INTERVIEW 16
A sceptical view
Bjørn Lomborg on why the current global approach to climate change is wrong

STRATEGY 27
Sleeping soundly
How Whitbread is setting new sustainability standards for the hospitality sector

DEVELOPMENT 30
The big MACC
Why marginal abatement cost curves should be in every professional's toolkit

the environmentalist
environmentalistonline.com
February 2011

EU pollution control: seven into one will go

iema
Institute of Environmental Management & Assessment

Essential Update for Environmental Managers
1 Day Seminar

CRA (Europe) Ltd is pleased to announce its one-day **Essential Update for Environmental Managers** seminar. The seminar is targeted at environmental and HSE managers and professionals needing to keep abreast of recent and forthcoming developments in EHS management techniques, management systems standards and key legislation with implications for their businesses and operations.

The seminar will include presentations from CRA specialists, with case studies illustrating the implications and opportunities provided by these forthcoming developments. The event will also provide a forum for discussion and networking. The key seminar sessions will address:

- *Effective management systems auditing – the revision of ISO 19011 and its extended guidance for managing audit programmes, conducting audits and evaluating auditor competence;*
- *New management systems standards, for integrated systems and asset management, and how they can be used to improve existing systems and processes;*
- *Developments in environmental legislation – the Waste Framework Directive and the Duty of Care, REACH, the Industrial Emissions Directive, and others;*
- *GHG Management – standards for footprinting and accounting, requirements of the EPC Regulations and* ***the latest consultation on the simplification of the CRC Energy Efficiency Scheme.***

Where: ***National Motorcycle Museum, Solihull***
When: ***10th March 2011 (9.30am – 4.00pm)***
Cost: ***£75 plus VAT per delegate (includes lunch)***

To book this or any other CRA training, contact:
Laura Tebbutt on ***+44 (0) 115 965 6700***
E-mail: ***training@cra.co.uk***
See our website: ***www.cra.co.uk***

CRA's IEMA-approved Carbon (GHG) Accounting and Management Course will be held in London on 23rd - 24th March 2011. It includes guidance on complying with the CRC. For details see **www.cra.co.uk** or email **carboncourse@cra.co.uk**.

Conestoga-Rovers & Associates (CRA) is an international environmental consultancy, with European operations based in Nottingham. CRA (Europe) Ltd has been delivering high-quality environmental consultancy services since 1995 and specialises in:

- *Environmental Management Services – EMS, integrated management systems, CSR, carbon/GHG accounting, compliance auditing, EHS auditing, environmental metrics, strategy development and training;*
- *Industrial Operations Support – Environmental Permit management, BAT, EIA, air emissions, water emissions, energy assessments, health and safety services, waste and resource efficiency; and*
- *Property and Land Services – property transaction advice, site investigations, risk assessment, remediation and geotechnical investigations.*

CONESTOGA-ROVERS & ASSOCIATES (EUROPE) LTD
UK Headquarters in Nottingham
3,000 Staff in 90+ Offices
Tel: **0115 965 6700** Fax: **0115 965 5282** Email: **info@cra.co.uk**
www.cra.co.uk **www.CRAworld.com**

FEBRUARY

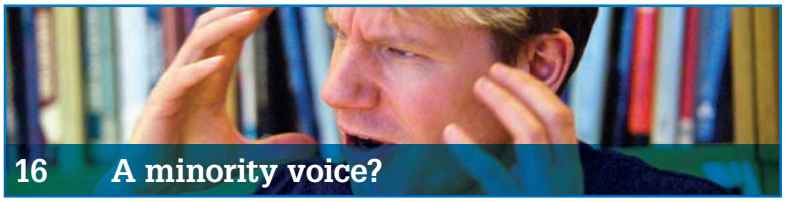
NEWS

BRIEFING

REGULARS

IEMA NEWS

FEATURES



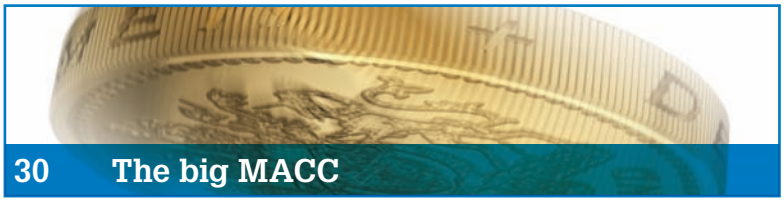
Bjørn Lomborg tells Paul Suff why it would be better if the world channelled its resources into tackling malaria rather than meeting Kyoto Protocol targets

Stephen Tromans QC finds the momentum is growing to revise the 25-year-old EU environmental impact assessment Directive

the environmentalist provides a guide to the long-awaited industrial emissions Directive, which came into force on 6 January 2011

High legal costs in the UK are barriers to environmental justice, says an international committee. Elisabeth Jeffries tries to find a solution

Whitbread has recently opened its second "eco-friendly" Premier Inn. Paul Suff reports on the environmental credentials of the Burgess Hill hotel



Marginal abatement cost curves have a place in every environmentalist's toolkit, says Niall Enright. Here, he explains how MACCs work

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

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

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

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

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

Senior sub-editor
Adella Peyton

Group advertising manager
Sophie Wright
tel: 020 8212 1913
sophie.wright@lexisnexis.co.uk

Recruitment advertising
Elaheh Umeh
tel: 020 8212 1984
elaheh.umeh@lexisnexis.co.uk

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

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

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

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

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

Advertising, subscription and back-copy enquiries to
Customer services,
tel: 0845 370 1234
The 2011 annual rate is £135.

Reprints:
Any article or issue may be purchased.
Contact Daniel Wild,
daniel.wild@lexisnexis.co.uk, tel: 020 8212 1995

Printing
The Manson Group, St Albans

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

Banking on the GIB

Up to £55 billion a year is required between now and 2020 if the UK is to meet its climate-change and renewable-energy targets. Investment on such a scale is unprecedented.

The Green Investment Bank (GIB) is seen as pivotal to raising the money needed to kick-start the transition to a low-carbon economy, but are we likely to see the creation of an institution that can deliver investment of such magnitude? That's looking doubtful. Several government departments are currently engaged in developing the business model for the GIB. The Department for Business, Innovation & Skills is publicly leading the process, but it is the Treasury that holds the purse strings and it is reluctant to agree anything that adds to the already high public deficit.

Independent analysts say that the GIB needs £4–6 billion in start-up funding if it is to raise sufficient further money from the capital markets to fund new low-carbon industries and infrastructure, but the government is providing just £1 billion, and not until 2014–15. One way of leveraging private finance is to issue fund-raising bonds, but these would have to be added to existing government borrowing and the business secretary Vince Cable recently warned the enquiry being run by the House of Commons Environment Audit Committee (EAC) that the GIB would have to operate within current fiscal constraints.

The GIB needs at least £4 billion in start-up funding if it is to raise sufficient money from the capital markets, but the government is providing just £1 billion, and not until 2014

An alternative, and less risky, option for the government is for the GIB to operate as a fund rather than a fully functioning bank, investing the £1 billion seed-corn finance and anything else that can be raised from asset sales and the private sector. That would be an understandable, but inadequate, response to the low-carbon challenge facing the UK. Cable also told the EAC that the GIB would initially be modest in scale, which suggests we are likely to get an institution devoid of bank status, at least in the short term.

If that is the outcome, then the transition to a low-carbon economy will be slower than many environmentalists would want to see.

Paul Suff, editor

Huhne orders review of feed-in tariff

Energy The energy and climate-change secretary Chris Huhne has ordered an immediate review of the feed-in tariff (FIT) amid concern that large-scale solar installations are taking advantage of the scheme that was intended to help homes, communities and small businesses generate their own electricity. "Large-scale solar installations weren't anticipated under the FIT scheme," said Huhne. "If left unchecked, they could take a disproportionate amount of available funding or even break the cap on total funding."

Although most of the more than 21,000 installations that have been registered under the FIT since it was introduced in April 2010 are domestic installations, such as solar panels, wind turbines and micro-hydro plants, evidence is mounting of more commercial-scale installations registering under the scheme. Several have now received planning permission, and the pace at which large-scale projects are seeking to register is increasing, largely because of fear that the £40 million cuts from the scheme that were announced in the comprehensive spending review (CSR) will see tariff levels reduced.

DECC fears large-scale solar farms will use up FIT funds

DECC had been planning to review tariff levels in 2013, but says that an immediate review is necessary because the number of large solar installations already in the planning system could push FITs uptake off trajectory and may make the CSR savings difficult to achieve.

The energy department says that the review, which as well as examining tariff levels will look at scheme administration and eligibility of technologies, will be completed by the end of the year. The review will fast-track consideration of large-scale solar projects (more than 50kW), with any changes to tariffs introduced as soon as is practical. Unless the review reveals the need for greater urgency, DECC says that tariffs for smaller-scale installations will remain unchanged until April 2012. DECC has pledged that it will not act retrospectively and any changes to tariffs implemented as a result of the review will only affect new entrants to the scheme.

As part of the review, DECC is also examining the lack of uptake of FITs for farm-based anaerobic digestion plants.

Short cuts

Commission promotes resource efficiency

Resource efficiency has become the seventh and final initiative adopted by the European Commission to achieve its Europe 2020 strategy for smart, sustainable and inclusive growth. In a new communication, the commission has set out a policy framework to transform the EU economy into a resource-efficient one. Environment commissioner Janez Potočnik warned that continuing with current patterns of resource use is no longer an option, and described resource efficiency as not only a strategic necessity for Europe but also an economic opportunity that the bloc cannot afford to miss. "Through more resource efficiency, clearer long-term policies and investments in green innovation, we will strengthen the basis for growth and jobs and deliver on our climate, energy and environment objectives," said the commissioner.

Defra updates green claims guide

Advertising New guidance on how companies can promote their environmental credentials without making misleading claims and falling foul of the Advertising Standards Authority (ASA) have been published by Defra.

The guidance recommends that companies use clear language when making environmental claims. They are encouraged to follow three key steps to build consumer confidence in the environmental attributes of their products:

- ensure the content of the claim is relevant and reflects a genuine benefit to the environment;
- present the claim clearly and accurately; and
- ensure the claim can be substantiated.

The environment department claims the revised guidance will make it easier for businesses to substantiate green claims, as well as help restore public faith in environmental advertising and act as a resource for companies to help develop more sustainable products. The guide was last amended in 2003. The decision to revise it further came after in increase in the number of complaints to the ASA about environmental claims in adverts.

ASA reported in 2008 that it received 561 complaints about 410 adverts in 2007, and that it had received 218 complaints about 160 adverts by the middle of 2008. By contrast, there were only 117 complaints in 2006. The authority says that a key requirement of advertising codes – the UK Code of Non-Broadcast Advertising, Sales Promotion and Direct Marketing (CAP) and the Broadcast Committee of Advertising Practice (BCAP) codes – is that advertisers should be able to substantiate the claims they make with sound evidence.

The new Defra guide aligns with the CAP and BCAP codes as well as ISO 14021, the international standard on self-declared environmental claims, the EU unfair commercial practices Directive (2005/29/EC), and the European Commission's guidance on making and assessing environmental claims.
www.lexisurl.com/iema6179

Short cuts

Annual 3.5% emissions cut for Scotland

Scotland needs to cut its greenhouse-gas emissions by at least 3.5% a year from 2020 to 2050 to ensure that it makes an appropriate contribution to wider global efforts to reduce emissions. Reductions on this scale will mean that per-capita emissions in Scotland will fall from around 10 tonnes of CO_2 equivalent (tCO_2e) now to $2tCO_2e$ in 2050. The Committee on Climate Change (CCC), which was asked last year by the Scottish government to draw up a cumulative emissions budget for Scotland for the period 2010 to 2050, made the recommendation. The CCC recommends a cumulative emissions budget of $1,250mtCO_2e$ between 2010 and 2050, suggesting that this should be achieved via a 42% cut in emissions by 2020 relative to 1990 levels, a 60% cut by 2030, and an 80% cut by 2050.

2010 was one of the warmest years on record

Last year ranked alongside 1998 and 2005 as the warmest year on record, according to the World Meteorological Organization (WMO). In 2010, average global temperature was 0.53°C above the 1961–90 mean. "The 2010 data confirm the Earth's significant long-term warming trend," said WMO secretary-general Michel Jarraud. "The 10 warmest years on record have all occurred since 1998." Over the decade from 2001 to 2010, global temperatures have averaged 0.46°C above the 1961–1990 average, and are the highest ever recorded for a 10-year period since the beginning of instrumental climate records. Recent warming has been especially strong in Africa, parts of Asia, and parts of the Arctic. WMO also says that Artic sea-ice cover in December 2010 was the lowest on record, with the average monthly extent 1.35 million square kilometres below the 1979–2000 average for December.

CRC may go as DECC sets out its options for change

Regulation Plans to further simplify the Carbon Reduction Commitment Energy Efficiency scheme (CRC) could see it either merge with other climate-change policies, such as the existing Climate Change Levy or possible mandatory greenhouse-gas reporting, or even disappear altogether.

DECC, which has issued separate "informal" discussion papers outlining options for simplification in five areas (see panel), says that it welcomes views on fundamental change to the scheme. However, under the enabling legislative framework – Climate Change Act 2008 – any modification that does not include a market for trading allowances would see the abolition of the scheme.

Although the energy and climate-change department stresses that the papers are not government policy, just options for consideration, some businesses have criticised the possibility of closure. "We have been promised simplification of the CRC and its abolition would be the ultimate blunt instrument to achieve this," comments Stuart Bowman, director of energy and sustainability, at consultancy hurleypalmerflatt. Following the changes made to the CRC in the Comprehensive Spending Review last November, Bowman says that participants urgently need clarity not more radical alterations: "Our recent research found that, even for those taking a best-practice approach, CRC compliance would currently cost £430,000 for an organisation with a £1 million annual energy spend. With substantial sums of money in play it's time to stop the confusion and agree a way forward."

Government wants to further simplify the CRC

Abolishing the scheme is only one option, however. Others include aligning the scope of both existing qualification criteria – the presence of one or more half-hourly electricity meters (HHMs) settled on the half-hourly market and annual consumption of at least 6,000MWh of electricity – to focus on settled HHMs only. DECC says that such a move would simplify the process for assessing qualification and enhance the administrator's ability to verify registration accuracy. To maintain participation levels, it would also mean lowering the current 6,000MWh threshold, bringing smaller organisations into the scheme.

DECC says that any future formal legislative proposals would be subject to public consultation and that its intention is that these would come into force through affirmative Orders in Council before registration for the second phase of the scheme begins in April 2013. The deadline for responses to the papers is 11 March.

Simplifying the CRC

The five priority areas highlighted by DECC:

- Private sector organisational rules.
- Review of supply rules.
- Qualification criteria.
- The overlap between schemes – especially between the CRC, climate-change agreements and the EU emissions trading scheme.
- Timing and frequency of trading allowances from 2012 onwards.

Further areas where change may be needed:

- The reputational incentives of the scheme.
- Definition of transport used in the scheme.
- Treatment of public versus private sector participants.
- Treatment of heat.
- Landlord/tenant relationships/ responsibilities.

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

Kayley, RRC Customer Services Manager

NEBOSH and IEMA Environmental Training from RRC

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

RRC Environmental Courses

IEMA Accredited Courses

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

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

NEBOSH Accredited Courses

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

Face-to-Face Training in London and Bahrain

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

In company Training

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

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

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

RRC TRAINING
www.rrc.co.uk

IN PARLIAMENT

Green Deal – masterstroke or damp squib?

Alan Whitehead
MP for
Southampton West

The Energy Bill aims to tackle the pressing issue of energy efficiency in Britain's homes by addressing head-on the problem of take-up: how do you get the millions of homes still falling woefully short on home energy measures to retrofit both for the good of the householder and the nation's energy demand levels? Capital investment upfront puts too many people off investing in energy efficiency. The planned "Green Deal" seeks to get over this problem by splitting the benefits so that the householder has nothing to pay upfront: an interested company, such as B&Q, puts in the cash for improvements, and via a charge on the energy bill of the property – not the inhabitant – recovers its money and makes something besides. The householder gets lower bills and a more efficient home.

