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#### IEMA

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

#### Editor

Paul Suff  
paul.suff@lexisnexis.co.uk

#### Deputy editor

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

#### Managing editor

Louis Wustemann  
louis.wustemann@lexisnexis.co.uk

#### Sub-editors

Adella Peyton  
Janina Godowska  
Brenda Morris

#### Group advertising manager

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

#### Recruitment advertising

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

#### Senior marketing executive

Victoria Newman  
victoria.newman@lexisnexis.co.uk

#### Design

Jack Dougherty  
jack.dougherty@lexisnexis.co.uk

#### Advertisement production

John Woffenden  
john.woffenden@lexisnexis.co.uk

#### Director of news and insight

Tristan Hilderley  
tristan.hilderley@lexisnexis.co.uk

#### IEMA communications coordinator

Katrina Pierce  
k.pierce@iema.net

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# Political ambitions

Last month's spat between George Osborne and Ed Davey over subsidies for onshore wind (p.9) was just the latest face-off in the ongoing struggle between the Treasury and DECC as to what the government should be doing to encourage the uptake of low-carbon technologies and what it can, in strained financial times, afford to do economically and politically.

While Davey reassured the energy and climate change committee (p.5) that if the carbon budgets were threatened the Treasury would have to loosen the purse strings, Osborne was strong-arming DECC into declaring gas as crucial to electricity generation beyond 2030.

The committee on climate change has repeatedly warned that a dash for gas will knock the UK off the most cost-efficient path to cutting CO<sub>2</sub> by 80% by 2050. But being seen to be tackling rising utility bills – ironically caused mainly by hikes in gas prices – is more important to the Treasury. Hence, the £500 million in tax relief for the gas industry was announced alongside the new Renewables

Politicians like to talk about a better future for the next generation, but in reality they always have one eye on the next election, so they shy away from long-term thinking

Obligation (RO) bandings – dwarfing the subsidies for renewables. The carbon budgets and electricity market reform are supposed to provide the policy certainty firms need to invest in energy-efficient, low-carbon and renewable technologies, but if the delays to announcing the RO banding, the volte face over revenue recycling in the Carbon Reduction Commitment and the unscheduled cuts to the feed-in tariff are anything to go by, providing long-term certainty just isn't compatible with politics.

Politicians like to talk about a better future for the next generation, but in reality they always have one eye on the next election, so they shy away from long-term thinking.

The signs are that the coalition is already thinking about the 2015 election with its new definition of environmental taxes (p.6). By removing fuel and vehicle excise duties from the equation, the government's promise to increase the proportion of green taxes collected each year moves from being a real challenge to laughably easy.

In truth, all that the figure massaging and infighting is accomplishing is the erosion of the headline pledge to be the greenest government ever. Whatever happened to that political ambition?



Sarah-Jayne Russell  
deputy editor



Short cuts

### Waste clarification

New regulations amending rules on separate waste collection in England and Wales will come into force on 1 October, after Defra and the Welsh Assembly acknowledged that the 2011 Waste Regulations did not accurately transpose the requirements of the revised Waste Framework Directive (2008/98/EC). Under the Directive, national governments must impose a duty on authorities to collect paper, glass, metal and plastic separately for recycling by 2015. Co-mingled collections are a “form of separate collection”, according to the 2011 Regulations. But, following a legal challenge from recycling firms, Defra and the Welsh authorities have amended reg. 13 to remove any reference to co-mingled collections. The change was welcomed by the Environmental Services Association, which represents the waste sector, as bringing UK legislation in line with commission guidance.

### Delaying ETS auctions

The European Commission wants to delay auctions of allowances in phase III of the EU emissions trading scheme (ETS) to prevent a surplus of the credits from undermining the system. In recent months, businesses and MEPs have warned that an excess of allowances was preventing the ETS from delivering reductions in CO<sub>2</sub> emissions, with the costs of carbon falling to a record low of €5.99/tonne in April, from a peak of €30/tonne in 2006. With manufacturing output remaining below levels predicted when the scheme was designed, the number of allowances allocated to installations to ease the transition to the next phase of the scheme is greater than necessary. The commission proposes amending the ETS Directive to enable it to postpone the sale of allowances in “exceptional circumstances”, and is consulting on plans to “backload” the sale of allowances during phase III ([lexisurl.com/iema13159](http://lexisurl.com/iema13159)). “It is not wise to deliberately continue to flood a market that is already oversupplied,” said EU commissioner Connie Hedegaard.

## London 2012 misses out on gold medal for sustainability

**Olympics** London 2012 is the most sustainable Olympic and Paralympic games yet, but the failure of its main renewable energy project has meant that it did not meet its full potential, according to WWF and BioRegional.

In a report examining London 2012's progress against its 76 sustainability commitments, drawn up with both the NGOs' support in 2005, WWF and BioRegional praise the Olympic Delivery Authority (ODA) and the games' organising committee (Locog) for already achieving 34 of the commitments and making good progress on another 30, including diverting 98.5% of construction waste from landfill and reducing the embodied carbon of the venues through more efficient designs.

