

# Climate Change Tracker: Asia

## Introduction

Climate change is now widely recognised as one of the most significant challenges facing the global economy. China is one of the largest contributors to greenhouse gas (GHG) emissions<sup>1</sup> and the International Energy Agency (IEA) predicts this will rise in line with rapid economic growth leading to a hugely negative impact on global climate change. The significance of Asian countries' responsibility has increased in recent years alongside their economic growth. Carbon management by Asian companies is undoubtedly a critical theme for asset owners and asset managers.

Last year, EIRIS completed a study on the corporate response of the 300 largest cap global companies to climate change. This is a regional update focusing on Asian (Japan, Hong Kong and Singapore) companies listed on the FTSE All World Developed Index and Korean companies to be listed in September 2009. This paper analyses the current state of corporate response to climate change in comparison with global peers listed on the FTSE All World Developed Index and examines the implications for investors.

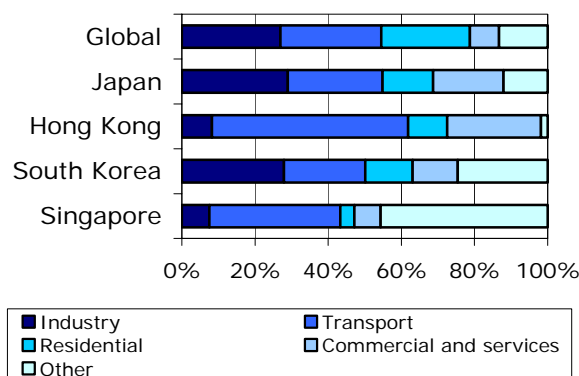
### Key findings

- Comparable portfolio risk in Asia**  
 32% of Asian companies are very high or high impact for climate change (GBP 523bn market cap)
- Japan performing better than the global comparator but rest of Asia lags behind**  
 85% of Japanese high risk companies have either good or intermediate response, while 77% of global peers and 24% of other Asian companies do
- Japan is competitive to the global comparator regarding the emissions disclosure, particularly in risk quantification**  
 88% of Japanese high risk companies disclose either absolute or normalised emissions data, which is the same level as global peers. Moreover, 62% of them clearly quantify the climate change risk they face

## Context

**Energy use composition** - Energy use in Asian countries accounted for approximately one quarter of the global energy use in 2006. In particular, mainland China accounted for 16% of global energy use<sup>2</sup>. Among Asian countries, Japan and South Korea have similar patterns of energy use, which is a higher proportion in industry and transportation. In Hong Kong and Singapore, on the other hand, the transport sector is a more significant sector.

**Fig. 1 Proportion of sectors in energy use Global and Asia (2006)**



Source: IEA

## National policies in Asian countries

- Japan** has agreed to a target for GHG emissions reductions of 6% by 2012 under the Kyoto Protocol from 1990 levels. In the long-term, it plans to reduce the emissions by 50% by 2050 from current levels. To achieve this target, the government has set regulations on energy efficiency of buildings, vehicles and consumer electricals as well as subsidising the installation of solar panels in residential buildings and research and development (R&D) on renewable energy. It is also actively acquiring certified emission reduction (CER) through clean development mechanism (CDM) projects in emerging countries such as China<sup>3</sup>. In the industry and transport sectors Nippon Keidanren, the largest business association in Japan, specifies GHG emission reductions which companies adhere to. In addition to specifying

emissions reductions target, Nippon Keidanren has set a climate change policy, undertakes performance monitoring, and annually discloses the results against its targets<sup>4</sup>.

