the environmentalist
environmentalistonline.com
December 2011

Moving around
Sustainable travel plans

iema
Institute of Environmental Management & Assessment

PLUS
16-page training supplement

EMAIL US NOW FOR A FREE MONTHLY LEGAL UPDATE

Greenspace

takes the hard work out of compliance

Greenspace is a consultancy supported platform for your Environmental, Health & Safety Management Systems. Build your Greenspace site from a growing range of applications.

- Legal Register updates and manages compliance
- Aspect Register controls your impacts
- Carbon Manager to achieve your CRC or CSR goals
- Store and link to your ISO 14001 & OHSAS 18001 documents
- Publish your CSR report, carbon footprint and policy

"**Legal Register is a personal service that focuses sharply on the legislation that could affect our activities at our Stanlow complex. It gives me peace of mind for our ongoing compliance."**
Steve Cross, Environmental Manager, Shell UK

For further information and to apply for a FREE* trial, please contact:

Guy Jeremiah
t 020 7928 7888
e info@legalregister.co.uk
www.watermangroup.com

To find out more visit
www.legalregister.co.uk

*Terms and conditions apply. Greenspace is FREE, applications from £250/annum.

DECEMBER

NEWS

BRIEFING

REGULARS

IEMA NEWS

also inside

TRAINING FOCUS
Winter 2011

- Jan Chmiel interview
- How Tata Steel is using the IEMA Associate certificate
- 2012 jobs outlook

FEATURES

The Institute of Environmental Management & Assessment (IEMA) is the UK's largest environmental professional body, providing practitioners with career guidance, ongoing support and development opportunities to ensure sound environmental performance delivers business benefit. IEMA is dedicated to placing professionals at the heart of change.

IEMA works alongside government, the media and industry to enhance the recognition of the profession and promote the importance of practitioners in combating climate change, working towards a low-carbon economy and building a sustainable future.

IEMA
St Nicholas House
70 Newport
Lincoln LN1 3DP
tel: +44 (0) 1522 540069
fax: +44 (0) 1522 540090
info@iema.net
www.iema.net

Editor
Paul Suff
paul.suff@lexisnexis.co.uk

Deputy editor
Sarah-Jayne Russell
sarah.russell@lexisnexis.co.uk

Managing editor
Louis Wustemann
louis.wustemann@lexisnexis.co.uk

Senior sub-editor
Adella Peyton

Group advertising manager
Sophie Wright
tel: +44 (0) 20 8212 1913
sophie.wright@lexisnexis.co.uk

Recruitment advertising
Elaheh Umeh
tel: +44 (0) 20 8212 1984
elaheh.umeh@lexisnexis.co.uk

Senior marketing executive
Victoria Newman
victoria.newman@lexisnexis.co.uk

Design
Jack Dougherty
jack.dougherty@lexisnexis.co.uk

Advertisement production
John Woffenden
john.woffenden@lexisnexis.co.uk

Editorial director
Simon Collin
simon.collin@lexisnexis.co.uk

IEMA communications coordinator
Katrina Pierce
k.pierce@iema.net

Advertising, subscription and back-copy enquiries to
Customer services,
tel: +44 (0) 845 370 1234
The 2011 annual rate is £135.

Printing
Headley Brothers Ltd, Ashford, Kent

Published by
LexisNexis, Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS
www.lexisnexis.co.uk

the environmentalist is printed by ISO 14001 certified printers on 55% recycled paper stock and despatched in biodegradable polywrap

A voluntary approach

How do you get companies to improve their environmental performance? Will more be achieved if they step forward voluntarily to reduce their environmental impacts or is compulsion the best way of securing improvement?

The government tends to favour the former, believing that a non-regulatory approach can help secure behaviour change.

Tucked away in the autumn statement (p.5) was a pledge to increase the number of mid-sized businesses benefiting from resource-efficiency schemes, including voluntary agreements, by up to 200. There are a number of examples of such agreements, including the Courtauld Commitment (CC), which aims to improve resource efficiency and reduce the carbon and wider environmental impact of the grocery retail sector.

With the government keen to reduce so-called red tape we are likely to see more of these types of deals because voluntary agreements are seen as less burdensome on the business community than legislation.

You need a critical mass to achieve environmental goals, but the majority of SMEs are not party to voluntary agreements, which are largely the preserve of big companies

But there are serious doubts about their effectiveness.

The latest update from WRAP suggests the 53 companies involved in the CC are on course to meet the waste and recycling targets set out in phase II of the commitment, but they are having real problems engaging their supply chains. And there's the rub.

You need a critical mass to achieve environmental goals, but the majority of small and medium-sized enterprises (SMEs) are not party to such agreements, because they are largely the preserve of big firms.

Regulation, by contrast, applies to everyone and is much more likely to provide consistency across industry and secure environmental improvements.

The failure by retailers to halve by 2009 the number of single-use plastic bags given to customers compared with 2006 levels under a voluntary British Retail Consortium commitment is evidence that, even with the best intentions, the voluntary approach may not produce the desired results. The answer to retailers' lack of progress is to do as the Welsh Assembly government has done, and legislate.

Paul Suff, editor

Short cuts

Fracking causes quakes

Attempts to extract shale gas using the controversial hydraulic fracturing technique, or "fracking", have been identified as the likely cause of the tremors felt in Blackpool earlier this year. In a report commissioned by Cuadrilla Resources, the firm running the fracking operation in Lancashire, researchers confirmed it was "highly probable" that the pressurised water forced into the shale rock to release the trapped gas triggered the seismic activity. However, the report concludes that the earthquakes in April and May, which measured 2.3 and 1.5 on the Richter scale, were also due to the unusual geology of the area and that it was very unlikely fracking would cause similar tremors at other UK drilling sites. Despite these conclusions the report outlines proposals for an early-warning system and measures to prevent any future seismic events exceeding safe limits. Cuadrilla's site remains the only one of its type in the UK and DECC is yet to allow the company to resume drilling.

Higher demand for green qualifications

Figures from NEBOSH show increasing numbers of people are seeking environment management qualifications. The examination body has revealed that in the past two years the number of people registering to take its environment management qualification has more than doubled. In 2009, about 1,100 people registered for a NEBOSH environment qualification. Last year, the number of registrations rose to almost 2,200. Registrations so far in 2011 indicate a further rise this year to around 2,700, an increase of almost 150% on 2009. Around two-thirds of those who take a NEBOSH environment management qualification are employed in a health and safety role. The majority of the rest are environment specialists. Two-thirds also already hold another NEBOSH qualification. See pages XI–XIV in this month's training supplement for the latest training courses.

Water lags behind carbon in boardrooms of top companies

Water More of the world's leading companies are considering the risks posed to their operations by access to water, but their concern lags far behind that about managing carbon emissions.

The Carbon Disclosure Project's (CDP) second global water disclosure report reveals only 57% of the 190 FTSE 500 companies surveyed ensure board-level responsibility is taken for water management, despite the fact that 59% agree their firm is at risk from water shortages and floods, and 38% have already been affected. By contrast, a similar CDP survey revealed that in 94% of FTSE 500 firms polled, the board takes responsibility for climate change plans.

CDP chief executive Paul Simpson warned: "We need more companies to understand that water is a critical issue, requiring board-level attention."

Defra minister Richard Benyon told a recent Aldersgate Group event that he believes water is going to be the next big environmental concern for organisations.

"If you are a company and you are not looking at water, then you are risking your whole business model," he said.

Ben Piper, from construction firm Atkins' environment and water management team, agrees: "Water scarcity has become increasingly important, and companies of all sizes need to understand and take much more seriously the risks posed to their business."

Polluting plastics plant fined

Prosecution Maier UK, a major supplier of plastic parts to the automotive sector, will spend up to €1 million on improving its Staffordshire plant after being prosecuted for breaching air pollution restrictions.

The firm was fined £26,500 by Cannock Magistrates' Court and ordered to pay a further £14,000 in costs after inspectors found the Burntwood factory had emitted 66 tonnes of solvents into the atmosphere during 2009–10, more than three times the legally imposed limit.

The plant had repeatedly breached its environmental permit with regard to solvents emissions, first receiving a caution from local environmental health inspectors in 2004. The court was told that the Spanish-owned firm failed to take action to halt emissions breaches despite agreeing to two 18-month compliance plans with the local authority.

The company blamed regular management changes, a lack of investment and the complexity of the automotive sector as the reasons for the failure of both plants. This meant the firm continued to use high-solvent paints, instead of the industry-standard low-solvent paints.

Maier UK is now working to agree a third compliance plan with Lichfield District Council, but this time has promised to ensure substantial funding for the necessary actions.

Ian Pritchard, Lichfield District Council's cabinet member responsible for housing, health and environmental protection, confirmed that inspectors were working closely with the company on the plans. "We are really pleased that Maier UK has committed to becoming compliant. Before the firm was sentenced, it had investigated a number of options to help it become compliant, some of which could cost in the region of €1 million," he told *the environmentalist*. "We will monitor Maier's progress closely during 2012 and will take further enforcement action against the firm if it doesn't comply."

Solvents are used in a range of industrial activities including painting and coating plastics, as at the Maier UK plant, and are a key source of volatile organic compounds.

Coalition's environment agenda goes up in smoke

Support for energy-intensive industries as countryside regulations face shake-up

Autumn statement Measures to support the transition to a low-carbon economy were almost completely absent from the chancellor's autumn statement. Instead, big energy users will get financial assistance to help them mitigate the impacts of carbon policies, while laws that protect the countryside are at risk.

The few positive environmental measures in the statement included £200 million to kick-start the Green Deal energy-efficiency scheme, and the creation of five Centres for Offshore Renewable Engineering. George Osborne also offered the possibility of establishing enterprise zones in areas earmarked to be offshore wind hubs and made £100 million available in the next financial year for commercial and industrial energy-efficiency projects.

The chancellor told MPs that the government will help to reduce the impact of environment policies on the costs of power for the most electricity-intensive industries. "We will not save the planet by closing down our steel mills and aluminium smelters," he said. High-electricity sectors will receive £100 million to protect them from the introduction of the carbon floor price (CFP) in April 2013.

Other planned support mechanisms include increasing the climate change levy (CCL) discount to 90% on electricity for climate-change agreement participants and providing compensation of up to £110 million for the indirect impacts of the EU emissions trading scheme (ETS).

Industry groups largely welcomed the proposals. "The supportive measures around the CCL and ETS and the UK carbon price support mechanism in particular will give some much needed reassurance to sectors such as chemicals which are ideally placed to not only deliver economic growth but also our green future," commented Steve Elliott, chief executive at the Chemical Industries Association. His counterpart at the British Ceramic Confederation, Dr Laura Cohen, claimed the plans did not go far enough, however. "Even the most electro-intensive ceramic processes might only receive an extra £2 per MWh of relief in 2013 – hardly enough to mitigate all their extra UK-only climate-related costs and taxes," she said.

Others were more critical. IEMA policy director Martin Baxter said that the assistance to electricity-intensive industries could jeopardise the UK's ability to meet its carbon budgets, while Richard Gledhill, partner at PwC sustainability and climate change, believes that the measures will hinder a speedy shift to a low-carbon economy.

The cornerstone of the autumn statement was a plan to improve the UK's infrastructure, but there was no mention that the funding would be channelled into low-carbon projects. Paul King, chief executive at the UK Green Building Council said: "This was an opportunity missed to put green growth and green jobs at the heart of economic recovery."

Osborne also raised the prospect of dismantling existing regulation, telling MPs that he would ensure that so-called "gold plating of EU rules on things like habitats aren't placing ridiculous costs on British businesses."

Environmentalists reacted furiously to the suggestion that changes may be made to the habitats regulations. "Weakening them is not only unnecessary for growth, but ultimately incompatible with long-term sustainable development," said WWF's Margaret Ounsley.

Short cuts

EIA and ecosystems

The World Resources Institute (WRI) has published the first of two papers outlining a new environmental impact assessment (EIA) approach that incorporates ecosystems services. The WRI guidance explains its concept of "ecosystem services review for impact assessment", and introduces a new framework designed to help practitioners to integrate elements that are often assessed separately, such as that of human wellbeing and the drivers of ecosystem change. The new method builds on that used in the Millennium Ecosystem Assessment and was created following WRI research that found 85% of practitioners felt existing guidance did not provide the support they needed to effectively integrate ecosystems into their EIA. *An introduction and guide to scoping*, explaining how to apply the framework during the EIA scoping stage, can be downloaded at lexisurl.com/iema11327.

Cala ups challenge

Cala Homes has launched a new legal challenge in its long-running bid to gain planning permission for a proposed development of 2,000 homes on a greenfield site near Winchester. In September, the communities secretary Eric Pickles refused to allow the build to go ahead in order to give the local authority time to complete the core strategy of its development plan. Cala Homes' appeal argues that Pickles' decision, which went against the recommendation of his planning inspector, misinterprets planning law and places too great an emphasis on emerging development plans at the expense of those in existence. Cala Homes applied for permission for its development at the beginning of 2010, but it was refused in June of that year. The firm subsequently argued that its plans fall under the existing regional spatial strategy (RSS), which calls for 612 new homes to be built each year, and successfully overturned Pickles' attempt to revoke RSS ahead of legislation earlier this year.

IN PARLIAMENT

Applying EU law

Chris Davies is the Liberal Democrat environment spokesperson in the European Parliament

UK Europhobes tell us repeatedly that we are being "pushed around" by Brussels, but I remember a meeting with farmers complaining to a commissioner that France was refusing to accept British beef even though it was by then BSE free. "I agree with you," he said, "I am taking firm action. I have written a letter to the French government." The farmers were not impressed, but the commissioner responded: "I do not have an army or a police force. We have legal processes, and the first step is an exchange of letters." If that is what being "pushed around" by Brussels means, it doesn't sound too terrifying.

EU environment laws work best when they come in the shape of regulations, which are binding on all. Companies know that products placed on the EU market that are not compliant could be banned, risking huge losses, so they comply. It's much harder to get governments to properly apply Directives that may give them considerable room for interpretation. The European Commission's enforcement process is cumbersome but it usually gets close to the objective in the end. The process starts with encouragement, but for the few governments that do not eventually get the message it ends up in the European Court of Justice, and the risk of an unlimited fine. Greece had to pay €20,000 a day for several months until it stopped a waste tip on Crete leaching into the Mediterranean, for example.

Knowing that the enforcement process can take years, governments frequently play for time. I've often wondered why a decade ago Britain ended up with "fridge-mountains" after the EU agreed that CFCs (chlorofluorocarbons) should be removed from the foam insulation. Why didn't we just ignore the rule until the recycling facilities were in place? We would only have been sent a letter.

Atmospheric GHG at new high

Climate change The amount of greenhouse gases (GHGs) in the atmosphere reached a new high in 2010 and the rate of increase has accelerated, according to the World Meteorological Organization (WMO).

The WMO reports that between 1990 and 2010, there was a 29% increase in the warming effect on the global climate system from GHGs, with carbon dioxide accounting for 80% of the rise. It says that between 2009 and 2010 the abundance of CO_2 in the atmosphere increased by 2.3 parts per million (ppm), higher than the average for the past decade (2ppm). Researchers also note that after stabilising between 1999 and 2006, methane concentrations in the atmosphere are again rising, possibly because of a thawing of the methane-rich Northern permafrost. Methane is a much more potent GHG than CO_2. The atmospheric burden of nitrous oxide in 2010 was 323.2 parts per billion (ppb), says the WMO, which is 20% higher than in the pre-industrial era. It has grown at an average of about 0.75ppb over the past 10 years.

"Even if we managed to halt our GHG emissions today they would continue to linger in the atmosphere for decades to come and so continue to affect the

delicate balance of our living planet and our climate," said WMO secretary-general Michel Jarraud.

The prospects for reducing atmospheric CO_2 concentrations appear to be dwindling with the International Energy Agency (IEA) warning that the world is at risk of locking itself into an insecure, inefficient and high-carbon energy system. It forecasts that primary energy demand will rise by one-third between 2010 and 2035. Although the IEA predicts that the overall share of fossil fuels in global primary energy consumption will fall from around 81% today to 75% in 2035, and renewable energy will increase from 13% to 18%, the use of coal is forecast to grow by 65% over the same period, while gas use is expected to catch up with coal consumption.

EU low-carbon future at risk due to global shortage of metals

Resources Supplies of five metals key to low-carbon energy technologies are at risk and could hinder the adoption of wind and photovoltaic energy generation in the EU, according to a study for the European Commission.

The research examined the use of 14 metals in the six low-carbon energy technologies in the 2007 EU strategic energy technology plan – bioenergy, carbon capture and storage, electricity grids, nuclear, solar and wind.

Demand for three metals classified as "at high risk" – gallium, indium and tellurium – is expected to soar, if, as projected, there is a greater shift towards CdTe (cadmium telluride) and CIGS (copper indium gallium selenide) thin-film technologies in the photovoltaics industry. The study estimates that such moves could considerably increase the annual demand-to-supply for tellurium by 48%, for indium by 32% and for gallium by approximately 8%. The forecasted shift in wind technology from electromagnetic systems towards permanent magnetic-based direct-drive systems is expected to increase the EU demand for dysprosium and neodymium to around 4% of the current world supply of the metals, which are considered to be at high risk of shortage.

The analysis advises the commission to resist favouring one technology over another, for fear of being locked into a technology that may struggle to source sufficient materials.

Meanwhile, the environment commissioner Janez Potočnik has declared that the time for resource efficiency has come. "Increasing resource constraints are inevitable, so resource efficiency is a necessity," he recently told MEPs on the European Parliament's environment committee.

"It's all about meeting the needs of our customers. My team are always on hand to provide advice and guidance and make the necessary practical arrangements too."

Kayley, RRC Customer Services Manager

NEBOSH and IEMA Environmental Training from RRC

RRC have been developing and delivering first class training for over 80 years and our reputation speaks for itself. Whether you're an individual looking to further your career or an organisation looking to train your staff, you won't find expertise greater than ours. We work hard to make training as easy as possible and we are always thinking of new ways to make our courses effective and enjoyable. Our tutors are highly experienced, friendly and approachable and our dedicated Customer Services team back this up with excellent support.

RRC Environmental Courses

IEMA Accredited Courses

- IEMA Introduction to Environmental Management Systems
- IEMA Foundation Certificate in Environmental Management
- IEMA Associate Certificate in Environmental Management

All available throughout the world by e-Learning and Distance Learning
Online assessment available.

NEBOSH Accredited Courses

- NEBOSH National Certificate in Environmental Management
- NEBOSH Diploma in Environmental Management

Face-to-Face Training in London and Bahrain

Distance Learning and e-Learning with exam venues throughout the world

In company Training
We deliver training at a venue of your choice. Accredited courses available as well as bespoke training to meet the specific needs of your organisation.

RRC Training
27-37 St George's Road
London SW19 4DS

Telephone:
+44 (0)20 8944 3108
E-mail: info@rrc.co.uk

RRC TRAINING
www.rrc.co.uk

Short cuts

Plastic eating fish

Tiny plastic debris, measuring less than 1mm across, is increasingly accumulating in marine habitats, according to new research published in the journal *Environmental Science & Technology* (lexisurl.com/iema11354). Scientists discovered microplastics contaminating shorelines at 18 sites worldwide, with more material in densely populated areas. They believe that an important source of microplastic is sewage contaminated by fibres from washed clothes. Forensic evaluation of microplastic from sediments reveals the proportions of polyester and acrylic fibres used in clothing resembled those found in habitats that receive sewage-discharges and sewage-effluent. Samples of wastewater from domestic washing machines reveal that a single garment can produce more than 1,900 fibres per wash.

HFC emissions rise

The United Nations Environmental Programme (UNEP) has warned that hydrofluorocarbons (HFCs) are rapidly increasing in the atmosphere as they are adopted as ozone-friendly alternatives to chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs). In a new report (lexisurl.com/iema11357), the UN body says that emissions of HFCs (excluding HFC-23) are growing at a rate of 8% per year, and by 2050, without action, they could rise so high that they almost cancel out the tremendous climate benefits won earlier by the phase-out of CFCs and other ozone-depleting substances. It estimates that annual emissions of HFCs will rise from about 3.5Gt to 8.8Gt of CO_2 equivalent by the middle of the century, which is comparable with the drop in annual emissions of ozone-depleting substances between 1988 and 2010. UNEP wants alternatives to be urgently adopted to bring down the projected growth of HFCs. The range of alternatives to HFCs includes designing buildings that avoid the need for air conditioning and using alternative substances.

Business groups set out plans for green growth

Strategy The EEF and the Aldersgate Group have both launched reports setting out how the UK can successfully generate low-carbon growth.

Both organisations believe public sector procurement can help drive innovation in green technologies and services. They also highlight the important role that the proposed Green Investment Bank (GIB) can play in greening the economy. The Aldersgate Group wants the GIB to be able to borrow from capital markets from the start, while the EEF says the bank's role must be expanded to include support for a wider range of projects including environmental technologies, not just infrastructure.

The 10-point plan from the EEF also includes a call to replace the 2020 renewables target with a 2030 energy decarbonisation goal. The manufacturing body claims this will provide the certainty energy companies need to invest in low-carbon generation technologies for the least cost. It also wants energy policy to focus on "carrots", such as the feed-in tariffs, rather than "sticks", such as the proposed carbon floor price, due to start in April 2013.

In addition, the EEF recommends extending climate change agreements to all sectors prepared to agree to deals to improve their energy efficiency, in place of the Carbon Reduction Commitment Energy Efficiency scheme.

The Aldersgate Group describes the existing carbon policy framework as too complex. The group claims clearer policy will encourage businesses to invest more in energy efficiency. It also wants the government to increase the proportion of tax revenue from environment taxes.

Public sector ramps up CO_2 targets

Emissions Many hospitals, universities and local authorities have almost doubled the level of their carbon-reduction targets since 2006 despite tough spending cuts, according to a new survey by the Carbon Trust.

The poll of 472 public sector organisations working with the trust to cut carbon emissions reveals that in 2011 the average CO_2 reduction target was 28%. When the trust last asked the question, the figure was 16%. One organisation surveyed, the University of Bath, is even planning to cut its emissions by 43% between 2005 and 2020.

According to the trust, the findings imply central government's aim to reduce the carbon footprint of its estate by 25% by 2015 is not only achievable but could be rolled out more widely.