The report highlights the important role the ODA's environment management system played in ensuring waste targets were met, and argues that carbon footprinting had been a key strategic tool in reducing emissions and that the method used could become the standard for all such major projects in future.

However, the report suggests that more progress could have been made and cites the failure of the planned wind turbine project and, as a consequence, meeting

the games' original 20% renewable energy target, as particularly disappointing.

Changes in health and safety legislation were blamed for the abandonment of the turbine project, but the report concludes that “with the right planning and will this could possibly have been overcome” ([lexisurl.com/iema13161](http://lexisurl.com/iema13161)). WWF and BioRegional also contend that more could have been done to find alternatives to increase renewable generation at the site, saying that the decision to retrofit local buildings to meet the carbon reduction targets was a lost opportunity to use government support to create a significant renewable project.

“London 2012 has set the sustainability bar for future summer Olympics,” said Sue Riddlestone, BioRegional's executive director. “It has built venues and staged an event that has set new standards for resource efficiency and which cut carbon and saved money.

“That said, London 2012 should have pushed sustainability more and had a stronger focus on changes beyond the Olympic park. It is important that lessons are learned and that a commitment to sustainability is a key criterion by which the 2020 summer Olympics bids are judged.”

## UK CCS plants race for EU funds

**Emissions** A proposal to build a new combined power and carbon capture and storage (CCS) plant in Yorkshire is the top contender for EU funding earmarked to support the deployment of CCS.

The Don Valley Power Project, which would be built on the site of the Hatfield Colliery, heads the shortlist of CCS projects in the running for a share of €1.5 billion of support under the European Investment Bank's New Entrant Reserve scheme (NER300). Funded through the sale of allowances for the EU emissions trading scheme, the NER300 will provide up to €337 million for individual CCS and renewable energy demonstration projects across the bloc.

The bank aims to support the three CCS projects and up to 16 renewable technology schemes. ScottishPower's Sound of Islay tidal project is the top

ranking renewable energy project from the UK, in a shortlist that also includes bioenergy projects in Sweden and a German wind farm.

Half of the eight CCS projects shortlisted are from the UK, and an application from Shell and SSE for their joint project to retrofit CCS on a gas power station in Peterhead, Scotland was placed on the reserve list.

The project, which remains in the running for funding under the government's rebooted £1 billion CCS competition, subsequently became the first in the UK to be awarded a licence to permanently store CO<sub>2</sub> underground.

Under an agreement with the Crown Estate, the firms will now be able to store CO<sub>2</sub> produced by the SSE power station in Shell's depleted Goldeneye gas field, located 65 miles off the Scottish coast.

# Energy Bill threatens low-carbon generation, say MPs

**Energy** “The government is in danger of botching its plans to boost clean energy, because the Treasury is refusing to back new contracts to deliver investment in nuclear, wind, wave and carbon capture and storage,” claimed Tim Yeo, chair of the energy and climate change committee, launching its pre-legislative scrutiny report on the draft Energy Bill.

The committee is particularly critical of the Bill’s plans for a new system of long-term agreements – contracts for difference (CfDs) – to provide a degree of certainty for investors in low-carbon generation. The MPs point out that DECC’s initial consultation had indicated the CfD would be guaranteed by the state, therefore lowering the cost of capital, but say the Treasury has intervened so that the Bill includes a new model for contracts, which will spread the liability across various energy companies instead. The committee wants the government to underwrite the new contracts in order to keep the costs of energy investment down for consumers.

“Electricity market reform is essential, but the new contracts proposed by the government will not work for the benefit of consumers in their present form,” said Yeo.

The MPs also criticise the cap on green levies imposed by the Treasury, which the committee says will ration the number of contracts available and create uncertainty among investors looking to fund new wind, solar, wave or tidal power plants. This is already having an impact on investment decisions and could paradoxically push up energy costs for consumers, the committee warns.

There is concern among the MPs that the Bill fails to include any meaningful reference to improving energy efficiency, labelling it as “fundamentally flawed by the lack of consideration given to demand-side measures”. The committee argues that DECC is not prioritising tackling energy demand in its policymaking, even though reducing consumption is acknowledged to be one of the most cost-effective ways of meeting the UK’s legally binding targets to reduce carbon emissions.

The committee wants the Energy Bill to include a target to largely decarbonise the electricity sector by 2030. “If the Bill does not set a target, then the UK may miss one of the biggest opportunities it has to create a low-carbon economy in the most cost-effective way,” concluded Yeo.

Energy companies largely welcomed the committee’s report. SSE said it shared the MPs’ concerns that the current model for CfDs could make them unworkable. It wants the proposed multi-party payment model scrapped and replaced by a counter-party model that is underwritten by the government.

Meanwhile, the business department (BIS) has revealed that policies designed to support renewable energy and cut carbon emissions, including the proposed carbon floor price, will push UK electricity prices higher than in competitor countries. It says the cost of electricity in the UK will rise by £28.30 per MWh in 2020 due to climate change policies, whereas Germany and France are likely to increase electricity prices only by £17.30/MWh and £15.20/MWh respectively.