- **China** released its latest environmental policy in October 2008. The government maintains the stance that developed countries carry the main responsibility for climate change mitigation, although it recognises the significance of climate change. It is a host country for CDM projects and has the largest expected annual number of CERs<sup>5</sup>. Furthermore, it adopts investment policies for the improvement of energy efficiency and the development of renewable energy. China has set a short-term normalised target for a reduction of energy use relative to GDP of 20% by 2010 from 2005 levels<sup>6</sup>. These policies influence those companies from mainland China listed in Hong Kong. Hong Kong has a government approved 'Scheme of Control Agreements' with power companies to improve energy efficiency. In addition, a voluntary Energy Efficiency Labelling Scheme (EELS) for appliances, equipment and vehicles and the Building Energy Code (BEC) has been in operation since the 1990s. Since 2008 this has included the introduction of mandatory targets and tax incentives<sup>7</sup>.
- **South Korea** does not have national reduction targets for GHGs, although the government plans to regulate emissions from product use through its greenhouse gases labelling system and aims to establish mid-term and long-term plans to address climate change<sup>8</sup>. It is also a significant host country for CDM projects; it is the fourth largest provider of expected annual average CERs<sup>9</sup>.
- **Singapore** generates almost four fifths of its electricity from natural gas. The Energy Efficiency Singapore Programme Office developed a national plan to further promote energy efficiency by raising awareness of energy efficiency measures and promoting R&D into energy efficient technologies. In 2005, it achieved its target of 25% reduction of carbon intensity per dollar GDP by 2012. It has not released further targets regarding climate change mitigation<sup>10</sup>.

### Tracking Asian and global trends

EIRIS has analysed the impact and response of companies in FTSE All World Developed Index. This research covers 736 Asian companies, consisting of 457 Japanese, 123 Hong Kong, 108 Korean and 48 Singaporean companies. Hong Kong companies also include mainland Chinese companies listed on the Hong Kong stock exchange<sup>11</sup>.

Key findings are highlighted below.

#### 1) Asian companies at similar risk to global peers

EIRIS has classified companies into over 50 sectors (and sub-sectors) based on their business activities to identify their climate change impact. Each sector is defined as very high, high, medium or low impact based on their direct (i.e. operational) and indirect (i.e. supply chain and product) emissions where companies have control not just influence.

Examples of very high impact sectors include cement production or coal mining. These sectors have an average carbon intensity (relative to turnover) 125 times that of the low impact sectors. High impact sectors such as automobile manufacturers are on average five times as carbon intensive. Medium impact sectors such as consumer electricals are three times as carbon intensive. EIRIS uses company data and independent sources to assess carbon intensity.

**Fig. 2 Climate change impact by percentage market cap of Global and Asia**

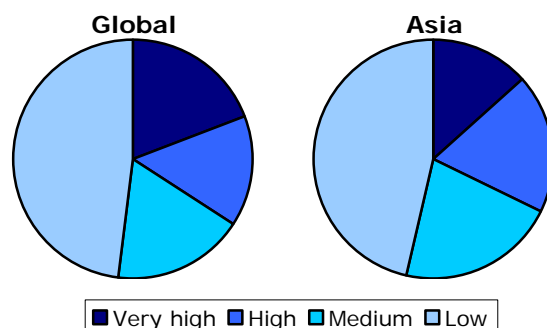


Figure 2 illustrates that about a third of companies in both the FTSE All World Developed Index (34%) and Asia (32%) are classified as very high or high impact for climate change. This represents GBP 3.8 trillion and GBP 523 billion market cap respectively at the end of March 2009.

**Fig. 3 Climate change impact by percentage market cap of Asian countries**

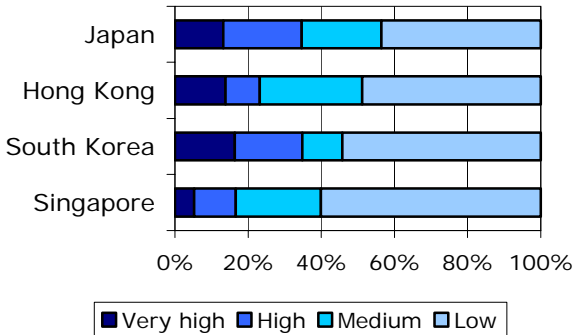


Figure 3 shows that Japanese and Korean companies are exposed to higher climate change risk than the other two Asian countries. Asian countries excluding Japan have a larger proportion of low risk companies. The reason is that they are less dependent on manufacturing sectors in the industrial structure than Japan. Particularly in Hong Kong and Singapore, the bank and telecom sectors, classified as low risk sectors, have a key role in the industry.

However, for a complete picture of a company's risk profile investors should look beyond emissions intensity and also consider how the company is responding to the challenges of climate change.

