2</sub> emissions by 25 million metric tonnes per year by 2014-15. Companies concerned about the PAT scheme are primarily representatives of the nine energy-intensive sectors.

There are also frequent mentions of Green Building guidelines such as Energy Conservation & Building Code (ECBC) and the LEED rating. This is most commonly observed from companies in the business of developing buildings assets, such as those from the Real Estate Development, Construction and Engineering sectors. It is also cited as an operating risk by service providers, including those from Banks & Diversified Financials and the IT consulting sector.

Companies identify regulatory risks as having both direct and indirect impacts. They note that certain regulatory risks result in financial

Seventy-four per cent of respondents identify some form of regulatory, physical or other opportunity associated with climate change.

“Failure to reach agreement on a legally binding outcome in Copenhagen has slowed progress on regulation in many areas, but does not seem to have stopped the process entirely. Further regulations are expected in developed countries, e.g. the OECD countries, but at a much slower pace than if COP 15 had resulted in an agreement.” **ABB**



“Any future non-compliance with the expected stringent environmental regulations may lead to penalties which in turn will affect the organisation’s business potential.”

**ACC**

“IFCI operations are indirectly exposed to regulatory risks through its borrowers to whom IFCI has extended financial assistance, particularly the high carbon intensity industries, viz. power generation, transport, mining, etc.”

**IFCI**

“The impact of climate change can result in more frequent occurrence of extreme weather events such as flooding and storms leading to physical damage to corporate assets and real estate.”

**Yes Bank Limited**

“We do not consider our company to be exposed to physical risks because all manufacturing sites and operations are located in areas not particularly sensitive to inundation due to changes in climate conditions.”

**ABB**

implications which fall directly on the company itself, whilst others manifest indirectly through vendors, customers and other members of the value chain. One of the highlighted impacts of direct regulatory risks is the likelihood of additional financial responsibilities in terms of capital investment required for energy efficiency and carbon abatement projects. Another concern voiced by respondents, is that in the future, non-compliance with regulatory guidelines may lead to financial penalties.

“Compliance with future regulations will put a financial burden on the organisation in terms of upgrading the existing technologies and procurement of new technologies. Any future non-compliance with the expected stringent environmental regulations may lead to penalties which in turn will affect the organisation’s business potential.”

**ACC**

The indirect impacts of regulatory risks include those which influence companies through their intermediaries and markets. Such regulatory risks are apparent in responses from the financial sector. Financial institutions find that regulatory risks are not a direct threat to their own operations; rather they are indirectly affected through the clients in their portfolio. This is observed when providing priority lending assistance to clients that are susceptible to regulatory policies, which penalise companies for having higher GHG emissions and energy intensity.

“IFCI operations are indirectly exposed to regulatory risks through its borrowers to whom IFCI has extended financial assistance, particularly the high carbon intensity industries, viz. power generation, transport, mining, etc.”

**b. Physical Risks**

Sixty-seven per cent (26) of the respondents perceive physical threats from climate change affecting their business and/or value chain. Given the diversity of the sample size of India 200, there is considerable variation in the identified risks;

however, certain broad similarities can be observed. The most frequently disclosed physical risks include:

- Exposure to extreme weather events
- Weather related disruptions of the value chain
- Increase in utility and fuel overheads

Risks arising from exposure to extreme weather events are the most significant physical threat reported this year. Companies observe numerous ways in which extreme weather events affect their businesses. A large majority of respondents find that the increased frequency of cyclones, floods and storms jeopardise their real estate and asset infrastructure. Properties located in low-lying, coastal and offshore regions are acknowledged as being particularly vulnerable to these localised hazards.

“The impact of climate change can result in more frequent occurrence of extreme weather events such as flooding and storms leading to physical damage to corporate assets and real estate. Direct losses can also be incurred due to drought, precipitation, soil erosion and flood; the physical risks being higher in case of offices/branches located close to the coast.”

**Yes Bank Limited**

In addition to endangering corporate assets, increasingly frequent extreme weather events expose company personnel to physical hazards which affect their health and safety. Respondents state that this can lead to additional absence time, negatively influencing the productivity of the company. Dramatic escalations in the frequency and intensity of extreme weather events are also found to cause failure of electronic and telecommunication networks, thereby placing certain industries in a position of vulnerability. Thirty three per cent (13) of respondents report that they do not perceive any physical risks. This is explained by the fact that their companies’ plants and buildings are located in areas that are not expected to be exposed to the physical externalities of climate change.



“We do not consider our company to be exposed to physical risks because all manufacturing sites and operations are located in areas not particularly sensitive to inundation due to changes in climate conditions.” **ABB**

Responses also illustrate a high sensitivity to indirect physical risks. Companies find their value chains to be susceptible to weather related disruptions, which could lead to significant losses in productivity and sales. These indirect risks could occur upstream in the event of drying up of the supply chain or downstream due to climate-induced breakdowns in distribution networks. In either case, companies place considerable emphasis on mitigating these indirect risks and have prepared contingency plans to account for the same.

“Changes in frequency of extreme events, such as sea level rise and flooding, water shortage and induced changes in natural resources, could lead to disruption in operations as well as the supply chain and affect business continuity.” **Tata Chemicals**

Of the companies that anticipate physical risks, 85% (22) are taking some form of action to manage or adapt to these risks. This includes, due-diligence measures to preempt physical risks, as well as disaster management plans to minimise fallout in the event of natural calamities. Responses show that companies are being more proactive in their assessment of physical threats prior to investing in the development of asset infrastructure. Due-diligence is being exercised in the evaluation of physical vulnerability of project sites and through historical climatic data of site locations.

“The process of identifying physical risks in a project is initiated before extending financial assistance by way of comprehensive due-diligence of the project. Independent engineer's opinion is sought in respect of suitability of the location, technology and environmental impact for decision making. The historical data in respect of weather and its consequential impact on the project site, in specific, is studied. The

project is designed based on the structural standards to meet the impact of seismicity, flood, hurricanes, storms, etc.” **IFCI**

Companies are also developing site-specific contingencies for coping with natural disasters and supply chain risks. These are essential for ensuring business continuity in the event of physical disruptions. Common business contingencies include incorporation of risk considerations into the design of climate-resilient plants and buildings, so as to minimise damage to human life and assets. Companies are also investing in sustainable raw materials and renewable energy to cope with demand side risks caused by the limited availability of scarce resources.

“P&G's Global Business Continuity Programme ensures that all critical sites and work processes evaluate their risk mitigation programmes, exposure to catastrophic events both at P&G sites and sites of our key suppliers and service providers that could significantly interrupt business operations. We assess the business impact of such events. Site and business unit leaders then develop contingency plans to minimise business interruption if a disabling event should occur. Tests are conducted annually to ensure the contingency plans are sufficient and up-to-date.” **Procter & Gamble**

### c. Other Risks

Besides the identified regulatory and physical risks, 67% (26) of the respondents identify other risks related to climate change. Other risks include risks associated with climate change apart from those arising from regulatory action or physical changes. Other risks may include, but are not limited to, changes in consumer attitude and demand and reputational risk.

Reputational risks are experienced by those companies which are subject to negative public opinions. These are mostly, but not exclusively, related to customer attitudes. According to the responses, reputational risks arise when there is a lack of transparency and disclosure

“Changes in frequency of extreme events, such as sea level rise and flooding, water shortage and induced changes in natural resources, could lead to disruption in operations as well as the supply chain and affect business continuity.”

**Tata Chemicals**

“The process of identifying physical risks in a project is initiated before extending financial assistance by way of comprehensive due-diligence of the project. Independent engineer's opinion is sought in respect of suitability of the location, technology and environmental impact for decision making.”

**IFCI**

“P&G's Global Business Continuity Programme ensures that all critical sites and work processes evaluate their risk mitigation programmes, exposure to catastrophic events both at P&G sites and sites of our key suppliers and service providers that could significantly interrupt business operations.”

**Procter & Gamble**

“Moving forward, there will be a need for more transparency and increased disclosure on climate action by corporations, both internationally through initiatives, such as the Carbon Disclosure Project and domestically through upcoming mandatory and voluntary disclosure requirements.”

**Hindustan Petroleum Corporation Limited**

“As concern for climate change increases, there would be adverse effect on brand value of companies that show inadequate information on GHG emissions or lax treatment of it.”

**Larsen & Toubro**

“Since India is a part of non-Annex 1 countries in the context of the Kyoto Protocol, it provides us with the opportunity to undertake CDM projects and subsequently, revenue can be generated out of CERs.”

**Asian Paints**

concerning a company’s environmental performance. This can also be linked to reports of increasing pressure from the investor community on companies to proactively disclose their carbon footprints and strategies for mitigating climate change.

“Moving forward, there will be a need for more transparency and increased disclosure on Climate Action by Corporations, both internationally through initiatives, such as the Carbon Disclosure Project and domestically through upcoming mandatory and voluntary disclosure requirements.” **Hindustan Petroleum Corporation Limited**

Companies can also suffer reputational risks if they convey a sense of apathy with regard to their energy and carbon footprint. With growing environmental awareness and sensitivity, respondents note that customers are less likely to purchase products and services from companies, which fail to respond to relevant climate change issues through corporate strategy and performance commitments.

“As concern for climate change increases, there would be adverse effect on brand value of companies that show inadequate information on GHG emissions or lax treatment of it. There are also potential reputation risks to businesses that fail to implement sensible strategies and commitments to reduce energy consumption and invest in renewable and sustainable energy alternatives.” **Larsen & Toubro**

Market risks affiliated with climate change are also high on the corporate agenda. Most evident are the competitive risks that traditional products and services face from environmentally friendly substitutes. Changes in consumption patterns are becoming apparent as customer awareness of such sustainable alternatives grows. Companies also voice concerns about the financial implications associated with investment in changing product and service lines. They are particularly concerned about delays in return on investment (ROI) and the capital risk of investing in sustainable goods and

services which do not demonstrate any commercial viability in the market yet.

### 3.1.4 Opportunities

#### a. Regulatory Opportunities

Ninety per cent (35) of the respondents anticipate opportunities for their organisations emerging from climate legislature. This high figure is indicative of the increasing relevance of environmental policy in shaping the business response to climate change. As in the case of regulatory risks, Indian companies are acting upon opportunities presented in both global and national regulatory spheres.

The Kyoto Protocol retains its significance this year. Generation of green revenue through the Clean Development Mechanism (CDM) is found to be the most frequently identified regulatory opportunity. A number of disclosing companies report having CDM projects registered with the UNFCCC. However, few provide any information on the Certified Emissions Reductions (CERs) earned or GHG emission savings obtained by way of these projects.