"The public sector has a vital leadership role to play in helping the UK to meet its carbon targets," said Tim Pryce, the Carbon Trust's head of public sector. "It is exciting to see leading organisations in the public sector matching central government's level of ambition, and saving the taxpayer money at the same time." Pryce went on to reveal that the trust has identified £2 billion of potential savings in its work with public sector organisations, but warned they can only be achieved with "the right direction, leadership and expert support".

David Dowson, environment officer at Worcestershire Health and Care NHS Trust, says that the Carbon Trust's findings reflect his experiences. "Targets in the public sector have gone up over the last few years. At Worcestershire NHS Trust we have a reduction target of 20%, but I know others with 30% targets."

Dowson agrees that reductions goals of 20%–30% are realistic for most public sector organisations, but calls on the government to consider putting in place rewards to help environmental managers to gain the level of support needed to drive such targets. "If central government offered financial incentives to organisations that achieve tougher targets, of say 25%, this would make it easier to get senior managers' commitment," he said.

SMEs benefit from having certified EMS

Management systems Small and medium-sized enterprises (SMEs) can improve their profitability and their environmental impacts by implementing a certified environment management system (EMS), according to Defra.

A study by the environment department found that two-thirds of participating SMEs had either improved sales figures or expected to do so as a result of implementing an EMS certified to either ISO 14001 or BS 8555/Acorn. Audits of the 31 SMEs studied revealed that more than one-third had increased sales by an average of £14,900 per million pounds of turnover.

The research also found the majority had been able to achieve tangible cost benefits, with firms making an average annual saving of £4,875 per million pounds of turnover. However, levels of savings varied considerably, leading the researchers to conclude: "those SMEs that invested more in implementing the EMS upfront achieved the highest payback."

Defra estimates that, based on the level of savings and the extra sales reported during the research, SMEs can achieve payback on installing an EMS and achieving certification in as little as one month. Those firms participating in the research were also able to demonstrate improved environmental impacts, with 28 of the 31 participants reducing their carbon emissions by 39 tonnes per million pounds of turnover.

IEMA welcomed the report as highlighting the business benefits for SMEs in adopting an EMS as well as the important role of smaller businesses in the UK's broader sustainability agenda. "SMEs are a vital part of the economy and this research demonstrates that effective environment management helps to support jobs and enable businesses to grow sustainably, as well as reducing environmental impacts," said Martin Baxter, IEMA policy director.

Toby Robins, sustainable development director at Wiles Greenworld, an SME with an ISO 14001 certified EMS, said Defra's study confirmed that an EMS can lead to new business opportunities. "There is a huge knowledge gap in many SMEs when it comes to the business benefits of embracing environmental management," he said. "These figures show that firms willing to look at the issues and opportunities offered by an EMS have found significant commercial benefits can be obtained."

A spokesperson from the Federation of Small Businesses said: "Being resource-efficient can help to drive down costs during these difficult economic times and managing energy use can help insulate a firm from volatile fossil fuel prices.

"It is, however, up to an individual business to decide whether an EMS is right for them. But, with more firms using their green credentials as a way to distinguish themselves from their competitors, putting such a scheme in place could help manage that."

A survey of SMEs in 2009 by NetRegs, the now defunct online information source on environmental good practice, found that only 4% of the 7,000 small businesses responding had an EMS in place. Most of those surveyed said an EMS was either "no use" or of "little use" to their business. NetRegs said the complexity and cost of an EMS was putting SMEs off.

CASE LAW

Lexis®PSL

Disclosing information

The issue of how public authorities should approach the exceptions to disclosure set out in the Environmental Information Regulations 2004 (EIR) has been the subject of a European Court of Justice (ECJ) decision. Most exceptions under the EIR are subject to a public interest test: the public interest in maintaining an exception has to be measured against the interest in disclosure. But what happens where there are a number of exceptions in play? Does the local authority have to look at each exception in turn, assessing the public interest in maintaining that exception against the interest in disclosure? Or do they have to aggregate all the exceptions and assess the combined public interest against the public interest in disclosure?

The ECJ proceedings arose from a request by the information manager for Health Protection Scotland (HPS) to Ofcom for information under the EIR on the location of mobile phone bases. Following publication of an independent report (the Stewart report), the government set up a website containing information provided voluntarily by mobile phone providers on the location of phone masts. However, the website only provides approximate locations of the masts and HPS wanted more exact details. Ofcom refused to disclose the information for two reasons: it would be a security risk, as the bases included the police and emergency service radio networks, and it would infringe the intellectual property rights of the mobile network companies.

The Information Commissioner's Officer (ICO) ordered Ofcom to disclose the information. Ofcom appealed to the information tribunal, but the appeal was rejected. The tribunal looked at the exceptions separately. It held that the public authority had to consider each element separately rather than weigh the aggregate interests. Ofcom then appealed to the Court of Appeal. The court agreed with Ofcom that it should be allowed to aggregate the weight of the statutory exceptions to disclosure when balancing them against the public interest. The Supreme Court agreed but recognised that the answer was unclear and depended on the construction of the EU Directive on public access to information (2003/4/EC). The matter was referred to the ECJ, asking it to confirm the Directive's meaning. It found that a competent authority may, when weighing the public interests served by disclosure against the interests served by a refusal to disclose, evaluate cumulatively a number of grounds for refusal.

Despite the aim of the EIR to promote disclosure, the practical effect of this decision will be that a public authority will be able to take into account not only a specific exception but the aggregation of interests served together by the exceptions to assess the public interest in disclosure.

Colleen Theron and Deirdre Lyons, LexisPSL

Short cuts

Recession cuts transport emissions across Europe

Emissions of many pollutants from transport fell in 2009, the European Environment Agency (EEA) has reported, although the Brussels-based organisation warns that an economic upturn is likely to fuel a recovery in pollution levels. The EEA report shows that some efficiency gains have been made, with new cars in 2010 approximately one-fifth more efficient than in 2000, for example. However, accelerating demand often outpaced the relatively modest efficiency gains, even if the recession slowed activity in some areas, says the EEA. It found that between 1990 and 2009, demand for transport grew by approximately one-third, leading to a 27 % increase in greenhouse gases from transport in the same period. New figures from the UK's Society of Motor Manufacturers and Traders (SMMT) reveal that emissions from new vehicles continue to fall, with CO_2 from new cars dropping a further 3.5% to 144.2g/km in 2010. According the SMMT, in 2010 half of all new cars had an emissions rating of below 140g/km and the number producing less than 100g/km doubled.

New CCS plans

Energy secretary Chris Huhne has officially launched a carbon capture and storage (CCS) test site in Yorkshire. The £20 million project at the SSE's Ferrybridge coal-fired power station will aim to capture the equivalent of up to 100 tonnes of carbon emissions a day. "This is the first operating carbon capture plant attached to a power station at this scale in the UK," said Huhne. Meanwhile, SSE and Shell are to work together on a proposed CCS project at the gas-fired Peterhead power station. The project aims to design and develop a post-combustion CCS facility capable of capturing CO_2 from one 385MW combined-cycle gas turbine unit at the SSE-operated power station. It is planned that the CO_2 will then be transported to Shell's Goldeneye gas field in the North Sea using, as far as possible, existing infrastructure.

Poor policy blamed as UK slips down sustainable energy table

Energy The UK has fallen seven places in the World Energy Council's (WEC) third annual Energy Sustainability Index, which ranks countries in terms of the security, affordability and environmental sustainability of their energy supply.

In the overall rankings for 2011, the UK fell to 14th position from 8th last year, overtaken by countries including Colombia, Spain and Italy, while Switzerland, Sweden and France remained unmoved in the top three rankings. Joan MacNaughton, executive chair of the WEC's policy assessment group, said uncertainty over UK government policy was in part to blame for the fall, citing in particular the plans for electricity market reform (EMR). "The headline of EMR proposals is known, but the detail of how they're going to work is not known," she said. "Detail needs to be filled in and the credibility of the execution of the policies needs to be built to encourage people to invest."

In its report outlining this year's rankings, the WEC argues that to ensure

a sustainable energy supply, governments must think long term and base policies on realistic costs, including placing a value on CO_2, to attract the investment needed. Policymakers must also understand organisations' need for clear timescales for returns on investment on energy-efficiency measures, the WEC concludes. "Without a deeper understanding of industry expectations … policymakers will face challenges in developing the industry-changing policies required for a low-carbon future," states the report.

Diluting European air-quality rules risks lives, warn MPs

Pollution The government is putting thousands of lives at risk by failing to adhere to EU air-quality standards, according to the latest report from the Environmental Audit Committee (EAC).

The EAC is highly critical of government ministers' attempts to water down EU legislation that outlines limits on harmful airborne pollutants, PM10s and nitrogen dioxide (NO_2). Air over London has repeatedly exceeded EU limits on PM10 levels, with the EU threatening the UK with legal action in April. Defra is now consulting on a proposed measure to ensure London meets PM10 targets in future, and has also submitted proposals to the European Commission to extend the UK's deadline to meet limits for NO_2.

The new EAC report (lexisurl.com/iema11358) warns that air pollution is contributing to 30,000 deaths in the UK each year and argues it should not renege on its promise to meet EU safety standards. "It's a national scandal that thousands of people are still dying from air pollution in the UK in 2011 – and the government is taking no responsibility for this," said Joan Walley, chair of the EAC. "Ministers must clear the air in our cities – not lobby the EU to dilute pollution safety standards."

The EAC recommends establishing a ministerial group to oversee the delivery of a new cross-departmental air-quality strategy and calls on central government to support local authorities in creating low-emissions zones for cities.

Simon Birkett, founder and director of the Clean Air in London campaign, welcomed the EAC's recommendations and called on the prime minister to take action. "No parliamentary select committee can ever have published a more damning report of a government's failure to protect its people from harm," he said.

The EAC's report came as the European Environment Agency revealed that the harm caused to human health and the environment by industrial air pollution cost the UK up to €11 billion in 2009 (lexisurl.com/iema11359).

Read the latest news daily at **environmentalistonline.com**

ONLINE OFFERS

As an IEMA member you can access:

- daily news updates
- *the environmentalist* blog
- searchable archive of *the environmentalist* articles
- links to the latest consultations
- details of new regulations
- links to upcoming events
- daily updates of the latest jobs

Accessible anytime, anywhere, you need never be without the UK's leading environment management magazine

the environmentalist

www.environmentalistonline.com

iema
Institute of Environmental Management & Assessment

Short cuts

Sustainable palm oil

EU retailers and manufacturers are taking more action to ensure they procure sustainable palm oil than they did two years ago, according to WWF's second Palm Oil Buyers' Scorecard (lexisurl.com/iema11328). This year 132 firms participated in the research, which scores companies against their membership of the Roundtable on Sustainable Palm Oil (RSPO) and their commitments to sourcing palm oil from RSPO-certified suppliers. The 2011 scorecard reveals that 66% of participants have pledged to ensure all their palm oil is RSPO-certified by 2015, but nearly half of the retailers and more than 20% of manufacturers scored very poorly. "It is possible to source certified sustainable palm oil to cover most or all of a firm's palm oil usage, so there are no excuses for all companies not to take action," said Adam Harrison, WWF's palm oil expert. UK firms including Allied Bakeries, Cadbury's and Waitrose were awarded top marks in this year's scorecard. Learn how London Zoo is working to ensure it procures only sustainably sourced palm oil on pp.27–28.

Energy price hike

DECC's annual energy statement (lexisurl.com/iema11329) reveals that climate change and energy-efficiency policies are likely to lead to increased energy costs for businesses. Although the government anticipates its policy measures will lower annual household bills by 7% in 2020, medium-sized energy-consuming businesses could see their energy bills increase by 19%, while the large energy users could see costs rise by between 2% and 20%. The EEF, the manufacturers' organisation, called on the government to make good on its promises to help big energy users. Steve Radley, EEF director of policy, warned: "The government needs to get a firmer grip on the energy costs most directly under its control – those arising from its own policies. Failure to do so could threaten future investment in the manufacturing sector."

CSR reports cite incorrect and irrelevant data

Reporting Unsubstantiated claims, gaps in data and inaccurate figures are common in many corporate social responsibility (CSR) reports, according to researchers at the University of Leeds and Euromed Management School.

The study, due to be released early next year by the Sustainability Research Institute, analysed more than 4,000 CSR reports, rankings and surveys published worldwide over the past 10 years. Of the 443 EU-based companies featuring in the FTSE All World Index between 2005 and 2009, the research found that fewer than one in six reported greenhouse-gas emissions from all their activities, while others did not clarify which activities their data referred to.

"Some examples show that the quality of environmental data in sustainability reports remains appalling at times, even today," commented Dr Ralf Barkemeyer, a lecturer in CSR at the University of Leeds and one of the authors of the forthcoming report. "In financial reporting, leaving out an undisclosed part of the company in the calculation of profits would be a scandal. In sustainability reporting, however, it is common practice."

UK telecoms giant BT, a frequent winner of CSR reporting accolades, was found, in its 2007 sustainability report, to have attributed 99.8% of its international waste arisings to a handful of office workers in Belgium. BT also reported that its southeast Asian and Australian workforce did not consume any water at all. In a statement, BT described environmental reporting as a new and evolving science, and one that is especially complex when it comes to trying to standardise measurement and reporting across dozens of countries. The firm also said it is always looking to do things better.

The research also found that Italian energy company Enel reported in 2009 that its emissions amounted to 122,089 million tonnes, equivalent to four times global emissions, and Swiss firm ABB overstated its sulphur oxide and nitrogen oxide emissions by a factor of 1,000 from 2003 to 2005.

The research results come as KPMG announced that 64% of the largest 100 companies in 34 major countries are now reporting corporate responsibility activity, with every company in the FTSE 100 publishing a CSR report for the first time in 2010/11, making the UK the "leader" for non-financial disclosure.

But Barkemeyer said rankings such as the KPMG one tend to largely focus on whether or not companies report, not what they report.

"Very few criteria applied in CSR ratings relate to the actual impact of corporate activity on the environment and society. Companies get points for knowing where they want to go. But nobody seems to check whether this is where they are heading. Aspiration replaces performance," commented Barkemeyer.

Puma finalises environmental profit and loss account

Puma has added £44 million more to the value of its environmental impacts in 2010, as the sports goods firm completes its ground-breaking environmental profit and loss (EP&L) statement. In May, the company valued its greenhouse-gas emissions and water consumption at £81 million, bringing the overall value of its environmental impacts in 2010 to £124 million. The latest figures relate to land use change for the production of raw materials, and air pollution and waste along Puma's value chain. The EP&L reveals that only £7 million of the total derives from Puma's core operations, such as offices, warehouses, stores and logistics, with the rest coming from its supply chain. The company plans to use the first EP&L account as a benchmark for mitigating its environmental footprint. "We view the EP&L as an essential tool to help drive sustainability development across the group, because analysing a company's environmental impact, and understanding where environmental measures are necessary, will not only help conserve the benefits of ecosystem services but also ensure the longevity of our business," said Jochen Zeitz, chair of Puma.

NEW REGULATIONS

In force	Subject	Details
15 November	Planning	The Localism Act 2011 has received royal assent. Some measures came into force on 16 November (such as a duty on local authorities to cooperate on the planning of sustainable development (s.110); more will come into force on 15 January 2012, although most of its provisions are likely to start on 6 April 2012. lexisurl.com/iema11273
21 November	Planning	The Town and Country Planning (General Permitted Development) (Scotland) Amendment Order 2011 amends the 1992 Order, changing the classification of dwellings eligible for permitted development. lexisurl.com/iema11098
28 November	Energy	The Smoke Control Areas (Authorised Fuels) Regulations (Northern Ireland) 2011 consolidate the 2008 and 2010 Regulations, which declared fuels to be recognised as authorised for the purposes of article 2(2) of the Clean Air (Northern Ireland) Order 1981. lexisurl.com/iema11253
30 November	Energy	The Home Energy Assistance Scheme (Scotland) Amendment (No. 2) Regulations 2011 amend the 2009 Regulations to extend eligibility. lexisurl.com/iema11093
30 November	Pollution	The Control of Pollution (Oil Storage) (Amendment) Regulations (Northern Ireland) 2011 amend reg. 8(1)(a) of the 2010 Regulations. lexisurl.com/iema11271
1 December	Ecodesign	The Ecodesign for Energy-related Products (Amendment) Regulations 2011 insert two additional products (household dishwashers and household washing machines) into the table in Schedule 1 to the 2010 Regulations and add a requirement for the secretary of state to review the 2010 Regulations no later than five years after they came into force. The Regulations also amend the Energy Information Regulations 2011 and reduce the time for appeals to the first-tier tribunal from two months to 28 days. lexisurl.com/iema11269
1 December	Built environment	The Historic Environment (Amendment) (Scotland) Act 2011 (Saving, Transitional and Consequential Provisions) Order 2011 and the Historic Environment (Amendment) (Scotland) Act 2011 (Commencement No. 2) Order 2011, enact various provisions of the Historic Environment (Amendment) (Scotland) Act 2011. lexisurl.com/iema11265; lexisurl.com/iema11266
1 December	Planning	The Planning etc (Scotland) Act 2006 (Commencement No.12) Order 2011 brings s.20(3) of the Planning etc (Scotland) Act 2006 into force and repeals certain provisions of the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. Meanwhile, the Planning etc (Scotland) Act 2006 (Listed Buildings) (Saving Provisions) Order 2011 makes saving provisions in relation to the changes made to the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. lexisurl.com/iema11261; lexisurl.com/iema11262
1 December	Planning	The following Regulations amend existing Town and Country Planning Regulations: the Town and Country Planning (Enforcement of Control) (No. 2) (Scotland) Amendment Regulations 2011; the Town and Country Planning (Appeals) (Written Submissions Procedure) (Scotland) Revocation Regulations 2011; the Country Planning (Inquiries Procedure) (Scotland) Amendment Rules 2011; and the Town and Country Planning (Appeals) (Scotland) Amendment Regulations 2011. lexisurl.com/iema11256; lexisurl.com/iema11257; lexisurl.com/iema11258; lexisurl.com/iema11259
1 December	Planning	The Planning (2011 Act) (Commencement No.1) Order (Northern Ireland) 2011 brings into operation s.247 and s.248 of the Planning Act (Northern Ireland) 2011, while the Planning (2011 Act) (Transitional Provisions) Order (Northern Ireland) 2011 makes transitional provisions in connection with the commencement of s.248. lexisurl.com/iema11267; lexisurl.com/iema11268

LATEST CONSULTATIONS

12 January 2012

Renewables Obligation

DECC is consulting on banding proposals for renewable electricity generation under the Renewables Obligation (RO) for the period 2013–17. The RO is currently the main financial mechanism to encourage deployment of large-scale renewable electricity generation. The lead banding scenario proposed in the consultation focuses on lower-cost renewable technologies that will deliver the majority of the electricity required for the UK to meet its 2020 renewable energy targets, says DECC. Separate consultations are being run on the bandings in Scotland (13 January 2012; lexisurl.com/iema11278) and Northern Ireland (19 January 2012; lexisurl.com/iema11279)
lexisurl.com/iema11277

13 January 2012

Energy performance

The Scottish government is consulting on the introduction of a transaction fee for lodging Energy Performance Certificates (EPCs) as part of the creation of a database for non-domestic buildings. The Sullivan report, *A low carbon buildings standards strategy for Scotland*, which was published in 2007, identified the need for an electronic register/database for non-domestic properties, and, as part of the government's implementation of the Climate Change (Scotland) Act 2009, Green Deal and improved procedures to comply with the EU Directive on the energy performance of buildings, a new national database that will collect the information underpinning the EPC calculation for non-domestic buildings is now being developed. At the same time, the Scottish government is also consulting on the introduction of a transaction fee for the lodging of EPCs for dwellings on the home energy efficiency database.
lexisurl.com/iema11275

23 January

Environmental permitting

The Welsh Assembly government is consulting on the level of fees and charges to be levied under the Environmental Permitting Regulations 2010 for the Local Air Pollution Prevention and Control (LAPPC) and Local Air-Integrated Pollution Prevention and Control (LA-IPPC) permits in 2012/13. These fees and charges in Wales are applied to 1,350 or so businesses that hold LAPPC and LA-IPPC permits.
lexisurl.com/iema11280

Environment protection

The future role of the Environment Agency's statutory Environment Protection Advisory Committees (EPACs) in England is the subject of a Defra consultation. Established in the Environment Act 1995, the EPACs – and Regional and Local Fisheries Advisory Committees, which are part of the same consultation – face abolition. The consultation asks whether stakeholders agree with the replacement of EPACs by flexible non-statutory arrangements.
lexisurl.com/iema11276

27 January

Pollution prevention

The Environment Agency is consulting on an updated pollution prevention guidance note, currently known as *General guide to the prevention of pollution: PPG 1*, but which will in future be known as *Introducing pollution prevention: PPG 1*. The aim of the revised guidance is to help businesses understand their environmental responsibilities and improve performance. It includes updated legal references, more good-practice advice and directs people to further information.
lexisurl.com/iema11274

NEW GUIDANCE

Built environment	Revised guidance on sustainability in the construction and real-estate sector has been published by the Global Reporting Initiative (lexisurl.com/iema11121). *Construction and real estate sector supplement* (version G3.1) provides guidance for anyone who invests in, develops, constructs, or manages buildings, establishing the principles and indicators for reporting business strategy and performance.
Electricity from renewables	HM Revenue & Customs has updated its guidance (lexisurl.com/iema11281) explaining when supplies of electricity generated from qualifying renewable sources are exempt from the climate change levy (CCL), and the procedures involved in applying the exemption. The new notice (CCL1/4 (November 2011) replaces the previous version, which was published in July 2010.
WEEE	A new set of "reuse" protocols has been launched by WRAP to help cut the half a million tonnes of waste electrical and electronic equipment thrown away each year. They cover freezers, mobile phone equipment, televisions and vacuum cleaners (wrap.org.uk/reuseprotocols).
Electric motors	The Carbon Trust has published two new guides – *Motors and drives* (lexisurl.com/iema11282) and *Motors and drives technology overview* (lexisurl.com/iema11283) – to help UK industry save more than £630 million through the use of more efficient electric motors and variable speed drives (VSDs). According to the trust, the UK food and drink industry could save up to £70 million per year by installing VSDs and more efficient motors, while the plastics, rubber and chemicals sectors could collectively save up to £270 million annually. The trust advises that fans and pumps often do not need to work at 100% capacity, and by using a VSD to slow them down by just 20%, firms can save up to 50% on their energy use.