**2) Japan outperforms the global comparator but the rest of Asia lags behind**

With input from investor groups, NGOs and companies (including WWF, Climate Group, Carbon Trust and IIGCC), EIRIS has developed indicators to assess how companies should best address their climate change impacts and risks.

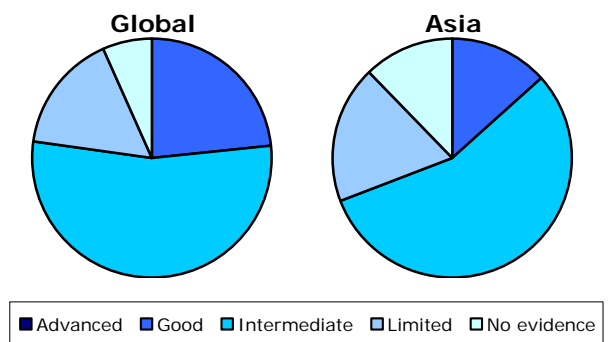
EIRIS indicators cover aspects such as:

- **Governance** – e.g. does the company have a corporate-wide climate change policy, or is board remuneration linked to climate change performance

- **Strategy** – e.g. has the company set targets
- **Disclosure** – covering the quality of carbon data, or quantified disclosure risks or opportunities
- **Performance** – e.g. year on year reduction in GHG emissions, or transformational initiatives such as large scale investment in carbon capture and storage

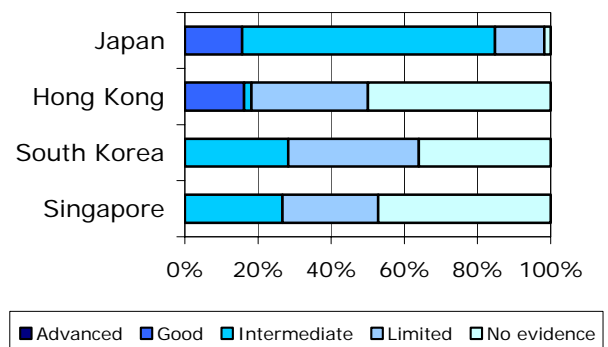
These indicators are aggregated into five assessment grades from *no evidence* to *advanced* where *good* is considered to be the level at which companies are adequately addressing the issue of climate change.

**Fig. 4 Climate change response by % market cap of Global and Asia (very high & high)**



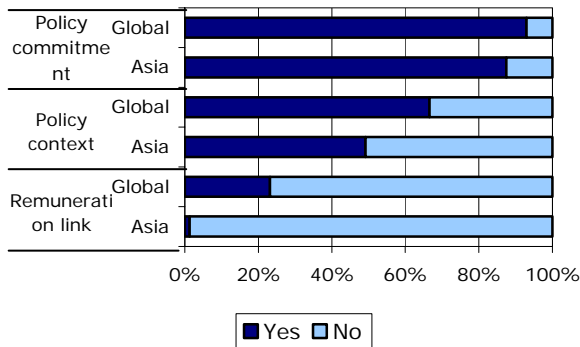
Nearly a quarter (23%) of global companies classified as very high or high impact have a *good* response to climate change. This represents GBP 865 bn as at end April 2009. In contrast, 13% of Asian very high and high risk companies have a *good* response to climate change, representing GBP 70 bn. More Asian companies (31%) are assessed as *limited* or *no evidence* than global ones (23%).

**Fig. 5 Climate change response by % market cap of Asian countries (very high & high)**



Among Asian countries, Japanese companies come top in terms of overall performance. Over four fifths (85%) of Japanese very high and high risk companies have *good* or *intermediate* responses to climate change. By sector, automobile manufacture, electricity generation and specialty chemicals industries are the leading sectors. However, less than a third of companies in South Korea (28%) and Singapore (27%) and less than one fifth in Hong Kong (18%) have *good* or *intermediate* responses. In these countries, metals as well as electricity generation sectors have more advanced grade than others.

