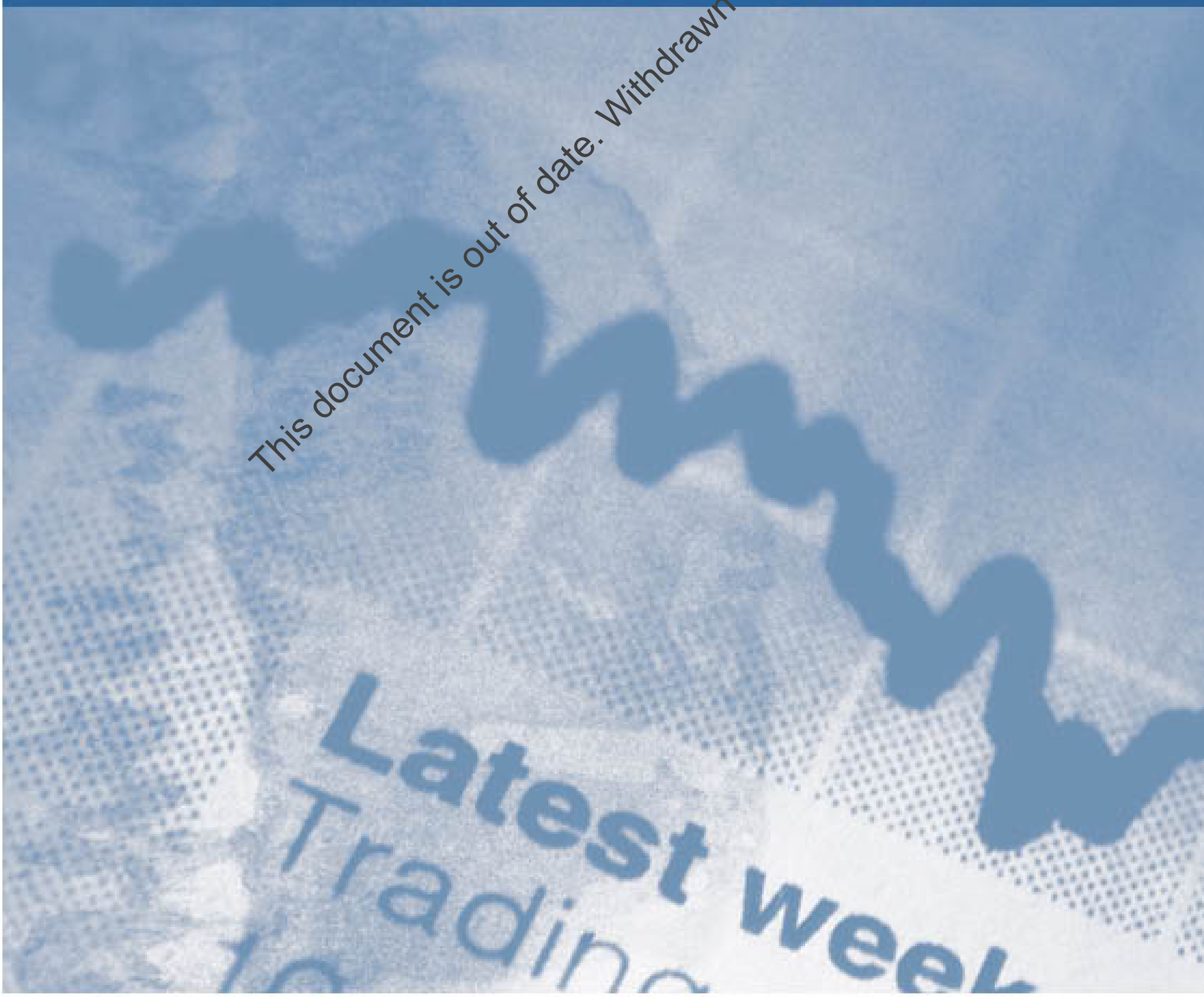
Environmental disclosures

The fourth major review of environmental reporting in the annual report & annual accounts of the FTSE All-Share companies



We are the Environment Agency. We protect and improve the environment and make it a better place for people and wildlife.

We operate at the place where environmental change has its greatest impact on people's lives. We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all that we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

Produced by:

Research, analysis and report writing by Trucost plc (www.trucost.com):

Angela Rose, Head of Data Assurance

Liesel van Ast, Research Editor

Project management, report writing and editing by the Environment Agency:

Pat Bolster, Financial Controller

Chris Knight, Environmental Finance Manager

Lucy Bennett, Business Analyst

With thanks to

Howard Pearce, former Head of Environmental Finance and Pension Fund Management at the Environment Agency

Published by:

Environment Agency,
Horizon house, Deanery Road,
Bristol BS1 5AH

www.environment-agency.gov.uk

enquiries@environment-agency.gov.uk

Further copies of this report are available from our publications catalogue:
http://publications.environment-agency.gov.uk
or our National Customer Contact Centre:
0370 850 6506

Contents

Executive Summary

This is our fourth study of the environmental disclosures made in the statutory annual report and accounts of companies in the FTSE All-Share Index. All now discuss environmental topics in their annual reports and accounts. Around half of these also report quantitative figures on at least one of the core key performance indicators (KPIs) of greenhouse gas (GHG) emissions, water and/ or waste - in line with government guidance published in 2006.

We undertake this analysis to inform the Department of Environment, Food and Rural Affairs (Defra) on the uptake of their environmental key performance indicators guidance and on the reporting of greenhouse gas (GHG) emissions under the existing reporting requirements. In addition this analysis supports a target in our corporate strategy and is used to support the responsible investment of our Active Pension Fund. Our first study in 2004 established a baseline against which the latest disclosure are analysed.

The report covers **the latest rules on corporate environmental disclosure**, including the Companies Act 2006 and the additional environmental reporting requirements that came into force in 2007. These require companies to include 'information about environmental matters (including how the company's business affects the environment)' within their business review, 'to the extent necessary for an understanding of the development, performance or position of the company's business.' We look ahead to the new regulations that will require companies to specifically include GHG information in annual reports, and examine some of the voluntary drivers that are leading companies to greater environmental disclosure.

The report then looks at the **levels of qualitative environmental disclosure** in annual reports and accounts, looking at the trends and changes from our previous analysis. Focusing on environmental topic areas we analysed all 443 company annual reports and accounts for narrative disclosures and have compared these with previous years.

It then looks at the **levels of quantified environmental disclosures** made on the three core environmental KPIs of climate change and energy use, water usage and waste. For the purposes of consistency we benchmark these disclosures against the 2006 guidance published by the Department for Environment, Food and Rural Affairs (Defra). Whilst currently there is no mandatory requirement to disclose quantitative environmental data in annual reports and accounts – beyond the Companies Act 2006 requirement - this is an important source of information for investors and other stakeholders.

The report also highlights **examples of current practice** in reporting the three core environmental KPIs. These include current examples of best practice by FTSE All share companies, as well as outlining what other companies could include to improve their levels of disclosure and provide investors and other stakeholders with the environmental performance data they need.

Finally we examine the relationship between **disclosure and financial performance**. We compare the three areas of carbon intensity, water intensity and waste intensity aginst profitability. We test the hypothesis that well-governed, financially successful companies will be more efficient and better managed across a number of sectors and extend our analysis to include environmental data from a wider range of sources than the annual report and accounts.

Headline results

In general the findings are positive. Levels of corporate environmental disclosure have broadly increased since our last review in 2009. In particular the quality of environmental data disclosed has improved, demonstrating that once data is measured there is generally a rapid improvement in the standard of information publicly disclosed.

In 2011-12, all 443 FTSE All-Share companies discussed an environmental topic in their annual reports. 97% discussed sustainability/ corporate social responsibility. The other most popular topics were pollution (80%), waste management (79%), energy (78%) and/ or climate change (70%). The high level of discussion of topics such as these gives investors greater insight into which environmental matters are rising or falling on boardroom agendas. Although many of these references are relatively basic – often simple references to topics without supporting information.

93% of FTSE All Share companies are now making qualitative environmental disclosures in the Directors' Report sections of their annual report and accounts. With 80% discussing environmental topics in the Business Review section we are seeing greater discussion of these issues, however 30% of companies still did not report any quantitative environmental data in their annual report and accounts.

80% of companies discussed pollution, up from 56% in 2006. This probably reflects the implementation of new and stricter pollution controls in many jurisdictions in which FTSE listed companies operate. 10% of companies reported on their license to operate, up from 6% in 2006.

Discussions of acid rain, environmental incidents, environmental targets and environmental taxes have increased consistently since 2006. There is greater discussion of targets for impacts such as water, energy, carbon emissions and waste, increasing steadily from 34% in 2006 to 68% in 2011-12. Further evidence that more companies are monitoring their environmental performance suggests that measurement has enabled more companies to set targets to reduce impacts.

49% of listed companies disclosed quantitative figures on at least one of the three core key performance indicators (KPIs) - GHG emissions, water and/ or waste - in line with voluntary government guidance published in 2006. This is up significantly from 28% in the previous analysis. If disclosures from companies that just provided a general, less standardised figure are also taken into account, 70% of companies reported quantified data on at least one of the three core KPIs. The increase in some form of quantitative disclosures is a slight improvement on 67% in the previous analysis. The study highlights good practice in reporting on impacts.

40% of companies disclosed GHG data in line with the 2006 government guidance. This is a marked increase since 2009-10, when 22% provided absolute quantified data for total emissions, without defining the scope of emissions. 8% of companies provided quantitative figures on carbon emissions broken down by source. This is in line with the governments' carbon reporting guidance published in 2009, and includes companies that also adhere to the 2006 guidance. Overall, 61% quantified carbon emissions in some way, including the companies providing data in line with government guidance, as well as those providing metrics such as carbon intensity. This indicates that the majority of companies have processes in place to measure and report emissions.

9% of companies reported quantitatively on all three core KPIs in accordance with the 2006 government guidance. The level of disclosures on GHG emissions, water use, and waste, in line with the recommendations, has increased steadily since 2006. Reporting on water use increased to 15%, up from 10% in 2009-10.

Table 1 sets out the key findings of the report with comparisons from the previous analysis undertaken. The steady reduction in the total number of companies is largely a reflection of the economic situation, with fewer companies seeking listing status, a number of mergers and companies moving into private ownership. We also chose to exclude investment trusts from our analysis on the basis that they largely exist to own shares and securities in other companies.

Table 1: Key trends in environmental reporting in annual reports and accounts

	2004	2006	2009-10	2011-12
Number of FTSE All-Share companies analysed:	506	537	458	**443**
Percentage of FTSE All-Share companies with a qualitative environmental disclosure:	89	98	99	**100**
Percentage of FTSE Small Cap companies with a qualitative environmental disclosure:	80	97	98	**100**
Percentage of FTSE All-Share companies with an environmental disclosure in audited sections of their annual reports and accounts:	10	35	36	**61**
Percentage of FTSE All-Share companies with a quantified disclosure on one or more of the three core KPIs (GHG emissions, water and waste):	27	42	67	**70**
Percentage of FTSE All-Share companies with a quantified disclosure on one or more of the three core KPIs in accordance with government guidelines:	10	15	28	**49**
Percentage of FTSE All-Share companies with quantified disclosures on all three core KPIs in accordance with government guidelines:	-	3	6	**9**

Companies that disclosed data in accordance with the governments' 2006 environmental reporting guidance or 2009 carbon reporting guidelines had the highest weighted profit margins in the Basic Materials, Utilities and Oil & Gas sectors. The trend is most pronounced in the Oil & Gas sector where companies that did not disclose any of their GHG emissions in their annual report and accounts made a financial loss.

Implications of the results

Carbon, water and waste data disclosed in annual reports is becoming increasingly robust with more companies than ever publishing environmental data consistent with government guidelines. This demonstrates that once companies put in place the necessary systems and processes to monitor environmental data, the quality of measurement and external reporting improves rapidly.

However, many companies still do not include absolute figures for the environmental impacts of their business. Whilst the levels of corporate environmental disclosures have increased significantly since 2004 more recently they appear to be reaching a plateau. Companies that have started to measure, manage and disclosure their financially material environmental impacts in their annual report and accounts have recognised the benefits of doing this and have quickly improved the quality of their disclosures. The result of this is that there is now a wider gap between those that report well and those that don't. Reducing environmental impacts across major listed companies is an important step in maintaining the natural capital that underpins the UK economy.

Guidance and legislation

The government proposals to strengthen corporate environmental disclosure in the UK, specifically on mandatory reporting on greenhouse gas emissions, will encourage widespread, standardised quantitative reporting on environmental impacts in annual reports and accounts. The proposed mandatory reporting requirement and draft environmental reporting guidance on environmental KPIs were consulted on in 2012. The draft guidance on environmental reporting aims to help companies to measure and report on relevant KPIs as a starting point for setting targets, monitoring progress and reporting to investors and wider stakeholders.

Since the 2006 guidance on reporting environmental performance was introduced, disclosures have more than quadrupled. Our findings suggest that once companies begin to collect environmental data, the quality of measurement and reporting improves relatively rapidly.

The introduction of mandatory GHG reporting for publically listed companies in the UK will boost the levels of environmental disclosure, although it will clearly take some time before this reporting reaches a consistently high standard across all companies. It will require those companies who are not currently measuring and reporting their emissions to put in place the necessary systems and processes to do so. Defra will be publishing new GHG guidance to support the mandatory reporting requirement, along with updated guidance on environmental KPIs.

Further information on how to report your companies environmental performance can be found in the following publications:

- Environmental Issues and Annual Financial Reporting - joint guidance published by the Environment Agency and the Institute of Chartered Accountants in England and Wales.[1]
- How Businesses Can Measure and Report Greenhouse Gas Emissions - joint guidance published by the Department for Environment, Food & Rural Affairs and the Department for Energy and Climate Change.[2]

---

[1] ICAEW. 2009. Environmental issues and annual financial reporting. Available online: http://www.environment-agency.gov.uk/static/documents/Business/TECPLN8045_env_report_aw.pdf

Investor pressure, opportunities and risk

There is growing awareness among FTSE All-share companies that environmental performance is relevant to investors. Not only do all companies now discuss environmental topics at some level in their annual reports and accounts, but the quality of environmental data disclosed by companies has also improved rapidly - with almost 50% reporting in line with the governments' 2006 guidance on at least one core key performance indicator (KPI).

Measuring, managing and disclosing environmental impacts and performance can help deliver wider business goals, including cost savings, regulatory compliance, continuity of business and a stronger position within the market place. Managing environmental impacts and the costs associated with them demonstrates good business practice, and generally results in a lower cost of capital. Many investors now seek to integrate comparable environmental data into their financial analysis, and many mainstream information providers are now including environmental performance data as a component of their wider financial information services.

The gap between leaders on disclosure and companies that are less transparent about environmental impacts is growing. This could create opportunities for companies that monitor and manage environmental performance to gain a competative edge.

There is increasing evidence of a link between good environmental governance and strong financial performance, as this report itself demonstrates. Clear and accurate disclosure of environmental performance can deliver improvements in corporate performance in a number of ways, including:

- cost savings through energy and resource efficiency,
- lower exposure to carbon liabilities and volatile fossil fuel costs,
- enable investors to compare companies with sector peers, thereby providing further incentives for companies to improve their performance,
- efficient allocation of capital to meet long-term sustainable investment goals,
- the development of more sustainable products, brands and business strategies.

Many companies that already measure the impacts of their direct operations are starting to look at wider issues of resource use and pollution embedded in supply chains in order to increase accountability for upstream impacts, reduce exposure to rising input costs, and strengthen brands.

---

[2] DEFRA. 2011. Guidance on how to measure and report your greenhouse gas emissions. Available online: http://www.defra.gov.uk/publications/2011/03/26/ghg-guidance-pb13309/

What are the rules on disclosure?

This research assesses the extent to which reporting complies with voluntary guidance on corporate environmental disclosures, published by the UK Department for Environment, Food and Rural Affairs (Defra) in 2006.

What should directors report to comply with company law?

The Companies Act 2006 requires the directors of quoted companies to include a Business Review in the Directors' Report section of their annual reports and accounts. [3] This encourages directors to provide meaningful strategic, forward-looking information. Section 417 of the Act outlines the contents of a business review. The review should reveal how directors have performed their duty 'to promote the success of the company', with regard to issues including the impact of the company's operations on the environment.[4] A Business Review must, 'to the extent necessary for an understanding of the development, performance or position of the company's business', include: [5]

- the main trends and factors likely to affect the future development, performance and position of the company's business
- information about:
  - environmental matters (including how the company's business affects the environment)
  - the company's employees
  - social and community issues
  - company policies on those matters and their effectiveness
- information about persons with whom the company has contractual or other arrangements essential to the business of the company

If the Business Review does not contain information on environmental matters, it must explain exclusions.

The review must:

- review the company's business fairly
- describe the principal risks and uncertainties that the company faces
- provide a balanced and comprehensive analysis of:

[3] BIS. Companies Act 2006. Section 417. [Last accessed 3 May 2012]. Available online: http://www.legislation.gov.uk/ukpga/2006/46/section/417

[4] THE NATIONAL ARCHIVES. Companies Act 2006. Section 172. Available online: http://www.legislation.gov.uk/ukpga/2006/46/section/172

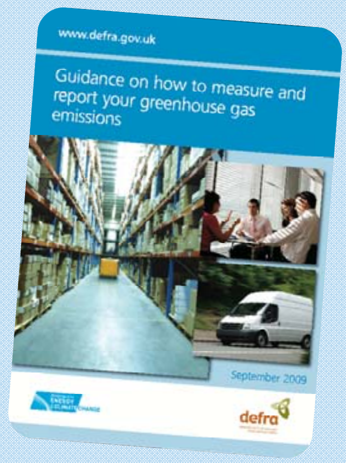
[5] DEPARTMENT FOR BUSINESS INNOVATION AND SKILLS (BIS). Business Review. [Last accessed 3 May 2012]. Available online: http://www.bis.gov.uk/policies/business-law/accounting-auditing-reporting/business-review

- the development and performance of the company's business during the financial year
- the position of the company's business at the end of the financial year, consistent with the size and complexity of the business

The Companies Act 2006 includes reporting requirements from the EU Accounts Modernisation Directive 2003/51/EEC.[6] This states that annual reports should include, where appropriate, analysis using key performance indicators, and this should include information on environmental matters. It does not specify the environmental issues on which companies should report. In April 2013, the European Commission proposed additional reporting rules for large companies to increase transparency on environmental and social issues.[7] France has already made it mandatory for public companies to report on sustainability issues.[8] Defra published voluntary guidance in 2006 - Environmental Key Performance Indicators: Reporting Guidelines for UK Business.[9]

The Defra guidelines identify 22 sector-specific environmental KPIs which companies can use for reporting environmental impacts in Business Reviews. No company would be expected to report on all 22 KPIs. The guidelines show that 60% of companies have no more than three KPIs. The most commonly used KPIs relate to greenhouse gas emissions, water use and abstraction, and waste. A further 20% of companies, those in more polluting industries, are likely to have four to five environmental KPIs. For instance, mining companies should also report on releases of particulate matter. In 2009, Defra published separate guidelines to explain how to measure and report your greenhouse gas emissions (see carbon emissions scopes box).

Carbon emissions scopes



Both the UK government guidance and international standards on carbon reporting recommend that companies disclose data on direct and indirect emissions by source. As a minimum they advise companies to report data on the following scopes:

Direct emissions (Scope 1): Emissions of GHGs from activities which an organisation carries out or controls. For example, emissions from fuel combustion in boilers and vehicles, and process emissions from production.

Energy indirect (Scope 2): Emissions associated with purchased electricity, heat, steam and cooling, from sources not owned or controlled.

Other indirect (Scope 3): Companies may choose to report further indirect emissions which occur from sources that are not owned or controlled, such as purchased materials or fuels and waste disposal.

---

[6] EUR-LEX. 2003. Directive 2003/51/EC of the European Parliament and of the Council of 18 June 2003. Available online: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0051:EN:NOT

[7] EUROPEAN COMMISSION. 2013. Non-financial reporting. Available online: http://ec.europa.eu/internal_market/accounting/non-financial_reporting/index_en.htm

[8] WENSEN, K ET AL. 2011. The State of Play in Sustainability Reporting in the European Union. European Union programme for unemployment and social solidarity. January 2011.Available online: http://ec.europa.eu/social/BlobServlet?docId=6727&langId=en

[9] DEFRA. 2011. Environmental key performance indicators – reporting guidelines for UK business. 25 March 2011. Available online: http://www.defra.gov.uk/publications/files/pb11321-envkpi-guidelines-060121.pdf

Changes in reporting rules

Mandatory carbon reporting

More than 70% of the companies which responded to a government consultation in 2011 supported proposals to make carbon reporting mandatory.[10] In response, the government consulted between June and October 2012 on draft regulations to require corporate reporting on GHG emissions. Under draft Greenhouse Gas Emissions (Directors' Reports) Regulations released in March 2013, UK-incorporated companies that are also listed on the main market of the London Stock Exchange or the European Economic Area must disclose GHG emissions in their directors' reports for financial reporting years ending on or after 30 September 2013.[11] Companies that are admitted to dealing on the New York Stock Exchange or NASDAQ must also adhere to the carbon reporting rules.[12] Companies will have to report on the six GHGs covered by the UN Kyoto Protocol international agreement on climate change. They should provide data on the six GHGs – carbon dioxide (CO2), methane (CH4), hydrofluorocarbons (HFCs), nitrous oxide (N2O), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6) – measured in carbon dioxide equivalents. The equivalents can be calculated using emissions factors provided by the government.

Companies must report on material emissions for which they are responsible and state which methodology has been used. Companies can report on emissions using methods in the governments' 2009 carbon reporting guidelines, or other methodologies and standards such as the GHG Protocol Corporate Standard developed by the World Resources Institute and World Business Council for Sustainable Development. Companies must also report an intensity ratio or ratios, comparing emissions data with business or financial metrics such as sales revenue or floor space. Guidance on the rules recommend that companies seek independent verification or assurance, although this is not mandatory.

The government will review the first two years of reporting by quoted companies in 2015. In 2016 it will then decide whether to extend the requirement to all large companies. The draft regulations on narrative reporting proposed by BIS may inform the development of mandatory carbon reporting requirements.

Strategic and Directors' reports

In October 2012, the Department for Business Innovation and Skills (BIS) consulted on draft Companies Act 2006 (Strategic Report and Directors' Report) Regulations to change the narrative reporting framework. The draft regulations will require directors of quoted companies to produce a strategic report which outlines their strategy and business model. This will be separate from the Directors' Report and will replace the business review in annual reports. Provisions that applied to the business review will apply to the strategic report in the future. Regulations are expected to come into force in October 2013 and

---

[10] Department for Environment, Food and Rural Affairs (DEFRA). 2011. Consultation on greenhouse gas emissions. Available online: http://www.defra.gov.uk/consult/2011/05/1

[11] UK GOVERNMENT. 2013. Draft Order: The greenhouse gas emissions (directors' reports) regulations 2013. Available online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/82573/consult-ghg-regulations-20131.pdf

[12] CARBON CREDENTIALS. 2012. Consultation on greenhouse has reporting draft regulations. Available online: http://www.carboncredentials.com/wp-content/uploads/2013/04/Guidance-on-mandatory-reporting-March-2013.pdf

companies with reporting years ending after October 2013 will need to prepare their annual report in line with the new regulations.[13]

Environmental issues relevant to financial statements

We are currently working with the Institute of Chartered Accountants in England and Wales (ICAEW) to update a report on best practice in reporting environmental issues in financial statements, to be published in 2013. Meanwhile, companies can use existing accounting standards to report on environmental issues that have a material impact.[14] Financial provisions could be required for liabilities such as waste disposal, pollution, decommissioning and environmental contamination costs.

In the EU, companies must report in line with International Financial Reporting Standards (IFRS) developed by the International Accounting Standards Board (IASB). The IASB and Financial Accounting Standards Board have deferred a project to develop guidance on accounting for tradable emissions permits under trading schemes and plan to conduct research into emissions trading schemes.[15]

The IASB issued an IFRS practice statement, 'Management Commentary', in December 2010.[16] This provides a non-binding framework for a narrative report that provides a context for interpreting a company's financial position, financial performance, cash flows, and for management to explain its objectives and strategies. Management commentary encompasses what is also known as Management's Discussion and Analysis and Operation and Financial Reviews. The practice statement states that management should present commentary that is consistent with a principle to provide management's view of the entity's performance, position and progress.[17] Commentary should include forward-looking information, depending on a company's regulatory and legal environment. The statement highlights the importance of reporting relevant and material information.

'Management should include forward-looking information when it is aware of trends, uncertainties or other factors that could affect the entity's liquidity, capital resources, revenues and the results of its operations... Management should provide forward-looking information through narrative explanations or through quantified data, which may - but are not required to - include projections or forecasts... Management should include information that is material to the entity in management commentary.'

IFRS practice statement Management Commentary

Stock exchange disclosure rules and dual listings

[13] Department for business, innovation and skills (BIS). 2012. The future of narrative reporting in the UK. Available online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/34745/12-979-future-of-narrative-reporting-new-structure.pdf

[14] ENVIRONMENT AGENCY (EA). 2009. Sustainable Business: Turning questions into answers: Environmental issues and annual financial reporting. September 2009. Available online: http://www.environment-agency.gov.uk/static/documents/Business/TECPLN8045_env_report_aw.pdf

[15] INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS). 2011. Emission trading schemes. 29 June 2011. Available online: http://www.ifrs.org/Current+Projects/IASB+Projects/Emission+Trading+Schemes/Emissions+Trading+Schemes.htm

[16] IFRS. 2011. Management commentary. 11 March 2011. Available online: http://www.ifrs.org/Current+Projects/IASB+Projects/Management+Commentary/Management+Commentary.htm

[17] IFRS. 2010. IFRS practice statement. December 2010. Available online: http://www.ifrs.org/Current-Projects/IASB-Projects/Management-Commentary/IFRS-Practice-Statement/Pages/IFRS-Practice-Statement.aspx

Stock exchanges are under growing pressure from institutional investors to encourage listed companies to take account of ESG issues.[18] A global Sustainable Stock Exchanges (SSE) initiative is exploring how stock exchanges can work with investors, regulators and companies to enhance corporate transparency and performance on ESG issues.