EVENTS CALENDAR

Date	Course	Location and details
11 January 2012	The EU blueprint to safeguard Europe's water – highlighting the critical issues for the UK	School of African and Oriental Studies, London lexisurl.com/iema11291
11 and 17 January 2012	Energy efficient breakfast – Carbon Trust	Luton (11 January) lexisurl.com/iema11286 Darlington (17 January) lexisurl.com/iema11287
26 January 2012	Green power forum	University of Salford lexisurl.com/iema11114
28–29 February 2012	World water-tech investment summit 2012	London Chamber of Commerce and Industry lexisurl.com/iema11284
6–7 March 2012	Hazmat 2012	NEC Birmingham lexisurl.com/iema11285
9 March 2012	envecon 2012: applied environmental economics conference	Royal Society, London lexisurl.com/iema11113
20–21 March 2012	CIWEM annual conference: water and environment 2012	Olympia Conference Centre, London lexisurl.com/iema11117

Cooking the books?

Figures showing the UK's greenhouse-gas emissions have been falling since 1990 don't tell the whole story, argues **John Barwise**

Greenhouse-gas (GHG) emissions in the UK are falling and the country is on track to meet its Kyoto protocol commitment target to reduce emissions by 12% by 2012 against 1990 base levels. Emissions from most other signatories to the protocol – Annex B or developed countries – are also falling.

Despite these "achievements" there is growing evidence that global emissions generated by goods consumed in the UK and elsewhere are rising and could cancel out all the gains achieved under the protocol. The significance of embedded carbon in traded consumer goods is well documented but there are no binding agreements to tackle the problem. In the UK, the energy and climate change committee (ECCC) has now launched an inquiry to investigate the case for including consumption-based emissions in the reporting of GHG emissions (see bottom panel, right).

It's consumption, stupid

Total GHG emissions across the EU were 17.4% below the 1990 base level under the protocol in 2009, representing a net reduction of 974 million tonnes of CO_2 equivalent ($mtCO_2e$). The generally warmer winters over the past decade have played a part in recent years, but credit must also go to the implementation of the EU emissions trading scheme (ETS) improvements in energy efficiency and the continued growth in renewable energy, which has doubled in recent years. Perhaps unsurprisingly, the biggest fall over the past few years was the 355 $mtCO_2e$ reduction that occurred during the 2008–09 recession, when the demand for goods, services and energy fell dramatically.

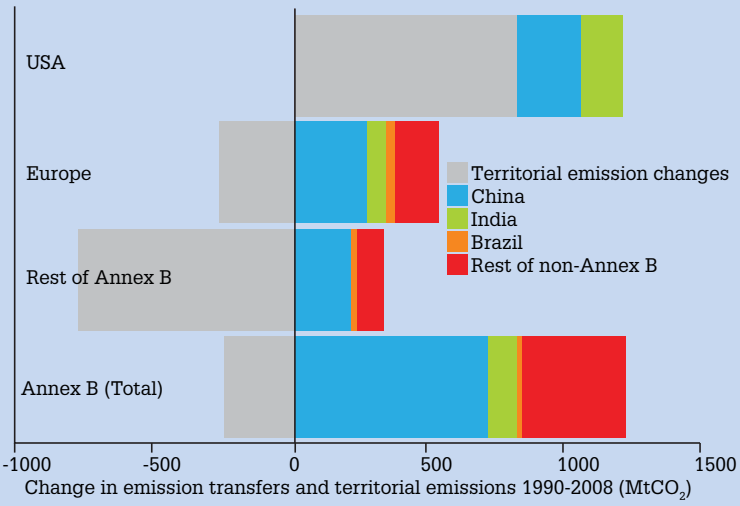
But despite the fall in GHG emissions in EU countries and other Annex B countries signed up to legally binding emission-reduction commitments, global emissions hit record levels in 2010 (p.6) and are rising faster than the worst-case scenarios outlined by the Intergovernmental Panel on Climate Change in 2007.

Data released by the US Department of Energy show that the increased rate of CO_2 releases in 2010 was the highest ever recorded, with global emissions rising by 6% in one year.

One reason for the apparent anomaly is that Annex B signatories to the protocol are required to account only for territorial production-based emissions. Imported goods and services are not included in these inventories and it is the shift of production from developed countries to developing ones not covered by international agreements, coupled with the growth in consumer goods, that is responsible for a large proportion of the continued rise in global GHG emissions.

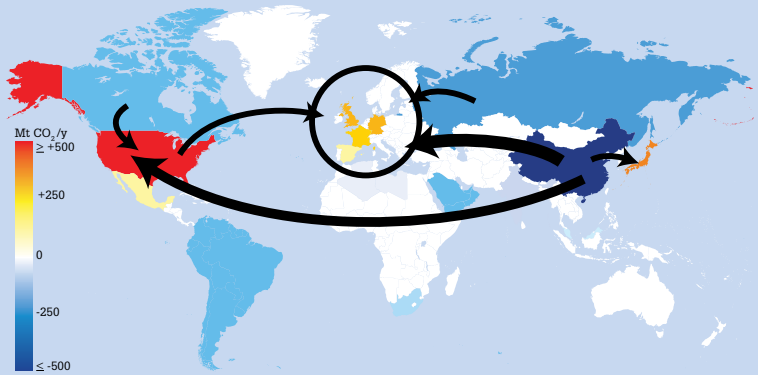
Emissions from China, now regarded as the factory of the world, increased by 10.4% in 2010 and are forecast to exceed one billion tonnes by 2020. Brazil, another fast-developing country, reported a 12% rise in GHG emissions, while emissions from South Korea went up by 9%. By contrast, US emissions increased by 1.4% amd UK emissions by 2.8%. The share of emissions from the developing world has increased from 29% in 1990 to 43% in 2010.

GROWTH IN TRANSFER EMISSIONS



Source: "Growth in emission transfers via international trade from 1990 to 2008", Proceedings of the National Academy of Sciences, 2011.

CONSUMPTION-BASED EMISSIONS



Interregional fluxes of emissions embodied in trade from dominant net exporting countries (blue) to dominant net importing countries (red)

Source: "Consumption-based accounting of CO_2 emissions", Proceedings of the National Academy of Sciences, 2010.

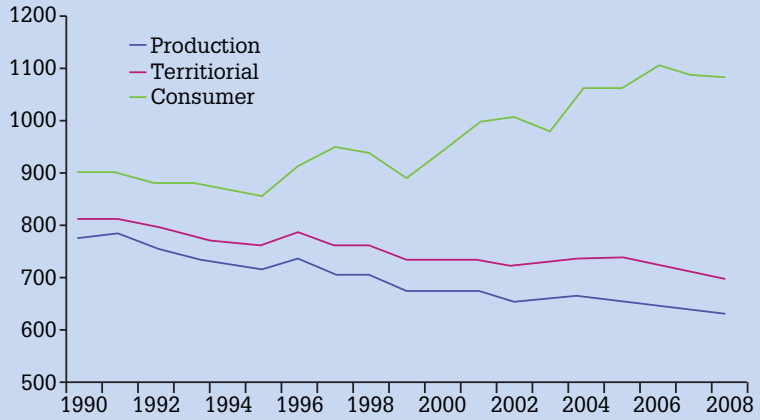
Data from the International Energy Agency reveal that CO_2 emissions were 5.3% higher in 2010 than 2009, reaching a record 30.4 gigatonne (Gt), fuelled by rising demand for coal in China and India.

Recent studies (lexisurl.com/iema11217) published in the *Proceedings of the National Academy of Sciences* (PNAS) trace the GHG pathways between developed and developing countries. According to Glen Peters and his colleagues, emissions from traded goods and services have increased from 4.3Gt of CO_2 in 1990 (20% of global emissions) to 7.8Gt CO_2 in 2008 (26%). Net transfers of trade emissions from developing to developed countries have quadrupled from 0.4Gt CO_2 to 1.6Gt CO_2 over the same period (top panel, above).

In a further PNAS report (lexisurl.com/iema11325) looking specifically at the comparison between production- and consumption-based CO_2 emissions,

John Barwise is director of QoL, an environmental management and communications consultancy

COMPARATIVE PERFORMANCE



Comparison of UK consumption-based GHG emissions with territorial GHG emissions from 1990 to 2008

Source: "Response to the ECCC consultation on consumption-based emission reporting", UK Energy Research Centre, 2011.

PARLIAMENTARY INVESTIGATION

The House of Commons Energy and Climate Change Committee (ECCC) has launched its investigation into whether there is a case for consumption-based greenhouse-gas (GHG) emissions reporting in the UK. Introducing the inquiry, the committee explained that, while UK emissions have decreased since 1990, the production-based approach only accounts for emissions produced physically in a particular territory and fails to take account of imported goods. It will consider whether it is feasible to adopt a consumption-based reporting regime with reduction targets.

In its response to the ECCC request for evidence, the UK Energy Research Centre proposed three steps the UK government could consider in pursuing a move towards consumption-based emissions reporting. These are: establishing standards for the harmonisation of consumption-based emission-reporting methods to ensure robustness and consistency between country estimates; commission a report to assess all the UK demand-side strategies that aim to influence quantities or patterns of consumption contributing to emission reduction, both in and outside the country; and an assessment of the cost-effectiveness of demand-side strategies to understand whether they are revenue-generating or a cost.

Steven Davis and Ken Caldeira estimate that in 2004, about 23% (6.2Gt) of global CO_2 emissions from burning fossil fuel were traded, primarily as embedded CO_2, in exports from China and other emerging markets to consumers in developed countries (second panel, p.17). In some countries, including the UK, more than 30% of consumption-based emissions were imported.

The net result of these territorial shifts is that while GHG emissions in Annex B countries have largely stabilised, emissions in developing countries (non-Annex B countries) have doubled. Developed countries are effectively externalising a high proportion of their GHG emissions by importing more products from developing countries. When taken together, Peters and his colleagues conclude that most developed countries have increased their consumption-based emissions faster than their territorial emissions.

The UK position

The situation in the UK reflects the global trend. A recent briefing paper published by the UK Energy Research Centre (UKERC) points out that, although the UK has met its obligations under the Kyoto protocol, averaging around a 1% fall in GHG emissions each year between 1990 and 2009, it has achieved this largely by outsourcing production, with additional reductions achieved through energy efficiency and emissions trading.

The UK is a net importer of goods and increasingly relies on imported consumer products to meet growing consumer demand. The proportion of territorial- or production-based emissions compared with imported emissions has changed dramatically in recent years. In 1992, 64% of the GHG emissions associated with goods and services were produced in the UK. By 2001, GHG emissions embedded in imports exceeded those from domestic production.

Imports now dominate most product categories, with the exception of direct household emissions. Research carried out by UKERC at the University of Leeds shows that GHG emissions embedded in imported goods doubled between 1990 and 2009 (top panel, left). The research further reveals that international shipping and aviation, which are excluded from the protocol, also add to the total embedded GHG emissions in imported goods of all the Annex B countries.

The UK's entire carbon budget programme to 2050, established under the Climate Change Act 2008, is centred on production-based emissions in the UK. The budgets work in much the same way as the Kyoto protocol: emissions embedded in imported goods are not included in the figures.

According to the Carbon Trust, around 25% of GHG emissions are embedded in goods and services that flow between the country of production and the country of consumption. It reports that in 2004, nearly 130mtCO_2e of emissions associated with imports into the UK occurred in countries with no binding emissions-reduction targets.

A 2007 study (lexisurl.com/iema11219), reported that the GHG emissions trade deficit had increased sixfold from 110mtCO_2e in 1990 to 620mtCO_2e in 2006. Overall, it suggested a 19% increase in UK GHG emissions between 1990 and 2003.

Most major developed countries are net importers of embodied carbon emissions, but the UK is one of the worst, as John Barrett, a leading GHG academic and professor of sustainability research at the University of Leeds, explains: "Out of the 10 largest GHG global emitters, the UK has the largest gap between its consumption and territorial emissions, meaning urgent attention is required to explore the policy options available to the UK government to reduce emissions embedded in imports."

UK consumption emissions are typically 34% higher than production emissions. Even if the UK does meet all its GHG emission-reduction targets for each of the carbon budgets, which would see carbon emissions fall by 80% by 2050, its net contribution to global GHG is likely to continue rising.

BUTTERWORTHS ENVIRONMENTAL LAW NEWSLETTER

keeps you from looking 'green' in front of colleagues and clients

Butterworths Environmental Law Newsletter (ELN) is an authoritative, well-researched and incisive newsletter, written by leading practitioners and experts at Trowers & Hamlins, which offers commentary and analysis on environmental law. **Butterworths Environmental Law Newsletter** offers an excellent mix of in-depth features; case, legislation and current awareness updates; and articles covering both technical and practical pieces.

The layout allows easy navigation and is well-suited to a time-pressured day. It is an essential companion for the busy environmental lawyer, environment managers, CSR managers and local authority officers and lawyers.

Butterworths Environmental Law Newsletter is an essential companion in helping busy environmental lawyers, local authorities and businesses keep fully up to date regarding environmental law developments; it provides timely updates with no waffle.

News Update
A monthly round-up of key news of importance to environmental lawyers, including practice points, consultations, planned legislation, and forthcoming cases.

Legislation Update
A round-up and analysis of recent and forthcoming legislative changes with expert commentary.

Case Reporter
Summaries of recent key environmental cases, with additional analysis and commentary to provide you with the most up-to-date quality case reports and summarised digests. Our case sections save you time finding the most relevant case information.

Features
Leading practitioners provide an excellent mix of high quality features analysing and commenting on the major developments relating to environmental law of critical importance to practitioners.

TAKE OUT YOUR SUBSCRIPTION TODAY!

1 ☐ YES! I would like a 12-month subscription to *Butterworths Environmental Law Newsletter*, please invoice me for £204 per year for 12 issues.

2 My Delivery Details *Required Fields

*Title (Mr/Mrs/Ms) *First Names

*Surname

*Job Title

*Company

*Address 1

*Address 2

*Address 3

*Town *Postcode

Telephone

Email

Signature Date

3 Return Your Order

✉ Marketing Department, LexisNexis, Freepost RSJB-BCTH-ZGUB, Quadrant House, The Quadrant, Sutton SM2 5AS

Tel +44 (0)845 370 1234

Fax +44 (0)20 8212 1988

Email newsales@lexisnexis.co.uk

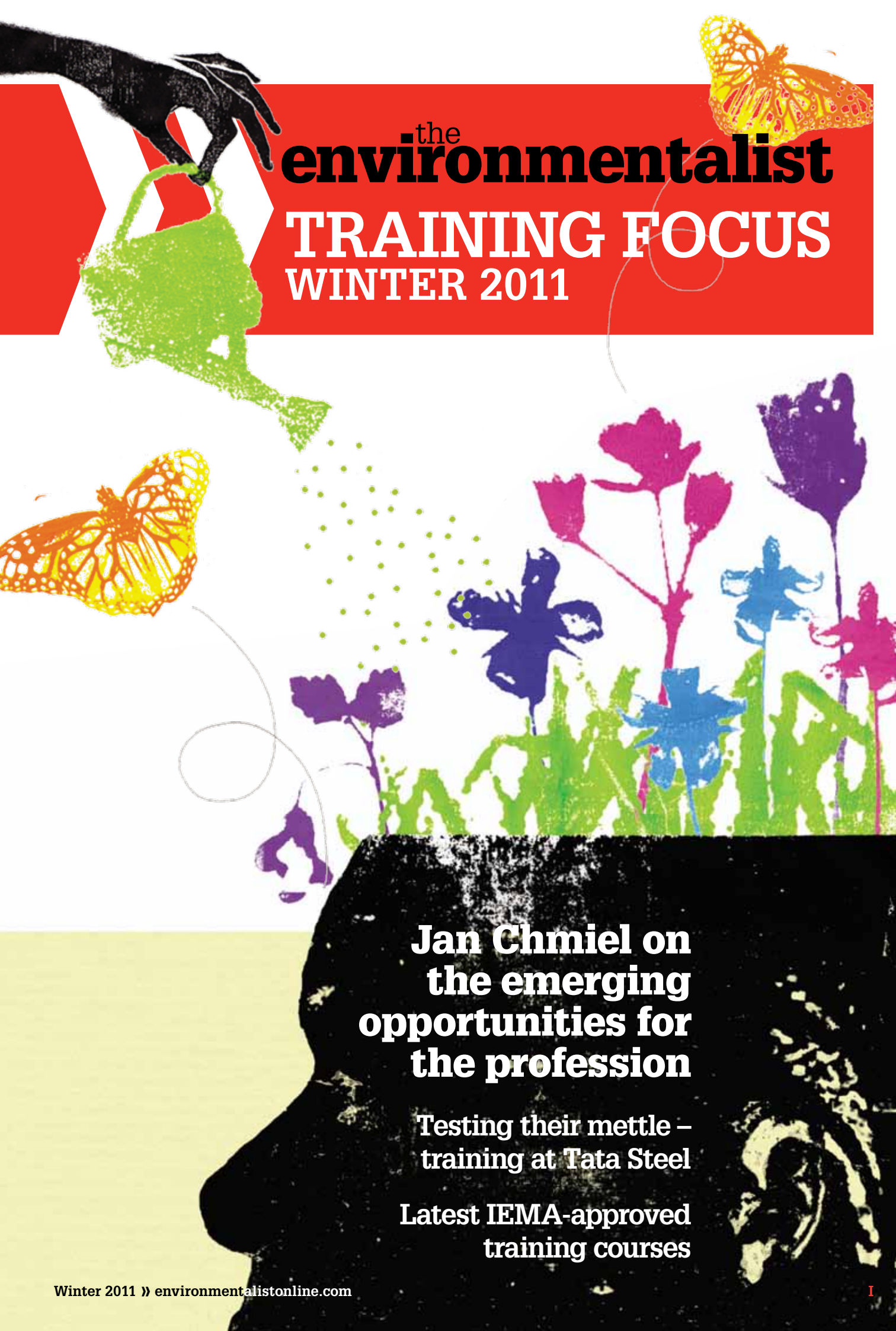
Please quote response code **AD8085**

Privacy Policy

We have a commitment to protecting your privacy. We may use the information we collect from you to keep you informed of LexisNexis products and services. We do not sell, trade or rent your email address to others, but we may pass your postal details to trusted third parties. If you do NOT wish to be kept informed by mail ☐ phone ☐ fax ☐ email ☐ of other LexisNexis products and services, please tick the relevant box. ☐ If you do NOT wish your mailing details to be passed onto companies approved by LexisNexis, to keep you informed of their products and services, please tick the box.

For further details of our privacy policy please visit our website at:
www.lexisnexis.co.uk/contact_us/privacypolicy.html

LexisNexis®



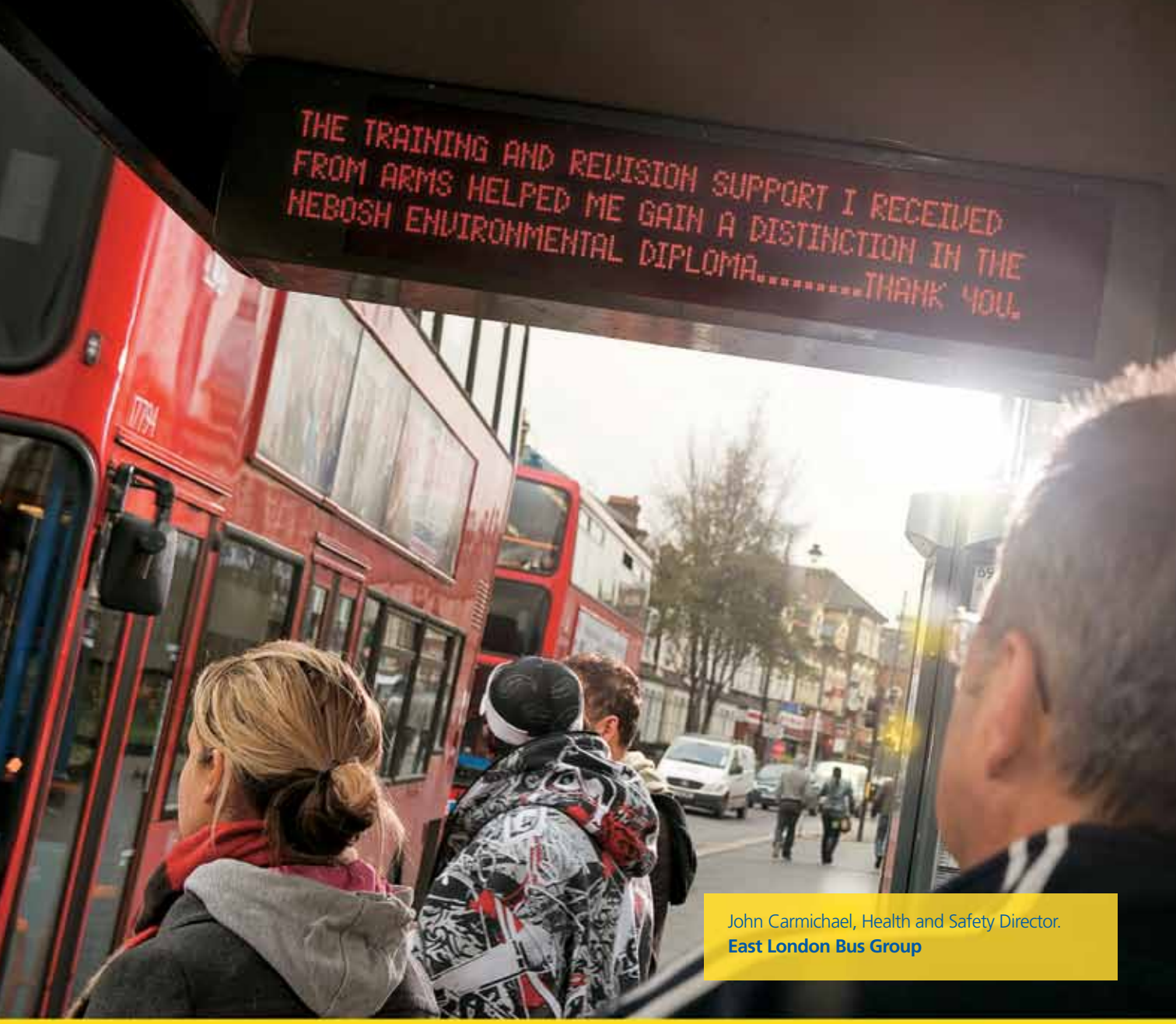
the environmentalist

TRAINING FOCUS
WINTER 2011

Jan Chmiel on the emerging opportunities for the profession

Testing their mettle – training at Tata Steel

Latest IEMA-approved training courses



John Carmichael, Health and Safety Director.
East London Bus Group

Environmental qualifications can all come at once too

With over twenty years' experience, at Aviva Risk Management Solutions we know how important it is to you that you get the best results from time spent training. That's why we created our Integrated Environmental Management Programme, which allows you to secure three qualifications after three weeks of formal study.