## Short cuts

### GHG reporting rules

Defra has published a draft version of regulations that will bring mandatory greenhouse-gas (GHG) reporting into effect next year, following Nick Clegg’s announcement at the Rio+20 summit that reporting would start for listed companies next year. The Greenhouse Gas Emissions (Directors’ Reports) Regulations will require companies listed on the London Stock Exchange to reveal their annual scope 1 and 2 emissions. Under the proposed regulations businesses will also have to report any “leakage or other escape” of GHGs either directly or indirectly from their activities, as well as an emissions intensity ratio demonstrating the amount of GHGs the company produces per share or production unit, for example. While the draft regulations do not impose a set methodology to calculate emissions, they do require the reports to include an explanation of the method used. Defra’s consultation on the draft regulations and its proposals to time their introduction alongside new regulations from the business department amending the narrative reporting framework (due in October 2013) will close on 17 October ([lexisurl.com/iema13154](http://lexisurl.com/iema13154)). To help environment professionals prepare for the introduction of the legislation IEMA has published an interim briefing on the draft regulations ([lexisurl.com/iema13026](http://lexisurl.com/iema13026)) and will be hosting a webinar on 4 September that will include a presentation from Defra on the requirements ([lexisurl.com/iema13223](http://lexisurl.com/iema13223)).



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## COMMENT

### A very taxing change



**Peter Young** is chair of the Aldersgate Group and strategy director at SKM Enviros

The Treasury's revision of the definition of environmental tax (right) seems at odds with the government's previous commitments to grow environmental revenues and be greener than all before. It is another lost opportunity to deliver a clear message about its true intentions on both the environment and growth.

The announcement defines what green taxes do and then contradicts itself by excluding vehicle excise duty (VED) and air passenger duty, which both seem to meet the criterion of being "structured in relation to environmental objectives". Why else is VED scaled according to carbon emissions per kilometre?

Even though the effect is a narrowing of the environmental tax list, the promise to escalate environmental taxes is fulfilled partly by ever growing landfill tax revenues. Given this tax has now achieved its purpose in rising to a rate that makes alternatives to landfill viable, and that it works as waste to landfill is declining sharply, this escalation also raises worries about the Treasury's grasp of the different purpose and trajectory of environmental tax revenue streams. If they are to encourage environmentally positive behaviour change and to succeed, taxes will not grow but deliver revenues in cycles as each goal is achieved. The question is left whether those enormously complex models used to forecast tax-take have missed this rather fundamental point.

The best hope is that this redefinition, and fall in environmental tax-take from business, is a platform to build a robust and ambitious green tax strategy. A strong environmental fiscal policy could deliver innovation and growth through efficiencies for our economy now and in the future. How disappointing that no attempt has been made to articulate this, or even to ensure coherence in defining what is and is not an environmental tax.

## Treasury revises green taxes

**Regulation** Road tax and duties on fuel and air passenger numbers can have a beneficial impact on the environment but they are not environmental taxes, according to the Treasury.

While the Office for National Statistics (ONS) has historically included fuel and vehicle duties in its analysis of environmental taxation, the government's first official definition states that only those structured in such a way as to deliver explicit environmental objectives are to be considered as an environment tax in future.

The Treasury's definition means that fuel and vehicle taxes now fall outside the coalition's pledge to increase the proportion of revenue generated from environmental taxes over its tenure.

In June, the ONS revealed that during 2011 the proportion of revenue generated by environmental taxes (including fuel and vehicle duties) fell for the second consecutive year, making up 7.9% of total tax revenues compared with 8.1% in 2009.

Removing fuel and vehicle duties from environmental taxation means that total revenues attributed to green taxes will fall dramatically – by more than £40 billion according to ONS figures for

2011. However, by restricting the definition to initiatives such as climate change levies and landfill tax, the government projects that the proportion of revenues it generates will more than double by 2015/16.

Treasury minister Chloe Smith said the new definition was an important step in meeting government's commitments on environmental tax, but others have warned that the move smacks of political convenience. "The coalition said they wanted to increase the proportion of environmental taxes, but the charge that will be levelled at them is whether they can only achieve that by changing the basis on which they describe an environmental tax," said Martin Baxter, IEMA's executive director of policy.

The new definition was followed by a call from the manufacturing body EEF for a wholesale review of green regulation and taxation ahead of the next spending review. In reporting its latest poll of UK manufacturers on their attitudes and efforts toward environment management, the group warned that complying with UK environmental regulation was costing firms increasing amounts of time and money and failing to encourage companies to reduce their impacts.

## Fourfold rise in flood risk by 2035

**Water** Four times as many businesses and households in England could be at risk of flooding in the next 20 years if further steps are not taken to prepare for climate change, says a new report from the committee on climate change (CCC).

According to the CCC's adaptation subcommittee (ASC), cuts in funding for flood protection are a major cause of the heightened risk. The ASC estimates that in 2035 only 160,000 properties would be at significant risk of flooding if funding for protection were increased by just £20 million a year, on top of rises to account for inflation. This compares with 610,000 properties at risk in 2035 from climate change if no action is taken to prepare, says the ASC.

It points out that funding for flood protection is 12% lower for the current spending period, from 2011/12 to 2014/15, compared with the previous period after accounting for inflation.

