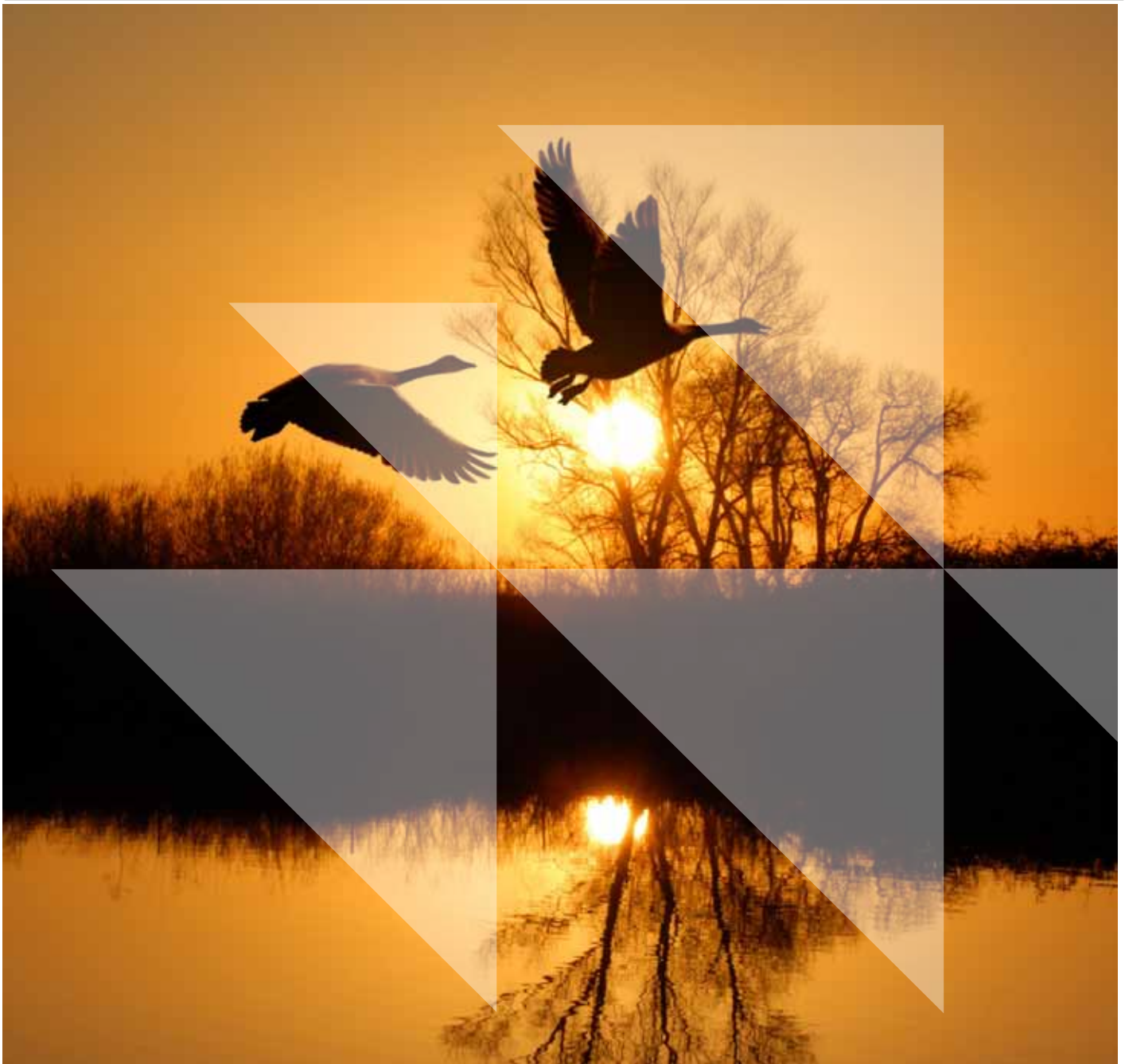


CDP China 100 Climate Change Report 2014

Policy Push and Market Pull, Promoting Low-Carbon Development

October 2014



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The global economy has bounced back from crisis and a cautious optimism is beginning to pervade the markets. As we embrace recovery we must remember that greenhouse gas emissions continue to rise and we face steep financial risk if we do not mitigate them.

The unprecedented environmental challenges that we confront today - reducing greenhouse gas emissions, safeguarding water resources and preventing the destruction of forests - are also economic problems. One irrefutable fact is filtering through to companies and investors: the bottom line is at risk from environmental crisis.

The impact of climate events on economies around the world has increasingly been splashed across headlines in the last year, with the worst winter in 30 years suffered by the USA costing billions of dollars. Australia has experienced its hottest two years on record and the UK has had its wettest winter for hundreds of years costing the insurance industry over a billion pounds. Over three quarters of companies reporting to CDP this year have disclosed a physical risk from climate change. Investing in climate-change-related resilience planning has become crucial for all corporations.

Investor engagement on these issues is increasing. In the US a record number of shareholder resolutions in the 2014 proxy season led 20 international corporations to commit to reduce greenhouse gas emissions or sustainably source palm oil.

As mainstream investors begin to recognize the real value at risk, we are seeing more action from some of the 767 investors who request disclosure through CDP. The Norwegian pension fund, Norges Bank, with assets worth over \$800 billion, expects companies to show strategies for climate change risk mitigation and water management, and have divested from both timber and palm oil companies that did not meet their standards.

There is growing momentum on the policy front with President Obama's announcement of new federal rules to limit greenhouse gases in the US. In the EU, some 6,000 companies will be required to disclose on specific environmental, social and governance criteria as part of their mainstream reporting to investors. In China over 20,000 companies will be required to report their greenhouse gas emissions to the government.

There is a palpable sea change in approach by companies driven by a growing recognition that there is a cost associated with the carbon they emit. Measurement, transparency and accountability drives positive change in the world of business and investment. Our experience working with over 4,500 companies shows the multitude of benefits for companies that report their environmental impacts, unveiling risks and previously unseen opportunities.

We are standing at a juncture in history. With the prospect of a global climate deal* coming from the United Nations process, governments, cities, the private sector and civil society have a great opportunity to take bold actions and build momentum in the run up to the Paris 2015 meeting. The decisions we make today can lead us to a profitable and secure future. A future that we can all be proud of.

Paul Simpson
Chief Executive Officer, CDP

¹ <http://www.un.org/climatechange/towards-a-climate-agreement/>

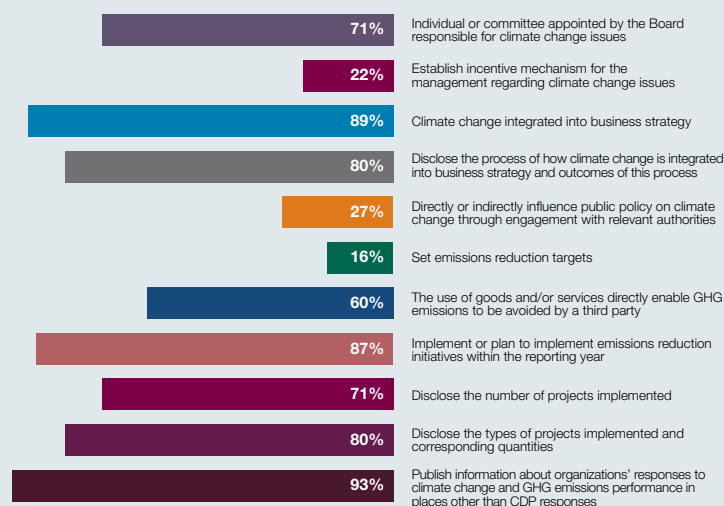
Executive Summary

The Emissions Trading Scheme (ETS), is an important economic measure which addresses climate change, and also provides a brand new solution to nationally adjust industry structure and to optimize energy structure. It is also a positive complement to mandatory administrative measures, such as the elimination of outdated production capacity and mandatory company energy savings and emissions reduction.

Among the 45 companies responding to the 2014 CDP Questionnaire, at least 21 related legal persons or subsidiaries of over 13 companies (29%) are engaged in the emission trading mechanism of China; 96 related legal persons or subsidiaries of 16 companies (36%) take part in the Action Plan for Energy Saving and Low-carbon ("10,000 Companies"). Administrative and market measures bring multiple risks to companies, but also provide diverse ways to attain goals and encouraging policy opportunities. Based on disclosure statistics through CDP's 2014 climate change information request, it appears more and more companies have realized the significance of addressing climate change.

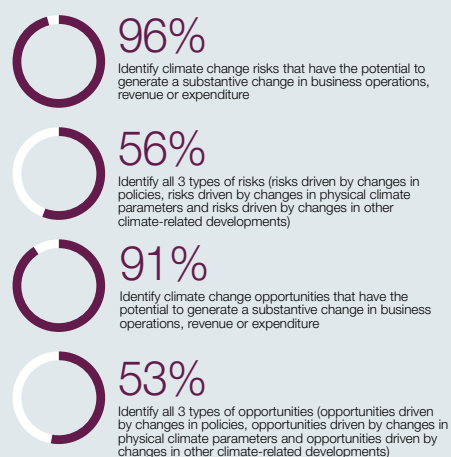
Responses from 45 Companies

Management and Strategy



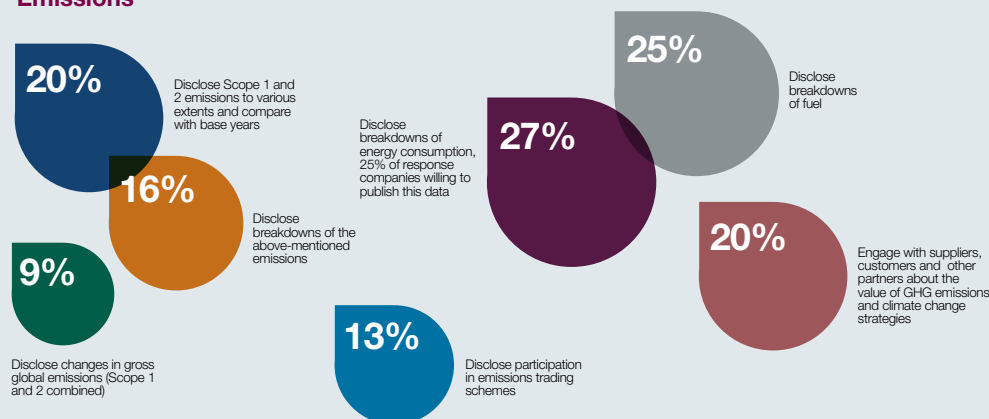
The enhancement of climate change at the management and strategic level reflects that companies have attached more importance to climate change issues, and are starting to move towards goals and to set relevant targets.

Risks & Opportunities



Responding companies identify 25 climate change risks and 19 climate change opportunities in total. For every 1.3 risks, one opportunity can be identified. Opportunities coexist with risks in addressing climate change. With the improvement of companies' ability in mitigating risks, the risk/opportunity ratio will continually decrease.

Emissions



At least 13 companies are engaged in the pilot ETS of China. Only three companies disclose emissions in detail, two disclose engagement in the ETS and one is willing to publicize this information. There are two main reasons for companies not willing to disclose emissions: lack of emissions data and concern for risks in disclosing emissions. It generally reveals the incompleteness of the system for collecting and reporting data and an inadequate ability in mitigating risks involving investor/customer.

Conclusion

Companies' awareness of disclosing environmental information has improved

Companies have gradually realized the importance of disclosing environmental information. The number of responding companies and the quality of responses have both increased. Responses to the 2014 CDP Questionnaire further improved; the number of responding companies increased from 32 in 2013 to 45 in 2014, up 40.6%. 42 companies also published initiatives in addressing climate change and emissions performances in other places, such as annual reports and other compliance documents. Answers to over 80 questions in the CDP Questionnaire have significantly improved compared to past years. The disclosed information is much more accurate, systematic and structural. Companies are more and more active in communicating with the public and investors.

Companies' initiative in addressing climate change has increased

Companies disclose relevant information in terms of management and strategy when addressing climate change, risks and opportunities and emission data. The improvement in the quantity and quality of responses directly reflects the increase in companies' initiative when addressing climate change. Internally, 71% (32) of companies have individuals or committees appointed by the Board to be generally responsible for climate change issues, 80% (36) of companies have integrated climate change risks into the corporate comprehensive risk management process, and nearly 90% (40) of companies have integrated climate change into their corporate business strategy. From organizational structure to the level of defining strategies, climate change has been placed in a prominent position. Externally, companies are strengthening communications with policy makers, industry associations and research institutions, increasing their influence over policies and competitive advantages.

The carbon management system of companies needs to be optimized

With strengthened efforts in eliminating outdated production capacity, energy saving, emissions reduction and addressing climate change, companies will face more and more policy risks which may directly affect their competitive advantages. Combining resources at the strategic level, establishing an effective carbon management system, and systemically setting carbon targets, managing energy saving and carbon reduction and addressing climate change are the basis for turning risks into opportunities. According to the responses, although energy saving and emissions reduction projects achieve a consistent outcome in reducing carbon as initiatives addressing climate change do, for most companies, energy saving and emissions reduction is not linked with addressing climate change in targets, organization structure and strategic levels. A few companies have attempted to unite these two goals and corresponding measures, but the outcome is unsatisfactory at present. More effort is required from companies in the future.



The impacts of climate change, water stress and deforestation are today affecting people's lives all over the world and if unchecked will cause devastation for generations to come.

Corporations, investors and governments must take responsibility to create the systemic change we need for an environmentally sustainable economy. For this reason we congratulate those companies that have achieved a position on CDP's 2014 Climate Performance Leadership Index.

All economic activity ultimately depends upon a steady flow of natural goods and services, such as fresh water, timber and food crops, or climate regulation and flood control. These goods and services can be considered the 'income' generated by the world's natural capital, the assets upon which the global economy rests.

However, as is becoming increasingly clear, we are eroding that natural capital base.

Businesses and investors are paying increasing attention to the erosion of the world's natural capital. By some estimates, the global economy is incurring unpriced natural capital costs of \$7.3 trillion/year, or 13% of global output.

CDP has built a unique global system to drive transparency and accountability for business impacts across the earth's natural capital, starting with climate,

then moving into water and forest-risk commodities. Our programs are designed to help assess and manage corporate exposures to environmental risks and ultimately to set companies on the path to natural capital leadership.

