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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.

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Reputation counts

The £4.9 billion out-of-court settlement between BP and the businesses and individuals affected by the 2010 Deepwater Horizon oil spill makes a sizeable hole in the £12.6 billion trust set up by the company to cover damages caused by the disaster.

BP reported last year that it had already paid out £8.8 billion in response to the explosion on the rig that claimed the lives of 11 workers and pumped more than four million barrels of oil into the Gulf of Mexico, contaminating 491 miles of coastline. The settlement between BP and local victims of the spill is not the end of the possible financial repercussions, however. The US government is pursuing environmental damage claims, and the company and its co-defendants could face fines of up to £11 billion if found guilty of gross negligence, which amounts to a maximum fine of £2,700 a barrel.

That's a hefty price to pay. As was the £18.3 million fine issued by the Brazilian government last year to fellow oil giant, US firm Chevron, after it caused the country's largest oil spill for more than a decade.

> Reputation is the ultimate indication of corporate sustainability. Lose it and a company's operations are likely to be taken over and its name consigned to history

The problem for these companies, and others involved in high-profile environmentally and socially damaging incidents, is that it's not only about money. BP's profits are again buoyant – £15.1 billion in 2011, compared with a loss of £3.1 billion in the year of the accident – but its tarnished corporate reputation will take much longer to repair, particularly in the US.

It's not insurmountable. In the late 1990s, Nike was accused of exploiting workers in Southeast Asia who made the firm's clothes and footwear. Since then, the sports goods business has worked hard to restore its global image, through independent inspections of factories and improvements to working conditions.

BP's response, which as well as compensating people affected by the spill includes funding independent research into the ongoing environmental impacts, will similarly go some way to repairing its battered position.

Reputation is the ultimate indication of corporate sustainability. Lose it and a company's operations are likely to be consumed by competitors and, like Union Carbide, its name consigned to history.

Paul Suff, editor

Short cuts

Halogens not banned

The EU parliament has rejected reports that it plans to ban low-voltage halogen bulbs from 2013. In a statement refuting the claims, policymakers stated that the current draft Ecodesign Directive includes provisions to improve the energy efficiency of halogen spotlights, not ban them. The proposals, which are subject to consultation, could be met by lamp manufacturers changing the halogen gas inside the bulbs to an inert alternative, and would result in a 20%–25% reduction in electricity consumption. The European Lamp Companies Federation confirmed that it understood halogen bulbs would remain on the market, but with the least efficient bulbs phased out between 2013 and 2016. An official draft of the Directive is yet to be published, but if it receives approval from member states and the EU parliament, it could be adopted as early as this autumn.

Innocent's packaging wins admirers

Packaging professionals have voted food and drink manufacturer Innocent as the brand they most admire for its environmental credentials. The firm, which measures the carbon impact of all of its packaging, was cited by 10% of 289 professionals surveyed by easyFairs as the company they most respect for its green approach, followed by Marks & Spencer (7%) and coffee company Kenco (5%). Innocent works to improve the sustainability of its packaging by using fewer materials, recycled plastics and 100% Forest Stewardship Council certified materials. Matt Benyon, managing director of easyFairs, said that the results confirm how well Innocent is performing environmentally and in how it communicates its efforts. "A lot of companies are doing great things out there, just they don't tell us, which is a real shame," he said. The survey results also reveal that firms are less likely to introduce environmentally sound packaging if it doesn't also save them money.

Data omission costs oil giant ExxonMobil £2.78 million

Prosecution US multinational ExxonMobil has had to pay more than €3 million (£2.78 million) for failing to report almost 33,000 tonnes of CO_2 emissions at a plant in Scotland. It is the largest-ever financial penalty in the UK for an environmental offence.

The Scottish Environment Protection Agency (SEPA) revealed the record fine, which was imposed in September 2010, in its latest enforcement report. ExxonMobil Chemical says that it notified the regulator that it had identified three sources of carbon dioxide emissions from the company's ethylene plant at Fife which had been omitted from its annual reportable emissions for 2008 under the EU emissions trading scheme (ETS).

The plant's verified ETS emissions for 2008 were 708,369 tonnes of CO_2, but it only reported 675,403 tonnes, a 32,966-tonne shortfall. The Greenhouse Gas Emissions Trading Scheme Regulations 2005 enable regulators to levy a fine of €100 per tonne on organisations that fail to report their emissions, resulting in a total fine of €3,296,600 for ExxonMobil.

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A spokesperson for the company said: "The inaccuracy was identified by ExxonMobil's internal systems and represented some 4.7% of the site total. We immediately provided this information to SEPA." She also explained that verification procedures at the Fife site, which opened in 1986 and is one of Europe's largest ethylene plants, had now been improved.

The previous largest penalty in the UK for an environmental offence was levied on Shell in 1990. It had to pay £1 million for polluting the Mersey River.

Phased reduction for all FITs

Energy Subsidies for all renewable technologies eligible for the feed-in tariff (FIT) will be subject to six-monthly cuts, under new proposals from DECC. The energy department is recommending that tariffs across the FIT scheme be cut by 5% every six months from 1 April 2014.

The FIT pays installers for every kilowatt hour (kWh) of electricity they produce from on-site installations of photovoltaic (PV) panels, wind turbines, hydro-electric technology, anaerobic digestion units or micro-combined heat and power systems (micro-CHP). Energy minister Greg Barker said that the changes, inspired by the German FIT system, would provide long-term investor certainty.

DECC outlined the proposals in a consultation that also suggests reducing tariffs more frequently if the number of installations of a particular technology exceed expectations, in a bid to ensure the scheme does not go over its budget in future. The consultation also includes planned tariffs for non-PV technologies until 2014, which would see support for wind turbines cut by up to 41% from 1 October, while micro-CHP tariffs would be upped from 11p/kWh to 12.5pkWh.

In a second consultation, DECC proposes reducing solar PV tariffs by at least 21% from 1 July, on top of the reductions that will take effect on 1 April, along with a further 5% drop in October. If carried out in full, the suggestions could see subsidies drop by 70% in six months. DECC also recommends that payments for solar PV are made only for 20 years, rather than the current 25-year term.

The consultations were announced alongside confirmation of other changes to the solar PV FIT from 1 April, which include linking tariff levels to the energy performance rating of the building and reducing payments for schemes with more than 25 panels by 20%.

Gaynor Hartnell, chief executive of the Renewable Energy Association, agreed that the sector wanted greater certainty of return, but that the cuts in subsidies for solar were too steep. Meanwhile, the wind and marine trade body, RenewableUK, warned the cuts could hamper businesses' adoption of wind power.

Businesses urged to save water as droughts spread

Water Environment secretary Caroline Spelman has called on businesses and consumers to do more to cut water use after the Environment Agency (EA) confirmed that the southeast of England and East Anglia are now officially in drought following a second winter of lower-than-average rainfall.

At a Defra-hosted emergency summit on the water shortages, utilities companies operating in the affected areas agreed to ramp up efforts to reduce leakage from infrastructure, to work with customers to encourage more responsible use of water and to implement drought plans.

However, with parts of central England, southwest England and the southeast of Yorkshire continuing to be affected by dry weather, the EA is warning that the risk of widespread droughts in the spring and summer months is high.

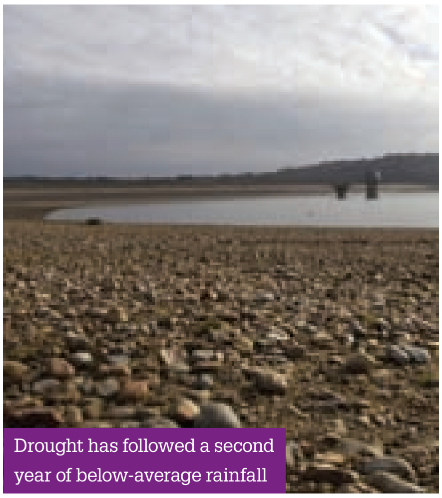
The Chartered Institution of Water and Environmental Management (CIWEM) described the droughts as a wake-up call for urgent action to be taken to improve water efficiency and increase adoption of water metering and water-saving devices.

"Most people fundamentally underestimate how much water they use," Alastair Chisholm, CIWEM policy manager told *the environmentalist*. "They turn on the tap and just don't think about it, which is why metering is important. Widespread water metering will help people to better understand the value of water and how much they actually use."

In December 2011, the Carbon Disclosure Project's second annual water report revealed that businesses' approach to water use lagged far behind that of managing carbon emissions, with only 57% of the 190 FTSE 500 companies surveyed ensuring board-level responsibility for water management.

Joe Flanagan, sustainability expert at consultancy firm Ceram, which has published a paper outlining the business benefits of water footprinting (lexisurl.com/iema11902), argues that a lack of perception of costs is partly to blame. "For those organisations where water isn't seen as a vital raw material, water costs are less than those associated with energy, which is part of the reason why it's not further up many businesses' agendas," he said.

However, with increasing risk of water shortages and restrictions being placed on supply, more UK organisations are taking a proactive approach. "Our clients, particularly those in the southeast of England, are concerned that if there is rationing in future the domestic sector is going to get priority," confirmed Flanagan. "They want to understand the nature of the risk that they are exposed to, and water footprinting offers a starting point to understand how much water is being used and where it is being used."



Drought has followed a second year of below-average rainfall

In its recently published white paper on water, the government reaffirmed its support for the development of water-footprinting techniques, while outlining other potential measures to encourage greater water efficiency, including allowing business customers in England and Wales to choose their water supplier, as is the case in Scotland, and potentially creating a water cap and trade scheme.

Ben Piper, senior architect at consultancy Atkins, said the droughts could provide the catalyst the water industry needs to build on the government's proposals. "The ongoing and worsening drought conditions may well trigger more emphasis on the scope and speed of reforms, which could include more incentives for water trading, metering, and other demand-management measures."

In research accompanying the government's white paper on water, the EA estimated that, by 2050, droughts would be commonplace in the UK if action is not taken to reform the country's system of water supply.

The government is due to publish a draft water Bill, following the proposals in its white paper, in the coming months.

Short cuts

DECC efficiency team

DECC has appointed a new team of 50 energy experts to develop a UK-wide strategy to improve energy efficiency. The Energy Efficiency Deployment Office (EEDO) will support the delivery of existing policies, such as the Green Deal and smart meter deployment, as well as developing new initiatives to encourage organisations and consumers to adopt more energy-efficient behaviours and technology. Launching the EEDO, energy secretary Ed Davey confirmed: "Energy efficiency is the cheapest way of cutting carbon. It has to be right at the heart of what we do." The first task of the EEDO is to collect evidence on where energy-efficiency gains can be made, what the barriers to adoption are and what can be done to tackle them. To contribute to the EEDO's consultation, visit lexisurl.com/iema11889 before 4 April. The UK energy-efficiency strategy is due to be published by the end of the year.

Tesco commits to carbon labelling

The UK's largest retailer has rejected claims that it is reining back on providing information about CO_2 emissions on its products. Reports last month alleged that Tesco was withdrawing from carbon labelling. But the retailer has told *the environmentalist* that it remains committed to providing customers with carbon information, to help the company deliver against its green targets: to reduce customers' carbon footprint by 50% by 2020 and to reduce the embedded carbon in the products it sells by 30% by 2020. "We are not withdrawing from carbon labelling," said a spokesperson. "What is correct is that the scheme we developed with the Carbon Trust, although it has many merits, has not yet been widely adopted by other retailers and manufacturers." She said the firm was now working on how to adapt its CO_2 labelling so that it is faster and cheaper to operate, appears on many more products and helps more customers and suppliers to reduce their emissions.

IN PARLIAMENT

EU doing something right?

Alan Whitehead is MP for Southampton Test

There's something the UK has almost perfected – that is the art of studiously ignoring anything going through the European legislative process until the day a completed Directive lands on our national doormat, and then screaming very loudly that it should never have been done in this way in the first place.

But something's stirring in the woods. Yes, the UK government is intervening early, before the usual last-minute screaming – only, on this occasion, I happen to think on possibly the wrong side. The legislation in question is the proposed Energy Efficiency Directive, which seeks to remedy problems with the so-called 20-20-20 targets: an EU-wide target to source 20% of electricity from renewable energy by 2020 (the UK share target is 15%); reduce energy use by 20%; and have a 20% increase in energy efficiency. Except, on the last one, we didn't agree a target, rather an aspiration, which, on present measures, will be woefully undershot.

The Directive aims to ensure that a targeted amount of floorspace "owned by public bodies" is renovated to a high energy-efficiency standard each year; that all energy distributors achieve annual energy savings of 1.5%; and that new power stations are highly energy efficient when commissioned. It's important the Directive becomes EU law intact, because Europe, and particularly the UK, is still in the foothills as far as energy efficiency is concerned.

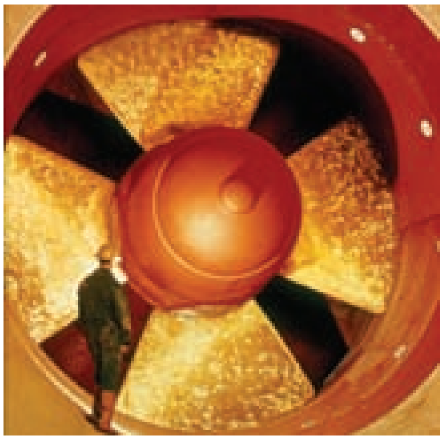
So what is the UK government doing on this? Right now, it seems to be facing two ways: welcoming the Directive and supporting it in general, but seeking to dilute and downgrade its requirements privately. That, I think, is quite a dangerous game, because there are a number of member states that would like to see the back of the Directive. I hope UK ambivalence isn't seen as a green light for these countries: it's time we came out firmly on the side of those who want it to happen.

Vision essential to drive UK marine power sector

Energy Up to 20% of domestic electricity could eventually be provided by wave and tidal power, and the marine energy industry in the UK has the potential to be a world leader in the technology, according to a new report from the energy and climate change committee. Realising both ambitions, however, will require the government to adopt a more visionary approach to developing marine renewables.

The committee points out that an abundance of natural resource, a long history of academic research, world-class testing facilities and a strong skills base in other maritime industries mean that the UK is currently the world leader in the development of wave and tidal energy technologies. Of the eight full-scale prototype devices installed worldwide, seven are in UK waters.

The country's existing advantage is at risk though, warn the MPs, who argue that the government is taking an overly cautious approach to developing the sector. They liken the current position of the UK's marine energy sector to that of wind generation in the 1980s, when early



technological leadership over competitors was allowed to slip. "In the 1980s the UK squandered the lead it had in wind power development and now Denmark has a large share of the worldwide market in turbine manufacturing," says the report.

The committee advocates the creation of a strong political vision to boost confidence and drive the pace of development in order to reap the rewards of a successful wave and tidal power industry, which could create 10,000 (mostly manufacturing) jobs by 2020.

Public sector leads race to cut CO_2

Carbon Despite falling public expenditure, research by the Carbon Trust indicates that hospitals, schools and local authorities are more committed to investing in carbon-cutting initiatives than private businesses.

The online poll of 1,200 UK workers found that 58% of those employed in the public sector say their organisation would be funding programmes to cut their carbon footprint in 2012, and 78% agree that investing in measures such as energy efficiency remains a key facet of their employer's objectives, despite the difficult economic climate.

By contrast, just 46% of those working in the private sector say their company will invest in measures to reduce carbon emissions in 2012.

"Even in the face of an economic downturn, the public sector clearly still recognises the benefit of managing down its carbon and sees the short-term as well as long-term benefits of doing so," commented Richard Rugg, director of Carbon Trust programmes.

One example is Southampton City Council, which has spent £700,000 fitting photovoltaic (PV) panels to a number of its buildings, including the grade II listed civic centre and 15 schools, and expects to save more than £800,000 in energy costs alone over the next 15 years. As well as energy savings of more than £360,000, the 130 PV panels fitted to the civic centre should reduce CO_2 emissions by 317 tonnes over the next two decades.

The Carbon Trust survey findings demonstrate that more can be done, even in organisations committed to investing in energy efficiency, with less than one-third of respondents reporting that their employer had engaged employees in cutting carbon. "You don't have to invest large sums upfront to see a return. An open goal for the public sector is engaging their staff in energy-efficiency programmes," said Rugg.

Defra says air quality goal is 'too costly'

Policy Defra's response to last year's report on air quality from the environmental audit committee (EAC) warns that the costs of complying with EU air quality targets may outweigh the potential benefits.

The Ambient Air Quality Directive (2008/50/EC) requires member states to achieve set limits for particulate matter (PM10), nitrogen dioxide (NO_2) and benzene by an extended deadline of 2015. However, Defra's response to the EAC admits that parts of the UK will be unable to meet the target date for NO_2, arguing that the potential benefits of doing so are outweighed by the expense.

"There was never an intention for any of the [EU] deadlines to force measures that would impose disproportionate costs on society. Deadlines for attainment of limit values must reflect both the availability of measures and the affordability of implementation relative to the benefits," said Defra.

Simon Birkett, director of Clean Air in London (CAL), commented: "It is laughable for the government to say it is too costly to comply with air quality laws. Defra's own Air Quality Strategy [for the

UK] in 2007 stated, for example, that 'policies in the road transport sector and the electricity generating sector have been shown to be very cost beneficial, with benefits estimated to have exceeded costs by up to a factor of 24'."

He said that CAL was very disappointed by Defra's response to the EAC's 2011 air quality report, which had accused the government of failing to get to grips with the issue (see article p.24), and would no longer work with the environment department. "The long list of excuses and clear message that the government has no intention of complying with air quality deadlines makes it impossible for CAL to continue as a member of Defra's stakeholders on air quality," said Birkett.

In a letter to environment secretary Caroline Spelman, EAC chair Joan Walley said that she too was disappointed that Defra had disagreed with many of the committee's recommendations. "The response sets out very few policy changes and describes a business-as-usual approach that puts the UK on a trajectory to fail to meet EU targets by a large margin," she commented.

Meanwhile, data from Defra on 26 air pollutants reveal that emissions of 10 of these increased between 2009 and 2010, even though all have declined substantially since 1990. The biggest change between 2009 and 2010 was the 14% increase reported in dioxin and furan emissions. There was also a 3% rise recorded in emissions of hexachlorobenzene. Of the 10 pollutants covered by the UK Air Quality Strategy, 2010 saw a 2% increase in emissions of both sulphur dioxide and polycyclic aromatic hydrocarbons, while emissions of PM10 and ammonia were unchanged.

CASE LAW

LexisPSL

ECJ rules in Northern Ireland's favour on land-use plan

The European Court of Justice (ECJ) has ruled that it is lawful, in principle, for Northern Ireland's Department of the Environment (DOE) to consult with the Northern Ireland Environment Agency (NIEA) when preparing environmental assessments of its own land-use plans and programmes.

EU Directive 2001/42/EC, commonly known as the strategic environmental assessment (SEA) Directive, requires an environmental assessment to be carried out on certain plans and programmes that are likely to have a significant effect on the environment. The Directive was transposed into law in Northern Ireland by the Environmental Assessment of Plans and Programmes Regulations (NI) 2004, commonly known as the SEA Regulations.

In 2005, legal proceedings were brought by a number of parties, including Seaport (NI), Magherafelt District Council and FP McCann (Developments), who argued that the NIEA, as an agency of the DOE, could not give an independent assessment of the draft area development plans prepared by the DOE for the Northern and Magherafelt regions, and, therefore, could not fulfil the Directive's requirements on SEAs. Basically, the SEA Regulations did not properly transpose the Directive.

The High Court judgment in 2007 stated that when the DOE is responsible for a development plan or programme, it cannot consult under the SEA Regulations too. It also said that the absence of appropriate timeframes in the Regulations meant they did not properly transpose the SEA Directive.

The DOE appealed and the Court of Appeal sought a preliminary ruling from the ECJ (case C-474/10). The ECJ stated that article 6(3) of the SEA Directive does not require another authority to be consulted, provided that within the authority designated as responsible for undertaking consultation on environmental matters, a functional separation is organised, so that "an administrative entity internal to it has real autonomy … meaning, in particular, that it is provided with administrative and human resources of its own and is thus in a position to fulfil the tasks entrusted to the authorities to be consulted".

The ECJ ruling will now be forwarded to the Northern Ireland Court of Appeal for a final ruling.

Although the DOE has continued to progress a number of plans, including the Magherafelt, Northern and Belfast Metropolitan area plans towards adoption, it is hoped that the final ruling of the Court of Appeal will assist the department as it brings forward a range of plans to be adopted in the future.

Colleen Theron and Deirdre Lyons, LexisPSL

ISO confirms new format for 14001

Certification The next edition of ISO 14001 will look significantly different from the current standard, after the group working on its revision voted to adopt a new structure designed to improve the integration of management systems.