Our tutorial team has extensive environmental expertise and the programme structure saves you time by avoiding any duplication of common elements. This way you can quickly and efficiently gain IOSH Managing Environmental Responsibilities, IEMA Associate Certificate in Environmental Management and NEBOSH National Diploma in Environmental Management qualifications. And you can rest assured that we don't compromise on the quality of our training – in fact, one of our students became this year's NEBOSH top candidate for the Environmental Diploma.*

To find out more, please call **0800 656 9793,** email **risksolutions@aviva.co.uk** or visit **www.aviva.co.uk/risksolutions**

Talk to the health and safety experts today.

*2010 Exams

AVIVA

ARMS0012. 12/2011

Opportunity knocks

Jan Chmiel tells **Paul Suff** why it has never been a better time to be an environmentalist

Opportunity should be the watchword for the environment profession in future, believes IEMA chief executive Jan Chmiel. "The list of environment issues facing organisations is getting bigger," he says, "and many of them, such as resource constraints and tighter legislative control, are coming fast down the track. Organisations do not quite know how to respond. But the need for a response is growing. That presents the profession with an enormous opportunity. If environment professionals are up to the challenge, they can make a real difference and really start extending and broadening the way they are adding value for their organisations."

He concedes that the economic downturn has resulted in some environmental jobs disappearing, particularly in the hard-hit public sector, but maintains that environment professionals are uniquely placed to benefit from the recovery, as long as they seize the opportunity.

"From a business perspective, as the environment moves up the corporate agenda, it's about both risk and competitive advantage. Environment professionals understand risk. And because much of the profession is built around environment systems such as ISO 14001, they have an unparalleled view of the whole organisation. They understand the environmental challenges right across the value chain. They talk to the facilities people, the finance people, the procurement people etc. They see risk in a way that nobody else does," he explains. "Increasingly, however, organisations are also seeing the opportunity to create competitive advantage through understanding the complex and integrated nature of environmental and social constraints," he adds. "Managing environmental issues in complex supply chains, for example, lends itself entirely to new ways for organisations to do business."

Chmiel uses his recent discovery that a private equity company has made an environment scientist a core member of its senior management team to illustrate the potentially crucial role that environment professionals can play in organisations. "This guy, who is an IEMA member, told me that when he goes around the various businesses his company is considering investing in the first people he speaks with are the health, safety and environment managers. Why? Because HSE people are the ones who understand the risks. In talking to them, he is able to find out how the environment impacts on the business and how it can cover the risks," he explains.

> Issues like resource constraints are fast coming down the track. Firms do not quite know how to respond. That presents us with an enormous opportunity

"Also, their exposure to the issues across value chains gives them a unique insight into opportunities."

He does offer a warning, however. "If environmentalists do not position themselves in organisations to lead on environmental issues there is a danger that things might fragment. You'll get carbon managed by the finance department, CSR managed by the marketeers and so on. That's fine. It's not about holding people back, but that sort of fragmented system will not benefit organisations, and certainly not the environment," he says. "You need people who can see the bigger picture. That is what environmentalists offer."

Mapping the future

Ensuring that environmentalists are equipped with the skills and knowledge to make the most of emerging opportunities is something IEMA is addressing through its recently launched environmental skills map (lexisurl.com/iema11212).

Its development is something that Chmiel is proud of. "Everyone knows what a competency framework is, but it was the absence of one in the environment profession that made it seem that the profession wasn't focused on development. It links the graduate with those in senior positions. It's one framework and is like the 'golden thread' that weaves together pretty much everything IEMA does," he explains. Chmiel believes the environmental skills map achieves two key things. First, it sets out the complexity of the profession. "People say the role of an environment institute is a difficult one, because the profession is so varied, the job roles so broad. You've got people working in compliance and operational roles, specialists, consultants and academics. Plus you've got everyone from students and graduates to people in very senior positions. The map embraces every type of role and every type of member," says Chmiel.

The second key thing the map achieves is to provide environment professionals with a clear structure for planning their own personal professional development and career path. "The growth of the profession and the services, like training, to support it mean there are lots of courses to choose from. That can be incredibly confusing," comments Chmiel. "The framework makes the link between the individual and what he/she wants to achieve in their career and everything that is out there in terms of developing themselves to go as far as they want."

Although the skills map was first conceived as a resource for members, its value is now more widespread. "We decided to take it to organisations our members work in to see it if made sense to them. It is only by showing it to organisations that we have realised its value. So, it's not just a resource for members but something that organisations increasingly regard as valuable," says Chmiel. That value includes ensuring staff have the necessary competencies, such as at Tata Steel (pp.VI–VIII).

The next stage of its development is to turn the framework into a "living", practical resource. "Turning the environmental skills map from concept to reality is the next step and involves building the second layer, the training in knowledge and skills that people can experience, and the resources that members can access to help them as they progress through their careers. The investment IEMA is now making is in fleshing out the second level," comments the chief executive.

"Now we have the skills map we can start to work in partnership with training providers to deliver the content," he explains.

"There is a mutual interest in getting it right. We're currently discussing with training organisations how we can turn the map into a practical thing, so there are relevant courses at every level of competence. But what I want, as we develop it further, is for training organisations to come to us to demonstrate what courses and tools they have that feed into the map. Ideally, I want to see an 'open-source' model develop, with IEMA providing the framework and service providers delivering the content, the right courses focused on quality provision."

Maintaining standards

Given the plethora of services and tools available with an environmental "tag", Chmiel says IEMA is focused on keeping up standards throughout the profession. "There are so many organisations providing a 'service' in the environment sector, whether that is training providers, software developers or consultancies, that IEMA's key responsibility is to maintain standards."

Chmiel acknowledges that, historically, the profession hasn't had a licence to operate: anyone can refer to themselves as an "environment professional". He also believes that it is not up to the Institute to create one. "It isn't IEMA's role to develop a licence to operate. It will be the organisations that employ IEMA members who will establish that, who will ask for particular skills and knowledge. We can't create an artificial need, but the need is growing. There are really big environmental challenges out there and we need people who are qualified to deal with them, and membership of IEMA ensures standards that organisations will look for."

Chmiel foresees a time when environmental skills and knowledge will be a requirement for people in other parts of a business, such as human resources, finance and marketing. There is already evidence of this happening. *the environmentalist* reported in October

that construction company Skanska is sending every employee on a half-day session of IEMA-approved environmental training at least once each year.

"As environment skills and knowledge become more prevalent throughout organisations, and outside of the core environmental function, the need to maintain standards becomes even more important," says Chmiel.

The next generation

Chmiel is insistent that IEMA's responsibility for the profession extends further than its existing membership to embrace the next generation of environmentalists. The Institute has recently held workshops for students considering a career in the profession in five universities – Hertfordshire, Lancaster, Leeds, Southampton and Sunderland.

"The workshop at the University of Southampton attracted 120 under- and postgraduate students, some missing a statistics lecture to attend," reports Chmiel. The common question he gets asked is: "How do I get a job?" "I tell them to grasp any opportunity to get their foot in the door. There are not enough environment manager jobs for everyone, but they shouldn't get demoralised because there are opportunities, and they are growing. Once you are in an organisation, then you need to show you can make a difference," he says.

To illustrate his point he tells the story of one IEMA member, who presented at the Southampton workshop. "She couldn't get an environmental job, so she joined her organisation as a personal assistant. She's so passionate about the environment that she started to do things and that got her noticed. Now she has an environment position. If you can get your foot in the door there will be opportunities to make a difference, to have an impact. You can make an impact today.

"That doesn't only apply to those starting out on their environment careers. People already in post can use their passion for the environment to think about what they can do today in their organisations to make a difference," he explains. "It might be a cost saving here or identifying a risk there."

He uses the example of the list of new regulations that appears in *the environmentalist* every month to highlight ways in which practitioners can demonstrate their value. "Translating the plethora of regulation in a simple way for managers. That's where *the environmentalist* comes in. The list of regulations is there each month, so there is an opportunity to take that, relate it to the organisation, and talk to your manager."

Chmiel is adamant that the opportunities are there for those in the profession who want to help organisations better manage their environmental impacts and add value, but accepts that not every practitioner necessarily wants to take on such a role. "IEMA's role is not to make everyone in the profession an agent for change, but we do have a responsibility to ensure the profession engages in the change agenda and prepare it to play a crucial role. It is up to individual members if they want to play that role.

"There is an opportunity to do so, but not every member will want to do that. A lot of our members are happy doing what they already do, and we'll help them be the best they can be."

Testing their mettle

Sarah-Jayne Russell discovers how Tata Steel is using IEMA Associate certificate training to drive forward its sustainability agenda

Tata Steel's takeover of Corus in 2007 made the world sit up and pay attention to India as an economic force to be reckoned with. At the time, the £5.75 billion deal was the largest ever takeover of a foreign firm by an Indian company and it propelled Tata from being the 56th largest steel producer in the world to the fifth.

As well as clearly marking Tata Steel's commercial intent, the change of ownership brought about changes in the steelmaking operations themselves, including a much clearer emphasis on sustainability.

Towards the end of 2010, coinciding with the organisation's official name change to Tata Steel, a revised operating model was introduced, outlining a new vision and setting goals for the company that focused specifically on corporate social responsibility and the environment.

"This involves a new environmental policy and behind that a new corporate environment management system (EMS), which requires that all of our people with responsibility for the environment are trained," explains Damon Tweedie, environment assessment manager in Tata Steel's group environment function.

Approximately 100 people have core managerial responsibility for the environment across the businesses' quarrying, steel production and manufacturing sites, supported by a further 50 area experts operating in the central environment function. Many have trained as engineers or chemists rather than as environmentalists and, over time, have seen their role shift to include direct responsibility for the environment.

After the introduction of the new EMS, Tweedie and his colleagues began investigating how to roll out centralised and coordinated training across the organisation to ensure that all those with environmental responsibilities had a similar knowledge base on which to build.

The firm was looking for a professionally recognised qualification that would provide staff from diverse backgrounds with a good grounding in environment management, and swiftly decided

TATA STEEL EUROPE

- Part of the Tata Group – which has operations in more than 80 countries and a total annual revenue exceeding $75 billion.
- In 2007 Tata Steel acquired Anglo-Dutch firm Corus.
- It is now the second largest steel producer in Europe, where it employs approximately 35,000 members of staff.
- In the UK and Ireland the company has 22 production facilities, with the capacity to produce 10 million tonnes of steel each year.
- The group has set ambitious targets for reducing CO_2 emissions per tonne of crude steel.
- Alongside providing IEMA Associate certificate training, the firm will be running IEMA foundation certificate courses in 2012.

on the IEMA Associate certificate. "We're aiming to develop the skills, knowledge and professional competencies across our environmental function. The Associate certificate covers both the breadth of subjects we wanted and offered the professional status that we were looking for," confirms Tweedie. "Ideally, we would like to get to the point where we have this level of qualification as a prerequisite to doing environmental jobs, but we are very early on in the process."

The test case

The first step in this competency development journey has been an initiative that saw Greg Roberts, a senior environment adviser and trainer from the manufacturers' organisation EEF, come into Tata Steel and run an IEMA Associate certificate course for 12 members of staff.

The course ran in two week-long blocks this summer, with a three-week gap in between. It followed the certificate syllabus (see panel p.VIII), starting with a basic introduction to environmental issues and their importance to business and continuing to cover legislation before moving in week 2 to specific EMS tools and their application.

Tweedie and his colleagues chose to run the training internally because, as well as being more cost-effective than sending individuals to ad hoc open courses, it allowed the company to tailor the course content to make it as relevant as possible. While the syllabus does not change, an internal course provides much greater scope to adapt learning materials to make them more pertinent to the company.

Roberts confirms this: "I was able to use case studies from Tata Steel's operations, talk specifically about its management systems, take delegates on visits to Tata Steel sites and focus on the legislation that was most relevant for the business operations, in a way that I couldn't have on an open course," he says.

Another benefit of running the course internally was that it enabled the company to bring staff from across the business together to share their experiences and knowledge, as delegates and also as guest speakers who presented on specialist areas such as life-cycle assessment, waste management and climate change.

Sharing experiences

Alastair Dunn, quarrying and services manager at Tata Steel's limestone quarry in Shapfell, Cumbria, attended the course to build on his operational knowledge of environment management and as a step to IEMA membership. He says the course helped to highlight the expertise already existing in the company and how it can support the environmental side of his role moving forward.

"We have a lot of experts in the company and it was great to meet them, find out what their area of expertise is and where they sit in the environment function," he says. "It felt like everyone was bringing their experiences to the course and I think that we will want to impart that knowledge to other people in the business. The course has given us the extra confidence to go back to our own parts of the business and do that."

Jonty Brownlow, a speciality steels environment engineer in the Stocksbridge steelworks in Sheffield, agrees: "I am an environmentalist by training and joined the course to become an IEMA member, so there was nothing in the syllabus that I hadn't covered before, but I hadn't studied some of the basic principles in a long time and it was a great refresher.

"Once you enter the industrial environment you spend most of your time dealing with the legislative ins and outs of your day-to-day role. You aren't necessarily thinking about the wider issues of sustainable development or climate change. I came back from the course with a spring in my step. It's spurred me on to go out and try to improve things and given me more confidence in communicating the wider issues."

For others on the course, such as Paul Wheeler, a principal energy engineer in the central environment function, much of the certificate covered new ground. "I come from an electronics background and moved three years ago into the team tasked with improving energy efficiency and looking at the impact of climate change. For me, the course was an opportunity to gain an appreciation for the wider environmental issues that impact the business, and it did exactly that," he says. "It was a challenging course for me because we covered a lot of new topics, particularly the regulatory aspects, but I would recommend it. It gave me an insight into my colleagues' work, helped to set the scene for the work I am doing and confirmed the importance of improving energy efficiency."

Dunn, who is a mining engineer by background and, like many others, works with an inherited EMS, also highlighted a greater understanding of the wider context of environmental systems as an important outcome of the course. "We have good procedures in place that ensure we meet legislative requirements, but we don't always have the knowledge to understand why we are doing these things," he says. "This course really clarified a lot of these issues for me and also helped me to realise where knowledge gained from my experiences at Shapfell could be shared throughout the company, for example in planning regulation and in how it relates to the environment."

Applying the knowledge

Alongside completing a two-and-a-half-hour exam at the end of the second week, all the delegates were required to complete an environment assessment project in the weeks following the course.

The assignment was to carry out a review of an area of the business, identifying environmental aspects and impacts, and then listing and prioritising all the relevant

IEMA ASSOCIATE CERTIFICATE

The IEMA Associate certificate course is made up of three modules:
Environmental sustainability – ensures candidates are able to understand the issues, science and philosophy that underpin environmental sustainability. It covers: natural systems; how businesses affect the environment; pollutants and their impacts; and how businesses can benefit from effective environmental management.
Environmental legislation – provides candidates with an understanding of the regulatory process and the broad range of environmental legislation that can impact businesses including: controls on emissions; waste management; discharges to waterways; contaminated land; nuisance; and producer responsibility.
Assessment, interpretation and management of environmental performance – gives candidates the knowledge to appreciate the wide variety of tools available to help assess and manage environmental performance and the ability to choose and use the most relevant for them. The course examines environmental management systems, environmental auditing, life-cycle analysis, environmental impact assessments, risk management, pollution prevention and environmental reporting, among other topics.

For more information on the course syllabus and a list of training providers visit: lexisurl.com/iema11212.

elements of legislation. Finally, the delegates were asked to put forward recommendations, objectives and targets to improve the area's environmental impacts.

"The project is essentially the first part of an EMS," explains Roberts. "It's incredible how many people come on the course who have been involved with environmental aspects and impacts, but have never done it from scratch, so this helps delegates to understand the systems they have inherited, as well as giving them a chance to apply all they have learned in the classroom."

The project was generally seen as one of the most challenging aspects of the course in terms of trying to fit it alongside their day-to-day roles, but also one that could bring real benefits to both the individuals and the organisation as a whole.

For Wheeler the project was a chance to consolidate his knowledge as he would be unlikely to carry out such a task again in his current role in the organisation. "The project was a bit of a surprise, but I can see the value in it because potentially you can use it to develop proposals for the business as well as reinforcing what you learn on the course."

Meanwhile, Brownlow found that, as an environmental manager, the project represented a process that he was already very familiar with. "Performing environmental assessments is something that I do every day, so the assignment was a bit of a frustration for me. That said, because our system is quite mature, it's not often you get the opportunity to review the whole of it from scratch," he said.

The project was particularly useful for Dunn at the Shapfell quarry, who used it to assess the site's lime-making facilities. "We've spotted a number of areas, such as noise management, that haven't been recognised as well as they could be in our EMS. We have

come up with proposals that can improve the situation fairly easily and cheaply," he says.

Pushing forward

As well as resulting in potential ideas to improve Tata Steel's approach to the environment, the course seems to have left the candidates feeling positive and fired up to share what they've learned with their colleagues.

"I'm really keen to push the whole environment agenda throughout our part of the organisation," says Dunn. "It's something I feel that we need to do, not just in terms of gains for the environment, but also to provide gains for the business."

Meanwhile Brownlow reveals: "It's been a real motivation to go out and correct those things that haven't been implemented correctly in the past and to try and preach the sustainability gospel more widely."

"The feedback from the delegates has been really positive and it's certainly not an easy course," confirms Tweedie. "It's definitely been good for the business and something we will roll out again in future."

The next course has already been pencilled in for March next year and Tweedie hopes to continue the programme on an annual basis. His long-term plan is for Tata Steel to adopt something similar to the IEMA environmental skills map (lexisurl.com/iema11321) and to use the Associate certificate to bring everyone with environmental responsibilities to a specific competency level in that map.

Often with training courses, when delegates return to their day job, they can find themselves forgetting much of what they learned. Tweedie believes that the breadth of subject areas and experiences will mean that this won't be a problem with the certificate students.

"People must be under no illusion, the certificate is not a walk in the park. It is two full weeks, plus an exam, work in the evenings and the project. But if you work hard, you get a professionally recognised qualification and that's a fantastic achievement," he says. "My hope is that the delegates will be able to go back to their part of the business and implement their new knowledge and skills. It's really about trying to green the business from within."

If the experiences of Jonty Brownlow, Paul Wheeler and Alastair Dunn are anything to go by, it looks like Tata Steel's plan to become more sustainable is already well under way.