Several exchanges include environmental, social and governance (ESG) disclosure rules for companies that aim to attract capital from responsible investors. The FTSE, a subsidiary of the LSE, runs FTSE4Good Indices to provide a tool for responsible investors to invest in companies that meet ESG criteria. Environmental criteria include environmental management and climate change issues. Companies in high-impact sectors such as air transport, building materials and water must also meet criteria on environmental reporting to be included in the FTSE4Good Indices. Reports must cover the whole group and must meet at least three or four core indicators.

Two companies were removed from the Index in March 2013 for failing to meet environmental or climate change criteria.[19] Since 2003, almost 300 companies have been removed from the global indices for not meeting environmental criteria. Climate change issues accounted for at least half of the removals.

A recent study by Dr. Craig Mackenzie from the University of Edinburgh Business School found that the threat of exclusion from the FTSE4Good Index and engagement by the responsible investment index led companies to improve environmental management.[20] Investors can use the index to support engagement with high-risk companies. Dual-listed FTSE All-Share companies must comply with mandatory reporting frameworks in the other jurisdictions in which they are listed. Companies that are also publicly listed in countries such as South Africa, the United States or Australia have to comply with local listing requirements for financial reporting and, where relevant, rules and guidance for reporting on environmental issues (see Appendix 2).

Voluntary drivers for environmental reporting

Mandatory reporting standards are often informed by voluntary reporting initiatives that aim to improve disclosure on environmental and other sustainability issues. Recent developments include:

Integrated reporting

- The International Integrated Reporting Council (IIRC) are issuing a draft International Integrated Reporting Framework in April 2013.[21] More than 90 organisations are taking part in a pilot programme to help develop an initial framework and guidance by the end of 2013.[22] The initiative aims to guide organisations by bringing together material information about value creation, including reporting on natural capital in a strategic way that reflects the external environments in which they operate.

---

[18] SCOTT, M. 2012. Stock exchanges urged to make ESG demands. Financial Times. 22 April 2012. Available online: http://www.ft.com/cms/s/0/de3b937e-84bc-11e1-b4f5-00144feab49a.html#axzz29S1emejh

[19] FTSE. 20132012. FTSE4Good Semi-annual review of the FTSE4Good indices. March 2013September 2012. Available online: http://www.ftse.co.ukcom/Indices/FTSE4Good_Index_Series/Downloads/FTSE4Good_March_2013Sept_2012_Review.pdf

[20] MACKENZIE, C, REEVES, W and RODIONOVA, T.2012. The FTSE4Good Effect: the Impact of Responsible Investment Indices on Environmental Management. The University of Edinburgh Business School.

[21] INTERNATIONAL INTEGRATED REPORTING COUNCIL (IIRC). 2013. Consultation draft of the internation <IR> framework. Available online: http://www.theiirc.org/wp-content/uploads/Consultation-Draft/Consultation-Draft-of-the-InternationalIRFramework.pdf

[22] INTERNATIONAL INTEGRATED REPORTING COUNCIL (IIRC). Available online: http://www.theiirc.org/

Environmental/ sustainability reporting

- The Global Reporting Initiative (GRI) recently consulted on a fourth set of sustainability reporting guidelines, G4.[23] The updated guidance were launched in May 2013. Meanwhile, companies can use G3.1 guidance to report on issues such as environmental performance indicators. These cover, for example, materials, energy, water and biodiversity.

Carbon reporting

- In 2011, the Greenhouse Gas Protocol Initiative launched Product Life Cycle and Corporate Value Chain Standards.[24] This guidance helps companies to calculate inventories of emissions from sources such as supply chains. It complements the GHG Protocol Corporate Standard. The initiative has also developed guidance for specific sectors, including Information and Communications Technology. The Greenhouse Gas Protocol Initiative is considering extending its corporate accounting standards to a seventh GHG, nitrogen trifluoride (NF_3). NF_3 has been added to the list of GHGs regulated under the UN Kyoto Protocol from January 2013.[25] Corporate reporting on NF_3 will help companies to meet a requirement to include the gas in national inventories.[26] One tonne of NF_3 is equivalent to approximately 17,200 tonnes of carbon dioxide equivalent emissions (CO_2e) and has a lifetime of 550 years. NF_3 can be released during the production of semiconductors, solar photovoltaic (PV) cells and electrical appliances - including flatscreen televisions, mobile phones and PCs. NF_3 is increasingly used to replace perfluorinated compounds (PFCs) and sulphur hexafluoride (SF_6).
- The CDP – previously known as the Carbon Disclosure Project - collects information on climate change from companies on behalf of investors. The project has updated guidance to help companies respond to the CDP questionnaires requesting information on greenhouse gas emissions from operations and supply chains. It has also developed a questionnaire for companies to provide information on water management and exposure to deforestation risks.[27]
- The International Investors Group on Climate Change (IIGCC) has provided disclosure frameworks for carbon reporting for the Electric Utility, Oil & Gas and Automotive sectors.

Further information on other voluntary environmental disclosure frameworks has been included in Appendix 1.

Investors call for useful sustainability reporting

There is now a greater expectation that investors should report their approach to environmental, social and governance (ESG) issues when allocating assets. For instance, the UN-backed Principles for Responsible Investment (PRI) has introduced a new voluntary framework for the disclosure of responsible investment activities.[28] This includes both

[23] GLOBAL REPORTING INITIATIVE (GRI). Available online: https://www.globalreporting.org/reporting/g4/Pages/default.aspx

[24] GHG PROTOCOL. 2011. Launch of the GHG Protocol Product Life Cycle and Corporate Value Chain Standards. Available online: http://www.ghgprotocol.org/feature/launch-ghg-protocol-product-life-cycle-and-corporate-value-chain-standards-0

[25] UNITED NATIONS DEVELOPMENT PROGRAM CLIMATE COMMITTEE. 2012. Summary of the UNFCCC climate change conference in Doha, Qatar, 26 November – 7 December 2012. Available online: http://www.undpcc.org/docs/UNFCCC%20negotiations/UNDP%20Summaries/2012_12%20December%20Doha/UNDP%20COP18%20summary.pdf

[26] GHG PROTOCOL. Invitiation to comment: Proposed additon of gases reporting with GHG Protocol standards. Available online: http://www.ghgprotocol.org/feature/invitation-comment-proposed-addition-gases-reported-ghg-protocol-standards

[27] CARBON DISCLOSURE PROJECT (CDP). Guidance for responding companies. Available online: https://www.cdproject.net/en-US/Pages/guidance.aspx

[28] UNITED NATIONS PRINCIPLES FOR RESPONSIBLE INVESTMENT (UNPRI). Reporting framework. Available online: http://www.unpri.org/reporting/framework.php

mandatory and voluntary indicators for asset owners and investment manager signatories. In turn, many institutional investors are calling for policy makers and companies to improve ESG reporting.

In September 2011, UK-based Aviva Investors convened a Corporate Sustainability Reporting Coalition. This coalition was backed by investors with approximately US$2 trillion in assets under management. They urged governments attending the UN Rio+20 Earth Summit in Brazil in June 2012 to back a clause promoting the integration of sustainability reporting into corporate reporting. The outcome document, ‘The Future We Want’, includes a commitment to support the integration of sustainability reporting.[29] UN member states recognise this as being particularly important for publicly listed and large companies.

There is more and more evidence of a relationship between corporate social responsibility (CSR) and a company's access to finance. A report published by Deutsche Bank in 2012 found that academic studies generally show that companies with high ratings for CSR and ESG factors generally have a lower cost of capital.[30] This is supported by evidence that greater transparency reduces information asymmetries between firms and investors, which can lower perceptions of risk and reduce agency costs. This can enhance a company's ability to obtain capital through lower interest rates and/ or a larger amount of funds.[31]

Credit rating agencies such as Standard and Poor's (S&P) are increasingly taking account of environmental issues in ratings. S&P’s analysis of carbon risk considers direct and supply chain emissions, including the embedded cost of carbon in raw materials, policymaking to set carbon prices, abatement opportunities and cost pass through. S&P has analysed the exposure to carbon liabilities among Power Utilities under the EU Emission Trading System (EU ETS) from 2013-20. This is the period when most Utilities will have to purchase 100% of allowances. S&P found that carbon-intensive Utilities with greater earnings exposure to carbon costs could see their creditworthiness downgraded once carbon liabilities were included in corporate credit assessments - making it more difficult for them to borrow money.[32] S&P has begun to incorporate carbon risk into its rating methodology for all companies. It is focusing first on the most exposed industries including Oil & Gas, Transportation, Metals & Mining, Building Materials and Chemicals.

S&P’s Managing Director of Environmental Finance, Michael Wilkins, says that new corporate governance and management criteria introduced by the agency in October 2012 emphasise environmental risk issues. As part of wider risk ratings, S&P will increasingly assess quantitative and qualitative criteria on operational environmental risk management and accountability. The inclusion of environmental factors in ratings is meant to help meet the demand for a greater consideration of ESG risk. Financial data providers including Bloomberg and FactSet now provide ESG information on environmental performance alongside financial information to investment professionals.

Investors are increasingly collaborating through engagement and proxy voting to encourage companies to improve environmental reporting and performance. For instance, the Environment Agency Pension Fund (EAPF) supported a shareholder resolution against BP in respect of its annual report disclosures and strategy regarding Canadian tar sands in

---

[29] UNITED NATIONS. 2012. Resolution aopted by the General Assembly.66/288. The future we want. 11 September 2012. Available online: http://www.uncsd2012.org/thefuturewewant.html

[30] DEUTSCHE BANK GROUP. 2012. Sustainable Investing: Estalishing long-term value and performance. June 2012. Available online: https://www.dbadvisors.com/content/_media/Sustainable_Investing_2012.pdf

[31] CHENG, B et al. 2011. Corporate Social Responsibility and access to finance. Strategic management journal [forthcoming]. 19 May 2011. Available online: http://www.sirp.se/getfile.ashx?cid=280784&cc=3&refid=35

[32] STANDARD AND POOR. 2011. Utilities will feel the squeeze as Europe tightens its grip on CO2 emissions in 2012. Global credit portal. 1 July 2011. Available online: http://www.standardandpoors.com/ratings/articles/en/eu/?articleType=PDF&assetID=1245313083526

2010. The UN Environment Programme Finance Initiative encourages investors to use active ownership through engagement and voting to stimulate the inclusion of environmental, social and governance factors in long-term business strategies.[33]

[33] UNITED NATIONS ENVIRONMENT PROGRAM FINANCE INITATIVE (UNEPFI). 2010. CEO Briefing. Demystifying materiality: Hardwiring biodiversity and ecosystem services into finance. Available online: www.unepfi.org/fileadmin/documents/CEO_DemystifyingMateriality.pdf

Levels of qualitative disclosure

This section looks at the main subjects that companies reported on and at trends in company disclosures. We assess changes in reporting on environmental topics since 2004, focusing on the three core KPIs - greenhouse gas emissions, water and waste.

Our approach to assessing disclosures

This report assesses the level of environmental reporting by companies listed in the FTSE All-Share Index. It looks at the number of times that specific environment-related keywords were referred to in annual reports and accounts to identify issues that are moving up corporate agendas. The study assesses progress in quantitative reporting against the governments' existing guidelines for business on environmental and carbon reporting. Levels of quantitative disclosures are analysed for greenhouse gas (GHG) emissions, water use and abstraction, and waste. These three significant environmental KPIs are relevant to most businesses. The study shows trends in corporate reporting on environmental issues which could have financial implications for businesses and investors.

This study began at the end of April 2012. We looked at all of the companies in the FTSE All-Share, except investment trusts. This is because their direct environmental impacts are likely to be minor and they do not yet report on the environmental impacts of holdings. We reviewed the reports of 64 companies with financial years ending between January and April 2012. There were a further 54 companies with financial years ending in the same period, which did not have reports for 2012 available. We therefore analysed their financial reports for 2010-11. For the 325 companies with financial years ending between May and December, we analysed annual reports and accounts for 2010-11. This analysis primarily covers companies with financial years ending between May and December 2011.

Table 2: Period of analysis for 2011-12 Environmental Disclosures report

Financial reporting year analysed	Financial Year end	Number of companies analysed
2010-2011	January-April	54
2010-2011	May-December	325
2011-2012	January-April	64
Total reports analysed		443

We noted whether companies reported environmental keywords in Directors' Reports in their annual reports. We also examined a potential link between profitability and the quality of carbon reporting in carbon-intensive sectors.

This study's references to figures for 2006 are based on our previous analysis of reports for financial years ending during 2006.[34] The figures from our Environmental Disclosures report

[34] ENVIRONMENT AGENCY. 2007. Environmental Disclosures. October 2007. Available online: Available online: http://publications.environment-agency.gov.uk/pdf/GEHO1007BNGJ-e-e.pdf?lang=_e

in 2004 were based on reports and accounts for financial years ending between 1 October 2002 and 30 September 2003. We are largely excluding these figures from this analysis, in order to focus on reporting trends since the governments' environmental reporting guidance was introduced in 2006.[35]

There were 15 fewer companies in the FTSE All-Share Index (see Table 1, page 5) than at the time of our 2009-10 Environmental Disclosures report. Index constituents are reviewed quarterly and change regularly. There are a variety of reasons for this, including whether companies continue to meet financial thresholds such as market capitalisation, size and liquidity. Companies also delist due to changes such as mergers and acquisitions, demergers, and transfers to other indices and listing cancellations as firms go into private ownership.

The main changes in constituents were in the Basic Materials, Oil & Gas, Industrials, Financials and Consumer Services industries. Companies operating in high-impact sectors, or in regions exposed to environmental risks or opportunities, are more likely to report environmental matters as being potentially material. The changes in index constituents since the previous study are reflected in findings.

Where are topics disclosed?

More than 90% of companies discussed environmental topics in sections including Directors' Reports. 80% of FTSE All-Share companies provided information in Business Reviews. Existing disclosure frameworks have led to discussion of environmental topics across the FTSE All-Share, as well as to more robust disclosures on environmental performance in annual reports and accounts.

However, 30% of companies still did not report data on environmental impacts, and we are now seeing much smaller increases in levels of quantitative disclosure. In the future, the governments' planned carbon reporting rules and proposed environmental guidance will lead to improvements in the quantity and quality of environmental disclosures. This will help to create a level playing field for environmental reporting by companies across all sectors.

Listed companies in the UK must currently report on material environmental matters in the Business Review section of annual reports (see page 10). The draft carbon reporting regulations state that companies should disclose annual quantities of GHG emissions in Directors' Reports.

We looked for certain keywords when analysing the discussion of environmental topics in the Directors' Report section of annual reports and accounts in 2011-12. We found that 93% of FTSE All-Share companies refer to one or more of the keywords used to analyse discussion of environmental topics in the Directors' Report section of annual reports and accounts in 2011-12. .

More than 90% of companies also discussed keywords relevant to environmental matters in the CSR, corporate governance, or other sections of their annual reports and accounts. These findings are shown in Table 3 on page 18.

81% of companies discussed environmental keywords in the Management Discussion and Analysis section, analysed for the first time. Just 2% did so in the Management Commentary section first assessed in 2011-12 reports. 80% of companies discussed environmental topics in the Business Reviews.

---

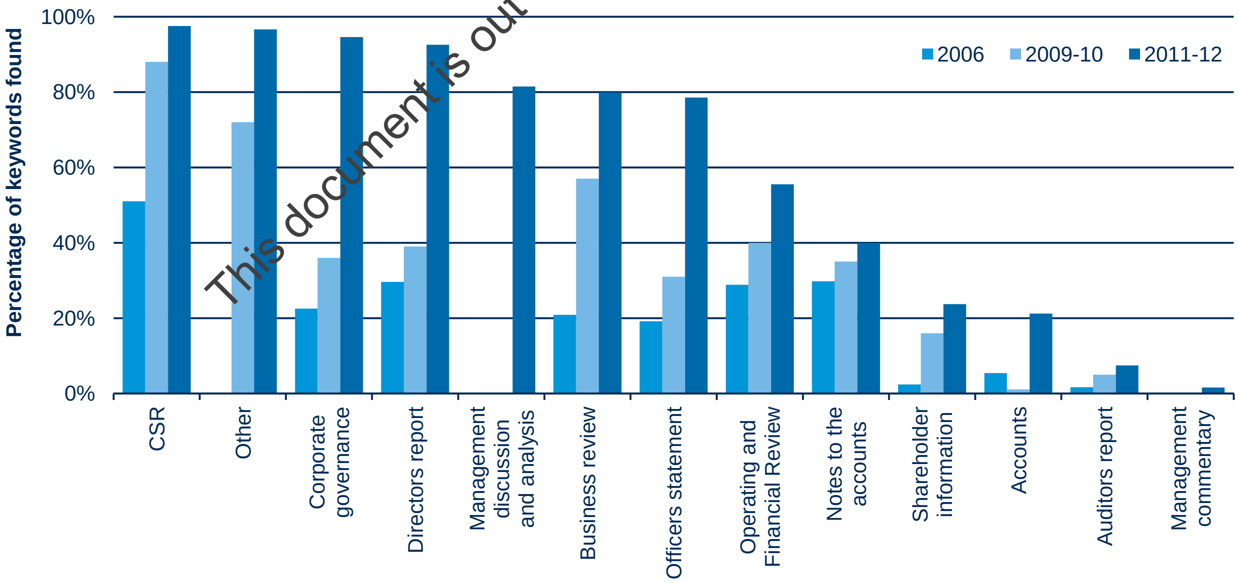
[35] ENVIRONMENT AGENCY. 2004. Environmental Disclosures. July 2004. Available online: http://publications.environment-agency.gov.uk/pdf/GEHO0704BKFL-e-e.pdf?lang=_e

Table 3: Discussion of keywords in annual report sections 2011-12

Annual Report Section	Percentage of companies
CSR	98%
Corporate governance	95%
Directors' Report	93%
Management discussion and analysis	81%
Business review	80%
Officers statement	79%
Operating and Financial Review	56%
Notes to the accounts	40%
Shareholder information	24%
Accounts	21%
Auditors report	7%
Management commentary	2%

Comparing the results with those from 2009-10 we found that discussion of environmental topics increased most in the Accounts section (see Figure 1). 21% of companies discussed keywords in their accounts in 2011-12, compared with 1% in 2009-10. During the same period, references to keywords also more than doubled in the corporate governance section, the Officers Statement, and the Directors' Report.

Figure 1: Discussion of keywords in annual report sections 2006 to 2011-12



Environmental topics disclosed

All FTSE All-Share companies discussed environmental matters in their annual report and accounts, up from 89% in 2004 and 98% in 2006. The increase in discussion of environment-related subjects since 2009-10 indicates directors' growing awareness of environmental issues that are relevant to businesses at some level. We analysed discussion of keywords relating to the 25 environmental topics shown in Table 4.

Table 4: Environmental topics discussed by companies

Environmental topics	Percentage of companies			
	2004	2006	2009-10	2011-12
Sustainability/ CSR	26	57	45	**97**
Pollution	32	56	79	**80**
Waste management	76	82	89	**79**
Energy	28	48	57	**78**
Climate change	24	48	62	**70**
Environmental target	32	34	40	**69**
Compliance	18	41	55	**61**
Water	29	43	24	**43**
Environmental management system	30	33	61	**37**
Biodiversity/ land use	24	35	57	**34**
Environmental policy	38	37	38	**29**
Other environmental impacts	15	19	19	**23**
Sustainability/ CSR/ environmental reports	-	-	-	**18**
Environmental incident	1	7	3	**17**
Environmental procurement	10	23	33	**17**
Remediation	12	31	34	**16**
Environmental risk management	7	18	18	**14**
License to operate	2	6	1	**10**
Provisions and liabilities	7	8	9	**10**
Environmental impact assessment	3	5	8	**10**
External audit	6	6	6	**8**
Acid rain	0	3	2	**6**
Product	2	9	6	**5**
Environmental tax	0	0	1	**4**
Contaminated land	10	13	2	**1**

Sustainability/ CSR

The most popular environmental topic discussed was sustainability or corporate social responsibility (CSR) issues, up 71% since 2006, to 97% of companies in the FTSE All-Share in 2011-12. The European Commission's policy on CSR (2011) states that companies 'should have in place a process to integrate social, environmental, ethical and human rights concerns into their business operations and core strategy'.[36] Many FTSE-listed companies discuss environmental issues in passing in their annual reports, and refer to sustainability, CSR or environmental reports for more detail. 18% of companies referred to these reports for further information.

Environmental policies, management and impacts

Discussion of environmental policies fell from 37% in 2006, to 29% in 2011-12, following a decline since 2009-10. Environmental policies and EMSs are now embedded in many businesses and form part of expected good practice in governance and accountability. Reporting on environment management systems (EMS) increased 13% since 2006, but fell from 61% to 37% between 2009-10 and 2011-12.

The largest and most consistent trend in increased reporting occurred in references to pollution, environmental incidents, environmental targets and environmental taxes. On the whole, reporting on these topics increased from relatively low bases in 2006, with the exception of environmental targets. Discussion of targets for impacts such as water, energy, carbon emissions and waste increased steadily from 34% in 2006, to 40% in 2009-10 and 69% in 2011-12.

This is reflected in the fact that the second-highest level of environmental reporting was on pollution (80%),followed by three environmental impacts - waste management (79%), energy (78%) and climate change (70%). Discussion of pollution has increased by 42% since 2006. Pollution controls are currently being implemented or strengthened in many of the countries in which FTSE All-Share companies operate, including South Africa, the United States and China.

Fewer companies have reported on biodiversity/ land use, contaminated land and remediation. However, reporting on environmental impact assessments (EIAs) has doubled since 2006, to 10% of companies in 2011-12.

Environmental compliance and liabilities

61% of companies reported on compliance in 2011-12, up from 41% in 2006 and 55% in 2009-10. Reporting on environmental provisions and liabilities increased from 8% in 2006 to 10% in 2011-12. The largest liabilities for breaching environmental legislation were reported by Oil & Gas company BP Plc. As a result of the Deepwater Horizon oil spill in the Gulf of Mexico in 2010, BP's 2011 Annual Report and Form 20-F includes provisions for more than US$3.5 billion in penalties and with further liabilities for clean-up costs, litigation and civil compensation claims, total environmental expenditure amounted to US$4,596 million in 2011.[37]

10% of companies in the Index discussed their license to operate, reversing a decline from 6% in 2006 to 1% in 2009-10. Environmental legislation and regulatory frameworks in many countries in which FTSE All-Share companies operate enable authorities to revoke or refuse licenses for activities such as effluent discharge, reducing productivity or limiting expansion

---

[36] EUROPEAN COMMISSION. 2011. European policy on CSR. Last updated 18/12/12. Available online: http://ec.europa.eu/enterprise/policies/sustainable-business/corporate-social-responsibility/index_en.htm

[37] BRITISH PETROLEUM. 2011. Annual report and accounts and form 20-F 2011. Available online: http://www.bp.com/assets/bp_internet/globalbp/globalbp_uk_english/set_branch/STAGING/common_assets/bpin2011/downloads/BP_Annual_Report_and_Form_20F_2011.pdf

plans. Changes to licensing conditions, such as stricter criteria, can also affect business continuity.

However, discussion of environmental risk management across the Index has declined from 18% in 2006 and 2009-10 to 14% in 2011-12. This is a concern for investors who require strategic and comprehensive forward-looking information on risks and opportunities. Fewer companies reported on environmental products and procurement in 2011-12 than in previous years.

Climate change and energy use

Climate change is increasingly being perceived as material, as companies are compelled to reduce greenhouse gas emissions to contribute to stabilising the global atmospheric concentration of emissions. There is a growing awareness of the risks and opportunities inherent in the transition to a low-carbon economy. In 2011-12, there were severe floods and droughts in countries including the UK. This has alerted many companies to their exposure to the effects of climate change.

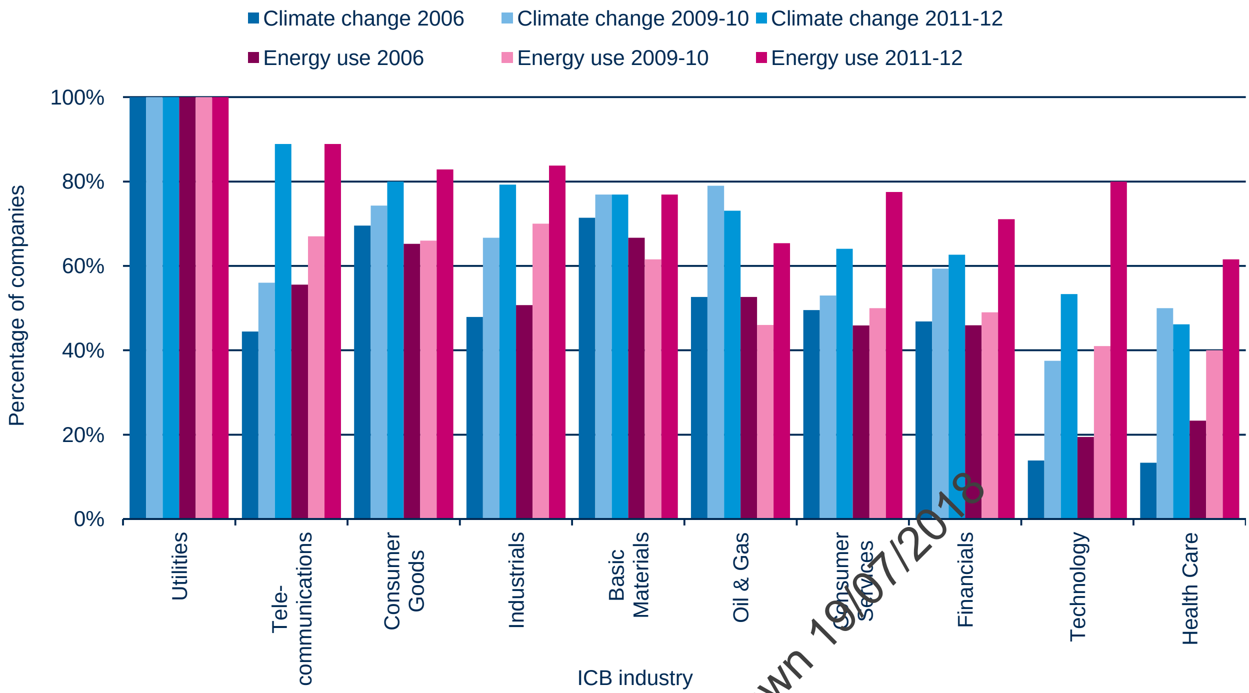
In 2011-12, 70% of companies discussed keywords relating to climate change in their annual reports and accounts, up from 48% in 2006 and 62% in 2009-10. In the same period, there was a steeper increase in the percentage of companies discussing energy use, up from 48% in 2006 to 78% in 2011-12.