But it is in this split that the problems begin. In order to get a return on investment, a company providing the capital will want a reasonable rate of return, and the government has already announced that the "deal" will turn on a "golden rule" – the householder's energy bills will not be higher after the work than before it. These two factors radically limit the amount that can go into the house and what the money will purchase – mostly restricted to worthwhile but not earth-shattering additions, such as wall and loft insulation. Home-based power generation will be out, and the seven million or so "hard to treat" properties – solid walled and often off grid – will be a long way from inclusion.

In short, in seeking to move home-energy efficiency forward through cost-neutral investment from the private sector, the government risks the deal turning out to be a damp squib of a measure, even if the investors can be found in the current difficult economic climate.

Poor-quality recyclate may end up in landfill

Waste Councils are opting for a quantity over quality recycling strategy to avoid exceeding their landfill quota, risking material such as paper, glass and plastics that is in no state to be reused commercially ending up back in landfill, according to the Institution of Civil Engineers (ICE).

In its latest State of the Nation report, ICE says that the UK's waste management policy has been too narrowly focused on diverting waste from landfill and that local authorities are increasing the quantity of recycled material to avoid fines. "We need more action to drive up the quality of the material being produced. Without this, the UK could generate increasingly poor-quality recycled materials for which there are few buyers, and ironically their most likely final destination is landfill," said ICE waste and resource management expert Jonathan Davies, who works for SKM Enviros.

ICE predicts that the end users of recyclate will increasingly demand higher-quality materials and wants recycling targets and incentives to focus on delivering both quantity and quality.

Quantity is taking precedence over quality, says ICE report

Meanwhile, Defra has released the latest municipal waste-collection statistics for England. They show that the proportion of household waste sent for recycling, composting or reuse between July 2009 and June 2010 in England was 40.1%, a slight improvement on 39.7% recorded in the financial year to March 2010.

Authorities assess climate risks

Business strategy The first reports on how transport and utility companies are assessing and acting on the future risks and opportunities posed by the changing climate have been published by Defra.

Under the Climate Change Act 2008, 91 organisations have to submit assessment reports to the environment department over the next year. National Grid (gas and electricity transmission), Environment Agency, Trinity House, Highways Agency, Network Rail and Natural England are the first six to do so.

National Grid, which made its assessment against the worst-case scenario in the latest UK climate projections (UKCP09), reports that its assets and processes are resilient to the climate change that is predicted to occur, although some may be at risk of localised flooding or ground movement, for example. The Highways Agency used the previous climate projections (UKCIP02) to develop its existing adaptation framework, but will now revise it in line with UKCP09. The agency reports that it is also examining changes in soil moisture, which is not covered by the latest climate projections, but which nevertheless has significant implications for its assets, including foundations and embankments.

Longer, drier summers, as well as increasing frequency of extreme weather events such as flooding and storms, will impact on the rail system to some extent, reports Network Rail.

Trinity House says that climate change has so far had no material impact, but the lighthouse authority concedes that sea-level rise, cliff and beach erosion and changing weather patterns are the factors most likely to affect its statutory functions in future.

One of the key threats to Natural England from climate change is the shift in species distribution or loss of habitat, while changes to rainfall patterns and sea-level rise are two of the biggest risks faced by the Environment Agency. It expects inland flood risk to increase, and droughts to become more common. These changes will also influence water quality.

EMAIL US NOW FOR A FREE MONTHLY LEGAL UPDATE

Greenspace

takes the hard work out of compliance

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

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

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

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

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

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

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

Government backtracks on forests sale

Policy The government has retreated partially from its plans to end state ownership of 258,000 hectares of England's woodlands following a public outcry. It has postponed plans to sell 15% of the public estate, but is refusing to scrap other proposals which include cutting down the role played by the Forestry Commission (FC), the government body that currently owns about 18% of England's woodland, and opening up the forests to commercial operators.

These plans, outlined in a consultation from Defra, will see heritage forests, such as the New Forest and the Forest of Dean, taken over by charitable trusts, while commercially valuable woodlands will be leased to private companies.

Environment secretary Caroline Spelman says that Defra will press ahead with the proposals, but has promised to look again at the separate sale of up to 40,000 hectares of woodland. The consultation paper invites views on a range of ownership and management options for the remaining 85% of the estate, and says that up to 130,000 hectares could be leased to commercial operators for at least 150 years. "State control of forests dates back to the First World War, when needs were very different. There's now no reason for the government to be in the business of timber production and forest management," explained Spelman.

Defra wants charitable trusts to take over heritage forests

Despite assurances from Defra that public access, restoration activities and biodiversity will be safeguarded, forestry bodies fear the changes could endanger woodlands.

"We don't believe that the charitable sector can be the solution to the future care of all of the publicly owned heritage woodlands, as it will not have the resources to manage these for decades into the future without substantial and sustained government funding," commented Sue Holden, chief executive at the Woodland Trust.

The environment department claims opening up the woodlands to commercial operators will generate significant receipts for the government. However, a separate report from Defra and the FC says that leasing large-scale commercial sites will cost more than £678 million but only generate benefits worth £655.5 million.

The consultation document proposes that in the future the FC focuses only on responding to outbreaks of tree pests and diseases, regulating felling and setting standards for sustainable forest management. It acknowledges that the commission will become much smaller as a result. The organisation has already announced 400 job losses – one-third of its 1,200-strong workforce – because of reduced funding from Defra. About 300 jobs will be lost in England and at least 100 will go at the commission's head office in Edinburgh.

£20,000 fine in 'landmark' prosecution

Pollution Landfill operator Waste Recycling Group (WRG) Central has been fined £20,000 and ordered to pay costs of £8,619 in a "landmark" prosecution for gas emissions brought by the Environment Agency (EA).

Newbury Magistrates' Court heard that WRG manages the Hermitage Landfill site near Newbury. The site has been closed since 2004, when it was covered with a clay cap and restoration soils to completely bury and contain the waste. The site continues to be regulated under the terms of an environmental permit issued by the EA. Permit conditions include ensuring a system is in place to capture the landfill gas that is produced by decomposing waste.

The extraction system consists of a large number of wells that draw landfill gas out of the site and pump it to a flare, which burns the potentially harmful gas and converts methane to CO_2. An alarm system is activated if there is a fault with the flare to allow an emergency plan to be put in place. However, in May 2008, the power supply to parts of the site was switched off to enable work to continue on restoring it to agricultural use. Power to the gas-flare alarm system was interrupted, which resulted in WRG not being aware that a large number of perimeter boreholes had exceeded the permitted levels for methane and CO_2 in early June. The loss of the gas flare meant that there was no gas extraction across the landfill, resulting in gas escaping in several directions as well as the potential of it escaping into the atmosphere.

The EA described the incident as "careless" and said that the company had failed to follow its own procedures. WRG pleaded guilty to two offences under the Environmental Permitting Regulations 2007 and its predecessor, the Pollution Prevention and Control Regulations 2000.

Short cuts

Staff lack environment information at work

Less than one in five (17%) UK employees have received advice or training at work on energy efficiency and fewer than one-quarter (24%) have been given information on recycling and waste management. The findings, from a survey of more than 1,100 workers by NEBOSH (National Examination Board in Occupational Safety and Health), found that just 11% had received information, guidance or training on ways of looking after the environment. "Simply involving staff can be a great way of improving environmental performance in the workplace. Often they just need a little bit of information and some encouragement to participate," commented NEBOSH chief executive, Teresa Budworth.

CASE LAW

Lexis®PSL

Not such a big sweetener

Tate & Lyle produces 1.1 million tonnes of sugar a year at its Thames refinery in Silvertown, east London. It has installed four dedicated biomass boiler houses supplying 70% of the refinery's energy requirements. These boilers use biomass (wheat husks) purchased and stored in biomass-fuel-storage silos. The decision to invest £81 million in a combined heat-and-power plant was made in December 2006 and the boilers became operational in October 2010.

Under the EU Directive on promoting the use of energy from renewable sources (2009/28/EC), the UK is obliged to encourage greater electricity consumption from renewable-energy sources. The Renewable Obligations Order 2002 was introduced as a means of stimulating licensed electricity suppliers in England and Wales to source an increasing proportion of electricity from renewable sources. From 1 April 2009, the obligation changed from a percentage of electricity supplied to an obligation to present sufficient renewable obligations certificates (ROCs). As part of the Energy Review in 2006, the government decided to promote the development of the more expensive renewable technologies. Different technologies were allocated different rates of ROC per MWh through a banding system. The 2009 change also gave the secretary of state powers to carry out an early review of any particular bands at any time.

Tate & Lyle initiated judicial review (*R (on the application of Tate & Lyle Industries Limited) v Secretary of State for Energy and Climate Change*) on the basis that the original banding allocation had been maintained and aggravated through the early review. Consequently, unlike those who had not been subjected to an early review, it was losing a claimed £1.5 million a year and was being deprived of appropriate subsidies.

The High Court ruled, however, that the secretary of state had not acted unfairly or in a discriminatory manner in using updated costs data in his analysis. According to Lord Justice Moses, the critical question was whether the secretary of state was entitled to take into account the reality of higher wholesale electricity prices when carrying out the early review of the level of subsidy granted to the claimant pursuant to the 2002 Order.

This appears to be the first High Court decision in this field of law and contains some significant conclusions on principle. While the decision would appear to be discriminatory, Moses LJ noted that the secretary of state was also obliged under competition law to avoid over-subsidisation. Here, discrimination and state aid appeared to be irreconcilable.

Colleen Theron and Deirdre Lyons, LexisPSL, legal expertise online

Green growth in UK at risk, finds poll

Yet wind energy and solar industries both announce jobs bonanza

Business strategy A survey of business leaders has revealed that very few believe the UK is well placed compared with its major competitors to take advantage of the £3.2 trillion global environmental market.

Of the more than 700 business leaders polled by the Carbon Trust, the highest proportion (34%) say that Germany is better prepared than any other country to benefit from green growth. The UK lags far behind, with only one in eight claiming it is the best-prepared country.

The Carbon Trust says that UK businesses need to invest more to become leaders in the environmental and low-carbon market, which is forecast to grow by 25% over the next four years. Its survey found that, while 92% of UK business leaders think green growth represents an opportunity for their business, only one-third are actually investing money in the research and development of green products and services.

Despite the findings, there is evidence that the UK environmental and low-carbon sector, currently worth more than £112 billion and employing more than 900,000 people, is expanding. RenewableUK recently reported that employment levels in the UK wind-energy industry increased by 91% between 2007/8 and 2009/10. It says that there were 9,200 full-time equivalent employees working in the large-scale wind-energy industries in 2009/10 compared with 4,800 in 2007/08. That number is set to grow following the announcement by Siemens that it will build a new £80 million wind-turbine manufacturing and export facility at the Port of Hull, creating around 700 jobs.

Germany better placed than UK to benefit from green growth

Also, the introduction of the feed-in tariff in April 2010 has created 17,000 jobs in the solar industry, according to the Renewable Energy Association. This total will rise by at least another 300 after Sharp announced it was investing £30 million in its Wrexham factory, enabling the Japanese company to double production of solar panels at the site.

Sharp's plans also include establishing a new facility to train solar-panel installers.

The government too is seeking to ensure that employers in low-carbon, environmental areas of business – such as the installation, maintenance and repair of photovoltaic panels, ground-source heat pumps and biomass products – can access a skilled workforce to help them grow by establishing a new National Skills Academy (NSA) for Environmental Technologies. The NSA will receive up to £2.5 million of public funding over three years. Employers will invest a similar amount.

Q&A

WSP

Q We're implementing an EMS – how do I get commitment from staff?

A Here are eight steps to help engage your workforce:

1. **Get an effective team to work with you** – Establish an implementation team from across the business to give you insights, thoughts and practical ideas. Choose this team carefully. You want people who get things done, and who provide insights on what works and what doesn't.
2. **Don't spend too long on EMS theory** – When you're new to environmental systems, it's easy to get bogged down in aspects registers, planning and the complex wording of environmental standards. Make it relevant and quickly get into making changes to environmental programmes on the ground.
3. **Get some quick wins** – Early improvements give you the spur to do more and are something to shout about. This gives your programme legitimacy and momentum.
4. **If you need to change ways of working, ask the affected teams to design the solution** – Staff on the ground often have better ideas and are more likely to feel ownership of ways of working that they suggest.
5. **Run a strong, and relevant, communications programme** – Agree very clearly what you want your staff to know, and what you want staff to do differently. Do all staff need to know the same thing? Do you have different messages for senior staff? Who would be the best person to deliver the communications? Don't automatically run one-hour "sheepdip" sessions for all.
6. **Don't have petty auditors** – Your auditors can do much to increase the profile of your systems. Make sure your auditors are strong, competent, well-respected and work in a manner that builds understanding.
7. **Have fun** – In WSP, our personal carbon-tracking scheme (www.wsppact.com) has really engaged staff throughout the whole firm. There's no need to be serious.
8. **Finally, check your EMS really creates business value** – Staff commitment comes from having a light, effective system that can clearly demonstrate that it's generating much more revenue and saving much more money than the costs of implementation.

If you have a question for the experts at WSP Environment & Energy email editor@environmentalistonline.com

Recession forces down UK emissions

Climate change UK greenhouse-gas (GHG) emissions in 2009 were 8.7% lower than in 2008 thanks largely to the recession, which saw a significant fall in energy consumption across all sectors of the economy.

The data, from DECC, reveals that UK emissions in 2009 of the basket of six GHGs covered by the Kyoto Protocol – carbon dioxide, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride – were estimated to be 566.3 million tonnes CO_2 equivalent ($mtCO_2e$). The figure in 2008 was 620.5$mtCO_2e$.

DECC said that the primary reason for the sharp decline in emissions in 2009 was the economic slowdown, which resulted in an overall reduction in demand for electricity, together with lower fossil-fuel consumption by both businesses and households. "Yes, emissions were down in 2009, but so was the economy, so this is no time for back slapping," commented energy and climate-change secretary Chris Huhne. A return to economic growth is likely to see emissions rise again.

Between 2008 and 2009 emissions fell in all sectors, with the biggest decrease in industrial processes, where discharges declined by 36.5%. In other parts of the economy, emissions fell 11% in the energy-supply sector; 11.8% in the business sector; 4.2% in the transport sector; and 5.8% in the residential sector. GHG emissions from the energy-supply sector in 2009 were 28% lower than in 1990, while the business sector was emitting 24% less in 2009 compared with 1990. By contrast, residential emissions have reduced only slightly, by around 3%, since 1990, and emissions from transport remain at the same level as 1990.

Emissions of CO_2 – which account for 84% of UK GHG discharges – fell further in 2009 than the basket of six GHGs overall, declining by 9.8% compared with the 2008 figure. Total CO_2 discharges in 2009 were 473.7 million tonnes (mt). In 2008, CO_2 emissions totaled 525.1mt. Emissions of CH_4 and N_2O both fell further in 2009, continuing the recent trend. CH_4 emissions, excluding those from natural sources, were down 2% in 2009 compared with 2008, and have fallen 61% since 1990. N_2O discharges fell a further 5% in 2009 compared with 2008, and have now declined by 49% since 1990. Methane, weighted by global warming potential, contributed about 8% of the UK's GHG emissions in 2009, while N_2O discharges accounted for 6%.