At the first meeting to discuss how the international environment management standard will be revised, it was agreed the new version of 14001, likely to be published in 2015, should be written in accordance with the International Organisation for Standardisation's (ISO) recently launched high-level structure for management system standards.

The new format is the result of ISO's long-standing attempts to develop a harmonised, common framework for all its management system standards, which include ISO 9001 on quality management systems and ISO 27001 on IT security, for example, alongside 14001. The aim of the structure is to help organisations align and integrate their various systems more easily.

Martin Baxter, IEMA's director of policy and the UK's nationally appointed expert to the working group, said that IEMA members were strongly supportive of the new structure, which they believe will help to highlight the importance of managing environmental impacts. "The new structure has elements that will elevate the status of environment management to a more strategic level, while retaining the operational strength that ISO 14001 has typically been built around," he said.

"It will help organisations to better integrate environment management into the core parts of their business, rather than being treated as an isolated bolt-on."

Lesley Wilson, committee manager, sustainability at BSI, which is working alongside ISO on the revision, admitted that changing the standard's structure was not going to be easy, but was the best outcome for those using 14001.

"Merging the revised text with the new structure will be challenging, but this common approach will increase the value of management system standards to users, particularly those that choose to operate an integrated management system," she said.

Alongside a new structure, the revision aims to strengthen 14001's requirements for transparency and accountability, clarify environment management's role in sustainable development and help firms to consider the environment's impacts on businesses.

"With our more than 250,000 users in 155 countries worldwide, and with the new version of 14001 likely to be in use well into the mid-2020s, it is essential to develop a standard that enables organisations to meet future environmental challenges, rather than simply trying to solve existing problems," said Baxter. (Read more about what environment practitioners want from the revision on p.17.)

Confirmation of the new-look 14001 came as Manchester United announced that it had achieved certification against the standard, making it the first football club in England to do so.

United, which was among the 22 organisations ranked at the top of the first Carbon Reduction Commitment Energy Efficiency scheme league table last year, is aiming to ensure its ground, Old Trafford, is the first major sporting stadium in the UK to hold certificates to 14001, the Carbon Trust Standard and ISO 20121, the sustainable events standard due to be published later this year.

Electric vans can be cheaper than diesel

Transport Organisations could save up to £700 a year by running electric-powered vans rather than traditional diesel ones, thanks to increased subsidies and rising fuel costs.

Research carried out on behalf of technology think-tank, the Climate Group, reveals the lower cost of electricity as an energy source, coupled with tax reliefs and the government-funded grant scheme for buying electric-powered vehicles, can help firms to cut costs as well as greenhouse-gas emissions.

In a comparison of the lifetime costs of purchasing and running electric and diesel fleets, analysts found that vans travelling more than 21,000 miles in and around cities each year will cost up to £995 less over a seven-year period, even if energy prices stay at today's levels. If firms make the effort to recharge the vehicles' batteries during off-peak electricity tariffs, these savings could increase by a further £400. And, if fuel prices continue to rise dramatically – diesel prices are currently

at their highest-ever level – the savings will be substantially more. Following a predicted price increase of 80% in energy costs over the next seven years, a business using an electric van as outlined above could save a total of £4,538–£4,944, equating to £706 a year.

Savings are, however, heavily dependent on mileage, with vans travelling 15,500 urban miles a year predicted to achieve savings of just £828 over the seven years. For firms with lower annual mileages and fleet cycles shorter than seven years, electric vans remain more expensive than diesel options.

For those running fleets of company or pool cars and considering making the switch for environmental reasons, the research concludes the additional expenses are marginal, predicting costs of just £15–£556 over a car's working life.

Robin Haycock, head of transport at the Climate Group, said: "More than half of all new cars and vans in the UK are bought by fleets and the report clearly highlights that savings are possible … Outside London we have found 'sweet spots', where an electric vehicle can save 7p per mile compared with a conventional vehicle."

Given electric vehicles' limited range and recharging requirements, Robert Evans, CEO of Cenex, advised organisations that life-cycle cost modelling taking into account vehicles' driving patterns was crucial to ensure an accurate reflection of costs and savings.

Paying full costs of production would cut firms' earnings by 40%

Strategy Companies would lose 41 cents, on average, in every $1 they earn if they had to pay the full environmental costs of production, claims new research for KPMG. It also reveals that the environmental costs on business are doubling every 14 years.

The figures are contained in a report from KPMG called *Expect the unexpected*. It predicts that the pressure on businesses to pay the full cost of their environmental impacts will increase over the next two decades as governments address the effects of 10 so-called "sustainability megaforces" (see panel). These are the significant environmental and social changes – such as climate change, water scarcity, population growth and ecosystem decline – that will provide both risks and opportunities.

KPMG warns that the removal of subsidies on input commodities, such as fossil fuels and water, and demands on companies to pay for the costs of environmentally damaging outputs, will inevitably increase the cost of actually doing business.

Research for the report by Trucost reveals that such costs are already rising significantly. The data analysts looked at the operations of 800 companies in 11 sectors between 2002 and 2010 and found that external environmental costs rose by 50%, from $566 billion (£356 billion) to $854 billion (£538 billion).

According to KPMG, profits will fall unless companies do more to reduce the environmental intensity of their businesses. It says that food producers and the beverage industry are most at risk. The report advises business leaders to put long-term objectives ahead of short-term performance and adopt stretching targets if their organisations are to remain viable.

KPMG's 10 global sustainability megaforces

- Climate change – directly impacts all other megaforces.
- Energy and fuel – fossil-fuel markets will become more volatile.
- Resource scarcity – demand for resources will rise dramatically.
- Water scarcity – global demand for water will exceed supply by 40%.
- Population growth – 8.4 billion people by 2032.
- Wealth – the global middle class will have grown 172% by 2030.
- Urbanisation – by 2030, most people will live in urban areas.
- Food security – pressure on global food production system will rise.
- Ecosystem decline – making natural resources scarcer, more expensive and less diverse.
- Deforestation – forest areas will decline globally by 13% by 2030.

EIA UPDATE

iema

Revisions to EIA Directive

The original EIA Directive and its amendments were consolidated into a single legal document in 2011, and will now be referred to as Directive 2011/92/EU. The European Commission's next step in revising the Directive will be to publish proposals for a revamp, by the summer. In order for IEMA to be able to gather member opinions and share them with the UK government and devolved administrations, the Institute is planning to develop criteria to test whether the proposals will be good for UK practice. This feedback will be collected via a series of EIA workshops running between April and June. Further information will be made available at iema.net/events in the coming weeks.

Wales – EIA Regulations consultation

The Welsh Assembly government is to consult on revisions to its planning-related EIA Regulations. The consultation proposes changes to Sch. 2(13) – changes or extensions – and on bringing carbon capture and storage development into the Welsh EIA regime, as required by the EIA Directive (2011/92/EU). These changes provide the opportunity to consolidate the original 1999 EIA Regulations and their amendments into a new, easier to follow piece of legislation. Government officials gave a presentation on the consultation at IEMA's EIA event in Cardiff on 7 March. The presentation can be downloaded at lexisurl.com/iema11893.

Scotland – PAN58 revisions

The Scottish government is reviewing its EIA Planning Advice Note (PAN) 58. EIA stakeholders are invited to provide case studies, highlighting examples of practices they feel contribute towards more efficient and effective EIA. Contact cara.davidson@scotland.gsi.gov.uk for more information or visit lexisurl.com/iema11894.

EIA resources

Don't forget that IEMA members have access to the following EIA resources:

- *State of EIA practice in the UK* – IEMA's ground-breaking 2011 review of UK EIA practice, which can be found at lexisurl.com/iema11920.
- E-briefs on *Considering ecosystem services in EIA* and *Developing an effective NTS* are available from lexisurl.com/iema11895.
- EIA and climate change principles – considering climate change mitigation and adaptation in EIA practice. Find out the core principles at lexisurl.com/iema11896.
- EIA Quality Mark articles – more than 20 articles about current issues in EIA practice can be found at environmentalistonline.com/qmark.
- EIA webinars – listen again to our EIA webinars considering topics such as ecology, significance and traffic at lexisurl.com/iema11925.

Coming soon

The next three EIA webinars are:

- 29 March – Cumulative effects in EIA;
- 26 April – Screening developments for EIA;
- 31 May – The Water Framework Directive and EIA.

TSB awards £4.5 million for resource-efficiency R&D

Supply chain Unilever, Jaguar and Tata Steel are among the firms sharing £4.5 million of government funding to develop new ways of improving resource efficiency throughout UK manufacturing supply chains.

The Technology Strategy Board (TSB) is funding 12 collaborative projects that aim to reduce the use of materials such as rare earth metals, concrete and plastics through recovery, recycling or creating a more sustainable alternative.

The car-manufacturing firm Jaguar, for example, will be working with researchers at Brunel University, metal manufacturer Norton Aluminium and die-castings maker JVM Castings to develop a recyclable aluminium alloy that can be used in its castings, while Unilever will be leading a project focused on promoting the use of biodegradable plastic that can be used in injection moulding.

In announcing the successful bids, David Bott, director of innovation programmes at the TSB, highlighted the importance of all businesses taking a proactive approach to managing natural resources. "Many key technologies for a sustainable economy rely on a relatively small number of high-tech materials which may become difficult to source in the future. To be competitive and prosperous in a resource-efficient, low-carbon economy, we need to develop products and processes that make better use of natural resources, generate less waste and have a reduced impact on the environment," he said.

Rare earths and precious metals are frequently used in computer and electronic technologies and four of the funded projects are focused on either recovering such materials from batteries and electrodes, or attempting to omit them entirely in the creation of a product.

The TSB's aim is to encourage UK organisations to work with their suppliers to create new technologies, products or processes that will help the country position itself at the forefront of resource-efficient manufacturing.

European chemicals agency finds poor-quality dossiers

Chemicals The quality of many REACH (registration, evaluation, authorisation and restriction of chemicals) registration dossiers continues to be poor, according to the latest evaluation report from the European Chemicals Agency (ECHA).

The Helsinki-based organisation says that registrants need to do more to revise the dossiers drawn up to comply with the REACH Regulation, as many are failing to update their dossiers as new information on substances becomes available. "The law is clear that the dossier remains the registrant's responsibility and they need to keep it up to date," says ECHA executive director, Geert Dancet. "I make this point because I am aware of the temptation for registrants to step back and relax after having submitted a dossier."

Each year the ECHA checks at least 5% of all dossiers, and in 2011 it completed 146 compliance checks, more than double the number in 2010. Of the 2011 total, 105 (almost 72%) resulted in the agency requesting further information from the registrant. In another 19 cases, the ECHA issued quality observation letters setting out how the quality of the dossier could be improved. A further 10 draft decisions were withdrawn after a dossier update and in 12 cases, the dossiers were closed without regulatory action.

The agency says the high proportion of compliance checks where action was required indicates that while registrants are striving to fulfil their obligations regarding information requirements under REACH, there is insufficient quality of registrations overall.

"The number of registrations is impressive," says Dancet. "However, 'the devil is in the detail' and now we have a clearer view of where this makes a difference in dossier compliance and quality of disseminated data. Remember, information is at the heart of REACH and it was the lack of data on tens of thousands of substances in use in Europe that led to REACH in the first place."

Short cuts

Changing a light bulb

UK manufacturing companies can save a cumulative £1.4 billion and cut 10 million tonnes of CO_2 a year by switching to more efficient lighting systems, according to research by energy-saving-lighting company, Vita Energia Solutions. The figures are based on the findings of on-site surveys over a four-year period (2007 to 2011) of the non-office lighting systems in more than 500 manufacturing plants and warehousing facilities. They found examples in 24% of cases of lighting systems dating from the 1950s. The amount of electricity used to power old lighting systems is far greater than efficient modern lighting solutions. According to Vita, the average payback on investing in energy-efficient lighting in manufacturing plants and warehouses is just 14.7 months.

Overhaul of global governance needed

A complete overhaul of the way the planet is managed is urgently needed if the challenges of global sustainability are to be met for seven billion people, says the UN environment programme's (UNEP) latest foresight report. While the scientific community is on the front line of assessing emerging threats and finding innovative solutions to environmental challenges, the report reveals that they need more political support and better delivery structures if real progress is to be made and a sustainable century realised. UNEP says that the current system of international environmental governance, with its maze of interlocking multilateral agreements that evolved during the 20th century, is unsuitable and ill equipped to meet the risks and deliver the opportunities for the 21st century. It also says the effectiveness of new models of governance, ranging from public–private community partnerships to alliances between environment and other civil society groups, is unclear and requires further scrutiny.

NEW REGULATIONS

In force	Subject	Details
13 January	Natural environment	The Nature Conservation (Scotland) Act 2004 (Authorised Operations) Order 2011 describes operations affecting a site of special scientific interest which do not require the consent of Scottish Natural Heritage under s.13 (operations by public bodies etc) and s.16 (operations by owners or occupiers of sites of special scientific interest) of the Nature Conservation (Scotland) Act 2004. lexisurl.com/iema11399
15 January	Waste	The Landfill Allowances Scheme (Wales) (Amendment) (No.2) Regulations 2011 amend the 2004 Regulations to clarify the definition of waste covered by the Landfill Allowance Scheme. These are technical amendments that will have a neutral effect on local authorities, businesses and the voluntary sector. lexisurl.com/iema11551
18 January	Environmental protection	The Clean Neighbourhoods and Environment (2011 Act) (Commencement, Savings and Transitional Provisions) Order (Northern Ireland) 2012 brings the provisions of the 2011 Act listed in Sch 1 into operation on 18 January 2012, including on dog fouling and litter. Provisions listed in Sch 2 come into operation on 1 April 2012. lexisurl.com/iema11736
15 February	Natural environment	The Access to the Countryside (Appeals against Works Notices) (England) (Amendment) Regulations 2012 amend the 2011 Regulations to correct errors. lexisurl.com/iema11554.
30 January	Natural environment	The Wildlife and Natural Environment (2011 Act) (Commencement No.3) Order (Northern Ireland) 2012 brought s.11 (spring traps) of the Wildlife and Natural Environment Act into force on 30 January 2012. Further measures related to s.11 came into force on 12 March 2012. lexisurl.com/iema11738
20 February	Environmental protection	The Forest Law Enforcement, Governance and Trade Regulations 2012 enforce EU Regulation 2173/2005 on the establishment of a forest law enforcement, governance and trade licensing scheme for imports of timber into the bloc, including the designation of the competent authority and enforcing authorities. The Regulations also amend the Customs and Excise Management Act 1979 so that the maximum period of imprisonment is three years. lexisurl.com/iema11737
1 March	Hazardous substances	European Commission Regulation 109/2012 amends Regulation 1907/2006 on the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH) as regards Annex XVII, which contains a list of substances that are classified as carcinogenic, mutagenic or toxic for reproduction and are not allowed to be sold in the EU. The changes reflect new science on boron compounds. The measures apply from 1 June 2012. lexisurl.com/iema11744
1 April	Energy	The Home Energy Assistance Scheme (Scotland) Amendment Regulations 2012 amend the 2009 Regulations – which make provision for the making of grants to improve the thermal insulation and energy efficiency of dwellings and to provide advice to reduce or prevent the wastage of energy in a dwelling – by updating the procedure used to assess the energy efficiency of dwellings. lexisurl.com/iema11742
6 April	Built environment	The Energy Performance of Buildings (Certificates and Inspections) (England and Wales) (Amendment) Regulations 2011 amend the 2007 Regulations and mainly affect the requirements (including enforcement and compliance) for the production of energy performance certificates and the inspection of air-conditioning systems. It also extends several of the duties required when a building is sold or rented out. lexisurl.com/iema11397

LATEST CONSULTATIONS

3 April 2012

Sustainable consumption and production

The European Commission is consulting on the possible introduction of EU-wide measures related to sustainable consumption and production as part of its objectives for a resource-efficient Europe, one of the flagship initiatives of the Europe 2020 strategy. Measures include supporting demand for "green" products and assisting citizens to consume differently, to reduce resource use, as well as promoting sustainable production, by stimulating and supporting industry efforts to improve resource efficiency and competitiveness while reducing environmental impacts.
lexisurl.com/iema11559

3 April/26 April 2012

Feed-in tariffs

Changes to the feed-in tariff (FIT) arrangements have been proposed by DECC in two consultation documents: 1. Phase 2a: solar PV cost control – sets out proposals for a programme of six-monthly tariff reductions for solar PV, with an added deployment trigger to ensure that subsidy levels keep in step with the market. 2. Phase 2b: tariffs for non-PV technologies and scheme administration issues – proposes changes to the tariffs for the four non-PV technologies currently eligible for FITs (wind, hydro, anaerobic digestion and micro-combined heat and power). The phase 2a consultation ends on 3 April, while phase 2b ends on 26 April.
lexisurl.com/iema11749
lexisurl.com/iema11750

12 April 2012

Aviation

The UK Civil Aviation Authority (CAA) is consulting on its strategy to help the aviation sector improve its environmental performance while expanding capacity. The document sets out the CAA's current environmental roles and outlines a draft programme of work through which it will support a cleaner and quieter aviation sector.
lexisurl.com/iema11557

12 April 2012

Alien species

EU-wide plans to combat the introduction and spread of invasive alien species (IAS) that threaten biological diversity are the subject of a consultation by the European Commission. According to the commission, IAS can cause serious damage to ecosystems, crops and livestock, disrupting the local ecology, impacting on human health and producing serious economic effects.
lexisurl.com/iema11756

12 April 2012

Maritime emissions

The European Commission is seeking views from stakeholders and experts in the field of shipping and climate change on the inclusion of maritime transport emissions in the EU's commitment to reduce greenhouse-gas emissions by 20%. Under the revised EU emissions trading scheme Directive (2009/29/EC) and Decision 406/2009/EC on effort sharing, the EU should include emissions from the sector in the commitment following the failure to include such agreements at an international level by 31 December 2011.
lexisurl.com/iema11755

16 April 2012

Waste targets

The Welsh Assembly government is consulting on draft guidance to support the statutory recovery targets set by the Waste (Wales) Measure 2010 – Recycling, Preparation for Re-use and Composting Targets (Definitions) Order 2011 and the Recycling, Preparation for Re-use and Composting Targets (Monitoring and Penalties) Regulations 2011. It provides clarity on the definitions of recycling, preparation for reuse and composting contained in the Order; and the monitoring and reporting requirements of the Regulations.
lexisurl.com/iema11753

NEW GUIDANCE

Pollution prevention and control	A guide (lexisurl.com/iema11569) to producing a site report under the Pollution Prevention and Control Regulations has been published by Northern Ireland's Department of the Environment and the Northern Ireland Environment Agency. The guidance applies to both new and existing installations, and aims to help applicants and operators prepare and maintain a site report over the lifetime of a site.
Flood and coastal erosion	The Welsh Assembly government has issued guidance for authorities in Wales on flood and coastal erosion risk management (lexisurl.com/iema11757). The government says the guidance should be used to consider climate change within the development of all flood and coastal erosion risk-management projects or strategies. It replaces the Welsh government's *Economic appraisal supplementary note to operating authorities – climate change impacts* (FCDPAG3), published in July 2007, and provides supplementary information to the Environment Agency's *Flood and coastal erosion risk management appraisal guidance* (FCERM-AG) and *Flood and coastal defence project appraisal guidance*. It also supports the National Strategy for Flood and Coastal Erosion Risk Management in Wales.
Chemical substances inventory	The European Chemicals Agency has launched its public classification and labelling (C&L) inventory (lexisurl.com/iema11758). It contains information from REACH registrations and CLP notifications (under the Regulation 1272/2008 on the Classification, Labelling and Packaging of Substances and Mixtures – the so-called CLP Regulation) so far received by the agency. The public C&L inventory represents the largest database of self-classified substances available globally. A number of options are available for searching the inventory, based on both the substance identity and its classification.

EVENTS CALENDAR

Date	Course	Location and details
29 March 2012	Smart utility forum	The Guoman Tower Hotel, London lexisurl.com/iema11424
3–4 April 2012	SAC-SEPA conference – Valuing ecosystems: policy, economic and management interactions	John McIntyre Conference Centre, University of Edinburgh lexisurl.com/iema11762
16–17 April 2012	Smart water systems	Copthorne Tara Hotel, London lexisurl.com/iema11764
19 April 2012	Strategies for successful CSR data lifecycle management	Wolverton House, London lexisurl.com/iema11763
26 April 2012	Sustainable purchasing and supply summit	QEII conference centre, London lexisurl.com/iema11427
3 May 2012	The UK energy summit 2012: securing a sustainable energy future	The Grange St Pauls, London lexisurl.com/iema11765
10 May 2012	LowCVP conference 2012	ExCel Conference Centre, London lexisurl.com/iema11760
15–16 June 2012	Eco-technology show 2012	The American Express Community Stadium, Brighton lexisurl.com/iema11759

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14001: fit for the future?