Deforestation and forest degradation accounts for approximately 15% of the world's greenhouse gas emissions, the equivalent of the entire transport sector. Land use change for agriculture is the main driver of deforestation, with five agriculture commodities responsible for most deforestation globally: Timber, palm oil, soy, cattle and bio-fuels. CDP's forests program provides the only unified system for disclosing corporate deforestation risk exposure and management information across these key commodities. Discover if you can help reduce your business risks and limit your contribution to deforestation at cdp.net/forests

Water security is one of the most tangible and fast-growing social, political and economic challenges faced today according to the World Economic Forum. CDP's water program helps businesses to respond to this challenge, to measure and manage water-related risks in their direct operations and supply chains, and to attain a position of leadership by starting the journey to water stewardship. Find out more at cdp.net/water

Through CDP, major multinationals are using their purchasing power to achieve sustainable supply chains. Our 66 member companies who represent US\$1.15 trillion in annual purchasing spend work with CDP. This enables them to implement successful supplier engagement strategies that reduce emissions, mitigate water and other environmental risks, and protect against escalating costs in supply chains. Join us at cdp.net/supplychain.



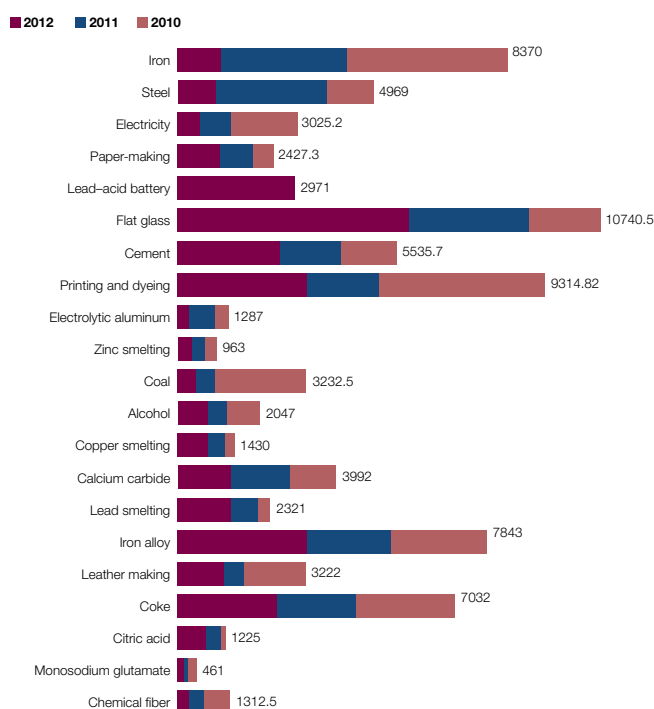
The adjustment and upgrading of industry structure, optimization of energy structure and addressing environmental pollution caused by extensive development have become a priority of the government of China. For this purpose, relevant authorities (Ministry of Environmental Protection, National Development and Reform Commission, and Ministry of Industry and Information Technology) in China are continually strengthening efforts in eliminating outdated production capacity, companies' energy savings and emissions reductions and other mandatory initiatives. The multiple rounds of international negotiation and consultation on climate change issues, to some extent, also promote the implementation of relevant initiatives in China. Additionally, relevant international experience and a cooperation framework provide solutions with more economic and market efficiency to the above-mentioned issues. The most prominent is the Chinese governments' active efforts in exploring the ETS. The ETS, as a flexible initiative in reducing carbon, is a positive complement to mandatory administrative measures, such as eliminating outdated production capacity and energy savings and emissions reduction.

Eliminating Outdated Production Capacity

Since the State Council published the "Circular on Further Strengthening Efforts in Eliminating Outdated Production Capacity"² on February 6 2010, there has been expansive and deep progress in eliminating outdated production capacity. The work appraisal system and work division system has continually improved, and the number of industries involved has increased from 13 in the 11th Five-Year Period to 21 in 2012.

Since 2011, the Ministry of Industry and Information Technology has published eight batches of companies to eliminate outdated production capacity, totaling 7,885 companies. Since 2010, the Ministry of Industry and Information Technology has published its annual progress in eliminating outdated production capacity, tracking the progress in a more accurate, immediate and comprehensive way. The transparency of this progress is increasing. (Figure 1/2)

Figure 1: Progress of eliminating outdated production capacity by industries³



Notes: 1 the cement industry of 2011 and 2012 includes clinker and grinding machines; 2 the copper, lead and zinc smelting industries of 2012 include secondary copper, lead and zinc.

Figure 2: Number of companies engaged in eliminating outdated production capacity by industry⁴

Industry	2011		2012		2013		2014	
	1st batch	2nd batch	1st batch	2nd batch	1st batch	2nd batch	1st batch	2nd batch
Iron	96	27	1	9	0	0	44	0
Steel	58	22	2	24	0	1	30	2
Paper-making	599	589	51	274	67	0	221	45
Lead-acid battery	0	92	22	44	0	11	39	17
Flat glass	45	48	2	14	0	8	15	7
Cement	782	1053	58	527	0	9	381	15
Printing and dyeing	144	176	8	132	0	13	107	9
Electrolytic aluminum	23	9	0	4	0	0	7	0
Zinc smelting	32	18	4	23	0	0	0	0
Alcohol	31	24	3	8	0	2	0	0
Copper smelting	24	43	3	42	0	2	43	1
Calcium carbide	48	28	2	27	0	3	40	0
Lead smelting	38	47	3	30	0	1	12	0
Iron alloy	171	248	13	184	0	1	164	3
Leather making	58	54	3	33	0	1	27	5
Coke	87	77	6	46	0	3	44	0
Citric acid	3	3	0	2	0	0	0	0
Monosodium glutamate	4	4	0	3	0	2	0	0
Chemical fiber	13	17	1	7	0	1	4	0
Rare earth	0	0	0	0	0	0	0	28
Subtotal (per batch)	2256	2579	182	1433	67	58	1178	132
Total (per year)	2256	2761	1558	1310				

Notes: 1 the cement industry of 2011 and 2012 includes clinker and grinding machines; 2 the copper, lead and zinc smelting industries of 2012 include secondary copper, lead and zinc.

2 http://fgs.ndrc.gov.cn/wqfx/201004/120100407_339203.html

3 Based on the progress published by the Ministry of Industry and Information Technology on eliminating outdated production capacity, <http://www.miit.gov.cn/n11293472/index.html>

4 <http://www.miit.gov.cn/n11293472/index.html#Technology>

The further implementation of this policy has fundamentally adjusted the industry structure, increased energy efficiency and reduced GHG emissions at the macro level. At the micro level, it has created an important period for companies with high energy efficiency and low emissions to win released market share, acquire industry peers at low cost and realize strategic expansion and reorganization of production and operation structures.

On March 24, 2014, the State Council published "Opinions on Further Optimizing Market Environment for Company Merger and Reorganization"⁵, further removing multiple hurdles for companies, allowing companies to take advantage and seize the opportunity.

Companies' Energy Saving and Low-carbon Campaign

To optimize energy structure and enhance energy efficiency, in April 2006, the National Development and Reform Commission, together with several other ministries, published the "Action Plan for One Thousand Companies' Energy Saving"⁶, initiating an energy saving campaign among key energy consuming companies. In nine key energy consuming industries, such as iron and steel, nonferrous metal, coal, electric power, after going through a 5 year adjustment period, 1008 companies with a gross energy consumption of over 180 thousand tons of standard coal equivalents have decreased to 881, as a result of closures, merger and transformation.

On December 7 2011, the Department of Resource Conservation and Environmental Protection of the National Development and Reform Commission published a "Circular on Printing and Distributing Work Plan for the 10,000 Companies' Energy Saving and Low-carbon Campaign"⁷. The name of the work plan indirectly shows that the goals of energy saving and emissions reduction and addressing climate change are united. This time, 16,078 companies were mandatorily

engaged in this plan. From 2011 to 2015, these companies are required to reduce 240 million metric tons of standard coal equivalents, which will reduce emissions of over 550 million metric tons of CO₂ equivalents. (Figure 3)

According to the 2012 Appraisal Result of 10,000 Companies' Energy Saving Targets⁸ published by National Development and Reform Commission, from 2011 to 2012, 14,542 companies taking part in the appraisal reduced energy of over 170 Mtmillion metric tons of standard coal equivalents, accounting for 69% of the 10,000 companies' energy saving target in the 12th Five-year Period.

According to statistics, 2,724 companies in 7 ETS pilot provinces and cities have included into this plan; the gross energy saving target in 12th Five-year Period is 42.6 million metric tons of standard coal equivalent, reducing emissions of almost 100 million metric tons GHG and accounting for 18% of total emissions reduction.

In addition, the low-carbon pilot provinces and cities¹⁰ and low-carbon industrial park¹¹ policies implemented in recent years have complemented the 10,000 companies' campaign in terms of intensity and coverage of energy saving and emissions reduction. This also provokes low-carbon city exploration all over China.

As a non-low-carbon pilot participant, Hunan province made efforts on exploration and innovation in the establishment of the province's GHG accounting and calculation system, and low carbon industrial construction. Hunan province has identified more than 1300 companies and institutions to partake in direct reporting. At present, more than 1000 key companies and institutions have completed the GHG reporting. In 2013, Hunan province joined the WWF "Low Carbon Solver" project. At the same time, Hunan province launched the low carbon enterprise ecosystem project "Carbon Community". The project will attract the main provincial enterprises, low carbon technology innovation, and investment and financial institutions, to build the ecological chain of low carbon industrial development, while promoting the communication and cooperation among companies¹².

To encourage companies, central and local governments have set up various reward funds and special funds, such as the Fiscal Reward Fund for Technological Upgrading for Energy Saving, Special Fund for Energy Management Contracting, Reward Fund for Energy Saving and Emissions Reduction. Major financial institutions offer green loans, and insurers develop relevant insurances for energy saving and emissions reduction to protect rights of all stakeholders. These provide funds and guarantees from various resources for the companies. This is a significant opportunity for companies to acquire high energy efficiency and low-carbon competitive advantages.

Figure 3: Number of companies participating in energy saving and low-carbon campaign and the outcome

Time	Number of Companies	Quantity of Energy Saved	Note
At the end of the 11 th Five-year Period	881	1,6549	866 achieved energy saving targets during the 11 th Five-year Period
2011-2012	16,078	1.7	14,542 engaged in the appraisal

Figure 4: Starting Date of Emission Trading Exchanges¹³



⁵ http://www.gov.cn/zhengce/content/2014-03/24/content_8721.htm

⁶ http://bgt.ndrc.gov.cn/zcfb/200604/120060414_499304.html

⁷ http://bgt.ndrc.gov.cn/zcfb/201112/120111229_498695.html

⁸ 2012 Appraisal Result of 10,000 Companies' Energy Saving Targets, Dec. 25, 2013, http://www.ndrc.gov.cn/zcfb/zcfbgg/201401/120140103_574473.html

⁹ 1,000 Companies' Energy Saving Targets during the 11th Five-year Period, Dec.2, 2011, http://bgt.ndrc.gov.cn/zcfb/201112/120111227_500034.html

¹⁰ http://www.gov.cn/zwgk/2010-08/10/content_1675733.htm

¹¹ <http://www.mit.gov.cn/n11283472/n11293832/n12843926/n13917012/15673738.html>

¹² <http://www.lowcarbonhn.org/>

¹³ Based on the websites of seven exchanges and the local governments in charge

Figure 5: Beijing allowance allocation plan¹⁵

Type of Companies	2013	2014	2015
Manufacturing and other industrial companies	98%	96%	94%
Service companies	99%	97%	96%
Gas facilities of thermal power plants	100%	100%	100%
Coal combustion facilities of thermal power plants	99.90%	99.70%	99.50%
Gas facilities of heat supply companies	100%	100%	100%
Coal combustion facilities of heat supply companies	99.80%	99.50%	99.00%

Emissions Trading Scheme

As a creative solution, an Emissions Trading Scheme (ETS) is a market mechanism under mandatory administrative initiatives. The flexible ways to comply emission restrains and its potential for financial development has put the scheme under the spotlight. At present, seven pilot provinces and cities have all launched emission trading exchange and mandatorily engaged 2,247 companies. (Figure 4)

The total emissions allowance exceeds 1,200 million metric tons of CO₂ equivalents. It is imperative for companies engaged in the ETS to have a deeper understanding of emission trading in order to identify risks and opportunities, and to define effective mitigating measures. (Figure 4)

Scope and Intensity of Carbon Restraint

The carbon restraints' scope and intensity within each pilot reflect local characteristics of economic growth, current industry structures and energy structure, and most importantly, various preferences for energy types and different restraint progress at different phases.

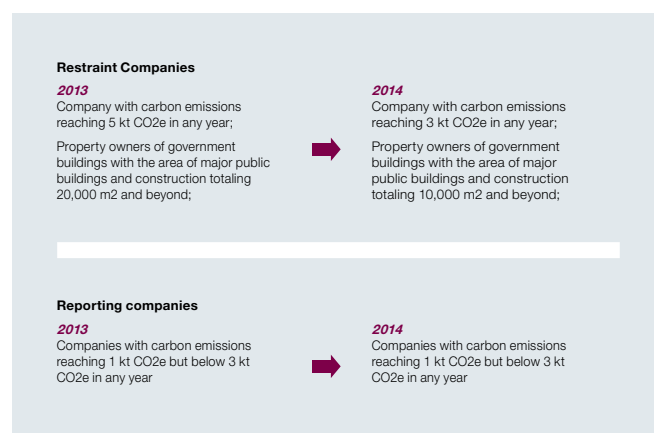
For example, Shanghai, Beijing and Shenzhen are business hubs and are located in the more advanced eastern coastal region. Compared to the central and western regions, per capita GDP of these cities is higher, while the GDP growth rate is lower. Hence, the pilot scope of the afore-mentioned cities includes major public business buildings or service industries, and the pilot scope of Shanghai also covers transportation¹⁴. In terms of a preference for energy type, gas is the favored type and gas utilities or companies will have more allowance and less emissions reduction responsibility or none at all. (Figure 5)

Figure 6: Number of restrained companies and projects within Guangdong

Industry	2013		2014	
	Companies	Projects	Companies	Projects
Thermal power	62	23	64	21
Cement	68	12	61	3
Iron and steel	63	2	57	1
Petrochemical	9	3	11	0
Total	202	40	193	25

¹⁴ [http://www.ey.com/Publication/vwLUAssets/EY-Understanding_Chinas_Emissions_Trading_Schemes_and_Emissions_Reporting/\\$FILE/EY-Understanding-Chinas-ETS-and-Emissions-Reporting.pdf](http://www.ey.com/Publication/vwLUAssets/EY-Understanding_Chinas_Emissions_Trading_Schemes_and_Emissions_Reporting/$FILE/EY-Understanding-Chinas-ETS-and-Emissions-Reporting.pdf)

Figure 7: Threshold Adjustment in Shenzhen



As for Guangdong, companies and newly built projects included within the scope of the pilot in 2013 and 2014 are from thermal power, cement, iron and steel and petrochemical industries¹⁶. According to the 2014 Action Plan of Guangdong Province for Distributing Carbon Allowance¹⁷, Guangdong will include industries, such as porcelain, textile, nonferrous, chemicals and paper making, and construction and transportation fields in the scope of carbon emissions management and trade based on the progress of pilot work. (Figure 6)

GDP of Guangdong in 2013 increased by 8.5% compared to 2012. It is estimated that the year on year increase of 2014 will be 8.5%. The total allowance of Guangdong in 2014 is 408 million metric tons, 20 million metric tons more than that of 2013 and up 5%¹⁸. The economy is growing faster than the allowance, which means that the free allowance which companies can receive will shrink further.