**Fig. 6 Governance performance (% very high & high impact companies)**



In terms of the governance of climate change, Asian companies perform less when compared with the global average. Over four fifths (88%) of very high and high risk companies have a corporate-wide climate change commitment (global: 93%). Almost half (49%) have referenced the wider policy context by referring to international targets, regulations, or the scientific imperative (global: 67%). Furthermore, a very small proportion of Asian companies (1%) have integrated the commitment by linking board or senior management remuneration to GHG emission reductions or equivalent climate change strategies (global: 23%).

**Fig. 7 Policy commitment of Asian companies (% very high & high impact companies)**

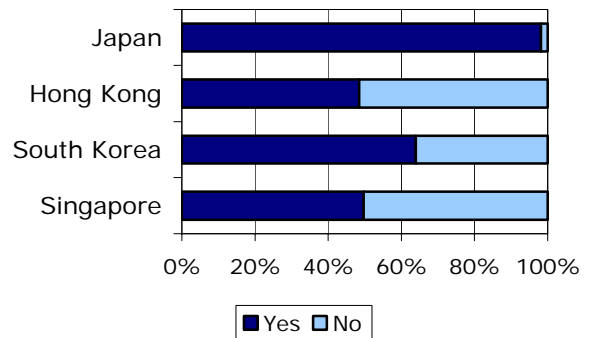
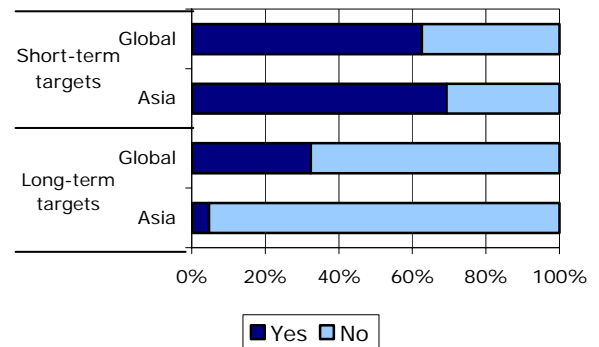


Figure 7 illustrates that Japanese companies have the greatest proportion of companies with a policy commitment to addressing climate change (98%), followed by South Korea (64%). Following the ratification of Kyoto Protocol, the Japanese government strengthened a wide variety of policies to reduce GHG emissions from the industrial sector. The Nippon Keidanren initiative has also contributed to the uptake of a climate change commitment among Japanese companies.

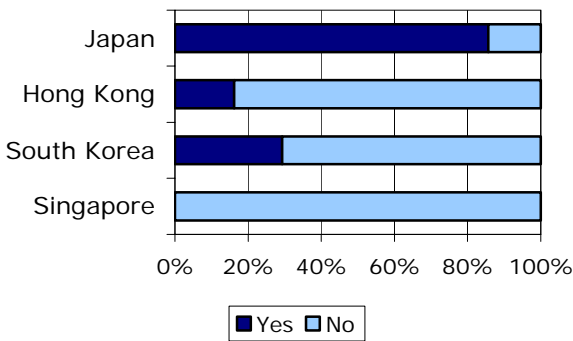
**Fig. 8 Strategy performance (% very high & high impact companies)**



Targets are an important indicator of corporate climate change strategy and an important indicator of a company's commitment to achieving GHG emissions reductions. Over three fifths (63%) and almost one third (32%) of global companies have short-term (less than five years) and long-term (at least five years) targets respectively. The specialty chemicals and oil and gas sectors are relatively advanced in both indicators. In terms of short-term

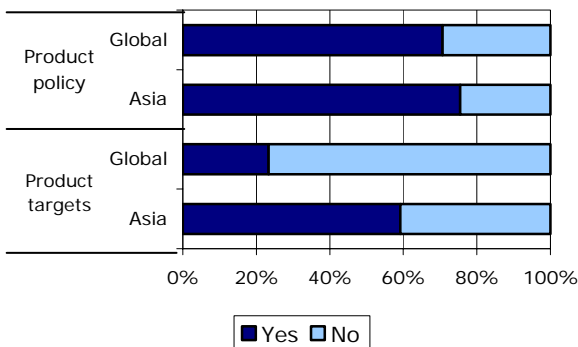
targets, Asian companies outperform the global comparator group. Over two thirds (70%) of Asian very high and high risk companies have short-term targets. However, Asian companies perform less well on long-term targets, where only 5% of companies have long-term targets.