10 million
The number of tonnes of crude steel produced each year by Tata Steel's operations in the UK and Ireland

Course provider	Location of course	2012 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Contact details
ASSOCIATE CERTIFICATE IN ENVIRONMENTAL MANAGEMENT														
The Associate certificate course can be delivered as part of an MSc, via applied learning, distance/e-learning and residential														
Aviva Risk Management Solutions UK	Various UK	✓	✓	✓	✓	✓	✓	✓		✓	✓			0500 559 977 risksolutions@aviva.co.uk aviva.co.uk/risksolutions
British Safety Council (Diploma in environmental management)	Various UK		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	020 8741 1231 customer.service@britsafe.org britsafe.org/
Cambio Environmental	Abergavenny, Maidstone, Swindon and e-learning		✓	✓	✓	✓		✓		✓		✓		01873 890 819 julia@cambio-uk.com cambio-uk.com
Corporate Risk Systems	Various UK and international, and applied and distance learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	01283 509175 rb@crsrisk.com crsrisk.com
EEF	Various UK	✓	✓	✓		✓	✓			✓	✓		✓	0845 293 9850 eef.org.uk/training
Environmental Academy	Various UK	✓		✓		✓		✓		✓		✓		0191 495 6248 environmental-academy.com
Envirotrain Training	e-learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	info@envirotrain.co.uk envirotrain.co.uk
Integra Training and Consulting	Sunderland				✓						✓			0191 515 2329 enquiries@integratraining andconsulting.co.uk
Loreus	Distance learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0115 848 3050 loreus.com
North Notts Create	North Notts College				✓						✓			01909 504 710 csiddall@nnc.ac.uk
Nottingham Trent University	Blended learning (distance learning and attendance), CPD modules available at different times throughout the year	✓					✓				✓			0115 848 5537 richard.howarth@ntu.ac.uk ntu.ac.uk/riskmanagement
OSTAS	Southam, Warwickshire			✓							✓	✓		01926 813 356 enquiries@theacegroup.co.uk ostas.co.uk
Pivotal Performance	Various UK	✓	✓	✓	✓	✓	✓	✓						01536 533 233 info@pivotal-performance.com pivotal-performance.com
RRC Training	London, and distance learning and e-learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	020 8944 3100 info@rrc.co.uk rrc.co.uk
Santia Consulting	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0808 100 26 89 training.enquiries@santia.co.uk santia-training.co.uk/environmental
SEQM	Newcastle	✓	✓	✓			✓			✓		✓		0191 265 1034 seqm.com/office@seqm.com
Staffordshire University	Distance learning		✓								✓			01782 294 400 enquiries@staffs.ac.uk lexisurl.com/staffs
The Key Consultancy	Bromsgrove, Birmingham		✓	✓				✓	✓		✓	✓		01527 575182 gl@thekeyconsultancy.co.uk thekeyconsultancy.co.uk
TWI Middle East	Azerbaijan, Baku, Dubai, Egypt		✓		✓		✓		✓		✓	✓	✓	+971 4 364 3010 twihsetraining.com
University of Derby	Derby and e-learning									✓				01332 591 133 a.mehra@derby.ac.uk www.derby.ac.uk
University of Hertfordshire (also MSc in environmental management for business and water)	Hatfield										✓	✓		01707 284 146 admissionsenvman@herts.ac.uk

Course provider	Location of course	2012 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Contact details
University of London (also Diploma and MSc in environmental management)	University of London		✓	✓	✓	✓	✓	✓	✓	✓	✓			020 7898 4273 cedepadmin@soas.ac.uk soas.ac.uk/cedep
University of Plymouth	Plymouth (course runs annually)									✓				01752 585 858 science.technology@plymouth.ac.uk lexisurl.com/plymouth
University of Surrey (courses also include: environmental law; environmental auditing and management; life-cycle approaches; environmental science and society)	Guildford	✓	✓	✓							✓			01483 689 047 p.savill@surrey.ac.uk
LEAD ENVIRONMENTAL AUDITOR COURSE														
Antaris Consulting	Dublin				✓							✓		+353 6146 4666 info@antarisconsulting.com antarisconsulting.com
Aspects International	Various UK	✓		✓			✓				✓	✓		01423 781 218 john@aspexint.com
BSI Training	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓				0845 087 9000 bsigroup.co.uk/elearning
Bywater Training	London, Oxford, Wakefield	✓		✓		✓		✓		✓	✓	✓		01908 543 900 sales@bywatertraining.co.uk bywatertraining.co.uk
ERM CVS	Various UK and US					✓						✓	✓	020 3206 5281 post@ermcvs.com ermcvs.com
Excel Partnership	Various UK		✓		✓		✓			✓		✓		01442 242 929 training@excelpartnership.co.uk excel-world.co.uk
IQMS	Various UK	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	0191 516 9191 enquiries@iqms.co.uk iqms.co.uk
LRQA	Various UK	✓	✓	✓										0800 328 6543 lrqatraining.co.uk
SEQM	Newcastle	✓	✓	✓			✓			✓		✓		0191 265 1034 office@seqm.com seqm.com
SGS UK	Various UK	✓	✓	✓			✓		✓	✓	✓	✓		01276 697 777 training.uk.sgs.com
EMS IMPLEMENTATION COURSE														
Antaris Consulting	Dublin		✓								✓			+353 6146 4666 info@antarisconsulting.com antarisconsulting.com
Ecus	Sheffield		✓		✓		✓							0114 266 9292 training@ecusltd.co.uk ecusltd.co.uk/training.html
Waterman Energy Environment and Design	Sheffield or in-house			✓			✓			✓			✓	0114 229 8900 watermangroup.com
FOUNDATION COURSE IN ENVIRONMENTAL AUDITING														
Antaris Consulting	Dublin		✓								✓			+353 6146 4666 info@antarisconsulting.com antarisconsulting.com

Course provider	Location of course	2012 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Contact details
Aspects International	Various UK		✓	✓	✓	✓	✓			✓	✓		✓	01423 781 218 john@aspexint.com
NQA Training	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0800 013 0900 nqa.com/training
SEQM	Newcastle	✓	✓	✓			✓			✓		✓		0191 265 1034 office@seqm.com seqm.com
University of Brighton	University of Brighton						✓				✓			01273 642 305 ccp@brighton.ac.uk brighton.ac.uk/ccp
FOUNDATION CERTIFICATE IN ENVIRONMENTAL MANAGEMENT														
Cambio Environmental	Abergavenny, Maidstone, Swindon and e-learning		✓	✓	✓	✓		✓		✓		✓		01873 890 819 julia@cambio-uk.com cambio-uk.com
EEF	Various UK	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	0845 293 9850 eef.org.uk/training
E.ON Engineering Academy	Nottingham	✓					✓							02476 191 517 paul.a.smith@eon-uk.com
Pivotal Performance	Various UK		✓	✓	✓	✓	✓							01536 533 233 info@pivotal-performance.com pivotal-performance.com
RRC Training	London, and e-learning and distance learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0208 944 3100 info@rrc.co.uk rrc.co.uk
Santia Consulting	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0808 100 26 89 training.enquiries@santia.co.uk santia-training.co.uk/environmental
Wiltshire College	Salisbury		✓				✓			✓		✓		01722 344 213 guy.beards@wiltshire.ac.uk wiltshire-enterprise.co.uk
Workplace Law Environmental	London and e-learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0871 777 8881 ben.clement@workplacelaw.net iema.workplacelaw.net
INTERNAL EMS AUDITOR COURSE														
AMEC Environment and Infrastructure (UK)	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0800 371 733, 0191 272 6100 marketing.ukenvironment@amec.com amec-ukenvironment.com
Bidwell Management Systems	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0191 633 0123 marek@bmstraining.co.uk bmstraining.co.uk
Ecus	Sheffield			✓		✓	✓							0114 266 9292 training@ecusltd.co.uk ecusltd.co.uk/training.html
Excel Partnership	Various UK	✓		✓		✓			✓		✓			01442 242 929 training@excelpartnership.co.uk excel-world.co.uk
Mabbett and Associates	Aberdeen, Belfast, Glasgow			✓		✓				✓		✓		0141 227 2300 training@mabbett.eu mabbett.eu
Marsden International (UK)	Blended learning and e-learning			✓		✓		✓		✓		✓		01302 752 123 marsden-international.com auditmentor.com
SEQM	Newcastle	✓	✓	✓			✓			✓		✓		0191 265 1034 office@seqm.com seqm.com
Southern Consulting UK	Newcastle, Gateshead			✓		✓				✓		✓		07850 114 913 southern-consulting.co.uk
INTRODUCTION TO EMS														
RRC Training	Distance learning and e-learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	020 8944 3100 info@rrc.co.uk rrc.co.uk

Course	Location of course	2012 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Course provider and contact details
IEMA DIPLOMA/CPD AND ALL OTHER APPROVED COURSES														
IEMA Diploma in sustainable business practice	Woodland Grange, Leamington Spa	✓						✓		✓				EEF 0845 293 9850 eef.org.uk/training
IEMA Environmental awareness	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Gibson Consulting and Training 01829 732 648 gillian@gbgibson.com gbgibson.com
IEMA Environmental awareness	Dubai		✓		✓		✓		✓		✓		✓	International HSE Council +971 4 870 4016 info@hsecouncil.org hsecouncil.org
IEMA Environmental awareness	Southampton Science Park			✓			✓				✓			Olive Consultancy 023 8011 1440 admin@consultolive.com consultolive.com
Environmental awareness	Various UK				✓	✓	✓	✓		✓	✓	✓		RBS Mentor 0141 227 4341 alexis.ballantyne@mentor.uk.com
Certified sustainability (CSR) practitioner training	Various worldwide			✓		✓				✓		✓		Centre for Sustainability and Excellence (CSE) +30 210 808 5565 development@cse-net.org cse-net.org
Construction site managers and supervisors	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	ASHE 07968 185 449 robert.brown@safelark.co.uk
CDM – An introduction to environmental best practice	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	ASHE 07968 185 449 robert.brown@safelark.co.uk
Environmental awareness award for business and industry (NCFE level 2)	e-learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Environmental Academy 0191 495 6248 environmental-academy.com
Environmental good practice on site	Various UK	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	CIRIA 0207 549 3300 enquiries@ciria.org ciria.org
Site waste management plan and SMARTwaste plan training	Garston	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	BRE 01923 66 4471 smartwaste@bre.co.uk bre.co.uk
Groundwork environment management systems (GEMS)	West Midlands		✓							✓				Groundwork West Midlands 0121 530 5500 wmebs@groundwork.org.uk
Carbon, greenhouse gases, footprinting, accounting and management	Southampton Science Park			✓			✓				✓			Olive Consultancy 023 8011 1440 admin@consultolive.com consultolive.com
Carbon, greenhouse gases, footprinting, accounting and management	Various UK		✓		✓		✓		✓		✓		✓	Conestoga Rovers and Associates (Europe) 0115 965 6700 carboncourse@cra.co.uk cra.co.uk
Carbon, greenhouse gases, footprinting, accounting and management	Various UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Aspects International 01423 781 218 john@aspexint.com
Sustainable procurement	Southampton Science Park			✓			✓				✓			Olive Consultancy 023 8011 1440 admin@consultolive.com consultolive.com
Environmental data management	Southampton Science Park				✓			✓				✓		Olive Consultancy 023 8011 1440 admin@consultolive.com consultolive.com
Enviropass certificate	Wales and West	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Enviropass 01646 600062 mike.e@tyf.com enviropass.org.uk
Environmental management for senior executives	Various UK	✓	✓	✓			✓	✓		✓	✓	✓	✓	EEF 0845 2939850 eef.org.uk/training
Resource efficiency	Various UK			✓		✓					✓	✓		EEF 0845 2939850 eef.org.uk/training
ISO 50001: 2011 energy management systems Implementation	Dublin		✓								✓			Antaris Consulting 00 353 6146 4666 info@antarisconsulting.com antarisconsulting.com
ISO 50001: 2011 internal energy management system auditor	Dublin					✓							✓	Antaris Consulting 00 353 6146 4666 info@antarisconsulting.com antarisconsulting.com

The future's bright

All the signs are pointing to more job opportunities for environmentalists in 2012, says **Vicky Kenrick**

Energy and environment legislation, cost savings and a desire for public environmental credentials are the driving forces behind new jobs being created in the energy industry, while rising pressure on water supplies and mounting waste problems are fuelling demand for more environment management professionals.

With significant challenges facing fossil fuel extraction and production, some of the world's leading energy companies are already getting behind renewables. In fact, global investment in renewable energy increased 30% between 2009 and 2010, reaching levels of $243 billion. This growth is due not only to utility companies seeking to comply with carbon reduction requirements, but also to businesses' sustainability efforts, with large corporations investing in or building their own renewable energy facilities. At Allen & York, the international sustainability recruitment specialists, we are seeing this interest reflected in an increase in the number of renewable energy positions becoming available in corporations.

Meanwhile, targets set by the EU to increase renewable energy provision to 20% by 2020 is also driving job creation. According to the renewables trade association RenewableUK, more than 250,000 new jobs will be created in the European wind sector over the next decade, and Allen & York are definitely experiencing a greater demand for candidates in the wind sector. Specifically, there are growing job opportunities for wind farm project-managers, while connecting such facilities to the grid means there is need for more grid-connection development engineers and for consultants in transmission and distribution. There is also an increased demand for environmental impact assessors to undertake the necessary audits and assessments for developments. This is a growing technical area and skilled professionals in social impact assessment are rare and in demand on a global scale by renewable energy developers.

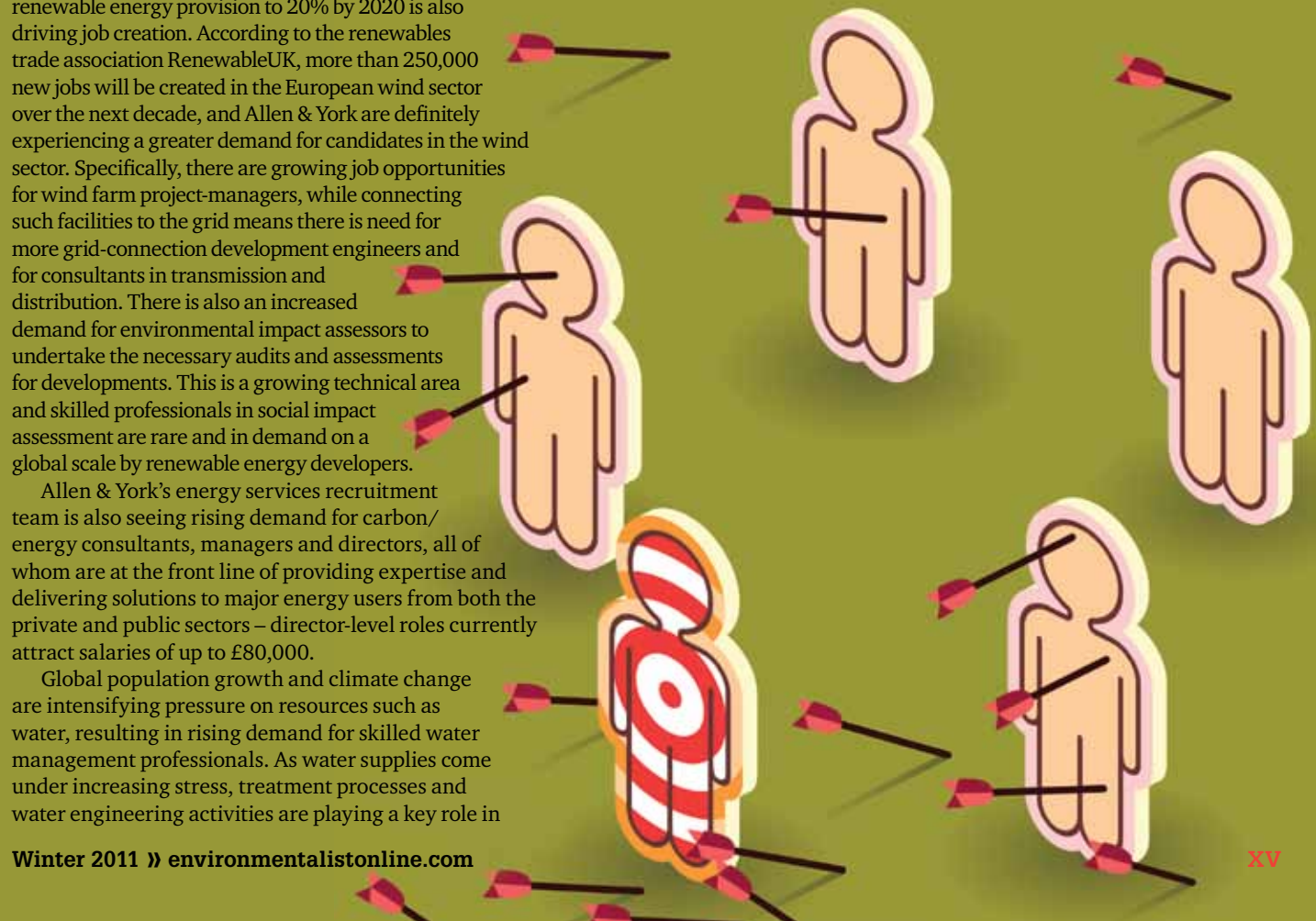
Allen & York's energy services recruitment team is also seeing rising demand for carbon/energy consultants, managers and directors, all of whom are at the front line of providing expertise and delivering solutions to major energy users from both the private and public sectors – director-level roles currently attract salaries of up to £80,000.

Global population growth and climate change are intensifying pressure on resources such as water, resulting in rising demand for skilled water management professionals. As water supplies come under increasing stress, treatment processes and water engineering activities are playing a key role in delivering safe, reliable water supplies to households, industry and agriculture, and in safeguarding the quality of water in rivers, lakes, aquifers and coastal areas.

Experienced water engineering professionals are required, more than ever, to operate and manage these vital water and wastewater treatment services. This demand will only increase in coming years as environmental standards for water quality multiply. Allen & York has a number of water engineering, flood modelling and hydrologist career opportunities available, with leading organisations offering salaries of up to £50,000 for experienced water engineers.

Waste management is another sector to receive a boost in job opportunities as waste volumes rise and greater restrictions are placed on disposal. The waste recruitment team at Allen & York is seeing a rise in demand for roles in: waste and resource efficiency, energy-from-waste and waste engineering.

Although the recession has affected UK and global job markets, the sustainability industry is not suffering as much as others – in sectors such as renewable energy, water and waste management, jobs are still being created.



An incomplete picture

Does the first CRC league table provide any useful information? **Paul Suff** takes a look

Almost 62 million tonnes of CO_2 were emitted in the first reporting year by the 2,103 organisations included in the Carbon Reduction Commitment Energy Efficiency (CRC) scheme's first performance league table.

Reported CRC emissions for the period between 1 April 2010, when the scheme started, and the end of March 2011, represent nearly 13% of the UK's total CO_2 discharges in 2010. The total is higher than the 57.5 million tonnes forecast by the Environment Agency.

Three organisations – BT, the Ministry of Defence and Tesco – were responsible for just over 7% of total CRC emissions. From April 2012, when participants have to begin purchasing allowances at the set price £12 a tonne to cover their annual CRC emissions, organisations such as Tesco will face a considerable annual levy on their energy use. KPMG suggests that the Treasury, which in October 2010 axed the revenue-recycling element of the scheme, will gain approximately £734 million from the cost of CRC allowances, an average of £349,000 per CRC participant.

Those are the main headlines, but the first performance league table (PLT) is probably more memorable for what is missing than for what it discloses. The publicly available league table is designed as a reputational driver to improve energy efficiency, reduce emissions and cut costs, but the first version ranks organisations only on how they have performed against the early action metric (EAM) – that is, the proportion of automatic meter readers (AMRs) voluntarily installed and participation in the Carbon Trust Standard or an equivalent scheme (see panel, p.23).

By that yardstick, 22 organisations tie for first place, while 803, or nearly 40%, including many that are investing in improving their performance, are rooted to the bottom, having scored zero against the EAM.

A limited snapshot

The absence of additional information on how organisations are actually tackling

greenhouse-gas (GHG) emissions and energy efficiency means that the inaugural PLT provides only a snapshot of where CRC participants are in relation to the EAM. It is not a comprehensive picture of emissions from the large, non-energy-intensive private and public sector organisations in the UK not already covered by the EU emissions trading scheme or domestic climate change agreements and can give a misleading impression of their performance in reducing energy use and cutting emissions.

"The PLT takes no account of relative levels of efficiency (the most efficient organisations will find progress more difficult), sourcing of renewable/low-carbon energy, transport or refrigeration. As such, it shouldn't be regarded as an overall measurement of carbon management practices," comments Rowland Hill, corporate social responsibility/sustainability manager at Marks & Spencer (M&S).

CRC emissions are only those associated with the energy use covered by the scheme – so from all electricity and gas consumption as well as from their use of other fuels, such as diesel, LPG and coal, although not from transport. As such, the PLT provides only a partial picture of participants' overall emissions, and gives a figure generally much lower than that of other publicly disclosed data.

"Most retailers already report full GHG-compliant emissions in sustainability reports and as you'd expect the CRC figure is lower due to the key omissions of refrigeration and transport," says Hill. The PLT reveals that M&S, for example, emitted 410,369 million tonnes of CO_2 during the first CRC footprint year, whereas in its 2011 *How we do business* report, the company says it emitted 603,000 tonnes of CO_2 equivalent emissions over much the same period as the CRC reporting year.

And because the CRC measures only energy-related emissions, participants' performance in the PLT often does not correspond with other common benchmarks, such as the Carbon Disclosure Project (CDP). Generally the UK sector leaders in the 2011 CDP do not perform as well against the CRC criteria. Only BAT performs equally in both the CDP and PLT (1st). By contrast, the leading UK telecommunications company in the CDP, Cable & Wireless, ranks 1,098th in the PLT, whereas BT is 44th. Similarly, BG Group heads the CDP energy sector, but ranks 1,153rd in the PLT.

Government departments were challenged by David Cameron to reduce their CO_2 by at least 10% in 12 months when he became prime minister in May 2010. In July, the government reported the outcome, with the Department for Education (DfE) outperforming the others, followed by DECC, the Foreign and Commonwealth Office (FCO), Communities and Local Government (CLG) and the Home Office (HO). However, their PLT rankings are: DfE = 381st; DECC = 1st; FCO = 1,142nd; CLG = 1,098th; and HO = 1,301st.

So although the government reports that the HO, for example, reportedly cut its CO_2 emissions by 17.6% between May 2010 and May 2012, its failure to achieve the Carbon Trust Standard or an equivalent or install any AMRs meant it was placed in the bottom section of the PLT.

A poor benchmark

The sheer scale of some organisations can act as a barrier to being ranked as a top performer in the PLT. "It's easier for organisations with only one or two sites to perform better, because they have fewer sites at which to install meters and achieve emissions standards," says David Symons, environment and energy director at WSP. "That's why you are seeing organisations like Manchester United [1st] performing really well."

Organisations with a large number of reasonably big sites can also appear to perform better than similar organisations with different-sized facilities. The retail sector is a good illustration of this. Many of the UK's largest and most well-known high-street stores are in the top 10% of performers, with Asda (37th as Broadstreet Great Wilson Europe in the table) leading, followed by the Co-operative Group (44th), Morrisons (56th), the John Lewis Partnership (75th), M&S (82nd), Tesco (93rd), Sainsbury's (164th) and Alliance Boots (202nd). All have the Carbon Trust Standard to some extent (certification might not cover the whole organisation), so differentiation in the first PLT is largely based on the proportion of locations with AMRs. The PLT reveals that AMRs are in 94% of Asda sites compared with 54% of those operated by Alliance Boots.

"The AMR metric clearly favours those with large locations that would justify the cost of installing AMR. For example, Asda, which, compared with other retailers, has an estate of generally larger stores. Similarly, John Lewis operates out of 290 fairly large stores, whereas M&S has 670 stores ranging from 1,500 sq ft to 150,000 sq ft," says Hill at M&S.

Tesco also tends to operate a much larger proportion of smaller shops (Tesco Metro and Express, for example) than competitors such as Asda. Many of these outlets, which at the start of 2010 numbered more than 2,000, are below the threshold for half-hourly (HH) meters. Its EAM score for automatic readers is 75%.

Meter reading

Physical constraints have stopped some organisations achieving 100% in the AMR EAM. Although happy to be one of the top 20 NHS trusts in the PLT, Guy's and St Thomas' NHS Foundation Trust, which is placed 174th, was prevented from scoring higher than 50% in the AMR category because of the constraints of its estate. "The age [part of St Thomas' dates from the 15th century], size and complexity make AMR equipment too costly and complicated to install. We have installed it where possible," says sustainability manager Alexandra Hammond. The NHS trust did, however, achieve the Carbon Trust Standard in August 2009. Interestingly, 36% of its 49,170 tonnes of CRC emissions are produced by on-site combined heat and power (CHP) plants that provide half the trust's annual electricity requirements, while the waste heat generated, in the form of steam and hot water, is reused for each hospital's heating and hot-water supplies. The CHP plants also cut annual emissions by approximately 11,300 tonnes.