Flood risk is also rising due to more development on flood plains, with around

210,000 new properties built in areas at greatest risk of flooding over the past 10 years, says the ASC.

In addition, the danger of buildings being flooded as a result of climate change is being exacerbated by the low take-up of measures to protect individual properties from flooding – currently 20–35 times lower than the rate required to safeguard all viable properties – and the rising proportion of gardens being paved over – increasing from just over a quarter of total garden area in 2001 to nearly half by 2011.

"We must take adaptation more seriously if we are to manage the growing risks of floods and droughts," said John Krebs, chair of the ASC. "This can be done by investing more in flood defences, and giving serious consideration to where and how we build our housing and infrastructure. Without action for these inevitable weather extremes the country faces rising costs, unnecessary damage and future disruption."





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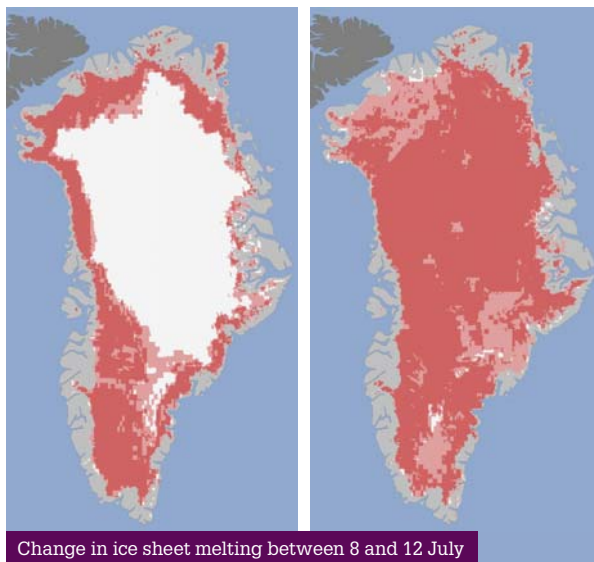
# Ice sheet melts rapidly as emissions soar

**Global warming** Nasa has published satellite images showing unprecedented thawing of the Greenland ice sheet during July. Over a period of four days, between 8 and 12 July, the extent of the thawing changed from about 40% of the ice sheet surface to 97%.

The satellite pictures revealed that almost the entire ice cover of Greenland, from its thin, low-lying coastal edges to its two-mile-thick centre, experienced some degree of melting at its surface. The change was so dramatic the scientists at first believed the images were wrong.

"This was so extraordinary that at first I questioned the result: was this real or was it due to a data error?" commented Son Nghiem at Nasa's jet propulsion laboratory in Pasadena, California.

Usually about half of Greenland's ice sheet melts naturally during the summer months, but the melting in July was so extensive that the area around the summit station in the centre of the country, which is two miles above sea level and near the highest point of the ice sheet, also showed signs of thawing. Such pronounced melting at the summit and across the ice sheet has not occurred since 1889, says Nasa. "Ice cores from the



summit show that melting events of this type occur about once every 150 years on average," commented Lora Koenig, a Goddard glaciologist and a member of the research team analysing the satellite data. "But if we continue to observe events like this in upcoming years, it will be worrisome."

Scientists believe the rapidly melting ice was due to a heat dome, which

produced unusually warm air and hovered over Greenland from 8 July until 16 July, and could be a further indication of a warming climate.

Separate research by the Netherlands Environmental Assessment Agency reveals that global emissions of carbon dioxide increased by 3% in 2011, reaching an all-time high of 34 billion tonnes. The top five emitters are China (29%), the US (16%), the European Union (11%), India (6%) and the Russian Federation (5%).

New data from the Scottish government, meanwhile, show that in 2010 Scotland's emissions of the six Kyoto greenhouse gases – CO<sub>2</sub>, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride – were 55.7 million tonnes of CO<sub>2</sub> equivalent, a 5.8% increase on the 2009 figure. Between 1990 and 2010, however, there was a 22.8% reduction in emissions.

## New measures of sustainable success for the UK

**Policy** Defra has unveiled a new set of sustainable development indicators (SDIs) against which the government will measure the UK's progress towards becoming a green economy.

The 37 proposed indicators, which are subject to consultation ([lexisurl.com/iema13185](http://lexisurl.com/iema13185)), will replace the existing set of 68 SDIs published in 2010.

Unlike the current measures, the new SDIs are split between the three traditional pillars of sustainable development, with the 12 "headline" indicators and 25 "supplementary" indicators listed as either an environmental, economic or societal SDI. Headline environment SDIs include the amount of greenhouse gases (GHGs) emitted as a result of consumption and the natural resources used to generate gross domestic product, while supplementary indicators cover total waste sent to landfill and the status of protected species.

The indicators are generally aggregate or summary statistics, usually providing

trends to show changes over time. Under the proposed SDIs, the government will not assess the UK's total energy demand or water consumption, as it does now, but instead will measure "water availability" – the amount of water available for abstraction – and the proportion of overall energy consumption being generated renewably.

New indicators include: measuring climate change adaption; sales of low-carbon goods and services; and the UK's impacts on global biodiversity as a result of imported goods.