With the global environment management standard being revised, **Paul Suff** hears how it should change

ISO 14001 was last revised in 2004 and the process is now under way to change the standard so it remains relevant and effective until at least the middle of the next decade.

Last November, member bodies of the International Organisation for Standardisation (ISO) voted in favour of revising the standard in line with advice from the environment management system challenges study group, published in 2010. The revision will examine all 24 of the group's recommendations (lexisurl.com/iema11833), including strengthening requirements examining transparency and accountability in regard to environmental management, clarifying environmental management's contribution to sustainable development and, potentially, aligning the language with that used in ISO 26000 – the corporate social responsibility standard.

In February, *the environmentalist* and consultancy WSP hosted a roundtable event to discuss whether the proposed revisions are sufficient to help organisations make a step change in environmental performance improvement and ensure the standard helps them meet future environmental challenges. Participants were also given the opportunity to discuss wider aspects to improve environmental management, namely the quality and value provided by third-party audits.

An opportunity

"The scope of the revision is quite broad. It's a real opportunity to put a standard in place that is fit for the next 15 years or so," says **Martin Baxter**, director of policy at IEMA and national expert on the revision of the standard, opening the discussion.

He highlights the shifting emphasis in the revision proposals, away from 14001 focusing almost exclusively on operational impacts on the environment, towards helping organisations manage the effects of a changing environment on the way in which they do business. "Potentially, that gives them a much closer alignment between the environment and business strategy going forward," he says.

Baxter acknowledges that such a transformation presents significant challenges for people who are engaged with 14001, whether they are responsible as environment professionals for environment management systems (EMSs) in their organisation, or externally auditing. "It provides a very different context, but when you look forward to 2025 and the challenges that we face, I think 14001 has to live up to that challenge."

He believes environment professionals are generally positive about the shift. Since the start of the year, IEMA has been hosting workshops on the revisions

There are certain key clauses that need strengthening, such as 4.4 on resources, which is loose and difficult to assess – *Ben Vivian*

Ben Vivian (left) and Martin Baxter

throughout the UK and Ireland, attended by more than 400 members. Baxter says the feedback from members is focused on supporting 14001 to take on the new role.

"They think it will add value and help organisations better meet the environment–business dynamic and the challenges going forward. There is a very clear support for aligning management systems, and 14001 EMSs in particular, with organisations' overall strategy," he explains. "That has implications for the way in which organisations might structure and use management systems." In future, EMSs are likely to push more into supply chains and the way in which products and services are designed, developed and produced, says Baxter. "It's about a move from greening operations to greening organisations across the value chain and the role 14001 should play in that."

Several roundtable participants express their support for the planned changes to 14001. "I'm encouraged by the proposed revision and think it actually provides an answer that Yorkshire Water, as a company, has been looking for," remarks **Miles Foulger**, environment strategy manager at the water company. "I would say that the existing standard is fading in its usefulness to us as a business. Our EMS is well embedded and is taken very seriously, but it's very much focused on compliance and meeting a standard in procedures. What I like about the proposed direction of travel in the revision is its focus on planning for the future."

"I think it's paramount that the standard takes a broader approach going forward," says **Geoff Court**, group health, safety and environment adviser at printing and marketing business St Ives. "It needs to encourage more continuous improvement from a sustainability point of view, rather than, like now, just ticking boxes confirming you have the right procedure in place."

WSP's **Eve Peverley** also believes the revision needs to make helping organisations improve their performance a priority. "For me, one of the key things is to focus on the commitment to continuous improvement. How can that be pushed forward? I know linking 14001 with sustainability and the wider supply chain is important, but I think for organisations that have already bought into the 14001 approach, how to improve the process of continuous improvement is key."

Treading carefully

Others are more cautious about the proposed changes. "I certainly agree that 14001 needs to move forward, and needs to be more forward-focused," acknowledges **Viki Bell**, global portfolio manager for sustainability at BSI. However, she questions whether an EMS can actually help "green" organisations. "It can be the catalyst or the lever to raise awareness of the need for organisations to change," she says. "But organisations come to 14001 from different ends of a spectrum: some because they want to and others because they have to. If 14001 were to become too holistic, too loose and not specific enough, many in industry wouldn't like it."

Similarly, **Kirsten Holman**, senior environment consultant at Parsons Brinckerhoff, the professional services arm of the Balfour Beatty Group, feels the proposed changes may potentially put off some organisations, particularly, small and medium-sized enterprises (SMEs). "I think the current standard is still a very useful tool for many of the companies I worked with, many of which are SMEs. They already find 14001 daunting, so adding the word 'sustainability' may discourage them from setting up an EMS," she warns.

Court too doesn't want the revision to diminish what, he believes, is a key advantage of the 2004 version, which is the way it can help an organisation to build an EMS from scratch. "I think the way the standard is currently set out is good; it has nice 'hooks' in it to help you easily develop your system. Any new standard needs to be able to help organisations similarly construct their systems without too much effort, so you still know where you are in the standard."

Likewise, **Peverley** says: "14001 as it stands provides an excellent framework for organisations that haven't got an EMS in place."

Several participants raise concerns that the revision could mean that 14001 risks losing its flexibility, which they say is one of the main things that makes it such a well-respected and increasingly popular standard – there are now more than 250,000 14001 certificates spread throughout 155 countries.

"The existing standard is flexible and straightforward and we shouldn't lose that," warns **Paul Simpson**, head of brand protection at oil and gas industry consultancy GL Noble Denton. "It says identify your 'aspects' and, based on that, you identify those that are significant and put in place controls to manage them. They provide the foundations for legal compliance. Even if an organisation's significant impacts change, the existing structure enables your EMS to be automatically updated and upgraded. Retaining that flexibility is crucial."

Bell agrees. "The existing standard has a lot of strengths and a lot of flexibility," she says.

Strengthening weaknesses

Despite a degree of support for parts of the current version of 14001, most participants concede that there are problems, and the standard needs strengthening in a number of areas.

"I think there are certain key clauses in the current standard that need strengthening in some way," says **Ben Vivian**, co-founder of the Vivian Partnership. "The most obvious one to me is 4.4, on resources, responsibilities, roles and authority. It's incredibly loose and incredibly difficult to assess. As a consequence, organisations are

CASE STUDY

PREMIER INTERLINK GAINS PRESTIGIOUS FSC® CERTIFICATION

ISSUED - 02 FEBRUARY 2012

Premier Interlink (Waco UK Ltd) has gained Forest Stewardship Council® (FSC) Chain of Custody certification, making it one of the first companies in its industry to gain this internationally recognised standard.

PREMIER INTERLINK

Based in East Yorkshire, Premier Interlink is a market leader in the off-site design and manufacture, and on-site installation, of modular buildings. Most of its customers are in the education, healthcare, defence, commercial, construction and custodial sectors.

Premier Interlink (Waco UK Ltd) is part of Waco International, a global group of construction companies that provides modular building and scaffolding products and services. The group has more than 4,000 employees and a turnover of over £400 million a year.

FSC

FSC-certified timber and forest products are monitored and checked at all points of the supply chain, anywhere in the world. The FSC label ensures and shows that these products are from carefully managed responsibly harvested and verified sources.

The FSC Chain of Custody system involves tracking FSC-certified material through the production process – from forest to customer, including all successive stages of processing, manufacturing and distribution. This enables customers to identify and buy products from well-managed forests.

GOING FOR FSC

Premier Interlink has ISO 9001 (quality management system) and ISO 14001 (environmental management system) certification. It followed with FSC certification in 2011.

"We went for FSC certification firstly to meet our clients' requirements and expectations, and secondly because it's linked to our environmental improvements through ISO 14001," says Premier Interlink's Material Requirements Planning (MRP)/Logistics Manager, Mick Webb.

"We're committed to reducing the environmental impact of our products and operations by adopting sustainable practices and constantly improving our performance. By gaining FSC certification, we're demonstrating this commitment to our clients."

THE ASSESSMENT

Premier Interlink chose FSC-accredited assessor SGS to carry out its FSC assessment. "SGS responded well to our enquiry and was competitive," says Mick Webb. "In all our subsequent dealings we found SGS to be approachable and professional."

"Although demanding on time, the assessment helped us to evaluate and improve our existing systems and supply chain."

Peter Brown, FSC Lead Auditor at SGS, says: "Premier Interlink was extremely well prepared with very clear and detailed procedures in place. I conducted the assessment without issue and it was a pleasure to audit and work with them."

BENEFITS OF FSC CERTIFICATION

"From a staff point of view, FSC certification is an extension of the robust management systems that were already in place," says Mick Webb.

Peter Brown, of SGS, says: "By becoming one of the first in its industry to comply with the requirements of the FSC standard and gain certification, Premier Interlink is now in a prominent position for potential customers who wish to source certified FSC products."

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WHEN YOU NEED TO BE SURE

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Paul Simpson (left) and Toby Robins

> The existing standard is flexible and straightforward. It's crucial that we don't lose that – *Paul Simpson*

not being challenged about their failure to put in place adequate resources, which leads to a failure to make continuous improvement, which leads to not having the right people doing the right tasks, for example."

As an auditor, **Peverley** says: "Auditors may come across cases where there is a lack of resources channelled into the EMS but they can be on very contentious ground to raise this as an issue. Allocation of adequate resources is a fundamental part of establishing and implementing an EMS and therefore must still be central to 14001, and indeed have more focus."

Baxter points out that there is a focus on resources in the revision plans. "The extent to which organisations have the skills and competence to run an effective internal process to drive environmental performance improvement is something that needs to be looked at. From an IEMA perspective, the environmental skills map and our focus on developing the capability of people professionally is geared towards that.

"What a commitment to allocating resources actually means in 14001 is a very valid question. I would like to see it tightened up."

Another area that needs strengthening is the role of employees in the standard. That is the opinion of **Simpson**. "One of the most powerful visits I made to an organisation with 14001 was a company in Northern Ireland," he recalls "Yes, it had ticked a lot of boxes and clauses in terms of awareness and competence. But it had also actually got people involved. There was real buy-in from the workforce into how they could help identify and make improvements."

Vivian believes the internal communication requirement in 14001 needs to be stronger. "Part of the problem is that communication is hugely misunderstood in the standard. It doesn't talk about engagement or consultation. It doesn't use those sorts of terms. It's very much an old-fashioned-style 'command and control' approach – a 'thou shalt do as I say' approach to communication," he observes.

Vivian advocates a more consultative approach. "Communication can simply mean a newsletter that you give out. Consultation is something that you get back."

Peverley points out that the health and safety standard 18001 talks about consultation, not just communication.

Court highlights another advantage 18001 has over 14001. "We encourage all our managers to attend an IOSH course, but not all our managers have attended an environment management course," he explains.

"The 14001 auditors do not really look for that, but 18001 auditors do. The latter would take a sample of the managers and ask them what courses they have done. That doesn't happen with 14001. The auditors are satisfied if the key personnel have done the training."

Baxter argues it's not the responsibility of a standard or external auditor to ensure widespread environmental training, but someone internally driving that forward. However, **Court** believes it would be a good barometer of how far the EMS is embedded in an organisation.

According to **Vivian**, legal compliance is another area of the standard that needs strengthening. "We work under an incredibly complex legal system, with hundreds, if not thousands, of pieces of legislation," he remarks. "I would challenge anyone to demonstrate competence over such a plethora of legislation. There's a degree of guessing and a degree of 'over-egging' in meeting compliance.

"I'd go so far as to say there are no organisations that are 100% compliant. The reality is that 100% compliance is almost impossible to demonstrate and almost impossible to maintain on a long-term basis.

"So what the assessors and the system need to demonstrate is that things are being picked up before they go horribly wrong. I think the processes need to be better to demonstrate compliance."

While agreeing that a management system cannot guarantee future results, **Baxter** comments: "An organisation should recognise its compliance status and be managing that, and doing something about it. It's that active management of compliance that's the key.

"I think there is a reasonable acceptance about what 14001 can, and cannot, do to support compliance. That is, it should help an organisation to comply. And the whole purpose should be that an organisation should be able to demonstrate its compliance status at any time without having someone externally – whether that's a regulator, a certifier or a member of the public – saying you've got a breach."

A stagnant system?

Most roundtable participants have extensive experience of 14001 and many claim that the current standard lacks robust measures to maintain momentum. "I think people feel it has stagnated a little. So, it needs rejuvenating," says **Peverley**.

"I agree the standard has possibly stagnated, but it's still a growing one, both in the UK and elsewhere," argues **Bell**. "For those who have worked with 14001 for a very long time, you can see where its boundaries and problems lie, but there are people at the other end of the spectrum who are just starting out. It's not stagnant for them. It's still a very active standard for them in terms of establishing an EMS."

"I think the stagnation is more the way 14001 is being used and assessed," comments **Vivian**.

Carbon (GHG) Accounting and Management

An IEMA-Approved 2-Day Training Course

Conestoga-Rovers & Associates (Europe) Ltd (CRA) is pleased to announce the continued delivery of its IEMA-approved Carbon and Greenhouse Gas (GHG) Accounting and Management course. This two-day course is aimed at professionals responsible for measuring, reporting, and managing carbon dioxide and other GHG emissions for their organisation. Also, this course will help organisations develop accounting processes and reduction initiatives for the **Carbon Reduction Commitment**. The course modules will equip you with:

- *An appreciation of the background to climate change, and the business and socio-political drivers for addressing GHG emissions*
- *The capability to present business cases to senior management to gain commitment for initiatives to measure, reduce and report emissions*
- *An understanding of the key standards and protocols for GHG measurement and reporting*
- *The skills to develop a carbon (GHG) accounting system and to capture your organisation's footprint*
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Upcoming courses in the UK are planned for 24th-25th April 2012 in Central London, and June (date TBC) in Nottingham. For more details, please visit www.cra.co.uk or contact us on:

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CRA's training partner, SHEMSI, delivers our IEMA-approved carbon course in Southeast Asia. For details, contact *mail@shemsi.com*.

This course provides essential guidance on CRC Registration, Compliance and Emissions Reduction.

EHS Legislation Bites

INDUSTRIAL EMISSIONS DIRECTIVE (IED)

The IED has significant implications for Environmental Permit holders, in particular operators of complex plant and certain combustion plant. The IED introduces stricter emission limits and less flexible interpretation of BAT (Best Available Techniques). Deadlines for opting out of new limits for combustion plant are imminent – operators must notify their intentions to join the Transitional National Plan by 8th May 2012 or apply for limited life derogation by 1st January 2014.

REPORTING OF THE RESOURCE EFFICIENCY PHYSICAL INDEX (REPI) DATA

Environmental Permit holders have been given the opportunity to participate in an Environment Agency trial which will reduce the time involved in reporting under REPI. Participators in the trial have until 1st July 2012 to submit their alternative data.

DEVELOPMENTS INVOLVING DEMOLITION

Property owners and developers planning demolition now need to consider environmental issues. Following a Court of Appeal ruling in March 2011, almost all demolition now needs planning permission, and Planning Authorities may require a full EIA or submission of environmental information.

For more information on new EHS legislation, please email info@cra.co.uk.

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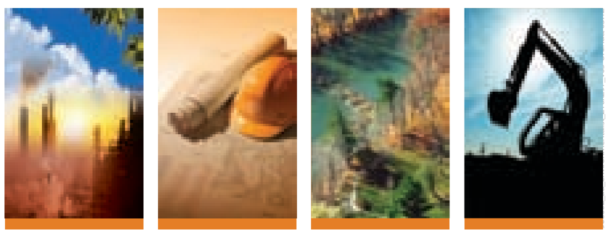

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WORLDWIDE ENGINEERING, ENVIRONMENTAL, CONSTRUCTION, AND IT SERVICES


Geoff Court

Toby Robins, sustainable development director at office supply company Wiles Greenworld, says part of the problem is that the existing framework fails to actually drive improvement. "The fact that you can have auditors coming in and just finding the slightest improvements, which they consider is sufficient, is a weakness."

> ISO 14001 needs to encourage more continuous improvement from a sustainability point of view – *Geoff Court*

Robins believes that 14001 provides a very solid foundation for organisations' environmental efforts, but asks why other standards such as the Carbon Trust Standard, for example, can provide a way to easily quantify improvement and 14001 doesn't.

Several participants want auditors to demand more improvement from companies. "I do feel that with my own company we've got the 14001 badge, and we get it every year," states **Holman**. "We've actually challenged our auditors and said: 'We want to use the auditing exercise to improve, so push us'. We simply weren't being challenged enough. You can have a very small amount of improvement and still get your certificate. We would like them to demand more, so we get more out of what is really quite an expensive process."

Baxter, however, challenges whether 14001 is failing to drive improvement. "If you ask IEMA members if the standard has helped their organisation improve its environmental performance, they will all say yes," he claims. "Having said that, there is a question about whether it goes far enough and fast enough, and whether it is ambitious enough. I think that comes down to a series of internal drivers.

"If you are being told you need a 14001 certificate to supply, that puts a different dynamic on your pursuit of certification compared with an organisation that is using it to develop a leadership position on the environment. There are many different motivations for seeking 14001 and we shouldn't lose sight of that."

Robins counters by saying: "I appreciate many organisations say 14001 has delivered improvement. If you ask whether implementing the standard improves performance, I would agree. But I'm now in the position where 14001 is no longer driving improvement. That's the problem. I keep it as a marketing badge to differentiate the company from others. That's the wrong way round. It should be driving improvement and it should be something to be proud of."

"If you go through all the clauses and tick all the boxes, then that's where you are, but it doesn't encourage an organisation to do anything more," says **Court**. "It's down to environment professionals to drive improvement."

Discussion moves on to how best to drive improvements in mature systems. The ISO study group on environment management system challenges recommends the use of maturity matrices – an organisational assessment tool – to show how the requirements of the standard can be applied in an increasingly comprehensive manner.

Baxter says that IEMA members are keen on incorporating maturity matrices – first included in BS 8900, *Guidance for managing sustainable development* – in the revised 14001 standard. "A matrix can help an organisation plot where it has embedded an EMS and environmental thinking into the way in which it does business," he explains. "And environment professionals see that as a real opportunity internally to drive improvement and differentiate.

"The point about a maturity matrix is that it would enable an organisation, and whoever is responsible for the EMS, to maintain momentum. It's about improvement that delivers and provides value in terms of environmental performance," he says.

Bell agrees that such instruments can be beneficial. "At a revision meeting I attended a couple of weeks ago looking at the 8900 series and 26000, the feedback from industry representatives was that the one very useful part of the system was the maturity matrix," she says. "It was the one tool they could use and implement, and really get some benefit from."

Simpson, however, offers a note of caution. "If I'm honest, there's not much interest so far in ISO 9004,

ROUNDTABLE PARTICIPANTS

David Symons (chair) – head of global sustainability business practice at WSP
Martin Baxter – policy director at IEMA and UK national expert on the revision of ISO 14001
Toby Robins – sustainable development director at Wiles Greenworld, an office supply company and SME
Geoff Court – group HSE adviser at printing and marketing business St Ives
Ben Vivian – co-founder of the Vivian Partnership consultancy
Viki Bell – global portfolio manager for sustainability at BSI, the business standards body
Paul Simpson – head of brand protection at GL Noble Denton, a consultancy focusing on the oil and gas industry
Miles Foulger – environment strategy manager at utility company Yorkshire Water
Kirsten Holman – senior environment consultant and EMS manager at Parsons Brinckerhoff
Eve Peverley – member of WSP environment management team

Eve Peverley

Kirsten Holman

We would like our auditors to demand more, so we get more out of the process – *Kirsten Holman*

where a maturity matrix is also used, so there isn't very much evidence of organisations moving along a maturity matrix."

"I think one of the reasons they have not caught on is that they only really exist in the 8900 series at the moment, and that series is in its infancy compared with the 14000 and 9000 series," comments **Bell**. "There's not much exposure to maturity matrices, but they were the one part industry was keen to hang on to."

The role of auditors

Irrespective of the proposed changes to the 14001 standard, the role of third-party assessment will be crucial to how much real value organisations gain from certification. And the revision of 14001 comes at a time when the environment profession is engaged in debate about the value and quality of third-party audits.

One thing that irks environment professionals is the lack of consistency among auditors. "My concern is that I've seen a number of systems recently where there is real inconsistency in how they are audited," observes **Vivian**.

"We've looked long and hard at whether we're working with the right auditors. Are they rigorous enough?" says **Foulger**. "Really, what this comes down to is who is the standard for and what purpose and outcome does it serve? Our main driver is what we, as a company, want to achieve. The audit and certification process just provides a degree of assurance. However, I would agree that it is an imperfect process."