**Fig. 9 Short-term targets of Asian companies (% very high & high impact companies)**



Within Asia, Japan has the highest proportion of companies with short-term targets. Over four fifths (86%) of Japanese companies have short-term targets for the reduction of GHG emissions. Nippon Keidanren has also contributed to advising sectors to set the targets. In some cases companies have gone beyond the benchmark targets and set stricter ones. The lead sectors in terms of target setting are automobile manufacture, electricity generation and metals, whereas in the global sample specialty chemicals and oil and gas are the leading sectors.

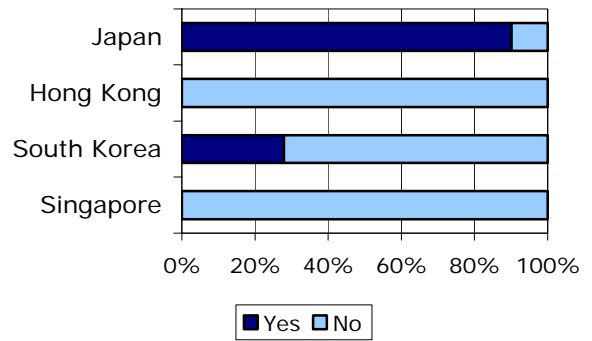
**Fig.10 Product performance (% very high & high impact companies)**



Many companies' greatest climate change impact is through their products. The companies with a significant product impact account for 45% of global very high and high impact companies and 35% of Asian very

high and high impact companies respectively. In this subset, Asian companies outperform the global comparator. Over three quarters (76%) of the subset of companies have policies on the energy efficiency of their products (global: 71%) and almost three fifths (59%) of them have targets on the reduction of impacts from their products use (global: 23%).

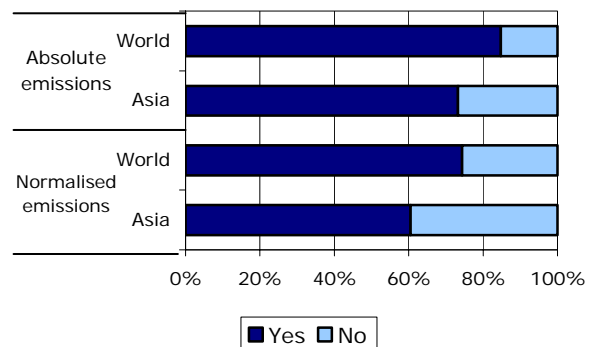
**Fig.11 Product policy of Asian companies (% very high & high impact companies)**



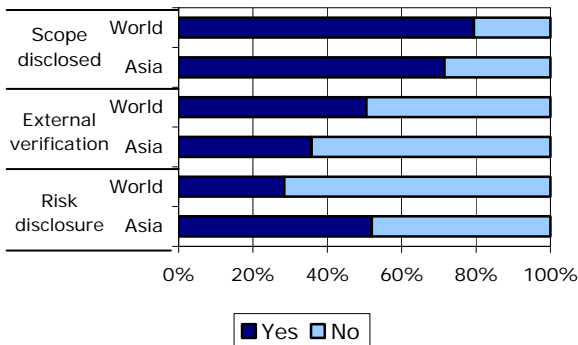
Again, Japanese companies are the best performers. Approximately 90% of these Japanese companies have policies relating to their products. The lead sector is automobile manufacture. In addition to setting targets to meet the stricter fuel economy standards for automobiles in the US, Europe and Japan, the companies disclose R&D and sales of products with high fuel efficiency including hybrid cars as their key competitive advantages and strategies.