GHG emissions in the UK by sector: 1990–2009 ($mtCO_2e$)

Sector	1990	2000	2009
Energy supply	272.1	218.6	195.0
Transport	122.1	127.3	122.2
Business	112.4	110.5	85.9
Residential	80.8	90.1	78.6
Agriculture	63.0	57.3	49.5
Waste management	59.0	31.5	17.9
Industrial processes	54.3	24.4	10.4
Public	14.1	11.7	8.2
Land use, land-use change and forestry	3.9	0.4	–4.1
Total	781.6	672	563.6

Source: DECC

Shale-gas dash puts water at risk

Energy Shale-gas extraction in the UK should be halted immediately as it risks contaminating ground and surface waters, says a report from the Tyndall Centre for Climate Change.

Extraction of shale gas, which is natural gas that is found in shale formations, is an expanding industry in the US and a UK shale-gas industry is now beginning to emerge. Cuadrilla Resources has sunk the first well in the UK near Blackpool, from where it hopes to begin extracting shale gas within a few years.

However, the Tyndall report says that further research is needed on the potential for hazardous chemicals to enter groundwater via the extraction process before any expansion of the industry in the UK is considered.

In response, Cuadrilla rejected the call for a moratorium and said its Blackpool project fulfils all regulatory requirements, and that the extraction process, known as "fracturing" and which has been negatively depicted in the film *Gasland*, is a proven and long-standing technology. "The potential risks associated with shale-gas exploration are not unique and are common to all hydrocarbon exploration," said a company statement.

Website

NetRegs amendment

A misprint in our January issue stated that NetRegs was to close by March 2010. We meant to state 2011; however, NetRegs is not closing in March. Some content, namely environmental topics, will move from the website to other dedicated government business websites next month. The remaining guidance will move in stages over the following months. The latest information on changes to NetRegs can be found at: www.lexisurl.com/iema6178.

INSIDE SCIENCE

Cumulative carbon budgets

Since the 1990s the prevailing scientific view has been that we must limit global warming to no more than 2°C above pre-industrial levels to avoid dangerous climate change – although there is increasing evidence of serious potential effects in many parts of the world even at 2°C degrees. The well-documented physics of the greenhouse effect alongside data on the long-term relationship between temperature and the concentration of CO_2 and other greenhouse gases (GHGs) have led to a paradigm in considering the future warming potential in terms of both carbon dioxide equivalent (CO_2e) concentrations and temperature limits. The accepted wisdom has been that we should avoid exceeding 450 parts per million of CO_2e (many scientists now suggest lower concentrations).

This scientific paradigm has long underpinned international negotiations on climate change, translating into emissions-reductions targets focused on annual emission rates. The Intergovernmental Panel on Climate Change, however, began discussing "cumulative emissions" in 2001. A flood of more recent analyses has resulted in a shift in emphasis from annual emissions to cumulative emissions as summarised in January in a special volume of the *Philosophical Transactions of the Royal Society* (www.lexisurl.com/iema6159). The rationale is: oceans and terrestrial vegetation can only take up CO_2 slowly, so a significant fraction accumulates in the atmosphere for centuries or longer. Analyses indicate that it is the cumulative amount of CO_2 that determines maximum temperature the most, rather than any particular emissions pathway. This has led to a reframing of mitigation science in terms of "cumulative carbon budgets".

It follows, then, that we can calculate near enough a specific amount of carbon – about a quarter the mass of CO_2 – that is the maximum we can emit in order to avoid exceeding 2°C average warming. Dr Myles Allen from Oxford University and his colleagues estimate the limit to be about one trillion tonnes. The fact that about half of this has already been produced puts real constraints on the options for staying under budget. Data provided by Oxford's department of physics suggest that the trillionth tonne may be released in 2044 if emissions trends of the last 20 years are simply extrapolated forwards. But if rates were to fall from now by a cumulative 2.3% a year we could stay within this trillion-tonne limit.

Ninety-five per cent confidence intervals around 2°C, ranging from 1.3–3.9°C, however, beg the question: "How confident do we want to be of this outcome?" The Oxford data suggest that we can increase our confidence to a 75% likelihood of not exceeding 2°C if the world were only to emit 75 billion tonnes, but emissions would need to fall by 4.85% a year, starting now. The Avoid programme – a collaboration between the Met Office, Walker Institute, Tyndall Centre, and Grantham Institute – takes similar approach, concluding that an emissions peak in 2016 would require at least a 4% annual emissions reduction, and a peak in 2020 would require at least a 5% annual reduction. This is unlikely without significant global political will and a price on carbon, as well as an evolution in energy technology and use, including behaviour change.

The cumulative carbon budget approach is a much more accessible take on global warming – an analogy would be a slightly leaky bath with many taps flowing into it (different CO_2 sources), with policy options on which taps to close at which rates in order to avoid exceeding the volume limit. It implies also that temperatures will not drop soon after "peak emissions", since the cumulative CO_2 volume will either still be increasing (the taps are still running), or, at best, will be relatively static. A reduction in CO_2 emissions will thus only reduce global average temperature in the very long term. Another implication is that the later the peak of emissions, the greater the rate of emissions reductions required to limit the total volume – that is, if the bath is nearly full, you need to turn off the taps pretty quickly.

Professor Robert Watson (chief scientific adviser, Defra) and Dr Rupert Lewis (deputy director/head of evidence, Defra)

NEW REGULATIONS

In force	Subject	Details
12 December 2010	Chemicals	EU Regulation 1152/2010 amends Regulation 440/2008 on the testing methods pursuant to Regulation 1907/2006 – the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH). www.lexisurl.com/iema6088
6 January	Pollution	EU Directive on industrial emissions (IED) (2010/75/EU) (pp.20–22) repeals, from 6 January 2014, the Directives on waste from the titanium dioxide industry (78/176/EEC); on procedures for the surveillance and monitoring of environments concerned by waste from the titanium dioxide industry (82/883/EEC); on procedures for harmonising the programmes for the reduction and eventual elimination of pollution caused by waste from the titanium dioxide industry (92/112/EEC); on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations (1999/13/EC); on the incineration of waste (2000/76/EC); and integrated pollution prevention and control (2008/1/EC); and, from 1 January 2016, the Directive on the limitation of emissions of certain pollutants into the air from large combustion plants (2001/80/EC). Member states have until 7 January 2013 to transpose the IED into national legislation. www.lexisurl.com/iema6066
10 January	Waste	The Waste Information (Scotland) Regulations 2010 introduce a statutory obligation on organisations that produce or manage waste to provide the Scottish Environment Protection Agency with waste data for the regulator's surveys. www.lexisurl.com/iema5871
14 February	Hazardous substances	The Solvent Emissions (Amendment) Regulations (Northern Ireland) 2011 transpose amendments made to the EU Directive on solvent emissions (1999/13/EC) (SED) and replace the 2010 Regulations. The Regulations insert and change several definitions, and update references to the SED as amended by EU Regulation 1272/2008 on classification, labelling and packaging of substances and mixtures – the so-called CLP Regulations. www.lexisurl.com/iema6083
15 March	Energy	The Home Energy Assistance Scheme (Scotland) Amendment Regulations 2011 amend the 2009 Regulations to extend eligibility. www.lexisurl.com/iema6187
20 March	Pollution	The Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010 aim to ensure the objectives of the EU Water Framework Directive (2000/60/EC) are met by reducing and preventing pollution from inadequate above-ground oil-storage facilities. www.lexisurl.com/iema6084
1 April	Energy	The Storage of Carbon Dioxide (Licensing etc.) (Scotland) Regulations 2011 partly implement the EU Directive on the geological storage of CO_2 (2009/31/EC) and include details on how to apply for the required licence and the corrective measures to be taken in the event of a leak or irregularity. www.lexisurl.com/iema6085
6 April	Waste	The Nuclear Decommissioning and Waste Handling (Finance and Fees) Regulations 2011 will assist in establishing the Funded Decommissioning Regime contained in the Energy Act and which requires companies developing new nuclear power stations to submit a Funded Decommissioing Programme outlining costs of future waste and decommissioning liabilities. www.lexisurl.com/iema6189
6 April	Marine	The Marine Licensing (Exempted Activities) (Scottish Offshore Region) Order 2011 implements parts of the Marine and Coastal Access Act 2009 and the Marine (Scotland) Act 2010 and covers exemptions in the offshore region from 12 to 20 nautical miles. www.lexisurl.com/iema6188

LATEST CONSULTATIONS

Closing date: 8 March

Radioactive waste

DECC has issued two consultations related to waste from new nuclear power stations: an updated waste-transfer pricing methodology for the disposal of higher-activity waste; and revised guidance for a funded decommissioning programme. The former is the government's response to the March 2010 consultation, while the latter will assist the government in finalising the guidance on funded decommissioning, which is due in the spring. The energy and climate change department is also consulting on a strategy for the management of solid low-level radioactive waste from the non-nuclear industry in the UK. This consultation is aimed primarily at waste managers, environmental regulators and waste-planning bodies as well as operators of all waste disposal facilities.
www.lexisurl.com/iema5880; www.lexisurl.com/iema5881; www.lexisurl.com/iema5882

9 March

Pollution

The Scottish government is consulting on proposals to introduce standard rules into the pollution prevention control regime – similar to England and Wales – to enable the Scottish Environment Protection Agency (SEPA) to take a take a more risk-based and proportionate approach to regulation across a range of lower-risk activities. The proposals amend the Pollution Prevention and Control (Scotland) Regulations 2000.
www.lexisurl.com/iema6090

10 March

Energy

Radical changes to the electricity market have been proposed by DECC and include scrapping the renewable obligation certification (ROC). Under the plans, a feed-in tariff system will replace the ROC.
www.lexisurl.com/iema5962

15 March

Contaminated land

Defra and the Welsh Assembly government has issued a consultation on changes to the statutory guidance under part 2A of the Environmental Protection Act 1990 and changes to the Contaminated Land (England) Regulations 2006 and the Contaminated Land (Wales) Regulations 2006. The proposals aim to clarify parts of the guidance, particularly the legal definition of "contaminated land" and what the regime aims to achieve. It also commences s 86 of the Water Act 2003, which will amend the definition of "contaminated land" as it relates to water pollution.
www.lexisurl.com/iema6091

Climate change

Part 4 of the Climate Change Act 2008 gives Welsh ministers' powers over responses in the principality to the consequences of climate change and enabling effective adaptation action. The Welsh Assembly government is now consulting on exercising these powers and on proposed statutory guidance for reporting authorities, such as utilities, to help build resilience.
www.lexisurl.com/iema6092

16 March

Energy

DECC is consulting on its microgeneration strategy. It focuses on four main areas: equipment and installation quality; skills in the supply chain; technological advance; and consumer information. The energy and climate change department plans to publish the final strategy in the spring.
www.lexisurl.com/iema6093

18 March

Flooding

The Scottish government is consulting on statutory guidance to SEPA, local authorities and Scottish Water on fulfilling their responsibilities under the Flood Risk Management (Scotland) Act 2009 as part of its work to deliver sustainable flood-risk management in Scotland.
www.lexisurl.com/iema6089

EVENTS CALENDAR

Date	Course	Location and details
8 March 2011	Towards a greener Britain: is there a winning technology?	The Royal College of Physicians, London www.lexisurl.com/iema6068
17 March 2011	EIA: updates in theory and practice	Borough council offices, Grafton House, Ipswich www.lexisurl.com/iema6229
17 March 2011	The sustainable business summit: business in evolution	Radisson Blu Portman Hotel, London www.lexisurl.com/iema6217
17 March 2011	SDUK 2011	QEII Conference Centre, London www.lexisurl.com/iema6070
17–18 March 2011	Responsible business 2011	Business Design Centre, London www.lexisurl.com/iema6071
24 March 2011	The Big Green Society conference	MWB Liverpool St, 55 Old Broad Street, London www.lexisurl.com/iema6218
30–31 March 2011	MCERTS 2011: air & emission monitoring conference	Telford International Centre www.lexisurl.com/iema6074

A minority voice?

The self-styled sceptical environmentalist, Bjørn Lomborg, talks to **Paul Suff**

A sceptic is someone who questions or doubts accepted opinions. Bjørn Lomborg, author of *The Sceptical Environmentalist*, challenges many "orthodox" views about climate change, but one thing he does accept is that man-made global warming exists: he is no climate-change denier. And, despite ruffling more than a few feathers in the green movement, the Danish academic still considers himself an environmentalist.

"I'm an economist, a statistician and an environmentalist," he claims. "I apply a cost-benefit analysis to different things that we are doing. That's the economist speaking. That has to be informed by the state of the world, and the size of the problem – that's the statistician part of me. Then there's my environmentalism. That's from my youth, when, like a lot of people, I was concerned that the world was coming apart, and governments weren't doing anything to stop it."

Fast-forward 25 years or so and some environmentalists level the same charge at Lomborg. While many view climate change as the most pressing of global problems, requiring immediate action, Lomborg has other priorities.

"Climate change is a problem and it is something we do need to fix," he concedes. "But half to two-thirds of the world's population have very, very simple problems. Twenty-five per cent of everyone who dies today will die from an easily curable infectious disease. Many die from a lack of clean drinking water. So for most of the world it is obvious there are other priorities."

Building a consensus

In 2004, Lomborg was instrumental in establishing the Copenhagen Consensus Center (CCC), a think-tank to analyse competing spending priorities. Its latest research, published in 2010 in *Smart Solutions to Climate Change*, does not place global warming high on its list of priorities. That's because the existing approach, including the Kyoto Protocol, is flawed, according to Lomborg. "It turns out that the current way of dealing with climate change is an incredibly poor way of solving the problem. And so that ends up at the very bottom of the CCC list of about 30 solutions to global problems," he says.

His lack of faith in the protocol is where his scepticism is strongest. "We keep being told that global warming is the end of the world and the Kyoto-style approach will work if we make drastic carbon cuts. So, if we just up the EU pledge from 20% to 30% emissions reductions by 2020 then we'll really make a big difference. And of course the honest answer is that you won't even be able to measure the difference in 100 years. But you will certainly be able to see the cost. So, the scepticism is about getting us to realise that the current approach is a very expensive way to achieve very little," he explains.

Lomborg cites work by climate economist Richard Tol, published[1] by the CCC last year, to demonstrate how spending huge amounts of money now will produce very little benefit in terms of reducing temperatures.

> What we saw with Kyoto is that you set nice targets that are too low to actually achieve anything, but too high to realistically get countries to meet them

Tol estimates that the existing EU target will reduce temperatures by the end of the century by 0.05°C and cost $250 billion, while a 30% cut will reduce temperatures by 0.06°C and cost $450 billion. "That's a hundredth of a degree lower at a cost of another $200 billion," points out Lomborg. "Ridiculously large amounts of money are being spent and yet they are having no impact, even in the long run. There's no doubt that it is well-meaning, but it has basically done nothing for 20 years, and I doubt if we try for another 10 years whether we'll actually get anywhere.

"The targets don't push anyone, anywhere," he comments. "What we saw with Kyoto is that you set nice targets that are too low to actually achieve anything, but too high to realistically get countries to meet them."

He is of the opinion that targets encourage deception. Taking forest and land-use change into account and allowing emissions to be offset by investing in developing countries through Kyoto's clean development mechanism are examples of how countries have "fudged" the targets to make them easier to achieve, asserts Lomborg. "Essentially, what we have tried to do is 'let's figure out how we can cheat.'"

Smarter solutions

Innovation is his answer to reducing carbon emissions, not pushing up the price of fossil fuels. "CO_2 is a problem, but the real problem is that fossil fuels bring so many benefits that we're never going to get people off them unless we find another power source that is as cheap, or preferably cheaper, and doesn't have harmful emissions," he says. "Technological innovation is the only way we're going to solve the problem of global warming. If we look at most of the things that

The existing approach to global warming has failed

we've successfully solved, we've done so because of technological solutions. Take food, for instance: we didn't solve the problem that huge numbers of people face potential starvation by cutting down all our forests. Technology solved it. Borlaug came up with new variants of wheat and rice that enabled us to feed most of the world and not have to cut down the forests [American plant pathologist Norman Borlaug developed dwarf, disease-resistant, high-yield varieties of wheat and rice to help stave off famine]."