Court offers the following example: "We've got three different audit companies across our group, because we've got four different certificates. They each interpret things differently. I have one auditor say one thing and I'll go to another site and the next auditor will say something almost completely different ... even though the end result – that both companies in the group are managing a particular aspect well – is the same. We pushed back on that. We have actually changed auditors at one of our sites as a consequence."

Vivian likens auditors' differing readings of 14001 to how rugby union referees administer the rules of the game. "There are a set of rules and they are open to interpretation by the referee, so you get different outcomes. It's the same with 14001. And, if that's the case, where's the standard?"

"From an auditor's point of view, they're more concerned with us complying with their interpretation of the standard," says **Court**.

The national standards bodies should be asked to provide the definite answer on interpretation in a particular context, but that service is rarely used. "If more organisations used this facility you wouldn't have the problem of two audit bodies giving conflicting advice," says **Baxter**. "Trouble is, it has never really been used in the UK, but it is used in other parts of the world. We'd like to see more organisations use that mechanism."

A major concern among roundtable participants is whether, in light of the proposed changes to 14001, auditors, many of whom are already struggling to satisfy clients, will be able to effectively assess companies against a standard that may embrace sustainability and is more closely aligned with business strategy.

"The skill set is completely different for compliance-type compared with more strategy-based audits," says **Bell**. "BSI operates the Kitemark Energy Reduction Verification (ERV) scheme and auditing companies' performance requires a completely different skill set from compliance auditing."

Vivian agrees. "The concern I would raise about moving to a more strategic standard management system is that you end up in a situation where you're asking who's going to audit it? Who's competent enough to audit? So, if you end up with a system that no one can actually audit, either internally or externally, you've got a big problem."

"Certification is completely outside the scope of the revision," notes **Baxter**. "14001 says it's a matter for the organisation what type of accreditation service or process it employs." He does, however, believe that organisations could do more to vet their auditors to ensure they are competent. "I don't see why businesses do not say: 'If you're going to come and work on our site and look at our management system, I expect you to be at least as good as I am'. Why would I want someone who has less knowledge or experience to come and tell me how well, or not, we're managing our environmental impacts?"

Baxter also believes IEMA could provide some assistance. "I think there is a role for the Institute in articulating the sort of questions organisations should be asking certification bodies," he acknowledges. "Let's get the market moving behind it. And, with 15,000 members, IEMA is in a great position to drive that."

the environmentalist and WSP roundtable took place on 7 February at WSP House in London. WSP and *the environmentalist* would like to thank all those who took part. Thanks also to **David Symons** for his excellent work chairing the discussion.

Something in the air

Paul Suff assesses progress in the UK on improving air quality

Last October, the environmental audit committee (EAC) published damning criticism of successive governments' inaction on improving air quality in the UK. It highlighted the continuing failure to meet European targets for safe air pollution limits in many parts of the country, and argued that the present government had also failed to get to grips with the issue.

The committee provided the startling reminder that, while 4,000 people died as a result of the Great Smog of London in 1952, which led to the introduction of the Clean Air Act in 1956, a similar number of people died in London from air pollution in 2008 and 30,000 died across the whole of the UK in the same year. The EAC also reported that 40 of the UK's 43 assessment zones are failing to meet EU targets and poor air quality was found to be shortening the lives of up to 200,000 people in 2008 by an average of two years.

Aside from the human cost, the financial cost of failing to improve air quality is staggering. Defra estimates this costs the UK up to £20 billion a year, while the European Environment Agency (EEA) reveals that industrial air pollution recorded by the European Pollutant Release and Transfer Register in 2009 cost the UK between £3.5 billion and £9.5 billion.

Poisonous atmosphere

The UK monitors harmful pollutants, such as benzene, 1, 3-butadiene, carbon monoxide (CO), lead, nitrogen dioxide (NO_2), particulate matter (both PM2.5 and the coarser PM10), sulphur dioxide (SO_2), ozone (O3), and PAH (polycyclic aromatic hydrocarbons) (see panel for main causes of pollution, p.25). And Defra and the devolved administrations measure CO, PM10, NO_2, SO_2 and O3 to assess air pollution levels.

Progress in reducing some of these has been made over the past 25 years, although that advance may be stalling. In 2010, the previous EAC concluded that "air quality in the UK has improved over recent decades but improvements are now levelling off and are increasingly costly to achieve."

It found the following three key pollutants are causing a major air-quality problem where the UK is failing to meet its domestic and European targets: nitrogen oxides (NO_x), a mix of nitrogen monoxide and NO_2; ozone; and particulate matter (PM) – tiny particles from a variety of materials, including sulphates, ammonia, sodium chloride, carbon, mineral dust and water.

The UK national ecosystem assessment, which was published last year, reported some improvement, but concluded: "Although there have been significant improvements in UK air quality over recent decades, current concentrations and deposition rates still exceed thresholds for effects on human health, crop and forest production, and biodiversity over significant areas of the country."

Industry and road transport are the main sources of air pollution, with the former a major source of emissions of NO_x (46%) and PM10 (36%) and the latter contributing to significant emissions of NO_2 (30%) and PM10 (18%). Exposure to pollutants varies according to location, with road transport responsible for up to 70% of air pollution in urban areas.

Long-term trends reveal that, in urban areas, concentrations of PM10 declined from a peak of 35 micrograms per cubic metre ($\mu g\ m^3$) in 1992 to $19\mu g\ m^3$ in 2008. Little has changed in the four years since, with 2011 levels at $20\mu g\ m^3$. Similarly, roadside particulate pollution has shown long-term improvement, but stagnated recently, with concentrations of PM10 declining from $39\mu g\ m^3$ in 1997 to between $19\mu g\ m^3$ and $23\mu g\ m^3$ for the past four years. By contrast, urban background ozone pollution is increasing, with concentrations rising from $38\mu g\ m^3$ in 1987 to $58\mu g\ m^3$ in 2011.

The latest figures from the environment department show that the UK exceeded the hourly limit value for NO_2 in 2010 in only three out of the 43 zones, but in 40 zones for the annual limit. The UK also reported exceeding the long-term ozone objective for human health in 41 zones, and the long-term objective for vegetation in six.

Much has been done to reduce air pollution from regulated industry. In 2008, the Environment Agency reported in its 10-year assessment of progress that those sectors that had reported to it since 1998 had halved PM10 emissions, reduced emissions of NO_x by 12% (largely because of controls at major power stations) and cut sulphur oxide releases by 69% (mainly due to flue gas desulphurisation at major coal-fired power stations). Over the same period, dioxin and volatile organic carbon releases from sites directly regulated by the agency declined by 58% and 57% respectively.

MAIN POLLUTANTS

Sulphur dioxide – from burning sulphur in fossil fuels, such as coal and oil.

Nitrogen oxides – from vehicle emissions and the generation of electricity.

Toxic organic micropollutants – from combustion activities, such as dioxins, furans, polyaromatic hydrocarbons and polychlorinated biphenyls.

Fine particles, including dusts, sulphates and nitrates – from combustible sources, such as road traffic and atmospheric reactions.

Butadiene – a chemical released in the atmosphere from the industrial burning of rubber and synthetics, as well as emissions from petrol- and diesel-operated machinery.

Carbon monoxide – from petrol engines.

Lead and heavy metals – from industrial emissions.

Ozone – pollutes the lower atmosphere. It is not emitted directly from any manmade source but is formed from chemical reactions between various air pollutants, primarily nitrogen oxides and volatile organic compounds.

A legal matter

Measures to address air quality are largely the responsibility of the devolved administrations in the UK, although policy instruments to improve air quality, such as environmental standards for industry and vehicle manufacturers, tend to be agreed at European level. Nationwide objectives for air quality are set out in the 2007 strategy for England, Scotland, Wales and Northern Ireland. EU legislation, such as the Directive on ambient air quality (2008/50/EC) and the Integrated Pollution Prevention and Control Directive (96/61/EC as amended), set caps, which are regulated through domestic legislation.

Under the 2008 Directive, for example, member states have to reduce exposure to PM2.5, which comes mainly from cars, trucks, planes and small industrial plants, in urban areas by an average of 20% by 2020 based on 2010 levels, bringing the exposure levels below $20\mu g\ m^3$ by 2015. In non-urban areas, countries will need to respect the PM2.5 limit value set at $25\mu g\ m^3$ by 2015. The Directive also allows member states to postpone achieving PM10, NO_2 and benzene standards by five years, from the original 2010 deadline until 2015.

Despite the extension, lawyers acting for Defra confirmed in December that the UK was effectively already in breach of its legal obligations to lower air pollution levels in a number of locations. The lawyers were responding to a legal challenge to Defra's plans to comply from campaign group

MONITORING INDUSTRIAL EMISSIONS GOING FORWARD

Industrial emissions are largely governed by the Integrated Pollution Prevention and Control Directive (96/61/EC as amended) (IPPC), which covers about 4,000 industrial installations in the UK, and Directives on large combustion plants (2001/80/EC) (LCP Directive), solvent emissions (1999/13/EC), waste incineration (2000/76/EC), and the production of titanium dioxide (78/176/EEC, 82/883/EEC and 92/112/EEC). From the start of next year, these will be amalgamated into one Directive, the Industrial Emissions Directive (2010/75/EU) (IED).

Much of the new Directive mirrors the IPPC Directive, although it is more prescriptive in places and covers new sectors, such as the wood preservation industry. In terms of controlling emissions, the IED contains new reduction limits for large combustion plants (LCPs) and adopts a more prescriptive approach in the reference documents accompanying the use of best available techniques (BATs), the state-of-the-art techniques that achieve a high level of environmental protection and which are also economically and technically viable. The documents are known as BREFs – best available techniques reference notes.

In the UK, regulators already apply BATs in the way intended by the IED, so its strengthened provisions will mean little or no change. "It's a continuation of what is already in IPPC," says John Tipping at the Environment Agency. "There is more prescription about BATs and more guidance. Other than that very little has changed."

The impact of the IED will be greater on LCPs. The emission limit values (ELVs) for nitrogen oxides, particulate matter and sulphur dioxide will be stricter from 2016, and ELVs for carbon monoxide will be introduced. It will mean that large coal-fired plants and some old gas-fired plants will have to either install new abatement equipment, reduce operating hours or close. However, in line with the LCP Directive, the IED also includes a number of derogations to extend the compliance period.

Another sector that may eventually experience a change is waste incineration. Although the IED does not substantially alter the scope of the existing Waste Incineration Directive (there is mention in the text of gasification and pyrolysis plants, which are already regulated in the UK), the strengthening of BATs could mean the introduction of so-called "continuous" monitoring of dioxins, for example. Most existing plants in the UK use periodic sampling – once or twice a year – to measure dioxin levels, which involves collecting a sample of emissions manually over six hours, and sending it away for laboratory analysis. According to Dominic Duggan, sales director at the specialist environmental instrumentation company Quantitech, other EU countries, including France, are beginning to use "continuous" sampling, which usually provides an average reading over a two-week period. "BATs mean introducing the highest possible standards, so the UK may have to follow suit," warns Duggan. Duncan Mounsor at Enviro Technology agrees. "The technology exists to measure things like dioxins online, so it will have to be considered." He points out that the existing manual testing technique is subject to a very wide tolerance level and believes the implementation of online continuous monitoring will improve the quality of the data.

The IED has to be implemented in the UK by 6 January 2013 and will apply to new installations immediately. It will apply to installations already in existence before that date (with the exception of LCPs) on 6 January 2014. Industrial activities not subject to the current IPPC Directive will have to comply with the IED by 6 July 2015.

ClientEarth. The environment department's plans to cut NO_2 reveal that it does not expect pollution levels to be cut in line with the Directive before 2020 in 17 of the 43 cities and regions affected. Central London, for example, will not meet the NO_2 limit until 2025, while some cities, including Birmingham, Cardiff, Glasgow and Manchester, should meet the targets in 2020.

ClientEarth wants the environment secretary to revise the plans so the UK does not breach the 2015 deadline. Hearing the case, Justice Mitting said any enforcement action was a matter for the European Commission. Should the commission instigate proceedings, it will not be the first time the UK has faced the possibility of legal action over infringements of EU air-quality legislation. Although eventually dropped, the commission started infringement procedures against the UK in 2007 for exceeding EU limits on ambient concentrations of SO_2 from industrial installations.

On the domestic front, UK regulators investigate several hundred air pollution incidents each year, prosecuting many companies that breach their permit conditions. In the past year, for example, Industrial Chemicals was fined £10,000 in November 2011 after pleading guilty to two breaches of its environment permit and allowing an estimated 194 litres of NO_2 to escape from its Hebburn plant in South Tyneside, while Maier UK was fined £26,500 in December, after it emitted 66 tonnes of solvents into the atmosphere during 2009–10, which was more than three times the legally imposed limit.

Constant challenge

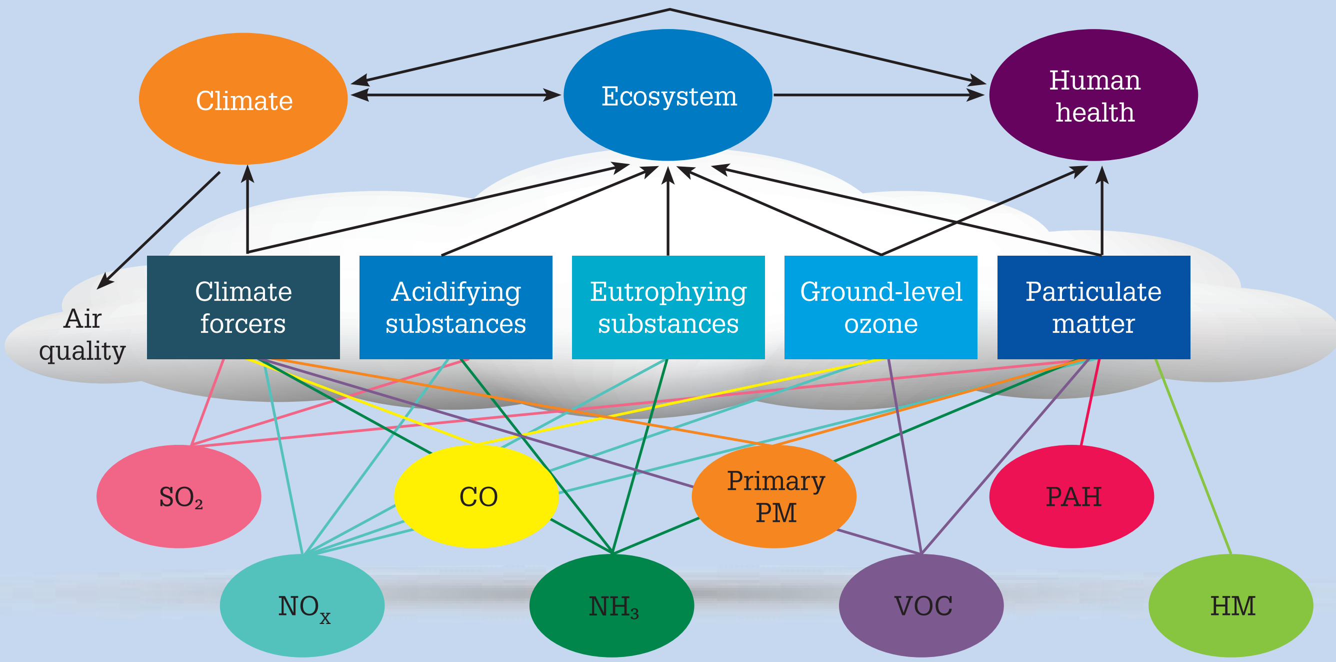
Particulate matter and ozone are Europe's most problematic pollutants in terms of human health (see panel, p.28), and, as Defra's latest data indicate, keeping both in check is proving difficult.

Partly this is because of complex links between emissions and ambient air quality, which means that cuts in emissions do not always produce corresponding falls in atmospheric concentrations. This is particularly the case for PM and O3, as the EEA reported in 2011. It revealed that PM precursor emissions, such as sulphur oxides and NO_x, declined considerably across the EU in the 10 years to 2009 (down 56% and 28% respectively), but primary PM10 and PM2.5 rates decreased by only 16% and 21% over the same period.

And while the regulatory and monitoring focus for PM has tended to be on PM2.5 and PM10, evidence is emerging that even finer particles – so-called black carbon, which is a product of the incomplete combustion of fossil fuels or biomass – are causing health problems and exacerbating climate problems. "These tiny particles can act as sponges carrying small amounts of toxic species, such as PAHs and dioxins, which are adsorbed onto black carbon particles and transported deep into the body," says Jim Mills, managing director at Air Monitors, which is supplying monitors for an EU-funded programme, Carbotraf, to measure CO_2 and black-carbon emissions from traffic in Glasgow and Graz, Austria.

Scientists also say that black-carbon emissions are the second largest contribution to global warming, after CO_2 emissions. Black carbon increases warming

IMPACT OF MAJOR AIR POLLUTANTS



From left to right the pollutants shown are as follows: sulphur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide (CO), ammonia (NH_3), particulate matter (PM), volatile organic compounds (VOC), polycylic aromatic hydrocarbons (PAH), heavy metals (HM). *Source: European Environment Agency*

by absorbing sunlight, darkening snow and influencing the formation of clouds. But whereas CO_2 stays in the atmosphere for many decades, black carbon stays only for a relatively short period of time, from days to weeks, before falling to the ground as a result of dry deposition or precipitation.

Researchers from NASA and the Stockholm Environment Institute at the University of York (SEI) recently reported that keeping high-polluting vehicles off the road, installing particle filters in diesel vehicles, upgrading stoves, boilers, kilns and coke ovens, and banning agricultural burning, would cut emissions of black carbon and, in conjunction with measures to control methane emissions, could help reduce global temperatures by 0.5°C by 2050."All [the] measures can be implemented immediately, so they do not require long development processes. The measures maximise climate benefits but would also have important 'win-win' benefits for human health and agriculture," said Dr Johan Kuylenstierna, co-author and centre director at the SEI.

A local issue

Having lambasted the government for providing no meaningful evidence to indicate that it was making headway towards meeting air-quality targets, the EAC recommended several measures to reignite progress, including establishing a national framework for low-emission zones (LEZs), retrofitting abatement certification for heavy vehicles and immediately implementing a cross-departmental action plan overseen by the Cabinet Office.

Like its predecessor, the committee also called for a public awareness campaign to drive air quality up the political agenda and inform people about the positive action they could take to reduce emissions and their exposure to these.

The government's response to the earlier EAC report on air pollution was to place more responsibility on local authorities to improve quality. It also rejected – on cost grounds, even though savings from improved air quality would be significant – a specific awareness campaign.

Nonetheless, companies involved in air-quality monitoring expect to see a big increase in awareness in the UK and a renewed focus on solving the problem. Enviro Technology, for example, predicts the whole issue of air pollution will move up the national agenda in the next 12 months and beyond, as more and more people are affected by poor air quality, and the government faces the potential prospect of EU fines for breaching pollution limits.

The presence of the Olympics in London this summer could also trigger more progress as the government is unlikely to want the event to be remembered for poor air quality, something that dogged the 2008 games in Beijing. To ensure the games were largely smog-free, the Chinese authorities imposed measures to restrict traffic and close factories around the city. Having been postponed in the previous year, the extension of London's LEZ from 3 January 2012 is, in part, to help ensure the capital satisfies European and Olympic air-quality targets, and does not incur substantial fines. However successful this measure may be, it is clear the race to improve air quality in parts of the UK needs to speed up.

IEMA PAY AND BENEFITS

SURVEY 2012

The fifth annual survey of IEMA members' remuneration strikes a positive note for pay

This year's salary survey of IEMA members takes place against the continuing backdrop of economic uncertainty, rising unemployment, severe public sector pay restraint and a subdued pay climate generally. But the results indicate that many environment practitioners have much to be optimistic about in terms of the salaries they are able to command as recognised IEMA members and the satisfaction they feel in their professional roles.

The government's 2011 annual survey of hours and earnings (ASHE) found a median annual pay level of £36,997 for those employed as "professionals" and £29,554 for "associate professional and technical" staff – the most relevant standard industrial classification (SIC) groups for comparison with IEMA practitioners. The IEMA annual pay survey reveals that an environment professional with Full membership earns a median total income of £45,250, while an Associate earns £35,000 – so most IEMA members can anticipate exceeding the income expected for their SIC group.

The IEMA pay survey drew 2,324 responses from UK practitioners. These environment managers, consultants and researchers provided pay and conditions data based on their 2011 earnings (for more details of the sample, see p.IV).