"Rationalising the SDIs is useful and the new list covers important issues, such as measuring consumption-based GHGs," said Martin Baxter, IEMA's executive director of policy. "However, given recent pushback from the Treasury on environment issues, questions have to be asked as to what extent its ministers see a strong environmental goods and services sector as being a real indicator of economic progress.

"The SDIs should enable us to see whether government policy is being directed to move the UK towards more sustainable development and if all departments are really committed to a green economy."

At the same time as it is consulting on the new SDIs, Defra is also asking for feedback on its revised guidance on how organisations should measure and report their environmental impacts ([lexisurl.com/iema13184](http://lexisurl.com/iema13184)). First published in 2006, the guidelines aim to help those businesses required to report on environmental issues in their annual reports, and provide advice on how to identify environmental key performance indicators (KPIs).

The revised guidance has been aligned with Defra's guidelines on reporting GHG emissions, and replaces the 22 KPIs listed in the original text with chapters focusing on developing KPIs in five key categories: air pollution; water; biodiversity/ecosystems services; raw materials; and waste.



# Renewable energy sector ambivalent over ROCs

**Energy** As onshore wind developers praised DECC for resisting the chancellor's demands for tougher cuts to subsidies under the Renewables Obligation (RO), firms from the hydro-electric and anaerobic digestion (AD) sectors warned that new bandings to be introduced next April could be disastrous.

The long-awaited bandings largely follow those proposed by DECC in a consultation at the end of 2011. Support for large tidal stream and wave arrays is to double to 5 ROCs (RO certificates) for each MWh generated, while subsidies for offshore wind and geothermal installations, gradually decrease from 2 ROCs to 1.8 ROCs by 2016/17.

Despite significant pressure from the Treasury to cut subsidies for onshore wind installations by 25%, the energy department followed its earlier proposal of a 10% reduction. However, in a concession to finance ministers, DECC agreed to potentially reduce support for the technology as early as April 2014, if generation costs are shown to be falling.

The 10% cut was welcomed as sensible by the industry. "Although it has been a long time in coming, the final decision was based on hard economic evidence, and not derailed by short-term political considerations," commented Maria McCaffery, chief executive of wind and marine energy body RenewableUK.

Representatives from energy-from-waste and hydro-electric firms, however, were not pleased with DECC's decision to reduce support for the technologies by 30% (to 0.7 ROCs), although it had originally planned to halve subsidies.

Energy company SSE, which is the main hydro-electric generator in Scotland, announced that as a result of the changes to the ROC bandings it no longer expects to develop any new conventional hydro-electric schemes.

One unexpected development was the energy department's announcement that it is considering withdrawing support under the RO for solar photovoltaics (PV), hydro and AD installations that generate less than 5MW of electricity, stating that they could be adequately supported by the feed-in tariff (FIT) scheme. In its official consultation response DECC claimed that the current level of support for solar

would "substantially over-reward" the technology. Paul Barwell, chief executive of the Solar Trade Association, however, argued that the plan was potentially self-defeating. "Unless the FIT budget cap is greatly increased, this will mean unfairly constraining a cost-effective technology," he commented.

Meanwhile, the Renewable Energy Association (REA) warned that the move would be a "disaster" for AD, with only one of the 22 plants supported by the RO over the 5MW threshold. "This move totally contradicts government aspirations in Defra's AD strategy and ensures that we will fail to achieve the targets for biogas under our national renewable energy action plan," said David Collins, REA's head of biogas.

The RO announcement followed confirmation of future subsidies levels under the FIT for technologies other than solar PV (changes to which took effect from 1 August).

The new tariffs are almost exactly as proposed, with the biggest cuts made to domestic-sized wind installations (down to 21p/kWh from 35.8p/kWh) but with the majority of wind, hydro and AD tariffs receiving small reductions and microCHP a 2p/kWh increase. DECC has, however, introduced a new tariff banding for medium-sized hydro projects (100–500kW) paying 15.5p/kWh, and postponed the introduction of the new tariffs from 1 October until 1 December.

The energy department has also confirmed that, as of April 2014, all the tariffs will be reduced annually to ensure the scheme does not exceed its budget. Cuts will range from 2.5% to 20%, depending on the number of installations applying for the scheme.

Similarly, DECC is proposing to introduce a long-term tariff-reduction plan for the Renewable Heat Initiative (RHI). Introduced last November for non-domestic buildings, and due to be expanded to domestic properties in September, the RHI has already been altered to introduce a first year spending cap of £70 million. Under new plans out for consultation ([lexisurl.com/iema13221](http://lexisurl.com/iema13221)), DECC will assess uptake of the scheme each quarter and reduce payments when the number of installations has reached specific trigger levels.

## Short cuts

### Geothermal heats up

Up to 6,000 homes and businesses in Manchester could be heated using geothermal energy, under proposals by developer GT Energy. Ahead of applying for planning permission the firm has revealed its proposals to drill down to a thermal spring two miles below the city and install a network of pipes to distribute the naturally heated 100°C water. If approved, the scheme would be one of the largest of its type in the UK. The news followed an announcement that Sainsbury's is to install geothermal technologies at up to 100 of its superstores as part of its plans to cut carbon emissions from its operations by 30% against 2005 levels by 2020. The retailer has signed contracts with energy company E.ON and UK-based experts Geothermal International to install the technology, following a successful pilot at its Crayford store in London. Fitted in 2010, the ground-source heat pump draws heat from 200m below the Earth's surface and supplies the store with 30% of its energy.