Reporting on energy use is high across all sectors - 62% or more of the companies in each industry sector discussed it. The high level of discussion of energy use is likely to reflect high and volatile oil prices, which increases input costs in the operations and supply chains of many companies. For instance, British Airways Plc, owned by the International Airlines Group Plc, saw fuel costs increase by more than one-third between 2010 and 2011.[38]

All Utilities companies continue to discuss both climate change and energy use. This reflects the financial materiality of these issues to this sector. Of the other sectors shown in Figure 2, Telecommunications companies are the next most likely to discuss either climate change or energy use.

[38] BRITISH AIRWAYS. 2011. Annual report and accounts, year ended 31 December 2011. Available online: http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MTM1MjM0fENoaWxkSUQ9LTF8VHlwZT0z&t=1

Figure 2: Discussion of climate change and energy use by industry



Since the 2006 environmental reporting regime was introduced, the discussion of climate change and energy has increased most among Technology companies. References to climate-related keywords have more than quadrupled in the sector. Six of the 30 FTSE All-Share Technology companies referred to the keyword 'flood' in their annual reports and accounts in 2011-12. Eight referred to carbon dioxide or CO_2 emissions. The sector also had the sharpest increase in the number of companies discussing energy use, up from 19% in 2006 to 80% in 2011-12. The next biggest increases in levels of discussion of energy use were seen in the Health Care and Consumer Services sectors, which includes airlines. However, companies in the Health Care sector were the least likely to discuss climate change issues (46% in 2011-12). This is despite the inclusion of sustainability criteria in public sector procurement contracts in countries including the UK.

The third-highest level of discussion of climate change is among Consumer Goods companies. 80% now refer to climate change issues in their annual reports, up from 70% in 2006.

Water

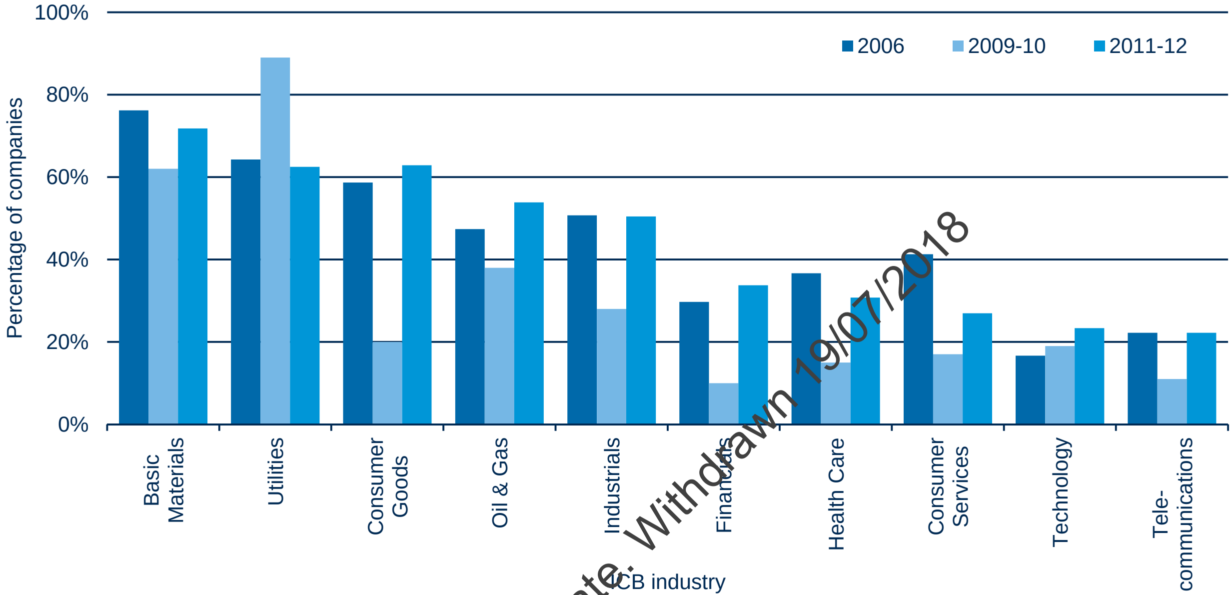
The drought and floods in England during 2011 and 2012 have increased the importance of water resource management. In July 2012, the government published a draft Water Bill that includes measures to strengthen the water industry's ability to address the challenges of growing demand and uncertainty about the security of supplies. The draft Bill takes forward legislative changes outlined in a Water White Paper.

The potential materiality of water issues in the UK and other regions that face growing water scarcity is reflected in an increase in the level of discussion of water in annual reports and accounts from 24% in 2009-10 to 43% in 2011-12.

Since 2006, discussions of water have increased the most (by 40%) in the Technology sector – up from 17% in 2006, when the government introduced its environmental reporting guidance, to 23% of companies in 2011-12. Seven of the 30 Technology company reports we analysed provided information on quantities of water used. Semiconductor manufacturing processes in the supply chains of many Technology companies are water intensive.

The next greatest increase in water references were among Oil & Gas companies, up from 47% in 2006 to 54% in 2011-12. This reversed a decline in the levels of discussion of water in the sector between 2006 and 2009-10. Oil and gas are increasingly being extracted from unconventional sources such as tar sands and shale. These processes are often water intensive and can release wastewater contaminated with hazardous chemicals.

Figure 3: Discussion of water by industry



Between 2006 and 2011-12, the level of discussion of water-related topics also increased in the Financials and Consumer Goods industries. During this period, water discussions in the Financial sector rose from 30% to 34% of companies. 63% of Consumer Goods companies discussed water in 2011-12, up from 59% in 2006. The Financials and Consumer Goods sectors also had the sharpest increases in levels of reporting on water between 2009-10 and 2011-12. Water references more than quadrupled in these sectors.

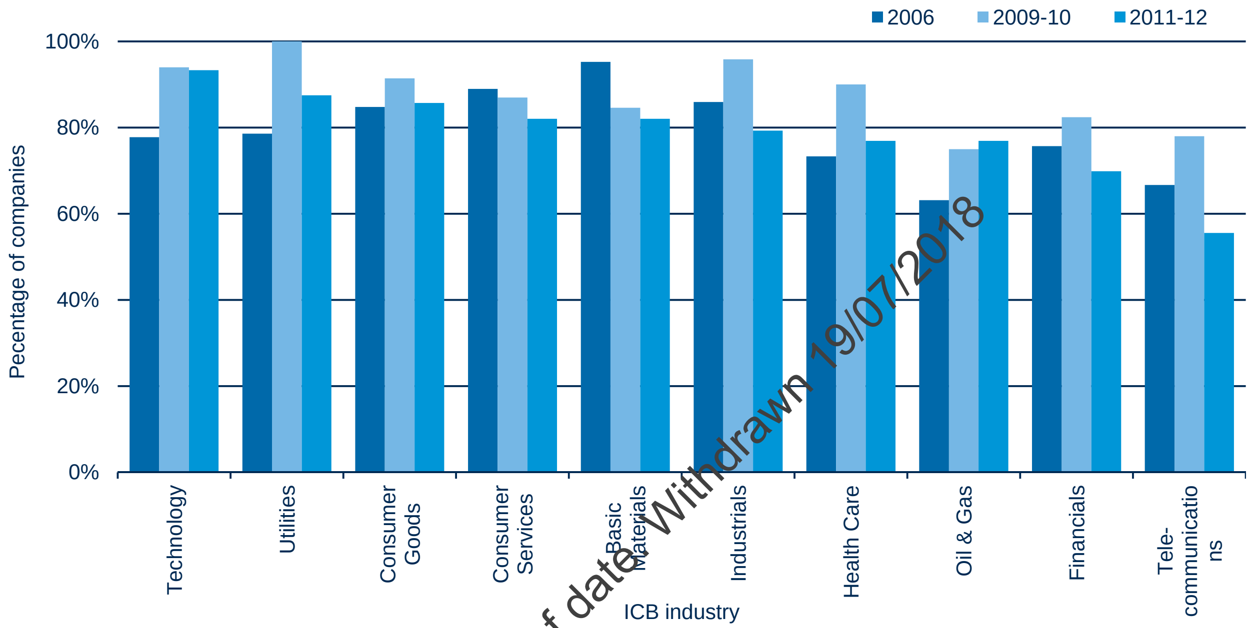
The levels of water references also doubled in the Telecommunications and Health Care industries, since 2009-10. Discussion of water increased across all sectors between 2009-10 and 2011-12, with the exception of Utilities. There has been a fall in water reporting among Consumer Services companies since 2006, when 41% of companies discussed the topic. However the level of discussion increased from 17% in 2009-10 to 27% in 2011-12.

Waste

It would be expected that the rising cost of waste management and the growing volatility in the price of commodities and raw materials over the past decade would make this an increasingly important topic for business. However, 79% of companies reported on waste management in 2011-12, an 11% decline since 2009-10 and a lower percentage than in 2006. Reporting on waste has declined since 2006 and 2009-10 in the Telecommunications, Industrials, Financials, Consumer Services and Basic Materials sectors.

Only in the Oil & Gas industry has discussion of waste-related keywords increased consistently between 2006 and 2009-10, and again to 2011-12. 77% of Oil & Gas companies now discuss waste in their annual reports and accounts. The sector has had the greatest increase in reporting levels on waste, up from 63% in 2006 to 77% in 2011-12. During this period, the level of waste discussions has also increased in the Utilities, Technology, Health Care and Consumer Goods sectors. However, in 2009-10, all Utilities discussed waste, whereas 88% did so in 2011-12. The Technology sector had the highest level of reporting on waste (93%) in 2011-12. More than half of the Technology companies we analysed discussed recycling, while seven discussed waste electrical and electronic equipment (WEEE) legislation.

Figure 4: Discussion of waste by industry



Levels of quantified disclosure

This section looks at how companies are quantifying their environmental impacts in their annual reports and accounts. Reporting in line with the governments' 2006 guidance has improved most significantly for GHG emissions, with 40% of companies now adhering to the voluntary guidance (up from 22% in 2009-10).

There are several reasons why it can be useful to look at discussions of environmental topics in annual reports and accounts. It is helpful for assessing a company's understanding of environmental risks and opportunities, its approach to identifying issues that could be material to its financial position, and its strategy to address these. However, investors need sector-wide, standardised disclosures if they are to compare a companys actual environmental performance with that of its peers, monitor progress against its targets and assess its exposure to the costs of reducing or compensating for impacts under policy measures – such as market-based instruments and the 'polluter pays' principle. Market interventions such as environmental taxation and cap-and-trade schemes aim to ensure investment decisions take account of the costs of impacts such as landfill waste and carbon dioxide emissions.[39] The Environmental Damage (Prevention and Remediation) Regulations 2009 make those responsible for environmental damage pay to prevent and remedy it, rather than the taxpayer.

Reporting has been categorised into the following groups:

- no quantification
- general quantification
- quantified disclosures that meet 2006 government guidelines
- quantified disclosures that meet 2009 government guidelines on carbon reporting

[39] DEFRA. 2007. Commission on environmental markets and economic performance. November 2007. Available online: http://archive.defra.gov.uk/environment/business/innovation/commission/documents/cemep-report.pdf

Table 5: Key trends in the disclosure of quantified environmental data in statutory annual reports and accounts

Percentage of FTSE All-Share companies reporting quantified figures on:	2004	2006	2009-10	2011-12
One or more of the three core environmental KPIs (GHG emissions, water and waste)	27	42	67	**70**
One or more of the three KPIs in accordance with 2006 government guidance	10	15	28	**49**
All three KPIs in accordance with 2006 government guidance	-	3	6	**9**
GHG emissions	-	29	62	**61**
GHG emissions in accordance with 2006 government guidance	-	12	22	**40**
GHG emissions in accordance with 2009 government guidance	-	-	-	**8**
Water	-	12	25	**26**
Water in accordance with 2006 government guidance	-	4	10	**15**
Waste	-	27	41	**44**
Waste in accordance with 2006 government guidance	-	8	12	**25**

Are companies following voluntary guidance to disclose quantitative data?

The quality of the environmental data disclosed by companies in the FTSE All-Share is improving rapidly. However, 30% of companies still did not quantify carbon dioxide emissions, water use or waste.

Almost half of FTSE All-Share companies (49%) now provide data in accordance with the governments' environmental reporting guidelines (2006) on at least one KPI – carbon dioxide emissions, water or waste. This is a sharp increase on the 28% figure in 2009-10 (see Figure 5). Reporting in line with the guidance has more than quadrupled since Defra introduced it in 2006. Then just 15% of companies disclosed absolute environmental impacts across global operations, as recommended. The trend towards more widespread disclosures suggest that more companies have systems in place to monitor environmental impacts adequately and that they consider the environmental performance of business activities to be relevant to their financial position.

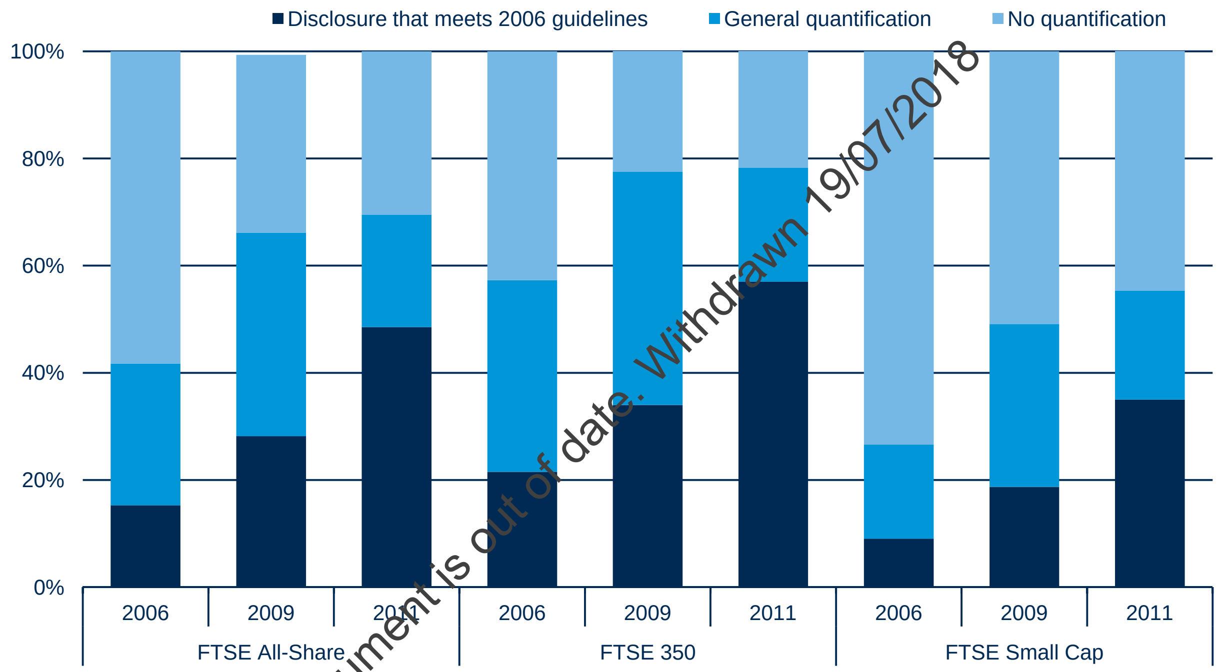
The increase in disclosures adhering to the guidance was accompanied by a fall in the percentage of companies reporting data from which it is possible to calculate the figures asked for by the guidance – classified as "quantification from which data can be derived". For instance, data on energy use can be converted to carbon dioxide emissions using Defra/ Decc's conversion factors.[40] This fall, from 12% in 2009-10 to 6% in 2011-12, was seen among the 294 FTSE 350 companies and the 149 FTSE Small Cap companies. Similarly, the share of FTSE All-Share companies providing general quantification, such as an intensity figure or percentage change in emissions rather than group-wide absolute impacts,

[40] DEFRA. 2012. 2012 greenhouse gas conversion factors for company reporting. Available online: http://www.defra.gov.uk/publications/2012/05/30/pb13773-2012-ghg-conversion/

fell from 27% in 2009-10 to 16% in 2011-12. In contrast, there was a small decline in the percentage of companies that do not quantify any data at all, from 33% to 30%. This followed a sharp fall in the level of non-disclosure between 2006 and 2009-10, and represents a slowdown in the decline in non-disclosure of environmental performance.

Findings suggest that once companies begin to collect environmental data, the quality of monitoring and reporting improves relatively rapidly. However, the overall level of disclosures of quantified data across the FTSE All-Share Index has increased more slowly. There is a growing gap between companies which lead the way on disclosure and companies that are not transparent. This could suggest a widening divergence in corporate environmental monitoring and performance, particularly among large cap companies.

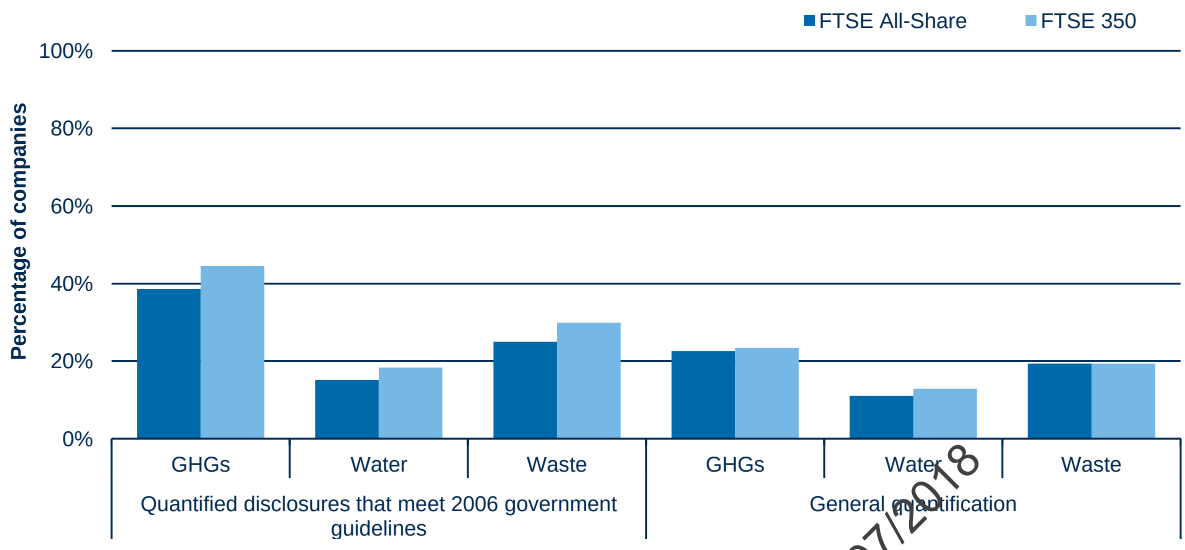
Figure 5: Quantitative reporting by companies of different sizes



FTSE Small Cap companies generally have lower turnover and smaller operations than those in the FTSE 350. We identified a sharp increase in the annual reports of FTSE Small Cap companies of reporting in line with government guidance, up from 19% in 2009-10 to 35% in 2011-12. However, 45% of Small Cap companies did not quantify any data in their annual reports and accounts, down from 51% in 2009-10.

For the first time, more than half of the FTSE 350 companies reported data in line with the recommendations - up from 33% in 2009-10 to 57% in 2011-12. However, 22% of FTSE 350 companies still did not quantify any environmental data in their annual reports and accounts, down slightly from 23% in 2009-10.

Figure 6: Disclosure of quantitative data by KPI, FTSE All-Share versus FTSE 350 – 2011-12



70% of FTSE All-Share companies reported general quantified data on at least one of the three core KPIs – GHG emissions, water and waste. This was a slight improvement on 67% in 2009-10. The level of FTSE All-Share disclosures that adhere to government guidelines on corporate environmental reporting (2006) increased for all three KPIs between 2009-10 and 2011-12.

Since 2006 there has been a steady increase in the level of FTSE All-Share disclosures on GHG emissions, water use and waste that are in line with government recommendations. In 2011-12, 9% of companies reported quantitatively on all three core KPIs in line with the 2006 guidance, up from 6% in 2009-10 and 3% in 2006.

Fewer FTSE All-Share companies provided data from which it is possible to calculate compliant figures for the three core KPIs. 2% of companies provided data that could be used to estimate water use, and 2% did this for waste. 6% of companies provided some data, such as quantities of fuel use, which could be used to calculate GHG emissions quantities (using Defra's emissions factors). General quantification was highest for waste (18%), followed by GHG emissions (15%) and water (9%).

Greenhouse gas emissions

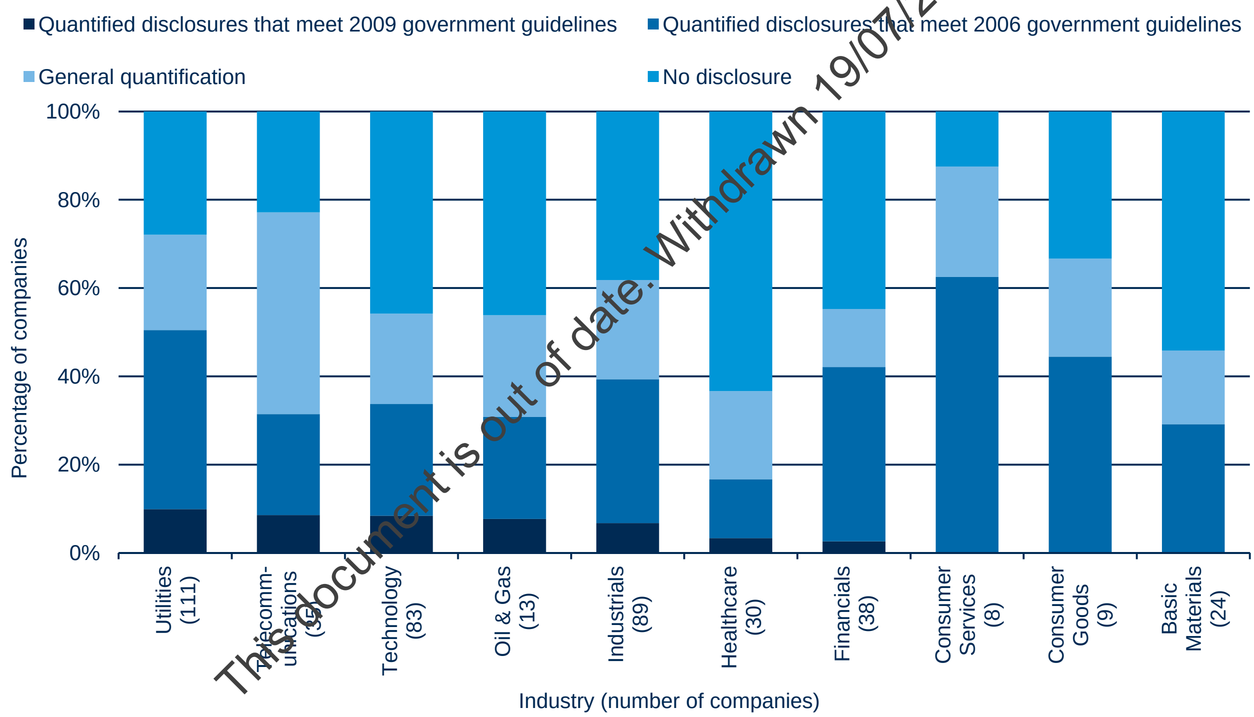
In 2011-12, the highest level of compliant disclosure was for GHG emissions (40%). This was a marked increase from 2009-10, when 22% of companies reported absolute quantified data for total emissions, without necessarily defining the scope of emissions. The level of compliant disclosures has almost quadrupled since 2006, when Defra introduced the guidelines.

8% of companies provided quantitative figures on carbon emissions broken down by source. This breakdown meets the governments' carbon reporting guidance published in 2009. This recommends that companies report separately on emissions from operations (Scope 1) and from purchased electricity (Scope 2 – see page 9). Overall, 61% of companies quantified GHG emissions in some way, such as providing carbon intensity figures. This indicates that a majority of companies collect data and have systems and processes in place to measure and report emissions from operations. Among FTSE 350 companies, the general quantification of GHG emissions almost halved between 2009-10 and 2011-12 – to 17% Levels of carbon disclosure in line with the governments' 2006 guidance increased to 46%.

Companies that measure emissions are better positioned to manage carbon, set targets to reduce emissions and report on progress. Data on emissions from operations and electricity use can inform investment decision-making and help identify risks and opportunities during the transition to a low-carbon economy. Investors can incorporate more standardised carbon data into financial analysis of exposure to carbon costs. Carbon data can help institutional investors, as major shareowners and bondholders, to identify low-carbon companies within sectors.

Levels of carbon disclosures vary by industry, as shown in Figure 8. The level of disclosure on GHG emissions against the governments' 2009 carbon reporting guidelines was highest (10%) among the 111 companies in the Industrials sector. The Consumer Goods, Financials and Health Care sectors had the next highest levels (between 7% and 9% of companies).