KEY FINDINGS

- At £40,000, the median earnings of environment professionals in business and industry are significantly higher than those of their colleagues working in other parts of the economy, such as the public sector and consultancy.
- Practitioners working in financial and legal services have the highest overall earnings, with a margin of £7,000 over the next highest industry.
- There is a strong, positive relationship between an individual environment professional's annual income from employment and their IEMA membership level.
- The differential between the earnings of male and female environment professionals is 13.9%, lower than the national average.
- The pay levels of more than one-third (36.1%) were frozen in 2011, but more than half (54.2%) received a salary increase.
- The majority of environment professionals are happy in their work – more than two-thirds (68.9%) are satisfied or very satisfied in their roles.
- Almost two-thirds report an increase in the scope and variety (65.3%), and/or quantity (63.9%), of their workload in 2011, with more than one-third (35.8%) working longer hours.
- The three main benefits practitioners receive are a mobile phone or PDA, a contributory pension scheme and being provided with a laptop or home computer.

2012 SURVEY SAMPLE

The survey was conducted using an online questionnaire between 21 December 2011 and 9 January 2012. Invitations to complete the survey were emailed to 12,101 current members. Student members and those whose records are located outside the UK were excluded from the invitation as this research aims to analyse the situation in the UK rather than the international profession.

Respondents to the survey were asked to provide details of their 2011 salaries plus any extra earnings such as bonuses, overtime and commission payments. These have been combined in most analyses to provide a comparison of total annual income from employment.

"I developed a successful business case that attracted a carbon-reduction funding of £766,000 and will save £75,000 per year over 20 years."

Where possible, the tables show both the mean (average) and median figures for the earnings data. Where space only allows one figure, the median (the midpoint in the range of figures) is highlighted as it is the preferred measure used by pay statisticians because it reduces the influence of a few very high or very low figures, which can distort the mean average.

There were 2,324 individual responses, a 19.2% response rate. For the salary analysis, those who were unemployed or retired were removed from the sample, along with those who had not provided data on their earnings or who were not based in the UK. The remaining sample size for salary analysis after this filtering was 2,037, or 16.8% of those IEMA members eligible to participate.

Table 1 (p.V) provides a breakdown of the survey sample by sector and seniority in job role.

The employment status – whether employed or self-employed – of IEMA members taking part in the survey indicates a notable change in the proportion of those who are self-employed, from 5.6% in last year's survey to 7.9%. While this change is only one of 2.3%, it represents a 41% rise in the proportion of respondents reporting themselves as self-employed. Since 2005, our data have shown a steady decline in the proportion of self-employed members and so this year's finding marks a sharp reversal of this trend, and is a reflection of a wider trend in the UK labour market. Figures released by the Office for National Statistics in December 2011 showed that the number of self-employed people increased by 166,000 in the previous quarter to reach 4.14 million. This is the highest number of self-employed people since comparable records began in 1992.

"I helped my firm to achieve a 98% recycling rate on a demolition project which removed more than 5,000 tonnes of materials."

"Within my role I can influence and change not only my own company, but others within the manufacturing field across the globe."

Measured against the whole of IEMA's UK membership, the survey respondents are a reasonable representation of the profession. The sample has a lower representation of Affiliate members – 14.4% of the sample compared with 22.8% of IEMA's UK membership – and a higher proportion of Full members (12.6% compared with 6.3%). Associate members are also slightly over-represented in our survey – 68.7% compared with 62.7% of the UK membership.

Respondents were asked to indicate their primary area of work. The five most common areas are identical to those reported in last year's survey:

- health, safety and environment (HSE) management (19%);
- environment management (18.4%);
- sustainability (10.1%);
- impact assessment (EIA, SEA) (8.8%);
- environment protection/regulation (5.8%).

"This is literally my dream job. I've been working hard to get to this position and feel I can really make a difference to the environment."

In terms of the industrial subsectors in which respondents work, those based in environment consultancies were the largest group, making up 17% of the sample. Based on the 2,037 responses, practitioners employed in manufacturing companies formed the next largest group, at 15.7%, followed by those working for public sector organisations (15.1%), in construction (12.5%) and for non-environment consultancies (7.9%).

Asked about additional professional accreditation, 11.9% report being Chartered environmentalists (seven in 10 of these members registered through IEMA) and 10.1% said they were auditors.

SENIORITY IN SECTOR

Table 1 shows the mean and median total annual earnings by broad job level in specific industry sectors. (Note: table 1 and figure 1 are based on the 1,901 respondents who provided details of their job level.) At £40,000, the median earnings of IEMA professionals working in business and industry are significantly higher than those of their colleagues working in academic and research institutions (£34,000), the public sector (£31,650) and consultancy (£33,100).

When the annual incomes of the most senior professionals in these four sectors are analysed, the pay differential widens further. For example, the median annual earnings of an executive director working in business and industry are pegged at £75,000. The next highest median income of the most senior environment professional from the other three sectors is £49,000 and is earned by a director/partner/associate working in consultancy.

Figure 1 illustrates that, at the most senior job level, environment professionals employed in business and industry have the potential to earn almost twice as much as their counterparts in public sector organisations.

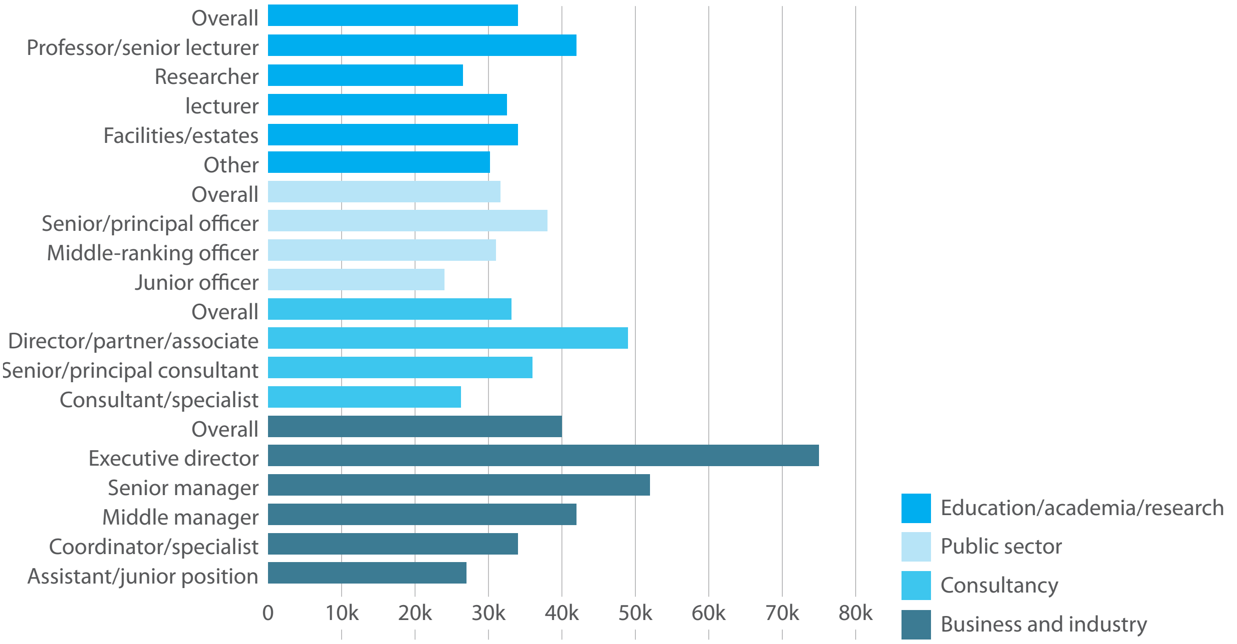
At the more junior end of the income spectrum, the earnings differential between environment practitioners just starting out in the profession is negligible, regardless of which sector they are working in. A junior position in business and industry attracts median annual earnings of £27,000 compared with £26,500 for a researcher in academia, £26,250 for a consultant and £24,000 for a junior officer in the public sector.

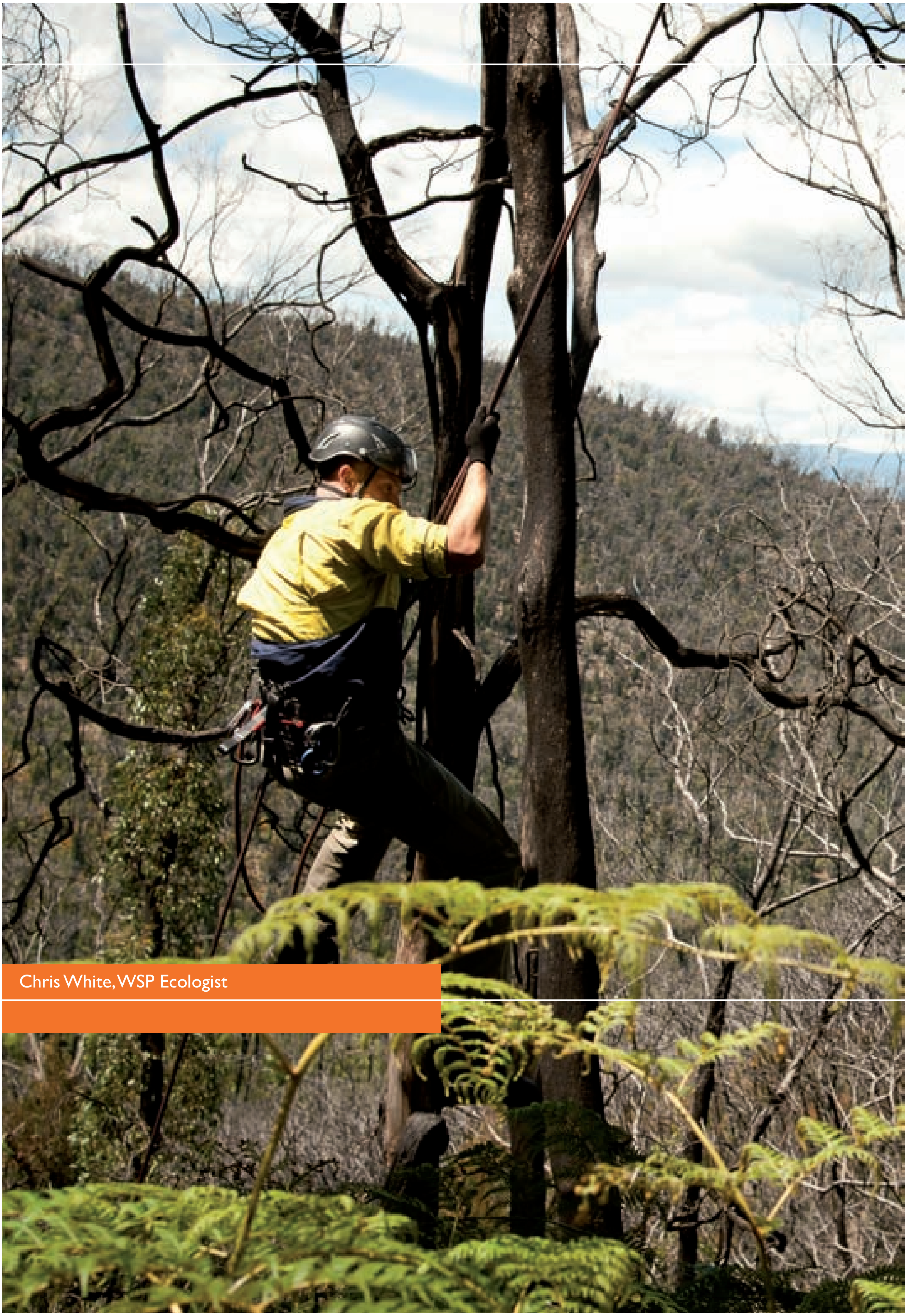
To help gauge the level of seniority and responsibility achieved by IEMA practitioners, respondents were asked about their management responsibilities. Almost half (46.9%) manage others as part of their role. In most cases, respondents manage a team of up to 10.

Table 1: Annual earnings by seniority in sector

Sector/Base	Seniority	Total earnings Mean	Median
Business and industry	Overall	£45,291	£40,000
25	Executive director	£77,312	£75,000
209	Senior manager	£60,662	£52,000.
338	Middle manager	£44,998	£42,000
336	Coordinator/specialist	£36,049	£34,000
44	Assistant/junior position	£26,919	£27,000
Consultancy	Overall	£37,809	£33,100
125	Director/partner/associate	£51,750	£49,000
206	Senior/principal consultant	£39,783	£36,000
221	Consultant/specialist	£28,083	£26,250
Public sector	Overall	£34,662	£31,650
87	Senior/principal officer	£40,675	£38,000
191	Middle-ranking officer	£33,954	£31,000
40	Junior officer	£24,967	£24,000
Education/academia/research	Overall	£34,376	£34,000
12	Professor/senior lecturer	£44,683	£42,000
10	Researcher	£28,485	£26,500
10	Lecturer	£34,699	£32,500
27	Facilities/estates	£32,536	£34,000
20	Other	£33,462	£30,203

Figure 1: Median total annual earnings by seniority in sector





Chris White, WSP Ecologist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EARNINGS BY

INDUSTRIAL SECTOR

Figure 2 reveals the median total annual earnings, including bonuses and other extra-salary payments, for environment professionals in each industrial sector. It shows that practitioners working in financial and legal services have the highest earnings, with a margin of £7,000 over the next highest industry – electricity and gas supply and generation.

Environment professionals working in charitable organisations can expect to earn the lowest incomes (£29,450), followed closely by those working in environment consultancies (£30,000).

Where meaningful comparison is possible, environment professionals taking part in the IEMA survey earn significantly more than those employees working in these sectors generally. For example, according to the government's 2011 ASHE, the median annual pay for financial and insurance activities is £35,697 compared with £53,000 for an IEMA practitioner based in financial and legal services. The ASHE survey pegs annual pay at £36,202 for the electricity, gas, steam and air-conditioning supply sector, compared with £46,000 for an environment professional working in a similarly defined industry in this IEMA survey.

Table 2 shows the average and median earnings for the sectors included in figure 2 – indicating that the private sector dominates most of the higher-earning groups.

Figure 2 Median total annual earnings by industrial sector

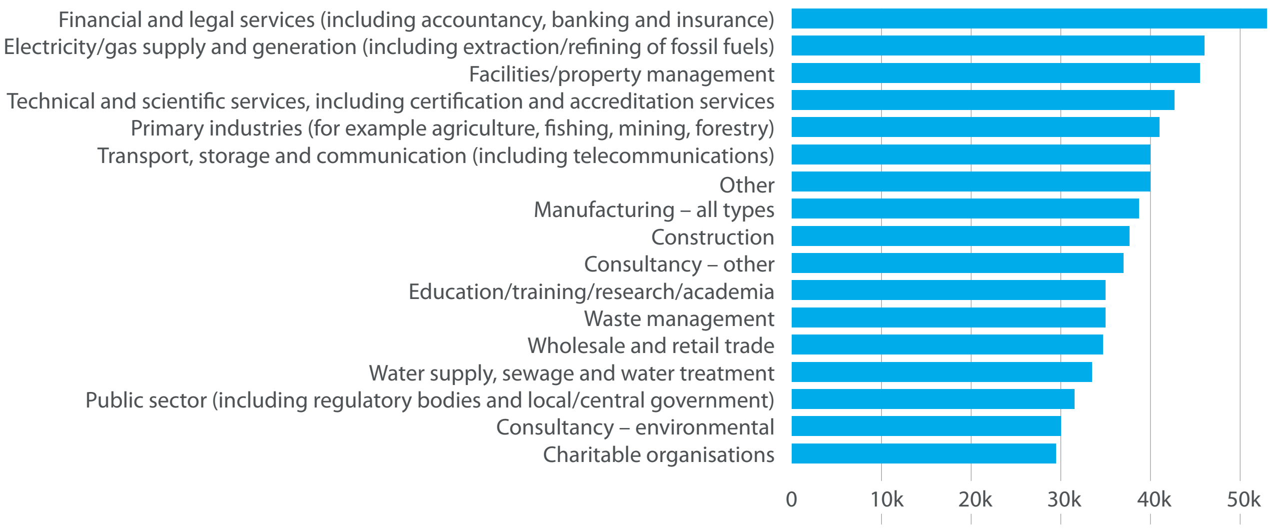


Table 2 Total annual earnings by industrial sector

Base	Industry	Sector	Mean	Median
21	Financial and legal services (including accountancy, banking and insurance)	Private	£67,047	£53,000
139	Electricity and gas supply and generation (including extraction and refining of fossil fuels)	Private	£49,510	£46,000
13	Facilities and property management	Private	£43,784	£45,500
28	Technical and scientific services, including certification and accreditation services	Private	£46,562	£42,655
43	Primary industries (for example agriculture, fishing, mining, forestry)	Private	£47,861	£41,000
92	Transport, storage and communication (including telecommunications)	Private	£46,551	£40,000
77	Other	Private	£43,208	£40,000
320	Manufacturing – all types	Private	£44,501	£38,700
258	Construction	Private	£41,859	£37,650
171	Consultancy – other	Private	£41,679	£37,000
83	Education, training, research and academia	Public	£36,012	£35,000
23	Waste management	Private	£38,569	£35,000
31	Wholesale and retail trade	Private	£39,474	£34,700
31	Water supply, sewage and water treatment	Private	£35,631	£33,500
307	Public sector (including regulatory bodies, local and central government and planning)	Public	£33,506	£31,500
347	Consultancy – environmental	Private	£36,134	£30,000
53	Charitable organisations	Charity	£30,934	£29,450

EARNINGS BY

IEMA MEMBERSHIP LEVEL

Figure 3 illustrates how IEMA members' total earnings (meaning salary, bonus, overtime and commission payments) vary between membership levels, while table 3 gives the breakdown of total earnings between salary and bonus (all non-salary pay is grouped as "bonus" in the table). As was the case in last year's survey and those preceding it, there is a strong correlation between an individual's annual income and their membership level.

Total earnings range from a median of £22,000, at Graduate level, to £64,600 for Fellows. There is a negligible difference between the median income levels of Affiliate and Associate members, at £34,793 and £35,000, respectively.

Affiliate IEMA membership is appropriate for someone who is new to, or has an interest in, the environment management and assessment fields. Associate is the next step up the membership ladder and represents the knowledge-based level of IEMA membership, for those who have demonstrated an understanding of the principles and practices of environment management and assessment.

At a median of £45,250, a Full IEMA member's total earnings are significantly more than those of both Affiliate and Associate members.

Although, at £64,600 a Fellow's income level is almost £20,000 greater than a Full member's, this year's median income for a Fellow is significantly lower than the £90,000 recorded in the 2011 survey. Although these figures show a surprising differential between this year's and last year's earnings for Fellows, not too much significance should be attached to them as both sample sizes are relatively small. It is still evident that earnings potential rises significantly with seniority in the profession, and by far the greatest earnings potential is available to those with Fellow membership.

Aside from Fellows, compared with last year, total earnings are relatively stable across membership levels, with a small decrease for Graduates and slight increases for Affiliate and Full members. The median total earnings for Graduate members in 2011 was £23,000, compared with the £22,000 reported in 2012.

The median income level of Affiliate members is now £34,793, compared with £34,000 12 months previously, while Full members now receive median total earnings of £45,250 compared with £45,000 in 2011. The total median earnings of those with Associate membership remains at £35,000.

The mean and median figures for total earnings mask some considerable distribution with most membership levels. For example, both Associate and Affiliate members' earnings range from approximately £20,000 to £60,000, with the differential due largely to seniority in sector (p.V).

The level of extra-salary payments shows an almost identical pattern as they rise in tandem with seniority of membership. Again, Affiliates and Associates are evenly matched, with annual bonus payments pegged at a median of £1,200 for both these types of IEMA membership. The median bonus payment for a Full member is almost twice this amount, at £2,020 while at £6,500 the bonus payment for a Fellow is six times greater than an Affiliate or Associate member.