### Infrastructure adaptation

Defra has launched a competition for UK engineers, scientists and designers to come up with innovative ways to help protect UK infrastructure from the effects of climate change. The competition, which has a £400,000 prize fund, will provide the winners with funding to develop pioneering solutions to protect infrastructure such as roads, airports, power stations, water-treatment plants and wi-fi networks against a changing climate. Winners will be awarded up to £100,000 for each idea that addresses the risks identified in the environment department's climate change risk assessment, which was published in January. It found that flood risks to buildings and infrastructure are anticipated to rise to between £2.1 billion and £12 billion by the 2080s. At the same time, energy demands for cooling buildings and ICT equipment will increase as temperatures rise. Applications close on 7 September 2012 ([lexisurl.com/iema13222](http://lexisurl.com/iema13222)).



# Growth depends on resource efficiency

**Conference** Former US president Bill Clinton told a gathering of 250 business leaders and government officials that economic growth should not be predicated on the use of natural resources, but that resource efficiency and renewable technologies will be essential growth drivers in the years ahead.

Speaking at the Re|Source 2012 conference in Oxford, Clinton also urged policymakers to prioritise the management of finite natural resources and to focus investment on renewables and energy efficiency. He said that while 870 jobs are created for every \$1 billion invested in building a coal-fired power station, spending the same amount on retrofitting buildings with energy saving measures would create 7,000 new jobs.

Clinton's speech ended the two-day event, which had also heard from David Nabarro, the UN's special representative on food security and nutrition. He warned that resource scarcity could lead to conflict. "We know clearly that inequalities around food, water and energy wealth do create wars," said Nabarro. "Unless they can be dealt with,



Clinton talks resource security

the future for all of us is going to be very difficult." Nabarro also forecast that the Rio+20 summit is likely to be the last time 190 world leaders would assemble to sort out global environmental problems, saying that partnerships involving governments, businesses and civil society would be the best way of providing solutions in future.

Like Clinton, Nobel laureate Amartya Sen advised governments to do more to encourage investment in renewable energy by offering greater incentives. Meanwhile, Poppy Allonby, managing

director at Blackrock Investment UK, claimed the reasons for the failure of low-carbon technology to attract investment were poor policy and an ineffective regulatory framework. She said the past 12 months have been extremely difficult for investors in renewable technologies.

Professor Chris Llewellyn Smith pointed out that the fossil fuel industry receives \$400 billion in subsidies each year, while Lord Mandelson said that no subsidy should last forever because while most support systems are created with good intentions they can have unintended negative consequences later on.

Peter Brabeck-Letmathe, chair of Nestlé, was highly critical of biofuels, claiming that using land and water that would otherwise have been used to grow crops for consumption had helped push the cost of food higher. "The time of cheap food prices is over. We are now in a new world with a completely different level of food prices, and with high volatility, because of the direct link with fuel," he warned. "Biofuels are only feasible because of the high subsidies they receive – \$25 billion so far."

## CASE LAW

Lexis®PSL

### Making a noise about nuisance

The grant of planning permission or of an environmental permit is not a defence to private law nuisance. However, the effect that any statutory authority may have on a nuisance claim depends on the type of permit or licence and the facts of the case.

In *Lawrence and another v Fen Tigers Ltd and others* [2012] All ER (D) 180 (Feb), the Court of Appeal (CA) confirmed that the grant and implementation of planning permission may change the "character" of a locality, and that offensive activities in the area may cease to constitute a nuisance.

However, in *Barr and others v Biffa Waste Services Ltd* [2012] All ER (D) 141 (Mar), the Court of Appeal (CA) found that there was no authority to extend this principle to waste permits. Therefore, the grant and implementation of an environmental permit is unlikely to change the character of a locality.

In *Lawrence*, the CA allowed an appeal against the High Court's decision that noise from a motor racing stadium constituted a nuisance. In 2006, the claimants bought a house next to an existing motocross stadium. They were unaware of the different forms of motor sports carried out at the site and complained to the authority about noise. The local authority subsequently served two notices of breaches of the planning permission and issued an abatement notice. Works were completed in 2009 to the satisfaction of the authority. The claimants then brought an action in private nuisance against the defendants.

The critical issue for the CA was what effect the granting of planning permission had on the character of the locality. When the claimants purchased their property, various forms of motor sports had been taking place at the stadium for 13 years. The court held that the noise emanating from the track and stadium, although

unwelcome, was an established, and indeed dominant, part of the character of the locality. It could not be left out of account when considering whether the noise levels constituted a nuisance. Lord Justice Jackson summarised the law on nuisance as follows: the grant of planning permission cannot authorise a nuisance, but the implementation of the grant of planning permission could change the character of a locality. However, this is a question of fact in every case. The question of whether the activity constitutes a nuisance must be decided against the background of that change in character; and a consequence of the change in character might be that otherwise offensive activities in that locality ceased to constitute a nuisance.