So, does he believe there is an energy source yet to be discovered that will solve the global warming problem? "No, I'm simply saying we need to make what we currently have much cheaper and more efficient."

Lomborg acknowledges that wind and solar have come down in price but says that they still have a good way to go until they cost less than fossil fuels. He argues that countries should not be subsidising the installation now of such technologies, but should instead spend the money on making them more efficient.

He uses the example of Germany to illustrate his point that current subsidies are wasteful. "The Germans are spending about €75 billion on subsidising solar panels [the Rheinisch-Westfaelisches Institut für Wirtschaftsforschung calculated in 2010 that the total cost of PV to German electricity users would be more than €77 billion over a 25-year period] to get a couple of billion euros worth of energy," says Lomborg. "Now, they have lots of solar panels on their rooftops, but they are doing virtually no good. If you do the calculations, they would probably postpone global warming by the end of the century by about seven hours."

Lomborg says that the money would have been better spent on research and development (R&D) into solar panels. "Solar companies have undoubtedly spent some of that money on R&D. Let's say €2–3 billion. But if what you want is better solar panels why didn't the Germans spend all of that €75 billion on R&D?" he asks.

He rejects the idea that investing now to find solutions is simply putting off action and will only mean the cost of tackling climate change will soar. Lord Stern, in his seminal report on the economics of climate change, which was published in 2006, was clear that it is a false economy to delay action. "I have a certain amount of understanding for that argument," acknowledges Lomborg. "It feels like we should start right now. But haven't we been starting for the last 20 years?"

€77 billion

How much Germany is spending on solar panels

Polluter pays?

Lomborg accepts that pollution is what an economist would class as an externality – that is, we don't take into account the damage oil, coal etc does in our pricing. But he disagrees with Stern's estimate that every tonne of CO_2 emitted causes $85-worth of damage. In his 2007 book *Cool It: The Sceptical Environmentalist's Guide to Global Warming*, Lomborg put the damage at $2 a tonne of CO_2. He has now revised that figure upwards to about $7 a tonne.

"We should recognise that putting that price on CO_2 will make absolutely no difference. You are never going to succeed with the idea of making fossil fuels so expensive that nobody will use them: it's politically unviable and it's also economically daft," he claims.

But don't taxes help change behaviour and isn't that the key to tackling climate change? "Tax does change behaviour," he concedes. "We know that you can prevent almost everyone driving in central London if the congestion charge was set at £100,000. But at any realistic rate, you only lower the number of cars in London for a few years before levels rise again. Taxes can alter things a little at the margin, but you cannot achieve a big or sustained change," he says.

Doing good

Lomborg is insistent that providing clean water and eradicating malaria is a much better allocation of resources than the current attempts to combat global warming. But how does he respond to the view that tackling climate change will help the poorest because they will suffer the worst consequences?

"It's absolutely true that global warming is going to hit the poor the hardest. But if we stop them getting malaria, their society becomes much more robust and then much better able to deal with climate change.

"Eradicating malaria is about having the right infrastructure, so you build your houses, for example, with screens, and you also have the medication and clean-up the areas where malaria-carrying mosquitoes live. And we've done that in much of Europe. Most people forget that malaria was endemic in much of Europe in the 1800s, when it was much colder than it is now. Why? Because we were poor and there were more marshlands etc. But, fundamentally, if you make people rich they will be less vulnerable to malaria. That's because if you're rich you build a better infrastructure."

He suggests dividing the $250 billion currently being spent by the EU on climate change in the following way: $100 billion on R&D into clean energy; $50 billion on adaptation, such as improving infrastructure to combat coastal and inland flooding; and the rest on getting rid of all the other major problems in the world, such as the lack of clean drinking water, sanitation, basic healthcare, education and food.

"How do you want to be remembered?" he asks. "By spending $250 billion to reduce temperature rise by 0.05% by the end of the century or by spending it on fixing climate change and its impacts, and fixing all of the other major problems?"

1 www.lexisurl.com/iema6050.

Assessing the mood for reform

Stephen Tromans finds the momentum building for a revision of the EIA Directive

Implementation of the environmental impact assessment (EIA) Directive (85/337/EEC) across the EU has not been at all straightforward. The European Commission has repeatedly brought proceedings against member states in order to ensure proper transposition of the Directive into national laws and proper implementation of its requirements. Also, interpretation of the Directive has proved contentious. Typical problems in transposition have been inadequate screening procedures for Annex II projects, failure to cover all project categories, and poor public participation processes.

While it is likely that problems will continue, there are some hopeful signs that national governments have now, at least in most respects, implemented the EIA Directive as required. It is also fairly clear that the Directive is itself having a positive effect on environmental law across the EU. A 2009 report by the commission on the application and effectiveness of the Directive found that: "The objectives of the EIA Directive have generally been achieved. The principles of environmental assessment have been integrated into the national EIA systems. All member states have established comprehensive regulatory frameworks and implemented the EIA in a manner which is largely in line with the Directive's requirements; in many cases, member states have built on the minimum requirements of the Directive and have gone beyond them. As a result, environmental considerations are taken into account in the decision-making process, which has become more transparent."

The case for change

Despite its positive findings, the 2009 report notes a number of continuing concerns with the Directive. Of particular interest is that member states are still repeatedly exceeding the limits of their discretion when establishing EIA thresholds. The commission suggests a simplification of the Annex III criteria and the creation of pan-European thresholds to limit future deficiencies. There are still cases where cumulative impacts are not adequately taken into account.

In terms of the direct and indirect costs of the EIA regime, a report submitted to the commission in February 2008 highlighted a number of areas of potential concern. These include delays resulting from a lack of timetables for stages of EIA; project size thresholds being set too low by national authorities leading to unnecessary EIAs; and authorities lacking the necessary skills and resources, leading to delays in the process. Also, over-implementation of the Directive, or "gold-plating", was seen as fairly common in many member states.

Quality control of EIAs is another potential problem. As the obligations in the Directive are essentially procedural, they can be satisfied by environmental documentation of widely differing quality.

To ensure environmental information is of a uniform and high quality the commission has put a number of potential solutions forward. These include the accreditation of consultants undertaking EIA; the use of independent external review; and mandatory scoping. Variations in the approach to whether alternatives must be considered are also viewed with unease by the commission, as are problems arising from "transboundary" EIA procedures. The general lack of consideration of climate-change impacts in EIA is also highlighted as an issue that needs to be tackled.

The next step

It appears that momentum is developing for a general review of the Directive. In June 2010, the commission launched a public consultation covering a broad range of issues. The Committee of the Regions, the EU body that seeks to involve regional and local authorities in the European decision-making process, issued an Opinion in April 2010 calling for a number of changes, including more formal links between the EIA Directive and the Habitats Directive (92/43/EEC), and a better methodology to determine climate-change impacts. And, in November, the commission and the then Belgian presidency of the EU held a joint conference to discuss the EIA Directive's future with member states (the papers and outcomes from the conference, including commissioner Janez Potočnik's address can be found at www.lexisurl.com/iema6201). Expect further developments in 2011.

A second edition of Stephen and Karl Fuller's book "Environmental Impact Assessment: Law and Practice" will be published during 2011.

Stephen Tromans QC, 39 Essex Street.

Pollution control given a new order

the environmentalist assesses the impact of the industrial emissions Directive on the UK

In July 2010, the European Commission agreed the final text[1] of the long-awaited industrial emissions Directive (2010/75/EU)(IED). It supersedes the Integrated Pollution Prevention and Control (IPPC) Directive and entered into force on 6 January 2011. Member states have two years to apply the IED in their national legislation.

As well as revising IPPC, the IED consolidates six other Directives into one new, streamlined and strengthened new law. The six related Directives apply to large combustion plants (LCP), solvent emissions, waste incineration, and the production of titanium dioxide (see panel, p.21).

An evolutionary process

The commission published the first IPPC Directive in 1996 (96/61/EC). The Directive, which applied to more than 40,000 industrial installations in the EU, including about 4,000 in the UK, was subsequently amended four times. The most recent version was published in 2008 (2008/1/EC). It did not change significantly from the original regarding its scope and approach, but consolidated the Directive and its amendments in a process known as codifying.

Between 2005 and 2007, the commission reviewed the application of the IPPC Directive to examine the first decade of its implementation throughout the EU. It found widely differing interpretations of IPPC and an inconsistent application, especially regarding the use of best available techniques (BATs) – state-of-the-art techniques that achieve a high level of protection for the environment as a whole that are also economically and technically viable. There was also evidence of incomplete permitting and wide variations in both regulation and inspection.

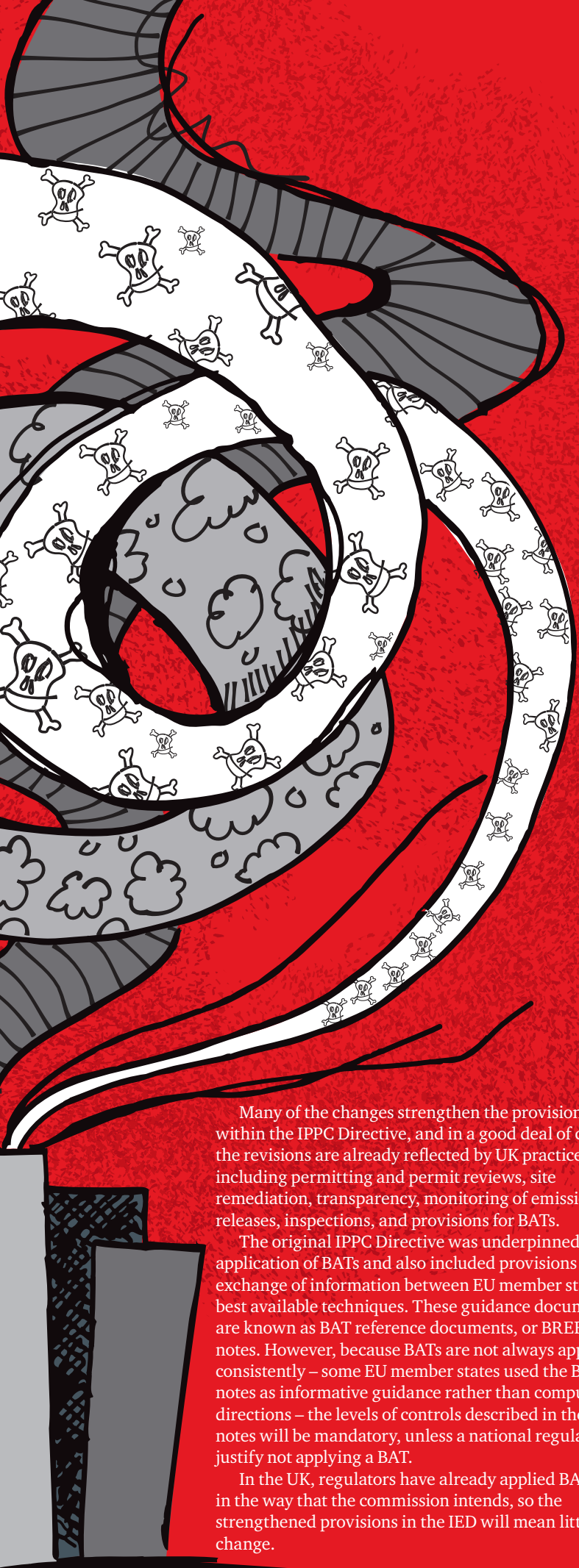
Annex I of the IPPC Directive defines the industrial sectors and activities it covers. However, the commission found that the environment would benefit from both widening and clarifying the scope.

Following amendments and connections to related legislation, the review showed that there were also unnecessary administrative and financial burdens due to the growing complexity of several pieces of linked legislation. Part of the complexity, for example, was due to the development of the legislation for specific sectors that work alongside IPPC.

The review triggered a major revision of IPPC, in a process known as recasting. In one sense, the IPPC Directive and the six related Directives have been melted down and reformed to create a new, lighter and stronger legislative alloy.

A stronger BAT

In terms of structure, the main core of the IED mirrors the IPPC Directive, although the text is clearer and more prescriptive to avoid ambiguity, and significantly strengthens the application of BATs. The text contains the common elements that will apply to all types of installation, followed by more detailed provisions in both the text and specific annexes for the activities that are currently regulated under the six separate Directives. The IED also dovetails with the Waste Framework Directive (WFD)(2008/98/EC), so that the mandatory application of the waste hierarchy prescribed in the WFD, for example, is now firmly embodied and echoed within the IED, making it clear that affected installations will have to apply the hierarchy.



Many of the changes strengthen the provisions within the IPPC Directive, and in a good deal of cases the revisions are already reflected by UK practice, including permitting and permit reviews, site remediation, transparency, monitoring of emissions and releases, inspections, and provisions for BATs.

The original IPPC Directive was underpinned by the application of BATs and also included provisions for an exchange of information between EU member states on best available techniques. These guidance documents are known as BAT reference documents, or BREF notes. However, because BATs are not always applied consistently – some EU member states used the BREF notes as informative guidance rather than compulsory directions – the levels of controls described in the BREF notes will be mandatory, unless a national regulator can justify not applying a BAT.

In the UK, regulators have already applied BATs in the way that the commission intends, so the strengthened provisions in the IED will mean little or no change.

The six Directives included in the IED

- 1999/13/EC on solvent emissions
- 2000/76/EC on waste incineration
- 2001/80/EC on large combustion plants
- 78/176/EEC on the titanium dioxide industry
- 82/883/EEC on the titanium dioxide industry
- 92/112/EEC on the titanium dioxide industry

The IED now specifies minimum frequencies for inspections. Higher-risk sites will have to be inspected at least annually; the frequency for low-risk sites can be reduced to three years. If incidents and breaches occur, inspection frequencies will increase. The IED also describes the means by which regulators can assess environmental risk, such as the application of EMAS – eco-management and audit scheme – and compliance records. The UK already applies a risk-based approach to inspections, with the higher-risk sites getting more time and attention. So as with BATs, the reality is that the IED will mean little or no change in the UK, at least for Part A installations.

Scoping out

Although the IED approach to regulation of installations will not mean major changes for UK regulators, there will be significant changes for some industrial sectors due to the expanded scope in Annex I of the Directive. The scope itself is far more detailed and prescriptive, but in many cases – such as in the minerals sectors – these changes are clarifications to ensure a clear and consistent application across the EU. In any case, the UK already applies many parts of the revised scope through the Pollution Prevention and Control Regulations 2000 (PPC) (as amended), and the Environmental Permitting Regulations 2010 (EPR). The panel on p.22 shows the main changes to the scope, and how the IED has revised IPPC.

In many cases, permits and licences under the PPC and the EPR will need some amending, although these changes are likely to be minor. There are also new activities under the IED, such as provisions for carbon capture and storage (CCS) from power stations. But again, the UK has already drafted legislation to provide for aspects of CCS.

Changes to the scope for waste-management activities mean that the recovery of non-hazardous waste is now included, and this will affect many installations; those with a capacity to process 75 tonnes or more of waste per day will be regulated under the IED. Currently, there are many plants that are regulated under waste-management licensing or the EPR, and such installations will need permitting under the IED.

Sites that preserve wood products will also be significantly affected, as this is a new prescribed activity under the IED for the sites that have a production capacity of at least 75m^3 per day.