Figure 3 Total annual earnings by membership level

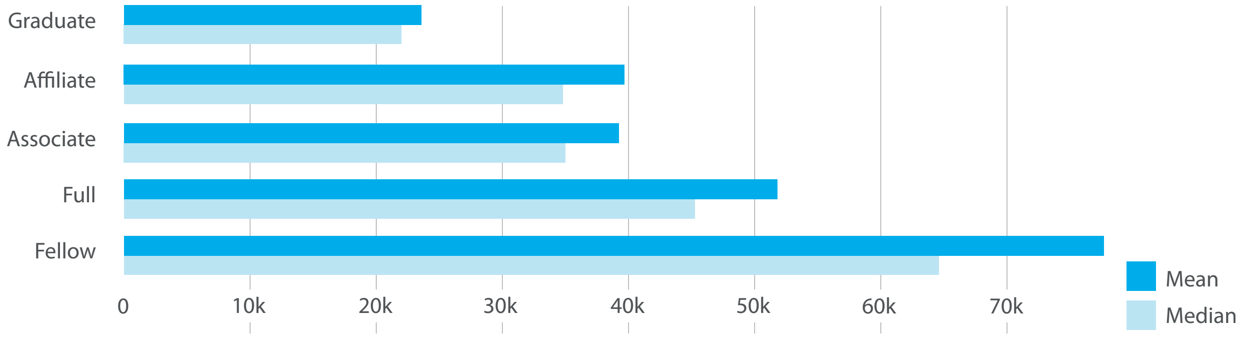


Table 3 Total annual earnings by membership level

		Salary		Bonus		Total earnings	
Base	**Membership level**	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**
73	Graduate	£22,690	£22,000	£1,647.44	£100	£23,570	£22,000
293	Affiliate	£37,482	£33,000	£4,666.12	£1,200	£39,679	£34,793
1,400	Associate	£36,810	£34,000	£4,465.93	£1,200	£39,228	£35,000
257	Full	£47,977	£44,000	£6,378.16	£2,020	£51,799	£45,250
14	Fellow	£71,057	£61,000	£13,242.86	£6,500	£77,678	£64,600

EARNINGS BY

HIGHEST QUALIFICATION

Survey participants were asked to state their highest academic qualification. More than eight in 10 have an undergraduate or a postgraduate degree – just 3.3% (68 respondents) have no formal qualifications and so respondents form a well-qualified group.

The most common qualification is a master's degree (44.2% of respondents), followed by a bachelor's degree (24.6%), postgraduate diploma (11.5%) and higher national certificate or higher national diploma (HNC/HND) (7.2%) and PhD (3.9%).

We matched respondents' qualifications with the salaries they earn and the results are shown in figure 4. As the chart demonstrates, the general trend is not necessarily that the highest-level qualification attracts the highest total earnings.

Members with doctorates easily top the earnings scale, with median total annual earnings of £44,900. But, perhaps surprisingly at first glance, practitioners with no formal academic qualifications tend to earn, with a salary of £39,000, more than practitioners with other types of academic qualifications.

Those with a bachelor's degree have median total earnings of £34,000 and even those with a master's degree, on £35,000, earn £4,000 less than those with no formal qualifications. The difference is less marked for members with an HNC/HND qualification, who receive median total earnings of £38,000, while those with a postgraduate diploma similarly earn £39,000.

The disparity between the levels of qualification and earnings in our results may be explained by the fact that the profile of those with a bachelor's or master's degree is weighted towards the younger end of the age spectrum. These professionals, in the main, have yet to attain the more senior-level jobs that typically attract higher salaries. Although, on initial inspection, it does not appear that practitioners with bachelor's or master's degrees have increased their earnings capacity compared with those with no formal qualifications, this is not necessarily true.

It is very likely that, when these well-qualified individuals apply for top-level positions, their higher qualifications will stand them in very good stead to eventually earn considerably more.

Figure 5 shows that the earnings potential of both male and female environment professionals rises with age, most markedly up to the age of 35–39 for men. Women's salaries tend to plateau around the 30–44 age mark – perhaps coinciding with having children, for some female professionals – before rising to £39,300 at the 45–49 age bracket. This figure represents the highest total pay for female practitioners, whereas their male counterparts can expect to earn their highest pay, of £42,250, when aged between 40 and 44.

Figure 4 Total earnings by highest qualification

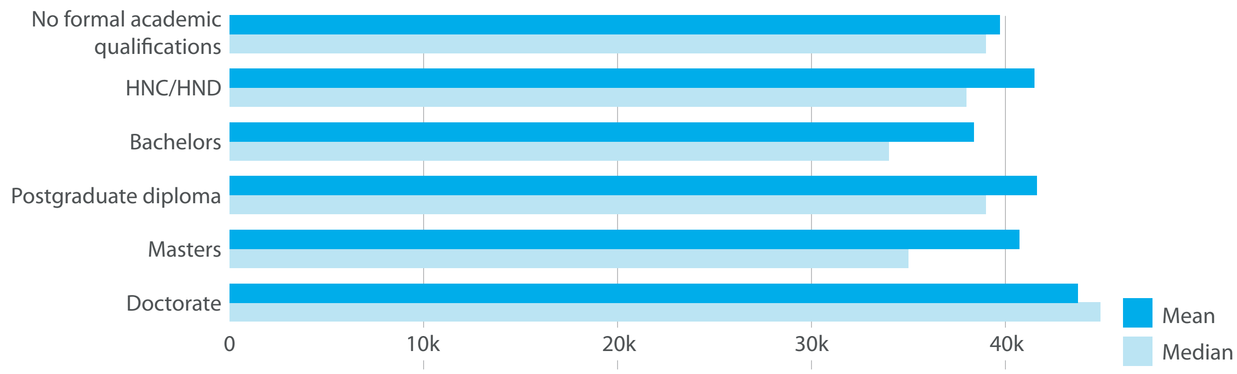
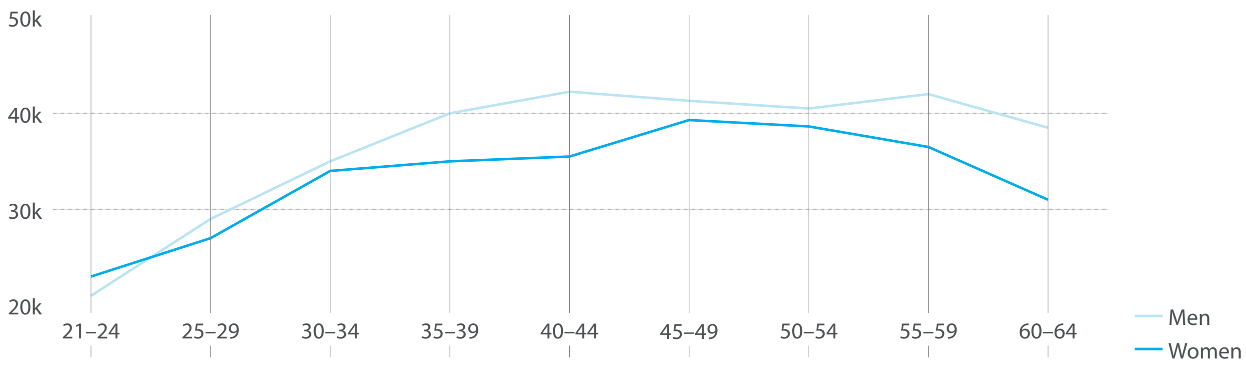


Figure 5 Median total annual earnings from employment by age and gender



MEN AND WOMEN'S PAY

Environment management does not have the image of being a male-dominated profession in the way that health and safety management does. But the environment management and assessment field is still weighted in favour of male professionals, according to our survey findings. Of the 2,026 respondents who answered the question on gender, 61.5% are men (1,245) and 38.5% women (781). By comparison, a recent survey of health and safety management professionals published in *Health and Safety at Work* magazine established a 78%/22% split in favour of men (lexisurl.com/HSWpay).

Reducing the gap between men and women's pay has been a public policy imperative for many years and the latest official figures from the 2011 ASHE show that the headline gender pay gap, based on the preferred measure of hourly pay, narrowed from 10.1% in 2010 to 9.1% in 2011. This is progress for women in work, but there is still much to be done to eradicate the gender pay differential. The ASHE pegged median annual earnings for men at £28,409 and £22,910 for women – considerably greater than the 9.1% gap reported for hourly pay.

Analysing our own pay data for full-time environment professionals, we find median total earnings of £38,000 for men and £32,700 for women. This equates to a 13.9% pay gap. Although this is significantly narrower than found in the ASHE earnings data, which put the wage differential at 19.4%, there is no room for complacency as the gap remains fairly large.

Female respondents may take a small measure of comfort from the results of IEMA's salary survey in 2007. Then, the median total earnings for men and women were £37,000 and £29,500 respectively – a 20.3% pay gap for women. The 2012 pay gender gap is also much less than the male/female differential in last year's practitioners' survey, when men's median earnings were £38,500 and women's were £31,000, a difference of 19.5%.

An important caveat in considering the wide earnings gap between male and female environment professionals in our sample is that the age distribution of the sexes varies enormously.

As was the case in last year's IEMA survey, the female age profile is biased towards the younger end of the age spectrum: 54.5% of female members are below the age of 35, compared with 27.3% of male respondents. As we saw in figure 5 (p.X), median annual total earnings increase with age. They peak for men when aged between 40 and 44, while a woman's earning capacity tends to plateau from the early 30s to the mid-40s, before rising again between the ages of 45 and 49.

As younger individuals dominate the female membership profile, this may skew female earnings towards the lower end of the pay spectrum and result in a wider gender pay gap than is actually the case in the profession as a whole.

When we look in detail at salaries for men and women across the age ranges, as shown in table 4, we can see wide variation in the pay gap according to age bracket.

For example, in the youngest age range, 21–24, there is a negative pay differential of –9.5%, with female environment professionals earning £2,000 more than their male colleagues. This pattern is reversed in all other age brackets, with a pay gap ranging from 2.9%, at age 30–34, to 19.5% at 60–64 years of age. It should be noted that women are under-represented in this latter age bracket and so the figures should be treated with caution.

Figure 6 Median total annual earnings by gender

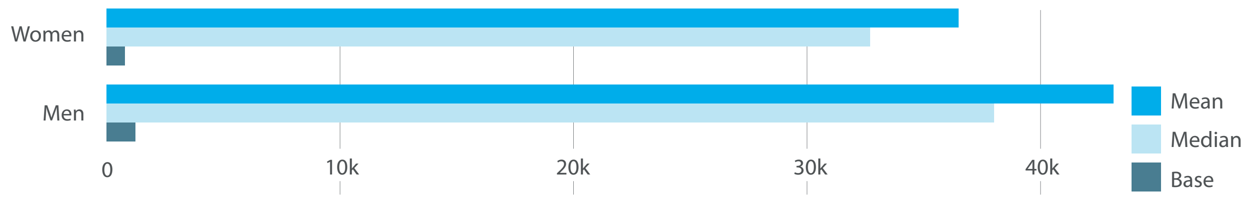


Table 4 Gender wage gap by age according to median total earnings

Age	Difference	% Gap
21–24	–£2,000	–9.5%
25–29	£1,700	5.9%
30–34	£1,000	2.9%
35–39	£5,000	12.5%
40–44	£6,750	15.9%
45–49	£2,000	4.8%
50–54	£1,865	4.6%
55–59	£5,504	13.1%
60–64	£7,500	19.5%

CHANGES TO PAY

At the outset of 2012, the economic outlook in the UK continues to appear uncertain as the age of austerity starts to bite for many people. The economic recession that started in 2008 has still not really lifted in terms of key labour market indicators such as employment levels and pay increases. The unemployment rate continues to rise and January figures released by the Office for National Statistics showed a 0.3% increase during September–November 2011, bringing the figure up to 8.4% of the economically active population. The unemployment rate has not been higher since 1995.

An examination of pay rises compared with increases in the cost of living make for further gloomy reporting. Pay analysts at XpertHR note that, throughout 2011, pay award levels remained subdued. Although the levels seen – around 2% throughout most of the year – represent an increase on the awards made during the recession years of 2009 and 2010, they continue to fall well below the typical pre-recession levels of between 3% and 3.5%. Pay rises of around 2% in 2011 do not come close to the inflationary rise in the UK cost of living throughout most of that year – which reached 4.8% as measured by the retail prices index (RPI) and 4.2% according to the consumer prices index (CPI) in December 2011, for example.

During the recession years, pay freezes were widely reported across the economy as many employers sought to offset the harsh economic climate in which they found themselves. The public sector is still at the sharp end of virtually a blanket pay freeze for employees. But on a positive note, in January 2012 XpertHR said that the proportion of employers reporting a pay freeze had fallen to just 7.2%, one of the lowest levels seen since the beginning of the recession.

This downward trend in the number of pay freezes is not reflected in the profile of pay changes for environment professionals taking part in our survey, however.

As figure 7 shows, well over one-third of respondents (36.1%) told us that their pay had stagnated during 2011, and 6.6% report a salary cut. Nevertheless, more than half (54.2%) said that they had received a salary increase during the year. These figures show a marginal improvement on last year's survey findings, when 37.2% said that their salaries had not increased and 7.1% reported a pay cut.

For those reporting salary increases in our 2012 survey, the changes are concentrated in two regions: 42.5% report an increase of between 1% and 3%, and 18.5% report an rise greater than 10% – but this latter figure is likely to reflect individuals being promoted rather than a general increase in pay.

Data from previous surveys reveal how total earnings have changed over the past seven years. Generally, there is an overall increase in practitioners' salaries, although the pattern varies considerably by membership level. Graduate members show the smallest increase since 2007 (graduates were not included in the 2005 survey), of just under £1,500. This small increase is firmly in line with wider graduate surveys that have shown a serious stagnation in the kind of starting salaries that graduates can command since the onset of the UK recession. XpertHR recently reported a pay freeze in graduate starting salaries for the third consecutive year.

The remaining membership levels show gradual but steady increases in median total earnings, with Full members' salaries increasing by £5,250 (£40,000 to £45,250) from 2005 to 2012, Associate members by £4,000 (£31,000 to £35,000) and Affiliate members by £4,793 (£30,000 to £34,793). The relatively small number of Fellows in the 2012 sample (14) is not large enough for a meaningful comparison.

Respondents were asked about changes to any extra payments they receive, such as discretionary or performance-based bonuses. As figure 8 shows, just over two-thirds of respondents (67.1%) report that bonus payments were the same in 2011 as in 2010; almost one in five (18.7%) said they had gone up; and one in 10 (10.9%) reported a decrease.

Figure 7 Change in annual salaries in 2011

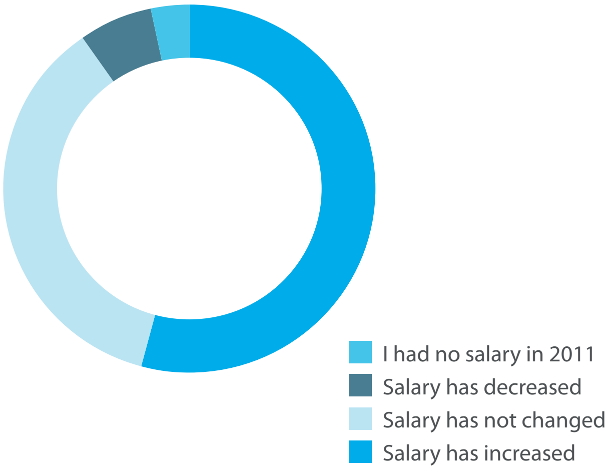
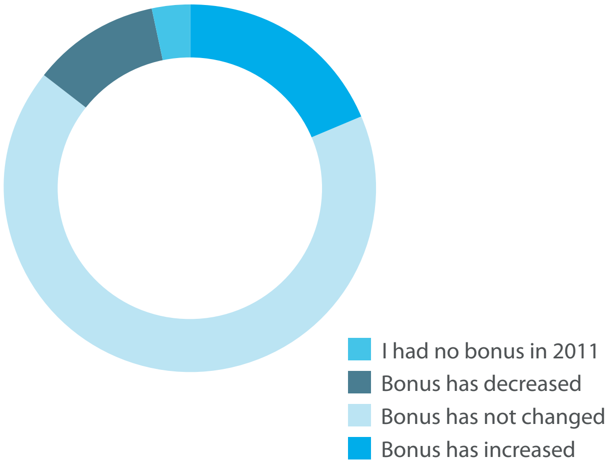


Figure 8 Change in annual bonus in 2011

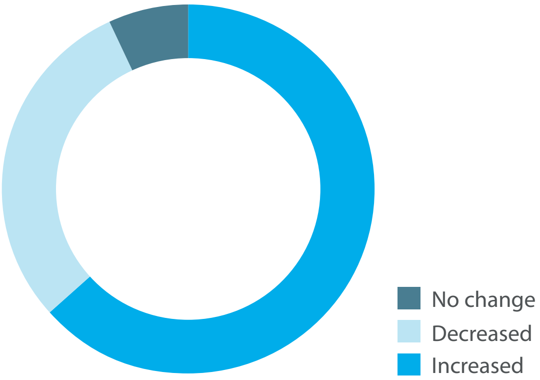


WORKLOAD AND JOB SATISFACTION

The majority of environment professionals are happy in their work – more than two-thirds (68.2%) are either satisfied or very satisfied in their roles. According to their feedback, this contentment is due mainly to intrinsic factors associated with respondents' employment, such as enjoying the interesting and challenging nature of their work, being able to make a difference in their organisation or community, and having a varied role at work.

Of the 1,209 respondents providing details of job satisfaction, 36% say they enjoy their work and/or they find it challenging, and/or interesting. A quarter report the source of their satisfaction as being able to make a difference in their organisation or community. Only 3% said that good pay and benefits gave them a high degree of job satisfaction.

Figure 10 Change in workload in 2011

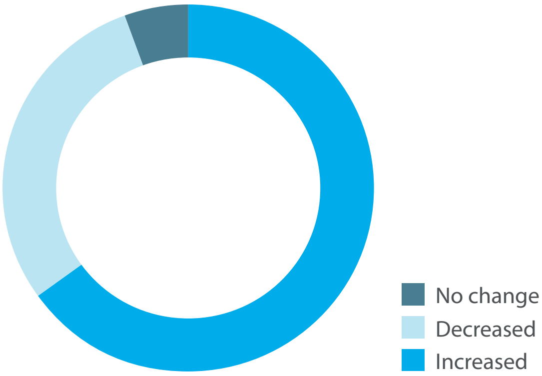


Some respondents who are not happy in their jobs provided anecdotal feedback on why this is the case. Reasons are many and varied, but a key one is a lack of development potential in their role. This was reported by 23% of those providing feedback. Most of the other main factors contributing to an absence of job satisfaction relate to organisational issues such as perceived poor management, a lack of strategic direction, too much pressure and a lack of financial resources. In 17% of cases, disatisfaction is due to a perceived lack of commitment by the organisation to the environment.

Survey respondents were also asked if they had experienced any changes to their workload over the course of 2011, in respect of its scope and variety and the amount of work they were expected to complete. As figures 9 and 10 show, almost two-thirds of members report an increase in the scope and variety (65.3%), and/or quantity (63.9%) of their workload in 2011.

The first type of change – more varied work – could have a positive impact on the quality of an individual's working life, given that one of the main factors contributing to respondents' job satisfaction is the interesting and challenging nature of their work. It is less likely that the second type of change – an increase

Figure 9 Change in scope and variety of workload in 2011

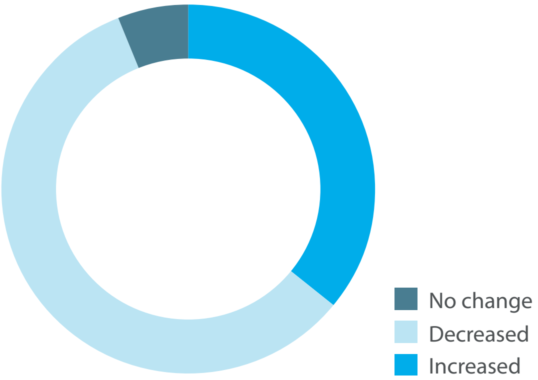


in the amount of work – has the potential to have a similarly positive impact on environment professionals' job satisfaction levels. As figure 11 shows, more than one-third of respondents (35.8%) report a rise in the number of hours worked in 2011. Examination of the feedback supplied by the 291 respondents giving reasons for their disatisfaction at work reveals that 17% are unhappy due to having too much work and/or insufficient time to complete their work, while 12% state that a lack of resources is the reason for their disatisfaction.

Figures from the Office for National Statistics (ONS) show that in 2011 full-time employees in the UK worked some of the longest hours in Europe, working an average of 42.7 hours a week, compared with the EU average of 37.4 hours. The ONS data also reveal that, on average, managers and senior officials in the UK have a total working week of 46.2 hours.

Bigger workloads and longer hours can increase the potential for an individual to experience stress at work. The Chartered Institute of Personnel and Development's 2011 annual sickness absence survey found that stress, for the first time, is the most common cause of long-term sickness absence across the UK workforce. There was a particular increase in stress-related absence among public sector organisations.

Figure 11 Change in working hours in 2011



EMPLOYEE BENEFITS AND PROFESSIONAL DEVELOPMENT

Respondents were asked to specify the non-salary benefits they receive from their employers, and the results are shown in figure 12. Living and working in the digital and communication-focused age dominates the top three benefits on offer. Being provided with a mobile phone or "personal digital assistant" (PDA) tops the chart of the most common type of benefit, followed by a contributory pension scheme and being provided with a laptop or home computer.