“Since India is a part of non-Annex 1 countries in the context of the Kyoto Protocol, it provides us with the opportunity to undertake CDM projects and subsequently, revenue can be generated out of CERs.”

**Asian Paints**

Apart from profits through sale of CERs, opportunities to build corporate reputation and energy savings are some of the other benefits companies derive through CDM projects. Analysis of company responses reveal positive expectations concerning a second commitment period for the Kyoto Protocol, and companies continue to make investments in the establishment of new CDM projects.

Companies also identify opportunities associated with domestic policy action on climate change issues. A large number of respondents recognise lucrative business prospects stemming from

energy efficiency regulations. Developments within the National Mission on Enhanced Energy Efficiency (NMEEE) are observed to be particularly significant. Many of the respondents anticipate opportunities related to the trading of energy saving certificates under the NMEEE's Perform Achieve & Trade Scheme. Others find that the National Energy Labelling Programme, an energy efficiency legislation pertaining to product labelling regulation and standards, stimulates demand for new and improved products. Similar market opportunities are also linked to the Energy Conservation Building Code.

“ABB has a large portfolio of products and services that help our customers in the utility and industry sectors save energy and reduce greenhouse gas emissions. Enhanced regulations would increase the demand for our products and services even further.”

**ABB**

Opportunities for financing energy efficiency and renewable energy projects are unanimously observed by Banks & Diversified Financials. Over the next five years, the NMEEE aims to create a Rs. 7,400 million market for energy efficiency and this will present considerable funding opportunities for financial institutions. Likewise, the Jawaharlal Nehru National Solar Mission aims to add 20,000 MW of solar energy by 2020, which will also translate into significant investment potential.

Internationally, the Kyoto Protocol has been pivotal in creating new financial markets and shaping the demand for Carbon Advisory Services. Services used by reporting companies include CDM deliberations, trading of CERs, GHG footprint mapping as well as sustainability reporting.

“Under a regulated environment, many corporates would be required by legislation to upgrade or substitute the existing manufacturing processes to contain their GHG emissions and comply with the set standards. This will open up huge opportunities for banks and financial institutions to fund Clean Development Mechanism enabled projects using clean

technologies and to enter bundling and trading of CER business as well.”

**State Bank of India**

Regulatory drivers of internal improvements in energy efficiency are cited as having significant financial implications for businesses. The optimisation of operating processes and products has allowed companies to benefit from reductions in energy and production overheads. Measures being taken by respondents in this regard focus mainly on enhancements in energy efficiency, switching to renewable energy and integration of sustainable inputs in the production process. Such investments are found to have long-term positive impacts on the triple bottom line.

“L&T considers the regulatory changes in climate policy as an opportunity for its business and hence has focused on reduction in operating costs, through optimisation of processes and products, switching over to renewable energy, availing energy efficiency for its operations which will result in GHG emission reduction. L&T also believes that the long term investments in energy efficient technologies will result in financial benefits.”

**Larsen & Toubro**

## **b. Physical Opportunities**

Anticipation of physical opportunities presented by climate change is considerably lower than regulatory and other opportunities. Only half of the responding companies (51%) find opportunities for their businesses arising from the physical impacts of climate change, and of these responses, 66% recognise financial implications for their businesses or value chain. Evaluation of the responses reveals little diversity in the range of physical opportunities identified; however, two significant trends emerge. In the first case, adaptation to adverse climatic impacts favorably influences the demand for certain products and services. The second trend pertains to indirect opportunities associated with the supply chain.

A majority of the respondents recognise opportunities to provide goods and services that may enable

“ABB has a large portfolio of products and services that help our customers in the utility and industry sectors save energy and reduce greenhouse gas emissions. Enhanced regulations would increase the demand for our products and services even further.”

**ABB**

“Under a regulated environment, many corporates would be required by legislation to upgrade or substitute the existing manufacturing processes to contain their GHG emissions and comply with the set standards. This will open up huge opportunities for banks and financial institutions to fund CDM enabled projects using clean technologies and to enter bundling and trading of CER business as well.”

**State Bank of India**



“L&T considers the regulatory changes in climate policy as an opportunity for its business and hence has focused on reduction in operating costs, through optimisation of processes and products, switching over to renewable energy, availing energy efficiency for its operations which will result in GHG emission reduction.”

**Larsen & Toubro**

“ACC expects that demand for structures such as coastal protections, inland flood defenses, inland water management schemes and more solid buildings will increase in the coming years. This will positively affect demand for cement and concrete.”

**ACC**

“Large investments will be necessary for adaptation projects by our clients, which would necessitate support from financial institutions.”

**State Bank of India**

others to adapt to the physical consequences of climate change. For example, companies note that changes in precipitation patterns have increased the focus on water around the world. This has created a business opportunity for products, which tackle the issues of water supply and water quality. Household Appliance companies find that prolonged summer seasons increases the demand for cooling and refrigeration. Similarly, the increased frequency of extreme weather events has increased the demand for cement and other building materials required for adaptation infrastructure.

“Climate change may lead to rising sea levels and more extreme weather conditions resulting in natural calamities like flooding, mudslides, erosion and strong wind forces. These extreme calamities call for protective civil infrastructure. ACC expects that demand for structures such as coastal protections, inland flood defenses, inland water management schemes and more solid buildings will increase in the coming years. This will positively affect demand for cement and concrete.” **ACC**

Aside from products, adaptation to the physical consequences of climate change also positively influences the Services industry. Consultancies perceive opportunities to provide knowledge solutions for optimisation of operations and minimisation of exposure to physical threats. Banking service providers expect to continue to generate a considerable amount of business by financing adaptation projects.

“Large investments will be necessary for adaptation projects by our clients, which would necessitate support from financial institutions.” **State Bank of India**

Respondents also note physical opportunities related to the supply chain. Supply chain opportunities arise when a company stands to gain from logistical disruptions in its competitor’s supply chains. In such cases, favourable product availability essentially translates into better sales margins. These opportunities have

been identified mostly by companies which do not have infrastructure located in vulnerable regions. Others perceive opportunities to provide solutions to counter physical disruptions of the supply chain.

“Climate change induced physical risks will affect the value chain of our customers and this gives us the opportunity to provide solutions and services to overcome the supply chain limitations posed by climate change threats.” **Tata Consultancy Services**

### **c. Other Opportunities**

In addition to the regulatory and physical opportunities already identified, 82% (31) of the respondents perceive other opportunities in relation to climate change. These opportunities can be broadly classified into benefits earned through reputational gains and market opportunities. The latter pertains specifically to products and services catering to renewable energy and energy efficiency requirements and bears certain linkages to the previously discussed market opportunities presented by regulatory and physical opportunities.

Reputational gains are obtained when there is an enhancement in an organisation’s corporate image, as a result of its conscientious and proactive stance on climate change. Companies with a strong environmental performance can enjoy certain competitive advantages related to reputation. Respondents find that they are able to position themselves as responsible corporate citizens, thus differentiating them from peers with poor performance on climate change. This also improves their ability to attract and retain a highly skilled workforce which can further strengthen an organisation’s performance.

“ACC’s climate change strategy and CO<sub>2</sub> reduction efforts have contributed significantly to ACC’s industry leadership in sustainable development. This leadership position adds substantial value to ACC’s business, by differentiating ACC from its competitors,

supporting its credibility, reputation of ACC's brand and helping ACC to attract and retain talent in a competitive market place." **ACC**

"We strongly believe that the reputational spinoffs from our sustainability programme are enormous, evidence of which is already available. We have been regular winners of national level awards for our performance in sustainability. The latest Greenpeace rankings guide to Green Electronics places us at No.1 position jointly with Nokia. Our sustainability reports have won wide acclaim and praise. All of these will definitely help us significantly in attracting high quality talent from all parts of the world. Today, we have 70 nationalities represented in our workforce and we think that we are at an advantage in recruiting diverse talent because of our actions on sustainability." **Wipro**

Companies across sectors perceive an expansive range of market opportunities. Automobile manufacturers are developing more fuel efficient vehicles as well as hybrid and biodiesel vehicles to respond to changes in consumer preferences. The Industrial sector is capitalising on the significant expansion of the market for energy efficient products and applications, while Oil & Gas companies are expanding their product portfolio to include renewable energy and alternative fuel. Wind, solar and biodiesel, in particular, are attracting considerable investment from this sector. Clearly, each of these sectors is manufacturing or developing unique products and services, driven by renewable energy or energy efficiency innovation.

"In the State of Uttar Pradesh, BPCL has launched "Project Triple One" – the biodiesel value chain which envisages cultivating one million acres of wasteland, creating one million jobs and producing one million metric tonnes of biodiesel from the plantation to replace diesel in the next ten years." **Bharat Petroleum Corporation Limited**

"Crompton Greaves identifies opportunities in terms of expansion of market for energy efficient

products and applications thereby providing a huge upside in the revenue potential. The company has already been promoting energy conservation and is dedicated to manufacture energy efficient products." **Crompton Greaves**

### **3.2 GHG Emissions reported in 2010**

Over the last three years CDP has been successful in getting Indian companies on board to disclose their GHG emissions. In 2010, 85% (33) of the responding companies report GHG emissions, which is more than a twofold increase since CDP 2008 (see Figure 5). Amongst the energy intensive sectors, the Materials sector is leading in terms of the quality of GHG disclosure to CDP 2010. It is also worth mentioning that even non-energy intensive sectors, such as Financial Institutions and Information Technology, have started reporting their GHG emissions. Yet another positive indication is that companies have begun to verify their reported emissions to ensure the reliability and accuracy of their emissions data.

#### **3.2.1 Methodologies – GHG Emissions Accounting**

The GHG reporting boundaries for the companies under CDP have been defined as the number of entities/group for which the respondents report their GHG emissions. The majority of the respondents (77%) in CDP 2010 define their reporting boundary "as companies on which they have operational or financial control". The remaining 23% do not clearly specify their reporting boundaries.

In contrast to previous CDP iterations, there has been a minor shift in the methodologies and protocols adopted to monitor GHG emissions for CDP 2010. The number of respondents that have started using ISO 14064-1 for GHG reporting has gone up almost three times since CDP 2008 and CDP 2009. Even though the number of disclosing companies using the GHG Protocol has gone down since CDP 2009, it continues to be the most popular methodology adopted by Indian

"Climate change induced physical risks will affect the value chain of our customers and this gives us the opportunity to provide solutions and services to overcome the supply chain limitations posed by climate change threats."