Figure 7: Percentage of companies in each industry disclosing GHG emissions



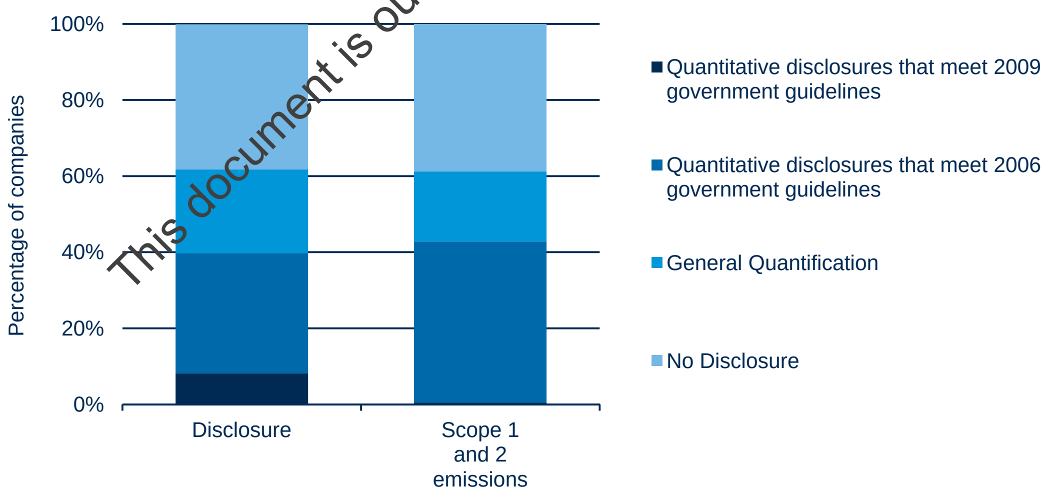
The highest levels of disclosure in line with the governments 2006 guidelines were made by Utilities companies (75%). None of the eight power companies analysed disclosed data in line with the 2009 carbon reporting guidance because they do not provide figures on Scope 1 and 2 emissions. This is likely to reflect the fact that 98% of GHG emissions in this sector are from operations, which are therefore more material than emissions from purchased electricity. However, some power companies, such as International Power Plc, purchase electricity from the grid or independent power generators and resell it to end-consumers through a transmission and distribution (T&D) system. A share of this electricity is lost during its transmission and distribution. According to the GHG Protocol corporate accounting standard (2006), emissions from this electricity should be reported in Scope 2 by the company that owns or controls the T&D operation.[41]

Carbon reporting versus emissions levels

We assessed the quality of carbon reporting against the levels of Scope 1 and 2 greenhouse gases emitted by the companies. Combined Scope 1 and 2 emissions totalled over 700 million tonnes of CO_2e across the index in the latest year for which data was available. This is almost 30% higher than the estimated UK carbon emissions in 2011 (549.3 million tonnes of CO_2e).[42] FTSE All-Share companies therefore emit the bulk of their GHGs elsewhere. Carbon-intensive companies in the Index could make a significant contribution to reducing emissions.

The 32% of FTSE All-Share companies disclosed data in line with the 2006 guidelines emitted 42% of Scope 1 and 2 emissions across the FTSE All-Share Index (Figure 8). 8% of companies disclosed their emissions in line with 2009 government guidelines, yet their emissions only accounted for 0.5% of total FTSE emissions. 38% do not disclose their GHG emissions in their annual report and accounts. Their emissions account for 39% of total emissions from companies listed on the FTSE All-Share. Where companies do not measure or disclose environmental performance data, data on quantities of emissions are estimated based on the average emissions for sectors and share of revenues generated by companies in these industries. While the disclosure analysis and carbon data may cover different reporting periods, this indicates that the 61% of companies disclosing data are responsible for the majority of emissions in the Index.

Figure 8: Percentage of FTSE All-Share companies disclosing GHG emissions versus percentage of Scope 1 and 2 emissions disclosed by the FTSE All-Share



[41] GHG PROTOCOL. 2004. A corporate accounting and reporting standard. March 2004. Available online: http://www.ghgprotocol.org/files/ghgp/public/ghg-protocol-revised.pdf

[42] DEPATMENT FOR ENERGY AND CLIMATE CHANGE. 2011. Statistical release: 2011 UK greenhouse gas emissions, final figures by fuel type and end-user. Available online: http://www.decc.gov.uk/assets/decc/11/stats/climate-change/4817-2011-uk-greenhouse-gas-emissions-provisional-figur.pdf

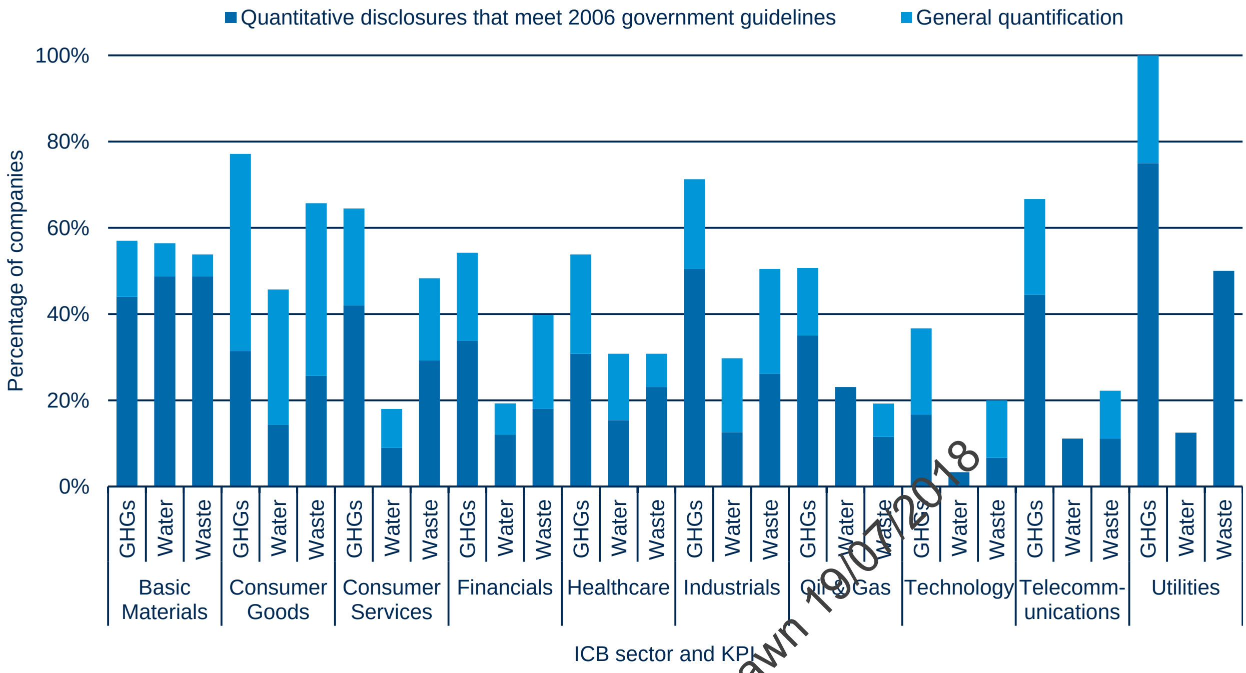
Water use and waste

Reporting on water use in line with the 2006 guidance increased to 15%, up from 10% in 2009-10. The level of disclosures on cubic metres of water abstracted annually has more than tripled since 2006 up from 4%. It is important to distinguish between the quantities of water abstracted and the amounts of purchased from Utilities companies. Companies should also discuss whether water has been re-used or returned to source. For instance, many Utilities companies use cooling water to remove waste heat from power stations, and return much of the water to watercourses. In the majority of cases, supplied water use is more significant than direct water use. For this reason, a company's exposure to changes in abstraction licence conditions may be largely indirect (changes to abstraction licence conditions may mean that the licence holder has to reduce or stop taking water once a river has dropped to a certain level or flow).

Waste impacts saw the sharpest increase in disclosures in accordance with Defra's 2006 guidance, from 12% in 2009-10 to 25% in 2011-12. Since 2006, the percentage of companies providing data on waste in absolute tonnes has more than tripled from 8%. This may reflect a greater awareness of waste management liabilities and of the opportunities to improve resource efficiency to reduce costs. Among FTSE 350 companies, waste disclosures in line with the 2006 guidance have increased from 11% in 2006 to 30% in 2011-12.

Figure 9 (page 32) shows the levels of disclosure on carbon, water and waste in each sector. Levels of quantitative reporting in line with the governments' 2006 guidelines on water and waste were lowest among Technology companies (3% and 7% respectively). This was despite the increase in their qualitative discussion of these topics (see pages 27 and 35). Disclosures in line with the guidance on water were highest in the Basic Materials (49%) and Oil & Gas (23%) industries. Adherence to the guidance on waste was highest among Utilities (50%) and Basic Materials (49%) companies.

Figure 9: Percentage of companies disclosing quantitatively carbon, water and waste by industry



Industrials

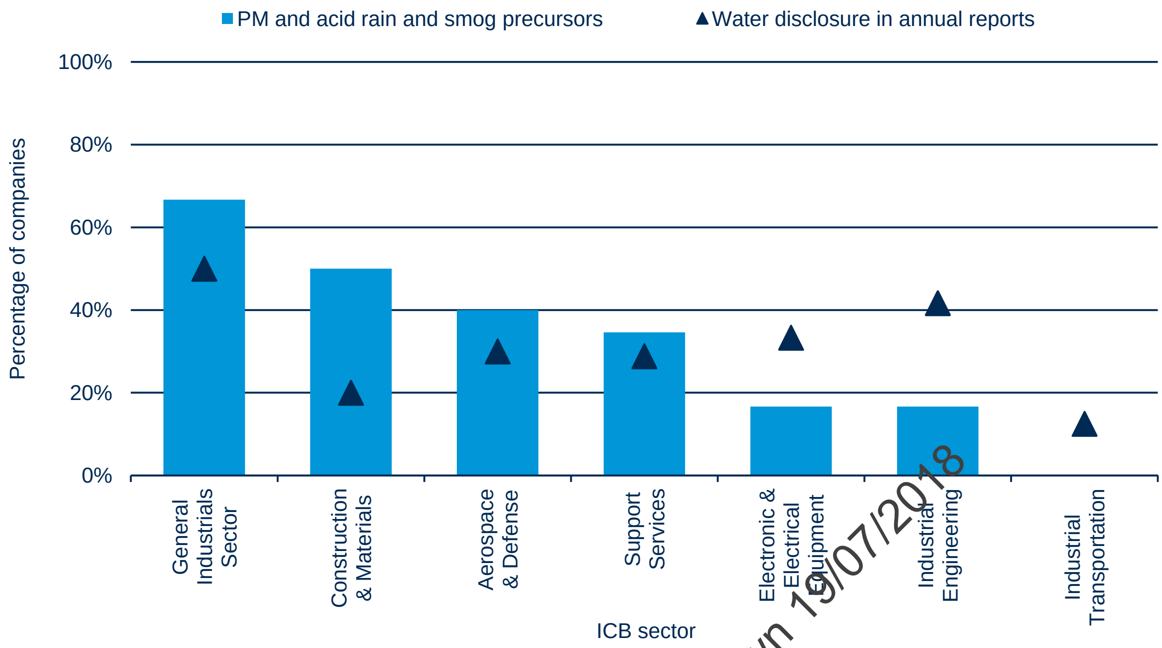
Air pollutants are a material environmental impact to many Industrials companies. Defra's 2006 guidance recommends that manufacturing and construction companies report on emissions of air pollutants such as particulate matter (PM), nitrogen oxides (NO_x) and sulphur dioxide (SO_2). The most damaging health effects are from particles emitted from vehicle exhausts and chimneys, or formed in the air from reactions between other pollutants.[43] Emissions of NO_x and SO_2 can be deposited on land and water, causing acidification that can damage crops. The emissions limits for these pollutants are being strengthened in order to reduce damage to human health and ecosystems.

We looked at corporate communications for sectors under the ICB Industrials heading and identified the levels of disclosure that were in line with the 2006 guidance on PM, acid rain and smog precursors. Figure 10 shows the percentage of companies across seven sectors that disclosed data either in annual reports, in environmental or sustainability reports, on company websites or to the Carbon Disclosure Project.[44]

[43] DEFRA. 2011. Sources and impacts of air pollution. 14 February 2011. Available online: http://www.defra.gov.uk/environment/quality/air/air-quality/impacts/

[44] Excluding one Household Goods company that did not disclose air pollution or water data in its annual report and accounts.

Figure 10: Industrial company's quantitative disclosure on acid rain, smog precursors and water use



The highest levels of disclosure for air pollutants, or data such as fuel use, that could be derived to calculate emissions, were among six General Industrials companies (67%), 10 Construction & Materials companies (50%) and 10 Aerospace and Defence companies (40%). This may reflect their exposure to growing markets for environmental products and services, as well as to the criteria on environmental management used in public sector procurement. Three of the General Industrials companies that disclosed fuel use or air pollution data – Cookson Group Plc, British Polythene Industries Plc and DS Smith Plc – supply materials or services to industries that use clean technology and/ or supply recycled materials. The customers of the fourth company, Smiths Group Plc, include governments and their agencies. Many of the Construction & Materials and Aerospace & Defence companies in the FTSE All-Share also tender for government-funded infrastructure projects.

50% of General Industrials and 42% of Industrial Engineering companies disclosed data on water use in their annual reports and accounts. Many of the Industrial Engineering companies supply high-impact power and extractive industries. They operate in parts of the world that face growing water scarcity, such as the southern United States and south-east Asia.

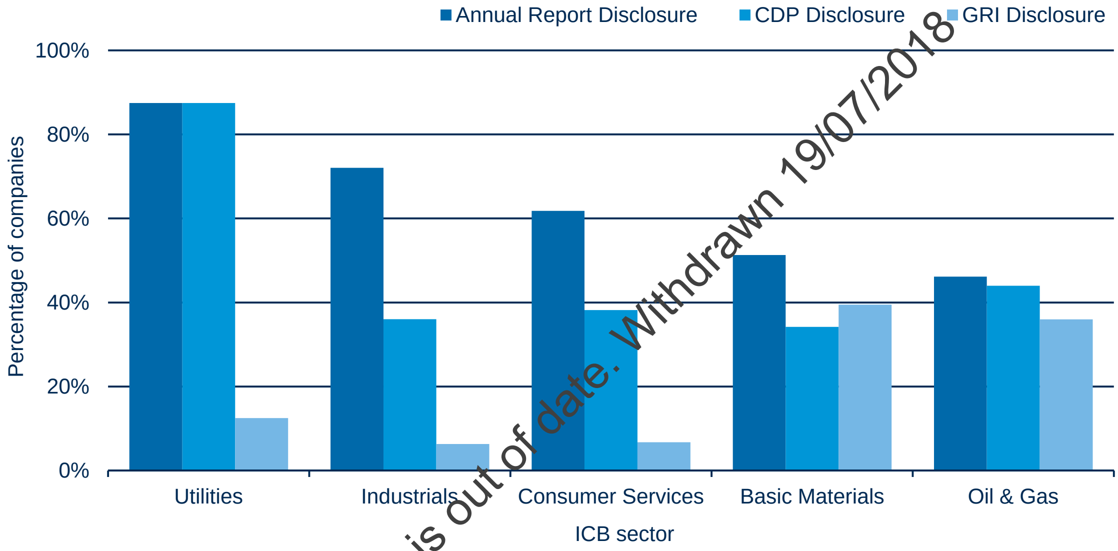
Reporting under other voluntary initiatives

This section compares levels of public disclosure on carbon and water data in annual reports with the levels disclosed to two key international voluntary reporting initiatives – the Carbon Disclosure Project (CDP) and the Global Reporting Initative (GRI). The voluntary reporting schemes covered are the CDP climate change questionnaire, CDP water questionnaire and environment, sustainability or corporate responsibility reports submitted to the Global Reporting Initiative (GRI). Disclosures were analysed in five carbon-intensive and five water-intensive ICB industries. Quantitative carbon disclosures made in CDP responses were compared against GRI G.3.1 Guidelines on the core indicator for total direct and indirect greenhouse gas emissions by weight (EN16).

88% of Utilities companies disclosed carbon data in both their annual reports and to the CDP and allowed this information to be made public; while 13% disclosed carbon data against the GRI's guidance on EN16 (see Figure 12). In the other four carbon-intensive sectors, the majority of carbon disclosures were in annual reports. This suggests that the Business Review requirements on environmental reporting and governments' 2006 guidance have contributed to carbon-intensive companies, for which emissions are more likely to be material, providing information to investors.

Companies disclosed carbon data more frequently in CDP responses than in sustainability reports using the GRI's EN16 guidance in the Consumer Services, Industrials and Oil & Gas sectors. Many companies do disclose data in their sustainability, environmental or corporate responsibility reports, but do not state that the GRI's criteria for the EN16 indicator are met.[45]

Figure 11: Distribution of carbon disclosures

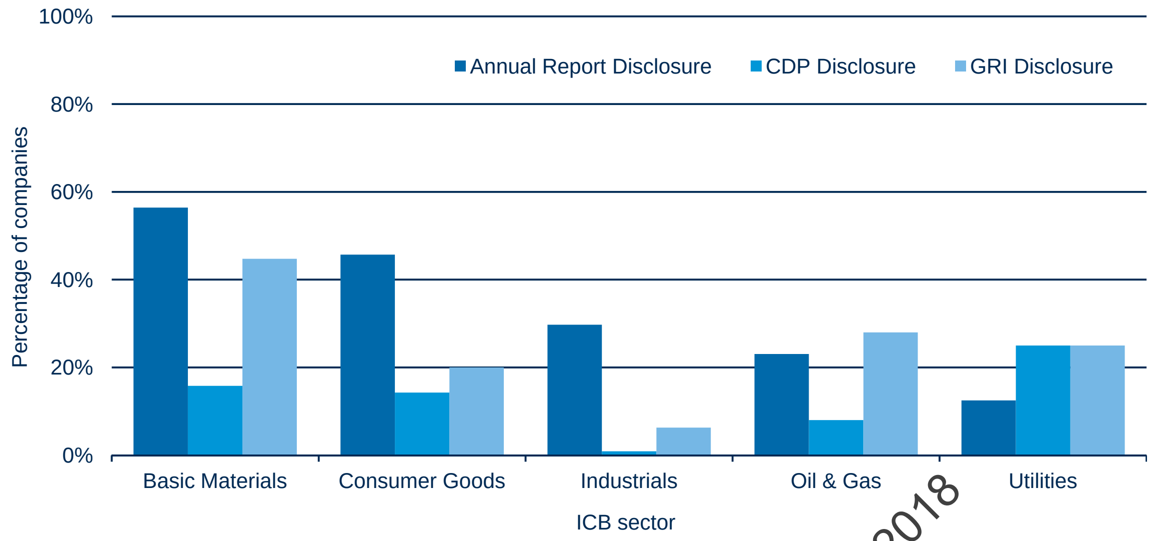


The water intensity of FTSE All-Share companies was measured as cubic metres of directly abstracted and purchased water relative to revenue. The Basic Materials, Industrials, Oil & Gas and Utilities industries are the most water-intensive Industries in the Index, along with consumer goods. As shown in Figure 11, the Basic Materials, Consumer Goods and Industrials sectors mainly disclosed water data in their Annual Reports. The Basic Materials sector includes mining companies that operate in areas of water scarcity. Mining companies require access to water resources during extraction and processing, and loss of water rights can affect their ability to operate or expand production. Water can also be material to the Food & Beverage supersector in the Consumer Goods industry, which is vulnerable to price increases through crop failure in supply chains..[46]

[45] The quality and consistency of data provided to the CDP and reported against the GRI's guidance were not analysed as part of the disclosure analysis. For some companies, the latest information provided to the CDP or against GRI disclosures cover different periods to the Annual Reports analysed.

[46] RAPPEPORT, A. 2012. Food industry warns drought will hit prices. Financial Times. 19 August 2012. Available online: http://www.ft.com/cms/s/0/c0c2b000-e7ba-11e1-8686-00144feab49a.html

Figure 12: Distribution of water disclosures



In the Basic Materials, Consumer Goods and Industrials industries, companies were more likely to report water data against the GRI's EN8 guidance than to the CDP. The Oil & Gas sector predominantly provided water data against the GRI indicator (total water withdrawal by source – EN8). 25% of Utilities companies provided quantified figures on water use in their CDP Water Disclosure questionnaire responses as well as against the GRI guidance. Thermoelectric power is highly dependent on water resources, mainly for cooling systems. Water shortages can disrupt power supplies, contributing to higher electricity tariffs. Infrastructure that locks in high levels of resource dependence and pollutants could face higher-than-forecast costs, lowering future cash flows and returns on investment.[47]

High disclosure levels in response to voluntary initiatives can help raise the bar on corporate transparency, improve data monitoring and accountability, and support the development of minimum standards for all companies to report environmental data.

Dual-listed companies

The study reviewed the environmental disclosures of the 12 FTSE All-Share companies that were also listed on stock exchanges in other jurisdictions - the United States, Australia, South Africa and other EU member states. Five out of the seven companies also listed in the U.S. published additional annual reports to comply local reporting rules. These were Rio Tinto Plc, BHP Billiton Plc, Carnival Plc, Vodafone Group Plc and Unilever Plc. They also released annual filings (the 20-F report) to the U.S. Security and Exchange Commission (SEC). Some environmental disclosures were the same in both sets of reports; others were more comprehensive under either the EU or U.S. reporting rules.

BHP Billiton's annual report and 20-F report for 2011 provided information on greenhouse gas (GHG) reductions and targets, rather than data on group-wide, global absolute GHG emissions. The reports also discussed profit risk from carbon-intensive assets under regulations to control GHG emissione, and highlight risks from changes in rainfall patterns due to the effects of climate change.

[47] STANDARD AND POOR. 2012. Credit FAQ: How Water Shortages in Eastern England Could Increase Costs for UK-based Utilities (Video). 7 March 2012. Available online: http://video.standardandpoors.com/?video=4cwBLTX8ehSrXq9yeHBSZ5fzTD

Unilever disclosed data on water intensity and carbon intensity, measured per tonne of production in its annual report, but did not disclose this in its 20-F filling to the SEC. Rio Tinto disclosed its absolute GHG emissions and carbon intensity, measured as emissions per unit of commodity production in both its annual report and its 20-F SEC filing for 2011. Both reports provided information on the risks from climate change regulations in terms of rising costs for energy, transport and production. 85% of Rio Tinto's operations are covered by 'existing or legislated carbon pricing legislation'. Rio Tinto only provided quantitative data on its use of freshwater and its land footprint in its annual report.

Both Carnival Plc and Vodafone Group disclosed some information on GHG emissions in their annual reports. These reports are subject to EU environmental disclosure rules. Only Carnival Plc, a global cruise company, reported this information in its SEC filing. Its annual report stated that it was on track to reduce carbon dioxide emissions from its ships by 20%. Although the level of annual GHG emissions was not reported, the data provided on fuel consumption can be used to estimate emissions using Defra's emissions factors. Carnival's 10-K report for 2011 provided additional information on the emissions of other air pollutants that are regulated under international marine environmental regulations (MARPOL), as well as on exposure to climate change legislation. Carnival reported that it expects that the costs of complying with international rules for future new ships to establish Ship Energy Efficiency Management Plans will not be material. However, its 10-K report highlighted potential risks to profitability from other regulatory initiatives on climate change and wider environmental issues. These could contribute to further increases in fuel costs and other commodity price rises. This issue was not disclosed in its annual report under the Companies Act 2006.

Regulatory powers differ between exchanges. The SEC requires U.S. listed companies to disclose material environmental issues. Non-financial information, such as GHG emissions data, can be disclosed in the Management's Discussion and Analysis of the historical and prospective financial conditions and results of operations.[48] The London Stock Exchange (LSE) no longer sets listing rules, this is done by the Financial Services Authority (FSA), however, none of its Listing Rules, Prospectus Rules or Disclosure and Transparency Rules explicitly address environmental reporting.[49] It may be possible for the FSA to strengthen its reporting requirements included within listings rules, in order to improve the quality and relevance of the information on future environmental risks which is provided to investors.

[48] SECURITIES AND EXCHANGE COMMISSIONS. Commission guidance regarding disclosure related to climate change. Available online: http://www.sec.gov/rules/interp/2010/33-9106.pdf

[49] ASSOCIATION FOR SUSTAINABLE AND RESPONSIBLE INVESTMENT IN ASIA (ASIRA). 2012. Stock exchanges support corporate sustainability reporting. 27 March 2012. Available online: http://www.asria.org/news/press/1332908374

Examples of current practice

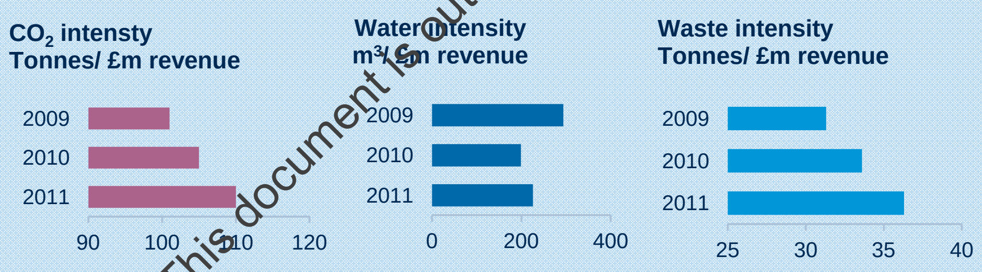
We highlight current examples of reporting across the three core topics: climate change and energy use, waste and water. These include examples of best practice by FTSE All share companies, as well as commentary on how companies could improve their disclosure levels and provide investors and other stakeholders with the environmental performance data they need.

Climate change and energy use

We looked at examples of reporting by three companies in the Consumer Goods sector:

AGA Rangemaster Group PLC, annual report and accounts 2011

'The group's CO_2 emissions intensity over the two years 2009-11 was up 9% to 110 tonnes per £million revenue. Thus we did not achieve our target of a 5% reduction over the two year period 2009-11. The increased intensity reflected lower revenue, particularly in the second half of 2011 and was in part due to the increased energy used as stock increased. In addition, our retail and production sites used additional energy for space heating during the winter of 2010-11 compared with 2009-10. Total 2011 CO2 emissions due to energy use and in-house transport were some 27,500 tonnes, up from 27,300 tonnes in 2010 and 24,700 in 2009.'



AGA Rangemaster Group provide kitchen appliances and interior furnishing.[50] The company openly discussed its difficulties in achieving its carbon intensity target. It also disclosed the method used to calculate its carbon intensity, as will be required under the proposed carbon reporting rules. Data on total absolute emissions data are reported but appears to cover a limited range of business activities. AGA Rangemaster could include company-wide figures for Scope 1 emissions (from operations that are owned), as well as data on emissions from electricity use (Scope 2).