Other CRC participants have encountered problems installing AMRs, which has brought down

their EAM score. One IT company contacted by *the environmentalist* installed a gas AMR (gas logger) at its head office – most of its other premises were on mandatory HH meters – as part of its preparation for the CRC. Although the decision to invest in the logger was taken well ahead of the start of the scheme, installation delays and its eventual failure to work properly with the existing meter meant the firm scored zero in the AMR element of the EAM. And having already taken the decision not to go for the Carbon Trust Standard, preferring to invest the £8,000 or so it would have cost to achieve the standard on energy-saving equipment instead, the company has scored nil in the first PLT.

Mark Gough, global environment and health and safety manager at publishing company Reed Elsevier (the parent company of LexisNexis), has also encountered problems with metering. Reed Elsevier is ranked 305th in the table with an EAM score of 57.50, having initially expected to score 100. The company achieved the Carbon Trust Standard in 2010.

However, it scored only 15% on the AMR portion of the EAM, largely because its gas supplier continues to estimate consumption rather than use the data from the newly installed gas AMRs – something the EA demands if the gas AMRs are to count in the EAM.

"We installed the gas AMRs, partly because of the CRC. But apparently the data is not considered as robust as from electricity readers and our supplier refuses to accept the figures and the agency won't accept estimated use even though we have gas AMRs," explains Gough. He describes the EA metering guidance as really confusing and says its advice line was not much help.

Other participants have not achieved the full AMR score because most of their energy consumption is through mandatory meters, and it is not always cost-effective to install voluntary AMR for the remainder.

"Ninety-six per cent of our consumption is on mandatory meters," says Miles Watkins, director of sustainable construction at construction and building materials supplier Aggregate Industries (354th and listed as Holcim). "Although all our energy is now covered [too late to get the maximum EAM benefit], we put all our energy efficiency efforts into the high consumption areas rather than the smaller supplies."

Mistakes happen

The EA makes it clear that everything published in the PLT is based on information provided by participants, and says that the table may be amended further following its auditing of the data, successful relevant appeals and verification requests.

A slight mistake in the data submission gave an incorrect picture of performance at Kingfisher, which owns B&Q and Screwfix. It ranks 1,300th in the table, just above the 800 plus organisations in last place.

The company's EAM score in the table is 0.02% even though B&Q has had the Carbon Trust Standard since 2008 and was recently been recertified.

According to Kingfisher, a data submission error has resulted in the firm being placed lower than it should be in the league table. "The Environment Agency calculates that Kingfisher's position should be higher (525th). Using the correct data, our [EAM] score should read 47% and not 0.02% as published," a spokesperson told *the environmentalist*.

HOW THE LEAGUE TABLE WORKS

The Carbon Reduction Commitment Energy Efficiency (CRC) scheme performance league table (PLT) will be published in October each year after all the reports have been received and compared. The comparative assessment for phase I (2010–2013) is based on three metrics:

- **absolute** – the relative change in participants' emissions over the year against baseline (2010–11);
- **early action** – energy-saving measures put in place before the start of the scheme; and
- **growth** – to take account of growing organisations, which may increase their absolute emissions – for each unit of turnover for businesses and for each unit of revenue expenditure for public sector organisations.

Different weightings apply for each metric and these change over time (see below). The early action metric, which only applies in phase I, rewards organisations for installing voluntary automatic meter readers and/or achieving the Carbon Trust Standard or an equivalent certification.

CRC league-table weightings

	PLT 2011	PLT 2012	PLT 2013	PLT (phase II) 2014
Early action	100%	40%	20%	0%
Absolute	0%	45%	60%	75%
Growth	0%	15%	20%	25%

Going forward

Subsequent PLTs should provide a slightly better benchmark of actual performance in reducing energy use and emissions, as the EAM starts to drop out of the equation, disappearing completely at the start of phase II in April 2013. Next year 45% of a participant's score in the table will be based on the absolute emissions metric (see panel above). A further 15% will be linked to a "growth" metric – emissions for each unit of turnover for businesses and emissions for each unit of revenue expenditure for public sector organisations.

However, some businesses remain critical of the growth metric, believing its focus solely on turnover will penalise companies that grow through acquisition and physical growth, potentially giving another misleading impression of performance.

"You could buy a company that was not in the CRC and have to include their emissions. You can't alter your baseline retrospectively, so you have to pay the CRC penalty," says Watkins at Aggregate Industries.

He also identifies another potential future problem. "The difficulty many companies will face is that baseline emissions are relatively low because we're in a recession. When economic growth returns, companies are likely to be expanding faster than their ability to find energy savings, especially as most will already have implemented the 'easy' measures, the 'low-hanging fruit', to improve efficiency." Over at M&S, Hill says: "The next PLT will be different but will still be a very limited view of carbon management."

Driving down CO_2

the environmentalist reports on how Natural England has halved its carbon footprint through a sustainable travel plan

As the government's advisory body responsible for providing practical advice on how best to safeguard England's natural heritage, it follows that Natural England places a high premium on sustainability. The organisation was formed from three different bodies in 2006 and, almost immediately, it made a commitment to reduce its carbon footprint by 50% by the end of 2010. "It was a key objective of our board to be able to demonstrate our credibility as an environmental leader," says Paul Hinds, head of sustainability.

Achieving a 50% reduction in carbon emissions meant focusing on two key elements – the organisation's estates, and business travel. Much of the former could be realised through technological or infrastructure changes, but changing the travel patterns of up to 2,500 employees was always going to be the more demanding challenge. However, Natural England exceeded its goal, with a 2010 independent audit verifying a 55% drop in its carbon footprint following a three-year carbon-reduction programme.

Previous travel patterns

Although the ambitious carbon-reduction goal was put in place in 2006, work towards achieving it took on new momentum with the appointment, in 2007, of a new senior post, head of sustainability. While business travel can be a challenging area for many organisations, for Natural England reducing its impact was a particularly daunting prospect. The daily work of its large workforce can take employees to the most remote and rural regions of the English countryside so business travel had long been established as a regular and necessary activity.

To further complicate the project, the amalgamation of three different organisations to form Natural England meant that three different cultures and expectations existed around business travel. Hinds says that at the time there was no coherence to travel patterns, with some remote teams holding weekly meetings and some employees having to travel up to 100 miles to attend. In some teams, there seemed to be little forward planning for customer meetings – for example, no thought was put into prearranging them so that several could be held sequentially to minimise travel.

There were a considerable number of domestic flights between the organisation's different offices and a perception, in some parts of the business, that car mileage claims were there to subsidise individual incomes. There was also a cultural legacy for a small section of the organisation that people had earned the right to travel first class by train.

There were notable exceptions to the general incoherence around business travel, adds Hinds, with many individuals motivated to work for the organisation because of their commitment to sustainability and a love for the natural environment. Although this meant that some staff already took a responsible approach to business travel, for others the plans to rationalise business travel arrangements were, paradoxically, perceived as an obstacle to employees' ability to fulfil their work commitments. It was clear from the start that winning over the hearts and minds of people, and gaining their buy-in to a proposed sustainable travel plan, would be pivotal to the project's success.

Developing robust tools

Establishing a baseline of estate energy consumption was relatively simple, the data being largely obtainable through meter readings and energy bills. Gathering reliable information on individuals' business travel was tricky and took much longer. As Hinds explains, there was no one clear source of data and one person's travel was not necessarily representative of another's.

All the information needed to measure Natural England's carbon emissions through travel had to be collected via the organisation's financial data, which meant developing and applying a cost-to-distance-conversion factor. Defra conversion factors were then applied to work out the carbon footprint.

However, calculating the carbon emissions from rail travel using the financial data at the organisation's disposal was, again, not straightforward, as it could not be assumed that the price of a ticket amounted to a specific level of carbon. The company asked Redfern, a travel management company, to provide a carbon footprint for each journey taken. It was then possible to establish a baseline for the business travel undertaken across the organisation, as well as put in place the ongoing measurement capability to monitor travel patterns in future.

Gaining buy-in

Making Natural England's estates more carbon efficient required no significant input from the rank and file, but a radical reduction in the environmental impact of business travel required substantial behavioural change on the part of employees.

In 2008, the organisation embarked on an all-embracing engagement programme aimed at educating and empowering staff. From the start, the objective was to involve employees in devising a sustainable travel plan and not impose a top-down solution. This culminated in around 40 "green travel policy options" for staff to discuss and prioritise. The options comprised a series of policies designed to make travel more sustainable, ranging from providing bikes in offices for employee use to video- and teleconferencing.

"This was not a pick and mix," emphasises Hinds. "The aim was to generate debate and test the water in terms of what people would find workable."

Hinds and his small team organised workshops around the business, deliberately ensuring the first item on the agenda dealt with people's criticisms and negativity so the discussion could move on.

Although the initial proposals had engendered a considerable level of resentment in some pockets of the organisation, Hinds says that very quickly this indignation dissipated and people became more positive and proactive in the discussions. "The key was that people had the chance to have input and shape the final travel programme. It was very clear that most employees were committed to reducing their carbon footprint but wanted to retain the day-to-day responsibility for making the right travel decisions themselves, rather than be faced with a prescriptive approach," he comments.

Through discussion, the 40-odd policy options were reduced to just three:

1. A travel "hierarchy", with the most desirable travel options, in environmental terms, at the top – such

IN PARTNERSHIP WITH SOS

To demonstrate that reducing the carbon footprint of business travel could lead to productivity and financial gains, Natural England commissioned the support of SOS (Sustainable Opportunity Solutions). A business advisory practice with financial auditing and environmental expertise, SOS took a full-cost accounting approach to estimate the financial gains from Natural England's carbon-reduction achievements.

SOS compiled a huge data set and applied its own sustainable travel assessment tool to quantify the savings made. By December 2010, SOS was able to report an impressive range of results, including:

- £2.1 million in efficiency savings;
- £1,800 returned per tonne of carbon saved;
- £700,000 estimated benefit from improved staff productivity and reduced subsistence costs;
- 11% modal shift to rail use; and
- 89% overall reduction in travel through avoidance measures.

For more information, contact Paul Adderley at SOS by emailing: pauladderley@sos4business.uk.com.

as video- and teleconferencing – and the least desirable, although sometimes unavoidable, ones – for example, car use – at the bottom. It was left to individual employees' discretion to make the appropriate judgments about which travel option they would use for a particular journey.

2. Effort focused on teams with the highest carbon footprint to achieve the greatest gains.
3. A team carbon-reduction commitment.

Staff wanted to know their team's carbon footprint, Hinds says, and a strategy was developed to place accountability with individual teams to work together to achieve their carbon-reduction commitment.

Teamwork and targets

Teams at Natural England cover a wide spectrum of different locations, sizes and job roles. They range from five to 100 people and their travel patterns and needs vary enormously. For example, some teams are predominantly office-based, while others have a high level of external face-to-face contact with customers. It would therefore not have made sense to set one globally applicable carbon-reduction target. Hinds took the more meaningful approach of sitting down with teams and helping them to set realistic carbon-reduction targets. These could range from 3% to 50% depending on the team's travel profile.

For the first year, teams were given the leeway to set their own targets and the organisation set a corporate carbon-reduction goal of 17% – which was exceeded when a 25% reduction was recorded at the end of the 12-month period. "When people embraced the concept they realised that there were a lot more opportunities to reduce their carbon footprint than they had realised," says Hinds.

There are many inspirational stories of individuals embracing the new sustainable travel plan. For example, the director who drove a four-wheel-drive vehicle and was initially hostile to the proposals, switched to rail travel and video-conferencing, and became the scheme's biggest advocate. From the project's early days the carbon footprint of all senior managers was reported monthly on the intranet to help convey the message that the new travel plan applied equally to all.

There were also examples of employees improving their work–life balance as well as their productivity – such as the land-management advisers who swapped their cars for trains and folding bikes, and as a result managed to cover a bigger land area.

As soon as a culture of people being committed to choosing more sustainable travel options had been established at Natural England, the organisation moved to a "carbon budget" approach. Since 2009–10 each team has been allocated a budget for carbon use according to their travel profile. Teams can give away part of their carbon budget and regularly do so, motivated by the kudos of coming in on budget.

Making it possible

Encouraging staff to hold remote meetings rather than face-to-face ones will not work in practice without the sophisticated technology required to support alternative options, such as video- and teleconferencing.

Fortunately, when introducing the new travel plan, Natural England was in the process of renewing its telephony system anyway, and the supplier agreed to include video- and teleconferencing as part of the contract. Hinds points out that it was important to provide adequate support for staff while they got used to using the video- and teleconferencing equipment. "Taking part in a meeting remotely is a very different skill to sitting in the same room as people and being able to read their body language. It needs practice and support from the organisation to make it work," he explains.

The organisation did make one significant investment in technology hardware – fast rail ticket machines costing £100,000. These were purchased following considerable anecdotal feedback from staff complaining of long queues picking up tickets from railway stations. Hinds says that the machines are very well used, with other organisations located in some of the same office buildings also making use of them.

It also spent up to £20,000 on bikes – some folding, some mountain for travelling in more remote areas – which are available free for use by employees.

Proof of the success of the sustainable travel plan is the statement that most employees have adopted at the bottom of their email, explaining that they will not travel to a meeting unless absolutely necessary. Other critical success factors for the project were the setting of an ambitious, attention-grabbing carbon-reduction target, and strong leadership from senior management. Hinds' advice to other organisations? The key to success is giving people ownership of the project and engaging them rather than imposing a top-down solution.

Paul Hinds is happy to discuss Natural England's sustainable travel plan in more detail. Please contact him at paul.hinds@naturalengland.org.uk

£2 million

Efficiency savings Natural England achieved through its sustainable business travel plan

Axing the link to deforestation

London Zoo aims to source all of its palm oil sustainably by 2012. **Ali Hines** reports on its work with suppliers to meet that target

Palm oil is found in one-in-10 supermarket products, ranging from toiletries and cosmetics to confectionery and breads, in the form of a vegetable oil and a derivative. However, the production of palm oil has come under increasing scrutiny for its environmental and social impacts, with new plantations in Indonesia and Malaysia responsible for the destruction of valuable ecosystems. Despite these issues, figures published by Defra this year reveal that just 24% of the 643,300 tonnes of palm oil imported into the UK each year are being sourced sustainably.

In its report *Mapping and understanding the UK palm oil supply chain* Defra outlined potential policy options aimed at increasing the proportion of certified sustainable palm oil (CSPO) consumed in the UK, but some organisations, including the Zoological Society of London (ZSL), are already addressing the issue.

In parallel with major producers of consumer products, such as Unilever, ZSL, the operator of London Zoo, is committed by 2012 to purchasing only products that are either manufactured using palm oil certified as sustainably sourced by the Roundtable on Sustainable Palm Oil (RSPO), or are from suppliers that are committed to source only RSPO-certified palm oil by 2015 at the latest.

Palmed off

Although palm oil production has serious negative impacts, the industry also plays an important role in economic development, and palm oil is currently the most productive vegetable oil crop per hectare. Due to these factors, palm oil production will persist and increase in the future. The way forward is to strongly encourage producers to reduce their negative impacts.

ZSL's supply chains are wide-ranging, including retail, catering, cleaning products and animal feed. It took the view that boycotting palm oil is not a practical solution, as it will merely serve to drive demand elsewhere due to the direct interchangeability of the commercial vegetable oil market.

As a critical element of achieving its objectives, ZSL recognised that good environmental management and sourcing RSPO-certified palm oil is key, helping to drive the market for sustainable palm oil forward and reduce the market price for CSPO. According to the RSPO, only 56% of available CSPO was purchased in 2010.

Step by step

The first step to meet ZSL's target was to hold meetings with relevant staff from each department to educate them on the issue of palm oil and inform them of the organisation's objectives. At the same time, ZSL gathered a full inventory of products and supplies purchased by the various departments.

Suppliers were then contacted via a sales or customer service representative, or often directly via the technical team, to ascertain their use of palm oil. This was an initial "softly, softly" approach of information gathering. If the company was using palm oil, they were asked first whether they were sourcing CSPO, and second, whether they had a policy or time-bound action plan on their use of palm oil.

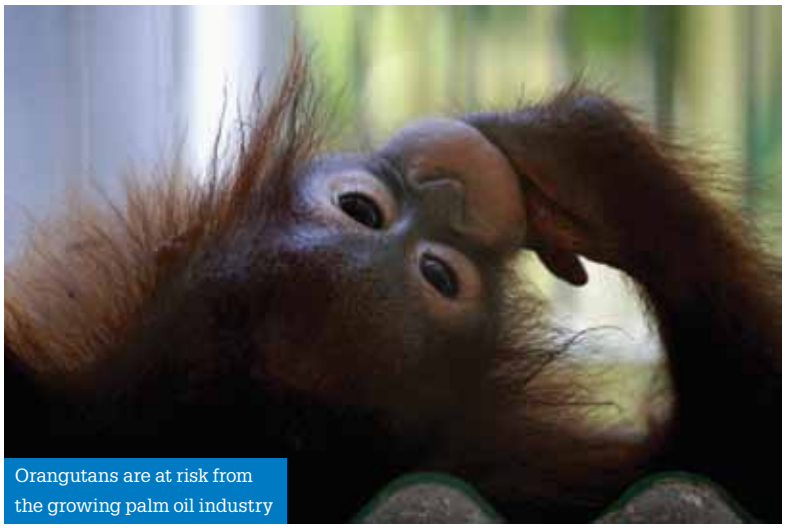
All information was recorded in a suppliers database detailing whether the company used palm oil and which products it was to be found in. ZSL also wanted to know whether the supplier's palm oil procurement policy covered the whole of a company or if was on a product-by-product basis only – that is, whether the company did not use palm oil in the products it supplied to ZSL, but used it in other, similar products.

Meticulous recording of information was critical, both to promote transparency in the supply chain and inform suppliers of where changes needed to be made. For example, a supplier could use CSPO in its own branded goods, but supply products from another company that does not. In a similar fashion, it may be the case that a company didn't use palm oil directly, but bought it in through other ingredients. Such activity would also fall under the ZSL policy to ensure that only sustainable palm oil is being used throughout its supply chain. If a company is unable to provide evidence that their product components are being made with CSPO, then ZSL will seek an alternative.

Prioritising action

Following the initial information-gathering phase, products were ranked in terms of priority action for

Ali Hines is a former intern at the Zoological Society of London (ali_hines@hotmail.com)



Orangutans are at risk from the growing palm oil industry

each department. For other organisations, additional information, such as the size and frequency of the order and cost may be a consideration when deciding whether or not to use a supplier, but at ZSL this was not particularly relevant due to the marginal amount of palm oil found in the products it uses.

But even if a company does not use palm oil in its products, it was still necessary to make it aware of, and sign up to, ZSL's policy in order to cover a potential future switch to palm oil. This could take the form of a statement drawn up either by the company itself or by the relevant ZSL department. If a firm does use palm oil, it is required to produce proof of RSPO certification or have a public policy or time-bound action plan drawn up and submitted to ZSL.

A second series of meetings was held with staff in order to present and discuss the findings and develop an action plan, setting out recommendations to guide ZSL procurement decisions. At the same time, a suppliers code of conduct was developed, which could be sent out with "gentle" letters to the suppliers, along with a timeframe for what ZSL was asking.

It was also important to assess alternatives as a contingency in case of non-compliance by companies, not disregarding any contractual obligations.

ZSL supply chain

A review of the cleaning products used by ZSL revealed that many of them contained oil-based chemical derivatives in the form of oleochemicals; however, because oleochemicals are rarely differentiated based on the original feedstock, traceability is currently a major challenge. Some key industry players, such as P&G, have started working with their manufacturers and suppliers to identify the sources and encourage sustainable and responsible production and procurement practices. ZSL is not yet in a similar position.

The UK imports the majority of its palm oil in the form of palm kernel as a component of animal feed used for commercial livestock, pet food, and domestic and commercial fish food. Defra found that in 2009 the UK imported 663,300 tonnes of palm kernel meal (PKM), approximately 10% of the global output of PKM.

Currently there is little awareness of sustainability of palm oil in the feed industry. PKM is often described as a byproduct, and some have argued that for this reason sustainability concerns are not an issue. However, there are indications that this view is changing. For example, in November 2010, GreenPalm – a certificate trading programme supporting sustainable palm oil production – introduced tradeable certificates for PKM.

ZSL's supply chain review revealed that the organisation does not currently procure animal feed containing palm-derived ingredients.

The focus, therefore, has been on the retail and catering departments at ZSL. Palm oil is predominantly used in confectionery, breads and pastries, margarines and spreads and is principally listed as "vegetable oil" in the ingredients. Although E471 (emulsifier) can be derived from palm oil, this and other food additives derived from palm are oleochemical derivatives, and sustainable forms are unlikely to be widely available in the near future. As a result, ZSL's activities have centred on tackling the use of palm oil as a vegetable oil.

A systems approach

In order to ensure the procurement strategy was robust, it was incorporated into ZSL's environment management system (EMS) under its sustainable procurement policy.

The document sets out the main areas for palm oil procurement at ZSL; a procurement procedure designed to assist staff when purchasing products; supplier commitment requirements; how, and where, to record information; reporting of procedural failings; and a comprehensive list of company commitments on the sourcing of CSPO for referral.

The EMS ensures a concise procurement policy and procurement methodology is set out for staff, and also provides an opportunity for consistent monitoring as well as a mechanism to redress non-compliance, acting overall as a vehicle for positive change. It also offers the opportunity to review ZSL's position statement on palm oil, which was amended after a full review of the supply chain and market levers, narrowing the focal area to that of palm oil as a vegetable oil.

At a wider level, the benefits of incorporating palm oil procurement into an EMS were engaging businesses and encouraging positive change, and improving staff morale and knowledge. ZSL now also has the opportunity to tell its thousands of visitors about incorporation, educating the public on the impacts of commercial palm oil production and the benefits of purchasing certified sustainable palm oil.

Following ZSL's example, other zoos are now interested in tackling palm oil in the supply chain. As the larger retailers fulfil their commitments on palm oil over the next few years, hopefully this activity will trickle down to smaller businesses. It is only through increasing the awareness of consumers and putting pressure on retailers and suppliers that change will occur in the industry – a small step in protecting the world's forests and their inhabitants.

For further information on ZSL's biodiversity and palm oil programme, please contact Sarah Christie at sarah.christie@zsl.org.

44 million tonnes of palm oil is produced worldwide each year

The heat is now on

Better control over workplace heating can help save money and reduce emissions

A one-degree reduction in workplace temperatures could save UK organisations a cumulative £35 million a year, according to the Carbon Trust, making a substantial dent in the £450 million that UK businesses and the public sector currently spend each year on heating their buildings.