#### **Tata Consultancy Services**

"ACC's climate change strategy and CO<sub>2</sub> reduction efforts have contributed significantly to ACC's industry leadership in sustainable development."

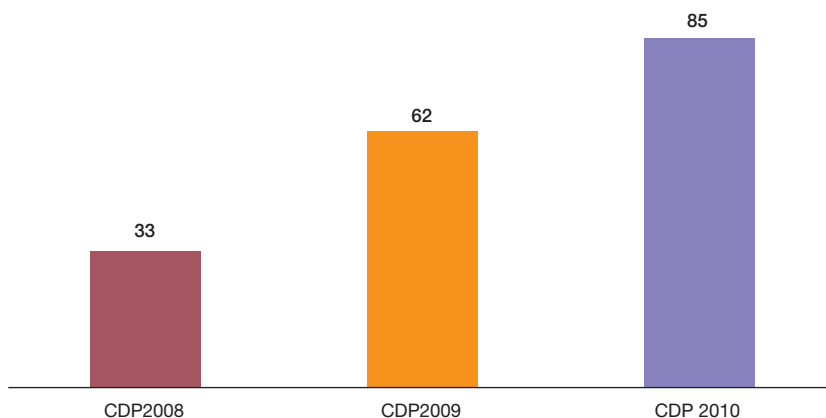
#### **ACC**

"In the State of Uttar Pradesh, BPCL has launched "Project Triple One" – the biodiesel value chain which envisages cultivating one million acres of wasteland, creating one million jobs and producing one million metric tonnes of biodiesel from the plantation to replace diesel in the next ten years."

#### **Bharat Petroleum Corporation Limited**

“Crompton Greaves identifies opportunities in terms of expansion of market for energy efficient products and applications thereby providing a huge upside in the revenue potential. The company has already been promoting energy conservation and is dedicated to manufacture energy efficient products.”  
**Crompton Greaves**

**Fig. 5: Percentage of Companies Reporting GHG Emissions**



companies with 60% using it (see Figure 6). Fifteen per cent of respondents still use other methodologies.

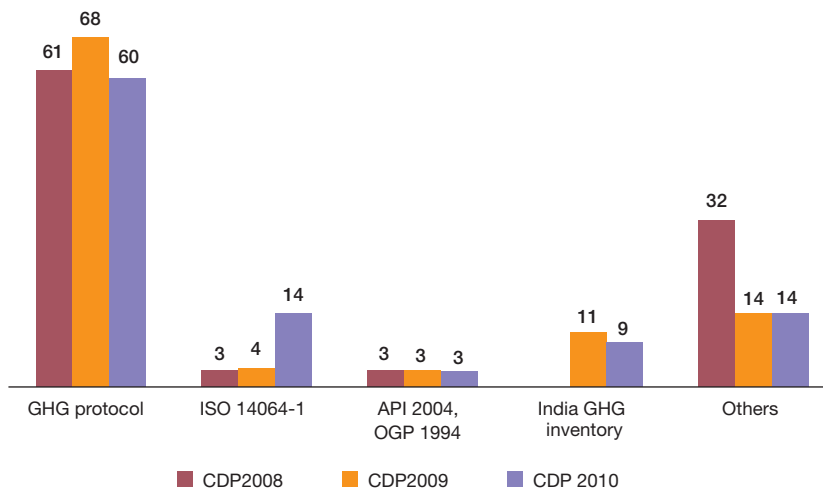
**3.2.2 GHG Disclosure Variance – Scope 1, Scope 2 and Scope 3**

The quality of GHG disclosure has improved significantly over the four successive CDP India iterations. More and more companies are now mapping and reporting their GHG emissions by Scope 1, Scope 2 and Scope 3<sup>7</sup> (see Box: Concept of “Scope”). The percentage of respondents which are reporting their

direct Scope 1 emissions has gone up each year, from 33% (17) in 2008 to 63% (24) in 2009, and to 85% (33) for CDP 2010. Between CDP 2008 and 2010, there is an increase of 2.5 times in companies reporting their Scope 1 emissions. A similar trend is also observed for Scope 2 emissions.

However, the most significant improvement is the increase in the number of companies reporting Scope 3 emissions. This has almost doubled from 26% in 2008 to 46% for CDP 2010.

**Fig. 6: Methodologies Selected for GHG Accounting (%)**



The percentage of respondents which are reporting their direct Scope 1 emissions has gone up each year, e.g. from 33% (17) in 2008 to 63% (24) in 2009, and to 85% (33) for CDP 2010.

<sup>7</sup> The CDP questionnaire follows the terminology of the GHG Protocol.



With only a few exceptions, most of the respondents to CDP 2010, from both energy intensive as well as non-energy intensive sectors, disclose their Scope 1 & Scope 2 emissions.

The total GHG emissions reported to CDP India have gone up over the last three years. Under CDP 2010, 114 million tonnes of GHG emissions were reported, as compared to 69

million tonnes in CDP 2009 and 36 million tonnes for CDP 2008 (see Figure 8). Direct Scope 1 emissions continue to account for the largest part (85%) of the reported GHG emissions with 91 million tonnes in CDP 2010. Indirect Scope 2 emissions stand at only 14% of the reported emissions, which is very low compared to international levels. While this might partly be due to the

## CONCEPT OF “SCOPE”

**Scope 1 Direct GHG emissions:** Direct GHG emissions occur from sources that are owned or controlled (according to the boundary set in the definitions below) by the reporting organisation. For example:

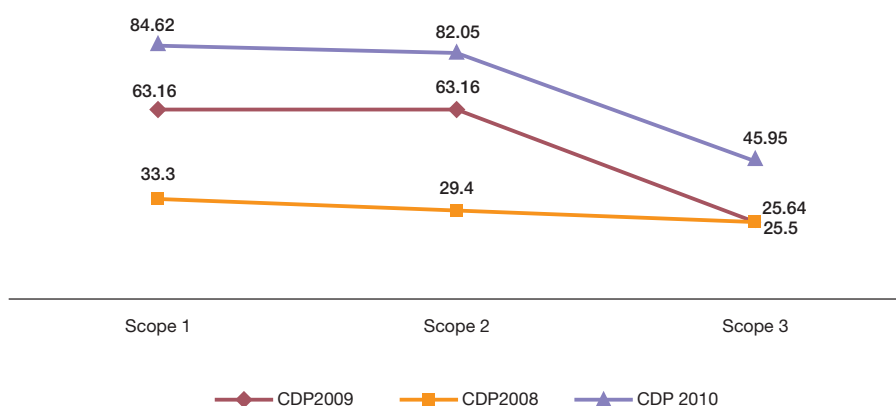
- **Stationary combustion:** combustion of fuels in stationary equipment such as boilers, furnaces, turbines, heaters, incinerators, engines, flares, etc.
- **Mobile combustion:** combustion of fuels in transportation devices such as automobiles, trucks, buses, planes, ships, barges, trains, etc.
- **Process emissions:** emissions from chemical or physical processes such as CO<sub>2</sub> from the calcinations step in cement manufacturing, CO<sub>2</sub> from catalytic cracking in petrochemical processing, PFC emissions from aluminum smelting, etc.
- **Fugitive emissions:** intentional or unintentional releases such as equipment leaks from joints, seals, packing and gaskets as well as fugitive emissions from coal piles, wastewater treatment, pits, cooling towers, gas processing facilities; methane emissions from coal mines and venting; hydrofluorocarbon emissions during the use of refrigeration and air conditioning equipment; and methane leakage from gas transport.

**Scope 2 GHG emissions:** Companies report emissions from the generation of purchased energy, consumed in its owned or controlled equipment or in its operations, as Scope 2. For many companies, purchased electricity represents one of the largest sources of GHG emissions and the most significant opportunity to reduce these emissions. Other common purchased energy forms are steam, heat or cold.

**Scope 3 GHG emissions:** GHG emissions arising as a consequence of the activities of the company but occurring from sources not owned or controlled by the company; thus, emissions that are outside the consolidation boundary.

Over the last three years CDP has been successful in getting Indian companies on board to disclose their GHG emissions. In 2010, 85% (33) of the responding companies report GHG emissions, which is more than a twofold increase since CDP 2008.

**Fig. 7: GHG Disclosure Variance Reported (%)**



“Our reduced dependence on electricity from the grid enabled us to decrease our indirect emissions by 16.15%. Simultaneously, the curtailed consumption of conventional fuels at our operations resulted in a 7.25% dip in direct emissions.”  
**Larsen & Toubro**

disclosing companies reporting boundaries and practices, it is also a clear indication that most Indian businesses do not want to rely on the grid to meet their power requirements, but depend on their own captive power generation. While captive power generation helps reduce carbon emissions by minimising transmission and distribution losses, economies of scale are being lost. Several companies with their own power supplies use clean innovative technology, but where this is not the case, private power generation generally results in higher overall emissions.

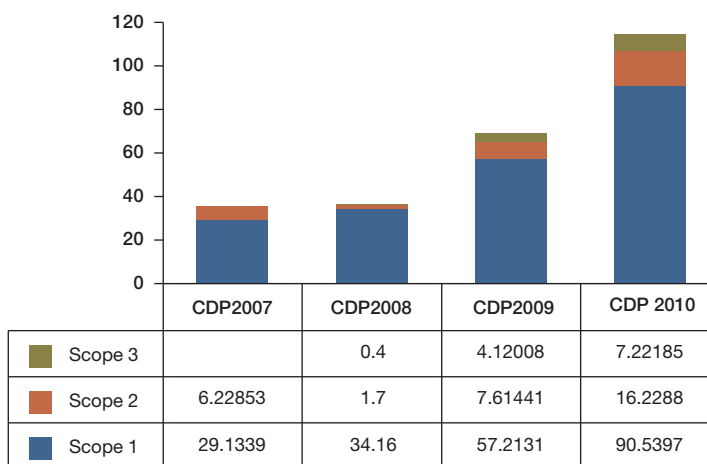
“Our reduced dependence on electricity from the grid enabled us to

decrease our indirect emissions by 16.15%. Simultaneously, the curtailed consumption of conventional fuels at our operations resulted in a 7.25% dip in direct emissions.” **Larsen & Toubro**

The reported Scope 3 emissions have almost doubled from four million tonnes in 2009 to seven million tonnes in CDP 2010. This can be attributed to the improvement in GHG emissions monitoring. At the same time, it reflects the trend that Indian companies are looking beyond their direct sphere of influence when accounting their carbon footprint.