On March 19 2014, Shenzhen published the "Interim Measures of Emission Trading Management"¹⁹, lowering inclusion thresholds for both restrained companies and reporting companies²⁰. As a result, the formal reporting companies will be mandatorily included into the ETS. (Figure 7)

With the continual improvement of the ETS the emissions trading exchanges will develop further, and while the number of restrained companies and the total allowance are expected to grow. The restraint intensity will be strengthened and companies will face larger challenges in reducing emissions.

Emissions Compliance

In 2014, only five out of the seven pilot regions, Shenzhen, Shanghai, Beijing, Tianjin and Guangdong, conducted emission compliance base on the 2013 emissions of the restrained companies. Emissions compliance reflects the sophistication of the trade scheme and the current progress of system building in each pilot region. It will also

¹⁵ Circular of Development and Reform Commission of Beijing on Carrying out Pilot Work of Carbon Trade, November 20, 2013, <http://www.bjpc.gov.cn/tztg/201311/17020680.htm>

¹⁶ http://www.gddpc.gov.cn/xxgk/tztg/201311/120131126_230325.htm

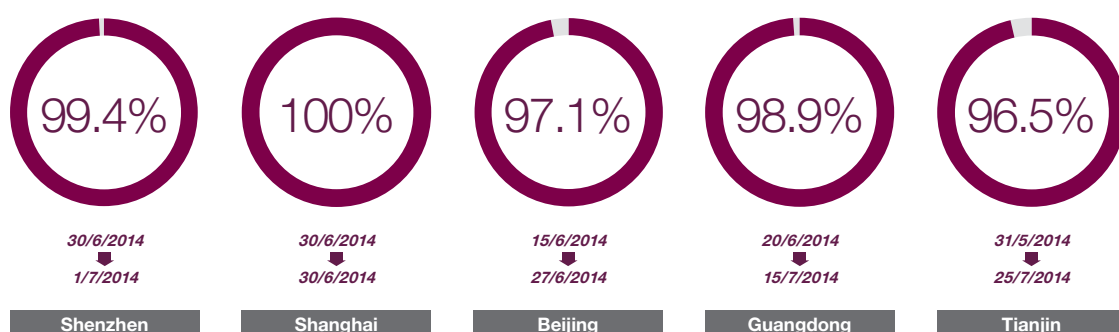
¹⁷ 2014 Action Plan of Guangdong Province for Distributing Carbon Allowance, Aug. 18, 2014, http://www.gddpc.gov.cn/xxgk/tztg/201408/120140818_253453.htm

¹⁸ <http://www.cremission.com/article/news/yysgg/201408/20140800000782.shtml>

¹⁹ http://www.sz.gov.cn/zfzb/2014/gb876/201404/120140402_2335498.htm

²⁰ Interim Measures of Shenzhen on the Management of Carbon Trade, Mar. 19, 2014, http://www.sz.gov.cn/zfzb/2014/gb876/201404/120140402_2335498.htm

Figure 8: Emissions compliance deadline delay and compliance rate ²²



challenge the companies' understanding of carbon control and their ability in addressing climate change.

There are three ways in which companies can comply with the ETS:

- ▶ Allowance Trading: The allowance of the seven pilot regions is highly similar but independent. Engaged companies can only trade allowance on the exchange of each pilot region. Companies purchase adequate allowance through trading and discharging the 2013 verified emissions. Companies need to keep track of the price and quantity of traded allowance and prudently choose their trading times.
- ▶ China Certified Emission Reduction²¹ Trading: The China Certified Emission Reduction ("CCER") is a complementary mechanism to achieve emission compliance, and can offset excessive emissions of companies. It can help companies perform obligations, and encourage the use of new energy and the implementation of projects, such as carbon sinks, energy savings and emissions reductions.
- ▶ Implementation of Low-carbon Projects: Companies can fundamentally reduce carbon emissions through technological upgrades and creative energy-saving management, or implement and registered as a CCER project for emissions self-offset.

During the first emissions compliance period that just ended, except for Shanghai and Shenzhen, there were delays at 3 other pilots. During

the end of the period, significant price fluctuations were observed in 5 emission trading exchanges. On June 27, after the required period ended, the average transaction price of Beijing once reached 70 Yuan per tCO₂e, the highest among the 7 exchanges. The total trade volume of 5 emission trading exchanges also witnessed explosive increases. (Figure 8)

The main issues for companies' in addressing climate change emerging in the first period are: 1) they do not understand the theory and mechanism of emission trading, and passive attitude prevails, 2) they do not have a unified system to collect and process GHG data, 3) they do not have internal control and decision making system to address climate change. In the short term, companies are forced to accept changes in policies and bear increase in operational costs; in the long term, the competitive advantages of companies will be impaired, and so will the investors' confidence.

CCER Development

As an important supporting initiative for ETS, theoretically, the mechanism of carbon emissions offsetting is the most cost efficient way for companies to attain emissions reduction targets in a flexible manner. It is also a win-win measure to encourage the use of new energy and building projects of carbon sink, energy saving and emissions reduction. In case a huge amount of CCER enters the emissions trading exchanges and raises carbon price, pilot emission trading exchanges have stipulated the amount of CCER, types and the amount of CCER that companies can use. (Figure 9)

Figure 9: CCER information of each pilot region²³

Item	Shenzhen	Shanghai	Beijing	Guangdong	Tianjin	Hubei	Chongqing
Offsetting product	CCER	CCER	CCER	CCER	CCER	CCER	CCER
Offsetting ratio	≤10%	≤5%	≤5%	≤10%	≤10%	≤10%	≤8%
CCER requirement	/	/	50% is local	70% is local	/	100% is local	/
Estimated demand ²⁴	300	800	235	4,080	1,600	1,900	1,040
(10 kt)	300	800	235	4,080	1,600	1,900	1,040

²¹ China Certified Emission Reduction (CCER). The unit is CO₂e, which means that one ton of CCER can offset the emission of one ton CO₂.

²² Based on the websites of seven exchanges and the local governments in charge

²³ Based on the websites of 7 exchanges and the local governments in charge

²⁴ Estimated demand equals total allowance published by each pilot region multiplied by offsetting ratio. Guangdong uses the total allowance of 2014, while other provinces/cities use the total allowance of 2013.

Currently, no CCER has been successfully issued²⁵. Only on the initial day of the pilot trade in Beijing and Guangdong there was one ex-pit transaction by agreement reached respectively. The transaction prices were 16 Yuan and 20 Yuan per tCO₂e respectively, and the trade amount was 10 kt tCO₂e²⁶.

By August 28, 2014, 318 certified emissions reduction application documents had been submitted to the CCER Exchange Info-platform, with a total emissions reduction of 54.88 million metric tons, accounting for 55% of the total estimated demand of seven pilots. 47 projects were successfully registered, 32 projects have filed CCER monitoring reports and no CCER has been successfully issued²⁷.

Based on international experience, the price of CCERs are lower than the price of allowance. If no restrictions are placed on the use of CCERs, many CCERs would enter the emission trading exchange and impact carbon trade prices. This would affect emission trading and keep, and keep the emission trading exchange from playing its part. Considering the restrictions on CCERs by regulators, companies should properly assess their potential in reducing emissions and pay attention to the transaction prices of allowance and CCERs, to define effective carbon reduction and offset plans, and avoid economic losses.

Disclosure of Companies' Environmental Information

Disclosure of environmental information is an effective way for companies to communicate with the public, investors and policy makers. However, most Chinese companies still play a passive role in terms of disclosing environmental information. With increasing efforts in environmental regulations, companies face pressure to disclose on multiple fronts.

Figure 10: Number of national specially monitored companies²⁸

Type	2011	2012	2013	2014
Waste water	4,853	5,159	4,944	4,001
Waste gas	4,425	3,605	4,189	3,865
Sewage	2,870	2,883	3,581	3,606
Heavy metal	0	3,732	2,834	2,771
Total	12,148	15,379	15,548	14,243

Notes: Because heavy metal monitoring in the Xinjiang Production and Construction Corps is still in a pilot phase, the numbers of companies monitored for heavy metal in 2013 and 2014 are not included.

The pressure is mainly from central and local governments, such as Ministry of Environmental Protection and local environmental authorities²⁹, and from financial requirements, such as the China Banking Regulatory Commission³⁰, stock exchanges³¹ (e.g., the HK Exchange and the Shanghai Stock Exchange) and investors. The main channels for disclosure are financial reports, such as annual reports of listed companies, and other regulatory documents, such as social responsibility reports or sustainability reports, and environmental info-platforms of local governments.

Every year since 2007, China has published one batch of national specially monitored companies for waste water, sewage, waste gas and heavy metal related information. Since the 12th Five-year Period, the average number of national specially monitored companies every year has exceeded 14,000. (Figure 10)

The 113 key cities needing environmental protection, the relevant environmental protection authorities of these cities publish companies' environmental information. The information includes real-time publishing of online monitoring data, illegal excessive emissions, complaints and whistleblowing information and regular disclosure of emissions data of pollutants³².

Although the quality of published information varies, in the long term, the quality is continually improving. This is a positive complement to national specially monitored companies, which not only helps companies communicate with the public, but also enables governments to better identify companies' environmental issues with the engagement of the public.

For companies, involuntary disclosure of environmental information has put them in passive positions to some extent. The production of some companies has even been suspended for consolidation purposes, causing financial and reputation damage and hurting investor confidence.

To adjust industry structure, optimize energy structure, and achieve goals in addressing climate change, China has smoothly moved from mandatory administrative measures, such as elimination of outdated production capacity and companies' energy savings and emissions reduction campaign, to complementary initiatives, such as the ETS.

This has created more opportunities for companies and made voluntary disclosure of information meaningful. Companies should seize this opportunity, systematically disclosing environmental information, while communicating their initiatives and outcomes of energy saving, emissions reduction and climate change policies to stakeholders. This will enhance the reputation of companies among the public and reinforce investor confidence.

²⁵ <http://cdm.ccchina.gov.cn/ccer.aspx>

²⁶ <http://www.cbeex.com.cn/article/zxdt/bsdt/201311/20131100047422.shtml> <http://www.chinapower.com.cn/newsarticle/1201/new1201343.asp>

²⁷ <http://cdm.ccchina.gov.cn/ccer.aspx>

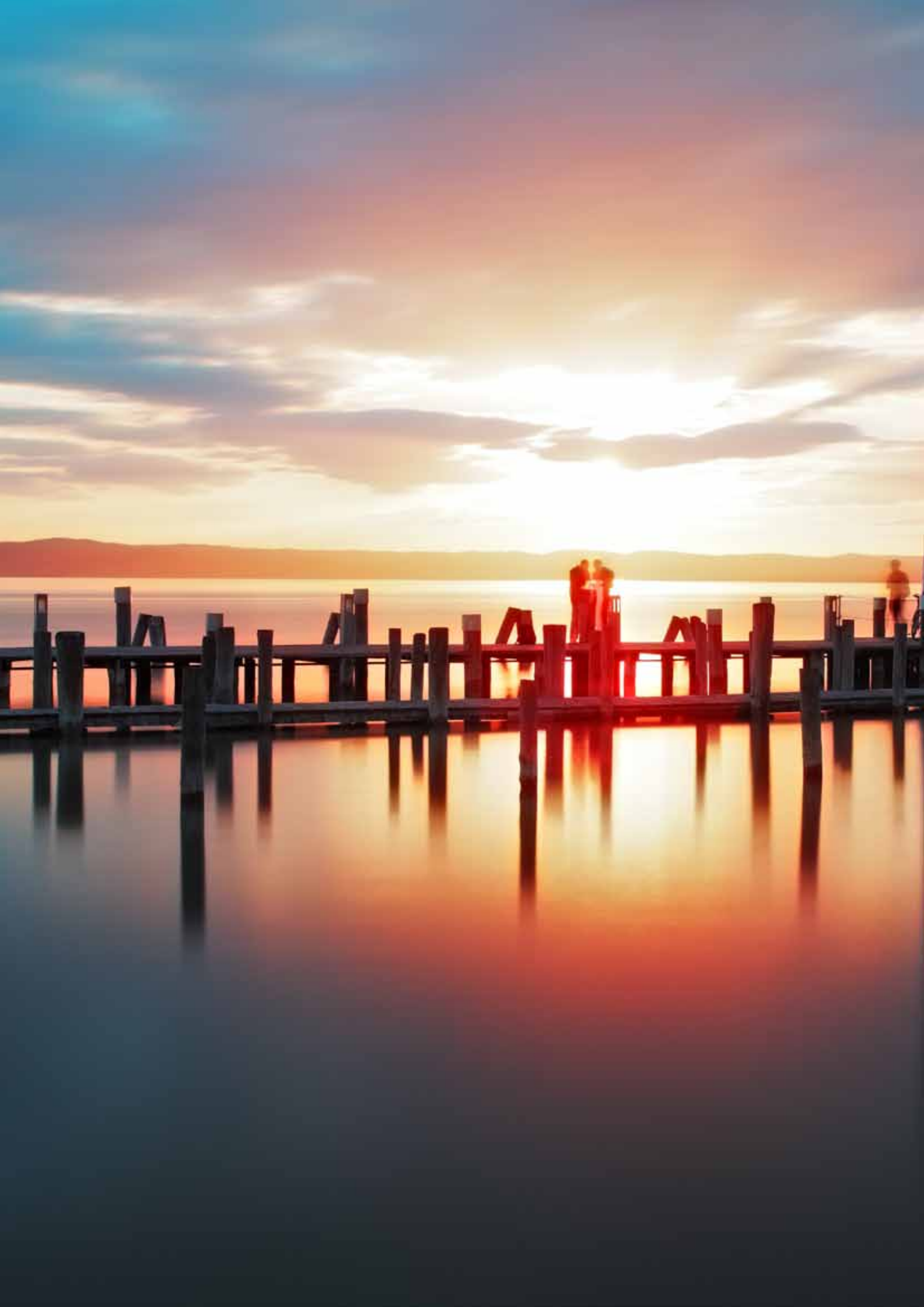
²⁸ <http://www.mep.gov.cn/>

²⁹ Environmental Protection Law of the People's Republic of China (2014 revised) ; Guidelines for Listed Companies Disclosing Environmental Information, Sep. 14, 2010,