We also asked respondents if their employer provides financial support for professional development. Almost eight respondents in 10 (79.5%) report receiving support from their employer. About 90% of environment professionals undertook some form of professional training in 2011. The most popular way to keep knowledge and skills up to date is by attending events or conferences (63% of respondents) followed by reading key materials (44.1%) and attending a continuing professional development workshop (38.7%). Less common professional development approaches are attending a vocational or academic course (18.5%) or mentoring (13%).

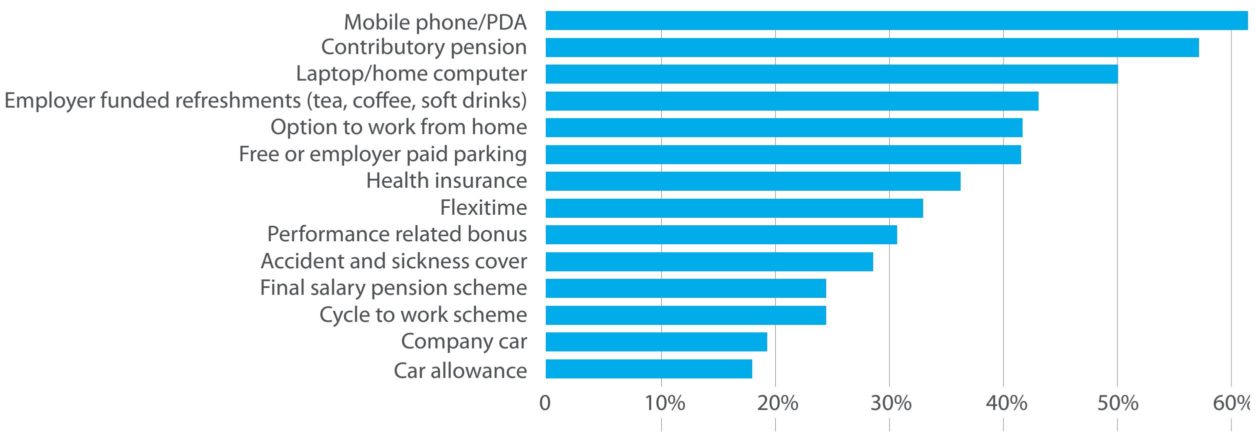
"I am working at the cutting edge of low-carbon technology, delivering economic growth, jobs, skills and environmental improvements. Who could ask for more?"

"I reduced my firm's abatement costs by more than £100,000 a year by eliminating the need for carbon abatement."

The main reason that prompts respondents to undertake professional development activities is to develop their knowledge and skills for career progression purposes (43.9% of respondents). A further three in 10 (30%) do so in order to develop their knowledge and skills for their current role. A lack of time (31.7%) and no budget (28.7%) were the two most common reasons why no training was undertaken in 2011.

Survey participants were also asked how they find out about new products and services within their remit. The main source, used by 76.1% of professionals, is *the environmentalist*, IEMA's monthly magazine, followed by internet search engines (70.2%).

Figure 12 Employment benefits received by more than 15% of respondents



More information on this year's survey, including a breakdown of IEMA members' pay by region, is available online at lexisurl.com/iema11913.

You can also compare the 2012 results to a full analysis of last year's IEMA practitioners' survey, which is available online at lexisurl.com/iema11912.

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Every little bit helps suppliers

Tesco reveals the innovative activities it uses to encourage its diverse supply chain to adopt more carbon-efficient operations. ***the environmentalist*** reports

In 2009, Tesco set itself the ambitious target of reducing the carbon emissions of the products in its supply chain by 30% by 2020. As one of the largest retailers in the world, selling more than 70,000 different products, the challenge is considerable – the carbon emitted in growing, manufacturing, processing, transporting, retailing and using its products adds up to about 10 times the supermarket chain's direct carbon footprint.

Tesco has been cutting its carbon emissions for years as part of its climate change strategy to become a zero-carbon business, in terms of its own direct carbon footprint, by 2050. As a result, it has reduced its energy costs by more than £200 million annually. The retailer already has several zero-carbon sites in its property portfolio, including UK zero-carbon stores in Ramsey, Bourne and Welshpool, a zero-carbon training academy in Korea and a new energy-efficient distribution centre in China. By relocating distribution centres to better service stores, reducing maximum fleet speed and introducing bigger lorries, Tesco now emits 20% less carbon per case of delivered goods than in 2007.

A collaborative approach

Unsurprisingly, Tesco's supply chain is a huge and complex web – it has thousands of suppliers across the globe, some of which are huge multinationals themselves, others small local growers producing one specific product for the retailer. Through top-level analysis, Tesco knows that approximately 55% of the carbon footprint of the products it sells in the UK arises from its supply chain, with about 10% of the remaining emissions attributable to Tesco's distribution and retailing operations, and up to 35% from customer use and end-of-life disposal.

From the outset, although the retailer has taken a leadership position on reducing emissions in its supply chain, it has been determined to achieve its environmental aims through collaborative partnerships with suppliers. As Andrew Yeo, head of supply chain carbon reduction, comments: "We don't pretend to be the experts, and some of our suppliers may have better examples of good practice than us – it's just as much about our suppliers educating us, and each other. We have not imposed any hard and fast standards for our suppliers to meet because it's about us working together to reduce our collective carbon footprint."

Yeo says that Tesco is still developing a real understanding of the detail of its supply chain carbon footprint – not surprising, given the extent of its supply chain activities. In 2010, the company asked all suppliers to its UK business to complete questionnaires on their carbon-reduction, water-saving, waste and packaging projects.

Since 2008, it has also measured the carbon footprint of about 1,100 of its products, the largest footprinting effort that any retailer has undertaken to date and a huge investment on the part of Tesco, says Yeo. Around half of these product footprints have now been certified by the Carbon Trust and a significant number are labelled with the Carbon Reduction Label (see p.5).

Because of the scale of the challenge – and therefore opportunity for substantial carbon reduction, Yeo is quick to point out – Tesco has adopted a targeted approach to working with its suppliers.

This strategy applies to the areas of the supply chain Tesco focuses on first and the type of projects it initiates – it makes sense for the retailer to concentrate on "carbon hot spots" as these frequently represent the biggest opportunities to cut carbon.

As part of this work, Tesco is running several pilot projects to drive carbon reductions across its supply chain (see panels). Although these initiatives are concentrated mainly on food production and transportation, and the larger-volume sales, Tesco is also looking to measure the carbon impact of all the clothing products it sells.

Having done so, it will target the hot spots in manufacturing and develop best practice that can be shared across the industry. One example is working with Tesco's clothing and electrical suppliers in China, helping them to be more energy efficient and retrofitting their factories accordingly.

The knowledge hub

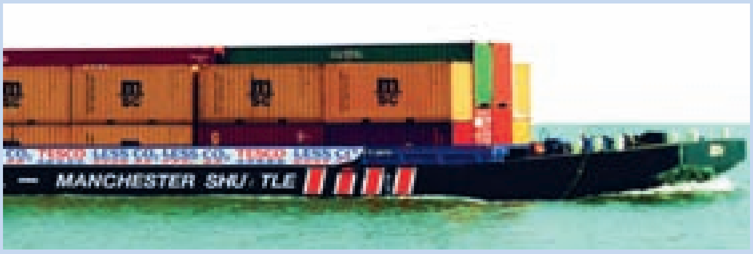
An illustration of Tesco's collaborative approach to encouraging more carbon-efficient behaviour across its supply chain is the more than 350 suppliers in over 10 countries that have joined the retailer's online "knowledge hub".

The hub is a web-based forum for suppliers to share carbon-reduction experiences through a variety of seminars, discussions and educational visits.

The number of subscribers to the forum has increased steadily since its launch in 2010. Managed by 2degrees, a specialist online sustainability network, the hub hosts fortnightly webinars and other internet-based events, not even necessarily involving Tesco's own input.

"The online forum is not about us talking to suppliers necessarily," comments Yeo. "We invite guest speakers and often the dialogue and information exchange between suppliers is completely independent of our involvement – although 2degrees very actively manages

BY THE GLASS



As a high-selling and potentially high-carbon product, given its typical production and transportation patterns, wine is an obvious choice for a carbon-reduction project. Tesco has particularly focused on reducing emissions in the packaging and transit of wine, looking at opportunities for bulk distribution and local bottling.

The retailer is working with some of its bigger suppliers to ship the wine in large containers and bottle it in the UK – this method saves dramatically on carbon emissions compared with the carbon footprint from shipping wine in bottles across the globe.

In 2007, the supermarket chain also launched its first "wine barge", a supertug carrying huge wine tanks from abroad via Liverpool Port and destined for bottling plants close to Manchester. From the outset this new approach succeeded in taking 50 lorries off the road every week and reducing carbon emissions by 80%.

Working with suppliers to make the bottles more lightweight is the other main focus of Tesco's wine initiative. So far this has involved reducing the weight of the glass in one bottle from 550 grammes to 350g, greatly cutting the overall weight of the bottles during transportation and aiding more carbon-efficient end-of-life disposal too.

But care has to be taken when developing these innovative, carbon-reduction solutions, says Andrew Yeo, head of supply chain carbon reduction at Tesco – if the glass was too thin, for example, it could shatter and the end result would be counter-productive. There are other considerations to take into account as well, such as customer perceptions and the compatibility of the product with the packaging. Tesco has also experimented with plastic bottling of wine, but it was not generally well received. It is also planning to trial recyclable cardboard-based wine bottles later in 2012.

THE MILK ROUND

Tesco's milk pilot builds on research by the Tesco Dairy Centre of Excellence at the University of Liverpool, where researchers have been monitoring whether giving cows different food will improve their digestion and reduce methane emissions. The retailer's analysis shows nearly 75% of its milk's CO_2 emissions are associated with the farm where it's from, in part due to the link between cows and methane.

Individual carbon footprints of dairy farms are being measured to enable farmers to compare their environmental performance, identify areas for improvement and take practical steps to reduce emissions through better on-farm practices, such as manure management.

With more than 700 farms supplying milk exclusively to Tesco, the scale of this project is considerable, and has a correspondingly large opportunity for encouraging CO_2 cuts. To help achieve this goal, the retailer is working through the "Tesco sustainable dairy group" (TSDG). The TSDG has identified four key areas to improve efficiencies and reduce costs on farms, of which one is reducing environmental impacts.

The carbon footprints of more than 400 farms are in the process of being analysed and, once complete, the TSDG plans to share good practice among its dairy suppliers through a series of regional roadshows in the coming months. Andrew Yeo, head of supply chain carbon reduction, emphasises this initiative is not about Tesco dictating new working practices to its suppliers; rather, the focus is on farmers sharing experiences, challenges and information to improve efficiency.

A key emphasis is on the cost-saving opportunities dairy farmers can realise, as well as CO_2 reductions, through practical steps.

CANNING CARBON

The carbon footprint of the iconic baked bean was calculated in 2009 and Tesco has been working with its own-brand supplier since to make operational changes to production and packaging to improve efficiency. As a result, the supplier has reduced the footprint of a standard can of baked beans by 13%; the tin-making process having accounted for the biggest proportion of CO_2 savings. It is envisaged the measures will be passed on to other canned products in future.

"When you take into account the amount of own-brand baked beans we sell in our stores, you can appreciate the scale of the carbon saving," says Yeo. "That is one of the advantages of being a large global retailer – little changes can realise huge benefits because of the scale of operations."

Tesco is now considering other, low-CO_2 packaging options such as cardboard and plastic, although environmental benefits have to be weighed together with operational and commercial considerations. For example, switching baked beans from tin cans to cartons would reduce the carbon footprint of the packaging itself, but would have knock-on effects with slower production rates increasing electricity consumption as the filling machines would have to run for longer, and would change the product process as the beans are partially cooked in the can.

the content on our behalf to ensure it is accessible, lively and engaging. But the focus is on our suppliers sharing best practice on a daily basis to help them gain the confidence they need to invest in carbon reduction."

Tesco also promotes a number of face-to-face opportunities for suppliers to engage with its carbon-reduction goals, including a conference in March 2011 that brought together more than 200 suppliers to hear about Tesco's vision and work in this area.

In September 2011, the retailer hosted its first supply chain awards ceremony. The event showcased suppliers that had successfully reduced their carbon emissions. Yeo says there were some impressive applications from Tesco's suppliers, including GlaxoSmithKline, Arla Foods, Park Cakes, Coca-Cola, Italian tissue producer Sofidel and organic vegetable company Tio.

The award for best carbon-reduction innovation went to Branston, a supplier that completely rethought its processes and made some very ambitious investments in new technologies that have seen its energy use reduce by 40% and its water consumption by 60%.

Greenvale, one of the UK's leading potato suppliers, carried off the award for best carbon-reduction strategy for introducing measures such as wind turbines, "cascade" water recycling plants, solar PV, LED lighting, a refrigeration replacement scheme, a motor replacement policy and staff awareness training.

Robert Wiseman Dairies won the best employee engagement award for developing an "environmental excellence roadmap", a flexible tool allowing sites to develop their own local carbon-reduction campaigns. In East Kilbride, the dairy came up with the idea of a site treasure hunt, encouraging individual employees to identify opportunities (also known as "treasure") to reduce the site's environmental impact. When treasure was identified they were provided with the tools and coaching to deliver the project themselves.

One simple idea was to put red, amber and green stickers on electrical equipment in the offices to identify when they can be turned off – green can be turned off if not in use, amber can be turned off at the weekend only and red can't be turned off at all. Other ideas included turning off chill compressors and compressed air supplies to certain areas after production and not having a boiler constantly on standby. In total, employees identified more than 300 tonnes of carbon savings a year through their treasure hunt.

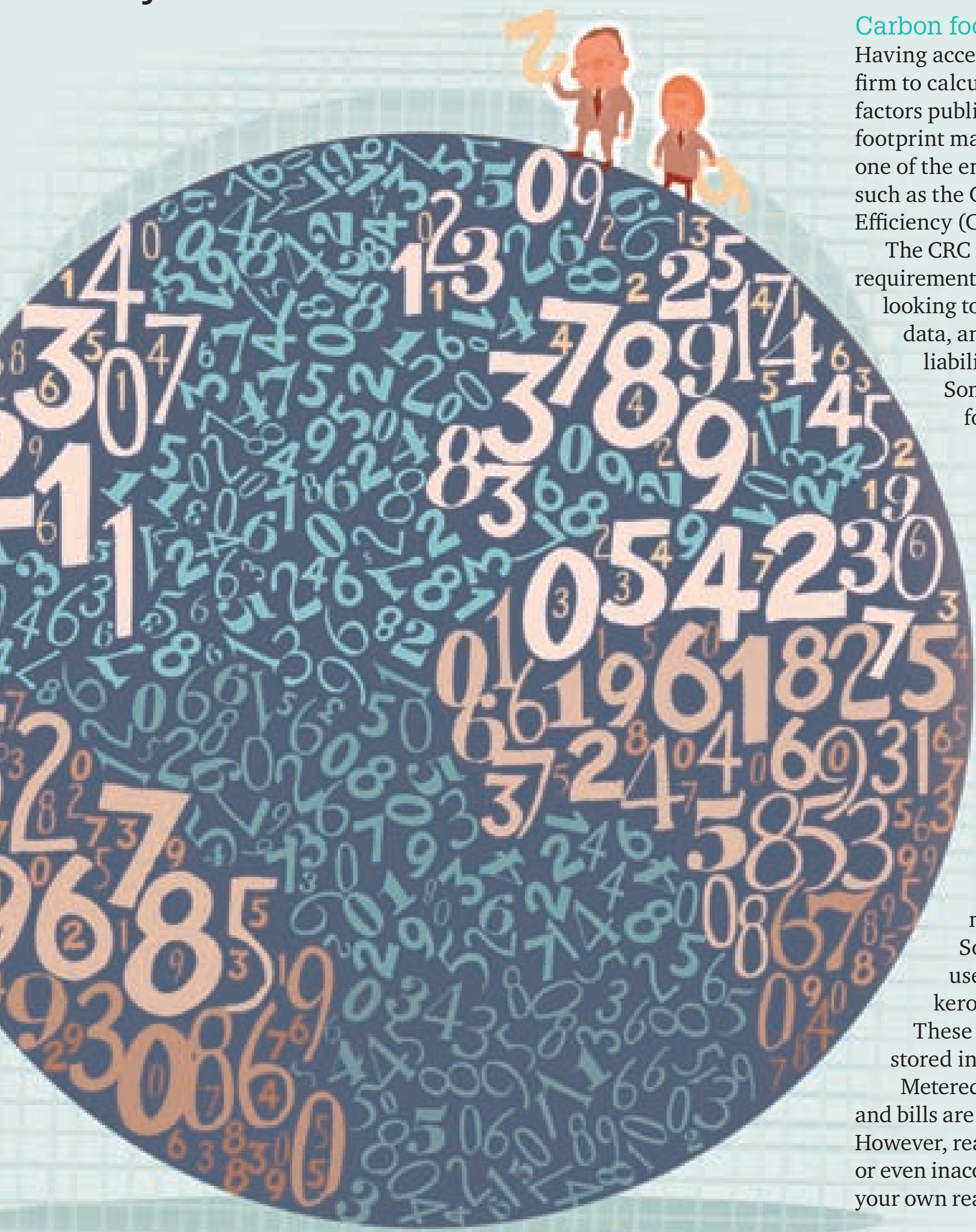
Onwards and downwards

As was noted earlier, Yeo is well aware that the challenge facing Tesco, to reduce the carbon emissions of the products in its supply chain by 30% by 2020, is an ambitious one. And the path ahead is a long one. But it is a journey that Tesco is fully committed to completing.

As Yeo concludes: "Combating the impact of climate change is a huge undertaking, but as a responsible global company we want to do the right thing. Developing a more sustainable business will help us to build more robust and resource-efficient operations and supply chain – therefore our environmental aims are inextricably linked to our commercial priorities."

Paying by numbers

Collecting and interpreting data effectively is the key to successfully managing energy, says **James Patterson**



It goes without saying that good data are essential for successful energy management, and yet so often information is not available, incomplete or inaccurate. So, why are good data important? What sort of data is best? How do you analyse it? And how can data streams be improved?

Good data are key to understanding annual energy costs, not only historic, but also current and projected future costs, which is essential for budgeting. Access to data is also important in controlling unnecessary energy spend. Energy-supplying companies are only obligated to read meters every two years, although most will try to read them every six months. In the meantime, they rely on estimated readings. Having ready access to good data enables organisations to check and challenge estimated bills, and to spot any mistakes in meter readings, often saving money and avoiding nasty surprises.

Carbon footprint

Having access to the necessary energy data enables a firm to calculate a carbon footprint using conversion factors published annually by DECC. A carbon footprint may be essential if a company is affected by one of the emissions-based regulatory mechanisms, such as the Carbon Reduction Commitment Energy Efficiency (CRC) scheme.

The CRC is comparatively new and the data requirements are onerous, so many participants will be looking to improve the quality and accuracy of their data, and to use this to calculate the potential cost liabilities from emission allowance purchases. Some may also wish to disclose their carbon footprint data publicly.

Good data are also vital to any programme seeking to cut energy use and its resulting costs and emissions. Data help to quantify potential savings against capital investments, and to verify that these were achieved post-project. Also, when trying to save energy by changing employee behaviour, access to data helps to put the benefits in context by expressing the monetary value of savings, for example, and is key to ensuring buy-in.

Reading meters

For most organisations the main fuels used will be natural gas and electricity, which are supplied from a distribution network and measured by an inline meter. Some users in more remote locations may use other fuels, such as gas oil (red diesel), kerosene or liquefied petroleum gas (LPG). These are generally supplied on a bulk basis and stored in local tanks.

Metered energy sources are read by the supplier and bills are then submitted for the energy used. However, readings, as already noted, may be sporadic or even inaccurate, so it is a good idea to start taking your own readings. Larger electricity and gas users may have automatic meters that the energy supplier can read remotely (see below).

Reading an electricity meter is usually straightforward, but there are some things to be aware of. The key measure on which bills are based is units of kilowatt hours (kWh). Meters may have only a single register, through which electricity is charged at a flat rate. If the site is supplied on a dual-rate tariff with different rates for daytime (07.00 to midnight, sometimes referred to as "normal") and night-time (midnight to 07.00, sometimes referred to as "low"), you should record both figures.

More complex automatic meters may have several registers recording kWh at different times of day as well as reactive power (sometimes used by electricity firms to charge for inefficient power distribution and measured in kVArh – kilowatt amps reactive hours), instantaneous demand (in kW or kVA – kilowatt amps) and monthly maximum demand. These registers are accessed by pressing buttons on the front of the meter to cycle through the different readings. Check against your bill to see what you are charged for and record the figures.