Not only do a growing number of companies report Scope 3 emissions, but there has also been a

**Fig. 8: Reported GHG Emissions (in million tonnes)**



shift in the type of mapping/reporting. For CDP 2009, 96% of the reported Scope 3 emissions were associated with employees' business travel. This still continues to be an important component of disclosed Scope 3 emissions for CDP 2010, but interestingly respondents are now increasingly looking at other areas of indirect GHG emissions.

In fact, the largest part of reported Scope 3 emissions are 'Other' Scope 3 emissions, accounting for 46.5% (see Figure 9) and include diverse sources of emissions, such as disposal of products, waste generation, emissions from leased assets, courier and logistics, upstream emissions, etc. Employee business travel accounts for the next major share of Scope 3 emissions with 43%. This is an area where Indian businesses could explore ICT solutions, such as video conferencing and teleconferencing as alternatives to travel.

Emissions from transportation and distribution of products also feature in CDP 2010 and account for as much as 8% of the total reported Scope 3 emissions. This is another indication that Indian businesses are looking beyond conventional GHG monitoring.

### 3.2.3 GHG Emissions Intensity Benchmarks

Emissions intensity figures allow companies to benchmark their emissions against other players in the same sector in terms of carbon dioxide equivalent (CO<sub>2</sub>-e) to an economic or a physical output.

There is no standardised GHG emissions intensity used by the Indian respondents, with different companies using different units of measurements (see Table 1).

GHG emissions intensity reported in terms of both financial output as well as product were found to be equally popular in CDP 2010. Thirty-eight per cent (20) of the respondents report their emissions intensity in terms of financial output, i.e. CO<sub>2</sub>-e emissions/turnover or sales, as well as product intensity in terms of CO<sub>2</sub>-e per metric tonne of output. There are

also 23% of the respondents that report their intensity in terms of the number of their employees (see Figure 10).

Absence of a standardised GHG emissions intensity measure makes it difficult for companies and other stakeholders to benchmark a company's performance as compared to respective competitors. If all companies, irrespective of their sectors, reported their emission intensity in terms of their financial turnover/revenue generated, it would enable better cross-sectoral comparison of GHG intensity of different sectors.

### 3.2.4 Reported Emissions Reduction Targets

Setting emission reduction targets and monitoring them is the first step towards reducing GHG emissions. Most of the respondents to CDP 2010 have established specific targets to improve their energy efficiency and reduce GHG emissions. One-third of the respondents have emissions reduction targets in place, while 24% are in the process of developing one (see Table 2). Most of the targets reported to CDP 2010 are focused on reducing GHG emissions, while in CDP 2009 the focus was more on improving energy efficiency.

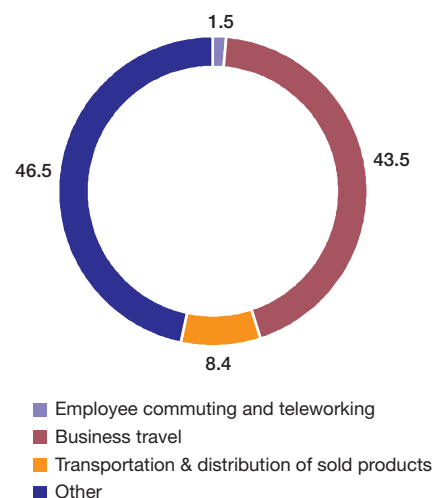
Another striking feature of CDP 2010 is that all the reported targets are quantitative (see Table 2). This is in contrast to last year, where some companies had set targets that were subjective in nature. The majority of the reported targets are intensity based, while some targets reported are absolute in nature. To achieve these targets, the companies have taken initiatives in various areas ranging from process and product improvements, adoption of clean fuel, technological innovations/improvements, green energy and renewable energy procurement, green buildings, energy audits and robust planning.

"We have modified our refineries, thereby equipping them to achieve process improvements and mitigate emissions." **Bharat Petroleum Corporation Limited**

Absence of a standardised GHG emissions intensity measure makes it difficult for companies and other stakeholders to benchmark a company's performance as compared with respective competitors.

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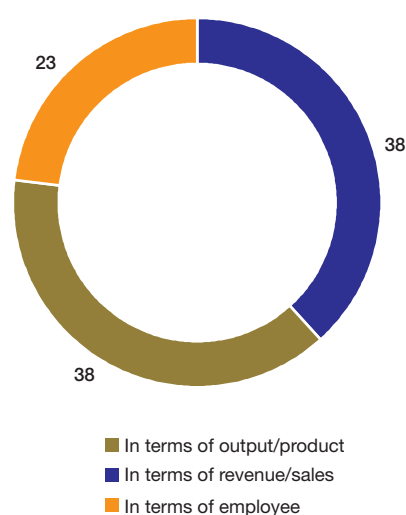
**Fig. 9: Mapping Scope 3 Emissions (%)**



"We have modified our refineries, thereby equipping them to achieve process improvements and mitigate emissions." **Bharat Petroleum Corporation Limited**

**Table 1: Emission Intensity reported by different companies**

Company	Sector	Unit	Emission Intensity
Mahindra & Mahindra	Consumer Discretionary	Metric tonnes CO <sub>2</sub> -e per million USD of revenue	48.56
		Metric tonnes CO <sub>2</sub> -e/equivalent vehicles produced	0.45
Hindustan Petroleum Corporation	Energy	Metric tonnes CO <sub>2</sub> -e per tonne of output	0.17
YES Bank Limited	Financials	Metric tonnes CO <sub>2</sub> -e per employee	4.44
		Metric tonnes CO <sub>2</sub> -e per branch	86.04
Crompton Greaves	Industrial	Metric tonnes of CO <sub>2</sub> -e per million INR of turnover	46,107
Larsen & Toubro	Industrials	Metric tonnes CO <sub>2</sub> -e per full time equivalent employee	7.61
		Metric tonnes of CO <sub>2</sub> -e per million USD of revenue	50.48
ITC	Industrials	Metric tonnes of CO <sub>2</sub> -e per million INR of gross Income	5
Jubilant Organosys	Industrials	Metric tonnes of CO <sub>2</sub> -e per employee	142.4
		Metric tonnes of CO <sub>2</sub> -e per million INR of revenue	21.9
Tata Consultancy Services	Information Technology	Metric tonnes CO <sub>2</sub> per employee	2.59
		Metric tonnes of CO <sub>2</sub> -e per million INR of revenue	1.41
WIPRO	Information Technology	Metric tonnes of CO <sub>2</sub> -e per employee	2.68
		Metric tonnes CO <sub>2</sub> -e per million INR of revenue	1.03
Ambuja Cements	Materials	Kilograms CO <sub>2</sub> -e per tonne of output	662
Sesa Goa	Materials	Metric tonnes CO <sub>2</sub> -e per tonne of met coke	0.76
		Metric tonnes CO <sub>2</sub> -e per tonne of pig iron	1.49
ACC	Materials	Kilograms CO <sub>2</sub> -e per tonne of output	579
		Metric tonnes of CO <sub>2</sub> -e per million INR of revenue	146
Tata Steel	Materials	Metric tonnes CO <sub>2</sub> -e per tonne of output	2.38
Tata Chemicals	Materials	Metric tonnes CO <sub>2</sub> -e per tonne of product sold	1.6
		Kilograms CO <sub>2</sub> -e per tonne of output	662
Asian Paints	Materials	Metric tonnes CO <sub>2</sub> -e per kilo litres of paint production	
		Metric tonnes CO <sub>2</sub> -e per tonne of output	0.11

**Fig. 10: Reported Emission Intensity Type (%)**

A significant improvement compared to previous years is that CDP 2010 witnesses companies taking vast strides in adopting renewable energy. The responding companies have proactively pursued this clean energy source to meet their energy demand, reduce their dependency on conventional fossil fuels and lower their carbon footprint. There are several good examples. Mahindra & Mahindra, for instance, is using solar energy in its new plant at Chakan in Western India, which is anticipated to reduce GHG emissions by 145 tonnes per annum. Another major industry leader, ITC, meets 31% of its total energy requirements from renewable sources, which has helped avoid 6,62,988 metric tonnes of CO<sub>2</sub>-e emissions per annum. Larsen & Toubro (L&T) continues to source around 13% of its electricity requirements from wind energy.

There are other companies that will start using more renewable energy

in the near future, as their programmes are in planning stage now. For example, Oil and Natural Gas Corporation (ONGC) is in the process of installing 100 MW of wind power and 10 MW of solar power. In addition, they will also implement projects to capture 30 million m<sup>3</sup> of methane emissions per year through a M2M (machine to machine) project. At the same time, ITC continues its ongoing effort to increase the share of renewable energy from currently 31% to 40% of total energy consumption by 2011-12.

Some companies from non-energy intensive sectors are also proactive in terms of using renewable energy. The State Bank of India, for example, became the first bank in the Banking, Insurance and Financial Services (BIFS) industry in India to conceive and conceptualise the generation of green power by installing windmills for the bank's use. In the first phase,

**Table 2: Reported performance targets**

Company	Sector	Target Unit	Target Type	Performance Target	Baseline	Timeline	Target Met?
ACC	Materials	CO <sub>2</sub> -e	Intensity	Reduction from 772 kg CO <sub>2</sub> /tonne to 552.17 kg CO <sub>2</sub> /tonne of Cementitious material excluding emissions from site power generation	1990	2009	Achieved
Tata Steel	Materials	CO <sub>2</sub> -e	Intensity	GHG emissions reduction target of 2.34 tCO <sub>2</sub> -e/tonne of crude steel (tcs)	2009-10	2010-11	Ongoing
Mahindra & Mahindra	Consumer Discretionary	CO <sub>2</sub> -e	Absolute	2% reduction in emissions from base year	2009	2011	Ongoing
Mahindra & Mahindra	Consumer Discretionary	CO <sub>2</sub> -e	Absolute	5% reduction in emissions from base year	2009	2014	Ongoing
Ambuja Cements	Materials	CO <sub>2</sub> -e	Intensity	20% reduction in emissions from base year (kg CO <sub>2</sub> -e/tonne)	1990	2010	Ongoing
ABB	Industrials	Energy	Intensity	To reduce global energy consumption per employee by 2.5% per year for 2010 and 2011	2009	2011	Ongoing
Sterlite	Materials	CO <sub>2</sub> -e	Absolute	10% reduction in emissions from base year		2012	Ongoing
Crompton Greaves	Industrials	CO <sub>2</sub> -e	Absolute	150,000 metric tonnes CO <sub>2</sub> -e reduction relative to base year	2009	2012	Ongoing
Tata Consultancy Services	Information Technology	CO <sub>2</sub> -e	Intensity	2% reduction of CO <sub>2</sub> -e emissions/full-time employee equivalent relative to base year	2008-09	2009-10	Achieved
Wipro	Information Technology	CO <sub>2</sub> -e	Intensity	49% reduction of CO <sub>2</sub> -e/full-time employee equivalent relative to base year	2009	2015	Ongoing

the bank has installed 10 windmills aggregating a capacity of 15 MW in three states (Maharashtra, Tamil Nadu and Gujarat) to substitute fossil fuel based power. In the second phase, the bank proposes to install another 20 MW in the State of Gujarat. This unique initiative clearly highlights that the use of renewable energy is not the prerogative of energy intensive sectors, but that non-energy intensive companies such as financial institutions, can also lead by example.