---

[50] AGA RANGEMASTER GROUP PLC. 2011. Annual report and accounts 2011. Available online: http://www.agarangemaster.com/media/184627/2011_annual_repandacc.pdf

Premier Foods PLC, annual report and accounts 2011

'Environmental programmes

We will continue to build on our strong track record of environmental improvement and ethical sourcing.

In 2011 we made good progress against all of our environmental targets details of which are set out in the table below. To build on this further, in 2012, we launched our 'Green Matters' programme with an aim to create a Group-wide culture of environmental improvement and to embed 'green' as a long-term strategic priority.'

	Absolute volume		***Target reduction***		***Reduction achieved***
	2010	***2011***	***2011***	***2012***	***2011***
Energy usage (gigawatts)	*1,586*	*1,322*	*-3%*	*-3%*	*-17%*
Carbon emissions (tonnes)	*448,567*	*369,536*	*-4%*	*-4%*	*-18%*
Water usage (megalitres)	*5,320*	*3,717*	*-3%*	*-5%*	*-30%*
Waste to landfill (tonnes)	*10,246*	*6,877*	*-10%*	*-20%*	*-33%*
Transport miles (miles)	*66,784*	*58,269*	*-3%*	*-5%*	*-13%*

Premier Foods Plc disclosed absolute emissions in 2011 against a 2010 baseline.[51] The food producer clearly demonstrated progress against its emissions reduction target. Premier Foods should improve their reporting by providing data on its total carbon footprint, reporting separately on Scope 1 and 2 emissions. It should also indicate the emissions intensity of Scope 1 and 2 emissions relative to a normalising factor such as revenue or production.

[51] PREMIER FOODS PLC. 2011. Annual report and accounts 2011. Available online: http://annualreport2011.premierfoods.co.uk/site-essentials/downloads/download-annual-report-[pdf-46mb]

Imperial Tobacco PLC, annual report and accounts 2011

'We use the GHG Protocol and UK DEFRA guidelines to inform our reporting; elimination of the external reporting factors shows that CO_2 emissions from our energy use generally achieves a similar 10 year reduction to our energy use.'

		2009	2010	2011
Energy consumption	Tobacco factories (kWh/MCE*)	2,039	1,938	1,962
	Manufacturing sites and main offices (gWh)	862	855	856
CO_2e emissions	Tobacco factories (Tonnes/MCE*)	0.486	0.607	0.616
	Manufacturing sites and main offices (Tonnes)	254,965	265,978	267,095

*(*MCE= million cigarette equivalents)*

Imperial Tobacco Group Plc published partial data on energy use and GHG emissions.[52] The company report emissions on an intensity basis per million cigarette equivalents, but should also report on an absolute basis. They should also report total tonnes of CO_2e emissions from all Scope 1 sources in global, group-wide operations, including international logistics. The latest carbon data provided is for 2010, which is not aligned with the reporting period covered by the company's 2011 accounts. Imperial Tobacco.

[52] IMPERIAL TOBACCO GROUP PLC. 2011. Annual report and accounts 2011. Available online: http://files.the-group.net/library/itg/annualreport2011/pdfs/ITGAR11_FullReport.pdf

Water

We looked at examples of reporting by three companies in the Consumer Goods, Oil & Gas, and Consumer Services sectors.

Wolesely, annual report and accounts 2011

‘The majority of the Group’s water consumption is related to normal operational and sanitary use. Although water consumption is not as material a factor in our operations as it would be for a manufacturer, we have continued to measure water consumption throughout the Group in an effort to improve our water efficiency. The Group’s water is almost exclusively supplied by local utility providers. This year, our overall water use decreased by 17 per cent. This reflects a number of factors, including a reduction in the number of properties across the Group to which water is supplied and restructuring of individual businesses within the scope of our reporting, which have led to lower volumes of water being consumed.’

	2009	2010	2011*
Water consumption (m^3)	984,102	1,001,515	831,038
Average water consumption per employee (m^3)	19.4	21.2	18.5

*(*80% of the 2011 figure is based on estimated or partly estimated data. This compares to 89% for 2010)*

Wolseley Plc distribute plumbing and heating products and supplies building materials.[53] The company reported quantities of water use in cubic metres as well as providing a water intensity figure, as recommended. It explained the role of water within its operations and that all water used is supplied rather than abstracted.

The company identified water as not being financially material to the business, yet the majority of the company's revenue is generated in the U.S., which experienced record drought in most states during 2012. Furthermore, Wolseley’s waterworks business in the U.S. distributes pipes, valves, hydrants, fittings and meters to residential, commercial and municipal contractors, and in 2010, the group acquired a supplier of water and waste water products in the U.S., Summit Pipe and Supply, Inc.

The majority of Wolseleys data was estimated (83%). If Wolseley used the water meters that it supplies in its own operations and collected water bills, it would be able to accurately assess its water consumption and water efficiency in locations across the world. In addition, Wolseley could discuss water issues both in the context of manufacturing in its supply chain and in terms of its strategic positioning for market opportunities for water-efficient products.

[53] WOLSELEY PLC. 2011. Annual report and accounts 2011. Available online: http://www.wolseley.com/files/pdf/reports/annualreport/WOS-AR-2011.pdf

BG Group, annual report and accounts 2011

'In 2011, following an independent review of water issues across its businesses, BG Group confirmed its strategic goal of achieving excellence in water management. To deliver this, the Group developed and began to implement a water management plan.

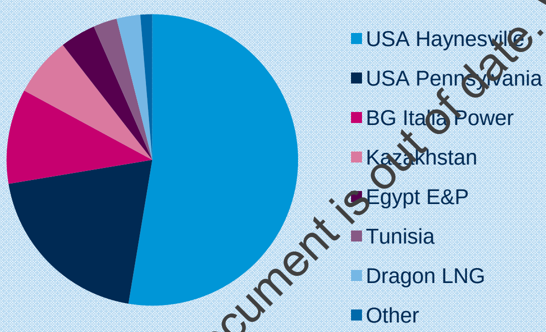
During the year, the Group focused in particular on Queensland, Australia and the USA, where the Group has unconventional gas operations which use and/or produce large volumes of water. BG Group is evaluating solutions to minimise its use of fresh water and to manage responsibly the water it produces.

In Egypt, the Group started work to determine the best method to deal with large quantities of water produced offshore. In Trinidad, where water is also produced offshore, the Group is working with the upstream operators' association and the regulator to develop appropriate regulation.

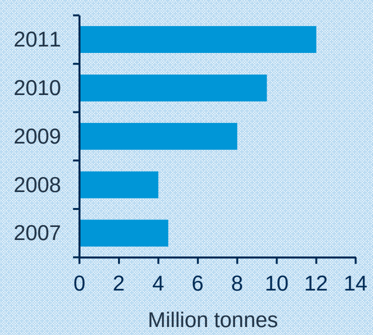
In February 2012, the Group's business in Trinidad and Tobago won an award for its work to help a local environmental services contractor, who treats and manages produced water from the Group's operations, to bring operations in line with best industry practice.

Among other actions during the year, the Group appointed a Water Strategy Manager, set up a water working group and updated its reporting requirements to provide more detail on water withdrawal and disposal.'

Amounts of freshwater withdrawn



Water disposal



BG Group Plc explained how it is strengthening its water management capabilities.[54] It provided figures on the quantities of water disposed of over a five-year period, along with a geographical breakdown of freshwater withdrawals. As an Oil and Gas company, BG Group should disclose quantities of water supplied, abstracted and discharged in cubic metres, as well as indicate the quality of waste water discharges.

[54] BG GROUP PLC. 2011. Annual report and account 2011. Available online: http://www.bg-group.com/InvestorRelations/Reports/ara2011/Documents/1.%20Annual%20Report%20and%20Accounts%202011/bg_ar2011_annual_report.pdf

Green King PLC, annual report and accounts 2012

'We have also continued to improve our environmental performance in other areas. Improved efficiencies in our Brewing & Brands division have led to a reduction in the average amount of water required to produce our beer, from 4.32 barrels of water per barrel of beer last year to 3.85 barrels this year.

Environmental priorities for this year were:

- *A reduction in water usage in our existing estate of breweries, offices and managed houses on a like-for-like basis with a target this year of installing meters across our managed houses and setting reduction targets.*
- *Water usage has fallen by around 3% during the last year, despite an increase in the number of managed houses. The installation of water meters in our Retail division has begun and 73 sites now have them installed. Work to install the remainder will continue, provided that the water companies agree, as early indications from sites where meters have been installed suggest that considerable saving can be made if leaks or high usage sites can be identified and issues addressed.'*

Environmental data	Units	2010/11	2011/12	Difference	% change
Natural gas	mWh	210,094	197,333	-12,761	-6.1
Other fossil fuels	mWh	30,472	24,920	-5,552	-18.2
Electricity	mWh	171,877	178,174	+6,327	+3.7
Energy for operations	mWh	412,443	400,427	-11,986	-2.9
Vehicles	mWh	29,219	31,099	+1,880	+6.4
Total energy (vehicles and operations)	mWh	441,662	431,526	-10,106	-2.3
Total CO_2 emissions	tonnes	146,036	143,389	-2,647	-1.8
Water consumption	m^3	2,126,919	2,049,826	-77,093	-3.6

Green King PLCs disclosed absolute data on water consumption in cubic metres for the latest reporting period, as well as data for the previous year.[55] This is in line with recommendations in the governments' 2006 environmental reporting guidance. The UK-based pub retailer and brewer disclosed clearly the percentage change in water consumption. Greene King monitors the water intensity of production, which meant it was able to identify improvements in water efficiency by product and site. The company expects that installing water meters across sites will help to reduce water leakage. Company-wide water metering will support the introduction of water-reduction targets and enable performance monitoring against these targets.

[55] GREEN KING PLC. 2012. Annual report 2012. Available online: http://www.greenekingreports.com/ar12/public_html/media/pdf/GreeneKing_AR2011-12.pdf

Waste

We looked at examples of reporting by three companies in the Industrials sector. This includes the Construction & Materials and Industrial Goods & Services ICB super-sectors.

> ***Henry Boot PLC, annual report and accounts 2011***
>
> *'2011 was another year of progress in reducing waste. We operate on the basis of avoiding the generation of waste in the first instance, followed by a policy of re-use where practical; in doing so we have achieved a recycling rate of 93% (2010: 92%).'*

Property and construction company Henry Boot Plc disclosed its recycling rate in its annual report and account.[56] It should also disclose quantitative data on the absolute levels of waste generated year on year.

[56] HENERY BOOT PLC. 2011. Annual report and financial statement 2011. Available online: http://www.henryboot.co.uk/pdf/2011/annual-report-2011.pdf

Meggitt PLC, annual report and accounts 2011

		2011	2010	Change
Electricity	*gWh*	*156*	*148*	*-6%*
	mWh per £m	*123*	*131*	
Natural gas	*gWh*	*187*	*191*	*-12%*
	mWh per £m	*148*	*168*	
Carbon dioxide	*tonnes*	*116,398*	*112,941*	*-8%*
	tonnes per £m	*92*	*99.6*	
Waste	*tonnes*	*8,406*	*7,303*	*3%*
	tonnes per £m	*6.65*	*6.44*	
Water	*m3*	*644,018*	*631,508*	*-9%*
	m3 per £m	*508*	*557*	

Figures above exclude Pacific Scientific.
Metrics per £m are calculated using revenue converted at constant foreign exchange rates.
Carbon dioxide calculated above is given in tonnes at 2011 rates.

Meggitt Plc is an Industrial Goods & Services firm.[57] It reported on the levels of waste generated in tonnes in both 2010 and 2011. This was in line with the recommendations in Defra's 2006 environmental reporting guidance. Construction companies should also disclose waste by type, including construction and demolition waste. They should also monitor the quantities of waste disposed of using different waste management methods, including recycling, landfill and incineration.

[57] MEGGITT PLC. 2011. Annual report and accounts 2011. Available online: http://online.morningstarir.com/ir/mggt/ar2011/ar.jsp

British Polythene Industries PLC, annual report and accounts 2011

'We have reduced the weight of our packaging products on like for like volumes by almost 15,000 tonnes in the last three years.

The group limited the amount of material which goes to landfill by ensuring that virtually all scrap arising from polymer using in the manufacturing process is reprocessed or recycled within the Group.

Agricultural scrap is heavily contaminated with soil, water and other agricultural by-products and is extensively washed prior to recycling at the Group's operations at Dumfries and Rhymney. Bio Soil (soil to landfill) is charge at 10% of the normal fee and is used by the landfill operator as a covering for other waste. Other brought-in scrap is less contaminated but still contains an element of non-polythene which has to be separated out before recycling. 94% of the waste which we send to landfill is from our own agricultural recycling operations.

Throughout the Group there is a programme which is targeted with reducing the amount of waste which hoed to landfill. This will be achieved by reducing waste arising from operations and ensuring that as much as possible is separated and sent for recycling.

Our manufacturing sites in Holland and Belgium, together with Promopack, our pre-press operation, have adopted a 'zero to landfill' policy for all production and office waste.

British Polythene Industries Plc is an Industrial Goods & Services company which recycles polythene film in Europe. It provided data on annual quantities of waste generated from manufacturing facilities, non-agricultural and agricultural waste recycled, and soil sent to landfill. It could improve transparency by reporting figures for the total group-wide waste sent to landfill as well as levels of materials re-use and recovery.'

	2008	2009	2010	2011
Manufacturing waste	882	658	482	399
Non agricultural recycled waste	759	576	327	276
Agricultural recycled waste	2,419	2,501	1,845	1,554
Total	4,060	3,735	2,654	2,229
Bio soil	3,307	2,543	5,897	4,945

British Polythene Industries Plc is an Industrial Goods & Services company which recycles polythene film in Europe.[58] It provided data on annual quantities of waste generated from manufacturing facilities, non-agricultural and agricultural waste recycled, and soil sent to landfill. It could improve transparency by reporting figures for the total group-wide waste sent to landfill as well as levels of materials re-use and recovery.

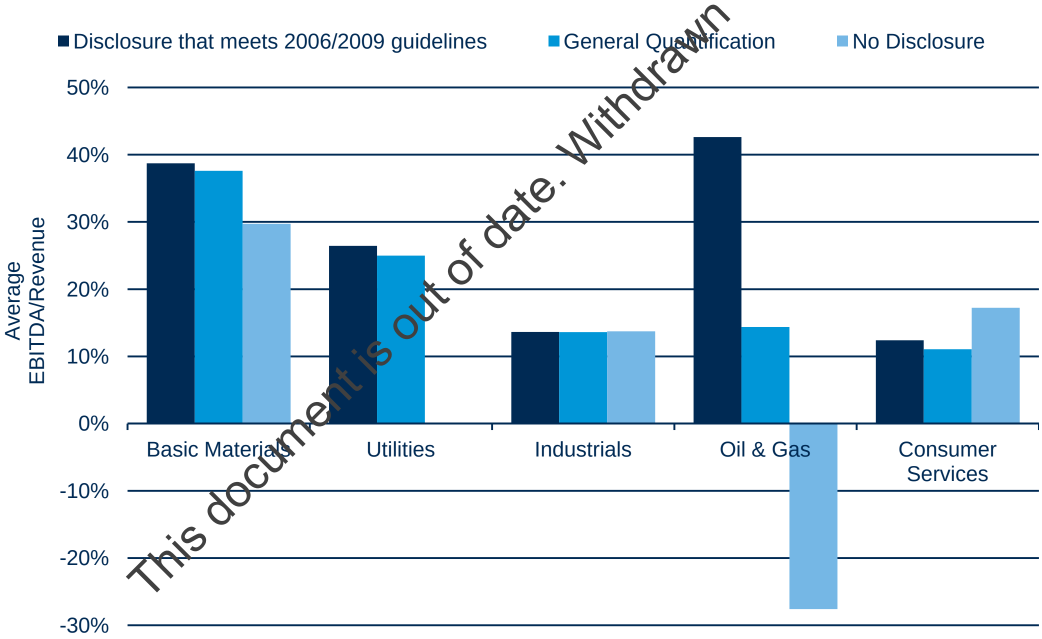
[58] BRITISH POLYTHENE INDUSTRIES PLC. 2011. Annual report and accounts 2011. Available online: http://www.bpipoly.com/downloads/annualreport/2012/BPI%2016393%20AR%202011%20Web.pdf

Disclosure and financial performance

In this section we explore the link between environmental disclosures and environmental and financial performance among FTSE All-Share companies. We focus on the five most intensive sectors for each environmental KPI – GHG emissions, water and resource efficency.

Carbon disclosures were assessed against profitability in the FTSE All-Share in five carbon-intensive sectors; Basic Materials, Utilities, Industrials, Oil & Gas and Consumer Services. This rating is based on the latest available data on Scope 1 and 2 greenhouse gas emissions relative to revenue. For each company in these sectors, profit margins were measured as operating income or earnings before interest, taxation, depreciation and amortisation (EBITDA) relative to revenue, measured in British Pound Sterling (£).

Figure 13: Profit margins weighted by the quality of GHG disclosure



As shown in Figure 13:

- Companies that disclosed data in accordance with the governments' 2006 environmental reporting guidance or 2009 carbon reporting guidelines had the highest weighted profit margins in the Basic Materials, Utilities and Oil & Gas sectors. The trend is most pronounced in the Oil & Gas sector where companies that did not disclose any of their GHG emissions in their annual report and accounts made a financial loss.
- Companies that reported GHG emissions in line with the governments' guidance in the Industrials sector had the same average profitability as those that are not disclosing data.
- Companies that did not disclose data in the Consumer Services sector appear to be less profitable than those that do. However, variations in margin are more likely to reflect differences in business segments within the sector, ranging from retailers to airlines.

- Four companies in the Travel & Leisure ICB supersector are largely responsible for the Consumer Services industry's relatively high carbon intensity.

Environmental performance versus financial performance

Building on this analysis comparing profit margins and the quality of GHG emissions disclosure, we have analysed financial performance against environmental performance for the high-impact and low-impact sectors for the three KPI's – carbon, water and resource intensity.

Ratio return on equity (ROE) has been used as an indicator for profitability as it is widely-used in investment analysis. Companies have been ranked into three categories within their sector: high, medium or low.

Methodology

Performance has been analysed by ICB sector in order to account for differences in the financial and environmental characteristics of different industries. For instance, direct environmental impacts are likely to be more material in relatively high-impact sectors such as Basic Resources, compared with services sectors such as Insurance. Different levels of profitability, operating efficiency and financial leverage are likely for different industries, which also have varied exposure to cyclical and structural changes in the economy.

Environmental disclosure and performance were assessed against a key financial ratio used by investors: Return on Equity (ROE) [59]. ROE measures the return earned by a company on its common equity[60] capital. It is a fundamental profitability ratio that can indicate the ability of a company to finance itself. It reflects efficiency, operating profitability and financial leverage. ROE was based on figures provided by FactSet and measured as net income[61] less preferred dividends, divided by the average common equity over the two latest financial years.

Companies that disclosed environmental data were ranked on return on equity (ROE) in each sector and grouped into three categories based in their financial performance for each metric. Average ROE was measured against average carbon, water or waste intensities for companies in each sector and each financial group. Data on ROE was sourced from FactSet.

---

[59] ROE = Tax burden x interest burden x EBIT margin x total asset turnover x financial leverage, (CFA PROGRAM CURRICULUM. 2012. Financial Analysis Techniques. Level 1. Volume 3.)

[60] Common equity is the value of common stock, based on price per share times the number of shares.

[61] Net income was calculated as revenue minus expenses. It is also known as earnings before interest and taxation (EBIT).

Table 5: Financial performance and environmental intensity categories

Financial performance categories		Carbon/ water/ waste intensity
Top	One-third of companies with the strongest financial performance for their sector (those with the highest ROE).	Average carbon/ water/ waste intensity of companies ranked within the top one-third in their sectors based on financial performance.
Middle	One-third of companies with mediocre financial performance for their sector	Average carbon/ waste/ water intensity of companies ranked within the middle one-third in their secors based on financial performance.
Bottom	One-third of companies with weak financial performance for their sector (those with the lowest ROE).	Average carbon/ water/ waste intensity of companies ranked within the bottom one-third in their sectors based on financial performance.

Environmental performance

For companies that disclosed usable data on the selected KPIs, environmental performance was measured as an intensity. In order to compare companies of all sizes within each sector, quantities of carbon emissions, water use and waste were normalised by revenue, which provides a relatively stable financial metric that is linked to production.The analysis is based on the latest data available for companies making disclosures in financial years ending in 2010, 2011 or 2012 (see table 6 for split). Those that disclosed data for one or more of the EKPIs in the relevant year were selected for inclusion in the performance analysis.

Table 6: Number of companies disclosing data for financial year [62]

Year	Number of companies
2012	9
2011	360
2010	63
Total	438

[62] Source: Trucost Environmental Register

Main categories for which data was considered to be "disclosed" for this analysis

Exact value from Annual Report/ 10-K/ Financial Accounts Disclosure; CDP/ Environment/ CSR report; personal communication to Trucost; Value split from data provided in Environmental/ CSR/ Annual Report/ Financial Accounts Diclosures

Estmate based on partial data disclosure in Annual Report/ 10-k/ Financial Accounts or

Environmental Report/ CSR Report

Value derived from fuel use provided in Environmental Report/ CSR Report; Annual Report/ Financial Accounts Disclosure; or provided in CDP/ data provided to CDP

Value summed up from data provided in Environmental Report/ CSR Report/ to CDP; or

in Annual Report/ Financial Accounts Disclosure

Value derived from data provided in personal communication to Trucost.

Derived from previous year (data scaled in proportion to changes in revenue and sector)

Data approximated from chart/ graph in Environmental Report/ SCR Report/ website

Source: Trucost Environmental Register

Carbon intensity was measured as tonnes of GHG emissions, as tonnes of carbon dioxide equivalents (CO_2e), relative to revenue. For this analysis, carbon intensity was measured as tonnes of Scope 1 and 2 emissions per £ million in revenue. Electric Utilities that disclosed Scope 1 data but not Scope 2 data were included, as direct emissions are most material to power companies. For Utilities companies that did not disclose Scope 2 carbon data, carbon intensity is measured based on Scope 1 emissions only. Where necessary, GHG emissions data were standardised in line with the GHG Protocol to make figures more comparable across companies.

The water performance analysis only included companies which disclosed purchased water use. For relevant sectors, disclosure on direct water use was also taken into account, where disclosed. In this study, operational water use only includes process water (not cooling). Water intensity was measured as cubic metres (m^3) of water per £ million of revenue.

Waste intensity was measured as tonnes of waste per £ million of revenue. This provides a measure of resource efficiency. Company data were only included where there was disclosure for at least one waste category (taking into account quantities of landfill, incinerated, non-hazardous and hazardous waste recorded in Trucost's database). Waste data were only analysed where companies disclosed at least some data in the current year. Where data were only derived from the previous year, companies were excluded from the waste analysis, since changes in resource use, waste management practices and disposal routes can have a significant effect on changes in waste intensities year on year. The table below shows the number of FTSE All-Share companies that were considered to have disclosed data for each KPI.

Table 7: Companies disclosing data in sources such as environmental/ sustainability reports and on websites[63]

KPI	Number of companies*
GHG emissions	249
Water	138
Waste	108

*Excluding companies where data were derived from the previous year

Limitations

The quality, consistency and comparability of environmental data analysed are likely to be strongest for GHG emissions. This is because many of the companies analysed operate or own facilities covered by mandatory carbon reporting requirements under the UK CRC Energy Efficiency Scheme and/ or EU Emissions Trading System. Carbon monitoring is therefore more likely to be verified and audited by third parties, and data more consistently measured than for water and waste.

Furthermore, methodologies used to calculate water and waste quantities may vary across the companies analysed.The voluntary GHG Protocol provides widely-used international guidance on measuring and reporting GHG emissions. It underpins the voluntary government guidance published in 2006 and 2009.[64] Although the voluntary Global Reporting Initiative G3.1 guidance includes indicators for water and waste, there are no detailed international standards.

The analysis provides a snapshot over a one-year period that may reflect industry or economic cycles at the time. Further time series analysis would need to be conducted to test a correlation between financial performance and environmental disclosure and performance over a longer period. Statistical tests could be conducted to examine relationships between environmental and financial performance.

Factors such as economic conditions in the markets where companies generate sales, and their competitive positioning in different countries, are likely to affect results. Findings are based on trailing or historical data, and current investments in changing infrastructure, technologies, fuels and processes are likely to contribute to changes in future ROE and environmental performance. The analysis is limited to ROE since this is a core financial ratio that captures different aspects of financial performance. However, other financial ratios used to assess profitability or credit risk may lead to different results.

FactSet data showed that 25 companies had zero return on equity, which affects the ranking of companies on financial performance. In some sectors (e.g. Construction & Materials), the limited number of companies affects results. Reasons for variations in environmental and financial performance include differences in business activities at a sub-sector level.