³⁰ <http://www.cbrc.gov.cn/chinese/home/docView/127DE230BC31466B8329EFB01AF78BD4.html>

³¹ http://www.sse.com.cn/lawandrules/sserules/listing/stock/c/c_20120918_49642.shtml

³² 2012 Appraisal Outcome of PITI of 113 Cities, IPE, <http://www.ipe.org.cn/Upload/PITI2012-0418-2.pdf>



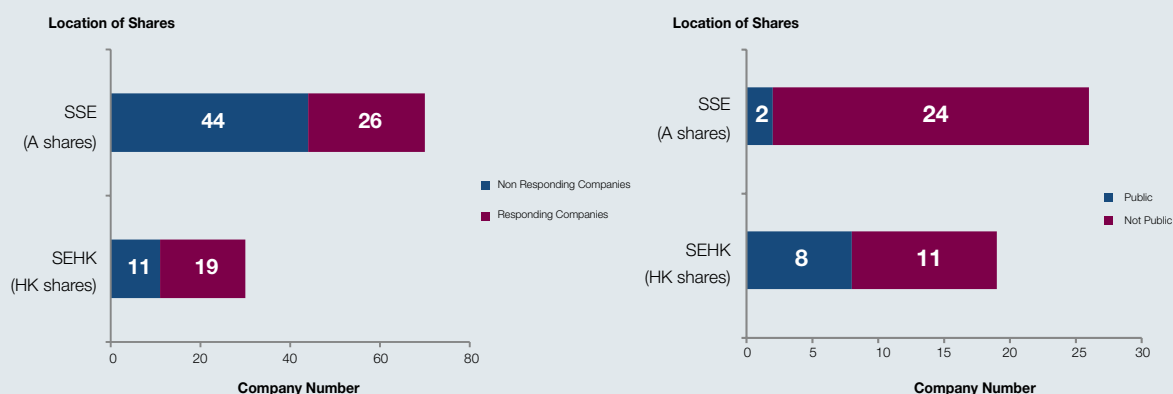
In 2014, CDP sent questionnaires to the 100 largest Chinese companies by market value after investability weighting which were listed in the FTSE China A 600 and FTSE All World Asia Pacific (FTAW06) indices (sample collection as of December 31, 2013). Of the 100 invited Chinese companies, 45 responded through Online Response System (ORS), covering 10 sectors based on the Global Industry Classification Standard (GICS).³³ This report analyzes the responses of the 45 companies.

In 2014,

- ▶ **4540 Total companies globally disclosing climate data to CDP**
- ▶ **45 Chinese companies disclosing climate data to CDP**
- ▶ **10 Chinese companies of the above are Global 500**

Though the sample from SEHK is less than 50% of that from SSE, the responding rate of SEHK companies is very high, which is almost 63%, compared to 37% of SSE companies. Also, 42% of the SEHK responding companies is willing to publicize their information released to CDP, where of the SSE responding companies, the number is 8%. This directly demonstrate that companies from SEHK attached more important concern on climate change addressing information disclosure, and also indirectly reflect the regulatory strength and investor impacts on listed companies from SEHK are stronger than that from SSE.

Figure 11: Basic information of responding companies



On the whole, response rates of high emissions companies in the industries of Utilities, Materials, Industrials and Consumer Discretionary continued to be low, which was not conducive for policy makers, investors and consumers to know about companies' responses to climate change.

Although the financial industry sample decreased slightly (6.45%) in 2014, the responses were 1.7 times (17 companies) of 2013. The financial companies mainly included Banking (10), Insurance (three), Real Estate (three) and Integrated Financial Company (one). They actively participated in CDP's information disclosure project for addressing climate change, for they directly engaged in environment investment and service such as developing and offering of green credit and environment related insurance products, were more sensitive to addressing change of energy saving and carbon emissions reduction policy and demands of companies, and were acutely aware of the importance of energy saving and carbon emissions reduction and tackling climate change in China. (Figure 12)

³³ GICS is an industry taxonomy jointly launched by Standard & Poor's (S&P) and MSCI for classifying global listed companies in August, 1999. Four classifications include 10 sectors, 24 industry groups, 67 industries and 147 sub-industries. See <http://baike.baidu.com/>

Questionnaire analysis

Figure 12: Number of responding companies in sectors (2012-2014) **Management**

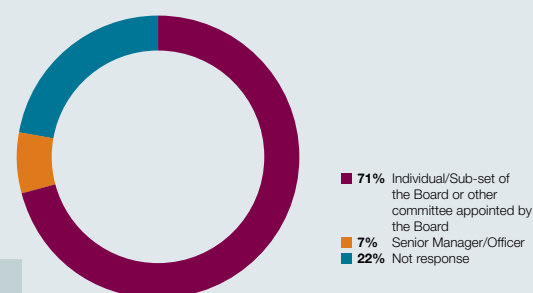
Industry		2012	2013	2014
Utilities	Sample size	3	3	5
	Response	0	0	1
	Response rate	0%	0%	20%
Telecommunication Service	Sample size	4	4	4
	Response	3	3	3
	Response rate	75%	75%	75%
Materials	Sample size	13	13	5
	Response	0	0	1
	Response rate	0%	0%	20%
Information Technology	Sample size	3	2	7
	Response	2	2	2
	Response rate	67%	100%	29%
Industrials	Sample size	14	14	10
	Response	2	5	4
	Response rate	14%	36%	40%
Health Care	Sample size	3	3	7
	Response	0	1	4
	Response rate	0%	33%	57%
Consumer Staples	Sample size	29	6	7
	Response	8	2	3
	Response rate	28%	33%	43%
Consumer Discretionary	Sample size	12	11	18
	Response	6	2	5
	Response rate	50%	18%	28%
Financials	Sample size	8	31	29
	Response	1	10	17
	Response rate	13%	32%	59%
Energy	Sample size	11	13	8
	Response	1	7	5
	Response rate	9%	54%	63%

Organizational structure directly reflects the awareness of and attention to climate change. It eventually determines the establishment of corporate GHG emissions data system, identification of risk and opportunity from climate change, and establishment and implementation of strategy, as well as speed and quality of decision-making. (Figure 13)

71%

of companies had an individual or sub-set of the Board or other committee appointed by the Board in overall charge of climate change matters. 7% of companies had designated senior manager or official in charge.

Figure 13: The highest level of direct responsibility for climate change



- ▶ “CSR Committee under the Board of Directors. Within this reporting period, the members in the committee have been changed. The president Mr. Peng Chun is the director of the members. Among the 5 members, some of them are executive directors in charge of operations, and some of them are external non-executive directors. And the work done by them in 2013 includes enhancing CSR, complementing green credit policy, protecting stakeholders’ rights and improving CSR communication internally and externally.”

Bank Of Communications

- ▶ “The company’s board of directors and the health and environment committee under the board are responsible for determining and managing the Company’s strategic decisions about climate change. With the board of directors of the company together with its safety, health and environment committee as the superior decision-making body, a three-tier system for environmental protection, energy conservation and emission reduction has been established which covers the headquarters, subsidiaries (branches) and plants.”

Responding company

- ▶ “The company has set up a special green low-carbon management – Energy Management and Environmental Protection Department, which is responsible for the company’s energy management, environmental protection and climate change aspects; for the preparation of the green low-carbon development plan there were series of realised rules and regulations.”

China Petroleum & Chemical Corporation

- ▶ “Specific department and designated officer/manager have been made responsible for the implementation of environmental measures. They ultimately report to board committee/board member through our internal reporting system.”

China Merchants Holdings Company Limited

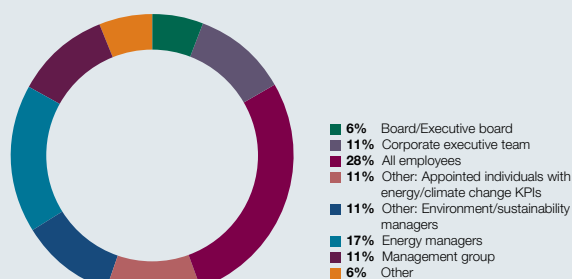
Incentives for the management of climate change issues

Effective performance management mechanism can help guarantee corporate climate change strategy formulation and target implementation. Applying incentive performance indicators to all employees and the CEO is considered the premise of effective implementation of climate change strategy.

22%

of companies established incentive mechanism against climate change issues. Among them, six chose monetary reward and only employees of Shandong Dong-E E-Jiao and China Mobile enjoyed overall monetary reward. Among them, ZTE, Lenovo, China Mobile and China Shenhua Energy all had two or more incentive performance indicators. (Figure 14)

Figure 14: Incentive object and method



Risk management, business strategy and engagement with policy making are key indicators for overall evaluation of climate change strategy of companies. From risk identification, target setting and implementation to the cycle of interaction with policy makers, a full set of strategy is established to address climate change.

80%

of companies integrated risk of climate change into multi-disciplinary company-wide risk management processes. Among them, 50% described how to identify risks and opportunities at company and asset level.

internal control system design, giving a full play to the basic internal controls and security role, bringing the company's risk management and internal control to the next level."

China Petroleum & Chemical Corporation

Forward-looking business strategies can turn risks of climate change into opportunities and help companies seize the initiative. 89% of companies integrated climate change to corporate business strategy, 80% disclosed the processes of doing so and the outcomes. Responding companies for both issues were far more than that of 2013.

- ▶ "The efforts made by the company in mitigating climate change and reducing GHG emissions include reduced GHG emissions from the company's own operations; and through a multi-level technological innovation, developed green products, green technologies, and green solutions to help our customers and the whole society to reduce GHG emissions."

Responding company

Risk and opportunity identification at company and asset level

- ▶ "At company level, Lenovo's ERM team holds calls with business unit and functional risk champions to facilitate the risk assessment process and collects risk information. At asset level, all Lenovo business units and functions participate in this risk assessment. Every risk is assigned a risk owner who is responsible tracking the risk, keeping management informed of status changes relative the risk, and ensuring that adequate attention and resources are applied to the risk."

Lenovo Group

- ▶ "SINOPEC has further strengthened the comprehensive risk management and internal control, establishing and improving branch classification from joint-stock to subsidiary company level supervising the risk management system. Has released and implemented a total risk management system, the basic approach to risk assessment guidelines, combined with the internal control and carrying out the major importance risk management. Also promoted the integration of internal risk control, continuing to optimize

- ▶ "On the basis of original green finance and carbon finance product systems and according to the development situation of China's carbon trading pilots, the Bank creatively launched many financial products specially serving the carbon trading field, such as carbon asset pledge, low carbon technology consultation and cooperation, and energy performance contract financing business. The Bank also provides more perfect and comprehensive financial integrated solution to carbon trading participants and services to the carbon emissions trading exchanges, according to their special needs".

Responding company

- ▶ "The company has integrated social responsibility with corporate development strategies and operational management based on the construction of a "five-model company", including intrinsic safety, quality and efficiency, technological innovation, resource conservation and

Questionnaire analysis

harmonious development. The company strictly adopted project lifecycle environmental management concept, projects are subject to environmental requirements from the project planning stage, with efforts in energy conservation, emissions reduction and environmental protection throughout the stages such as equipment selection, infrastructure construction, production, sales, asset recycling, etc.”

Responding company

- ▶ “SINOPEC has also established of energy management information system to develop emissions methodology, low-carbon products and promotion the use of energy saving, emissions reduction technology; in order to achieve green growth, carbon discloser and sustainable development.”

China Petroleum & Chemical Corporation

- ▶ “The company incorporated the issues of tackling climate changes and promoting energy conservation and emissions reduction into our business strategy. On one hand, we actively control the environmental impact of our operations from three aspects: green network, green service, and green office, and work with our partners to promote a cost effective and green industrial ecology with more energy-efficient equipment and better waste management. On the other hand, we are committed to fully utilizing our advantage in ICT technology and industry influence to promote innovative green solutions and encourage public participation in environmental protection.”

Responding company

Policy engagement process is the process of actively understanding and influencing the government and relevant policy makers by leveraging advantages of companies, with the benefit of instant access to effective macro environment information and direct or indirect influence on decision making of corporate strategy.

27%

companies engage in activities that could either directly or indirectly influence public policy on climate change. (Figure 15/16)

Figure 15: Engagement with relevant institutions

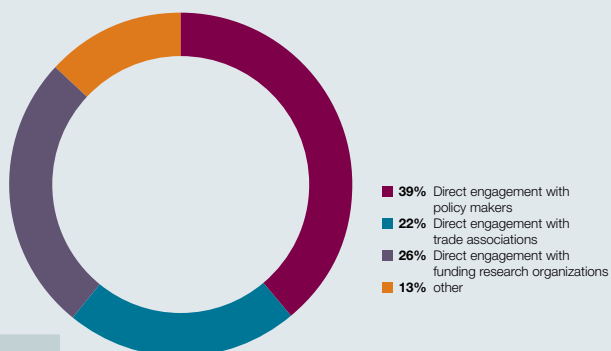
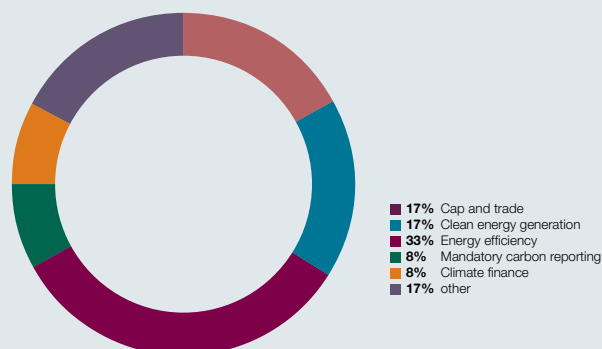


Figure 16: Major climate change issues engaged directly with policy makers



In China, companies have increased their awareness on addressing climate change which is demonstrated by their engagement with different organizations. Companies directly engaged with policy makers using their advantages and performance, actively involved in the policies making process for climate change, to maintain their policy sensitivity and gain competitiveness. When engaging with trade associations and funding organizations, they focus on industries issues in order to understand the industrial development trend of addressing climate change, and investors' new requirements. They actively coped with research organization on technology investigation and outcome announcement, to improve their competitiveness from management, operation and branding. What's more important is, they are trying to align their engagement activities with climate change strategy.