Some Indian companies have proactively innovated their product design and process to increase resource efficiency and reduce the overall environmental impact. These initiatives also help avoid direct and indirect GHG emissions by third parties and consumers. For example, since 2007 Procter & Gamble (P&G) have globally delivered US \$13.1 billion of Sustainable Innovation Products (SIPs) moving closer to their 2012 goal of US \$50 billion in cumulative sales of SIPs by 2012. In an innovative process design initiative, Bharat Petroleum Corporation

Limited (BPCL) has established an annual fugitive emissions Leak Detection and Repair programme (LDAR) to check 20,000 points in refinery to minimise hydrocarbon emissions. L&T is using lifecycle analysis tools to better understand the full lifecycle cost and impact of selected products and to identify solutions that would help minimise the environmental impact throughout its value chains. We believe this type of analysis will help quantify relative costs and benefits and guide appropriate purchasing and policy decisions as emerging markets continue to expand.

“ONGC has implemented Gas Flaring Reduction projects at all onshore and offshore installations, which has resulted in reduction of 1,478,580 tonnes CO<sub>2</sub>-e/annum.” **ONGC**

“As our operations have expanded, we have stepped our efforts towards energy conservation, waste heat recovery, use of renewable energy, efficient lightning systems and technology like video conferencing to reduce travel.” **Ambuja Cements Limited**

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“Even though we do not have direct emission reduction targets, but we have targets for specific energy consumption and fuel loss reduction targets in our refineries.”

**Bharat Petroleum Corporation Limited**

“In line with the Government of India’s stand on emission reductions, ITC does not accept any emission reduction targets.

However, as part of its low-carbon strategy of growth, it has voluntarily taken measures that enhance its “carbon positive” status. It works to continually improve upon its specific energy productivity, which is closely monitored and benchmarked.”

**ITC**

“Supercritical technology is a major step ahead in L&T’s efforts towards balancing the need to augment generation with environmental concerns. Supercritical parameters decrease turbine cycle heat rate, thereby increasing operating efficiency. A supercritical power plant can reduce CO<sub>2</sub> emissions by approximately 2.5 per cent.”

**Larsen & Toubro**

Some of the respondents report that even though they have not set any GHG emissions reduction targets, they have an in-built process of constantly mapping their GHG intensity (e.g. Hindustan Petroleum), or they have targets for reducing their energy or resource consumption, which in turn can have significant impacts on the company’s overall GHG footprint (e.g. Bharat Petroleum, Jubilant Organosys, Asian Paints).

“Even though we do not have direct emission reduction targets, but we have targets for specific energy consumption and fuel loss reduction targets in our refineries.” **Bharat Petroleum Corporation Limited**

“In line with the Government of India’s stand on emission reductions, ITC does not accept any emission reduction targets. However, as part of its low-carbon strategy of growth, it has voluntarily taken measures that enhance its “carbon positive” status. It works to continually improve upon its specific energy productivity, which is closely monitored and benchmarked.” **ITC**

Some respondents are still in the process of developing plans to measure their emissions and identify opportunities to set future reduction targets (e.g. Cairn India, Indian Hotels, Yes Bank, and Tata Chemicals).

“Supercritical technology is a major step ahead in L&T’s efforts towards balancing the need to augment generation with environmental concerns. Supercritical parameters decrease turbine cycle heat rate, thereby increasing operating efficiency. A supercritical power plant can reduce CO<sub>2</sub> emissions by approximately 2.5 per cent.” **Larsen & Toubro**

**3.2.5 Performance Benefits – Co-Benefit of Energy Efficiency**

Indian companies adopting best practices and processes are well rewarded in terms of improved energy efficiency, monetary savings and reduced emissions. The absolute reported savings from an energy intensive sector such as Materials are

far higher than those by non-energy intensive companies. The reported amount of monetary savings per tonne of CO<sub>2</sub> reduced is more lucrative for energy intensive companies, even though non-energy intensive companies have achieved considerable savings as well (see Table 3). The monetary savings have been reported by the respondents based on their reductions in energy consumption. If these carbon savings were to be sold on CER markets, they would fetch even higher returns. The carbon market, therefore, presents new opportunities for the Indian business sector.

Of the companies describing their actions to reduce their GHG emissions, 71% report to have achieved energy savings, and almost 76% report to have achieved emissions reductions. Companies from the Materials and Energy sectors report the highest monetary savings. Collectively, although only 10 companies reported monetary savings, total savings stood at a staggering US \$85 million, paired with collective annual emissions reductions of 6.2 million metric tonnes of CO<sub>2</sub>-e. This clearly shows the potential benefits for companies in reducing emissions while improving their energy performance – an area that is likely to play an important role in future business planning.

“Since 2002, we have reduced direct CO<sub>2</sub> emissions by over 18% on an absolute basis (2002 base year of 3,215,031 metric tonnes). This reduction occurred during a time when global sales increased from US \$40 billion to nearly US \$80 billion.” **Procter & Gamble**

**3.2.6 Policy Dialogue on Climate Change**

Of the responding companies in India, 68% advocate engagement with policy makers and regulators to contribute to the response to climate change. Some of the areas where Indian companies are engaged include the National Action Plan on Climate Change, BCSD (TERI), carbon trading, carbon markets, carbon financing, research, development and indigenisation. The responding Indian companies are of



**Table 3: Monetary savings and GHG reductions**

Company	Sector	Annual emissions reduction in metric tonnes CO <sub>2</sub> -e	Monetary savings (in Lakh- INR)	Savings per tonne of CO <sub>2</sub> -e (In Lakh-INR)	Investment	Monetary savings (anticipated/achieved)
Mahindra & Mahindra	Consumer Discretionary	7,896				
Bharat Petroleum Corporation	Energy	18,214	1,196	0.066	1,295.08	Achieved
Oil & Natural Gas Corporation	Energy	2,563,238	1,900	0.0007		Achieved
Larsen & Toubro	Industrials	21,787	597	0.027	1392.57	Anticipated
Tata Consultancy Services	Information Technology	27,547	38	0.001	281.74	Achieved
Essar Steel	Materials	190,084	10,364	0.055		Achieved
Tata Steel	Materials	3,324,398	24,508	0.007	769,500	Anticipated
Sesa Goa	Materials	93,555				
ACC	Materials	249,328				
Sterlite Industries	Materials	55,251	520	0.009	1,045	Anticipated

the opinion that business needs to push in terms of effective rules, incentives, and institutions to embrace clean energy substantially.

“Policy engagement is also becoming an integral part of the logical business approach to mitigating climate change. Failure to sufficiently engage leads to the risk of stakeholder disapproval and blind spots to regulatory and other changes.” **Larsen & Toubro**

“Bob McDonald, CEO and Chief Executive, has maintained his sponsorship of P&G’s sustainability efforts. ‘When I was named Executive Sponsor for Sustainability at P&G and then subsequently named CEO, many questioned whether or not I would remain the Sustainability sponsor. For me, this was never a question. We’re a company that focuses on growth now and for generations to come, and therefore Sustainability should and will be a focus area for me.’”

**Procter & Gamble**

### 3.2.7 Governance

More and more companies have entrusted the responsibility of addressing climate change to the highest management level comprising of either a board committee or an executive body. The

number of responding companies with a board committee or other executive body to look after climate change has grown from only 39% at the beginning of CDP in 2007, to 74% in GDP 2009, and to above 84% (33) in CDP 2010 (see Figure 11). This is reflective of the importance given to climate change concerns.

Climate change is no longer a fringe concern but an important core issue requiring the attention of senior management. Besides, the involvement of senior management, most organisations have put in place a cell or a committee to oversee climate-related issues and report to top management.

In some cases, rather elaborate and complex structures have been put in place for management and review. At Mahindra, a three-tier structure has been established to achieve their sustainability strategy. The Top Tier consists of the Corporate Sustainability Council. The council makes strategic decisions related to climate change. Implementation of these decisions is ultimately approved by the Group Executive Board, which is the apex governing body for the entire Mahindra Group. The Middle Tier is the “Corporate Sustainability Cell” with responsibilities including proposing

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“Policy engagement is also becoming an integral part of the logical business approach to mitigating climate change. Failure to sufficiently engage leads to the risk of stakeholder disapproval and blind spots to regulatory and other changes.”

**Larsen & Toubro**

More and more companies have entrusted the responsibility of addressing climate change to the highest management level comprising of either a board committee or an executive body.

Sixty-seven per cent (25) of the responding companies publish information about their response to climate change/GHG emissions in some form or other.

strategies, action plans, and scoping of the report to the sustainability council, developing and disseminating action plans to all the sectors of the group, sharing knowledge and capacity building of teams. The Third Tier consists of “Sustainability Champions” supported by eight to ten teams from relevant departments to enable data monitoring, collection and analysis for the Global Reporting Initiative (GRI) report. They are the point of contact between the sector and the sustainability cell.

About 42% (16) of the responding organisations have incentive schemes for management of climate change concerns, including the attainment of GHG targets. The majority of these respondents (70%) indicate that these incentives are open for all employees. Forty-one per cent of the organisations offer monetary incentives, while 29% offer incentives in the form of recognition. While most companies factor in these incentives as part of the traditional performance incentives, for those employees responsible for climate and sustainability initiatives, others have devised more innovative ways of spreading awareness via such incentives. Tata Consultancy Services (TCS), for instance, designs incentives to motivate employee participation, as a key element for success of climate change related activities. Several quizzes, contests, and other activities are organised within TCS campuses with the aim of

increasing employee awareness and participation. By taking small but important actions, like switching off the computer when not in use, all staff is encouraged to get involved in the organisation’s mitigation efforts.