Results

The high level of disclosure by FTSE All-Share companies indicates the potential for investors to integrate environmental data into financial analysis. We found that:

---

[63] Source: Trucost Enviromental Register

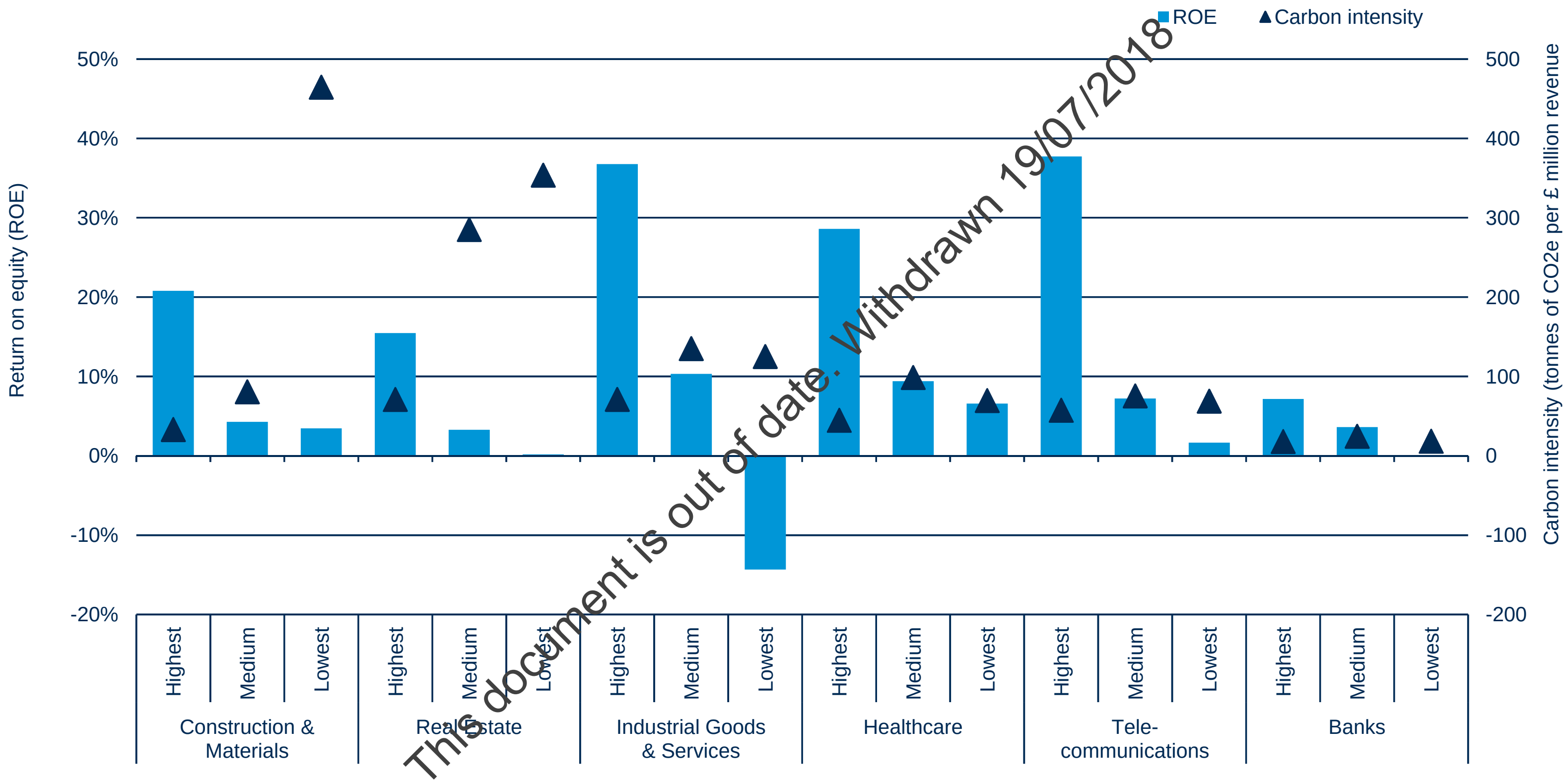
[64] DEFRA. 2012. Key performance indicators guidance and GHG reporting draft regulations consultations. Last updated: 14 January 2013. Available online: http://www.defra.gov.uk/environment/economy/business-efficiency/reporting/

- The strongest link between environmental efficiency and financial performance was found between ROE and carbon efficiency, measured as tonnes of CO_2e per £ million revenue. The most profitable companies in their sectors tended to be the most carbon efficient. This is most evident in the Basic Resources, Oil & Gas, Real Estate and Construction & Materials sectors, where companies with the lowest average ROE had the highest average carbon intensity.
- Out of the three environmental performance indicators, carbon intensity data was the highest quality and had the strongest relationship with financial performance. It is the only key performance indicator analysed for which a detailed, widely-used international corporate accounting standard is available – the Greenhouse Gas Protocol.
- On average, the most water efficient companies in the Basic Resources, Oil & Gas and Construction & Materials sectors had the highest returns.
- The strongest link between resource efficiency (indicated through waste intensity) and ROE was evident in the Retail and Media sectors. This may reflect a focus on minimising waste, materials substitution, and recovery/reuse to strengthen environmental management and profit margins.
- Companies with the lowest average water intensity within the Basic Resouces, Oil & Gas, Construction & Materials and Insurance sectors were also the most profitable within their sectors.
- The most water intensive companies in the Oil & Gas and Insurance sectors were the least profitable.
- The companies in the Healthcare, Banks, Technology, Retail and Media sectors with the lowest average waste intensities were also the most profitable in their sector. The least profitable companies in the Retail, Healthcare, Insurance, Banks and Media sectors had the highest average waste intensities.
- Results show a potential correlation between financial and environmental performance for each environmental KPI within certain sectors. Repeating analyses of datasets over a three to five year period may highlight further trends.

Carbon intensity

This section covers the 249 companies that disclosed usable data on GHG emissions.

Figure 14: Return of equity versus carbon intensity (low carbon impact sectors) [65]



---

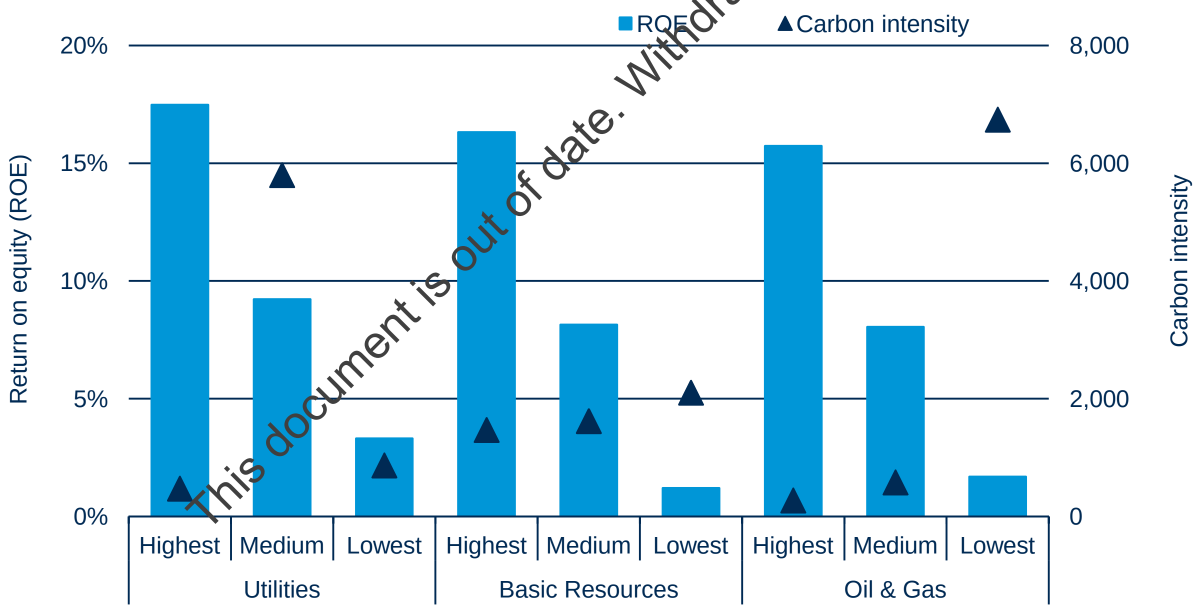
[65] Source: Trucost Plc

In the Basic Resources and Oil & Gas sectors, average carbon intensity is highest for companies with the lowest ROE (figure 15).

For Utilities, carbon intensity is highest for the companies with middling ROE. The weak evidence of a link between financial performance and carbon intensity in this sector is likely to reflect differences in business activities at a sub-sector level, the historically weak level of carbon pricing under the EU Emissions Trading System (EU ETS), and the relatively low cost of carbon intensive coal combustion. A higher carbon price under phase 3 of the EU ETS, combined with fuel switches and the shutdown of ageing plant under the Industrial Emissions Directive, are likely to result in changes in the relative financial and carbon performance of companies in this sector in the future. For instance, Drax Group Plc is expanding its biomass capacity, and SSE is expected to shut 1,000 MW of coal-fired capacity at its Ferrybridge plant to comply with the Large Combustion Plants Directive (2001/80/EC).

Across the other six sectors, companies with the lowest ROE have the highest carbon intensity in Construction & Materials and Real Estate (see Figure 15). The range between the lowest and highest average ROE and carbon intensity is widest among Construction & Materials companies. This is mainly because one of the companies with low ROE, CRH Plc, manufactures cement and concrete and is almost five times more carbon intensive than its peers.

Figure 15: Operating profit margin versus carbon intensity (high carbon impact sectors)[66]



Water intensity

138 companies disclosed adequate data on direct and/ or purchased water use. Companies that were ranked in the highest, medium and lowest performing categories on ROE may vary from those grouped in the carbon analysis since fewer companies disclosed water data in any format.

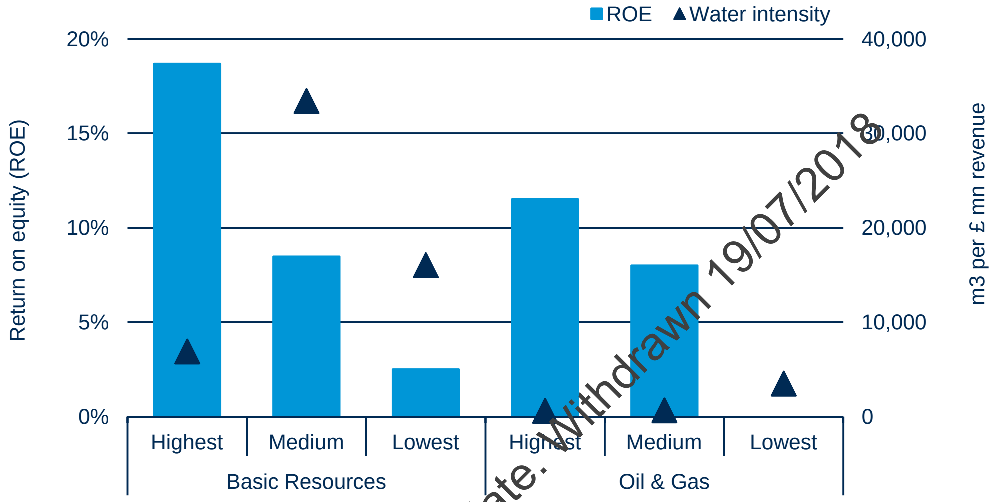
The most profitable companies, with the highest average ROE, in the Basic Resources, Oil & Gas, Construction & Materials and Insurance sectors had the lowest average water intensity for their

[66] Source: Trucost Plc

sectors (figures 17 and 18). In the Oil & Gas and Insurance sectors, the least profitable companies, with the lowest average ROE, also had the highest water intensity.

Water intensity in the Basic Resources sector ranges from 2,973 m^3 per £ million for the general mining company Glencore International Plc to 62,932 m^3 per £ million for the Forestry & Paper firm Mondi Group. The most water intensive mining company analysed is Vedanta Resources Plc (40,938 m^3/ £ million), which is ranked in the middle category for average ROE across the Basic Resources sector. The most water intensive Basic Resources companies have middling profitability on average.

Figure 16: Financial performance versus water intensity by sector (water intense sectors) [67]



Given the lack of adequate water pricing in most jurisdictions, there is unlikely to be an obvious link between water efficiency and profitability. However, mining companies can be exposed to water risks through disruption to production due to water scarcity, loss of license to operate or changing abstraction conditions. Wastewater discharge can also lead to material risks from contamination such as acid mine drainage.[68]

Table 8: The five most profitable Mining companies, ranked on ROE alongside water intensity

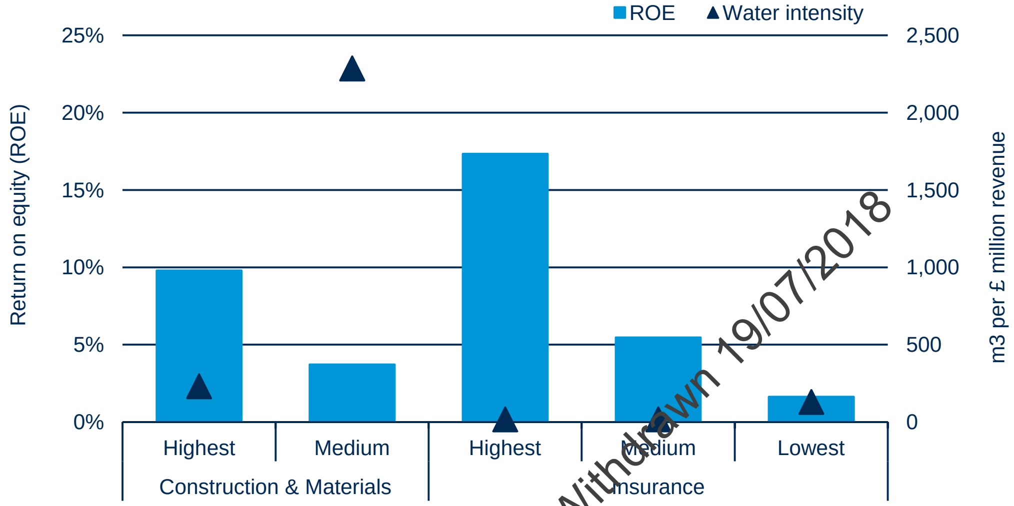
Company	Year	ROE	ROE rank	Water intensity (m3/ £million)	Water intensity rank
Ferrexpo Plc	2010	42%	1	4,232	2
BHP Billiton Ltd	2011	28%	2	5,062	3
Glencore International Plc	2011	15%	3	2,973	1
Antofagasta Plc	2011	12%	4	6,951	4
Kazakhmys Plc	2010	12%	5	10,486	6

[67] Source: Trucost Plc

[68] UN EP FINANCE INITATIVE. 2012. Chief liquidity series: extractives sector. Issue 3. October 2012. Available online: http://www.unepfi.org/fileadmin/documents/CLS3.pdf

Only two Construction & Materials companies disclosed water data. They are ranked 1st and 2nd on ROE. Balfour Beatty had the highest ROE (9.8%), and was 10 times less water intensive than CRH Plc in 2011. This is likely to be due largely to differences in their business activities. CRH mainly generates income from supplying building materials, with 50% of earnings coming from the sale of concrete products, whereas Balfour Beatty generates most of its income from construction services. [69]

Figure 17: Financial performance versus water intensity by sector (low water intensity sectors) [70]



Resource efficiency

We analysed 108 companies that disclosed waste data. Constituents of the highest, middle and lowest average ROE groups differ in some sectors from those analysed on carbon and water intensity. Waste intensity provides a proxy for resource efficiency.

Our findings show that the clearest link between resource efficiency and profitability is in the Retail and Media sectors, where average waste intensities increase steadily for companies with medium and lower profitability. A reason for this could be that most of the property owned by the Retailers analysed are in the UK, where waste management costs and policy measures including taxes provide an incentive to increase resource efficiency and reduce disposal to landfill. Furthermore, rising raw materials and commodities prices provide a further incentive to improving resource efficiency to limit input costs and maintain profit margins in these sectors.

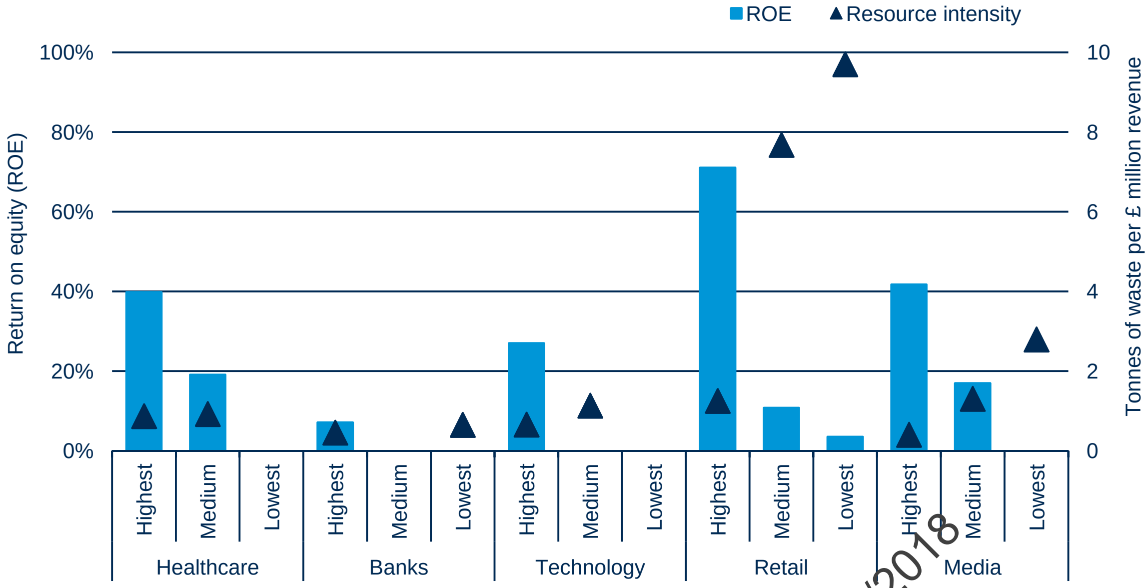
The most profitable companies had the lowest average waste intensity in five of the 18 sectors: Healthcare, Banks, Technology, Retail and Media.

The least profitable companies had the highest average waste intensities in six sectors: Retail, Healthcare, Insurance, Banks, Media and Real Estate.

[69] CRH Plc. 2011. CRH Plc 2011 results. Available online: http://www.crh.com/docs/reports-presentations-2012/crh-2011-full-year-results-report.pdf?sfvrsn=4

[70] Source: Trucost Plc

Figure 18: Financial performance versus waste intensity by sector [71]



Only two companies in the Healthcare and Technology sectors disclosed waste data. The four Banks analysed are ranked in two categories on ROE – highest and lowest. This is because ROE in 2011 was zero for two companies – Royal Bank of Scotland Group and Lloyds Banking Group Plc. Indirect waste impacts from loans and investments are likely to be more material in the sector than direct waste impacts.

The most profitable Construction & Materials, Personal & Household Goods and Food & Beverage companies appear to have relatively high waste intensities. This may suggest that they are passing through the costs of resource inefficiencies in higher prices. Resource intensive Construction companies are likely to see waste costs become more material as changes to the landfill tax regime take effect. In May 2012, HM Revenue & Customs reclassified construction waste materials such as soil from demolition, making them taxable at the standard rate of landfill tax.[72] This increased payments from £2.50 per tonne to £64 per tonne.[73] The majority of waste impacts are likely to be upstream in the supply chains of sectors such as Personal & Household Goods and Food & Beverage.

The most profitable companies have the second lowest waste intensities in the Basic Resources, Industrial Goods & Services, Utilities, Financial Services and Real Estate sectors. Seven of the nine Basic Resources companies are in the Mining sector, and generate the majority of waste in developing countries, where waste management standards and costs are likely to be lower than in Europe. Apart from energy efficiency, the Real Estate sector has a limited understanding of the links between environmental features of buildings and investment values and performance.[74] This analysis does not take account of the environmental impacts of tenants.

The Mining and Oil & Gas companies analysed generate the highest levels of hazardous waste. This analysis does not differentiate between types of waste, and valuations could be used to give hazardous waste a higher weighting.

[71] Source: Trucost Plc

[72] HMRC. 2012. Revenue and customs brief 15/12: Landfill tax . Last updated: 18 May 2012. Available online: http://www.hmrc.gov.uk/briefs/excise-duty/brief1512.htm

[73] HMRC. 2012. Rates of tax. Last updated: May 2012. Available online: http://customs.hmrc.gov.uk/channelsPortalWebApp/channelsPortalWebApp.portal?_nfpb=true&_pageLabel=pageExcise_ShowContent&propertyType=document&id=HMCE_CL_000509#P310_23536

[74] UNEP FINANCE INITATIVE. 2011. An investors perspective on environmental metrics for property. May 2011. Available online: http://www.unepfi.org/fileadmin/documents/EnvironmentalMetrics.pdf

Appendix 1

Other voluntary disclosure frameworks and initiatives:

- The UN Global Compact initiative for businesses to align their operations and strategies with principles on issues including the environment provides guidance and a template for companies to report on progress. Caring for Climate, a joint initiative with the UN Environment Programme, has recommended the CDP as a reporting framework for its signatory companies.[75]
- The OECD Guidelines for Multinational Enterprises, updated in 2011, encourage disclosure on environmental issues such as greenhouse gas emissions and biodiversity. They should apply high-quality standards for accounting, and financial as well as non-financial disclosure, including environmental and social reporting where they exist.[76]
- The Institutional Investors Group on Climate Change (IIGCC) outlined investor expectations in January 2012 on how companies should respond to climate change. The guidance encourages companies to integrate disclosures of material risks and opportunities into annual reports and financial filings.[77]
- The Prince's Accounting for Sustainability Project (A4S) issued guidance on how environmental and social sustainability factors can be reported using a connected reporting approach in 2009 - Connected Reporting - A practical guide with worked examples.[78]
- The Plastic Disclosure Project asks businesses to measure, manage and reduce plastic waste in order to reduce negative environmental impacts on wildlife. The project was launched by the Hong Kong and California-based Ocean Recovery Alliance in 2010.
- More than 90 countries adopted a Strategic Plan for Biodiversity. Targets include integrating biodiversity into national accounting and reporting systems, and working towards sustainable production and consumption so that the effects of using natural resources are kept within safe ecological limits. There are moves to price natural resources so that they are included in economic decision-making. This builds on The Economics of Ecosystems and Biodiversity (TEEB), a UN Environment Programme initiative which is supported by organisations including Defra.
- In 2011, the World Business Council for Sustainable Development released a Guide to Corporate Ecosystem Valuation (CEV). This aims to help companies understand the value of nature's services that their company's work affects and depends on and to strengthen business decision-making.

[75] UNITED NATIONS GLOBAL COMPACT. 2012. Carbon Disclosure Project Recommended as Framework for Compliance with Caring for Climate Reporting Requirements. 3 May 2012. Available online: http://www.unglobalcompact.org/news/214-05-03-2012

[76] OECD. 2011. OECD Guidelines for Multinational Enterprises. Available online: http://www.oecd.org/dataoecd/43

[77] INSTITUTIONAL INVESTORS GROUP ON CLIMATE CHANGE (IIGCC). Institutional investors expectations for corporate climate risk management. Available online: http://www.iigcc.org/__data/assets/pdf_file/0013/15331/Institutional-investors-expectations-of-corporate-climate-risk-management.pdf

[78] ACCOUNTING FOR SUSTAINABILITY. 2007. Connected reporting: A practical guide with worked examples. Available online: http://www.accountingforsustainability.org/wp-content/uploads/2011/12/Connected-Reporting1.pdf

Appendix 2

Environmental reporting frameworks for companies listed in stock exchanges in the U.S., Australia and South Africa:

- **United States**: Foreign private issuers are mainly governed by Form 20-F's disclosure requirements to disclose annual information. Federal securities laws require domestic publicly traded companies to submit annual reports on Form 10-K. Provisions on the disclosure of material environmental issues - such as climate change include requirements to disclose material risks, to describe the material effects of government regulation on a business, to describe any environmental issues that may affect the company's utilisation of assets, and to explain factors that have affected the company's financial condition and results of operations, as well as assessments of factors and trends that are anticipated to have a material effect on the company's financial condition and result of operations in future periods.[79] The Securities and Exchange Commission (SEC) issued guidance on climate change disclosure in 2010.
- **Australia**: The Australian Securities Exchange has updated its Corporate Governance Principles and Recommendations. The changes came into effect in January 2011. The exchange recommends that companies establish codes of conduct which could include environmental protection policies.[80] Companies must determine 'material business risks'. These may include risks related to operations, the environment, sustainability, compliance, strategy, ethical conduct, reputation, brand or market. Companies should comply with legal obligations and consider the reasonable expectations of stakeholders, including the broader community in which they operate, in order to actively promote ethical and responsible decision-making, Companies may adopt the recommendations, or explain why they have not done so. The ASX Group has consulted on strengthening requirements for ASX-listed companies working in mining and oil and gas exploration and production. Companies would have to report on reserves and resources in line with international best reporting practices and improve transparency and consistency.[81]
- **South Africa**: The Johannesburg Stock Exchange (JSE) has included the 'King Code of Governance Principles for South Africa 2009 (King III)' into listing requirements. Companies listed must issue an integrated report for financial years starting on or after 1 March 2010.[82] The King Code defines integrated reporting as 'a holistic and integrated representation of the company's performance in terms of both its finance and its sustainability'. A 2011 Discussion Paper provides a framework for integrated reporting. It says that 'an integrated report should provide stakeholders with a concise overview of an organisation, integrating and connecting important information about strategy, risks and opportunities and relating them to social, environmental, economic and financial issues.[83] In addition, since April 2011, the JSE requires mining companies to disclose, where applicable, a summary of environmental management and funding in annual reports.[84]

---

[79] UNITED STATES SECURITIES AND EXCHANGE COMMISSION. 2010. Commission guidance regarding disclosure related to climate change. 2 Feb 2010. Available online: http://www.sec.gov/rules/interp/2010/33-9106.pdf

[80] AUSTRALIAN SECURITIES EXCHANGE. 2007. Corporate Governance Principles and recommendations with 2012 amendments. Available online: http://www.asxgroup.com.au/media/PDFs/cg_principles_recommendations_with_2010_amendments.pdf

[81] AUSTRALIAN SECURITIES EXCHANGE. 2012. Reserves and resources disclosure rules for Mining and Oil & Gas companies: Report in consultation feedback. April 2012. Available online: http://www.asxgroup.com.au/media/reserves_resources_disclosure_rules_report_consultation_feedback.pdf

[82] GLOBAL CORPORATE GOVERNANCE FORUM. 2012. Integrated Reporting: Lessons from the South African Experience. Private sector opinion. Issue 25. Available online: http://www.ifc.org/ifcext/cgf.nsf/AttachmentsByTitle/PSO_25_Integrreporting/$FILE/PSO_25_IntegrReporting.pdf

[83] INTEGRATED REPORTING COMMITTEE. 2011. Framework for integrated reporting and the integrated report: Discussion paper. 25 January 2011. Available online: http://www.iodsa.co.za/LinkClick.aspx?fileticket=3E9BgM2hJOI%3d

[84] JOHANNESBURG STOCK EXCHANGE. 2011. Annual report requirements checklist. June 2011. Available online: http://www.jse.co.za/Libraries/JSE_-_How_to_List_-_Listing_Requirements_-_Checklists/Annual_Report_Requirements.sflb.ashx

Appendix 3

Table 9: Reporting requirements and guidance

Country	Title	Date	Scope and sources	Comments
Mandatory requirements				
EU	Accounts Modernisation Directive 2003/51/EEC	2005	All EU companies http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0051:EN:NOT	Mandatory. Amending Directives 78/660/EEC, 83/349/EEC, 86/635/EEC and 91/674/EEC on the annual and consolidated accounts of certain types of companies, banks and other financial institutions and insurance undertakings. Transposed into national law in member states.
UK	Companies Act 2006	2006	All medium and large UK companies http://www.opsi.gov.uk/acts/acts2006/en/ukpgaen_20060046_en.pdf	Mandatory. Section 417 outlines the information that must be contained in a Business Review. The Companies Act 1985 provides that if a Directors' Report does not comply with the provisions, including the requirement to contain a Business Review, every director who knew that it did not comply or was reckless as to whether it complied and failed to take all reasonable steps to secure compliance is guilty of an offence and liable to a fine. Criminal penalties apply for financial years beginning on or after 1 April 2005. Civil remedies also apply for financial years beginning on or after 1 April 2006. The Financial Reporting Review Panel can apply to the court for a declaration that the Directors' Report does not comply with the provisions of that Act and for an order requiring the directors to provide a revised report. The court can order that certain expenses incurred by the company are to be borne by the directors.
US	SEC Release 33-6383_I_II, Adoption of Integrated Disclosure System	1982	Registered securities/ public companies http://content.lawyerlinks.com/default.htm#http://content.lawyerlinks.com/library/sec/sec_releases/33-6383_i_ii.htm	Companies must report the financial impact of compliance with environmental laws, based on the materiality of information. Disclosure should include litigation and other compliance costs involving the discharge of materials into the environment and environmental protection if material, for example claims for damages, potential monetary sanctions of over US$100,000 and capital expenditures. Information is considered material if there is a substantial likelihood that a reasonable investor would consider it important in deciding how to vote or make an investment decision.