**3) Japan leads the way with regard to emissions disclosure and risk quantification**

**Fig.12 GHG emissions disclosure (% very high & high impact companies)**



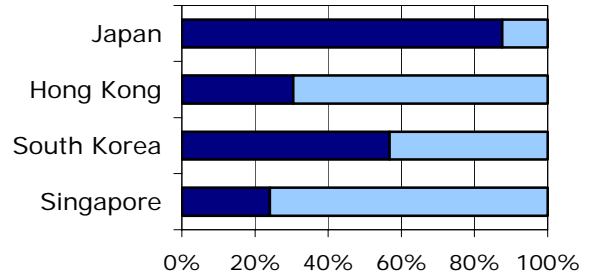
**Fig. 13 Disclosure quality (% very high & high impact companies)**



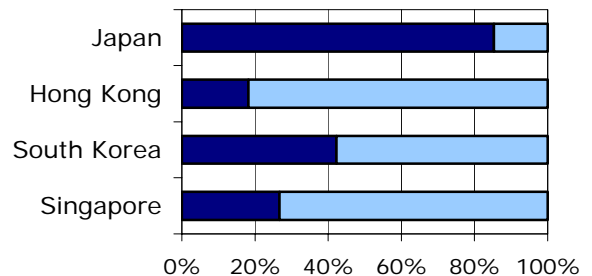
Compared to the global benchmark, Asian companies have a lower rate of disclosure in terms of GHG emissions data both in absolute and normalised terms and evidence for assuring their quality such as scope and external verification of data. Companies with *advanced* or *good* disclosure account for 47% in global companies (with oil and gas, electricity generation and specialty chemicals, once again leading performance in this area). In contrast, less than a third (30%) of companies in Asia have *advanced* or *good* disclosure. The lead sectors are electricity generation, metals and specialty chemicals in Japan.

Asian companies have lower levels of disclosure relating to the quality of the data. However, they are above the global average in terms of quantification of climate change risk. Over three quarters (76%) of companies disclose either absolute (73%) or normalized (61%) carbon dioxide (CO2) or GHG emissions data in Asia (Global: 86%, 85% and 74% respectively). In addition, over two thirds (72%) and over one third (36%) of Asian companies disclose scope of data and externally verify their data (Global: 79% and 51%). In contrast, the proportion of Asian companies (52%) disclosing quantified climate change risk is higher than global peers (28%).

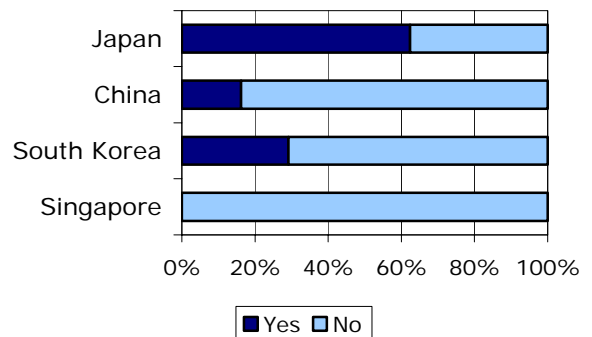
**Fig.14 Absolute or normalised emissions of Asian companies (% very high & high impact companies)**



**Fig.15 Scope disclosure of Asian companies – GHG emissions data (% very high & high impact companies)**



**Fig.16 Risk disclosure of Asian companies – GHG emissions data (% very high & high impact companies)**



Among Asian countries, Japanese companies lead the way, while Korean companies are close to the Japanese in terms of external verification. The high level of risk quantification is notable in Japanese companies. This is due in large part to the recognition by Japanese companies of the significance of quantifying risks and the rigorous implementation of this accounting system as a management priority, driven by the release of the first guidelines on environmental accounting by the Ministry of the Environment in 2000.

## Conclusions

Japanese regulations and initiatives have had a positive impact on companies' performance against global peers and remaining Asian countries. However, Asian companies have an opportunity to improve their performance with further disclosure and engagement from other stakeholders.

## Recommendations

### 1. Identify risk in your portfolio and integrate carbon risk factor in your company analysis

Understanding the carbon profile or footprint of your portfolio is an important first step. But for a complete picture of a company's risk profile, investors should also look beyond emissions intensity to how the company is responding to the challenges of climate change. The profile of Asian companies in the FTSE All World developed is comparable to the global average.

### 2. Include best practice companies in your portfolio

Increasing the proportion of best practice companies in very high and high risk sectors is a more practical measure against climate change than divestment in these sectors. It would be an incentive for companies to enhance carbon management and disclosure. There are a number of Japanese companies which highlight good performance.