**3.2.8 Communication**

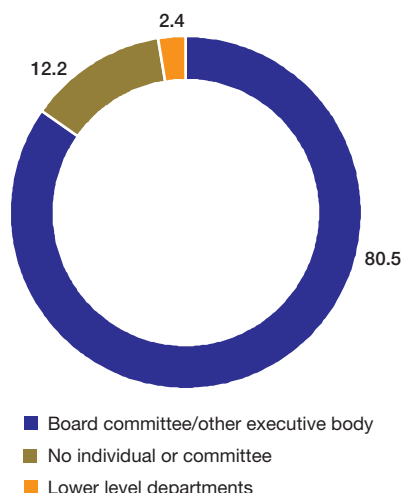
Transparency is a buzzword today for the Indian corporate sector, with increasing focus on sharing information with stakeholders on initiatives related to climate change. This is also one of the reasons why participation in CDP has gradually improved over the years. Sixty-seven per cent (25) of the responding companies publish information about their response to climate change/ GHG emissions in some form or other. It is encouraging that most of the respondents (96%) use voluntary communications like CSR reports to share their initiatives with stakeholders. Quite a number of them (76%) also publish this information in their annual reports or other mainstream publications, reflecting improved transparency and rising profile of the business concern around climate change.

**3.2.9 Sector Response Summary**

The overall response from the individual sector has considerably improved in 2010 (see Table 4). With participation rates of 55% and 38% respectively, companies from the Energy and Materials sector lead

The number of respondents from the energy sector almost doubled compared to CDP 2009, when it was only 29%. All three sectors; Materials, Energy and Information Technology show considerable improvement in mapping and reporting their Scope 1 and Scope 2 emissions.

**Fig. 11: Overall Responsibility for Climate Change Management (%)**



**Table 4: Sector Metrics**

This table outlines some of the key findings from the CDP 2010 India 200 sectoral responses.

Sector (Total no. of companies in each sector)	% of companies responding to CDP 2010	% of responders with board level responsibility for climate change	% of responders seeing regulatory risks	% of responders seeing regulatory opportunities	% of responders seeing physical risks	% of responders seeing physical opportunities	% of responders seeing other risks	% of responders seeing other opportunities	% of responders disclosing Scope 1 emissions	% of responders disclosing Scope 2 emissions	% of responders disclosing Scope 3 emissions	% of responders with emission reduction targets	% of responders engage with policy makers on possible responses to climate change
Consumer Discretionary (25)	24	16	4	20	8	8	16	12	20	20	4	12	8
Consumer Staples (15)	33	13	0	7	0	13	7	13	13	13	0	13	7
Energy (11)	55	27	27	36	36	0	27	27	36	27	9	0	18
Financials (39)	23	15	10	18	18	10	15	18	8	8	8	0	8
Health care (14)	7	0	0	0	0	0	0	0	0	0	0	0	0
Industrials (37)	14	14	5	11	8	8	8	14	5	5	11	5	11
Information Technology (9)	33	33	22	33	33	22	33	33	33	33	33	22	33
Materials (26)	38	35	19	38	23	19	23	27	38	38	15	19	31
Telecommunication Services (7)	0	0	0	0	0	0	0	0	0	0	0	0	0
Utilities (17)	18	6	0	6	6	6	0	6	6	6	6	0	6

both in terms of the quantity and quality of the provided disclosure. At the same time, the response rate of companies from non-energy intensive sectors, such as Information Technology (33%), Consumer Staples (33%) and Financials (23%) also improved in CDP 2010. The number of respondents from the Energy sector almost doubled compared to CDP 2009, when it was only 29%. All three sectors; Materials, Energy and Information Technology show considerable improvement in mapping and reporting their Scope 1 and Scope 2 emissions. The response from sectors such as Utilities (18%), Telecommunications (0%) and Healthcare (7%) is rather poor, especially in comparison with response rates from other sectors.

### 3.2.10. Carbon Disclosure Leadership Index (CDLI)

The CDLI is a listing of the companies with the most comprehensive disclosure provided in response to the CDP information request. It is not a measure of the performance of the business. The rating is based on the CDP Scoring

Methodology which is available on the CDP website.<sup>8</sup> A summary of the scoring approach can be found in Appendix 2. This year for the first time, the responses by Indian CDP participants were scored following the global methodology (see Table 5).

As seen from the India CDLI, there is dominance in the top five positions by IT Services companies. However, moving to the top 10 shows a diverse mix of sectors such as Consumer Discretionary, Industrials and Materials. This suggests that awareness of climate change and its importance to businesses is not confined to only some sectors. The quality and completeness of the disclosure of the companies in the CDLI shows that there is an increasing level of interest in climate change by the executive management and it is expected that there will soon be a visible percolation to businesses in the supply chain of these organisations.

The 2010 responses clearly reflect the integration of climate change into the corporate strategies of Indian

The CDLI is a listing of the companies with the most comprehensive disclosure provided in response to the CDP information request. It is not a measure of the performance of the business.

<sup>8</sup> www.cdproject.net/en-US/Respond/Documents/Rating\_Methodology\_2010.xls

## OVERVIEW – CDLI

The carbon disclosure scores assess companies on the quality and completeness of their disclosure and consider factors including:

- Clear consideration of business-specific risks and potential opportunities related to climate change
- Good internal data management practices for understanding GHG emissions, including energy use

It is important to note that the carbon disclosure score is not a metric of a company's performance in relation to climate change management, because the score does not make any judgment about mitigation actions. A company's disclosure score is based solely on the information disclosed in the company's CDP response.

Rapid and unexpected changes in fuel and commodity prices resulting from storms and typhoons can pose risk in financial portfolios, while prolonged impairment of infrastructure can impair customers' access to banking and financial services and timely transactions.

companies. This can be attributed to the increasing adoption of climate change issues by the boards and executive committees of disclosure leaders. As indicated by the responses, management's responsibility for and interest in climate change is crucial when it comes to understanding the business impact and integrating climate change initiatives into the operation of the organisation.

As a result of this, an ever-increasing number of companies have begun to outline the regulatory and physical risks posed by climate change. The leading companies, in the CDLI have gained substantial insights into the fine mechanics of their supply chains; this has proven

vital, not only in identifying and understanding risks, but also in recognising, inherent opportunities.

“The opportunity can impact our internal operations by increased energy efficiency and thus reduced recurring operational costs. This will help us mitigate the carbon emissions across our complete value chain. There is also an opportunity for us to grab the growing market of climate change and sustainability. We have already initiated this by forming a business division specialising in these services. Business is likely to profit from this division. Internal expertise can be leveraged to provide consultancy and solutions to our customers. Regulations on customer side on the supply chain can provide a new opportunity in the various verticals of our business. For example, power and utilities, industrial and engineering services, supply chain, etc.” **Tata Consultancy Services**

“Rapid and unexpected changes in fuel and commodity prices resulting from storms and typhoons can pose risk in financial portfolios, while prolonged impairment of infrastructure can impair customers' access to banking and financial services and timely transactions.”

**Yes Bank Limited**

### Conclusion

Clearly, climate change has become an important consideration in the decision-making of Indian corporations while

**Table 5: Companies recognised on Carbon Disclosure Leadership Index (CDLI) in India**

Company	CDLI Score
Wipro	87
Jubilant Organosys	77
Tata Consultancy Services	75
Tata Chemicals	72
Tata Steel	71
Larsen & Toubro	70
ACC	70
Mahindra & Mahindra	67
Ambuja Cements	64
Sesa Goa	64

shaping their long term investment strategies. Over the past four years, the CDP India report has successively disclosed responses from the top 200 Indian market leaders. The trends shown over the past years indicate an increasingly conscious effort by the Indian industry to address the challenges arising from climate change.

CDP has become an ideal platform for Indian corporates to share their GHG emission performance with other stakeholders, as is evident from the increasing number of companies participating in CDP 2010. Companies from certain sectors, such as, Energy, Materials and Information Technology have been much more aggressive in reporting their climate change related strategies. At the same time, some sectors such as Utilities, Healthcare, and Telecommunications have not been very transparent. However, in general, the quality of GHG emissions reporting has significantly improved in CDP 2010. There is a three-fold increase in the number of companies reporting Scope 1 and Scope 2 emissions from 2008 to 2010. Another encouraging feature is the doubling of number of companies mapping and reporting their Scope 3 emissions, which has always been a weak area in the past.

The seriousness of Indian corporates addressing climate change is also reflected by the involvement of the top management. The majority of the respondents have entrusted senior level management or committees to deal with this challenge. Indian companies have also indicated their willingness to engage with policy makers and play a more constructive role in the national climate change discussion.

Policies and regulations are the primary drivers, bringing about changes in the Indian corporate psyche. This year's response suggests a shift in the perception of regulations as a risk to an opportunity, though there are companies that perceive the uncertainty in the national and international regulatory environment, as one of the most pressing risks. Yet, at the same time, there are companies which perceive

regulations such as in the National Action Plan on Climate Change (NAPCC), Performance Achieve and Trade, ECBC guidelines and Kyoto protocol, as an emerging opportunity both at national and global levels.

Similarly, responses indicate that higher number of companies have embraced opportunities arising out of physical or commercial impacts of climate change, instead of perceiving it as a risk factor. The market leaders are also seeing benefits from financial and reputational gains and increased market opportunities arising from their actions to improve their sustainability profile. Many respondents feel that the potential opportunities emerging either from supply chain dynamics or from their businesses will give them the first mover's advantage.

The companies are proactively setting their own voluntary reduction targets, which in turn is likely to create a conducive environment for future regulatory and policy dialogues. These targets set by the Indian companies are focused on GHG emissions, a departure from the earlier CDP reports. In order to achieve these targets, Indian companies report to have adopted an aggressive approach towards exploring renewable energy sources and minimising their dependency on conventional fossil fuels. Companies are adopting best practices across systems and processes which have resulted in emission reductions and increased monetary savings.

This CDP report shows that the market leaders are building their own infrastructure and resources for reporting on carbon emissions, availing opportunities linked to climate change, adapting to related risks, and reducing their carbon footprint by adopting better practices and technologies.

The transparency of Indian corporates, in terms of their participation in CDP, is much higher when compared to other developing economies like China or Central and Eastern Europe. Clearly, an indication that Indian companies are comparatively more willing to disclose their climate strategies and actions implemented.