Gas meters will have a single register on the body of the meter. If the meter is fitted with a device for automatic reading, this will be located nearby and may have its own register. Gas meters record volume, measured either in cubic metres (cu, m or m^3) or cubic feet (cu, ft or ft^3) or tens or hundreds of cubic feet. The units of measurement will be marked on the face of the meter, and should be stated on the bill.

Meter reading frequency tends to be dictated by size of energy spend. For sites spending around £100,000 a year, monthly readings will suffice. For larger sites, weekly readings may be preferable, while for very big sites, daily readings might be the norm, although these sites are likely to be fitted with automatic meter readers (AMR), giving high-resolution data.

To measure the use of batch or bulk fuels, such as oil or LPG, a meter is fitted between the storage tank and the user and should be read regularly. Oil meters will generally read in litres. LPG will be measured in m^3 or ft^3, as for natural gas. If no meter is installed, fuel usage can be approximated, calculating the volume consumed by subtracting the stored volume (obtained by gauge or dipstick) from the delivered volume.

Basic data analysis

For all fuels, the aim should be to convert the meter readings back to common units of energy. In most cases this will be kWh.

As electricity is measured in kWh for most small and medium-sized users, this is straightforward. Gas, on the other hand, is measured in volume terms and must be converted to units of energy. This is a slightly complex calculation involving several steps, and is explained on the gas bill.

Meter readings taken in units or cubic feet are first converted to cubic metres and then converted to energy by application of joules per cubic metre (MJ/m^3 – this varies between about 38 and 40 in the UK). Finally, the energy is converted into kWh by application of a further conversion factor (1 kWh = 3.6 MJ).

For oil or LPG, the conversion is straightforward, and there are a number of conversion factors to convert volume or mass into kWh for a range of fuels.

Having got the meter readings, set up a simple spreadsheet to record these on a weekly or monthly basis, and use calculation cells to automate the conversion from meter reading units to kWh. Further calculation can be made to convert energy use in kWh into carbon emissions, using standard factors. Add in meter reading, consumption and cost data from bills and use meter readings to compare against what is billed. This alone can produce some surprising savings!

You may wish to include floor area, activity or production data and start to derive some benchmarks, such as kWh per m^2 or kWh per tonne by energy source. Use these to measure your performance against published benchmarks, or to compare similar sites to identify best and worst performers.

Benchmark data are also handy for gauging the potential for improvement, for example by comparing site performance against typical and best-practice performers. After having built up a few months' or years' worth of data, look at long-term trends and seasonal variations.

There are techniques for normalising or correcting consumption to account for variations in weather, which has a big influence on energy use for space heating or cooling. More advanced techniques include regression analysis, in which energy use and an influencing variable – for example, external temperature (expressed in degrees), days of production or other activity – are plotted against each other in an X-Y chart or scattergraph. This can help to identify poor control and wasteful practice, and is a key tool in effective energy management, used in monitoring and target setting.

Automatic meter readings

Larger sites will have a form of AMR installed on the electricity supplies, known as half-hourly metering. Large gas supplies will operate on a similar basis, with a data logger connected to the meter.

In both cases, the data should be available to the user via the supplier. This type of metering will soon become widespread with the roll-out of the government's planned smart-metering strategy, but in the meantime users can get ahead of the game by voluntarily installing their own AMR equipment.

AMR is invaluable in identifying inefficiencies and cutting costs. Obvious areas for savings are higher-than-necessary baseload energy use – what is running out of hours that does not need to be? AMR can also help to identify plant and equipment programmed to start unnecessarily early, run after hours or even at weekends. All of these common errors can be rapidly identified and rectified, generating savings with a value many times more than the cost of installing the metering system.

James Patterson is associate director, sustainability and energy, at WSP Environment and Energy.

Meet the new chief examiner for the revised Associate membership standard

Associates More than 9,000 of IEMA's 15,000-strong membership of environment and sustainability professionals are Associates (AIEMA). Whether they have achieved Associate membership through taking one of the thrice-yearly open book assessments or via an approved Associate certificate course, they have all demonstrated a good level of knowledge and understanding of environment management and assessment issues, including the business benefits of environment management.

Current take-up and emerging trends have led the Institute to anticipate that the interest in Associate membership will continue to grow throughout 2012 and beyond. Because of this, IEMA is revising the Associate standard to ensure that, with some amendments and a streamlined assessment method, it will continue to serve Associates well into the future.

As part of this change – which will not affect existing Associate members – IEMA has appointed a new chief examiner for the Associate assessment to oversee the marking process, and ensure consistency and excellence. She is Helen Manns (pictured), associate dean of region, external engagement and partnerships at Northumbria University's School of the Built and Natural Environment.

Helen Manns is aiming to improve quality assurance

Associate is well established as the minimum standard an environment professional should have. If we want many more people to reach this level, we need to ensure the standard continues to uphold this reputation

Manns has more than 20 years' experience in public sector and academic environmental roles and currently holds board positions on the Environmental Association for Universities and Colleges and Constructing Excellence in the North East, the regional partner to Constructing Excellence, the organisation charged with driving the change agenda in construction, housing and regeneration.

She has also been an Associate assessor, providing her expertise since 1999, when IEMA was first formed. Since then she has marked hundreds of Associate open book papers and was part of a working group that, from 2009, has been reviewing the Associate standard.

"Associate is well established as the minimum standard an environment professional should have," she explains. "If we want many more people to progress to this level of membership, then we have to be certain that the standard will continue to uphold this reputation. So, as a group, we spent some time looking at the standard and what we now have has even more clearly focused learning outcomes so people know exactly what they will have to do in order to pass the assessment."

Manns explains her new role as one of quality assurance, which she defines as "having an overview of the whole of the process, from setting the assessment tasks to writing the marking scheme, but also monitoring that standard of marking across all of the examiners, ensuring accuracy and – most importantly – consistency in the marking". This quality-led approach ensures that the standards and marking systems for Associate membership will continue to provide rigour and credibility.

The revised Associate standard aligns with the IEMA environmental skills map (lexisurl.com/iema11212), which was launched last year and which, for the first time, provides professionals with a clear framework to plot accurately their suitability and effectiveness for a role.

Having been involved in the working group to revise the Associate standard, Manns says that, while it is likely to prove challenging, she is very excited at the prospect of her new role beginning in the coming weeks. "I think it's come at the right time and all of what we are doing will move us forward. So yes, very exciting ... however, I will still be doing the marking as well – I don't get out of that!"

Claire Kirk, IEMA's professional standards manager, explains that the Institute has worked with members, the working group, the professional standards committee (PSC) and, of course, Manns to revise the standard, to future-proof the Associate level of membership. "Ensuring that the grade is fit for the future gives me confidence that Associate members will continue to have the knowledge and skills required and valued by businesses today and in years to come," she said. "I'd like to welcome Helen to the position of chief examiner and thank those involved in the changes for all of their support and hard work."

Manns' appointment has also been welcomed by Professor Martin Bigg on behalf of the IEMA PSC. "We are very pleased that Helen has joined us as chief examiner," he said. "She is already working with the PSC on the new learning outcomes and assessment criteria for Associate that have recently been approved in principle by the IEMA council. We look forward to working with her on the assessment of Associate membership."

Further details on the changes to Associate membership that are happening throughout 2012 will be revealed in coming issues of *the environmentalist*.

Working to shape the future

How IEMA is taking action to ensure members' views influence the direction of future environmental policy and legislation

IEMA's engagement in national government and wider policy development involves and affects all members, as well as the environment profession as a whole. That involvement includes responding to consultations, attendance at research workshops and direct input – by providing expert knowledge and feedback from the profession – to help fashion new government policies and legislation. A recent example of this was IEMA's input into the consultation on mandatory greenhouse-gas reporting.

To ensure that IEMA focuses on areas that are of most relevance to members, the Institute's horizon scanning and policy work is being managed by a central policy and practice team – Martin Baxter (executive director, policy), Josh Fothergill and Nick Blyth (policy and practice leads). The team's role is to ensure that IEMA – and its members – has input into key environmental and sustainability policy developments.

Working with members, practitioners and wider stakeholders, the team's priorities are as follows:

- **Horizon scanning** – identifying forthcoming developments related to the fields of environment and sustainability professional practice, assessing their relevance to members and highlighting key issues.
- **Policy activity** – ensuring that IEMA actively participates in key policy developments that will influence the future progress of the environment profession, and that members are aware of, and contributing to, such developments.

The team's work will focus on developments that affect the environment profession and its capacity to achieve change, rather than directly on environmental issues. IEMA's policy activity is structured around the eight horizons set out in the following panels.

Member involvement in relation to IEMA's policy work has already started, with more than 400 taking part in the ISO 14001 workshops earlier this year. Further opportunities for members to engage in the policy activities areas described below will continue throughout 2012.

Skills and the green economy

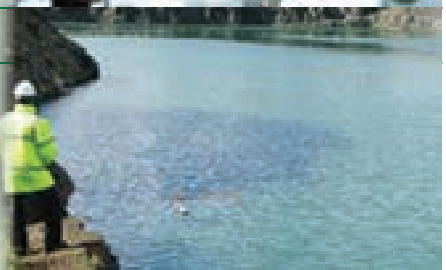
IEMA aims to ensure the government recognises the crucial role environment skills, knowledge and competence play in enabling improved environmental performance and economic ambitions relating to growth centred on greening the economy. IEMA will act to advance the profile of the environment skills agenda through promotion of the environment skills map (lexisurl.com/iema11212) – which will continue to evolve – across the whole range of government policy activities.

Leadership and accountability

Policy activity in this area focuses on corporate governance and initiatives aimed at driving leadership, assurance, accountability and disclosure related to the consideration of the environment in organisational strategy and by those with executive duties. Work in 2012 will centre on helping to shape the implementation of the government's forthcoming decision on mandatory greenhouse-gas reporting and contributing to new developments in broader environmental reporting by organisations.

Impact assessment

A long-standing action area for IEMA and one that continues to play a key role. The horizon has a broader focus than just EIA and SEA, including policy-related impact assessment, work focusing on the Habitats Directive and wider activities to facilitate better environmental decision making. Policy in this area during 2012 will focus on activities that will influence the key tools used by IEMA members, with the European Commission's review of the EIA Directive a key focus.



Management, auditing, regulation and compliance

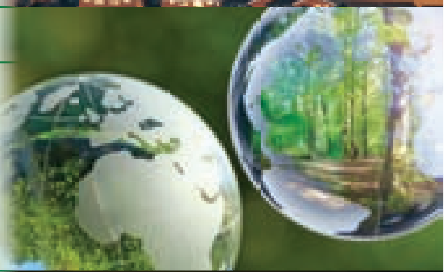
Another traditional area for IEMA activity is environment management, auditing, regulation and compliance, and the practical tools used by environment professionals to manage the environment on a daily basis in business operations. Activity in this area in 2012 will relate to the review of the ISO 14001 management systems standard and the development of tools related to reducing the environmental impact of products. Progress of the government's ongoing Red Tape Challenge is also being tracked.

Climate change and energy

In 2012, IEMA's policy activities will include: input into DECC's simplification of the Carbon Reduction Commitment Energy Efficiency scheme; contributing to the development of the first national climate change adaptation programme; and working with the government once a decision is made on progressing mandatory greenhouse-gas reporting by organisations. It will also include action on the issues identified in IEMA's climate change position statement (lexisurl.com/iema11930).

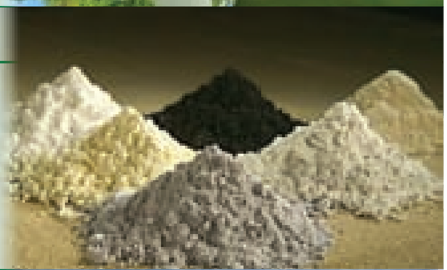
Ecosystems services and biodiversity

Following the publication of last year's national environment white paper, action in this area in 2012 will involve working to influence greater potential benefit from policies designed to offset carbon or biodiversity effects and build greater understanding of member knowledge and action in this area. It will also explore existing member understanding and activity related to recognising the value of nature and placing a financial value upon it.



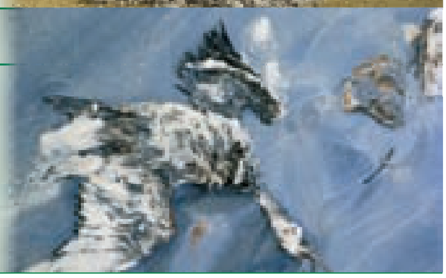
Resources – materials, waste and water

The first half of the year will be dominated by developing IEMA's response to the European Commission consultation on revisions to the sustainable consumption and production action plan, which is a key aspect of its objectives for a resource-efficient Europe, and by raising awareness of issues set out in Defra's forthcoming resource security action plan (RSAP). IEMA has already been active in helping the environment department develop the RSAP.



Pollution – air, water, soil and nuisance

Prevention and control of pollution (air, land and water) is the most regulated of the four key environmental topics included in the horizon scanning process. Work in 2012 will ensure that IEMA keeps its members informed of developing areas in this field, particularly related to potential changes arising from the government's Red Tape Challenge, the results of which are due to become clear from the end of March, along with wider developments.



IEMA EVENTS

Date	Region/Time	Topic
Regional events		
28 March	North East	Corporate responsibility: examples in industry
5 April	South East	Social
12 April	South East	Green drinks (Southampton)
25 April	North West	Developing environmental professional skills
Webinars		
29 March	12.30–1.30pm	Cumulative effects in EIA
26 April	12.30–1.30pm	Screening development for EIA
Membership workshops		
19 April	South East	Associate open book workshop (Southampton)
25 April	South East	Full and CEnv membership workshop (Maidstone)
26 April	Yorkshire & Humber	Associate open book workshop (Leeds)

IEMA Downloaded gets a makeover

Online support The Institute's monthly newsletter, IEMA Downloaded, has been offering the latest IEMA news, consultation opportunities, event details and discounts since October 2005. As members get news from *the environmentalist*, environmentalistonline.com, and its monthly e-newsletter and Twitter feed, and IEMA news is communicated through iema.net, Twitter and LinkedIn, Downloaded's format is altering. From 15 March, IEMA Downloaded will be an email sent to all members in the middle of each month and featuring that month's five top downloads. These will include the latest e-briefings, special reports, articles, round-ups of IEMA's media coverage, factsheets and links to professional development resources.

Katie Lumley

Researcher and sustainability campaigner at liftshare.com

Why did you become an environment professional?
I am a lover of the great outdoors. Growing up in Jersey, in the Channel Islands, I have spent much of my life outside, normally in or under the water! After witnessing the damaging effects we can have on our whole environment, I couldn't just sit back and watch.

What was your first experience of working within an environment role? While I was studying for my degree I spent five months working as a research assistant for the Fijian government's fisheries department. I was responsible for collecting data on the physical condition of the region's coral reef biodiversity and communicating these to stakeholders, to help set up locally managed marine protected areas.

How did you get your first environment job? Through IEMA actually. During my masters course I joined IEMA and attended a regional conference: "Making the business case for sustainability". At this event I met Ali Clabburn, founder of liftshare.com – the website for people looking to share car journeys. Ali offered me a graduate position at the company when my studies were finished.

How has your career progressed so far? Since joining liftshare, I have progressed to managing a number of large projects encouraging sustainable behaviour change. This includes the creation of myPTP, a new web-based tool that provides personalised travel plans for individuals in organisations.

What does your current role involve? My main duties are to manage and monitor the company's environment management plan, compile and coordinate car-sharing research, alongside lobbying relevant stakeholders and interested parties, and respond to consultations on sustainable transport. And I am also responsible each year for auditing the liftshare-system statistics.

What's the best part of your work? The ever increasing membership of the liftshare.com network. It is testimony to the increasing awareness of the need for sustainability and the importance of behaviour-change programmes in achieving this transition. I also enjoy working for a company with green values at its core. The support and commitment we have from our senior management team makes implementing our own environmental management plan both exciting and achievable.

What's the hardest part of your job? Having constantly to convince people that the environment matters. Often if individuals cannot see the direct benefits of behaviour change, persuading them to make a change can be really difficult.

What was the last development/ training course/event you attended? A course on travel planning for businesses held by the ACT Travel Wise Association – a network for UK organisations working to promote sustainable travel.

What did you bring back to your job? A better understanding of the difficulties facing environment professionals in moving senior management teams and employees from resistance to commitment. It is vital to know your audience and respond to them specifically in order to gain support for your initiatives.

What is/are the most important skill(s) for your role, and why?
Passion and communication. Without a real drive to convey the importance of sustainable behaviour, you cannot deliver real change in organisations. You also need strong project-management skills and determination to be able to achieve change.

CAREER FILE

Qualifications
MSc environmental management, BSc environmental geography and international development

Career history
July 2011–now: Researcher and sustainability campaigner, liftshare.com

July–November 2010: Marine research assistant, working alongside the Fijian government's fisheries department and the University of South Pacific

Where do you see the environment profession going?
As more and more businesses become aware of their environmental commitments and impacts, I see the profession growing, hopefully to form part of the core management team, as opposed to being seen as an add-on and an inconvenience.

Where would you like to be in five years' time? I would like to gain Associate IEMA membership, continue my personal development within the environment profession and to be studying towards a qualification in environmental law.

What advice would you give to someone considering going into the environment profession?
Do it! I have never looked back. Keep up to date with the industry through joining an organisation such as IEMA, attend events that interest you, network with other professionals and share best practice. And finally, be passionate about creating change and you will achieve it.

EVONIK INDUSTRIES

UK Compliance Manager

Evonik Goldschmidt UK Limited is part of the Consumer Specialties Business Unit of Evonik Industries and operates two chemical manufacturing sites at Milton Keynes and Flimby. The sites produce a range of speciality surfactants and detergents for primarily the Personal and Household Care industries.

Operating out the Milton Keynes site this role will have responsibility for overseeing the EHSQ operations of both sites which will entail frequent travel.

Key Duties:
- Responsible for defining the policies and demonstrating compliance of the company to the General Manager.
- Execute and deliver best practices in order to meet, if not exceed compliance with regulatory and company requirements for recognised standards.
- Responsible for ensuring that company senior management is aware of their legal and corporate EHSQ responsibilities.
- Manage, lead, mentor and develop the EHSQ team.
- Identify and manage strategic opportunities and risks to improve business resilience.
- Be the guardian of the company's management systems including auditing and monitoring of compliance.
- Provide support and reports to senior management.

Alongside requisite experience the candidate will be a decisive and organised individual, self-motivated and able to work without supervision, with excellent communication, interpersonal and analytical skills to meet all stakeholders' requirements.

Specific requirements:
- Minimum qualification to Associate IEMA Membership or equivalent.
- Experience of working at a Top Tier COMAH/Seveso site
- NEBOSH Diploma or equivalent.
- A sound understanding of management systems.

A full driving licence is required. A competitive package is offered, with the usual benefits associated with a multi-national Company.

To apply please send your CV and covering letter to Clive Gould, General Manager at clive.gould@evonik.com. Closing date: 12th April 2012

Further company details can be found on www.evonik.com

Senior Planner/EIA Co-ordinator

£30,000–£40,000 Chester & South Manchester

axis

AXIS is one of the UK's leading Planning and EIA consultancies specialising in providing planning advice and technical support for major infrastructure/development projects across the UK. The Company has a demonstrable track record in securing planning consent for complex development projects and is seeking to appoint Senior Planning Consultants and EIA Co-ordinators to reinforce our reputation for excellence.

EIA co-ordination is a key component of the majority of our planning applications and the successful candidates will have the opportunity to contribute on a range of exciting major infrastructure, minerals, waste, renewables and commercial/industrial projects.

Desired experience

We have opportunities for Senior Planners/EIA co-ordinators in both our Chester and South Manchester offices. Should you wish to be considered for these positions, you will need to:
- be MRTPI/IEMA or have a strong technical background in environmental consultancy aligned to some knowledge of the planning system, but wishing to expand this area of your work (3 years minimum);
- have private consultancy or relevant local authority experience;
- be familiar with EIA development (ideally, but not essentially, in the renewable energy or waste/minerals sectors);
- be capable of leading and co-ordinating planning projects.

Person specification

- Excellent written and verbal communication skills;
- Ability to work under own initiative;
- Strong team player;
- Proven technical ability, commercial awareness and project management skills;
- Commitment to meeting client requirements and producing high quality reports.

AXIS offers competitive salary together with a bonus scheme, pension and other benefits.

Applications should be submitted by email with a full CV to maxinecubbins@axisped.co.uk. Please include any preference for Chester or South Manchester office. Website: www.axisped.co.uk. Job description is available on request.