The IED will also introduce significant changes for operators of large combustion plants. In simple terms,

Main changes and impact on UK

Sector/activity	Amendment	Impact on UK
Combustion	Greater clarity on the application of the IED to gasification and liquefaction of coal and other fuels.	No substantive change likely. Already regulated under PPC and EPR.
Non-ferrous metals	Greater clarity on the scope.	No substantive change likely. Already regulated under PPC and EPR.
Minerals	Greater clarity on lime and magnesium-based minerals.	No substantive change likely. Already regulated under PPC and EPR.
Disposal or recovery of hazardous waste	Clarification of the activities used in disposal and recovery.	There is more detail, but the threshold of 10 tonnes per day has not changed, so there are already provisions under PPC and EPR.
Waste incineration	The scope is not altered but the main text includes gasification and pyrolysis plants.	The UK already has provisions to regulate these newly specified types of plants.
Disposal or recovery of non-hazardous waste	Greater clarity on the activities for waste disposal, where installations have a capacity above 50m^3 per day. Extending the scope to specified activities recovering non-hazardous waste with a capacity exceeding 75 tonnes per day, and 100 tonnes per day for anaerobic digestion.	Activities in this sector are currently regulated under several regimes. The extension of the scope to include recovery operations will affect many installations that currently have either EPR-waste permits, waste-management licences, or exemptions. It is likely that these will need new permits.
Storage of hazardous waste	Temporary storage of hazardous waste above 50 tonnes.	No substantive change likely. Already regulated under existing waste-management Regulations, such as PPC and the EPR.
Storage of hazardous waste	Temporary storage underground, of hazardous waste, above 50 tonnes.	No substantive change likely. Already regulated under existing waste-management Regulations, such as PPC and the EPR.
Wood-based products	Inclusion of wood-based panels above production threshold of 600m^3/day	No substantive change likely. Already regulated under PPC and EPR.
Food products	Clarification of coverage of food production activities, notably in respect of seasonal vegetables and mixed animal and vegetable products.	No substantive change likely. Already regulated under PPC and EPR. There could be a few new sites regulated under the IED, which are not already under IPPC.
Carbon capture and storage (CCS)	New activity. The main text of the IED also specifies that power stations rated 300MW or more must be assessed for readiness for CCS.	The UK has already included provisions for CCS in both its policies and amendments to existing legislation, so this is work already in progress.
Preservation of wood products	Preservation of wood-based panels above a production threshold of 75m^3 per day	This addition would have a large impact on the UK. Existing Part B sites would become Part A installations, and many without PPC licences or environmental permits would require them.
Wastewater-treatment plants	Provisions for independent wastewater-treatment plants not already covered by other legislation.	Few sites would be affected, and already covered by other existing legislation. There could be a few new sites regulated under the IED, which are not already under IPPC.

7

The number of EU directives consolidated into the IED

the IED continues from where the existing Large Combustion Plant Directive (LCPD) leaves off in 2016. The emission limit values (ELVs) for nitrogen oxides, particulate matter and sulphur dioxide will be stricter from 2016. ELVs for carbon monoxide will also be introduced.

At the same time, the IED does include alternatives to ELVs. First, the IED has the same type of opt-out provisions found in the LCPD. Under the LCPD, operators can be exempted from ELVs in return for a limited, lifetime derogation. This sets a limit on the operating hours of the installation (up to 20,000 hours) to 2016. The IED also includes a limited, lifetime derogation. It exempts operators of LCPs from new ELVs in return for not operating for more than 17,500 hours between 1 January 2016 and 31 December 2023. It does not apply to LCPs that already have a limited lifetime derogation under the current LCPD.

Second, operators can opt to become part of a national plan to reduce emissions through a cap-and-trade emissions trading scheme. The LCPD includes this provision, but under the IED this option is extended to installations that comply with the ELVs in the IED by 1 July 2020.

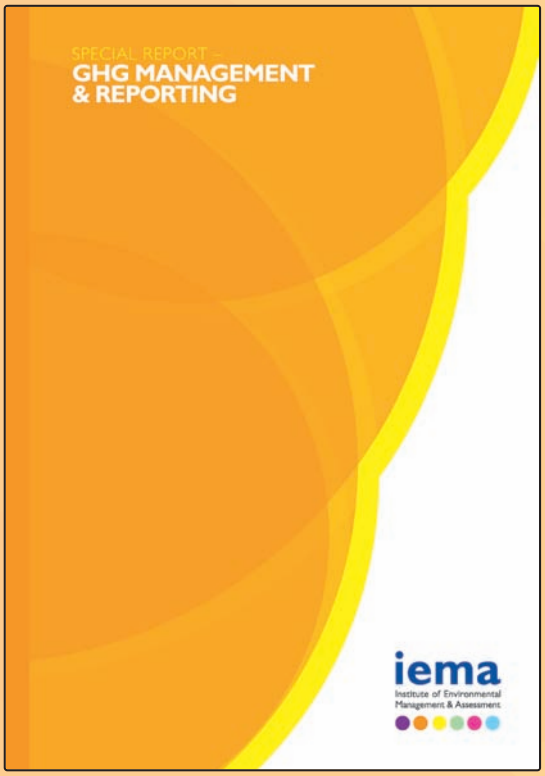
The UK roll-out

The IED will be transposed into UK law through amendments to existing legislation, such as the EPR for England and Wales, and the PPC Regulations in Scotland. Defra expects to issue a formal consultation on the draft transposing Regulations in early 2012. Before that time, the environment department plans to engage interested parties in a variety of ways to help draft the Regulations. Scotland will run a separate consultation, and this is also expected in early 2012. Northern Ireland proposes to follow the same timetable as England and Wales.

1 www.lexisurl.com/iema6066.

SPECIAL REPORT –

GHG MANAGEMENT & REPORTING



BBC News Online, 30 November 2010

"The Institute of Environmental Management and Assessment (IEMA), whose own research shows that only 22% of FTSE-listed companies are fully reporting greenhouse gas emissions, urged the government to act swiftly, or risk being left behind by other countries."

The ENDS Report, 27 November 2010

"IEMA, which represents environmental professionals, believes a step-change is needed to meet the UK's carbon budgets.

A survey of more than 1,600 IEMA members found 80% supported mandatory reporting.

Firms that report their greenhouse emissions tend to have more ambitious targets and had cut emissions by 9% over the past two years, IEMA's survey shows."

Business Green, 30 November 2010

"Government needs to act now to introduce mandatory GHG reporting to ensure that UK businesses gain the benefits from embedding sustainability into their corporate strategy. Mandatory reporting is essential as it will create a consistent and clear framework to enable businesses to plan and benefit from GHG emissions reductions."

edie.net, 30 November 2010

"The Institute of Environmental Management (IEMA) has been calling for the introduction of mandatory GHG reporting. In October it issued a report on this subject, with 80% of members calling for the introduction of mandatory reporting.

IEMA executive director of policy, Martin Baxter said: "Those businesses that publicly report on their greenhouse gas emissions are more ambitious and likely to want to become carbon leaders, moving beyond achieving legal compliance towards low carbon leadership."

The Guardian, 8 February 2011

"The more businesses that report on their GHG emissions, the greater the financial and carbon benefits. Practicing professionals are clear that GHG reporting by businesses can make a unique contribution to overall energy and carbon reduction, to business competitiveness and in helping companies to adapt and prepare for the future green economy."

Your voice - multiplied

iema

Institute of Environmental Management & Assessment

www.iema.net/news

What price justice?

Last year an international committee found that high legal costs are barriers to environmental justice in the UK. **Elisabeth Jeffries** asks whether there is a solution

The UK is in breach of its obligations under the Aarhus Convention on access to environmental justice, declared the committee overseeing compliance last year[1]. The high cost of legal processes in the UK places unreasonable financial risks on citizens seeking to legally challenge activities with an environmental impact, said the Aarhus Convention compliance committee in its draft report on a case brought by the NGO ClientEarth, concerning the dumping of toxic material in the North Sea.

Following the compliance committee's findings, ClientEarth called on the government to fundamentally change the way the UK legal system operates to allow citizens' access to environmental justice. It claims that the existing cost rules often force claimants to cover their opponents' legal fees, as well as their own and the court's costs, with a single-day hearing costing more than £100,000. Few individuals or public-interest groups have the resources to risk being landed with a bill of this size, says ClientEarth. The government counters by saying there are measures in place that allow a court to restrict the costs a claimant will be forced to pay where the case may be of genuine public interest.

A case in point

Toxic material dumped at sea prompted the Marine Conservation Society (MCS) to complain to the Aarhus committee that the UK was not complying with the access-to-justice pillar of the convention – one of three pillars, the other two being access to information and participation. In 2005, the Port of Tyne Authority, under government licence, had put 66,000 metric tonnes of toxic dredge material, taken from the Port of Tyne docks, into the North Sea at an offshore site called Souter Point.

"The method of disposal – so-called 'dump and cap' – had never been tried in UK waters and we had serious doubts from the start that it would work," explains Tom Bell, the pollution officer at MCS at the time. A trial unravelled over three years. "The government repeatedly failed to hold the Port of Tyne Authority to account for a series of licence breaches," says Bell. "Because there's no mechanism [outside of a judicial review] for holding these ongoing decisions legally to account, the only option for the MCS, once the trial was under way, was to sue the government for failing to enforce the original disposal licence. We took legal advice in 2008 and were advised against it," he continues.

The MCS case is one of the more familiar stories surrounding the issue of access to justice on environmental matters. Gita Parihar, legal head at Friends of the Earth (FoE) UK, suggests there are many more unheard tales. "People often want to challenge decisions. In terms of inquiries, we only address a small proportion … we're regularly approached," she states, referring to the FoE's Rights & Justice Centre, which helps communities exercise their legal rights.

Expensive procedures

While challenging the planning process itself is fraught with obstacles, the most expensive procedures take place after a project has been given approval by a local authority. People on very low incomes may be entitled to legal aid – rare for civil cases and something which is being cut – to bring a claim to court; however, this is unlikely to pay for all the costs of overturning a council decision. "If they feel very concerned, they will need to instruct a prominent barrister and the costs for that could be astronomical," says Nicola Williams, a partner in the litigation and the dispute management group at law firm Eversheds.

ClientEarth, which brought the *Port of Tyne Authority* case to the Aarhus compliance committee on behalf of MCS, cites the example of Lilian Pallikaropoulos to illustrate the potential financial barriers to justice.

Pallikaropoulos, a Rugby resident, challenged the Environment Agency in court over its permission to allow a local cement factory to burn tyres. "Although early challenges were brought under legal aid protection, this protection no longer applied when she appealed against an unfavourable decision to the House of Lords. It found against her after a hearing that lasted only three days," ClientEarth states. Pallikaropoulos must pay up to £88,100 – although the case has now been referred to the European Court of Justice.

Such a large sum is typical in some of the cases quoted by various organisations investigating access to environmental justice, and is clearly a large amount of money for an individual or small group to find. The Milieu study[2] for the European Commission – which looked at member states' measures for access to justice in environmental matters and was published in 2007 – found evidence of a tough cost regime in the UK.

It said that the UK was among the five worst countries in Europe in terms of costs and legal aid. The study gives examples of practices in various EU countries. For instance, in Hungary, a claimant's own lawyer and court fees for a one-day hearing average out at €500. The same fees in the UK average out at between €7,500 and €22,500. In Belgium the average is between €3,000 and €5,000, and in Germany it is up to €10,000. In Spain and the Netherlands, the losers pay when a claim is made in bad faith, while in Belgium they will only have to pay a €243 lump sum to compensate the winning party.

Claimants often have to cover their opponents' legal fees as well as their own and the court's, with a single-day hearing costing more than £100,000

The practice in England and Wales of charging the losing party for the costs of the opposing party as well as their own explains why the final bill is usually so high. "In reality only the wealthy or those on income support can contemplate legal action," asserts Parihar at FoE.

"The 'loser pays' principle means that in the UK a claimant runs the risk of having to pay not only his or her own costs, which are likely to be substantial, but also those of the other side; a claimant has no certain way of controlling his opponents' costs and often there is no cap on the amount a claimant can be required to pay," states Katherine Sladden, communications officer for ClientEarth. In addition, a client risks "having to pay potentially huge amounts in damages to commercial companies whose activities may be affected by the legal proceedings," she says.

One-way costing

What then would be the ideal system? At around the time of the Aarhus committee's warning to the UK, judges and other legal and government professionals were reviewing the problem. In its defence to the criticism, the UK government referred to a system known in England and Wales as Protective Costs Orders (PCO) (a "protected order for expenses" in

Elisabeth Jeffries is a journalist specialising in business and the environment

The Aarhus Convention

The UNECE Convention on access to information, public participation in decision-making and access to justice in environmental matters – known as the Aarhus Convention – was signed on 25 June 1998, in the Danish city of Aarhus. It entered into force on 30 October 2001. The convention:

- links environmental rights and human rights;
- acknowledges that the current generation owes an obligation to future generations;
- establishes that sustainable development can be achieved only through the involvement of all stakeholders;
- links government accountability and environmental protection; and
- focuses on interactions between the public and public authorities in a democratic context.

The UK government ratified the convention on 24 February 2005, becoming a full party to it in May 2005.

Scotland), through which a court can limit the costs a claimant will be obliged to pay in order not to hold back a case where an issue of public interest is at stake.

One-way shifting means making defendants pay a claimant's costs if the claimant wins, but exempting the claimant if the defendant wins the case

But ClientEarth has argued that PCOs are not effective enough because it is often very uncertain whether an application for such an order will be successful. And, if it is, to what extent it will be successful: for example, what form it will take and how much the claimant will still need to pay in terms of the other party's and its own costs. This, ClientEarth argues in a communication to the Aarhus compliance committee, has a strong "chilling" effect on potential claims, because the risk of bearing excessive costs still exists. Even the cost of applying for a PCO, which can be up to £7,000, is too much for some people, says ClientEarth. It also describes the conditions imposed to obtain PCOs as restrictive, particularly the requirement to establish the "public importance" of the issue being challenged.

Some reforms have been proposed, however. ClientEarth has made a proposal to change to a process known as "one-way costs shifting". This, says Sladden, would address the prohibitive financial risks of bringing a case.

"One-way costs shifting means making defendants pay the claimant's costs if the claimant wins, but exempting the claimant from having to pay the defendant's costs if the claimant loses. Claimants bringing public interest environmental cases shouldn't ever have to pay a defendant's costs, irrespective of whether or not their case is successful, but if a claimant does bring a successful case, the defendant should pay the claimant's costs," she says.

Parihar is broadly in favour of this and agrees with the conclusions of Lord Justice Jackson's review of civil litigation costs[3], which was published last year and included a recommendation for qualified one-way cost shifting, where claimants are unlikely to be liable for defendant costs in civil claims. "Qualified" because, as with unsuccessful claimants relying on legal aid, a defendant would only receive costs from the losing party in certain circumstances – for example, after consideration of the means and the conduct of the claimant. She argues that Sullivan's recommendations "seem to be very sensible".

Fighting fund

There are some who disagree that the problem is as bad or as widespread as the *Port of Tyne Authority* and *Pallikaropoulos* cases may suggest. Nicola Williams describes England as "a pretty litigious nation" compared with other European countries. If that is so, the cost constraints do not seem to be severe enough to prevent people from acting.

Peter Young, strategic director at environmental consultancy SKM Enviros, points to the demands of the planning process prior to planning consent. "Other countries have less rigorous planning processes; in UK public inquiries you can just turn up and give evidence or information; it's not the same everywhere else," he remarks.

It follows that perhaps a number of problems that in other circumstances might have come to court may be dealt with at that stage through planning discussions or even protests and marches. The success of many campaigns against wind farms is a case in point. For a long time, wind-power developers viewed the UK as a difficult place in which to invest because of the long drawn-out planning process and frequent success of anti-wind campaigns.

"Aarhus can be useful; prior to the environmental regulations [eg on hazardous waste] that came in throughout the 1980s and 1990s, the only way to deal with challenges was by suing a corporation," Young states. Nonetheless, he suggests that protest movements make a major difference: "Where there has been concern, they are willing to take up the cases; they set up an appeal for funds," which may pay for legal action.

But Bell suggests that this has limited potential. "Building a legal fighting fund as part of an overall campaign plan is a good potential strategy but it deprives the organisation of that money for infrastructure support, salaries etc. Relying on raising a fighting fund to pay the damages *after you lose* is a strategy no NGO would contemplate," he remarks.