Engagement with funding research organizations

- ▶ “Lenovo is engaged with the MIT University Materials Lab, other members of the information and communication technology (ICT) industry and academia in the development of a tool to simplify and expedite determination of the PCF for ICT products through the Product Attribute Impact Algorithm (PAIA) project. It is hoped that this work will move the industry towards a standard method for establishing PCF. Lenovo’s product development groups are currently using the PAIA notebook, desktop and monitor PCF calculation tools and are engaged in the development of tools for tablets and all in one computer. ”

Lenovo Group

Ensuring engagement aligned with climate change strategy

- ▶ “Lenovo’s corporate communications procedures require engagement of the Global Director of Environmental Affairs and Corporate Communications with regard to external communications/activities involving environmental issues, including climate change. Also, external and internal communications and environmental policy and strategy are discussed with Senior Management at least semi-annually during scheduled environmental management reviews.”

Lenovo Group

16% of companies set target for emissions reduction, among which, two companies disclosed their scope of absolute target, base year, and target year and emission reduction with details. Three companies disclosed detailed carbon intensity target, and only one company disclosed the influence of carbon intensity target on absolute target. (Figure 17/18/19)

Figure 17: Detailed absolute target-Responding company

Target type	Scope	Base year	Target year	Emission reduction (tCO ₂ e)
Abs1	Scope 1+2	2012	2018	15910
Abs2	Scope 1	2012	2018	2667
Abs3	Scope 2	2012	2018	13243
Abs4	Scope 3: Fuel- and energy-related activities (not included in Scopes 1 or 2)	2012	2018	18,706,772

Figure 18: Proportion of target type

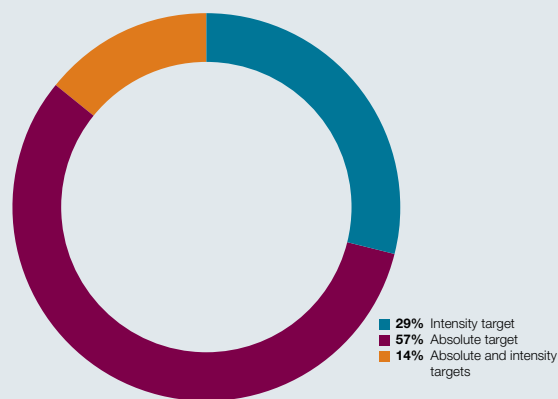


Figure 19: Completion of absolute target – Lenovo Group

■ complete (time)
■ complete (emission)



Lenovo’s Scope 1 emissions target was to eliminate or offset all Scope 1 emissions. Lenovo achieved this target by purchasing and retiring carbon offsets.



Lenovo’s Scope 2 emissions target for FY 2015/2016 is to reduce emissions by 16% in comparison with base year Scope 2 emissions which is FY 2009/2010. The 10.6% emissions reduction was completed by the end of FY 2013/2014 which is 66.3% of the 16% target. Since the baseline year is FY 2009/2010 and Lenovo’s next target year has been set up for FY 2015/2016 - six years apart. The % of complete time is 66.7% - 4 years.



Lenovo’s Scope 2 emissions target for FY 2019/2020 is to reduce emissions by 20% in comparison with base year Scope 2 emissions which is FY 2009/2010. The 10.6% emissions reduction was completed by the end of FY 2013/2014 which is approximately 53% of the 20% target. Since the baseline year is FY 2009/2010 and Lenovo’s next target year has been set up for FY 2019/2020 - ten years apart. The % of complete time is 40% - 4 years.

60%

companies consciously reduce GHG emission of their consumers by products and/or services technology transformation, process improvement and management innovation. 36% disclosed how the usage of their products and/or services directly enables GHG emissions to be avoided by a third party.

- ▶ “Lenovo PCs come with built-in energy-efficient tools and eco-friendly features that include: (1) Power Manager™ saves up to 69 percent on energy consumption per desktop, per year. (2) Active Thermal Management that adjusts processor and fan speeds based on ambient levels. (3) Dynamic Brightness Control that conserves battery. (4) Hybrid Graphics helps optimize battery life and graphics performance. (5) Active Directory and LANDesk® allow administrators the ability to control and enforce ThinkPad® energy savings company-wide. (6) Cisco EnergyWise software application.”

Lenovo Group

87%

companies implemented or planned to implement carbon emission reduction measures within the reporting year. 71% disclosed number of implemented projects. Among them, 80% disclosed type and corresponding number of implemented projects. 31% disclosed methods of promoting investment in carbon reduction projects. (Figure 20/21/22)

Figure 20: Implementation and results of carbon reduction measures

Item	Number of projects	Estimated annual CO ₂ e in metric tonnes CO ₂ e
Implemented	117	811
Implementation commenced	2	206000
To be implemented	3	13500
Under investigation	4	-

Figure 21: Implemented initiatives type of carbon reduction measures

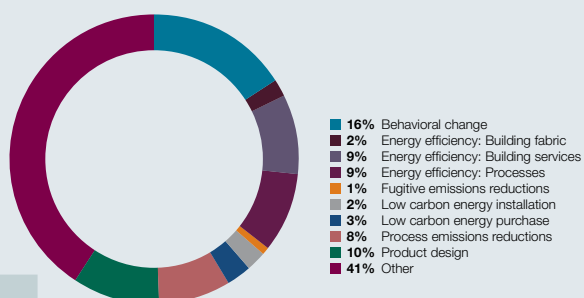
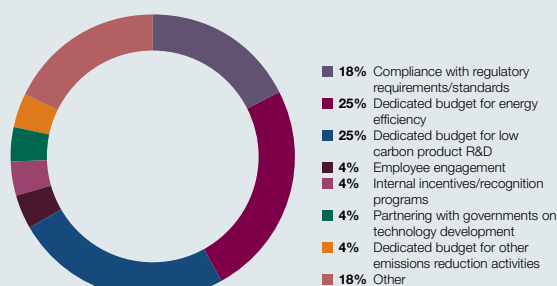


Figure 22: Methods to drive investment in emission reduction initiatives



Energy saving and carbon reduction measures

- ▶ “We effectively reduced paper usage with the total annual reduction of 2,927.4 tCO₂e by using 18 technological services such as remote loss assessment, electronic policy and self-help claims.”

Ping An Insurance (CSR Report 2013)

- ▶ “In 2013, we promoted self-high-temperature projects, and invested in 600 self-high-temperature cabinets. About 6,915,110.4 kWh was saved all year round. Carbon emissions were reduced by about 6,377.81 tCO₂e. The payback period of the project is 1-3 years.”

Responding company

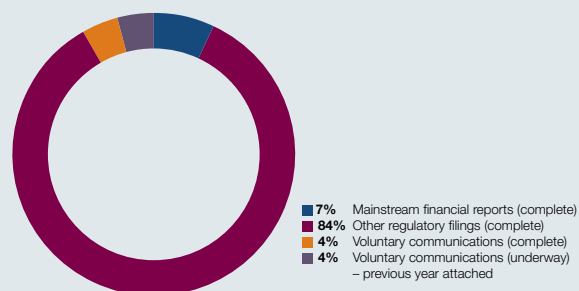
- ▶ “We continued to expand the application of alternative energy technologies and construct alternative energy base stations in resource-rich regions. At the end of 2013, we had built about 12,000 alternative energy base stations, including over 10,000 solar powered (including dual wind solar models) ones. They allowed us to reduce our electricity consumption by 52 million kWh each year, equivalent to the reduction of GHG emissions by 39,000 tons, to save 52000000 RMB annually, with more than 25 years payback period.”

Responding company

93%

of companies published information about their organizations' response to climate change and GHG emission performance for this reporting year in places other than in their CDP questionnaire. Among them, 21% attached relevant documents. (Figure 23)

Figure 23: Ways of disclosing climate change information



Risks and Opportunities

The risks identification depth and strategy development sophistication directly demonstrate companies' understanding of climate change. Compared to last year, the identified risks and opportunities number have increased. In 2014, 43 responding companies identified 25 risks and 19 opportunities, and businesses identify 1 opportunity in 1.3 risks averagely. This indicator demonstrate that company's risks understanding and opportunity seizing ability have been improved, and they are starting to shift from anxiety about risks to attentions on opportunities, and trying to seize opportunities strategically. One of responding company had identified 9 risks and 5 opportunities this year. Thus, it developed a series of practical strategies, quantify the investment and outcome, facilitated an excellent internal control process to guarantee the smooth communication, align its targets with various activities. These enable the company to address the risks systematically, and also seize opportunities by climate change, and fundamentally improve the company's competitiveness.

96%

of companies identified climate change risks that have the potential to generate a substantive change in their business operations, revenue or expenditure. 56% identified all three categories of risks. (Figure 24/25/26)

Figure 24: Categories of risks - proportions in total companies

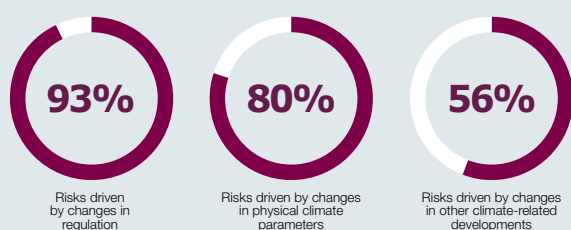


Figure 25: Risk identification by 45 companies

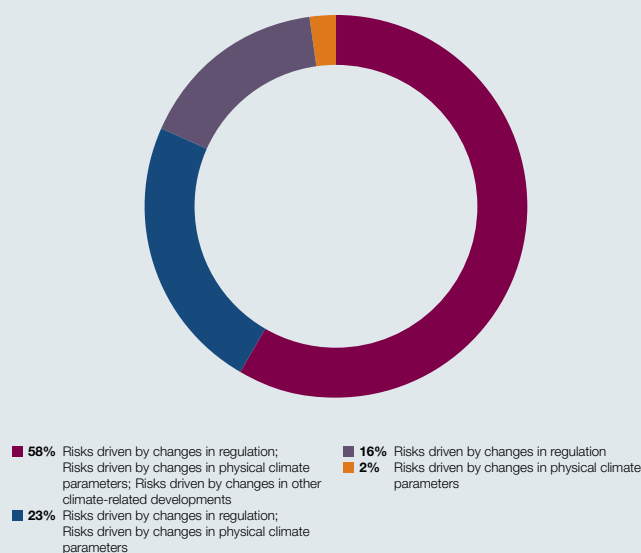
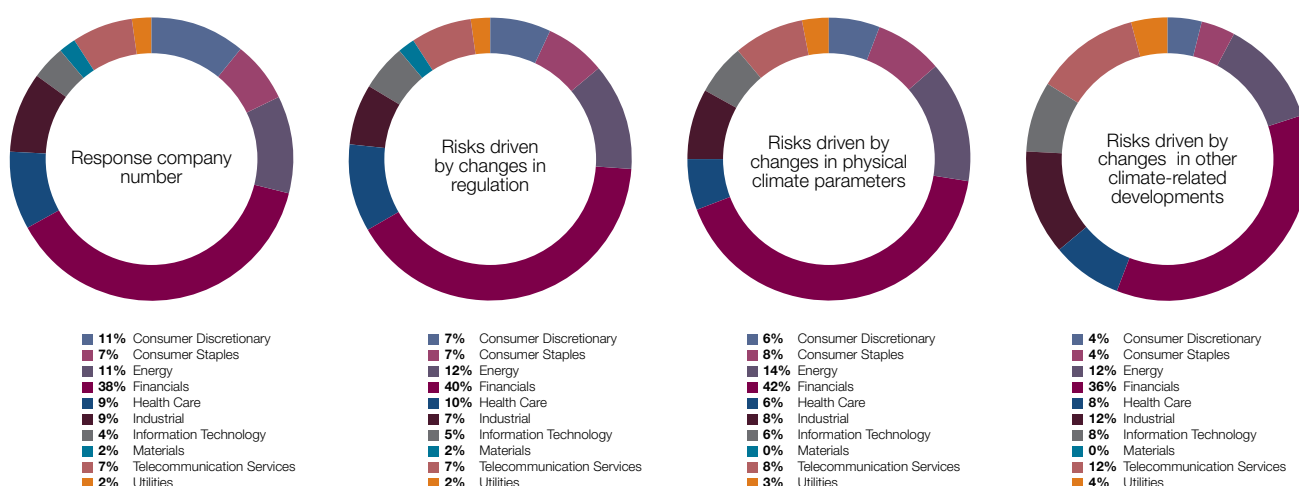


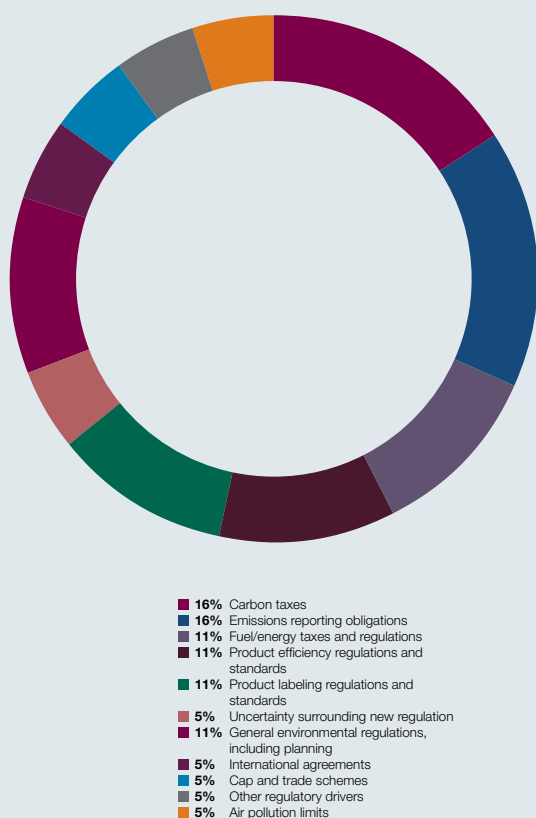
Figure 26: Risk identification in sectors



Companies identified

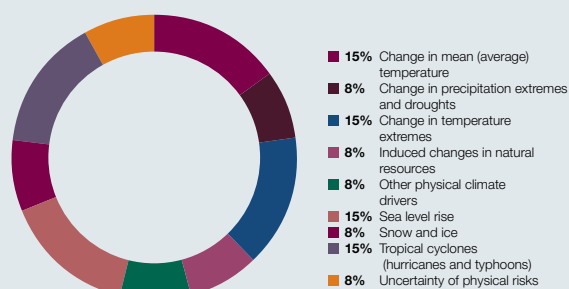
11 risks driven by changes in regulation, including product labeling policies and standards, carbon taxes, emissions reporting obligations, fuel / energy tax and regulations. (Figure 27)