With analysts at Deutsche Bank forecasting that energy prices could soar over the next four years by as much as 50%, the potential savings from controlling heating more effectively will only increase.

Heating accounts for almost 60% of total energy consumption in the UK, and approximately half of the country's carbon emissions come from the energy used to produce heat, which is more than from generating electricity. More efficient use of heating can therefore also help the UK to meet emissions-reduction targets.

The Carbon Trust says it is possible to cut heating costs by as much as 30% by taking some simple energy-saving measures. It estimates that with heating accounting for more than 75% of a typical service-sector company's energy bill, a 15% saving could be achieved by resetting timers and replacing old controls.

Taking control

Set correctly, controls ensure a boiler or heating system operates only when necessary, and at a temperature that provides a comfortable working environment, improving the efficiency of the system.

Heating in most commercial buildings is supplied by one of three systems:

- **Wet systems** use mainly water to transfer heat, normally via a boiler, to radiators or convectors.
- **Warm-air systems** transfer heated air, normally via air ducts. Controls for warm-air systems are simpler than for wet systems. Many warm-air systems incorporate integrated controls to ensure fan speed matches the firing cycle of the burner, reducing variations in room temperature.
- **Radiant systems** (common in factories) use infrared radiation equipment, such as gas-fired heaters or electric-quartz lamps, to heat small areas.

The main types of heating controls are as follows:

- **Timers** – switch heating systems on and off, ideally in line with building occupancy. There are several types of time controls. A 24-hour programmable timer switch usually has two dials, with the outer dial showing the minutes, and the inner dial the hour. Electronic or digital versions can also be set for each day of the week. Generally, digital controls provide more control than mechanical programmers. Standard programmable timers tend to apply the same time settings for both space heating and hot water, while a fully programmable timer allows independent settings.
- **Temperature thermostats** – control the temperature of a building or room. Wall thermostats switch the boiler (or pump for smaller systems) on and off when the required temperature is reached. Such controls have a typical switching differential between on and off of about 2.5°C.

FURTHER INFORMATION

The Carbon Trust's "Expert in energy" guidance series put the spotlight on heating in November 2011, and included the publication of new guides (lexisurl.com/iema11215), a training webinar (lexisurl.com/iema11216) and online advice (lexisurl.com/iema11320). To accompany the new guides – which include a table of recommended temperatures for different types of buildings – and advice, the trust also offered the following "top tips" on reducing energy consumption from heating:

- **Get control** – buildings with well-controlled heating systems typically have a 15–30% lower heating fuel usage.
- **Don't overheat** – heating costs rise by about 8% for each 1°C of overheating.
- **Maintain regularly** – energy consumed by heating, ventilation and air-conditioning systems can increase by up to 30% if they are not regularly maintained.
- **Think big-picture** – energy is wasted when heating and air conditioning work against each other, so make sure equipment to cool a workplace is not working at the same time as the heating system is on.
- **Train staff** – provide staff with guidance on recommended operating temperatures and how to set heating or cooling units correctly.
- **Do not overcomplicate** – it is best not to make a system too complicated as there is a danger that controls will interfere with each other.

Thermostatic radiator valves (TRVs) are available for wet systems. TRVs control the heat output by regulating the water flow. The Carbon Trust says that correctly fitted and operated TRVs provide a very efficient level of control, allowing individual radiators to be set to suit the environment and requirements of the room, for example if there are heat gains (number of people, solar, lighting and office equipment) or if physical activity takes place there. TRVs are designed with a simple numerical scale and not temperature levels. Tamper-proof TRVs are available so settings cannot be changed. Frost thermostats are also available. These override other controls if there is risk of a building or boiler being damaged in cold weather conditions. The trust warns that people often set thermostats to maximum, believing (wrongly) that a room will heat up faster as a result. In reality, temperature increases at the same standard rate before overshooting and the room becoming too hot. It advises that thermostats are always set at the desired temperature. TRVs in regularly unoccupied rooms should be set at 2–3 to prevent overheating. Thermostats should be tested regularly to ensure they are working correctly.

- **Boiler controls** – maintain the temperature of the water at the desired level by controlling the firing of the boiler's burner. Where more than one boiler is in operation, sequence controls can be installed to ensure a boiler is only switched on when there is sufficient demand. The trust says that turning off boilers that are not required can cut costs by 5%. Boiler-inhibit controls ensure the equipment does not fire when there is no demand for heating, which is something that can occur.

The "right" temperature

It is worth remembering that the Workplace (Health, Safety and Welfare) Regulations 1992 require that minimum temperature levels – between 13°C and 16°C for manual work – are maintained. Many people may prefer a higher temperature than that set by the legislation, however.

The Chartered Institution of Building Services Engineers' *Guide A: Environmental design* (lexisurl.com/iema11213) provides recommendations for suitable winter and summer temperature ranges. For example, it suggests that a comfortable winter temperature in a general office is between 21° and 23°C, depending on the activity being performed, while for a factory where light work is being undertaken it is 16°–19°C.

The Carbon Trust recommends regular monitoring of existing heating controls. Are they displaying the correct time and date? Do the settings match the regular working patterns? Are empty rooms being heated unnecessarily? Have thermostats been altered and not reset?

The trust suggests that in some workplaces it may be possible to shut down the heating system an hour before the end of the working day, reducing costs without affecting comfort levels. It also advises switching off heating systems overnight if buildings are empty, with the heating set to come on and reach the desired temperature at the start of the working day. The optimum time to achieve correct warm-up will vary with the seasons, so will need to be occasionally adjusted.

Keeping heating systems well maintained is also recommended. The Carbon Trust estimates that a poorly maintained heating system can increase costs by as much as 15%. It also suggests boilers that are at least 15 years old or are inefficient should be replaced.

Another issue to consider is the operation of heating and cooling systems. Setting a gap of 4–5°C between the heating and cooling thermostat setting – for example, heating off when the temperature reaches 19°C and cooling off until the temperature exceeds 24°C – should provide a sufficient temperature break to ensure the two systems do not operate simultaneously, consuming unnecessary energy.

Zoning is another option, and involves installing separate controls for different areas, such as where occupancy rates differ or different temperature levels are required. South-facing rooms tend to get heat gain from the sun, for example, and so may need less artificial heating.

New technology

Heating controls are becoming more sophisticated, enabling stricter control over when heating switches on and off. Modern seven-day time switches allow building managers to programme the time setting on heating and ventilation systems to match working patterns over the whole week. Extension timers and delayed-off controls provide more flexibility than conventional timers, while optimum start controllers and weather-compensation controls automatically control when to switch a system on to achieve the optimum temperature, adjusting to changes in the weather and external air temperature.

Contaminating nature

Pollution is the next stop on **Paul Reeve**'s journey through the IEMA Associate certificate syllabus

IEMA Associate certificate – sources, effects and management of releases

- A Principal sources of pollutants
- B Main pathways of pollutants and their behaviour
- C How pollutants adversely affect air, land, water and, consequently, people
- D How pollutants impact on habitats and species
- E Origins of key environmental issues and their implications, such as climate change, ozone depletion and bio-accumulation
- F Prevention and control of releases including key biological, physical and chemical technologies

The term "pollution" encompasses environmentally harmful outputs from a remarkably complex range of activities, products and services. Activities, products and services generally require "inputs" – for example, materials and energy. They also generate "outputs", such as useful products and recovered materials. Releases to the environment are also outputs. These include atmospheric emissions, effluent discharges, solid wastes, or the release of engineered materials, noise, vibration, heat or light.

The sources of these releases may be "point" sources, such as a discharge pipe to natural waters, or the combustion stack of an industrial process. Or they might be "diffuse" sources, including individual traffic emissions, which raise aggregate airborne concentrations and noise to unwanted levels, or the widespread application of various chemicals to land, causing contaminated runoff to surface waters.

Aspects and impacts

ISO 14001, the leading international standard for environment management systems, carries a very useful definition of how organisational activities can interact with the environment (second panel, p.33).

Pollution from an activity, product or service – referred in the 14001 terminology as an "aspect" – is a release to the environment that may have negative environmental impacts. Polluting outputs and associated environmental impacts include the following.

- **Climate change** – greenhouse-gas emissions, including the six covered by the Kyoto Protocol: carbon dioxide, methane, sulphur hexafluoride, nitrous oxide, perfluorocarbons, hydrofluorocarbons.
- **Tropospheric ozone creation** (low-level photochemical "smog") – emissions of nitrogen oxides, carbon monoxide and volatile organic compounds/unburnt hydrocarbons.
- **Acid deposition** – emissions of sulphur dioxide, nitrogen oxides and hydrogen fluoride/chloride.
- **Other air-quality impacts** (notably leading to serious/persistent health problems) – particulates (including smoke and dusts), nitrogen oxides, sulphur dioxide, benzene, lead and dioxins (waste product of manufacture/burning of chlorinated organics/plastics).
- **Water pollution –** discharges of suspended solids, nitrates and phosphates, oil, solvents, heavy metals, endocrine disruptors (hormonal effects), persistent organic substances, pesticides, other organic matter, thermal (heating) and litter.

THE POLLUTER PAYS PRINCIPLE

The polluter pays principle (PPP) recognises that the polluter should pay for any environmental damage it causes, and that the burden of proof in demonstrating that a particular technology, activity or product is "safe" to health, the environment or both should not lie with the public or its representatives. The PPP is mentioned in principle 16 of the Rio Declaration on Environment and Development. This says that nations should: "Endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest."

The PPP has been adopted by the European Commission, which says the principle implies that those who cause "environmental damage should bear the costs of avoiding it or compensating for it. Therefore public financing of environmental policy … should be financed by the polluters themselves as far as they can be identified."

In the UK, the PPP is one of the five "guiding principles" behind the government's current sustainable development policy (lexisurl.com/iema11220). The "Achieving a sustainable economy" principle includes the following: "Building a strong, stable and sustainable economy which provides prosperity and opportunities for all, and in which environmental and social costs fall on those who impose them (the 'polluter pays') and efficient resource use is incentivised."

In environmental law, the PPP is applied, for example, when seeking compensation from those whose activities have harmed the environment. However, it is also cited when authorities recover the cost of issuing permits for activities that have the potential to cause pollution, even where there has been no civil or criminal offence.

OZONE DEPLETION

Some man-made molecules which incorporate chlorine and bromine atoms do not break down readily in the lower atmosphere (troposphere). These molecules, more widely known as "halogenated" molecules, can persist for decades if they are released into the environment (as gas or vapour) and can eventually reach the upper atmosphere (stratosphere). Here, solar ultraviolet radiation breaks up these molecules, creating free chlorine and bromine atoms. These atoms cause further complex reactions, including the conversion of stratospheric ozone molecules to oxygen. This is "ozone depletion", and its impacts are most acute at high latitudes. It is a major environmental concern because the ozone layer protects the Earth's surface from excessive solar ultraviolet radiation. When the ozone layer thins, extra UV radiation reaches the surface, increasing the risk of harm to humans, animals, crops and other plants.

This serious and widespread negative impact was not originally anticipated. But by the 1980s, scientists had not only identified the phenomenon of polar ozone depletion but had also established the convoluted link to halogenated gases. During the next decade, the main response of global governments was to progressively ban the production and use of a range of halogenated ozone-depleting substances, including chlorofluorocarbons and halons.

It is widely believed, although it will take years to confirm conclusively, that the bans have started to help the ozone layer to recover.

- **Contaminated land** (often linked to both ground and water pollution) – accumulations of hazardous substances and wastes, such as heavy metals (for example, cadmium and lead), asbestos, organochlorine compounds, combustible and explosive materials and biological contamination.
- **Waste** – generation of contained solid and liquid wastes, hazardous wastes and radioactive wastes.
- **Nuisance** – smoke, dust and fumes, accumulated waste/litter, and intrusive odour, noise/vibration and light.

In addition, there is pollution of the stratosphere from manmade molecules, which could cause ozone depletion (see panel, bottom left).

Pollution can range from steady/intermittent and long term, to major and immediate incidents. The polluting outputs from major incidents (including substances used to deal with the incident) can include: oil spills (including dispersants); chemical spills/spreading; explosions and fires (including firewater); and radioactive incidents.

However, long-term sources of pollution – notably noise pollution – can interfere with the quality of life and, if exposure is excessive, can harm health.

Nature's capacity to fight back

Nature's ability to reduce the negative impacts of pollution depends on several key factors such as the type of pollution; how much is generated, and over what duration; the receiving environmental medium (air, water or land); and receptors (the type, and how sensitive they are to a given pollutant).

However, not all of nature's processes reduce environmental impacts. There are many examples of environmentally "persistent" substances that have significant lifetimes. These range from toxic organochlorides (that build up in the human food chain), carbon dioxide (now infamously associated with climate change), CFCs or chlorofluorocarbons (a major culprit behind stratospheric ozone depletion – a single CFC molecule, for example, can destroy 100,000 ozone molecules), asbestos (persistent and toxic) and various radioactive wastes.

Furthermore, some natural processes may increase negative impacts. For example, urban airborne emissions can be broken down by sunlight, leading to the formation of substances harmful to health (such as ground-level ozone). In addition, some pollutants have more than one environmentally harmful characteristic. Methane, another example, is a potent greenhouse gas – linked to climate change. It is the principal component of natural gas, so is also potentially flammable and explosive. Methane is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Once in the atmosphere, methane absorbs terrestrial infrared radiation that would otherwise escape to space. This property can

Paul Reeve is head of environment at the Electrical Contractors' Association

contribute to the warming of the atmosphere, which is why methane is a greenhouse gas. It is about 21 times more powerful at warming the atmosphere than an equal weight of carbon dioxide.

Environmental receptors

Once released to the environment, pollution follows natural pathways – wind, rain, flowing water, permeable ground, the food chain (see panel, right). It then has a negative impact on one or more parts of the environment, which are known as receptors. These impacts can occur over the short or longer term, depending on the nature and extent of the pollutant and the sensitivity of the receptor.

The following provides examples of pollution sources, pathways and receptors:

- **Polluting sources** – combustion emissions, dust, effluent discharges, leaks and spills, dumped or poorly managed waste.
- **Environmental pathways** – atmosphere, water (rivers, lakes, aquifers, coasts, seas), and land (including surface and underground contamination, and groundwater).
- **Receptors** – humans, neighbours, wider population, sensitive individuals/communities ("at risk" receptors); natural and owned resources, including crops and livestock, wildlife (plants and animals), conservation/sensitive species and habitats ("at risk" receptors), and buildings and structures.

Pollution can cause significant harm to biological receptors and can include exposing humans to toxic, carcinogenic, endocrine-disrupting or bioaccumulative substances, heating natural waters and degrading the surrounding environment. It can ultimately affect the quality of ecosystems and biodiversity.

Finally, there is not always a clear distinction between environmental receptors and pathways. For example, water and land can be both pathways and receptors, as can organisms in a food chain.

Compelling case

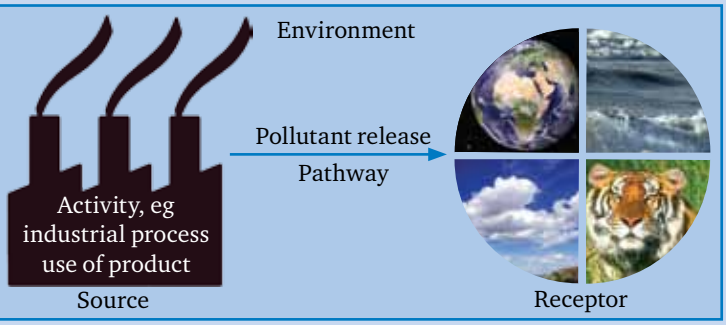
The factors above are persuasive reasons for organisations to prioritise pollution prevention and minimisation, rather than attempting to clean pollution up once it has happened.

But another crucial factor is that, if a substance is released into the environment, it may be impossible to predict what will happen next, much less control the environmental impacts. Once pollution occurs, the time for cost-effective control has gone.

Depending on the scale and location of the pollution, clean-up costs can be huge. BP, for example, set aside $41 billion to cover costs related to the Gulf of Mexico spill. More than four million barrels of oil poured into the sea when an explosion ripped through the Deepwater Horizon drilling rig in April 2010, spreading pollution over 600 miles and damaging marine life and coastal wetlands between Louisiana and Florida.

This is why the international environment management system standard 14001 says that environment managers should seek to control "aspects", not "impacts". The "prevention of pollution" is so fundamental that 14001 specifically requires organisations to commit, in their environment policy statement, to achieving it.

THE SOURCE > PATHWAY > RECEPTOR RELATIONSHIP



USEFUL DEFINITIONS

The following definitions are from ISO 14001, the international standard for environment management systems:

- **Environmental aspect** – "Element of an organisation's activities, products or services which can interact with the environment (a 'cause' of impacts)."
- **Environmental impact** – "Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects."

The 2008 EU Directive on integrated pollution prevention and control (2008/1/EC), which replaced the earlier Directive (96/61/EC), defines pollution as: "The direct or indirect introduction, as a result of human activity, of substances, vibrations, heat or noise into the air, water or land which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment."

Many consider the reference to "quality of the environment" to include biodiversity (species and ecosystems, including the food chain). Note that "activity" can include storage. Example "services" range from delivered goods to the provision of information and communication technology (providing services still require substances and energy to be released into the environment throughout the supply chain).

Paul Reeve is an IEMA Fellow. He originally conceived and produced the Associate membership course and exam with Paul Hyde. They are joint authors of the popular textbook *Essentials of environmental management*, on which this training series is based.

Sustainable business in practice

Delegates at this year's sold-out IEMA conference heard how large and small organisations are putting sustainability at the heart of their activities

Conference Evidence of how skilled environmentalists are at the forefront of organisations' efforts to embed sustainable business practice was on show at IEMA's 2011 conference, "Sustainable business: environmental professionals driving change".

The event, held on 15–16 November 2011 at Savoy Place in London and sponsored by NQA, sought to address the many challenges that organisations in all sectors are facing, from the transition to a low-carbon economy to understanding the limitations of operating within the natural capacity of the planet. The leadership role that experienced environment professionals play in helping businesses and public sector organisations meet these challenges was a key feature of the two-day conference.

Here, *the environmentalist* showcases some of the highlights.

Day 1

Peter Young (pictured), strategy director at consultancy SKM Enviros, in the opening session looked at breaking the link between growth and impact, outlining three areas requiring attention: electricity supply, energy efficiency and resource management. He reminded delegates that demand for electricity will almost double over the next two decades, from 45GW in 2010 to 85GW in 2030, so we have to find ways to decarbonise electricity generation, but in a way that does not "destabilise the economy".

Young described energy efficiency as a "ridiculously under-exploited" measure, saying the UK needs to improve efficiency by a factor of three. He said the emphasis on recycling should be replaced with a waste strategy that focuses on reuse, reduction and elimination.

Sarah Eppel (also pictured), Defra's head of sustainable products and consumers, highlighted new research revealing that more than half (54%) of the goods consumed in the UK are produced overseas. She raised the issue of water scarcity, pointing out that the manufacture of one pair of jeans requires 11,000 litres of water.

Diana Montgomery, commercial and policy director at the Chemical Industries Association, provided an industry perspective on growth and impact. She explained that the cost of regulation to industry varies hugely from country to country. "Unilateral action by the UK and the EU on the cost of carbon makes it very difficult for chemical companies," she said, adding that policy uncertainty in the UK is extremely damaging.

The afternoon plenary session focused on the challenges and opportunities presented by better managing resources. **Miles Watkins**, director of sustainable construction at Aggregate Industries, talked about how his company is increasingly reusing materials, but said there is still a reluctance to use more environment-friendly products, for instance the lack of demand for asphalt with less embodied carbon. In his presentation, **Andrew Bloodworth**, from the British Geological Survey, talked about diminishing resources.

Fran Leedham, head of global sustainability at Jaguar Land Rover, showcased her firm's actions to embed sustainability, with its 2008 environment innovation strategy forming one of three central pillars of its business plan. She explained that the company's entire workforce has been through an efficiency training programme, and how using recycled aluminium takes only 5% of the energy consumed by virgin aluminium.

Delegates also heard how companies such as National Grid, Thames Water and Transport for London (TfL) are working on major infrastructure projects with limited environmental impacts. **Richard Aylard**, director of external affairs and sustainability at Thames Water, spoke about the company's £4.1 billion construction of a "super sewer" in London, while **Steve Wallace**, head of climate change and environment at National Grid, focused on how the firm was reusing infrastructure equipment, such as parts from old meters. **Helen Woolston**, environment and climate change coordinator at TfL, explained how the organisation is making more robust use of risk assessment to improve the environmental performance of London's transport infrastructure.

Day 2

The theme of the main plenary session on the second day was sustainability in practice. **Peter White**, director of global sustainability at P&G, gave a comprehensive overview of the initiatives employed by the company, whose products range from Ariel washing detergent and Pringles crisps to Pampers nappies and Gillette razors, to improve its sustainability. These include working closely with its 75,000 first-tier suppliers and seeking to influence the behaviour of the four billion consumers of its products.

IEMA policy director **Martin Baxter** followed White, and exclusively revealed the results of the Institute's latest research. The survey looks at sustainable business practice (SBP), and attracted

1,348 members' responses. Among the key findings were that more than half (52%) have a degree of influence over high-level decision making in their organisations. The poll also identifies what environmentalists believe are the essential elements of SBP, with the top three being: minimising environmental impacts and living within environmental limits; creating long-term value; and compliance with law and regulations. Definitions of SBP offered by survey respondents include "delivering long-term value to society without harm to the environment" and "balancing environmental, social and economic issues".

Paul Turner, head of sustainable development at Lloyds Banking Group, then talked about the environmental challenges facing the finance sector, explaining how engaging staff is the key to improving performance. He said environmentalists had to know how to appeal to "heads, hearts and wallets", creating the right messages for each part of the business, from the finance department to the cashiers in banks.

Reducing the impacts of products and services was the next session and included presentations by **Fiona Ball**, head of environment at BSkyB, **Julian Feasby**, head of internal environment management at the Environment Agency, and **Jon Freeman**, who works on sustainable procurement at the Ministry of Defence. In his presentation, Feasby reminded the audience that they should not to be afraid of making mistakes when it comes to trying to change people's behaviour, while Ball outlined the satellite broadcaster's 10 public sustainability targets.