Young, however, argues that the uncertainty prior to a case coming to court may not always be particularly great. "There are other routes. If you go to a local authority ombudsman, they would give you a view on the case. You'd know what the odds were," he says.

1 www.lexisurl.com/iema6064.
2 www.lexisurl.com/iema6061.
3 www.lexisurl.com/iema6063.

Low impacts at the Inn

Paul Suff reports on Whitbread's sustainable building programme

The hospitality sector in the UK is responsible for more than 3.5 million tonnes of carbon emissions each year. Whitbread, whose brands include Beefeater Grill, Brewers Fayre, Costa Coffee and Premier Inn, is working hard to reduce its contribution. November 2010 saw the opening of the company's second "sustainable" Premier Inn hotel and an adjoining Beefeater Grill, its first "low-carbon" restaurant. The £6 million development in Burgess Hill in West Sussex includes a range of sustainable construction technologies, such as a ground-source heat pump (GSHP), a rainwater harvesting system and LED lighting, and is part of Whitbread's sustainability programme, called "Good Together", which aims to boost the environmental performance of the company's hotels, restaurants and coffee shops.

The Burgess Hill Premier Inn is the latest evolution in environmentally friendly hotels from Whitbread, and follows the opening in December 2008 of its pilot "sustainable" Premier Inn in Tamworth, Staffordshire. The cost of Tamworth was around 25% more than a conventional hotel would cost to build. But the costs of many of the technologies used is falling, and Whitbread has learned from its pilot what technologies work best and in the right combination, meaning that Burgess Hill cost only 10% more to construct than a standard-build Premier Inn. The environmental performance of the 60-bed hotel is far superior to a similar-size conventional hotel and is expected to deliver 70% carbon and 60% water savings against that of a conventional Premier Inn.

Technological breakthrough

Whitbread's approach to sustainable building has two strands: trialling new construction methods, materials and technologies in new builds, and introducing environmental initiatives during refurbishments. The company installed its first grey-water recycling system at a hotel in Doncaster in 2007, saving about 22% on the building's annual bill for water. Other available green technologies – including sheep's wool insulation, solar panels, mechanical ventilation and heat-recovery systems, recycled materials (such as plasterboard) and locally sourced low-carbon cement – were installed at its purpose-built Tamworth Premier Inn to see which were viable for future use in its 1,800-strong property portfolio.

Whitbread has spent £600,000 on automatic meter-reading equipment for electricity, gas and water use, and it is already generating payback

An assessment of the site during its first year of operation by independent assessors revealed an 81% reduction in operational carbon emissions compared with a similar- size Premier Inn in Telford. There was also a 66% saving in water use.

Environment manager Ben Brakes admits that some of the technologies trialled at Tamworth were more successful than others in terms of their environmental

and financial benefit. "We wanted to see what worked and what didn't. Heat recovery from buildings, rainwater and grey-water recycling, LED lighting, sustainable timber, low-carbon cement and triple-glazed windows were all winners," he says.

Others, particularly the sheep's wool insulation and photovoltaic (PV) panels to heat hot water, were not so successful. "PVs, for instance, simply didn't work because the sun shines at the wrong time," explains Brakes. "The panels generate most hot water between 11am and 3pm, but the peak demands of the hotel are 6am to 9am and 5pm to 8pm." The introduction of the feed-in tariff has not made them any more viable. "We operate on a 10-year return on investment and the payback is simply not there," says Brakes

The Tamworth Premier Inn also has a GSHP to provide heating, cooling and hot water. Although the 32.2kW GSHP at Tamworth was expensive to install, it saved 50% on the cost of energy for the site and Whitbread says that this makes it a viable technology for large sites. "Tamworth is a small 20-bed hotel, but Burgess Hill is three times the size, so the payback on the GSHP meets our ROI [return on investment] criteria," says Brakes.

Whitbread has installed a 40kW GSHP at Burgess Hill and the financial viability of the technology is improving all the time. The cost of installing the GSHP has fallen considerably. Whereas Tamworth has eight 100-metre heat-source collectors, Burgess Hill has 17, with the price of boring the holes half that at the pilot hotel in Staffordshire. Building both the Premier Inn and Beefeater restaurant together at Burgess Hill has produced environmental

Installing LED lighting is a "no brainer" as return-on-investment is now down to two years and most systems are guaranteed for three

benefits that were unavailable at Tamworth because the pilot eco-hotel was constructed adjacent to an existing pub. "We've been able to share resources at Burgess Hill and can exchange heating and cooling between the two buildings," reports Brakes. The GSHP heats and cools both the hotel and the restaurant, for example, which means the costs of installing the system will be paid back sooner than if only the hotel was a new build. Whitbread will also benefit financially from its GSHPs when the Renewable Heat Incentive starts in June.

Rollout

Many of the technologies trialled at Tamworth have been incorporated into the Burgess Hill development, such as the GSHP and automated light controls with motion sensors that cut energy consumption, as lights are only on when needed. Low-flow, aerated showerheads that work effectively but consume much less water, which Whitbread developed with key industry suppliers, have also been installed, as well as dual-flush toilets and low-flow taps. And, although the sheep's wool insulation has been discarded, Burgess Hill still has high-efficiency thermal insulation, using both natural and recycled materials, which will further reduce energy use, by about 50%, predicts Brakes.

The rainwater and grey-water recycling system at Burgess Hill is much the same as the one installed at Tamworth. The water is collected in an aerobic treatment tank and filtered to separate solid waste, biomass and bacteria, and provides 100% of the hotel's toilet water use, saving 20% of its total water consumption. Whitbread worked with water management specialists Waterscan to develop the system.

Like Tamworth, Burgess Hill is a timber-frame construction, using wood from sustainable sources, and has timber flooring instead of concrete floors.

Whitbread is continually trying to improve the environmental performance of its new builds and is also trialling some new technologies at Burgess Hill. These include a mechanical-ventilation heat-recovery (with air-to-air heat pumps) system to extract waste heat from the Beefeater restaurant and kitchens to pre-heat the hotels domestic hot water. Heat is also recovered from wastewater. Sun pipes, which reduce the need for artificial lighting by increasing natural light, are also being used for the first time.

Brakes acknowledges that Whitbread will not be able to retrofit many of the technologies used in Tamworth and Burgess Hill to existing Premier Inns and buildings in the company's estate. Yet some are being installed as part of the company's refurbishment activities. LED lighting is now becoming standard across Whitbread. "LED lighting makes an enormous difference to energy

The Burgess Hill Premier Inn is the second eco-friendly one to open

consumption. Installing them is a 'no-brainer' as the ROI is now down to two years and most are guaranteed for three! We're investing £2.5 million in rolling out LED lights throughout the business," says Brakes. Low-flow, aerated showerheads, dual-flush toilets and low-flow taps are also being retrofitted as standard.

GSHPs are out of the question at many existing sites, due to their location in built-up areas, but Whitbread is currently investigating the viability of air-source heat pumps as an alternative. The pumps, which absorb heat from outside to heat buildings, could easily be retrofitted to existing buildings. "These are getting more efficient and make more sense for many of our existing buildings, particularly in town centres," says Brakes.

Detection

Meters monitor all the system at Burgess Hill, enabling Whitbread to effectively measure and evaluate every piece of equipment. Brakes offers the standard management refrain: "You can't manage something if you don't measure it," before adding that monitoring also helps us "detect problems."

Smart metering is common throughout the estate. Whitbread has invested £600,000 in automatic meter reading (AMR) equipment over the past few years to log electricity, gas and water use, and it is already generating a payback. The water data, for example, goes automatically to Waterscan, which collates all the information and provides Whitbread with real-time consumption reports, helping to detect leaks. The Premier Inn at Chichester gives an indication of the scale of the financial savings that can be achieved from stopping leaks. The company discovered a leak through the AMR logger at the hotel. Repairing the leak saved the company £8,000 a year.

Maintaining equipment can be a potential problem because some of the technologies have been so rarely used in the UK that there is insufficient maintenance capacity. Repair and maintenance of the GSHP installed at Tamworth relied on engineers based in Cornwall, which meant that if there was a fault the system would have been down for a considerable period. Now, Whitbread has trained its own maintenance staff to maintain the technologies it is installing at its sites.

A sustainable future

Whitbread plans to open 3,500 hotel rooms this year – equivalent to another 42 Premier Inns the size of Burgess Hill – and each building will use some of the technologies trialled at Tamworth and developed further at Burgess Hill. The company is not resting on its laurels, however. It is determined to continually push its use of sustainable construction methods and materials, and energy-efficient technologies, as it seeks to achieve by 2020 its Good Together target of reducing the operational (Scope 1 and 2) carbon emissions from its estate by 26% against 2009 levels.

Behaviour change

How people use buildings is often the key to the environmental performance they deliver rather than the most up-to-date technologies and building management systems. "You can install the most efficient equipment and controls on the market, but as soon as there's human involvement, the best-laid plans can falter. It's vital to coach people to make sure they get the message and understand the importance of conserving this precious resource," comments Chris George, head of energy and environment at Whitbread.

Technology can help eliminate some variation in behaviour. Card-entry systems that control room temperature and lighting controls are ubiquitous in the hotel industry, while hotel windows that do not open, ensuring a building's thermal envelope is retained, are also becoming common. Burgess Hill has both. Information is also important. Each hotel room has a pamphlet advising customers to turn off taps and to shower rather than take a bath, for example.

But it is not just about changing customer behaviour; employees also need to work in ways that enhance, rather than damage, the environmental performance of a building. Whitbread has worked hard to raise awareness of energy and water issues among its workforce and to encourage them to adopt working methods that reduce environmental impacts. Premier Inn housekeepers carry cards with tips on going green. The tips include: save water and only flush the toilet the minimum number of times necessary during room cleaning; only operate dish/glasswasher and washing machines with full loads and where possible use 30°C laundry programme; and report any maintenance issues such as dripping taps or running toilets as soon as possible. Kitchen staff are also being weaned off potentially environmentally damaging behaviour through a combination of equipment and education. "Staff would typically turn on all the gas burners to warm up the kitchen first thing in the morning. The introduction of induction hobs and raising awareness is changing that behaviour," explains Brakes.

Behaviour change is also supported through rewards for hotel managers, which are linked to improving environmental performance. Managers have a target to reduce energy consumption by 3% per annum, and this goal accounts for a percentage of their annual bonus. They each receive a monthly energy and water footprint report based on the meter and billing data, so they can monitor performance and identify where consumption is diverging from the expected norm. "Sub-metering is important for spotting specific changes in consumption and gives managers more control over what's happening on their site," says Brakes. Whitbread is extending sub-metering wherever possible.

The big MACC

Niall Enright explains how to use a marginal abatement cost curve to evaluate the benefits of different energy-efficiency projects

Niall Enright is director of sustainability and climate change at ERM

Most environmental professionals will undoubtedly have heard of marginal abatement cost curves (MACCs). They are regularly used in climate change circles to help visualise complex data about carbon costs and emissions volumes.

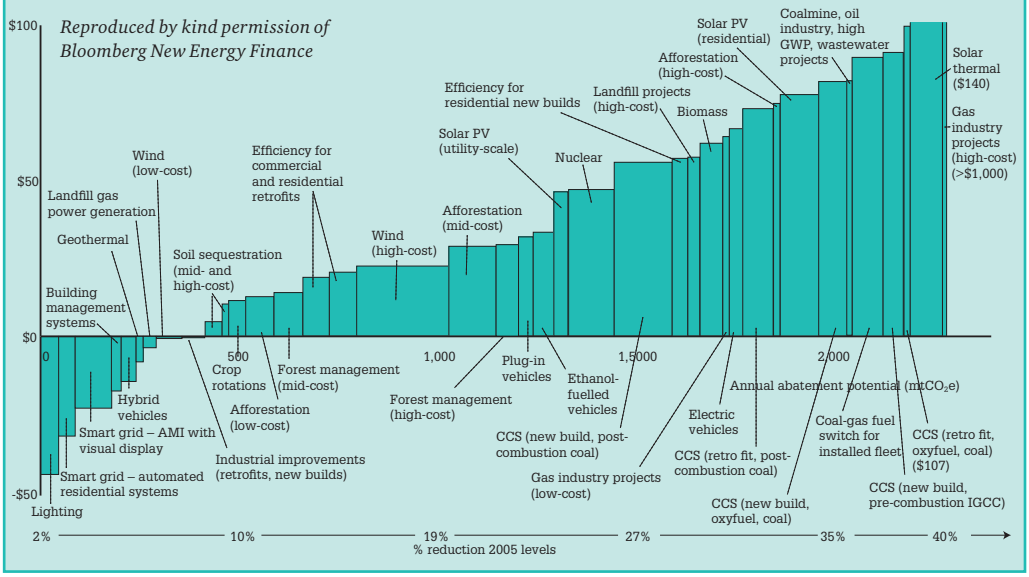
The example (below) from Bloomberg New Energy Finance illustrates the potential for different technologies to reduce greenhouse-gas (GHG) emissions in the US. It ranks technologies in ascending order of cost per tonne CO_2 equivalent (tCO_2e) – that is to say that those projects that have the lowest cost (in terms of per tCO_2e reduced are on the left and those with the highest cost are on the right. Technologies below the line actually make a saving (a negative cost) over their lifetime – perhaps because they reduce energy consumption as well as carbon.

The Bloomberg curve illustrates that lighting is the most cost-effective technology, at a net saving of just under $50 per tCO_2e abated (on the left-hand side), while way over to the right there are solar-thermal and gas industry projects, which have a net cost of more than $100 per tCO_2e over their life cycles. There is another very useful piece of information in this chart. The width of each of the bars illustrates the total potential annual CO_2e saving for each technology. So, a wide bar represents a large emissions reduction compared with a narrow bar, with wind (high cost), towards the middle of the chart, delivering the largest CO_2 abatement potential in reduction terms. Because the projects are ranked side by side, the horizontal axis actually shows the annual *cumulative* emissions reductions for all the preceding technologies.

Taking both these factors into account, savings and cumulative emissions reductions, you can see that this MACC demonstrates that the US can save just under 280 million tonnes of CO_2 equivalent ($mtCO_2e$) emissions, up to and including those emissions from landfill gas power generation, by using technologies that are either break-even or have a net saving. After that, each subsequent project has a cost for each tCO_2e it abates. If the US were to introduce a *price of carbon* of, say $50 per tonne, then all the technologies to the left of nuclear would become financially viable, as they're cheaper, from a whole-life perspective, than paying a carbon price.

Looking at the horizontal axis, this shows a cumulative total of just under 1,500 $mtCO_2e$ potential emissions reduction, 1,200 $mtCO_2e$ over and above the 280 $mtCO_2e$ achieved without a carbon price. Projects to the *right* of nuclear are more expensive than the $50 carbon price per tonne of abatement – therefore the carbon price alone is not enough to make them financially attractive. This is why policymakers like MACC curves so much; it gives them an "at a glance" indication of the impact of various carbon-price signals.

MACC for GHG reductions in the US



Your own MACC

Creating each entry in a MACC involves a number of steps. First, you need to determine the

lifetime of the technology or project and then calculate the cost/saving of the technology for each year it is in operation. These annual costs/savings need to be discounted to the net present value (NPV) – that is, the difference between the costs of the investment (cash outflow) compared with the return (cash inflows), using a given discount rate. Discounting reflects the fact that a cost or saving today is more valuable than a similar cost or saving in the distant future.

The *discount rate* that is used varies, but reasonable choices would be about 9% for a private business or as low as 3% for a government body. The choice here is important as low discount rates increase the long-term net benefit of a technology compared with its initial cost and so bring more technologies under the horizontal line of the MACC. The discount rate used should be appropriate to the entity developing the MACC, if they're the ones financing the projects.

The £/tCO_2e is obtained by dividing the sum of the total NPV of the project/technology by the total CO_2e abated by the project, which is not discounted.