Figure 27: Risks driven by changes in regulation



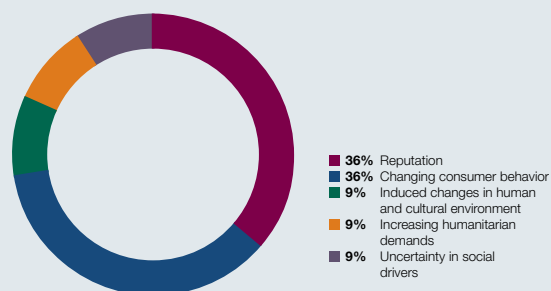
Nine risks driven by changes in physical climate parameters, including sea level rise, change in temperature extremes, change in mean (average) temperature, tropical cyclones (typhoons and hurricanes), snow and ice, uncertainty of physical risks. (Figure 28)

Figure 28: Risks driven by changes in physical climate parameters



Five other risks, including reputation, changes in consumer behavior, induced changes in human and cultural environment, increasing humanitarian demands, uncertainty of social factors. (Figure 29)

Chart 29: Other risks of climate change



91%

companies identified climate change opportunities that have the potential to generate a substantive change in their business operations, revenue or expenditure. 53% identified all three categories of opportunities. (Figure 30/31/32)

Figure 30: Category of opportunities

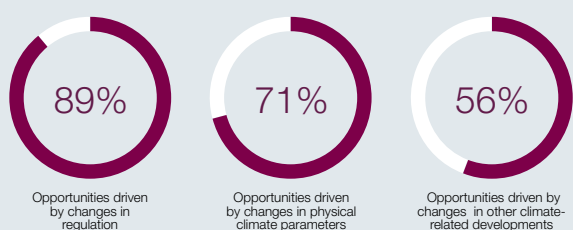


Figure 31: Opportunities Identification by 45 companies

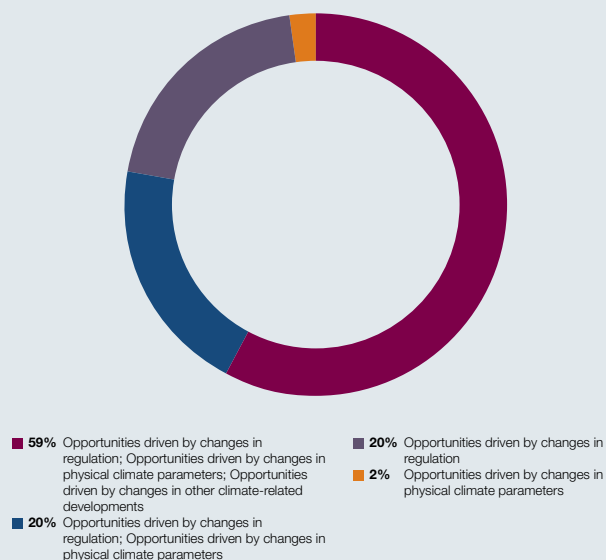
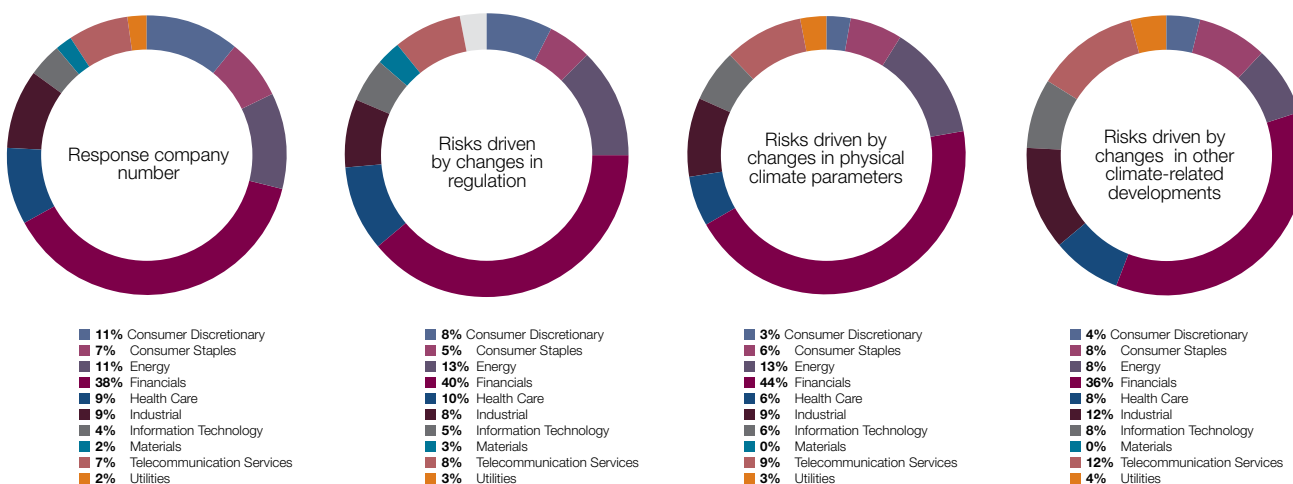


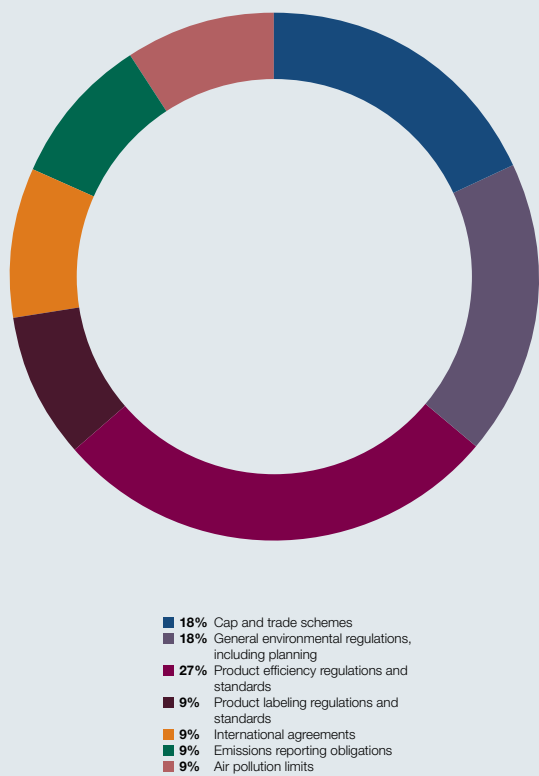
Figure 32: Opportunities identifications in sector



Companies identified

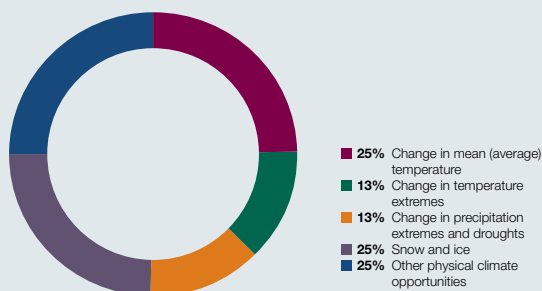
Seven opportunities driven by changes in regulation, including emissions reporting obligations, and Product efficiency regulations and standard (Figure 33)

Figure 33: Opportunities driven by changes in regulation



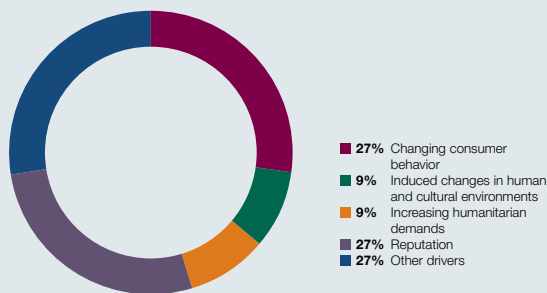
Five opportunities driven by changes in physical climate parameters, including change in temperature extremes, change in mean (average) temperature, snow and ice, change in precipitation extremes and droughts and other natural disasters (Figure 34)

Figure 34: Opportunities driven by changes in physical climate parameters



Seven other opportunities, including reputation, changes in consumer behavior, induced changes in human and cultural environment, increasing humanitarian demands, strengthening of implementation of laws and regulations, supply chain control and green packaging. (Figure 35)

Chart 35: Other opportunities



Data collection and analysis for emissions and energy consumption enables companies to self-evaluate is the first step for companies to know about themselves, identify risks and opportunities, and develop strategies to address climate change.

20%

(Nine) of companies disclosed emissions in Scope 1 and Scope 2 and their comparisons to the base year to different degrees. 16% (Seven) disclosed breakdown of the above emissions, respectively 4.5 and 3.5 times companies in 2013. 16% disclosed Scope 1 and Scope 2 emission breakdowns.

Figure 36: Emission breakdowns

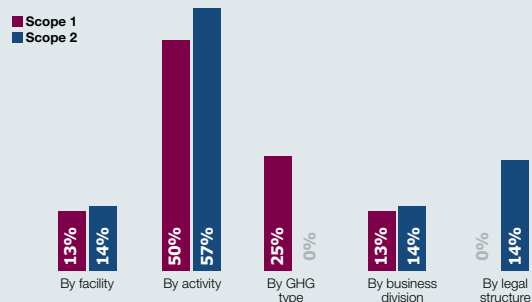


Figure 37: Emission data disclosure

Company Name	Scope 1 (tCO2e)				Scope 2 (tCO2e)				Methodology
	Base year	Report year	Change direction	Third party assurance	Base year	Report year	Change direction	Third party assurance	
Information Technology-Company A	✓	✓	↓	✓	✓	✓	↓	✓	✓
Consumer Discretionary-Company B	✓	✓	↓	x	✓	✓	↑	x	✓
Lenovo Group	✓	✓	↓	✓	✓	✓	↑	✓	✓
Consumer Staples-Company C	✓	✓	0	x	✓	✓	0	x	✓
BYD	✓	x	-	x	x	x	-	x	x
Telecommunication Services-Company D	✓	✓	↓	✓	✓	✓	↑	✓	✓
Financials-Company E	x	x	-	x	x	x	-	x	✓
Energy-Company F	x	x	-	x	x	x	-	x	✓
Energy-Company G	x	✓	-	x	x	x	-	x	x

Figure 38: Source of identification and disclosure of emissions

Company name	CO ₂	CH ₄	HFCs	N ₂ O	SF ₆
Information Technology-Company A	✓				
Consumer Discretionary-Company B	✓				
Lenovo Group	✓	✓	✓	✓	✓
Consumer Staples-Company C	✓				
BYD	✓				
Telecommunication Services-Company D		✓		✓	
Energy-Company F	✓				
Energy-Company G	✓	✓		✓	

27%

companies disclosed breakdown of energy consumption and 25% were willing to publicize the data. (Figure 39)

Figure 39: Breakdown of total energy consumption disclosed by energy types

Company name	Fuel	Electricity	Heat	Steam	Cooling	C
Information Technology-Company A		✓				
Consumer Discretionary-Company B		✓				
Lenovo Group	✓	✓	✓	✓	✓	✓
Financials-Company E		✓				✓
Consumer Staples-Company C				✓	✓	
Financials-Company H		✓				
Financials-Company I		✓				
China Merchants Holdings Company Limited	✓	✓				✓
Telecommunication Services-Company D	✓	✓	✓	✓	✓	
Energy-Company F		✓				
Health Care-Company J		✓				

25%

companies disclosed breakdown of Fuel. Total fuel consumption disclosed reached nearly 1.53 million MWh, covering diesel/gas oil, natural gas and raw coal with diesel/gas oil accounting for 86.53% of total fuel consumption disclosed. (Figure 40)

Figure 40: Breakdown of fuel consumption

Fuel Type	Consumption (MWh)	Proportion
Natural gas	90,780.16	5.94%
Liquefied petroleum gas (LPG)	10,171.34	0.67%
Diesel/Gas oil	1,323,184	86.53%
Jet gasoline	2,491.5	0.16%
Motor gasoline	754.95	0.05%
Other: On road diesel	1,229.24	0.08%
Other: On road LPG	39.68	0.00%
Other: On road CNG	0.26	0.00%
Jet kerosene	741.09	0.05%
Other: Raw coal	94,013	6.15%
Coke oven gas	5,786	0.38%
Sum	1529,191	100.00%

Case study

kWh associated with low carbon electricity, heat, steam or cooling

Lenovo Group

12,621,000 kWh

The 2013 RECs were retired in March 2014 through Sterling Planed on Lenovo's behalf. They were retired as Green-e Energy RECs. The attached certificate shows the environmental attributes of 12,621,000 kWh of renewable energy which offsets value equivalent to 6,401 MT of carbon dioxide.

332,084 kWh

During FY 2011/12 Lenovo committed to install solar panel arrays at the manufacturing site in Shanghai in conjunction with Chinese government "Golden Sun" program, and generated 332,084 kWh of solar energy between April 1, 2013 and March 31, 2014.

4 companies disclosed change in their gross global emissions (Scope 1 and 2 combined), respectively ZTE, TCL, Lenovo Group and China Mobile. Among them, gross global emissions of 75% companies increased, while that of 25% companies decreased. The 4 companies each explained in detail the reason of every increase and decrease. (Figure 41/42)

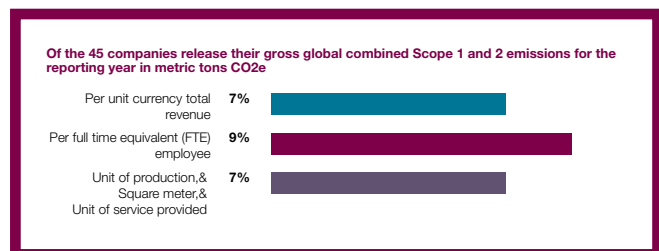
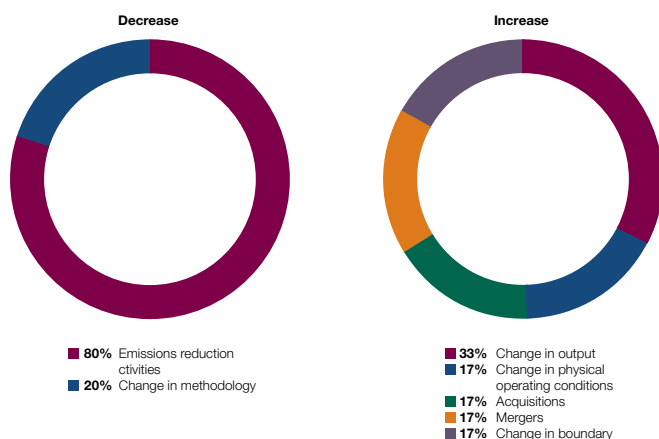


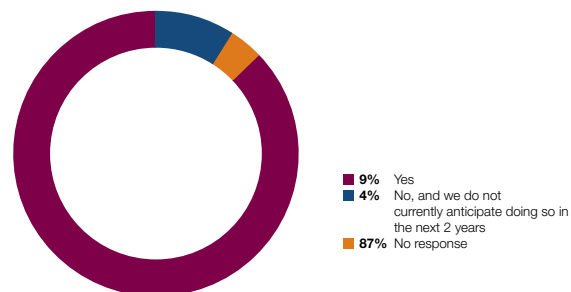
Figure 41: Reasons for change in gross global emissions



One company disclosed participation in Regional Greenhouse Gas Initiative (RGGI)

Two companies disclosed inclusion in Beijing Emission Trading Scheme and active participation in its first trade within compliance period in 2014, completing the compliance by purchasing allowances.