US	SEC Guidance Regarding Disclosure Related to Climate Change	2010	Registered securities/ public companies http://www.sec.gov/rules/interp/2010/33-9106.pdf	The SEC's interpretive release provides guidance to public companies regarding existing disclosure requirements as they apply to climate change. Companies should consider disclosing the impact of legislation and regulation regarding climate change; the impact of treaties or international accords relating to climate change; legal, technological, political and scientific developments regarding climate change that may create new opportunities or risks; and significant physical impacts of climate change that may affect operations and results.
Voluntary guidance				
UK	Environmental Key Performance Indicators: Reporting Guidelines for UK Business	2006	All UK companies http://www.defra.gov.uk/environment/business/reporting/pdf/envkpi-guidelines.pdf	Voluntary guidance issued by Defra to help companies measure and report their environmental performance using environmental key performance indicators (KPIs) relevant to their sectors. The guidance sets out 22 environmental KPIs to make it easier for businesses to comply with the requirements for a Business Review and link environmental and financial performance.
UK	Guidance on how to measure and report greenhouse gas emissions	2009	All UK companies http://www.defra.gov.uk/environment/business/reporting/pdf/ghg-guidance.pdf	The voluntary guidance issued by Defra and the Department of Energy & Climate Change (DECC) explains how to measure greenhouse gas emissions and set targets to reduce them. The guidance is based on the Greenhouse Gas Protocol, the internationally recognised standard for corporate accounting and reporting of GHG emissions. It is therefore aligned with other measuring and reporting frameworks such as the International Orgnisation for Standardisation (ISO) 14064 (greenhouse gases), ISO 14040 (life cycle assessment) and BSI PAS 2050 (life cycle greenhouse gas emissions).
Accounting standards				
EU/ International	FRS10/IAS 38 Goodwill and intangible assets		All listed companies	Under the 'full market' and 'cost of settlement' approaches the allowances in cap-and-trade schemes should be disclosed as intangible assets, with descriptions and reporting of individual carrying amounts.
EU/ International	FRS 11/IAS 36 Impairment of fixed assets and goodwill		All listed companies	Impairment is an event that causes a fall in the value of a fixed asset. This could be due to an environmental incident or change in environmental legislation. Such assets should be written down immediately to reflect the environmental position. The impairment loss should be recognised in the profit and loss account.

EU/ International	FRS12/IAS 37 Provisions, contingent liabilities and contingent assets	All listed companies	Provision should be made for a transfer of economic benefits to satisfy an obligation when reliable estimates can be made and there is an obligation to undertake work. For instance, environmental liabilities such as hazardous waste and pollutant releases can be difficult to forecast because of uncertainties over timing or value or both. Where it is not possible to make reliable estimates, narrative disclosure is still required. A provision must be made for emissions obligations as pollution emitted equal to the value of the allowances required to cover the pollution (or fines to be paid if there are insufficient allowances).[85]
US	FASB Interpretation No. 47 Accounting for Asset Retirement Obligations	All SEC-listed companies	An asset retirement activity should be performed despite uncertainty about the timing and/or method of settlement conditional on a future event that may or may not be within the control of an entity.
EU	Commission Recommendation 2001/453/EC on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies	All large companies http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32001H0453:EN:NOT	The recommendation covers requirements to recognise measure and disclose environmental expenditures, environmental liabilities and risks and related assets that arise from transactions and events that affect, or are likely to affect, the financial position and results of a company.

[85] EUROPEAN UNION. 2010. Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010. Official Journal of the European Union. 17 December 2010. [Last accessed 23 February 2012]. Available online: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:334:0017:0119:EN:PDF

Table 10: Summary of key environmental policy measures

Country	Description	Date in force	Scope	Comments
UK	Aggregates Levy		Quarry operators and importers	The tax on sand, gravel and rock aims to make the price of aggregates better reflect the environmental costs of quarrying and encourage use of recycled aggregates alternative materials. The rate was frozen at £2 per tonne in 2010-11, and is due to increase to £2.10 per tonne in April 2013.
UK	CRC Energy Efficiency Scheme	2010	Organisations with a settled half-hourly electricity meter that used at least 6,000 MWh during 2008	CRC participants have to monitor and report carbon dioxide emissions from energy use to the Environment Agency. Companies are able to purchase allowances for CRC emissions as of July 2012. The government is currently considering simplifying the scheme.
UK	Climate Change Act	2008	UK-wide	The Act sets a legally binding target to reduce UK greenhouse gas emissions by at least 80% on 1990 levels by 2050. The UK must cut emissions by at least 34% by 2020.
UK	Climate Change Levy (CCL)	2001	Business energy users	The CCL applies different tax rates to use of electricity, gas, petroleum and other fuels by industrial, commercial, agricultural, public and service sectors. It aims to encourage businesses to improve energy efficiency and use energy from renewable sources. The CCL and fuel duty regimes will be used to tax fossil fuels used in electricity generation from 1 April 2013, in order to introduce a carbon price floor.
UK	Climate Change Agreements		Energy-intensive industries	CCAs enable companies in energy-intensive sectors such as steel, chemicals and cement to receive a reduction in the CCL if they join agreements between trade bodies and the government to meet energy efficiency or carbon reduction targets. CCAs are available for up to 5,000 target units (a single facility or group of facilities) across 54 energy intensive sectors.[86]
UK	Enhanced Capital Allowances (ECAs)	2001	All companies	Companies can access financial incentives of up to 100% of costs of investing in qualifying energy-saving, low-carbon and water-efficient equipment and vehicles. Companies can use ECAs to improve cash flows by writing off equipment costs against taxable profits.

[86] HER MAJESTYS REVENUE AND CUSTOMS (HMRC). Climate change levy: Change to the Reduced Rate on Electricity. Available online: http://www.hmrc.gov.uk/tiin/tiin696.pdf

EU	Environmental Liability Directive (ELD) 2004/35EC	2004	All companies	The Directive applies the ‘polluter pays’ principles by making companies liable for preventing and remediating environmental damage to land, water, protected species or habitats.
England	Environmental Damage (Prevention and Remediation) Regulations	2009		Transposes the ELD into national law in England.
Wales	Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009	2009	All companies	Transposes the ELD into national law in Wales.
UK	Environmental Permitting Regulations (England and Wales) 2010	2010	Sectors including chemical manufacturing, metals, power generation, oil refining, food and drink, cement production, paper and pulp and waste management	Permits are required for activities including water discharges and groundwater activities, use of radioactive substances, waste disposal and point source emissions to air. Permits set restrictions to minimise environmental damage. Possible enforcement actions include removing authorisation for facilities to operate, fines and imprisonment.
EU	EU Emission Trading System (EU ETS)	2005	EU facilities in certain sectors with more than 20 MW thermal input capacity	The majority of EU Allowances for carbon dioxide emissions are allocated free of charge during Phase II from 2008-2012. Carbon prices are expected to rise when auctioning increases during Phase III from 2013-2020 and more gases and sectors are covered by the cap-and-trade programme.
EU	Industrial Emissions Directive 2010/75/EU68	6 January 2011	Industrial installations	The Directive recasts seven existing Directives (the IPPC Directive and six sectoral Directives – Large Combustion Plants, Waste Incineration, Solvents Emissions and three on Titanium Dioxide) into a single legislative instrument. It requires best available techniques (BAT) to be applied to meet emissions limits for pollutants including nitrogen, sulphur oxides and particulates. Minimum provisions cover the inspection of industrial installations, permits reviews and reporting on compliance and soil protection. EU member states must start implementing the new legislation by January 2013.

EU	Integrated Pollution Prevention and Control 2008/1/EC	2008	Industrial installations	The IPPC Directive sets out principles for the permitting and control of installations based on an integrated approach and the application of best available techniques (BAT) which are the most effective techniques to achieve environmental protection. Related sectoral directives lay down specific minimum requirements, including emission limit values for industrial activities such as power generation and waste incineration.
UK	Landfill tax		All businesses	The landfill tax aims to encourage diversion of waste from landfill to more sustainable waste management practices. The rate currently stands at £64 per tonne and is due to increase by £8 per tonne annually, until it reaches £80 per tonne in April 2014.
EU	Large Combustion Plants Directive 2001/80/EC	2001	Power generators with thermal input of at least 50 MW	The Directive aims to reduce emissions of acidifying pollutants, particles and ozone precursors. It sets emission limit values (ELVs) for sulphur dioxide, nitrogen oxide and dust, as well as for the use of biomass as fuel for compliance periods 2008-2018. Provisions include the option of a national emission reduction plan (see below). Plants can be exempted provided they do not operate for more than 20,000 hours between 2008 and 2015, after which they will have to close.
UK	Large Combustion Plants (National Emissions Reduction Plan) Regulations 2007	2008	Power generators with thermal input of at least 50 MW	The regulations, which transpose parts of the Large Combustion Plants Directive, allow large combustion plants to trade annual allowances for sulphur dioxide, nitrogen oxides and particulates. Facilities that opt to join the scheme must meet an aggregate emissions limit, rather than ELVs that apply to individual plants.
UK	Producer Responsibility Obligations (Packaging Waste) Regulations 2007	2007	Businesses that handle more than 50 tonnes of packaging per annum and have an annual turnover of over £2 million	The legislation transposes the EC Directive on Packaging and Packaging Waste (2004/12/EC) into national law. It applies a ‘producer responsibility’ system to make businesses responsible for meeting their share of targets to recover and recycle packaging waste. A market-based system is in place to help firms achieve compliance cost-effectively.
EU	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)	2007	Manufacturers and importers of chemicals	The Regulation makes industry responsible for assessing and managing chemical risks and providing safety information to users. Chemical manufacturers and importers must register substances with the European Chemicals Agency (ECHA). Certain substances will need to be evaluated and authorised. Substances of very high concern will need to be properly controlled and replaced by alternative substances or technologies. Hazardous substances may be restricted.

UK	Renewable Obligation Orders	2002	UK electricity suppliers	Electricity suppliers are required to source an increasing proportion of electricity from eligible renewable sources, such as offshore wind and energy crops, to help meet a government target to generate 15% of energy from these sources by 2020. Eligible renewable generators receive Renewable Obligation Certificates. Suppliers can use ROCs to meet their obligations, or must make a payment into a buy-out fund. The buy-out price for 2012-13 is £40.71 per ROC – the rate which suppliers need to pay if they do not have enough ROCs.
International	UN ECE Protocol on Pollutant Release and Transfer Registers	2003 (Legally binding in 2009)	Industrial sites and business facilities	Thirty-six states and the European Community signed the Protocol to establish nation-wide Pollutant Release and Transfer Registers that provide public access to an inventory of pollution from industrial sites and other sources.
UK	Waste Electrical and Electronic Equipment (WEEE) Regulations	2007	Manufacturers, importers and rebranders of electrical or electronic equipment	The legislation transposes the WEEE Directive (2002/96/EC) into national law. It applies a system of producer responsibility; an extension of the polluter pays principle, to increase recycling/re-use of WEEE. Provisions aim to make businesses responsible for waste products through the creation of collection schemes where consumers return their used e-waste free of charge.
EU	Water Framework Directive (WFD)	2000	All businesses with direct water impacts	The WFD establishes a strategic framework for managing water resources. It requires member states to develop River Basin Management Plans to bring all water bodies to good status by 2015, where feasible. The Directive sets parameters for determining the status of water bodies, including indicators for ecology, biology and chemistry. It was transposed into UK law in 2003. During 2012, the Environment Agency is investigating why some water bodies might be failing.
UK	Water for Life - Defra White Paper	2011	All businesses with direct water impacts	The White Paper sets out a vision for future water management, including reforming the abstraction regime. The government plans to introduce measures to simplify water legislation, reform the water industry and strengthen water resources management planning.
UK	The Natural Choice - White Paper	2011	All businesses	The White Paper outlines the importance of valuing nature and the benefits it provides, including flood protection. Initiatives will include an annual statement of green accounts for UK Plc.[87]
UK	Draft Energy Bill	2012	Energy providers and users	The draft legislation aims puts in place measures to reform the electricity market, including mechanisms to attract £110 billion in investment.

[87] DEFRA. 2012. Natural Environment White Paper. 17 July 2012. Available online: http://www.defra.gov.uk/environment/natural/whitepaper/

Appendix 4

Table 11: Company reporting in the FTSE All-Share – location of reporting and number of core environmental KPIs

Highlighted companies are those which disclosed absolute figures for the three core environmental KPIs in their 2011-12 annual report and accounts, and reported GHG emissions in accordance with forthcoming guidelines.

Name	Industry sector	FTSE Index	Environmental topics discussed in Director's Report	GHG disclosure quality	Number of core KPIs disclosed in accordance with 2006 guidelines	Year analysed
3i Group Plc	Financials	FTSE 250	Yes	Poor	0	2012
4imprint Group PLC	Consumer Services	FTSE All-Share	No	Poor	0	2011
888 Holdings PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011
A&J Mucklow Group PLC	Financials	FTSE All-Share	Yes	Poor	0	2011
A.G. Barr PLC	Consumer Goods	FTSE 250	Yes	Fair	2	2012
Aberdeen Asset Management PLC	Financials	FTSE 100	Yes	Good	2	2011
Admiral Group PLC	Financials	FTSE 100	Yes	Poor	0	2011
Aegis Group PLC	Consumer Services	FTSE 250	Yes	Good	1	2011
Afren PLC	Oil & Gas	FTSE 250	Yes	Good	3	2011
African Barrick Gold PLC	Basic Materials	FTSE 250	Yes	Excellent	3	2011
AGA Rangemaster Group PLC	Consumer Goods	FTSE All-Share	Yes	Good	3	2011
Aggreko PLC	Industrials	FTSE 100	Yes	Fair	0	2011
Allied Gold Mining PLC	Basic Materials	FTSE All-Share	Yes	Poor	1	2011
Alterian PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
AMEC PLC	Oil & Gas	FTSE 100	Yes	Fair	0	2011
Amlin PLC	Financials	FTSE 250	Yes	Excellent	1	2011
Anglesey Mining PLC	Basic Materials	FTSE All-Share	Yes	Poor	0	2011

Anglo American PLC	Basic Materials	FTSE 100	Yes	Good	3	2011
Anglo Pacific Group PLC	Basic Materials	FTSE 250	Yes	Poor	0	2011
Anglo-Eastern Plantations PLC	Consumer Goods	FTSE All-Share	Yes	Poor	0	2011
Anite PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
Antofagasta PLC	Basic Materials	FTSE 100	Yes	Good	1	2011
Aquarius Platinum Ltd.	Basic Materials	FTSE 250	Yes	Poor	0	2011
ARM Holdings PLC	Technology	FTSE 100	Yes	Fair	0	2011
Ashmore Group PLC	Financials	FTSE 100	Yes	Poor	0	2011
Ashtead Group PLC	Industrials	FTSE 250	No	Good	1	2011
Associated British Foods PLC	Consumer Goods	FTSE 100	Yes	Good	2	2011
AstraZeneca PLC	Healthcare	FTSE 100	No	Poor	0	2011
Aveva Group PLC	Technology	FTSE 250	Yes	Poor	0	2012
Aviva PLC	Financials	FTSE 100	Yes	Good	3	2011
Avon Rubber PLC	Industrials	FTSE All-Share	Yes	Good	1	2011
AZ Electronic Materials S.A.	Basic Materials	FTSE 250	Yes	Good	2	2011
Babcock International Group PLC	Industrials	FTSE 250	No	Good	1	2012
BAE Systems PLC	Industrials	FTSE 100	Yes	Good	1	2011
Balfour Beatty PLC	Industrials	FTSE 250	Yes	Fair	0	2011
Barclays PLC	Financials	FTSE 100	Yes	Fair	0	2011
Barratt Developments PLC	Consumer Goods	FTSE 250	No	Poor	0	2011
BATM Advanced Communications Ltd.	Technology	FTSE All-Share	Yes	Poor	0	2011
BBA Aviation PLC	Industrials	FTSE 250	Yes	Poor	0	2011
Beazley PLC	Financials	FTSE 250	Yes	Fair	0	2011
Bellway PLC	Consumer Goods	FTSE 250	Yes	Good	1	2011
Berendsen PLC	Industrials	FTSE 250	Yes	Fair	0	2011
Berkeley Group Holdings PLC	Consumer Goods	FTSE 250	No	Fair	0	2011

Betfair Group PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
BG Group PLC	Oil & Gas	FTSE 100	Yes	Good	1	2011
BHP Billiton Ltd.	Basic Materials	FTSE 100	Yes	Fair	1	2011
Big Yellow Group PLC	Financials	FTSE 250	Yes	Good	2	2012
Bloomsbury Publishing PLC	Consumer Services	FTSE All-Share	Yes	Excellent	3	2011
Bodycote PLC	Industrials	FTSE 250	Yes	Fair	0	2011
Booker Group PLC	Consumer Services	FTSE 250	Yes	Fair	1	2012
Bovis Homes Group PLC	Consumer Goods	FTSE 250	Yes	Poor	0	2011
BP PLC	Oil & Gas	FTSE 100	Yes	Good	1	2011
Braemar Shipping Services PLC	Industrials	FTSE All-Share	Yes	Poor	0	2012
Brammer PLC	Industrials	FTSE All-Share	Yes	Poor	1	2011
Brewin Dolphin Holdings PLC	Financials	FTSE 250	Yes	Good	1	2011
British American Tobacco PLC	Consumer Goods	FTSE 100	Yes	Fair	0	2011
British Polythene Industries PLC	Industrials	FTSE All-Share	Yes	Fair	1	2011
British Sky Broadcasting Group PLC	Consumer Services	FTSE 100	Yes	Good	1	2011
Britvic PLC	Consumer Goods	FTSE 250	Yes	Fair	0	2011
BT Group PLC	Telecommunications	FTSE 100	Yes	Poor	1	2012
BTG PLC	Healthcare	FTSE 250	Yes	Excellent	3	2012
Bumi PLC	Basic Materials	FTSE 250	Yes	Poor	0	2011
Bunzl PLC	Industrials	FTSE 100	Yes	Fair	0	2011
Burberry Group PLC	Consumer Goods	FTSE 100	Yes	Fair	1	2012
Bwin.Party Digital Entertainment PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
Cable & Wireless Communications PLC	Telecommunications	FTSE 250	Yes	Good	1	2012
Cable & Wireless Worldwide PLC	Telecommunications	FTSE 250	Yes	Good	1	2012
Cairn Energy PLC	Oil & Gas	FTSE 250	Yes	Fair	1	2011
Camellia PLC	Financials	FTSE All-Share	Yes	Poor	0	2011

Cape PLC	Oil & Gas	FTSE 250	Yes	Poor	0	2011
Capita Group PLC	Industrials	FTSE 100	Yes	Good	1	2011
Capital & Counties Properties PLC	Financials	FTSE 250	Yes	Poor	0	2011
Capital & Regional PLC	Financials	FTSE All-Share	Yes	Good	1	2011
Carclo PLC	Basic Materials	FTSE All-Share	No	Poor	0	2011
Carillion PLC	Industrials	FTSE 250	Yes	Good	1	2011
Carnival Corp.	Consumer Services	FTSE 100	No	Fair	0	2011
Carpetright PLC	Consumer Services	FTSE 250	Yes	Poor	2	2011
Carr's Milling Industries PLC	Consumer Goods	FTSE All-Share	Yes	Fair	0	2011
Catlin Group Ltd.	Financials	FTSE 250	Yes	Good	1	2011
Centamin Egypt Ltd	Basic Materials	FTSE 250	Yes	Fair	0	2011
Centaur Media PLC	Consumer Services	FTSE All-Share	Yes	Good	1	2011
Centrica PLC	Utilities	FTSE 100	Yes	Good	1	2011
Charles Taylor Consulting PLC	Financials	FTSE All-Share	Yes	Poor	0	2011
Chemring Group PLC	Industrials	FTSE 250	Yes	Excellent	3	2011
Chesnara PLC	Financials	FTSE All-Share	Yes	Poor	0	2011
Chime Communications PLC	Consumer Services	FTSE All-Share	Yes	Fair	0	2011
Cineworld Group PLC	Consumer Services	FTSE All-Share	Yes	Fair	0	2011
City of London Investment Group PLC	Financials	FTSE All-Share	Yes	Poor	0	2011
Clarkson PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Close Brothers Group PLC	Financials	FTSE 250	Yes	Poor	0	2011
CLS Holdings PLC	Financials	FTSE All-Share	Yes	Excellent	3	2011
Cobham PLC	Industrials	FTSE 250	Yes	Excellent	1	2011
Colt Group S.A.	Telecommunications	FTSE 250	Yes	Good	1	2011
Compass Group PLC	Consumer Services	FTSE 100	Yes	Poor	0	2011
Computacenter PLC	Technology	FTSE 250	Yes	Fair	0	2011

Consort Medical PLC	Healthcare	FTSE All-Share	Yes	Good	1	2011
Cookson Group PLC	Industrials	FTSE 250	Yes	Fair	0	2011
Costain Group PLC	Industrials	FTSE All-Share	Yes	Good	2	2011
CPPGroup PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Cranswick PLC	Consumer Goods	FTSE 250	No	Fair	1	2011
Creston PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011
CRH PLC	Industrials	FTSE 100	Yes	Poor	0	2011
Croda International PLC	Basic Materials	FTSE 100	Yes	Poor	0	2011
CSR PLC	Technology	FTSE 250	Yes	Poor	1	2011
Daejan Holdings PLC	Financials	FTSE 250	Yes	Poor	0	2011
Daily Mail & General Trust PLC	Consumer Services	FTSE 250	Yes	Good	1	2011
Dairy Crest Group PLC	Consumer Goods	FTSE 250	Yes	Fair	0	2012
De La Rue PLC	Industrials	FTSE 250	Yes	Good	1	2012
Debenhams PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
Dechra Pharmaceuticals PLC	Healthcare	FTSE All-Share	Yes	Fair	2	2011
Derwent London PLC	Financials	FTSE 250	No	Poor	0	2011
Development Securities PLC	Financials	FTSE All-Share	Yes	Fair	0	2012
Devro PLC	Consumer Goods	FTSE 250	Yes	Fair	0	2011
Diageo PLC	Consumer Goods	FTSE 100	Yes	Excellent	2	2011
Dialight PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Dignity PLC	Consumer Services	FTSE 250	Yes	Excellent	1	2011
Diploma PLC	Industrials	FTSE 250	Yes	Poor	0	2011
Dixons Retail PLC	Consumer Services	FTSE 250	Yes	Good	1	2011
Domino Printing Sciences PLC	Industrials	FTSE 250	Yes	Poor	0	2011
Domino's Pizza UK & IRL PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
Drax Group PLC	Utilities	FTSE 250	Yes	Good	3	2011

DS Smith PLC	Industrials	FTSE 250	Yes	Excellent	3	2011
Dunelm Group PLC	Consumer Services	FTSE 250	Yes	Good	1	2011
e2v technologies PLC	Industrials	FTSE All-Share	No	Poor	0	2012
easyJet PLC	Consumer Services	FTSE 250	Yes	Fair	0	2011
Electrocomponents PLC	Industrials	FTSE 250	Yes	Good	3	2012
Elementis PLC	Basic Materials	FTSE 250	Yes	Good	3	2011
Emblaze Ltd.	Technology	FTSE All-Share	Yes	Poor	0	2011
EnQuest PLC	Oil & Gas	FTSE 250	Yes	Poor	0	2011
Enterprise Inns PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011
Essar Energy PLC	Oil & Gas	FTSE 250	Yes	Poor	0	2011
Eurasian Natural Resources Corp. PLC	Basic Materials	FTSE 100	Yes	Good	2	2011
Euromoney Institutional Investor PLC	Consumer Services	FTSE 250	Yes	Fair	1	2011
EVRAZ PLC	Basic Materials	FTSE 100	Yes	Poor	2	2011
Exillon Energy PLC	Oil & Gas	FTSE 250	Yes	Poor	0	2011
Experian PLC	Industrials	FTSE 100	Yes	Good	1	2012
F&C Asset Management PLC	Financials	FTSE 250	Yes	Fair	0	2011
F&C Commercial Property Trust Ltd	Financials	FTSE 250	Yes	Fair	0	2011
Fenner PLC	Industrials	FTSE 250	Yes	Fair	0	2011
Ferrexpo PLC	Basic Materials	FTSE 250	Yes	Poor	0	2011
Fiberweb PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Fidessa Group PLC	Technology	FTSE 250	Yes	Poor	0	2011
Filtrona PLC	Industrials	FTSE 250	Yes	Good	3	2011
Findel PLC	Consumer Services	FTSE All-Share	Yes	Good	1	2011
FirstGroup PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
Flybe Group PLC	Consumer Services	FTSE All-Share	Yes	Good	1	2012
Fortune Oil PLC	Oil & Gas	FTSE All-Share	Yes	Good	2	2011