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# 4

## Appendix 1

**Global Response Trend  
Snapshot for CDP 2010**



## Global Response Trend Snapshot for CDP 2010

### Key trends snapshot<sup>1</sup>

This table outlines some of the key findings from CDP 2010 by geography or industry data-set.<sup>2</sup>

Sample: geography / number of companies	% of sample answering CDP 2010 <sup>3</sup>	% 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 <sup>4</sup>	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	25	85	42	37	71	47	44	90	69	86	27	20
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

1 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 July 14, 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 applicable local deadline (e.g. June 30, 2010).

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

3 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.

4 Asia excluding Japan, India, China and Korea (ex-JICK).

# Appendix 2

## **CDP Rating Methodology – The 2010 Carbon Disclosure Scores**

## CDP Rating Methodology – The 2010 Carbon Disclosure Scores

The carbon disclosure scores assess companies on the quality and completeness of their disclosures and consider factors including:

- Clear consideration of business-specific risks and potential opportunities related to climate change
- Good internal data management practices for understanding GHG emissions, including energy use

It is important to note that the carbon disclosure score is not a metric of a company's performance in relation to climate change management, because the score does not make any judgment about mitigation actions. A company's disclosure score is based solely on the information disclosed in the company's CDP response.

### What does a CDP carbon disclosure score represent?

The carbon disclosure score is normalised to a 100-point scale. Generally, companies scoring within a particular range suggest levels of commitment to, and experience of, carbon disclosure. Indicative descriptions of these levels are provided below for guidance only; investors should read individual company responses to understand the context for each business.

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#### High (>70)

A higher score typically indicates one or more of the following:

- Strong understanding and management of company-specific exposure to climate-related risks and opportunities
- Strategic focus and commitment to understanding the business issues related to climate change, emanating from the top of the organisation
- Ability to measure and manage the company's carbon footprint
- Regular and relevant disclosure to key corporate stakeholders

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#### Mid-range (50–70)

A mid-range score typically indicates one or more of the following:

- Growing maturity in understanding and managing company specific risks and potential opportunities related to climate change
- Good evidence of ability to measure and manage carbon footprint across global operations
- Commitment to the importance of transparency

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#### Low (<50)

A lower score typically indicates one or more of the following:

- Relatively new commitment to understanding climate-related issues
- Limited ability to disclose known risks or potential opportunities related to climate change
- Limited ability to measure and manage the company's carbon footprint
- Possible reluctance to disclose certain requested information due to commercial

**The Carbon Disclosure Leadership Index (CDLI)** includes the companies with the highest disclosure scores and provides a valuable perspective on the range and quality of responses to CDP's questionnaire. To qualify for this leadership index, a company must respond to CDP by using the Online Response System prior to the deadline and make its response available for public use.

# Appendix 3

## Response Trends CDP 2007, CDP 2008, CDP 2009 and CDP 2010

### Key to response trends:

<b>AQ</b>	Answered Questionnaire
<b>DP</b>	Declined to Participate
<b>NR</b>	No Response
<b>Blanks</b>	Not part of the sample
<b>N/A</b>	Not applicable

## Response Trends CDP 2007, CDP 2008, CDP 2009 and CDP 2010

Company Name	Sector <sup>9</sup>	CDP 2007	CDP 2008	CDP 2009	CDP 2010	Permission Status <sup>10</sup> CDP 2010
Aban Offshore	Energy		NR	NR	NR	N/A
ABB	Industrials	AQ	AQ	AQ	AQ	Public
ACC	Materials	NR	NR	NR	AQ	Public
Ackruti City	Financials		NR	NR	AQ	Not Public
Adani Enterprises	Industrials	NR	NR	NR	NR	N/A
Adani Power Ltd	Utilities				NR	N/A
Aditya Birla Nuvo	Industrials	NR	NR	NR	NR	N/A
Allahabad Bank	Financials		NR	NR	NR	N/A
Alstom Projects India (Part of Alstom France)	Utilities				AQ	Public
Ambuja Cements	Materials	NR	AQ	AQ	AQ	Public
Anant Raj Industries	Financials		NR	AQ	NR	N/A
Andhra Bank	Financials		NR	NR	NR	N/A
Areva T&D India	Utilities		AQ	AQ	AQ	Public
Ashok Leyland	Consumer Discretionary		NR	NR	NR	N/A
Asian Paints	Materials	NR	AQ	AQ	AQ	Public
Aurobindo Pharma	Health care				NR	N/A
Axis Bank	Financials	IN	NR	NR	DP	N/A
Bajaj Auto	Consumer Discretionary	NR	NR	NR	NR	N/A
Bajaj Finserv	Financials			NR	DP	N/A
Bajaj Hindusthan Ltd.	Consumer Staples				NR	N/A
Bajaj Holdings & Invst. (BHIL)	Financials			NR	NR	N/A
Bank of Baroda	Financials	IN	NR	NR	NR	N/A
Bank of India	Financials	NR	NR	NR	NR	N/A
BEML	Industrials		NR	NR	NR	N/A
BF Utilities	Utilities	NR	NR	NR	NR	N/A
BGR Energy Systems Ltd	Industrials				NR	N/A
Bharat Electronics	Industrials	NR	NR	NR	NR	N/A
Bharat Forge	Consumer Discretionary	NR	NR	AQ	AQ	Not Public
Bharat Heavy Electricals	Industrials	AQ	NR	NR	NR	N/A
Bharat Petroleum Corporation Limited	Energy	AQ	AQ	AQ	AQ	Public
Bharti Airtel	Telecommunication Services	AQ	NR	NR	NR	N/A
Bhushan Steel	Materials			NR	NR	N/A
Biocon	Health care		NR	NR	NR	N/A
Bosch India	Consumer Discretionary			NR	DP	N/A
Britannia Industries	Consumer Staples		NR	NR	NR	N/A
Cadila Healthcare	Health care		NR	NR	NR	N/A
Cairn India	Energy		AQ	AQ	AQ	Public
Canara Bank	Financials	AQ	AQ	NR	NR	N/A
Castrol India	Materials		DP	NR	AQ	N/A
Central Bank of India	Financials				NR	N/A
Century Textiles & Industries	Industrials	NR	NR	NR	NR	N/A
CESC Ltd	Utilities	AQ	AQ	NR	NR	N/A
Cipla	Health care	NR	NR	NR	NR	N/A
Colgate Palmolive India	Consumer Staples		AQ	AQ	AQ	Public
Container Corporation of India	Industrials	NR	NR	DP	NR	N/A
Corporation Bank	Financials		NR	NR	NR	N/A
Crompton Greaves	Industrials	NR	NR	AQ	AQ	Public
Cummins India	Consumer Discretionary	NR	AQ	AQ	AQ	Public
Dabur India	Consumer Staples	NR	NR	NR	NR	N/A
Deccan Chronicle Holdings Ltd.	Consumer Discretionary				NR	N/A
Dish TV India	Consumer Discretionary				NR	N/A
Divi's Laboratories	Health care		NR	NR	NR	N/A

<sup>9</sup> Global Industry Classification Standard (GICS)

<sup>10</sup> Companies that gave permission to disclose or not disclose their CDP responses in the public domain.

Company Name	Sector <sup>9</sup>	CDP 2007	CDP 2008	CDP 2009	CDP 2010	Permission Status <sup>10</sup> CDP 2010
DLF	Financials	AQ	NR	NR	DP	N/A
Dr. Reddy's Laboratories	Health care	AQ	AQ	AQ	NR	N/A
Educomp Solutions	Consumer Discretionary		NR	NR	NR	N/A
EIH	Consumer Discretionary		NR	NR	NR	N/A
Emami Ltd.	Consumer Staples		NR	NR	NR	N/A
Engineers INDIA	Industrials			NR	NR	N/A
Essar Oil	Energy	AQ	NR	NR	NR	N/A
Essar Shipping Ports & Logistics	Industrials			NR	NR	N/A
Exide Industries	Consumer Discretionary		NR	DP	NR	N/A
Federal Bank	Financials			NR	NR	N/A
Financial Technologies (INDIA)	Financials	NR	NR	NR	AQ	Not Public
Fortis Healthcare Ltd.	Health care				NR	N/A
GAIL	Energy	NR	AQ	NR	NR	N/A
Gillette India	Consumer Staples				AQ	Public
GlaxoSmithKline Consumer Health	Consumer Staples				NR	N/A
GlaxoSmithKline Pharmaceuticals	Health care	AQ	AQ	AQ	AQ	Public
Glenmark Pharmaceuticals	Health care	NR	NR	NR	NR	N/A
GMR Infrastructure Limited	Utilities	NR	DP	NR	DP	N/A
Godrej Consumer Products	Consumer Staples		AQ	AQ	AQ	Not Public
Godrej Industries	Consumer Discretionary		AQ	AQ	AQ	Not Public
Grasim Industries	Industrials	NR	DP	NR	NR	N/A
Great Eastern Shipping Co.	Industrials		AQ	NR	NR	N/A
GTL Infrastructure	Industrials			NR	NR	N/A
GTL Ltd.	Information Technology				NR	N/A
Gujarat Mineral Devp. Corpn.	Materials			NR	NR	N/A
Gujarat State Petronet	Materials		NR	NR	NR	N/A
GVK Power & Infrastructure	Utilities			NR	NR	N/A
HCL Technologies	Information Technology	NR	DP	NR	NR	N/A
HDFC Bank Ltd	Financials	AQ	AQ	AQ	AQ	Not Public
Hero Honda Motors	Consumer Discretionary	AQ	NR	NR	NR	N/A
Hindalco Industries	Materials	AQ	NR	NR	NR	N/A
Hindustan Construction Company	Industrials				NR	N/A
Hindustan Petroleum Corporation Limited	Energy	NR	AQ	AQ	AQ	Public
Hindustan Unilever	Consumer Staples	AQ	AQ	AQ	AQ	Public
Hindustan Zinc	Materials	NR	AQ	AQ	AQ	Not Public
Housing Development & Infrastructure	Consumer Discretionary		NR	NR	NR	N/A
Housing Development Finance Corporation	Financials	AQ	NR	NR	NR	N/A
ICICI Bank Limited	Financials	AQ	AQ	AQ	AQ	Public
IDBI Bank Ltd	Financials				AQ	Public
Idea Cellular	Telecommunication Services		NR	NR	NR	N/A
IFCI	Financials			AQ	AQ	Public
India Infoline	Financials		NR	NR	NR	N/A
Indiabulls Financial Services	Financials		NR	NR	NR	N/A
Indiabulls Power Ltd.	Utilities				NR	N/A
Indiabulls Real Estate Ltd	Financials		NR	NR	NR	N/A
Indian Bank	Financials		NR	NR	NR	N/A
Indian Hotels Co.	Consumer Discretionary	NR	AQ	AQ	AQ	Public
Indian Oil Corporation	Energy	NR	NR	NR	DP	N/A
Indian Overseas Bank	Financials	DP	NR	NR	NR	N/A
Indusind Bank	Financials				AQ	Not Public
Infosys Technologies Ltd	Information Technology	AQ	AQ	AQ	AQ	Not Public
Infrastructure Development Finance Company	Financials	NR	AQ	AQ	AQ	Not Public
IRB Infrastructure Developers	Industrials			NR	NR	N/A
ITC	Industrials	AQ	AQ	AQ	AQ	Public