Figure 42: Participation in emissions trading schemes



13% (6) companies disclosed participation in emissions trading schemes.

- “The company is getting well prepared, and tries to take positive action when the time is appropriate.”

Responding company

- “Lenovo has a climate change policy and strategy in place and works on meeting the regulatory requirements of reducing emissions 2% year by year for our Beijing sites. The main activities include: establishing a comprehensive energy/carbon system for Beijing sites including energy efficiency & renewable projects identification and implementation, implementing energy verification and energy management audit and purchasing carbon offsets. Since this is the first year for Lenovo to be a part of this scheme, we will also need to purchase allowances.”

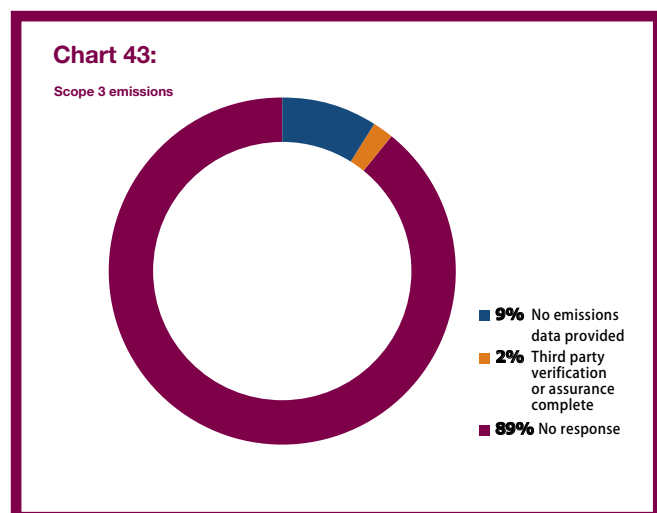
Lenovo Group

- “The carbon trading mechanism aims to achieve CO2 emissions control through market mechanism. In order to decrease the potential operational costs, we have actively facilitated energy saving work, and put lots of efforts in promoting mature energy saving technology, so as to maximally decrease energy consumption and CO2 emissions.”

Responding company

Questionnaire analysis

Only one of the responding companies provided Scope 3 emission data and completed the third party verification.

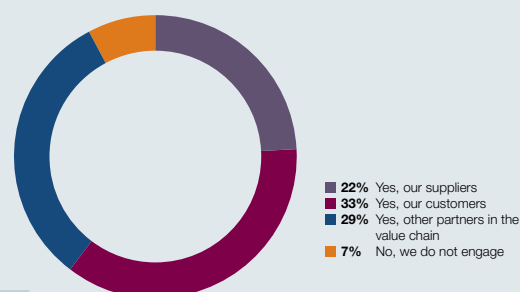


Only 2% (one) of responding company provide Scope 3 emission data and complete the third party verification. (Figure 44)

20%

of companies engaged with suppliers, customers, and other partners in the value chain on GHG emissions and climate change strategies.

Chart 44: Value chain engagement



On the whole, response rate of Management and Strategy and Risk and Opportunities were high while companies were conservative on emissions disclosure, with response rate below 20%. Companies willing to publicize the data were even less (only 3), and companies that disclosed and/or publicized the data were mainly low emissions companies.

According to incomplete statistics, at least 13 (29%) out of 45 companies were forced inclusion in the control list of China Carbon Emissions Trading Scheme, involving more than 21 (wholly-owned/JV) subsidiaries or related legal person. Among them, one company had at least six subsidiaries respectively included in the three trading schemes of Beijing, Shanghai and Guangdong. At least 19 (42%) companies were included in the lists of key energy consumption units in seven provinces and cities, involving at least 39 (wholly-owned/JV) subsidiaries or related legal person. Among them, over 50% companies had at least two subsidiaries included.³⁴

The main reason is that, listed companies generally believe that specific emissions data is likely to influence the decision of investors, especially high emissions companies in industries such as Industrials, Energy and Materials with higher energy consumption and emissions data for industrial added value per unit, who have higher risks in energy cost, addressing climate change and energy saving and emissions reduction, therefor are more cautious when disclosing relevant data. While low emissions companies in Information technology, Telecommunication Services and Financials have lower risks of data disclosure. It also reflects which companies are more confident about the capabilities such as effectiveness of addressing climate change (reflected mainly on CER and emissions intensity), risks management capability and investor engagement.

³⁴ The integrated data comes from the competent authority (eg, Development and Reform Commission) of 7 pilot cities for carbon emissions trading and the website of trading platform.



Conclusion

Climate change is already affecting operational management, risk management and investment decisions. Leading companies are factoring potential regulation into their business planning. They are doing so because they see climate action as a prudent way to build competitive advantage for their firms, both nationally and globally. Most companies anticipate climate change regulation, but the lack of certainty surrounding its scope and application presents a material concern. Compared to 2013 the quantity and quality of responses have greatly improved, confirming the increasing awareness of Chinese companies in addressing climate change issues.

In CDP's 2014 climate change information request, companies provide direct insights on:

- ▶ How to comprehensively manage multi-energy saving & emissions reduction targets;
- ▶ The business risks and opportunities that climate change presents;
- ▶ Company reactions to current, proposed or expected regulations;
- ▶ Long-term, profitable investments in GHG emissions reductions;
- ▶ How climate change management can create a competitive advantage.

Increased awareness of information disclosure

Pressure from multi-source drives companies to actively disclose information. During the disclosure process, companies came to realize the importance of disclosing environment information, while the quantity and quality of responses from disclosing companies also rose. Responses to the CDP questionnaire further improved in 2014, with a 40.6% increase in the number of companies (32 in 2013 to 45 in 2014). Besides the CDP questionnaire, 42 also disclosed their performance in addressing climate change and GHG emissions by other ways. A minority of companies such as China Mobile and Lenovo Group released the above information in corporate annual reports, other regulatory documents and some voluntary communication channels.

More importantly, the quality of responses to the CDP questionnaire, consisting of four modules and 15 issues covering more than 80 questions, improved significantly in comparison to previous years. This is also reflected by the increase in accurate, comprehensive, systematic and structured information disclosed, and by increasingly proactive engagement with the public and investors.

In addition, the companies also more actively participated in CDP's training, uploaded and downloaded more reference materials, had closer communication with the CDP China Office within the disclosure period, and expressed their desire to hire consultants to review the internal process and improve the quality of their responses.

Increased proactivity in addressing climate change

Driven by policies of energy saving and emissions reduction and addressing climate change, companies became increasingly proactive. More and more companies realize the importance of energy saving and emissions reduction and addressing climate change for competitive advantage and sustainable development, and actively addressed various risks and identified opportunities by strategic distribution.

With regards to management, 71% of the 45 companies who disclosed through CDP had an individual or sub-set of the Board or other committee appointed by the Board in charge of climate change matters, 80% integrated climate change risks into the multi-disciplinary company-wide risk management processes. Nearly 90% integrated climate change with corporate business strategy, which was 2.5 times more than 2013. The companies put climate change in a prominent position within their organizational structure and strategic development level.

As for risk and opportunity, 95% of companies identified as many as 25 potential risks of climate change that might affect business operations, revenue or expenditure; and 91% identified 19 potential opportunities from climate change. Companies sorted the risks and opportunities by order of importance in potential influence, direct or indirect relevance, probability and degree of influence. A minority of companies disclosed measures and investments for addressing different risks and seizing opportunities.

An increasing number of companies realized the importance of emissions data. Nine companies disclosed emissions in Scope 1 and Scope 2 and their comparisons to the base year to different degrees. Seven disclosed a breakdown of the above emissions, which were respectively 4.5 and 3.5 times the number of companies in 2013.

From their seeking of third-party verification and assurance, we can also see that companies have attached increasing importance to the accuracy of data. They realize that data collection and analysis of emissions and energy consumption is the first step into understanding their organization, identifying risks and opportunities, and developing strategies to address climate change.

Carbon management system to be optimized

As China deepens its effort in closing down outdated production facilities, in achieving energy saving and carbon reduction goals, and in addressing climate change, companies face more and more risks from changes in policy, which directly affects their competitive advantage. Establishing an effective carbon management system, setting systematic carbon targets and managing energy savings and carbon reduction and climate change goals are the basis for companies to turn risks into opportunities.

The responses show that although projects for energy savings and carbon reduction, and measures for addressing climate change, have the same result of reducing carbon emissions, most companies do not align them as targets at organizational structure and strategy level. We can see that some companies are trying to align these targets, but results are not yet satisfactory.

Outlook

Develop a national ETS, to actively address climate change

With the end of the first commitment period, and the pending of the second commitment period of the Kyoto Protocol, the pattern of international efforts to alleviate climate change have changed from being EU-centered to developing ETS within each country, or regional markets for neighboring countries. As the one of world's largest emitters, China needs to adjust its industry structure, and achieve energy security, using the innovative measure of developing a national ETS.

With the successive launch of seven pilot provinces and cities, the deployment of national ETS has progressed cautiously.

The national GHG emissions reporting system was established on January 13, 2014, and included companies and public institutions whose GHG emission reached 13,000 metric tons CO₂e, or whose total comprehensive energy consumption reached 5000 tons of standard coal.³⁵ During an interview by Phoenix Finance at the Davos Forum, Pan Jiahua, the Director of the Urban Development and Environment Institute of the Academy of Social Science clearly noted that China would reach the peak of GHG emissions within 2020 to 2030.³⁶

At the Low-carbon Forum held by the Beijing Environment Exchange on June 9 2014, Sun Cuihua, Deputy Director of the National Development and Reform Commission (NDRC) Climate Division stated that the national ETS had been initiated, that the National Management Approach for the ETS would be introduced within the year, and the national ETS would be developed in around three years.

The NDRC issued the "Assessment Methodology for Target of Carbon Dioxide Emissions Reduction per Unit of GDP" on August 6 2014, which included target completion of GHG emissions reduction into the comprehensive evaluation system of (industry) economic and social development, and into the performance evaluation system of cadres.³⁷

The two inseparable timelines and improvement of the pilot ETS and the development of national ETS are undoubtedly the focus of all parties home and abroad. Outwardly, China's stand is a key factor which influences international negotiation progress, the pattern and the development of international fight against climate change, and China's economy and policy position in international society.

Within China, the ETS can make a difference when aligned with the goals to deal with traditional domestic issues. Eventually, the convergence of the national ETS and international ETS, will become the key to testing the results of the Chinese government and companies' actions against climate change.

Companies should build carbon management

systems and seize the opportunities of carbon alleviation

With the focus of the world on corporate carbon compliance and the deepening of Chinese ETS piloting, the number of restrained company will increase. In the long run, whether companies can establish a sound carbon management system will directly influence operation cost and their competitive advantage.

Meanwhile, improvements of China's pilot ETS and international ETS depend on the active involvement of companies. This will also lay a solid foundation for companies to realize low cost emissions reduction, improve carbon management processes and increase their competitive advantage.

By answering the CDP questionnaire, companies can clearly inspect their closed loop system of emission data Monitor, Report, Verify and Disclose (MRVD) management, risk and opportunity identification, and strategy formulation and implementation. This enables companies to constantly improve their carbon management systems combining industry and company characteristics, and seize low-carbon opportunities.

Companies should save energy, reduce emission and disclose information, urging the establishment of a national ETS

As the main body of socio-economic activities, companies are the most important unit of energy consumption and GHG emissions, and should take responsibility of reducing carbon emissions. From the perspective of corporate operation management and competitive advantage, this will fundamentally reduce operational costs, increase energy efficiency, reduce GHG emissions and pollutants and meet compliance (such as product and service carbon footprint, pollutant emission standards, etc.) requirements home and abroad. In the long term, this is the only way for companies to achieve sustainable development.

Secondly, companies should maintain thorough engagement with each stakeholder in their value chain, such as suppliers, buyers and consumers. They should ensure compliance of products provided by suppliers, and ensure the carbon footprint of their products meets requirements home and abroad by encouraging substantive indicators. They should help the end consumers using their products and services to realize energy savings and emissions reduction by communicating with consumers and buyers.

Finally, through engagement with relevant governmental groups, investors, industry associations, upstream and downstream partners in the value chain, institutions such as NGOs and individuals, companies should actively disclose GHG emissions, including that of their supply chain, and product carbon footprint to win competitive advantage, influence policy making, and strengthen investor and consumer' confidence.