Later, **Henrietta Anstey**, head of environment and sustainability at BAE Systems, **Lucy Shea**, chief executive at Futerra Sustainability Communications, and **Toby Robins**, sustainable development director at Wiles Greenworld, told delegates how sustainability is being embedded in their organisations.

The conference ended with a presentation by **Mike Pierce**, director of strategy and communications at the Cambridge Programme for Sustainability Leadership. He called on environment professionals to work every day to cajole, manipulate, shove and inspire their colleagues in a bid to spread the message of sustainability and to lower organisations' environmental impacts.

In addition to the six plenary sessions, conference delegates also had their pick of 24 workshops, seminars and case studies.

WHAT THE DELEGATES THOUGHT

"The conference helps me stay up to date with the latest developments in sustainability and enables me to feed back into my organisation's environmental management system. For me, it's about continuous improvement of the system as well as what it delivers."
Christine Heath, group leader environmental management, Atomic Weapons Establishment

"My organisation is looking at how we can raise staff awareness in sustainability and there have been some very valuable sessions here, particularly the case study session on Natural England given by Paul Hinds."
Parminder Plahe, environmental systems manager, European Investment Bank

"What was really good about the conference was the way it linked environmental management back to business, and that's a really key thing at the moment when the economic environment is so limited. Peter White's insight into P&G's global approach to sustainability was really inspirational."
Leighanne James, business improvement manager, Atkins

"The conference has been really useful in reminding me that an organisation doesn't have to do sustainability all at once. My company is doing well on the environmental side and we want to progress to best practice in our sector, and the conference has reminded me that this can be a step-by-step process."
Kirsten Holman, senior environment consultant, Parsons Brinckerhoff

"The session on avoiding greenwash was really interesting. I learned that in marketing products you should keep things simple and avoid jargon. It reminded me to make sure people know about the good things you're doing rather than keeping below the radar."
Peter Longworth, energy officer, Isle of Man government

"The highlight of the conference has been meeting people from other organisations and seeing how they are addressing environmental issues. It's been good to hear from big companies like P&G, because they are a bit ahead of smaller organisations and we can learn from what they are doing."
Dr George Royston-Bishop, technical assistant, Sellafield

"I've been to IEMA conferences in the past and this year's is definitely up there with the best of them. Martin Baxter's session provided a great overview of government policy and how it's affecting businesses. One of the key topics has been how do we reconcile long-term sustainability with short-term financial pressures, and it was answered in part by Paul Turner from Lloyds Banking Group, who said achieving quick wins can lead to longer-term planning."
Stephen Anstice, director, Environmental Strategies

"I am looking to progress to Full IEMA membership and the conference was a good opportunity for me to see what the Institute is all about. It also gave me a great insight into what bigger companies and the public sector are doing in terms of sustainability, and it's not common information – you really have to be here to find out what they are doing. Hearing these speakers you realise we are all in it together."
Pavlin Matia, environmental product manager, Wiles Greenworld Group

"The quality of speakers is very good, with big hitters like P&G and Lloyds Banking Group. These big organisations have got tremendous challenges and it's useful to see how what they do can translate for other companies. As an environmentalist, if you don't come to events like this you're missing an opportunity to investigate alternative approaches that could work for your organisation."
Stephen Lowe, director, Atom Solutions Environmental

Graduate award winner

Graduates Heather Poore, youth volunteering project manager at behaviour change charity Global Action Plan (GAP), was presented with the 2011 graduate award at the IEMA sustainable business practice conference for her exceptional work in helping to turn environmental messages into action.

Dave Farebrother, chair of the judging panel and director of environment at Land Securities, which sponsored the award, said: "Heather is an outstanding example of how environment graduates are bringing the skills that will embed environmental thinking into business practice. Her work at GAP, where she has shown outstanding commitment to inspiring young people, is an excellent example of this."

Heather Poore receives her award from Dave Farebrother

Poore, who won £2,000 and a year's free IEMA membership, reacted to the announcement by praising the work of her fellow finalists. "I am delighted to be recognised by IEMA and for the kind comments of the judges," she said. "When I heard about the work of the other finalists, I couldn't believe that I had been chosen as the winner. The award has been a great experience, especially because it has enabled me to meet other graduates and learn about what they are doing."

Charlie Symonds, sustainable development engineer at Stannah Stairlifts, and Laura Duggan, environment executive at George Best Belfast City Airport, were this year's runners-up, each receiving a £1,000 cheque and a year's free IEMA membership.

Graduate award winners on their experience of the IEMA conference

"The conference has been a fantastic way to learn from others in the environmental sector. There were lots of great talks from people and organisations, such as the Ministry of Defence, that I didn't expect to be here.

"Everyone at the conference has the same goal, but we are coming at it from completely different backgrounds and perspectives. It's been really interesting to see how we are all going about achieving that goal.

"I know as an individual the ticket price for the conference can seem expensive, but it's worth it. I will definitely be coming next year."

Heather Poore, youth volunteering project manager at Global Action Plan and winner of the 2011 IEMA graduate award

"It was really interesting to step outside the bubble of manufacturing and hear what other sectors are doing to advance their sustainability and realise just how much of it could be applied to my sector.

"The one thing that I will really take away from the conference is the critical importance of staff engagement and the different ways I've learned from the speakers about how to achieve this."

Charlie Symonds, sustainable development engineer, Stannah Stairlifts

"Other conferences I have attended have struggled to get down into the detail, but I found the sessions here were really thorough. I went to the "Introduction to auditing" workshop and even though it was only an hour and 15 minutes long, I got some important points out of it.

"As a recent graduate I found the conference really great in helping me to understand the huge variety of sectors and jobs that are open to me. It's also allowed me to make contact with more experienced IEMA members whom I can call on in the future for expertise and advice."

Laura Duggan, environment executive at George Best Belfast City Airport

Now is the time to update your member details

Members As you have received *the environmentalist* through the post, that means IEMA has your current address. But do we have all of your current details? If we do not know your up-to-date telephone number, email address, employer details or job title we cannot deliver appropriate event invitations, policy briefings or opportunities to help shape the profession.

Updating your details is simple (see steps below) and you can even tell us the email or postal address at which you would prefer to be contacted.

Four simple steps to update your profile

1. Go to iema.net and find the log-in boxes at the top of the page.
2. Log on using your email address as your username and your chosen password (or the password issued when you first registered).
3. Once you've logged on, click "update your profile".
4. Once you have arrived at the updates page, you can view/edit your personal, location, work and contact details.

If you have not previously logged on to the website, go to the IEMA website, click register, follow the onscreen instructions and then complete steps 1 to 4 as listed above. Go to iema.net today to check your details – your access to future professional development opportunities may depend on it.

Taking stock

Supplies Following the national conference, IEMA has some promotional materials, free of charge to members, to support regional social and training events. Mouse mats, drinks coasters, pens and cotton bags are all available. IEMA is going to be refreshing the look of these and other designed materials during 2012, so the Institute will not be able to use them for next year's conference, but in the meantime, if you would like them, please contact d.bain@iema.net and they will be allocated on a first come, first served basis.

2012 practitioners' survey

Survey Each year, IEMA surveys its UK membership to assess the movement of the profession, researching practitioner satisfaction, levels of experience, qualifications, salaries, working conditions, training opportunities and other areas of working life.

Last year, 2,318 members took part, continuing the research that has been running since 2005. The 2012 environment practitioners' survey will go live later this month. An invitation to participate will be sent to all Graduate, Affiliate, Associate, Full and Fellow UK members on 21 December. The survey will remain open for just over two weeks, closing on 8 January 2012. The results will then be compiled and analysed, with a special supplement report in the March 2012 issue of *the environmentalist*.

Contributing your individual experiences via the survey helps IEMA consistently to gauge any changes or trends as the profession grows, gains recognition and widens its influence. The 2012 survey and the subsequent report are useful to IEMA, the business community, training providers, recruitment organisations and, of course, individual members, who can use the results to assess how their experiences compare against others in the profession.

As this is an important and valuable opportunity to engage with IEMA we hope that many of you are able to participate and contribute your experiences of working as an environment professional. If you have any questions, please contact Katrina Pierce at k.pierce@iema.net.

IEMA EVENTS

Date	Region	Topic
Regional events		
11 January	North East	Revision to 14001: have your say
12 January	Midlands	Revision to 14001: have your say (Birmingham)
12 January	Webinar	Significance value in EIA
18 January	Republic of Ireland	Revision to 14001: have your say
18 January	Scotland Central	Revision to 14001: have your say
18 January	Wales	Revision to 14001: have your say
19 January	Scotland West	Revision to 14001: have your say
19 January	Northern Ireland	Revision to 14001: have your say (Belfast)
19 January	South East	Revision to 14001: have your say (London)
25 January	Scotland North	Revision to 14001: have your say
26 January	South East	Revision to 14001: have your say (Southampton)
9 February	Webinar	Renewables projects in EIA
CPD/membership workshops		
31 January	South West	Full and CEnv (Bristol)
9 February	Yorkshire & Humber	Full and CEnv (Sheffield)

NEW MEMBERS

IEMA would like to congratulate the following individuals on the success of their Full (MIEMA) and Dual (MIEMA and CEnv) membership applications.

Full (MIEMA)

Jonathan Dosser, Waterman Energy Environment and Design
Joseph Ellis
David Forbes, Schlumberger
Peter Gardner, SKM
Kieran Gayler, Sharps Redmore Partnership
Justin Haves, RPS
Thomas Newholm, Driving Standards Agency
Sarah Rose, Laing O'Rourke
Nicholas Ruscombe-King, Oxford County Council

Dual (MIEMA and CEnv)

Peter Broomhead, Network Rail
Kirsten Holman, Parsons Brinkerhoff
Gavin Landeg, Tata Steel
Robert Little, Costain
Geoffrey Massey, Alinta Energy
Bakia Mbianyor, Colas
Bridget McNulty, Your Energy
Carol Peirce, NEAS

Time to upgrade with the Associate open book assessment

Qualifications The deadline for registration for the next Associate open book assessment (OBA) will be on 20 January 2012. Members who want to progress their membership from Affiliate to the recognised Associate (AIEMA) level must register before that date in order to participate in the next OBA assessment, which will take place between 6 and 20 February 2012.

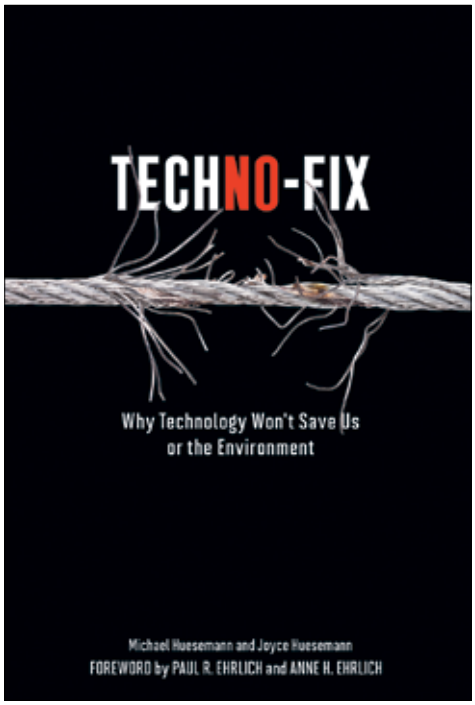
IEMA's website (iema.net) contains links to helpful information sources – including past papers as well as links to useful websites, reading material and to answers to frequently asked questions about the OBA – all designed to help you become an AIEMA.

You can download the OBA application form at lexisurl.com/iema11372 or register for the OBA by contacting the membership team at info@iema.net.

Environmental economics: A very short introduction

Stephen Smith / Oxford University Press / Paperback: £7.99 /
ISBN: 978–0–19–958358–4

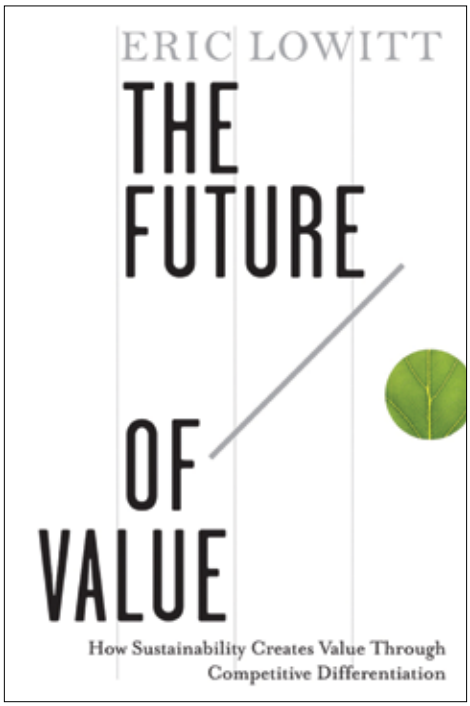
BOOK Contingent valuation, cost-benefit analysis, equity weighting, double dividend, externalities and use value are all economic terms likely to be unfamiliar to many environmentalists. Stephen Smith's wonderful little book provides a glimpse into where economic activity and the environment collide. How can we, for example, assess the benefits people receive from a less polluted atmosphere? Is it worth reducing pollution to zero or should we consider accepting some level of pollution because of the economic benefits associated with it? Smith provides a succinct economic perspective on many of the most pressing environmental issues of our time, from climate change and nuclear power to recycling and wildlife conservation. One chapter focuses on the economic theory of efficient pollution control, while another looks at economic information and values in environment policy decisions. A third examines the economics of climate change. The outcome is a very enjoyable read. Readers might even be tempted to explore environmental economics further. And in these economically challenged times that can only be a good thing.



Techno-fix: Why technology won't save us or the environment

Michael Huesemann and Joyce Huesemann / New Society Publishers / Paperback: £20.99 /
ISBN: 978–0–8657–1704–6

BOOK If you're waiting for a technological "silver bullet" to arrive and save the world from soaring temperatures, don't hold your breath. The authors of this timely book challenge the belief that technological innovation will save us from the consequences of what they describe as our 300-year fossil-fuelled binge known as modern industrialised civilisation. They argue that modern technology has limits, and can even create unintended consequences that further damage the environment. Negative environmental consequences from technological exploration, control and modification of nature are inevitable, say the authors, because human actions cannot improve nature, which they describe as a complex interconnected system that is continually adapting to change through the process of evolution. Efficiency is currently much in vogue, but this book says efficiency solutions might themselves create problems. The authors assert that efficiency often stimulates the consumption of the same limited resources, and contend that a society in which processes have become ultra-efficient is much more vulnerable to resource shortages. You have been warned!



The future of value

Eric Lowitt / Jossey-Bass /
Hardback: £21.99 /
ISBN: 978–1–1180–7452–7

BOOK What is the right model for a sustainable company that continues to create value? Here, strategy and sustainability consultant Eric Lowitt attempts to provide the answer. Lowitt's central premise is that competing on sustainability is the best way in which organisations can create value. He looks at the role that sustainability can play in creating successful companies by examining the strategies of more than 25 global Fortune 500 companies – including Aviva, Marks & Spencer and Unilever. Lowitt uses these real-world examples to describe how to develop a sustainability strategy and embed it into the entire value chain, which is, essentially, a systematic approach to examining the development of competitive advantage. He shows, for example, how Hitachi's corporate social responsibility materiality assessment helps to inform the design of the firm's sustainability strategy, and how companies such as Centrica find that integrating sustainability into corporate strategy can itself lead to powerful value-creation opportunities. As Lowitt says, if corporations focus on sustainability, it will not only ensure the long-term future of the business, but benefit the environment too. This book is a valuable resource.

Henrietta Anstey

Head of environment and sustainability, BAE Systems

Why did you become an environmental professional?

I wanted to study something that was important to me, rather than what would lead to a job, so it seemed natural to choose my degree in Countryside Management. At the time, cost–benefit analysis was a new concept, the Environmental Protection Act 1990 was just coming into force and environmental job opportunities were limited.

What was your first environment job?

In 1999, I became an environmental manager for a construction company that was a subsidiary of Bristol Water. The company needed ISO 14001 certification to remain on the prime contractors list for a major utility company and I was given responsibility for managing the development and implementation of 14001 system in just 18 months.

How did you get your first environment role?

More by luck than design! Having gone into banking after university, I realised that, while I was gaining some excellent business skills, I didn't have much job satisfaction; I needed to do something that I was passionate about. After signing up with a temp agency and finding myself working in a construction company, I mentioned I had an environmental degree and was keen to use it. Little did I know that I would soon be working to help the company certify against 14001.

How did you progress your environment career?

Having achieved 14001 at the construction firm, I needed a new challenge. I became aware of a consulting opportunity through a local environmental business network and joined a maritime design company whose main customer was the Ministry of Defence (MoD). My role was to provide contracted support to the MoD on activities including: ensuring ship designs were compliant with environmental legislation; developing an environment management system; completing audits of naval bases and providing training. I moved from this company to BAE Systems and became involved in more significant maritime environmental projects with the MoD.

What does your current role involve?

I am now the lead environmentalist at BAE Systems and responsible for shaping policy and for securing executive agreement. My role is to support the business in developing sustainability plans across our operations, our supply chain and our products. I work closely with my counterpart in the MoD to ensure that we understand its strategy.

How has your role changed over the past few years?

A lot! Having worked in a BAE System's business I had a good idea of what I wanted to improve once I was in head office. I set about making those changes and I am now looking to embed these through better education, ultimately strengthening our corporate environmental capability.

What's the best part of your work?

When an employee or a business has taken the principles of environmental sustainability and successfully applied them and then enjoys the benefits that follow.

What's the hardest part of your job?

In a global business reaching agreement takes time. I have learnt to be more patient and to be understanding of the concerns of the various businesses – this is essential as they are responsible for delivering the operational efficiencies, product innovation and have the supply chain relationships.

What was the last development/ training course/event you attended?

The 2011 IEMA annual conference as a speaker.

What did you bring back to your job?

New contacts, which helps to extend my network and an opportunity to learn how they are driving change.

CAREER FILE

Qualifications

FIEMA, CEnv, MSc Integrated Environmental Management, BSc (Hons) Countryside Management

Career history

2009–now:
Head of environment and sustainability, BAE Systems

2005–2009:
Senior principal environmental consultant, Surface Ships, BAE Systems

2001–2005:
Principal environmental consultant, BMT Defence Services

1999–2001:
Environmental manager, Bristol Water

1994–1998:
Retail and corporate banker, NatWest Bank

Romec FM

Sustainability Manager

Romec is recognised as one of the UK's leading providers of integrated facilities management solutions and building maintenance services. Working in partnership with some of the biggest names in the UK, we deliver a 'one-stop-shop' for a wide range of business outsourcing services.

Due to our continued success and growth we are recruiting a ***Sustainability Manager*** on a permanent basis. This is a UK wide role which will require frequent travel with some overnight stays. The role offers a ***competitive salary, company car and benefits package.***

The Sustainability Manager will play a leading role in implementing our 2020 Vision and Roadmap, shaping our sustainability programmes, ensuring compliance, reporting on our performance, developing business cases for continual improvement, and adding value to future business development across all of our business units.

Competencies & Candidate Attributes:

- Degree in an Environmental or Sustainability subject or equivalent
- Associate member of IEMA or a similar professional body
- Practical experience of implementing and managing ISO 14001
- Solid background in environmental legislation
- Ability to critically analyse, interpret and report data to inform decision making
- Experience of line management, including supporting and developing team members
- Excellent communication skills at all levels including strong influencing skills
- IT skills, including Microsoft packages
- Excellent presentation skills, both written and verbal
- Experience of working in a multisite service industry, ideally encompassing engineering, construction or facilities management (Desirable)
- Experience in supporting tenders and developing business cases (Desirable)
- Experience of FGAS and waste management (Desirable)

Accountabilities:

- Provide expert guidance to Romec and Balfour Beatty Technical Services to ensure full compliance with all legal requirements
- Maintain the company's EMS, implementing improvements and ensuring that the company certification to ISO14001 is maintained
- Engage with Functional Heads to improve awareness of sustainability and develop new innovative sustainability initiatives
- Assist with bid submissions and support contract mobilisation
- Analyse and report on the company's key sustainability metrics, including Carbon Disclosure Project, CRC, Packaging, and 2020 Vision submission.
- Manage, lead and support the development of Sustainability Advisor, including setting and managing workloads, and providing clear support and direction where appropriate on relevant projects and tasks

To apply please visit http://bit.ly/w5ermF for any queries please contact us on 0161 475 3827

RPS Energy

www.joinrps.com

HSE opportunities available in the UK

RPS Group is major global energy, planning and environmental consultancy with over 4,000 staff and with offices in Europe, Australia, SE Asia, Middle East, Russia, Africa, America and Canada.

RPS Energy is a major division of the RPS Group offering multi-disciplinary consultancy advice and support to wide variety of clients on the development of natural energy resources across the complete asset cycle (Licence award to decommissioning and divestment), combining our technical and commercial skills with an in-depth knowledge of heath, safety and environmental issues.

As an well established consultancy RPS specialises in providing worldwide Health, Safety and Environmental (HSE) support to a wide range of industry sectors including: Petroleum exploration and production operations (on and offshore), gas liquids processing, project construction and decommissioning, power generation; refining and chemicals;

We are embarking on a major programme of further growth and are currently recruiting for a number of roles based in the UK:

Principal Environmental Consultants – Aberdeen & London

- UKCS EIA & Permitting

Principal Environmental Consultant – London

- International Terrestrial Ecological background

Senior Health & Safety Consultant – London

- Technical safety engineer

Should you wish to find out more about the above roles or similar then please send your CV to energyrecruitment@rpsgroup.com or call 01483 476 500

creativepeople
making a difference

rpsgroup.com/energy

wata
west anglia
training association

WATA

environmental training

NEBOSH Certificate in Environmental Management

NEBOSH Diploma in Environmental Management

IOSH Working with Environmental Responsibilities

IOSH Managing Environmental Responsibilities

IEMA Foundation Certificate in Environmental Management*

IEMA Associate Membership Certificate Course*

Contact WATA on

01480 43 55 44 or

www.wata.co.uk

for more information

*IEMA courses are delivered in association with CAMBIO

West Anglia Training Association, Old Houghton Road, Hartford, Huntingdon, PE29 1YB t:01480 43 55 44 www.wata.co.uk