Company Name	Sector <sup>9</sup>	CDP 2007	CDP 2008	CDP 2009	CDP 2010	Permission Status <sup>10</sup> CDP 2010
IVRCL Infrastructures & Projects	Industrials		NR	NR	NR	N/A
Jagran Prakashan Ltd.	Consumer Discretionary				NR	N/A
Jai Corporation	Materials		NR	NR	NR	N/A
Jain Irrigation Systems	Industrials		NR	DP	NR	N/A
Jaiprakash Associates	Industrials	NR	NR	NR	NR	N/A
Jet Airways (India) Ltd.	Industrials		NR	NR	NR	N/A
Jindal Saw Ltd.	Materials				NR	N/A
Jindal Steel & Power	Materials	NR	NR	NR	NR	N/A
JSW Steel	Materials	AQ	AQ	AQ	AQ	Not Public
Jubilant Organosys	Industrials		NR	NR	AQ	Public
Kotak Mahindra Bank	Financials	AQ	NR	NR	NR	N/A
KSK Energy Ventures	Utilities			NR	NR	N/A
Lanco Infratech	Industrials		NR	NR	NR	N/A
Larsen & Toubro	Industrials	NR	NR	AQ	AQ	Public
LIC Housing Finance	Financials				NR	N/A
Lupin	Health care		NR	NR	NR	N/A
Mahanagar Telephone Nigam	Telecommunication Services	NR	NR	NR	NR	N/A
Mahindra & Mahindra	Consumer Discretionary	NR	NR	AQ	AQ	Public
Mangalore Refinery and Petrochemicals	Energy	NR	NR	NR	NR	N/A
Marico	Consumer Staples		NR	NR	DP	N/A
Maruti Suzuki India	Consumer Discretionary	AQ	NR	NR	NR	N/A
Max India	Industrials		NR	NR	NR	N/A
Motherson Sumi Systems	Consumer Discretionary				NR	N/A
Mphasis	Information Technology		NR	NR	NR	N/A
Mundra Port & Special Economic Zone	Industrials		NR	NR	NR	N/A
Nagarjuna Construction Co.	Industrials		NR	NR	NR	N/A
National Aluminium Co.	Materials	NR	NR	NR	NR	N/A
National Hydroelectric Power Corporation Ltd (NHPC)	Utilities				NR	N/A
National Thermal Power (NTPC)	Utilities	AQ	NR	NR	NR	N/A
Neyveli Lignite Corporation	Utilities	NR	NR	NR	NR	N/A
NMDC	Materials			NR	NR	N/A
Oil & Natural Gas Corporation	Energy	AQ	AQ	AQ	AQ	Public
Oil India Ltd.	Energy				NR	N/A
Opto Circuits (I) Ltd.	Health care				NR	N/A
Oracle Financial Services Software	Financials		NR	NR	NR	N/A
Oriental Bank of Commerce	Financials	NR	NR	NR	NR	N/A
Pantaloon Retail	Consumer Discretionary	NR	NR	NR	NR	N/A
Patni Computer Systems	Information Technology	NR	NR	NR	NR	N/A
Petronet LNG	Energy		NR	NR	NR	N/A
Pidilite Industries	Materials		NR	NR	NR	N/A
Piramal Healthcare	Health care	NR	AQ	NR	NR	N/A
Power Finance Corporation	Financials		NR	NR	NR	N/A
Power Grid Corpn. of India	Utilities			NR	DP	N/A
Procter & Gamble Company	Consumer Staples				AQ	Public
Punj Lloyd Ltd.			NR	NR	NR	N/A
Punjab National Bank	Financials	NR	AQ	NR	NR	N/A
Ranbaxy Laboratories	Health care	NR	NR	NR	NR	N/A
Rashtriya Chemicals & Fertilizers	Materials			NR	NR	N/A
Reliance Capital	Financials	AQ	AQ	AQ	AQ	Not Public
Reliance Communications	Telecommunication Services		NR	NR	NR	N/A
Reliance Industries	Industrials	NR	NR	NR	NR	N/A
Reliance Infrastructure	Industrials	NR	DP	NR	NR	N/A
Reliance Natural Resources	Industrials		DP	NR	NR	N/A
Reliance Power	Utilities			NR	NR	N/A

Company Name	Sector <sup>9</sup>	CDP 2007	CDP 2008	CDP 2009	CDP 2010	Permission Status <sup>10</sup> CDP 2010
Rural Electrification Corpn.	Utilities			NR	NR	N/A
Satyam Computer Services	Information Technology	NR	NR	NR	NR	N/A
Sesa Goa	Materials	AQ	AQ	AQ	AQ	Public
Shipping Corporation of India	Industrials		NR	NR	NR	N/A
Shree Cement	Industrials				AQ	Not Public
Shree Renuka Sugars	Consumer Staples			NR	NR	N/A
Shriram Transport Finance Co.	Financials			NR	NR	N/A
Siemens India	Industrials	NR	NR	NR	NR	N/A
Spice Communications	Telecommunication Services		NR	NR	NR	N/A
State Bank of India	Financials	NR	NR	AQ	AQ	Public
Steel Authority of India	Materials	NR	NR	NR	NR	N/A
Sterlite Industries	Materials	NR	AQ	AQ	AQ	Public
Sun Pharmaceutical Industries	Health care	NR	NR	NR	NR	N/A
Sun TV Network	Consumer Discretionary	NR	NR	NR	NR	N/A
Suzlon Energy	Industrials	NR	NR	NR	NR	N/A
Syndicate Bank	Financials		NR	NR	NR	N/A
Tata Chemicals	Materials		NR	AQ	AQ	Public
Tata Communications	Telecommunication Services	NR	NR	NR	NR	N/A
Tata Consultancy Services	Information Technology	NR	AQ	AQ	AQ	Public
Tata Motors	Consumer Discretionary	NR	AQ	AQ	AQ	Public
Tata Power Co.	Utilities	NR	AQ	AQ	AQ	Not Public
Tata Steel	Materials	AQ	AQ	AQ	AQ	Public
Tata Tea	Consumer Staples		NR	NR	NR	N/A
Tata Teleservices (Maharashtra)	Telecommunication Services		NR	NR	NR	N/A
Tech Mahindra	Information Technology	NR	NR	NR	AQ	Not Public
Thermax	Industrials		IN	NR	NR	N/A
Titan Industries	Consumer Discretionary		NR	NR	AQ	Not Public
Torrent Power	Utilities		NR	NR	NR	N/A
Ultratech Cement	Industrials	NR	DP	IN	NR	N/A
Union Bank of India	Financials		NR	NR	NR	N/A
Unitech	Industrials		NR	NR	NR	N/A
United Breweries	Consumer Staples		NR	NR	NR	N/A
United Phosphorus	Materials	NR	NR	NR	NR	N/A
United Spirits	Consumer Staples	NR	NR	NR	NR	N/A
Videocon Industries	Consumer Discretionary		NR	NR	NR	N/A
Voltas	Consumer Discretionary		NR	AQ	NR	N/A
Welspun-Gujarat Stahl Rohren	Materials		NR	NR	NR	N/A
Wipro	Information Technology	AQ	AQ	AQ	AQ	Public
YES BANK Limited	Financials		AQ	AQ	AQ	Public
Zee Entertainment Enterprises	Consumer Discretionary	NR	AQ	NR	NR	N/A

### Response other than India 200

Company Name	Sector <sup>9</sup>	CDP 2007	CDP 2008	CDP 2009	CDP 2010	Permission Status <sup>10</sup> CDP 2010
Essar Steel Business Group	Industrials				AQ	Public
Praj Industries	Industrials				AQ	Not-Public

# Appendix 4

## Glossary of Key Terms

### Glossary of Key Terms

<b>BIFS</b>	Banking, Insurance and Financial Services
<b>CDLI</b>	Carbon Disclosure Leadership Index
<b>CDM</b>	Clean Development Mechanism
<b>CERs</b>	Certified Emissions Reductions
<b>CFLs</b>	Compact Fluorescent Lamps

<b>CII</b>	Confederation of Indian Industry
<b>CO<sub>2</sub>-e</b>	Carbon Dioxide Equivalent
<b>COP</b>	Conference of Parties
<b>CSR</b>	Corporate Social Responsibility
<b>Discoms</b>	State-level Electricity Distribution Companies
<b>ECBC</b>	Energy Conservation & Building Code
<b>ESCerts</b>	Energy Savings Certificates
<b>ESCOs</b>	Energy Service Company
<b>GHG</b>	Greenhouse Gas
<b>GIM</b>	Green India Mission
<b>ICT</b>	Information Communication Technology
<b>INCCA</b>	Indian Network of Climate Change Assessment
<b>ISO</b>	International Organisation for Standardisation
<b>JNNSM</b>	Jawaharlal Nehru National Solar Mission
<b>LDAR</b>	Leak Detection and Repair Programme
<b>LEED</b>	Leadership in Energy and Environmental Design
<b>MRV</b>	Measurement, Reporting and Verification
<b>MW</b>	Mega Watt
<b>NAMAs</b>	Nationally Appropriate Mitigation Actions
<b>NAPCC</b>	National Action Plan on Climate Change
<b>NMEEE</b>	National Mission on Enhanced Energy Efficiency
<b>NMSH</b>	National Mission on Sustainable Habitat
<b>NSE</b>	National Stock Exchange
<b>PAT</b>	Perform, Achieve & Trade
<b>PRGF</b>	Partial Risk Guarantee Fund
<b>REDD</b>	Reducing Emissions from Deforestation and Forest Degradation
<b>SIPs</b>	Sustainable Innovation Products
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VCFEE</b>	Venture Capital Fund for Energy Efficiency