³⁵ Notice of the National Development and Reform Commission on reporting of greenhouse gas emissions for key companies (institutions), January 13, 2014 http://www.sdpc.gov.cn/zdtb/zdtb/201403/120140314_602463.html

³⁶ http://finance.ifeng.com/a/20140124/11541497_0.shtml

³⁷ Notice of National Development and Reform Commission on issuing Assessment Methodology for Target of Carbon Dioxide Emissions Reduction per Unit of GDP pricing, August 6, 2014 http://www.sdpc.gov.cn/gzdt/201408/120140815_622318.html



Appendix I CDP 2014 China questionnaire responding companies

COMPANY NAME	GICS sector
Suning Appliance	Consumer Discretionary
TCL Corporation	Consumer Discretionary
Great Wall Motor Company (H)	Consumer Discretionary
BYD	Consumer Discretionary
Midea Group Co Ltd	Consumer Discretionary
Kweichow Moutai	Consumer Staples
Henan Shuanghui Investment & Development (A)	Consumer Staples
Hengan Intl Group	Consumer Staples
PETROCHINA Company Limited	Energy
China Oilfield Services	Energy
China Petroleum & Chemical Corporation	Energy
China Shenhua Energy	Energy
CNOOC	Energy
Shanghai Pudong Development Bank	Financials
Shimao Property Holdings	Financials
Ping An Bank	Financials
Ping An Insurance Company of China	Financials
Gemdale	Financials
Industrial And Commercial Bank Of China Limited	Financials
Industrial Bank	Financials
Bank of Beijing (A)	Financials
Bank of Communications	Financials
China Construction Bank	Financials
China Life Insurance Company Limited	Financials
China Merchants Bank	Financials
China Minsheng Banking	Financials
China Pacific Insurance Group	Financials
China Vanke	Financials
Citic Securities	Financials
China Everbright Bank Co Ltd	Financials
Shandong Dong-E E-Jiao	Health Care
Kangmei Pharmaceutical	Health Care
Shanghai Fosun Pharmaceutical Group Co Ltd	Health Care
Tasly Pharmaceutical Group Co Ltd	Health Care
Zoomlion Heavy Industry Science and Technology (A)	Industrials
Sany Heavy Industry	Industrials
China Communications Construction	Industrials
China Merchants Holdings Company Limited	Industrials
ZTE	Information Technology
Lenovo Group	Information Technology
Inner Mongolia Baotou Steel Rare-Earth Hi-Tech	Materials
China Mobile	Telecommunication Services
China Telecom	Telecommunication Services
China Unicom	Telecommunication Services
ENN Energy Holdings	Utilities

Appendix II CDP 2014 Supply Chain China Public Responding Companies

NO.	COMPANY NAME	GICS INDUSTRY
1	BWI Group	Auto Components
2	BYD	Auto Components
3	DALIAN INNOVATION IMPORT & EXPORT CO LTD	Auto Components
4	HIMA INC.	Auto Components
5	NingBo General Bearing Co., Ltd	Auto Components
6	Shaoguan Hongda Gear Co., Ltd	Auto Components
7	Asymchem Inc.	Chemicals
8	HUAI AN QING JIANG SHI YOU HUA GONG (Benzo)	Chemicals
9	JIANGSU YANG NONG CHEMICAL LTD	Chemicals
10	JIANGYIN CHENGXING HOUSEHOLD CHEMIC	Chemicals
11	Porton	Chemicals
12	Sinochem Ningbo Ltd.	Chemicals
13	DESIGNA INC.	Commercial Services & Supplies
14	KIM PRINTING (XIAMEN) CO., LTD	Commercial Services & Supplies
15	AOC TECHNOLOGIES	Communications Equipment
16	CHUNXING ELECTRIC	Communications Equipment
17	SHANGHAI YINDA TECHN	Communications Equipment
18	Ascent/Mitac	Computers & Peripherals
19	Asia Vital Components Co., LTD	Computers & Peripherals
20	Chicony Power Technology Co.,Ltd.	Computers & Peripherals
21	Cooler Masterco.,Ltd.	Computers & Peripherals
22	EMI Stop	Computers & Peripherals
23	Feng Chuan Electronics Co. Ltd	Computers & Peripherals
24	Lenovo Group	Computers & Peripherals
25	Oplink Communications Inc.	Computers & Peripherals
26	Quanta Storage Inc.	Computers & Peripherals
27	Stronkin	Computers & Peripherals
28	Taitwun	Computers & Peripherals
29	GEC Engineering	Construction & Engineering
30	Hefei Dansun Packaging	Containers & Packaging
31	Hung Hing Packaging (Wuxi) Co Ltd	Containers & Packaging
32	NANYI ZHI PIN PACKAGING CO., LTD	Containers & Packaging
33	RONG HUA(QING YUAN) OFFSET PRINTING	Containers & Packaging
34	SH XIN QING BAO ZHUANG ZHUANG HUANG	Containers & Packaging
35	SH ZHUATE PACKING LIMITED	Containers & Packaging
36	SHANGHAI KOA GLASS CO., LTD	Containers & Packaging
37	Shinshin	Containers & Packaging
38	Yuan Deng Metal Industrial (Kunshan) Co.Ltd	Containers & Packaging
39	ANHUI TIANYUAN COMMU	Diversified Telecommunication Services
40	SIMCOM	Diversified Telecommunication Services
41	Combine Testing	Electrical Equipment
42	Coslight	Electrical Equipment
43	CYMMETRIK	Electrical Equipment
44	FINGU	Electrical Equipment
45	RFS	Electrical Equipment

NO.	COMPANY NAME	GICS INDUSTRY
46	SALOM	Electrical Equipment
47	Sengled Optoelectronics Co.,Ltd	Electrical Equipment
48	Suzhou Chunju Electric	Electrical Equipment
49	Universal Global Technology(Shenzhen)Co.,Ltd.	Electrical Equipment
50	Yankon	Electrical Equipment
51	3NOD	Electronic Equipment, Instruments & Components
52	Acemold	Electronic Equipment, Instruments & Components
53	Beijing Wingain Electronic Equipment Co Ltd	Electronic Equipment, Instruments & Components
54	CARENET	Electronic Equipment, Instruments & Components
55	Carli Electronics co., LTD.	Electronic Equipment, Instruments & Components
56	CYBERTAN TECHNOLOGY INC	Electronic Equipment, Instruments & Components
57	ETRONIC TEAM CO LTD	Electronic Equipment, Instruments & Components
58	FARATRONIC	Electronic Equipment, Instruments & Components
59	GALTRONICS USA	Electronic Equipment, Instruments & Components
60	GOODWELL	Electronic Equipment, Instruments & Components
61	Guang Dong Ellington Electronics Tech Co., Ltd.	Electronic Equipment, Instruments & Components
62	Hangzhou Feida	Electronic Equipment, Instruments & Components
63	HannStar Board Tech. (Jiangyin) Corp	Electronic Equipment, Instruments & Components
64	Huntkey	Electronic Equipment, Instruments & Components
65	IRIS	Electronic Equipment, Instruments & Components
66	Luxshare	Electronic Equipment, Instruments & Components
67	MingJi	Electronic Equipment, Instruments & Components
68	NAVITASYS	Electronic Equipment, Instruments & Components
69	NEOPHOTONICS CORPORATION	Electronic Equipment, Instruments & Components
70	Ningbo Violet Lighting Electric Co.,Ltd	Electronic Equipment, Instruments & Components
71	NVC LIGHTING TECHNOLOGY CORPORATION	Electronic Equipment, Instruments & Components
72	PHOTOP	Electronic Equipment, Instruments & Components
73	Pictronics Industries Limited	Electronic Equipment, Instruments & Components
74	PIOTEK COMPUTER	Electronic Equipment, Instruments & Components
75	SHANGHAI MEIXING	Electronic Equipment, Instruments & Components
76	SHENZHEN FRD	Electronic Equipment, Instruments & Components
77	Suzhou Fulfil Electronics Co., Ltd	Electronic Equipment, Instruments & Components
78	Suzhou RAKEN Technology LTD.	Electronic Equipment, Instruments & Components
79	VETTE	Electronic Equipment, Instruments & Components
80	Wus	Electronic Equipment, Instruments & Components
81	YanTat Printed Circuit (Shenzhen) Co., Ltd	Electronic Equipment, Instruments & Components
82	Zhongshan Tender Electric Appliance Co.,Ltd.	Electronic Equipment, Instruments & Components
83	Giant Food Int'l Co	Food & Staples Retailing
84	Meihua	Food & Staples Retailing
85	Waychein	Food & Staples Retailing
86	China Agri-Industries Holdings Ltd	Food Products
87	Yihe Corp / Qingdao Hairong Foodstuff Co., Ltd	Food Products
88	COMPUTIME LTD	Health Care Equipment & Supplies
89	HOOGERMAN ROMPA	Health Care Equipment & Supplies
90	Shanghai Foliage Industry Co.,Ltd	Health Care Equipment & Supplies

NO.	COMPANY NAME	GICS INDUSTRY
91	SHENGDA	Health Care Equipment & Supplies
92	DRAGON WILL ENTERPRISE	Household Durables
93	Hisense USA Corp	Household Durables
94	King Clean	Household Durables
95	Top Victory Electronics(Fujian) Co. Ltd	Household Durables
96	Yangzhou Fuping Living Supplies Factory	Household Durables
97	ZINWELL CORPORATION	Household Durables
98	REGAL HOME COLLECTIONS INC.	Household Products
99	BEAUTY STAR	Industrial Conglomerates
100	Bi-Link (Shanghai) Co., Ltd	Industrial Conglomerates
101	HI-P INTERNATIONAL LIMITED	Industrial Conglomerates
102	CINET TECHNOLOGIES	IT Services
103	WESTFIELD OUTDOOR, INC.	Leisure Equipment & Products
104	Allied Machinery	Machinery
105	WENLING DAZHONG PRECISION MECHANISM CO LTD	Machinery
106	XDC	Machinery
107	China Shipping Container Lines	Marine
108	Bizlink	Media
109	Hotron Precision Electronic(SUZHOU)CO.,LTD	Media
110	MEC Cable	Media
111	Shanghai Sanying Package	Media
112	Target International	Metals & Mining
113	DONGGUAN PRIMAX ELECTRONIC & TELECOMMUNICATION PRODUCTS LTD	Office Electronics
114	Jintung	Oil, Gas & Consumable Fuels
115	HCP Packaging	Personal Products
116	KHN Shanghai	Personal Products
117	SUZHOU HUAGUAN PLASTIC CO.	Personal Products
118	TAXING KKP	Personal Products
119	Univac Precision Plastics (SIP) Co., Ltd	Personal Products
120	Zhe Jiang SHUN HUA decoration Co.	Personal Products
121	WuXi AppTec	Pharmaceuticals
122	Silian Sapphire	Semiconductors & Semiconductor Equipment
123	LF PRODUCTS PTE. LTD	Textiles, Apparel & Luxury Goods
124	SEASONS (HK) LTD	Textiles, Apparel & Luxury Goods
125	SHANGHAI FANYING TRADING CO	Trading Companies & Distributors
126	Tonney	Trading Companies & Distributors
127	ZHEJIANG G&F FOREIGN TR	Trading Companies & Distributors
128	CHINACOMM	Wireless Telecommunication Services
129	Wavesplitter Technologies Inc	Wireless Telecommunication Services
130	XIAN OZ TELECOM	Wireless Telecommunication Services

Appendix III CDP 2014 Investor members

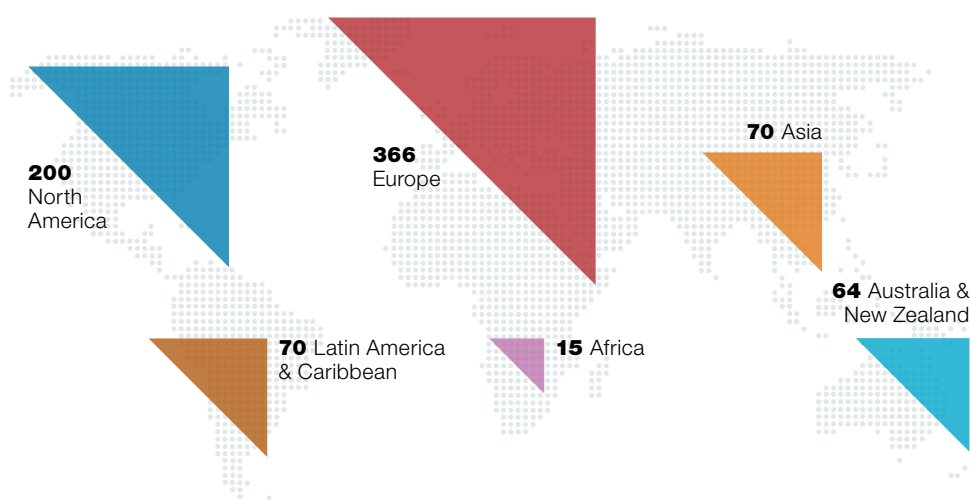


CDP works with investors globally to advance the investment opportunities and reduce the risks posed by climate change by asking over 5,000 of the world's largest companies to report their climate strategies, GHG emissions and energy use through CDP's standardized format. To learn more about CDP's member offering and becoming a member, please contact us or visit www.cdp.net/en-US/WhatWeDo/.

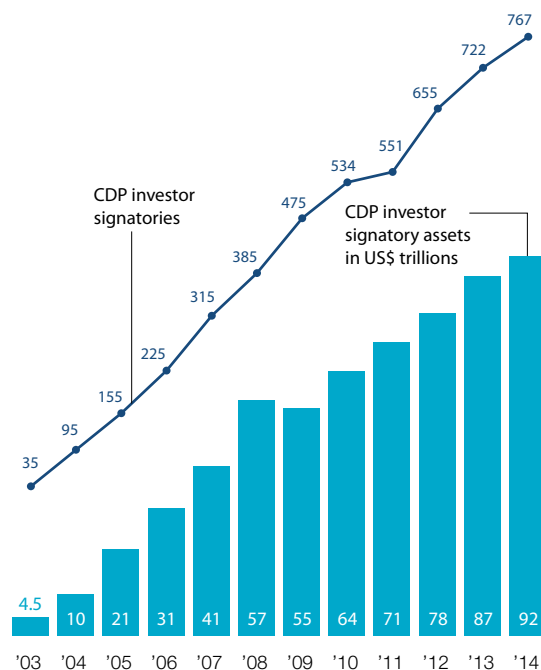
CDP investor members 2014

ABRAPP—Associação Brasileira das Entidades Fechadas de Previdência Complementar
 AEGON N.V.
 ATP Group
 Aviva plc
 Aviva Investors
 Bank of America Merrill Lynch
 Bendigo & Adelaide Bank Limited
 BlackRock
 Boston Common Asset Management, LLC
 BP Investment Management Limited
 California Public Employees' Retirement System
 California State Teachers' Retirement System
 Calvert Investment Management, Inc.
 Capricorn Investment Group, LLC
 Catholic Super
 CCLA Investment Management Ltd
 ClearBridge Investments
 DEXUS Property Group
 Fachesf
 Fapes
 Fundação Itaú Unibanco
 Generation Investment Management
 Goldman Sachs Group Inc.
 Henderson Global Investors
 HSBC Holdings plc
 Infraprev
 KLP
 Legg Mason Global Asset Management
 London Pensions Fund Authority
 Mobimo Holding AG
 Mongeral Aegon Seguros e Previdência S/A
 Morgan Stanley
 National Australia Bank Limited
 Neuberger Berman
 Nordea Investment Management
 Norges Bank Investment Management
 NEI Investments
 Petros
 PFA Pension
 Previ
 Real Grandeza
 Robeco
 RobecoSAM AG
 Rockefeller Asset Management, Sustainability & Impact Investing Group
 Royal Bank of Canada
 Royal Bank of Scotland Group
 Sampension KP Livsforsikring A/S
 Schroders
 Scottish Widows Investment Partnership
 SEB AB
 Serpros
 Sistel
 Sampo Japan Nipponkoa Holdings, Inc
 Standard Chartered
 TD Asset Management
 The Wellcome Trust

Where are the signatory investors located?*



CDP investor base continues to grow*



Investors by type

312 Asset managers
 256 Asset owners
 152 Banks
 38 Insurance
 27 Other

* There were 767 investor signatories on 1st February 2014 when the official CDP climate change letter was sent to companies, however some investors joined after this date and are only reflected in the 'geographical' and 'type' breakdown.

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