### 3. Engage with laggard companies

Engagement with the companies with less advanced performance is essential. Future Conference of the Parties (COPs) and a change of climate policy in the US could be a catalyst for more challenging domestic regulations in Asian countries. In these circumstances, engagement to redirect the climate change policies in Asian companies would greatly contribute to the mitigation of climate change risk on a global level.

## Notes

<sup>1</sup> International Energy Agency (2007) 'World Energy Outlook 2007',

[http://www.iea.org/textbase/nppdf/free/2007/weo\\_2007.pdf](http://www.iea.org/textbase/nppdf/free/2007/weo_2007.pdf) downloaded on 07/05/2009

<sup>2</sup> International Energy Agency (IEA)

<http://www.iea.org/>

<sup>3</sup> Ministry of the Environment (Japan)

<http://www.env.go.jp/en/>

<sup>4</sup> Nippon Keidanren

<http://www.keidanren.or.jp/japanese/policy/vape/index.html>

<sup>5</sup> UNFCCC CDM

<http://cdm.unfccc.int/index.html>

<sup>6</sup> Information Office of the State Council of the People's Republic of China (2008)

'China's Policies and Actions for Addressing Climate Change'

<http://www.ccchina.gov.cn/WebSite/CCChina/UpFile/File419.pdf> downloaded on 07/05/2009

<sup>7</sup> Environmental Protection Department, The Government of the Hong Kong Special Administrative Region,

<http://www.epd.gov.hk/epd/english/climate/change/hkactions.html>

<sup>8</sup> Ministry of Environment (South Korea) (2008) 'ECOREA 2007',

[http://eng.me.go.kr/docs/publication/publication\\_detail.html?idx=29&mcode=A&topmenu=E&cat=310](http://eng.me.go.kr/docs/publication/publication_detail.html?idx=29&mcode=A&topmenu=E&cat=310) downloaded on 07/05/2009

<sup>9</sup> UNFCCC CDM

<http://cdm.unfccc.int/index.html>

<sup>10</sup> Ministry of the Environment and Water Resources (Singapore) 'State of the Environment 2008 Report, Singapore',

<http://app.mewr.gov.sg/web/Contents/Contents.aspx?ContId=1233> downloaded on 07/05/2009

<sup>11</sup> Hong Kong Exchange and Clearing (2008), 'Listing in Hong Kong',

[http://www.hkex.com.hk/issuer/listhk/Aug08\\_LIHK\\_E.pdf](http://www.hkex.com.hk/issuer/listhk/Aug08_LIHK_E.pdf) downloaded on 14/05/2009.

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### **How we can help – EIRIS Climate Change Toolkit for Investors**

EIRIS has developed a comprehensive suite of products to help investors assess their portfolios and design investment strategies in response to the challenge of a carbon-constrained economy.

- **EIRIS Carbon Profile** - assesses the climate change performance of a portfolio against major market indices by considering both climate change impact and company responses. It is designed to help investors understand the quantitative climate change impact of their portfolios. It provides a qualitative assessment of company responses to climate change.
- **EIRIS Carbon Engager** – helps investors to target their engagement on climate change and identify key priorities. It provides detailed reports on individual company performance and best practice examples to support a variety of engagement approaches.
- **EIRIS Carbon Risk Factor** - quantifies individual company performance on climate change. It provides a risk-weighted score based on each company's carbon impact and management response to climate change. It is designed to be easily integrated into analysts' models.

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#### **About EIRIS**

EIRIS is a leading global provider of independent research into the environmental, social, and governance, (ESG), and ethical performance of companies. With over 25 years experience of conducting research and promoting responsible investment strategies, EIRIS now provides services to more than 100 asset owners and asset managers globally. In the last ten years new EIRIS research has focussed on the risks and exposure of companies in key ESG areas, and how companies are responding. EIRIS works with clients to create their own ESG ratings and rankings, to engage with companies and to create specific funds for their clients. EIRIS has a multinational team of over 50 staff in London, together with offices in Boston and Paris. The EIRIS network includes research organisations in Australia, France, Israel, Germany, Spain and South Korea, and now covers around 3,000 companies globally.

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