Calculating NPVs from a series of annual costs is relatively easy with the NPV function in Excel. However, creating the actual MACC chart is less straightforward as Excel does not have the ability to draw variable-width bar charts. There are a number of techniques available to help do this (see Further information).

Environment Investment Return

There are other ways that MACC presentations can be used, extending beyond the analysis of carbon. For example, MACCs can be created with cumulative kWh electricity on the horizontal axis and discounted £/kWh on the vertical, which is entirely analogous to the carbon analysis. There are other approaches that can factor multiple environmental benefits rather than just carbon or just electricity. One such approach is an Environment Investment Return (EIR) (below). This takes a number of environmental impacts of a project – for instance water use, CO_2e, nitrogen oxide and volatile organic compounds, etc – expressed in financial terms and compares the environmental benefit with the discounted cost of the project.

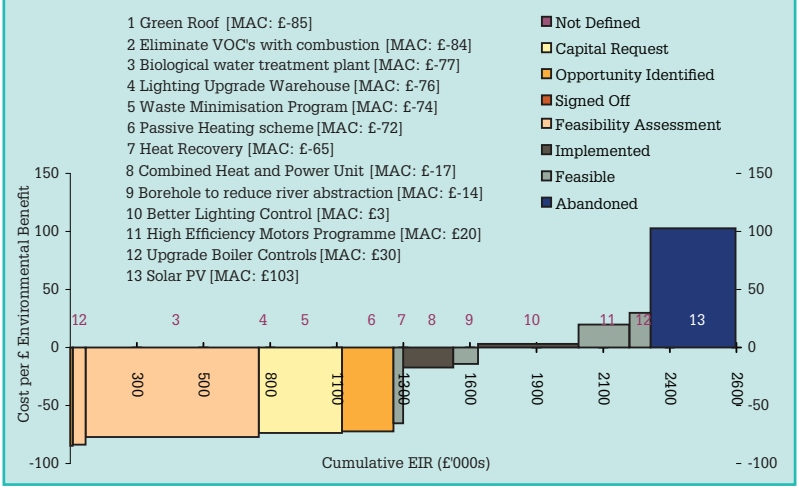
It is important when using multiple factors to select equivalent costs, so as not to favour one factor over another. These environmental costs are usually either "market" prices, such as the cost of carbon allowances, or estimated/projected prices, which can be obtained from academic studies, for example.

In the EIR approach, the equivalent of the marginal abatement cost is the environmental benefit divided by the NPV of the project, so that those projects that have the greatest positive environmental impact per £ spend appear on the left, as in the MACC, while the size of the environmental benefit is shown on the horizontal axis. As the pricing of "externalities" becomes more commonplace and organisations look to understand and differentiate options for capital expenditure, this type of analysis will become increasingly common.

The MACC is a powerful way of comparing a range of different investment choices. While such curves are usually employed for assessing carbon, it is quite feasible to use the same techniques to compare other environmental factors, and help inform decision-making whether for investment choice or for pricing externalities. Given the powerful presentational benefits on offer, MACCs should be part of every environmentalist's communications toolkit, and it is well worth investing effort in understanding how to construct them.

Further information: Energy technology firm Somar has examples of MACCs at www.lexisurl.com/iema6058. Niall Enright can also help. Contact him at niall.enright@sustainsuccess.co.uk.

Example: Environment Investment Return



BUTTERWORTHS ENVIRONMENTAL LAW NEWSLETTER

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

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

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

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

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

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

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

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

TAKE OUT YOUR SUBSCRIPTION TODAY!

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

2 My Delivery Details *Required Fields

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

*Surname

*Job Title

*Company

*Address 1

*Address 2

*Address 3

*Town *Postcode

Telephone

Email

Signature Date

3 Return Your Order

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

Tel +44 (0)845 370 1234

Fax +44 (0)20 8212 1988

Email newsales@lexisnexis.co.uk

Please quote response code **AD8085**

Privacy Policy

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

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

Upper membership levels attract higher pay

Pay Full IEMA members (MIEMA) typically earn about £10,000 a year more than their affiliate counterparts, while associate members (AIEMA) earn, on average, £12,000 a year more than graduate members.

These are the headline findings from our latest pay survey, which was carried out between 23 December 2010 and 12 January 2011. It also found that environmental professionals with full membership can expect to earn, on average, more than £50,000 a year.

These results reveal that the median salary – the mid-point in the range of respondents' salaries – of an employed environmental professional of any membership level is £35,200. This compares favourably with the median for all UK employees, which in December 2010 was £25,900.

Our data also reveal that the median salary for a full member is £90,000. The top 10% earn at least £60,030.

The figures not only indicate that the average earnings of environmental practitioners have remained strong in the face of the economic downturn, but that the professional recognition gained from IEMA membership and qualifications is reflected in salaries. Professional development is central to the progression of your career as well as your earnings; perhaps these salaries have motivated you to upgrade your membership? IEMA is about to conduct a round of full membership upgrades but the registration closing date is Monday 1 March.

Or, if you do not feel ready for full membership but are interested in achieving AIEMA there are two rounds of the Associate Open Book Assessment between now and the end of 2011 (see p.35 for details of the first round), giving you the opportunity to climb the membership ladder, enhance your professional recognition and maybe even increase your earnings.

Further results and a full analysis of the IEMA practitioners survey 2011 will be published in a special supplement accompanying the March issue of *the environmentalist*.

Member earnings

	Mean	Median
Graduate	£23,088	£23,000
Affiliate	£38,868	£34,000
Associate	£38,914	£35,000
Full	£50,399	£90,000
Fellow	£92,138	£45,000

Getting to know the natural environment

Case studies The world's natural resources are being depleted at an unsustainable rate. Sixty per cent of the services provided by the planet's natural systems are already degraded. This damage is expected to gather pace with growth in world population, changing land use, economic development and climate change.

IEMA, in partnership with Defra, held a joint workshop at the end of 2010 to provide some of the institute's senior environment and sustainability professionals from business with the opportunity to input into the business theme of the government's "Natural Environment" white paper, which is due to be published in the spring.

An outcome of the workshop was that practical examples of how businesses are considering and engaging with the natural environment are now needed to strengthen understanding of what support practitioners need to operate effectively in this area. Case studies are an effective way to demonstrate the relationship between business and the natural environment, and to illustrate actions and learning that have been taken to make improvements.

IEMA is keen to produce case studies with individual members and organisations that have: engaged their supply chains in reducing impacts on the natural environment and biodiversity; adopted an ecosystem services approach to better reflect the value of the natural environment to the organisation; taken action that has produced both business benefits and reduced impact on the natural environment; involved communities and partners in working to protect and enhance the natural environment; introduced measurement/monitoring, indicators and reporting to stimulate improvement activity; and made improvements through technology and innovation.

The natural environment is a key theme for IEMA in 2011

The institute is particularly keen to establish: what organisations are doing to work with the natural environment; how far into the future they are planning; what are the expectations from consumers and stakeholders; what barriers they have encountered; and what successes they have achieved. The role of the practitioner in all of these stages is very important so case studies from individuals are as welcome as corporate contributions.

IEMA will use the case studies to help the government better understand how business and the natural environment work together, and to inform our own knowledge base about any training gaps in this area. Some members have already submitted case studies but we'd like to hear from more members and their organisations.

If you would like to support IEMA in this work, please contact Katrina Pierce at k.pierce@iema.net for more information or visit www.lexisurl.com/iema6164.

From the knowledge hub

Keeping you up to date with IEMA services and events

Exchanging ideas in Manchester

"Knowledge exchange is a contact sport," declared a session facilitator at IEMA's recent research and knowledge transfer conference. Jonathan Abra, knowledge transfer manager at the Environmental Sustainability Knowledge Transfer Network, defined the need for direct communication in practitioner-proofing environmental research during the final session of the event, which was held in Manchester on 19 January. His allegory was delivered after witnessing a stimulating day of research presentations, discussion, debate and sharing that established some very real, and very practical, outcomes.

The fourth annual Knowledge Exchange was hosted in association with Envirolink North West and supported by the Environmental Sustainability Knowledge Transfer Network, NISP, the Technology Strategy Board and the University of East Anglia. The Knowledge Exchange provides IEMA members and those affiliated with our partner organisations with an opportunity to come together in order to review innovative environmental research and create new knowledge.

This year's event focused on five central themes: water, small and medium-sized enterprises, environmental assessment, communications and engagement, and life-cycle analysis.

In the opening session, the chair, Ed Butt (pictured), vice-president of sustainability at Reckitt Benckiser, outlined what the Knowledge Exchange should achieve: practitioners must "agitate" the researchers *and* the research to really stimulate its relevance and value. In return, practitioners were told to expect to find "new approaches, emerging techniques and better ways to achieve more sustainable outcomes".

A key focus of the morning sessions was water. From sustainable urban drainage systems to the development of a grey-water treatment method, the presentations demonstrated the pioneering technology practitioners can look forward to utilising in the coming years. The communications and engagement strand inspired

Reckitt Benckiser's Ed Butt chaired the Knowledge Exchange

lively discussion, exploring the role of stakeholder groups in waste management plans and even, ambitiously yet inevitably, "bridging the gap" between academics and end users, namely businesses and the public.

With nine separate workshops – academic presentations followed by facilitated debates – happening throughout the day, there was no shortage of useful information and ideas. As with the practical feedback provided to the researchers, these workshop discussions have their roots in practice and realism; they are not always positive but are evidence of engagement between academics and practitioners.

Butt delivered the day's outcomes and conclusions during the closing session of the day, revealing what they had collectively achieved and contributed to environmental knowledge.

Rounding off the day with an in-depth and thoughtful question-and-answer session, covering value versus values and the place of environmentalists in the government's planned Big Society, Butt stated that, for him, "the only thing missing from today was more time to discuss."

The pages of *the environmentalist* cannot contain all of the many points raised but they are available as a member resource on the Knowledge Exchange web pages at www.lexisurl.com/iema6161.

Three themes of activity

In shaping our future programme of activity, IEMA is conscious of the need to link issues together so that members can see a coherent whole, and better understand how their work is an important part of the overarching development of the profession.

Our work will be structured around three core themes – sustainable business practice, impact assessment and the natural environment (see p.33).

It will seek to lead and support the profession through the delivery of support tools and guidance, professional development, policy and membership engagement.

It will also provide the basis against which we review our qualifications and competence framework (see p.36). A significant element of our work will focus on equipping environment professionals with the skills needed to help shape sustainable business practice. A wide programme of engagement with members will commence in March where we'll be seeking to understand the key issues that practitioners encounter.

Our impact assessment programme aims to position environment professionals to lead, contribute to and shape impact assessment to deliver better environmental outcomes from policies, plans and projects.

A special report on environmental impact assessment will be published in the spring, setting out experience to date and future direction, and ahead of a possible revision to the EU EIA Directive (85/337/EEC) (see p.19).

Underpinning all our work is the natural environment. IEMA's long-term ambition is to develop and support knowledge exchange between environmental practitioners on the current and future state of the natural environment, and enable practitioners to embed and communicate the implications for business and society.

IEMA will regularly communicate our activities in these areas as the programmes evolve. We hope that members feel able to contribute and participate in what is an important and exciting agenda.

Competencies for environmentalists

Professional development IEMA is proud of its associate, full and fellow standards, and of the 68% of members who have achieved these professionally recognised levels. But as the profession develops it is necessary for us to maintain the relevancy of these standards. As a result, IEMA is embarking on developing a competency framework for the entire environmental profession. It will have many uses, including helping members plan their professional development and employers to make decisions about the type of knowledge and skills they require in certain roles.

To implement the framework within such a diverse profession is a sizeable challenge, but is necessary. Our work over the past three to five years with employers, graduates and management development schemes as well as with the national skills framework and National Occupational Standards has informed our thinking and the development of this overarching competency framework. The institute's Professional Standards Committee will oversee the work and updates will be provided in *the environmentalist*.

For more information, contact director of membership services Claire Lea at c.lea@iema.net.

Short cuts

Open Book 2011

The deadline for registration for the June Associate Open Book Assessment (OBA) is 20 May 2011. Members who want to take part in order to progress their membership to the recognised AIEMA level should register ahead of the assessment period, which takes place between 6 and 20 June.

Attending one of our regional Associate Membership Workshops (see events list, right) will help you to understand the process and how you can increase your chances of success.

To register for the OBA simply contact the IEMA Membership Team at info@iema.net with any queries or visit www.lexisurl.com/iema6163, where you will also find helpful past papers.

Update your membership record

Contact details IEMA's membership forms a unique community of more than 15,000 environment and sustainability professionals worldwide. Ensuring that each member receives all of their membership benefits and relevant information is at the core of IEMA's values, but can be hindered by out-of-date contact details.

As you have received *the environmentalist* through the post that means IEMA has your current address. But do we have all of your current details? If we do not know your up-to-date telephone number, email address, employer details or job title we cannot deliver appropriate event invitations, policy briefings or opportunities to help shape the profession. Maintaining our member records is a constant process but IEMA is about to implement a new database to further improve member services. Thus, we must ensure that any member details we transfer to our new system are up to date.

So now is the time to log in to IEMA's website, check your member record and update any details that are no longer valid. By doing this you help us to understand your role and subsequently contact you with timely and relevant information. Updating your details is simple (see panel) and you can even tell us which email or postal address you'd prefer us to contact you at. Go to www.iema.net today to check your details – your access to professional development opportunities may depend on it.

Four simple steps to update your profile

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

If you have not previously logged in to the website, go to the IEMA website, click register, follow the onscreen instructions and then complete steps 1 to 4 as listed above.

IEMA EVENTS

Date	Region	Topic
Regional events		
2 March	North East	REACH
4 March	Midlands	Biodiversity
17 March	North East	EMS: an introduction
29 March	East England	Making the case for climate change and resource efficiency
CPD workshops		
2 March	South East	Strategic environmental assessment (SEA)
9 March	Midlands	Into environmental impact assessment and SEA
23 March	South East	Ensure your waste management practices are compliant and sustainable
Membership workshops		
8 March	Midlands	Associate Open Book (Birmingham)
10 March	Yorkshire	Associate Open Book (York)
23 March	Scotland Central	Associate Open Book (Edinburgh)

Competency going to waste

NQA's Catherine Golds and Max Linnemann tell IEMA about the the assessment body's new waste management standard

Waste Much is made of personal and professional competency in the environmental profession. Employers are, quite rightly, told that to employ individual practitioners who have been recognised as "professionally competent" is the pinnacle of best practice. But does a competent practitioner make for a competent organisation? And how far does individual competency really go in a high-impact sector?

Catherine Golds, head of NQA, the leading assessment, verification and certification body and sponsor of IEMA's 2010 Environment and Business conference, says that forward-thinking organisations should now be aiming for a "holistic corporate competency approach", using a revolutionary new management system.

In April 2008, the Environmental Permitting Regulations 2007 (since amended) came into force, which specify that all operators who require an environmental permit demonstrate technically competent management of their sites.

Until recently, the only method available to organisations was the Certificate of Technical Competency (CoTC). Following the waste management industry's request to develop an alternative method to the CoTC, the Competence Management System (CMS) was born.

The CMS – approved by Defra and the Welsh Assembly government – is the first management system that deals exclusively with competence and is now available for use by employers. NQA and EU (Energy & Utility) Skills are currently working on a pilot with a heavy-impact waste organisation, and the benefits of taking a company-spanning attitude to proficiency and recognition, particularly in large waste organisations, are about to be revealed.

"The primary benefit of a CMS is that it allows operators to organise their employees more effectively and productively by deploying them in a way that ensures its operations are technically competent at all times. Organisations are afforded more flexibility through controlling their own competence requirements and training internally. To have verified competence on a corporate level comes across much better to stakeholders," says NQA energy and environmental sector manager Max Linnemann.

NQA's Catherine Golds (left) and Max Linnemann

The CMS takes into account internal and external training and qualifications based on National Occupational Standards.