It is a reminder to those involved in planning to check the character of the area where they are developing projects.

Hayley Tam and Colleen Theron, LexisPSL

# Companies' sustainability strategies score poorly

**Sustainability** Natura, Nestlé, Nike, Puma, Ricoh and Unilever are the only firms in a study of the world's leading companies to have taken steps to genuinely overhaul their business plans to favour sustainable growth, according to consultants Deloitte.

It examined the sustainability strategies of 65 businesses in 10 industries that are members of the UN Global Compact as part of its 2012 zero-impact growth monitor, which assesses companies' readiness for a "green and inclusive economy".

All 65 companies were assessed and scored on a 0–5 scoring model against 18 components relating to their vision and strategic ambition, as well as their environmental and social strategies and goals. Eight of the 18 components that make up the monitor are environmental aspects, ranging from emissions and energy to logistics and supply chain, and from biodiversity to water consumption.

Consumer goods companies, such as Diageo, Lego, Nestlé, PepsiCo and Unilever, on average scored highest, with a 2.9 score, while utilities, a group that includes RWE and Vattenfall, scored the lowest, with an average of 2.05.

The technology industry, which includes Fuji, Philips, Ricoh, SAP and Siemens, scored highest against the environmental indicators, with an average score of 2.8. By contrast, the financial sector, including UK business Aviva and Spanish bank BBVA, scored lowest, averaging just 2.03. Deloitte says that environmental goal setting in most companies is more consistent towards supporting their broad sustainability strategies than social goal setting.

Overall, the consultancy found that the majority of firms remain vague about their strategic ambition in a world where business as usual is no longer an option, and companies that have proposed ambitious sustainability strategies often fail to effectively implement them. "In quite a considerable number of cases an implementation gap arises between the definition of overall strategies and targets and their implementation," says Deloitte.

By contrast, the six trailblazing companies are described as having not only set measurable and ambitious mid- to long-term targets (to at least 2020), but to have also embedded policies to ensure they minimise their negative impacts.

## Low-carbon job creation stalls

**Business** The UK is falling behind its competitors in the race to secure low-carbon growth and jobs, claims a new report from the Work Foundation.

The employment analysts blame a lack of investment in the UK, which they say is being exacerbated by weak support from the government for low-carbon industries. The Work Foundation suggests that cities and councils could do more to overcome political inertia in government to take advantage of local opportunities for low-carbon jobs growth.

The think-tank recommends that, where possible, local authorities work to develop an "ecosystem" for high-tech low-carbon businesses, by strengthening links between universities and businesses in their areas, and by providing essential infrastructure. Many low-carbon companies will seek to co-locate, says the report, with the wind turbine factory in

Hull proposed by Siemens, for example, likely to attract other wind-energy goods and services companies.

The report acknowledges that the highly skilled, high-tech jobs often associated with a low-carbon economy will not happen everywhere, and are likely to be concentrated in places that already have strengths in high-tech industry. But, where there is little opportunity to develop high-tech low-carbon businesses, the Work Foundation suggests that authorities focus on improving the energy efficiency of the local housing stock, including enabling residents to take advantage of the government's green deal scheme, which is due to launch in October.

The government recently reported that almost 940,000 people were employed in the UK's low-carbon environmental goods and services sector in 2010/11, a 2.8% increase on the previous year.

### Short cuts

#### Sustainable second city

Birmingham City Council has established a "green commission" to help make the city more sustainable. Professor Dame Julia King, vice-chancellor at Aston University and a member of the committee on climate change, will be joined on the commission by representatives from the business, academic and third sectors, including Andrew Bacon, business development director (public sector) at British Gas, Andy Deacon, director of delivery at the Energy Saving Trust, Faye Scott of the Green Alliance and Keith Sexton, director of health, safety, environment and quality at Amey. One of the commission's first pieces of work will be to review the whole of the city's carbon reduction targets, after a council audit report revealed the authority itself could not accurately calculate its own cut in emissions. Council cabinet member James McKay said: "The commission will provide a platform for the best ideas to be shared and refined so the city benefits on many levels – environmentally, socially and economically."

#### SSE ups its Amperas

Utility company SSE has taken delivery of six Vauxhall Ampera range extended electric vehicles (REEVs) from leasing firm Lex Autolease. The Amperas will be included in the SSE pool car fleet at various sites across the UK. "As the UK's largest generator of electricity from renewable sources, we take our commitment to the environment very seriously. We are running the Ampera in our fleet as an electric vehicle that is usable every day and can cope with business needs," said SSE chief executive Ian Marchant. REEVs feature a battery pack and electrically driven motors, but add a small "range-extender" engine, which acts as a generator and provides extra power or range when needed (see pp.17–24). The Ampera, which first went on sale in the UK in May, has an electric range of 50 miles and a total range of 360 miles. It produces around 27g/km CO<sub>2</sub> and costs £32,250 when the government's plug-in car grant of £5,000 is applied.