French Connection Group PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2012
Fresnillo PLC	Basic Materials	FTSE 100	Yes	Excellent	3	2011
Fuller, Smith & Turner PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2012
G4S PLC	Industrials	FTSE 100	Yes	Good	1	2011
Galliford Try PLC	Industrials	FTSE 250	Yes	Good	1	2011
GAME Group PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011
Gem Diamonds Ltd.	Basic Materials	FTSE 250	Yes	Good	1	2011
Genus PLC	Healthcare	FTSE 250	Yes	Poor	0	2011
GKN PLC	Consumer Goods	FTSE 100	Yes	Fair	0	2011
GlaxoSmithKline PLC	Healthcare	FTSE 100	Yes	Good	2	2011
Glencore International PLC	Basic Materials	FTSE 100	Yes	Poor	0	2011
Go-Ahead Group PLC	Consumer Services	FTSE 250	No	Fair	0	2011
Goldenport Holdings Inc.	Industrials	FTSE All-Share	Yes	Poor	0	2011
Goodwin PLC	Industrials	FTSE All-Share	Yes	Good	1	2011
Grainger PLC	Financials	FTSE 250	Yes	Good	1	2011
Greene King PLC	Consumer Services	FTSE 250	Yes	Good	3	2011
Greggs PLC	Consumer Services	FTSE 250	No	Fair	0	2011
Halfords Group PLC	Consumer Services	FTSE 250	Yes	Fair	1	2011
Halma PLC	Industrials	FTSE 250	Yes	Fair	0	2011
Hansteen Holdings PLC	Financials	FTSE 250	Yes	Poor	0	2011
Hardy Oil & Gas PLC	Oil & Gas	FTSE All-Share	Yes	Poor	0	2011
Hardy Underwriting Bermuda Ltd.	Financials	FTSE All-Share	Yes	Fair	0	2011
Hargreaves Lansdown PLC	Financials	FTSE 100	Yes	Poor	0	2011
Harvey Nash Group PLC	Industrials	FTSE All-Share	Yes	Poor	0	2012
Hays PLC	Industrials	FTSE 250	Yes	Poor	0	2011
Headlam Group PLC	Consumer Goods	FTSE All-Share	Yes	Fair	0	2011

Helical Bar PLC	Financials	FTSE All-Share	Yes	Fair	1	2011
Henderson Group PLC	Financials	FTSE 250	Yes	Poor	0	2011
Henry Boot PLC	Industrials	FTSE All-Share	Yes	Good	1	2011
Heritage Oil PLC	Oil & Gas	FTSE 250	No	Poor	0	2011
Hikma Pharmaceuticals PLC	Healthcare	FTSE 250	Yes	Poor	0	2011
Hill & Smith Holdings PLC	Industrials	FTSE All-Share	Yes	Fair	0	2011
Hilton Food Group PLC	Consumer Goods	FTSE All-Share	Yes	Fair	0	2011
Hiscox Ltd.	Financials	FTSE 250	No	Fair	0	2011
Hochschild Mining PLC	Basic Materials	FTSE 250	Yes	Poor	1	2011
Hogg Robinson Group PLC	Industrials	FTSE All-Share	No	Poor	0	2012
Home Retail Group PLC	Consumer Services	FTSE 250	Yes	Good	2	2012
Homeserve PLC	Industrials	FTSE 250	Yes	Excellent	2	2012
Hornby PLC	Consumer Goods	FTSE All-Share	Yes	Poor	0	2011
Howden Joinery Group PLC	Industrials	FTSE 250	Yes	Poor	1	2011
HSBC Holdings PLC	Financials	FTSE 100	Yes	Poor	0	2011
Hunting PLC	Oil & Gas	FTSE 250	Yes	Good	2	2011
Huntsworth PLC	Consumer Services	FTSE All-Share	No	Poor	0	2011
Hyder Consulting PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
ICAP PLC	Financials	FTSE 100	No	Good	1	2012
IG Group Holdings PLC	Financials	FTSE 250	Yes	Poor	0	2011
Imagination Technologies Group PLC	Technology	FTSE 250	Yes	Poor	0	2011
IMI PLC	Industrials	FTSE 100	Yes	Fair	0	2011
Imperial Tobacco Group PLC	Consumer Goods	FTSE 100	Yes	Good	2	2011
Inchcape PLC	Consumer Services	FTSE 250	Yes	Fair	0	2011
Informa PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
Inmarsat PLC	Telecommunications	FTSE 250	Yes	Poor	1	2011

Innovation Group PLC	Technology	FTSE All-Share	Yes	Good	1	2011
InterContinental Hotels Group PLC	Consumer Services	FTSE 100	Yes	Poor	0	2011
Intermediate Capital Group PLC	Financials	FTSE 250	Yes	Poor	0	2012
International Consolidated Airlines Group SA	Consumer Services	FTSE 100	Yes	Good	1	2011
International Ferro Metals Ltd.	Basic Materials	FTSE All-Share	Yes	Fair	2	2011
International Personal Finance PLC	Financials	FTSE 250	Yes	Fair	0	2011
International Power PLC	Utilities	FTSE 100	Yes	Good	1	2011
Interserve PLC	Industrials	FTSE 250	Yes	Fair	0	2011
Intertek Group PLC	Industrials	FTSE 100	Yes	Excellent	1	2011
Invensys PLC	Technology	FTSE 250	Yes	Good	3	2012
Investec Ltd.	Financials	FTSE 250	Yes	Fair	2	2011
Invista European Real Estate Trust	Financials	FTSE All-Share	Yes	Poor	0	2011
Invista Foundation Property Trust	Financials	FTSE All-Share	Yes	Poor	0	2011
IP Group PLC	Financials	FTSE All-Share	Yes	Good	2	2011
IRP Property Investments Ltd	Financials	FTSE All-Share	Yes	Poor	0	2011
ISIS Property Trust Ltd	Financials	FTSE All-Share	Yes	Fair	0	2011
ITE Group PLC	Consumer Services	FTSE 250	Yes	Good	1	2011
ITV PLC	Consumer Services	FTSE 100	Yes	Good	3	2011
J Sainsbury PLC	Consumer Services	FTSE 100	No	Good	2	2012
J.D. Wetherspoon PLC	Consumer Services	FTSE 250	Yes	Poor	1	2011
James Fisher & Sons PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Jardine Lloyd Thompson Group PLC	Financials	FTSE 250	Yes	Fair	0	2011
JD Sports Fashion PLC	Consumer Services	FTSE 250	Yes	Good	2	2012
JKX Oil & Gas PLC	Oil & Gas	FTSE All-Share	Yes	Fair	0	2011
John Menzies PLC	Industrials	FTSE All-Share	Yes	Fair	0	2011
John Wood Group PLC	Oil & Gas	FTSE 250	No	Poor	0	2011

Johnson Matthey PLC	Basic Materials	FTSE 100	Yes	Good	3	2012
Jupiter Fund Management PLC	Financials	FTSE 250	Yes	Poor	1	2011
Kazakhmys PLC	Basic Materials	FTSE 100	Yes	Good	3	2011
KCOM Group PLC	Telecommunications	FTSE 250	No	Fair	0	2012
Keller Group PLC	Industrials	FTSE All-Share	Yes	Excellent	1	2011
Kenmare Resources PLC	Basic Materials	FTSE 250	Yes	Good	3	2011
Kentz Corp. Ltd.	Oil & Gas	FTSE 250	Yes	Fair	1	2011
Kesa Electricals PLC	Consumer Services	FTSE 250	Yes	Good	2	2011
Kewill PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
Kier Group PLC	Industrials	FTSE 250	Yes	Good	1	2011
Kingfisher PLC	Consumer Services	FTSE 100	Yes	Fair	0	2012
Kofax PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
Ladbrokes PLC	Consumer Services	FTSE 250	Yes	Good	1	2011
Laird PLC	Technology	FTSE 250	Yes	Fair	0	2011
Lamprell PLC	Oil & Gas	FTSE 250	No	Poor	0	2011
Lancashire Holdings Ltd.	Financials	FTSE 250	Yes	Good	1	2011
Laura Ashley Holdings PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2012
Lavendon Group PLC	Industrials	FTSE All-Share	Yes	Good	1	2011
Legal & General Group PLC	Financials	FTSE 100	Yes	Fair	0	2011
Lloyds Banking Group PLC	Financials	FTSE 100	Yes	Excellent	1	2011
Logica PLC	Technology	FTSE 250	Yes	Fair	0	2011
London & Stamford Property Limited	Financials	FTSE 250	Yes	Poor	0	2012
London Stock Exchange Group PLC	Financials	FTSE 250	Yes	Poor	1	2012
Lonmin PLC	Basic Materials	FTSE 250	Yes	Excellent	3	2011
Lonrho PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Lookers PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011

Low & Bonar PLC	Industrials	FTSE All-Share	Yes	Good	2	2011
LSL Property Services PLC	Financials	FTSE All-Share	Yes	Fair	1	2011
Man Group PLC	Financials	FTSE 100	Yes	Poor	0	2011
Management Consulting Group PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Marks & Spencer Group PLC	Consumer Services	FTSE 100	Yes	Fair	1	2012
Marshalls PLC	Industrials	FTSE All-Share	Yes	Good	2	2011
Marston's PLC	Consumer Services	FTSE 250	Yes	Good	3	2011
McBride PLC	Consumer Goods	FTSE All-Share	Yes	Good	2	2011
McKay Securities PLC	Financials	FTSE All-Share	Yes	Poor	0	2012
Mears Group PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Mecom Group PLC	Consumer Services	FTSE All-Share	Yes	Fair	2	2011
Medicx Fund Limited	Financials	FTSE All-Share	Yes	Poor	0	2011
Meggitt PLC	Industrials	FTSE 100	Yes	Good	3	2011
Melrose PLC	Industrials	FTSE 250	Yes	Poor	0	2011
Melrose Resources PLC	Oil & Gas	FTSE All-Share	Yes	Good	2	2011
Metric Property Investments	Financials	FTSE All-Share	Yes	Good	1	2012
Michael Page International PLC	Industrials	FTSE 250	Yes	Poor	0	2011
Micro Focus International PLC	Technology	FTSE 250	Yes	Poor	0	2011
Millennium & Copthorne Hotels PLC	Consumer Services	FTSE 250	Yes	Good	1	2011
Misys PLC	Technology	FTSE 250	Yes	Fair	0	2011
Mitchells & Butlers PLC	Consumer Services	FTSE 250	Yes	Good	2	2011
Mitie Group PLC	Industrials	FTSE 250	Yes	Excellent	2	2012
Mondi Group	Basic Materials	FTSE 250	Yes	Excellent	3	2011
Moneysupermarket.com Group PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
Morgan Crucible Co. PLC	Industrials	FTSE 250	Yes	Good	3	2011
Morgan Sindall Group PLC	Industrials	FTSE All-Share	Yes	Good	2	2011

Mothercare PLC	Consumer Services	FTSE All-Share	Yes	Good	2	2012
MWB Group Holdings PLC	Financials	FTSE All-Share	No	Good	1	2011
N. Brown Group PLC	Consumer Services	FTSE 250	Yes	Excellent	2	2012
Namakwa Diamonds Ltd.	Basic Materials	FTSE All-Share	No	Poor	0	2011
National Express Group PLC	Consumer Services	FTSE 250	Yes	Good	1	2011
National Grid PLC	Utilities	FTSE 100	Yes	Good	2	2012
NCC Group PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
New World Resources PLC	Basic Materials	FTSE 250	Yes	Poor	1	2011
Next PLC	Consumer Services	FTSE 100	Yes	Poor	0	2012
Norcros PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Northgate PLC	Industrials	FTSE 250	Yes	Poor	1	2011
Novae Group PLC	Financials	FTSE All-Share	No	Fair	0	2011
Ocado Group PLC	Consumer Services	FTSE 250	Yes	Fair	0	2011
Old Mutual PLC	Financials	FTSE 100	Yes	Poor	0	2011
Ophir Energy PLC	Oil & Gas	FTSE 250	Yes	Poor	0	2011
Optos PLC	Healthcare	FTSE All-Share	Yes	Poor	0	2011
Oxford BioMedica PLC	Healthcare	FTSE All-Share	Yes	Poor	0	2011
Oxford Instruments PLC	Industrials	FTSE 250	Yes	Poor	0	2011
Pace PLC	Technology	FTSE All-Share	Yes	Fair	0	2011
Paragon Group of Companies PLC	Financials	FTSE 250	Yes	Excellent	3	2011
PayPoint PLC	Industrials	FTSE 250	Yes	Good	2	2011
Pearson PLC	Consumer Services	FTSE 100	Yes	Poor	0	2011
Pendragon PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011
Pennon Group PLC	Utilities	FTSE 250	Yes	Good	2	2011
Perform Group PLC	Consumer Services	FTSE 250	Yes	Good	2	2011
Persimmon PLC	Consumer Goods	FTSE 250	Yes	Excellent	2	2011

Petrofac Ltd.	Oil & Gas	FTSE 100	Yes	Good	1	2011
Petropavlovsk PLC	Basic Materials	FTSE 250	No	Poor	0	2011
Phoenix Group Holdings	Financials	FTSE 250	No	Poor	0	2011
Phoenix IT Group PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
Photo-Me International PLC	Consumer Goods	FTSE All-Share	Yes	Poor	0	2011
Polymetal International PLC	Basic Materials	FTSE 100	Yes	Fair	2	2011
Premier Farnell PLC	Industrials	FTSE 250	Yes	Good	2	2012
Premier Foods PLC	Consumer Goods	FTSE All-Share	Yes	Good	3	2011
Premier Oil PLC	Oil & Gas	FTSE 250	Yes	Good	2	2011
Primary Health Properties Plc	Financials	FTSE All-Share	Yes	Poor	0	2011
Promethean World PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
Provident Financial PLC	Financials	FTSE 250	Yes	Good	1	2011
Prudential PLC	Financials	FTSE 100	Yes	Fair	1	2011
Psion PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
Punch Taverns PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011
PV Crystalox Solar PLC	Oil & Gas	FTSE All-Share	Yes	Poor	0	2011
PZ Cussons PLC	Consumer Goods	FTSE 250	Yes	Poor	0	2011
QinetiQ Group PLC	Industrials	FTSE 250	Yes	Good	2	2012
Quintain Estates & Development PLC	Financials	FTSE All-Share	Yes	Good	1	2012
R.E.A. Holdings PLC	Consumer Goods	FTSE All-Share	Yes	Poor	0	2011
Randgold Resources Ltd.	Basic Materials	FTSE 100	Yes	Good	2	2011
Rank Group PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
Rathbone Brothers PLC	Financials	FTSE 250	Yes	Excellent	2	2011
Raven Russia Limited	Financials	FTSE All-Share	Yes	Poor	0	2011
Reckitt Benckiser Group PLC	Consumer Goods	FTSE 100	Yes	Good	1	2011
Redrow PLC	Consumer Goods	FTSE 250	Yes	Excellent	1	2011

Reed Elsevier PLC	Consumer Services	FTSE 100	Yes	Good	3	2011
Regus PLC	Industrials	FTSE 250	Yes	Fair	0	2011
Renishaw PLC	Industrials	FTSE 250	Yes	Excellent	2	2011
Renold PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Rentokil Initial PLC	Industrials	FTSE 250	Yes	Good	1	2011
Resolution Ltd.	Financials	FTSE 100	Yes	Good	3	2011
Restaurant Group PLC	Consumer Services	FTSE 250	Yes	Good	2	2011
Rexam PLC	Industrials	FTSE 100	Yes	Good	2	2011
Ricardo PLC	Industrials	FTSE All-Share	Yes	Fair	0	2011
Rightmove PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
Rio Tinto PLC	Basic Materials	FTSE 100	Yes	Good	1	2011
RM PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
Robert Walters PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Rolls-Royce Holdings PLC	Industrials	FTSE 100	Yes	Good	1	2011
Rotork PLC	Industrials	FTSE 250	Yes	Fair	0	2011
Royal Bank of Scotland Group Plc	Financials	FTSE 100	Yes	Poor	0	2011
Royal Dutch Shell PLC (CL A)	Oil & Gas	FTSE 100	Yes	Poor	0	2011
RPC Group PLC	Industrials	FTSE 250	Yes	Fair	0	2012
RPS Group PLC	Industrials	FTSE 250	Yes	Good	1	2011
RSA Insurance Group PLC	Financials	FTSE 100	Yes	Excellent	3	2011
RSM Tenon Group PLC	Financials	FTSE All-Share	Yes	Poor	0	2011
SABMiller PLC	Consumer Goods	FTSE 100	Yes	Fair	1	2011
Safestore Holdings PLC	Financials	FTSE All-Share	Yes	Poor	1	2011
Sage Group PLC	Technology	FTSE 100	Yes	Excellent	1	2011
Salamander Energy PLC	Oil & Gas	FTSE 250	Yes	Good	2	2011
Savills PLC	Financials	FTSE 250	Yes	Good	1	2011

Schroders Plc NVtg	Financials	FTSE 100	Yes	Good	1	2011
SDL PLC	Technology	FTSE 250	Yes	Good	1	2011
Senior PLC	Industrials	FTSE 250	Yes	Good	3	2011
Sepura PLC	Technology	FTSE All-Share	Yes	Poor	0	2012
Serco Group PLC	Industrials	FTSE 100	Yes	Fair	0	2011
Severfield-Rowen PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Severn Trent PLC	Utilities	FTSE 100	Yes	Fair	0	2012
Shaftesbury PLC	Financials	FTSE 250	Yes	Good	1	2011
Shanks Group PLC	Industrials	FTSE 250	Yes	Good	2	2012
Shire PLC	Healthcare	FTSE 100	Yes	Poor	0	2011
SIG PLC	Industrials	FTSE 250	Yes	Excellent	3	2011
Smith & Nephew PLC	Healthcare	FTSE 100	Yes	Fair	0	2011
Smiths Group PLC	Industrials	FTSE 100	Yes	Good	3	2011
Smiths News PLC	Industrials	FTSE All-Share	Yes	Fair	0	2011
Soco International PLC	Oil & Gas	FTSE 250	Yes	Poor	0	2011
Spectris PLC	Industrials	FTSE 250	Yes	Poor	0	2011
Speedy Hire PLC	Industrials	FTSE All-Share	Yes	Fair	0	2012
Spirax-Sarco Engineering PLC	Industrials	FTSE 250	Yes	Excellent	1	2011
Spirent Communications PLC	Technology	FTSE 250	Yes	Good	1	2011
Spirit Pub Company PLC	Consumer Services	FTSE All-Share	Yes	Fair	1	2011
Sportingbet PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011
Sports Direct International PLC	Consumer Services	FTSE 250	Yes	Good	2	2011
SSE PLC	Utilities	FTSE 100	Yes	Fair	1	2012
St. Ives PLC	Industrials	FTSE All-Share	Yes	Good	3	2011
St. James's Place PLC	Financials	FTSE 250	Yes	Good	3	2011
St. Modwen Properties PLC	Financials	FTSE All-Share	Yes	Fair	0	2011

Stagecoach Group PLC	Consumer Services	FTSE 250	Yes	Fair	0	2011
Standard Chartered PLC	Financials	FTSE 100	No	Poor	0	2011
Standard Life PLC	Financials	FTSE 100	No	Good	1	2011
SThree PLC	Industrials	FTSE All-Share	Yes	Good	1	2011
Stobart Group Ltd.	Industrials	FTSE 250	Yes	Good	1	2012
Supergroup PLC	Consumer Goods	FTSE 250	Yes	Good	1	2011
SVG Capital Plc	Financials	FTSE 250	Yes	Poor	0	2011
Synergy Health PLC	Healthcare	FTSE 250	Yes	Good	1	2011
TalkTalk Telecom Group PLC	Telecommunications	FTSE 250	Yes	Fair	0	2012
Talvivaara Mining Co. PLC	Basic Materials	FTSE 250	Yes	Fair	2	2011
Tarsus Group PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011
Tate & Lyle PLC	Consumer Goods	FTSE 100	Yes	Fair	0	2012
Taylor Wimpey PLC	Consumer Goods	FTSE 250	Yes	Poor	0	2011
Ted Baker PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2012
Telecity Group PLC	Technology	FTSE 250	Yes	Poor	0	2011
Telecom Plus PLC	Telecommunications	FTSE 250	Yes	Poor	0	2012
Tesco PLC	Consumer Services	FTSE 100	Yes	Fair	0	2012
Thomas Cook Group PLC	Consumer Services	FTSE All-Share	Yes	Good	1	2011
Topps Tiles PLC	Consumer Services	FTSE All-Share	Yes	Good	1	2011
Torotrak PLC	Consumer Goods	FTSE All-Share	Yes	Fair	0	2011
Town Centre Securities PLC	Financials	FTSE All-Share	Yes	Poor	0	2011
Travis Perkins PLC	Industrials	FTSE 250	Yes	Good	2	2011
Trinity Mirror PLC	Consumer Services	FTSE All-Share	Yes	Excellent	1	2011
TT Electronics PLC	Industrials	FTSE All-Share	Yes	Good	1	2011
TUI Travel PLC	Consumer Services	FTSE 250	Yes	Good	1	2011
Tullett Prebon PLC	Financials	FTSE 250	Yes	Good	1	2011

Tullow Oil PLC	Oil & Gas	FTSE 100	Yes	Poor	0	2011
UBM PLC	Consumer Services	FTSE 250	Yes	Excellent	2	2011
UK Coal PLC	Basic Materials	FTSE All-Share	Yes	Poor	0	2011
UK Mail Group PLC	Industrials	FTSE All-Share	Yes	Good	3	2012
Ultra Electronics Holdings PLC	Industrials	FTSE 250	Yes	Poor	0	2011
UMECO PLC	Industrials	FTSE All-Share	Yes	Good	1	2011
Unilever PLC	Consumer Goods	FTSE 100	Yes	Fair	0	2011
Unite Group PLC	Financials	FTSE All-Share	Yes	Excellent	1	2011
United Utilities Group PLC	Utilities	FTSE 100	Yes	Good	1	2011
UTV Media PLC	Consumer Services	FTSE All-Share	Yes	Excellent	2	2011
Vectura Group PLC	Healthcare	FTSE All-Share	Yes	Fair	0	2012
Vedanta Resources PLC	Basic Materials	FTSE 100	Yes	Poor	1	2011
Victrex PLC	Basic Materials	FTSE 250	Yes	Good	3	2011
Vitec Group PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Vodafone Group PLC ADS	Telecommunications	FTSE 100	Yes	Good	1	2012
Volex PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
VP PLC	Industrials	FTSE All-Share	Yes	Excellent	1	2012
Weir Group PLC	Industrials	FTSE 100	Yes	Good	2	2011
WH Smith PLC	Consumer Services	FTSE 250	Yes	Poor	0	2011
Whitbread PLC	Consumer Services	FTSE 100	Yes	Fair	1	2012
William Hill PLC	Consumer Services	FTSE 250	Yes	Fair	1	2011
Wilmington Group PLC	Consumer Services	FTSE All-Share	Yes	Poor	0	2011
Wincanton PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Wm. Morrison Supermarkets PLC	Consumer Services	FTSE 100	Yes	Fair	0	2012
Wolfson Microelectronics PLC	Technology	FTSE All-Share	Yes	Poor	0	2011
Wolseley PLC	Industrials	FTSE 100	Yes	Excellent	3	2011

Workspace Group PLC	Financials	FTSE All-Share	Yes	Poor	1	2011
WPP Plc	Consumer Services	FTSE 100	Yes	Good	1	2011
WS Atkins PLC	Industrials	FTSE 250	Yes	Good	2	2011
WSP Group PLC	Industrials	FTSE All-Share	Yes	Good	1	2011
Xaar PLC	Industrials	FTSE All-Share	Yes	Poor	0	2011
Xchanging PLC	Industrials	FTSE All-Share	Yes	Excellent	1	2011
XP Power Ltd.	Industrials	FTSE All-Share	Yes	Fair	0	2011
Xstrata PLC	Basic Materials	FTSE 100	Yes	Excellent	2	2011
Yell Group PLC	Consumer Services	FTSE All-Share	Yes	Good	1	2011
Yule Catto & Co. PLC	Basic Materials	FTSE 250	Yes	Poor	1	2011

Acknowledgements

The research and analysis in this study was conducted by Trucost Plc.

About Trucost

Trucost has been helping companies, investors, governments, academics and thought leaders to understand the economic consequences of natural capital dependency for over 12 years. Trucost data and insight enables clients to identify natural capital dependency across companies, products, supply chains and investments; manage risk from volatile commodity prices and increasing environmental costs; and ultimately build more sustainable business models and brands. Key to the company's approach is that it not only quantifies resource dependency in metric tons, cubic meters and hectares, it also puts a price on environmental issues, enabling clients to embed them in everyday decision-making.

Would you like to find out more about us, or about your environment?

Then call us on

03708 506 506 (Mon-Fri 8-6)

Calls to 03 numbers cost the same as calls to standard geographic numbers (i.e. numbers beginning with 01 or 02).

email

enquiries@environment-agency.gov.uk

or visit our website

www.environment-agency.gov.uk

incident hotline 0800 80 70 60 (24hrs)
floodline 0845 988 1188

Environment first: Are you viewing this on screen? Please consider the environment and only print if absolutely necessary. If you are reading a paper copy, please don't forget to reuse and recycle if possible.