It will ensure that all individuals on-site, whose work contributes to the conditions of an environmental permit, are competent to carry out their role. "This could mean that if someone is ill or can't come into work on a particular day, other members of staff could be legally permitted to cover their role in their absence. Under the old CoTC scheme, if there wasn't someone else with that certificate, they simply couldn't legally carry out this work," Linnemann explains.

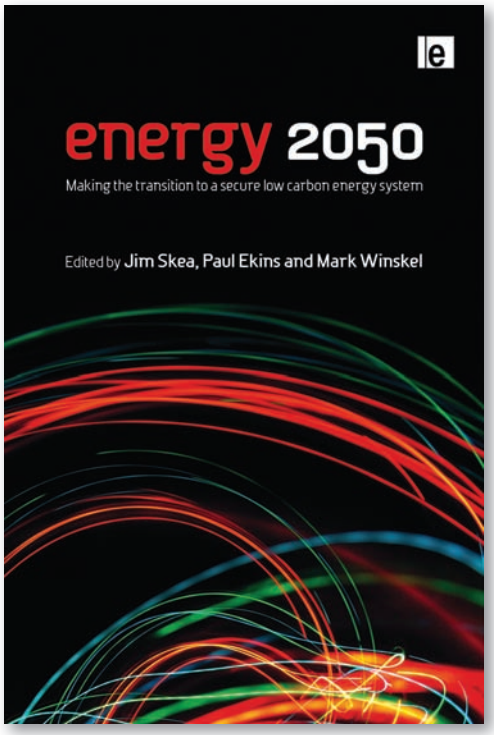
A CMS is primarily suitable for larger organisations with their often high-impact operations, internal training schemes and large workforces. At a time when mandatory carbon reporting is being debated and more and more best-practice and legislative requirements are being pressed upon business, what may prove most appealing to these companies about the CMS is that it has been created to fit with other management systems. Organisations using standards such as ISO 14001 are able to integrate the new CMS easily. As Golds explains: "As this particular scheme has developed, it is important to take into account that there are other standards that should still be considered, particularly within the waste industry, as what they deal with is often very high risk to the environment.

"Many organisations are already running ISO 14001 programmes, so the fact that a CMS has been considered is very forward thinking. Larger organisations can now enjoy the cost benefits and efficiencies of certifying their organisation to manage waste instead of individual employees, as a result of the CMS. However, NQA are conscious to make sure that there aren't too many standards in the market place to avoid confusion."

With its long history of contributing to the writing, defining and launching of environmental standards and providing organisations with reliable frameworks, NQA has been well placed to test and instigate the CMS, particularly alongside other management systems.

For more information on NQA and the CMS visit www.nqa.com.

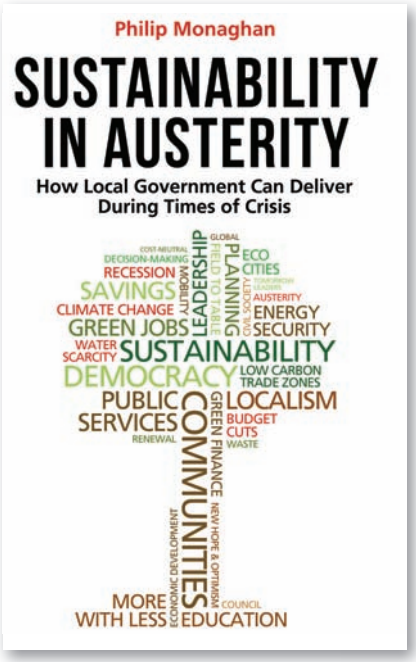
IEMA would like to thank NQA for its valued sponsorship and contribution to the Environment and Business conference in 2010.



Energy 2050

Editors: Jim Skea, Paul Ekins and Mark Winskel / Earthscan / Hardback: £49.99 / ISBN: 978–1–84971–084–8

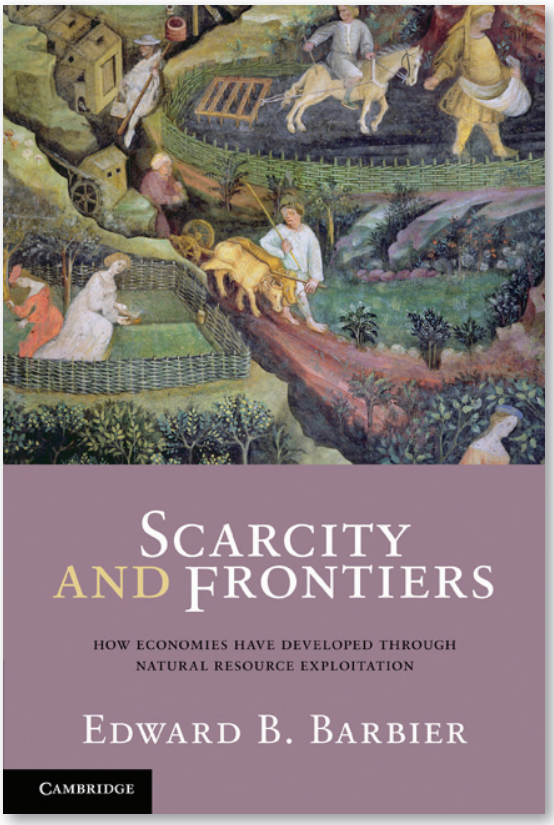
BOOK The issues of transforming the UK energy infrastructure and meeting the 2050 target to reduce emissions by 80% are explored in-depth in this book, which is the outcome of a major national energy-research project by the UK Energy Research Centre. The titles of the 12 chapters – which include "UK energy in an era of globalisation", "Pathways to a low-carbon economy", "Not just climate change" and "UK energy in an uncertain world" – focus on three main themes: environmental degradation, security of supply, and resource depletion. The editors, who also contribute to a number of the chapters, acknowledge that climate change is so pervasive that there is no single technical or regulatory fix, but say that decarbonising UK energy is more straightforward than securing its resilience. The book presents several scenarios to illustrate the policy options available to decision makers. It also provides expert assessments of the challenges and opportunities that radically altering the UK energy system will bring, and which will either help or hinder achieving the 2050 climate target. Recommended.



Sustainability in Austerity

Philip Monaghan / Greenleaf / Publishing / Paperback: £21.95 / ISBN: 978–1–906093–57–0

BOOK Philip Monaghan's book explains how local authorities can deliver sustainability even during a period of economic crisis. He sets out 102 "cost-neutral" interventions that have already been implemented – ranging from smarter driving at Knowsley Borough Council to bike clubs in Barcelona, and from a recycling festival in Krakow to a vegetarian day (Meatout) in Michigan – to inspire others. Monaghan also explains how to develop a business case for taking action so that "doing more with less" is approached in a strategic, rather than an ad hoc, way. Part III of the book is the most interesting and contains chapters on waste and environmental services, and fleet and logistics. The practical nature of the book enables readers to gauge whether or not it would be possible to replicate some of the initiatives in their own localities. Inspiring if you work in local government.



Scarcity and Frontiers

Edward B Barbier / Cambridge University Press / Paperback: £29.95 / ISBN: 978–0–52170–165–5

BOOK From the collapse of Mesopotamian civilisations in 3500 to 1000BC due to climate change and over-intensive agriculture, through the great empires of Rome and China, to the knowledge economies of the late 20th century, this scholarly book charts in great detail the way humans have consistently used resource depletion as a spur to find new "frontiers", new sources of sustenance and wealth to exploit. Now, says Barbier, we may be entering the "age of ecological scarcity" and will need to draw on the lessons from previous shifts to deal with this, perhaps the greatest challenge of all. To do so we need to reconnect the concept of economic progress with the discovery and use of natural resources, because the two have become disjoined since the industrial revolution. A fascinating read for the economically literate.

Cara McQuire

Environment officer, Northern Gas Networks

Why did you become an environmental professional?

I never intended to become an environmental professional; I actually trained as a primary school teacher, but decided that it wasn't for me after a year in the classroom. I became interested in the environment when I realised how diverse the subject actually is.

What was your first environment job and how did you get it?

At Transco. A job came up in the environment team when I was working as a health, safety and environmental auditor. I had been waiting for an opportunity to move into the environment side of the business so jumped at the chance to apply for the role. I did take a bit of a leap of faith when applying for the role but thought that my interest in the field would stand me in good stead. It was a promotion too but I had a good understanding of management systems so I knew I would be in with a good chance.

How did you progress your environment career?

My goal has been to acquire all the skills and experience I can in the field in which I work. It feels like fitting a jigsaw together, but the jigsaw keeps getting bigger with the discovery of every new piece. I have gained either a formal qualification or an understanding of an environmental topic area like, for example, contaminated land. I have also embraced secondment opportunities to expand my understanding of how the business works.

What does your current role involve?

Mainly ensuring that the environmental management system conforms to the ISO 14001 standard. I am responsible for monitoring and interpreting legislation and updating our policies and procedures accordingly. I also make sure we maintain legal compliance. A large part of what I do relates to auditing the business and contractors' performance against environmental indicators. I also gather and analyse data on our carbon footprint and find ways to improve it. When someone in the business needs environment advice and support I am there, and I also look after our waste management contract. Underlying all this is a remit to raise the profile of the environment within the business through communications and forums.

How has your role changed over the past few years?

My role is much more strategy focused than in the past with a definite emphasis on delivering cost savings on our carbon footprint and waste management.

What's the best and hardest part of your work?

The best is seeing new sustainable ways of working become a reality within the business – for example, ensuring that wherever possible waste is reused or recycled rather than landfilled. The most challenging part of what I do is marrying commerciality with an environmentally ethical approach. The solution is to make sure that any proposal not only makes environmental sense but it brings the business a cost saving too – a win-win situation.

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

The IEMA workshop: an introduction to environmenal impact and strategic environmental assessment.

What did you bring back to your job?

I now have a greater appreciation of the impacts that policies and procedures can have on the environment, not just on construction/planning decisions.

What is/are the most important skill(s) for your role and why?

Having the ability to generate ideas; being able to see the whole picture – understanding that some things are not practical or achievable; and being able to communicate effectively to a variety of target audiences.

CAREER FILE

Qualifications:
BSc, NEBOSH specialist/national diplomas, City & Guilds, IOSH

2010 to now:
Environment officer, Northern Gas Networks

2005–10:
Environment officer/manager, United Utilities Operations

1995–05:
Administrative assistant/Network support assistant (HS&E), National Grid Transco

1997:
Laboratory assistant, Hazel Wood Foods

1996–97:
Teacher

Where do you see the environment profession going?

More environment professionals will be focusing on renewable energies, resource management (particularly water) and cleaning up the contaminated land legacy.

Where would you like to be in five years' time?

I'd like to continue to expand my knowledge and experience of the environment.

What advice would you give to someone considering going into the environment profession?

Zone in on an area or field that really interests you as early on as possible, before you get into the world of work. Also, I'd have benefited greatly from taking an environmental science degree.

RSK Group is an Equal Opportunities Employer

Environmental Compliance & Carbon Management Team Leader – Hemel Hempstead

RSK STATS Environment, Health and Safety Ltd, part of the RSK Group of companies, offer comprehensive services that support businesses improve their environmental performance. We are now looking to recruit an experienced individual to lead our established team at our Hemel Hempstead office to increase our ability in offering carbon solutions to our industrial clients. It is anticipated that the appointment will be made at Associate Director level as a minimum. This post will also include managing the existing team of 8 consultants to support the delivery of environmental engineering, permitting, air quality and industrial carbon related services for the RSK Group both nationally and internationally. Our clients are typically within the energy, manufacturing and property sectors and whilst predominantly based in the UK, international travel will also be required for this post.

Other key responsibilities will be:

- Attendance at company meetings to report and discuss performance, risks and potential future opportunities;
- Staff management i.e delegation of work to support work loads and career development
- Financial management of the team and profit delivery
- Key account management and tender reviews
- Identifying new business opportunities and strategic development of new services

Technical Expertise

- Good working knowledge of environmental regulation and permitting with a likely specialism in industrial permitting or air quality
- Good working knowledge of climate science and climate change
- Detailed knowledge of national and international carbon/climate change regulations and how these impact on business
- Detailed knowledge of carbon trading and permitting

Salary – commensurate with technical ability and level of experience.

For further information please call Sarah Murphy, Recruitment Manager on 0117 3004925 or by email at smurphy@rsk.co.uk

To see further career opportunities with RSK Group, visit our website www.rsk.co.uk

RSK GROUP PLC

TEMPLE

Environment Planning Management

Temple Group is a leading environmental and planning consultancy providing integrated management support to many high profile organisations in the public and private sectors.

We secure successful outcomes by combining technical excellence with a wide range of skills and experience, together with a commitment to the highest professional standards. Our achievements are also attributed to a detailed knowledge of policy with a good understanding of client organisations, statutory agency and legal requirements.

Our specialist expertise includes: Acoustics; Air Quality; Climate and Carbon; Contaminated Land; Development Planning; EIA; EMS and Environmental Auditing; Expert Witness; Lighting; Master Planning; Programme and Project Management; SEA; Transport; Waste and Water.

For a full list of our service provision and for further information please visit our website.

Contact: John Rowland - Technical Director | Tel. +44 (0) 20 7394 3700 | john.rowland@templegroup.co.uk

www.templegroup.co.uk

...intelligent strategy, responsible delivery

SER GROUP

We are dedicated to helping you find your ideal position within the energy and environmental sectors.

www.serlimited.com

Environmental Consultant

South East

To £28,000 + package

Due to expansion, our client, a multi-disciplinary environmental consultancy, is looking for an Environmental Consultant to be based at their Head Office to help with their continual growth in the UK . They are looking for someone with a minimum of 3–5 years experience either with the Environment Agency or another consultancy. The role will be undertaking environmental permitting work, monitoring, liaising with clients and some involvement with training. You will possess a relevant science degree and be a CIWM member.

Wind Turbine Technician

Yorkshire and UK

£25,000 – £35,000 + Land Rover

This dynamic manufacturer of Small Wind Turbines is looking to recruit two people to support their sub-contracting companies. You will have some experience of this size of turbine (10–12 metre masts) and the associated mechanical and electrical knowledge which is applicable to this industry. My client has invested 3–4 years in developing their turbines which are now amongst the best in the world for performance, technology and reliability. The future is bright for people joining the company now as the Technical team is due to expand exponentially.

Senior Consultant – Air Quality

South East and South West

c £40,000 car allowance, etc

Our client is a leading international environmental consultancy with an unrivalled reputation for providing high quality tailored services. As a Senior Air Quality consultant you will be asked to lead in the delivery of a diverse range of projects together with mentoring a small team. Duties will include detailed dispersion modelling, and assessment of road pollution. You will also be required to act as an expert witness in support of planning appeals, for example. A degree in a relevant discipline is required and you are likely to be a member of the IAQM, IEnvSc or similar.

Offshore Project Manager

Scotland

To £42,000 dependent on experience

My client is a global consultancy firm who specialise in all areas on the environment such as climate change and sustainability. They are looking for an experienced Offshore Project Manager to help with their expansion plans in the UK. Coming from a marine background, you will have at least 5 years in the industry with a further 2 years working on offshore renewable projects. You will have knowledge of offshore renewable project issues and a technical specialism in an area associated with offshore renewable projects, eg marine ecology, navigation or fisheries.

For more information about any of the above opportunities, please contact Sam or Richard on 01282 777414, or alternatively please send your CV to sam@serlimited.com

wata
west anglia
training association

WATA

environmental training

NEBOSH Certificate in Environmental Management

NEBOSH Diploma in Environmental Management

IOSH Working with Environmental Responsibilities

IOSH Managing Environmental Responsibilities

IEMA Foundation Certificate in Environmental Management*

IEMA Associate Memebership Certificate Course*

Contact WATA on

01480 43 55 44 or

www.wata.co.uk

for more information

*IEMA courses are delivered in association with CAMBIO

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