### Short cuts

#### £100k for ecodesigns

Small and medium-sized businesses (SMEs) in Scotland can bid for up to £50,000 of support to pilot innovative ecodesign projects, under a new Scottish government-funded scheme. The SME waste prevention innovation fund is being managed by Zero Waste Scotland (ZWS) and is offering £100,000 to help small firms reduce the waste impacts of their products, services and packaging through more efficient designs. Applying firms must be able to demonstrate how their proposed redesign can make a "significant impact" in either reducing primary resource use or waste generation, or by transforming end-of-life recovery. "Working with the SME community to develop innovations focused on waste reduction is absolutely integral to achieving Scotland's zero waste ambitions," said Iain Gulland, director of ZWS. SMEs have until 31 October to apply for funding. For more information, visit [lexisurl.com/ima13220](http://lexisurl.com/ima13220).

#### Imports fuel the UK

The UK imported more energy than it generated during 2011, for the first time since 1974, as primary energy production fell a record 13%, according to data from DECC. At the same time, renewable energy generation increased by 33%, with power from solar photovoltaics increasing 12-fold, as a result of the feed-in tariff. The figures also reveal that energy consumption across the UK continued its downward trend, with total energy demand falling by 1.7% and electricity consumption down by 3% – to the lowest level since 1998. Meanwhile, DECC revealed it has been able to cut energy use at its head office by 60% in four years, by deploying efficiency measures including installing lighting and heating controls. Since moving into 3 Whitehall Place in 2008, DECC has improved the display energy certificate efficiency rating of the building from "G" to "C", saving more than £150,000 on its annual energy bills and halving carbon emissions.

## EU figures on sustainability of biofuels 'questionable'

**Energy** European Commission calculations of total greenhouse gas (GHG) emissions saved by burning biofuels rather than fossil fuels have been thrown into doubt by new research showing that GHG savings are actually less than two-thirds of what the commission estimates.

In a study examining the sustainability of biodiesels made from rapeseed oil, researchers from the Friedrich Schiller University of Jena in Germany carried out a series of life-cycle analyses of the fuels and compared the amount of emissions saved to those stated as "typical" in Annex V of the Renewable Energy Directive (2009/28/EC) (RED).

While the RED states the production and use of rapeseed biodiesel generates between 38% and 45% fewer GHG emissions than the equivalent amount of fossil fuel, the German study found that savings could be as little as 25%. Under the RED, biofuels must generate GHG savings of at least 35% to be considered as sustainable but, of the 12 different scenarios examined by academics, only four met this baseline and just two fell within the range calculated by the commission. "Our results indicate that



the 'sustainability' of rapeseed biodiesel in the interpretation of RED is at best very questionable, and in most scenarios simply unjustifiable," the report states.

The commission declined to comment on the findings, but said: "Different studies can come to different results, depending on the assumptions used."

The RED requires all EU members to ensure at least 10% of land transport fuel is sourced renewably by 2020. As a result, under the Renewable Transport Fuels Obligation all transport fuels sold in the UK must contain a blend of at least 4% biofuels, rising to 5% from April 2013.

## Dairy pays £37k over spilt milk

**Pollution** One of the UK's largest independent dairies has been ordered to pay more than £37,800 in fines and costs after milk from one of its depots polluted a local waterway, causing "extensive fungal growth" and damaging the environment.

Medina Dairy, which supplies Kraft foods and bakers Kingsmill, pleaded guilty to breaching its environmental permit in January 2011, after the Environment Agency traced pollution in the Buzzards Mouth Sewer in Essex back to the firm's Barking depot.

In a statement on its website, the company, which has an annual turnover of £200 million, pledges to "look for new ways to prevent pollution – and to train everyone who works here to do the same". However, the agency's investigation revealed that when milk was spilt at the east London site employees washed it into

drains connected to the surface water system, which then discharged the milk into the sewer causing the pollution.












"This case is an important reminder that companies have a duty of care to ensure that any wastes are disposed of in a safe manner," commented James Burton, the investigating officer at the agency.

"Businesses must ensure that they understand where their drains lead and they have spillage prevention measures in place," he said. "Small prevention measures can make a huge difference to the environment."

Following the investigation, the firm has introduced new working practices at the site to prevent pollution, which it plans to roll out across its operations, and converted a large proportion of its drainage to foul drains, after obtaining trade effluent consent.



## NEW REGULATIONS

In force	Subject	Details
12 June 2012 	Waste	European Commission Regulation 493/2012 provides detailed rules for calculating the recycling efficiencies of the recycling processes for waste batteries and accumulators outlined by Art.12 of Directive 2006/66/EC on batteries and accumulators. <a href="http://lexisurl.com/iema13082">lexisurl.com/iema13082</a>
29 June 2012 	Environmental protection	The Marine Licensing (Fees) (Scotland) Amendment Regulations 2012 amend the 2011 Regulations, increasing fees payable to Scottish ministers for a marine licence in connection with generating stations by one-third. <a href="http://lexisurl.com/iema12887">lexisurl.com/iema12887</a>
30 June 2012 	Environmental protection	The Fluorinated Greenhouse Gases (Amendment) Regulations (Northern Ireland) 2012 amend the 2010 Regulations. Changes include altering the definition of an “offshore installation”. <a href="http://lexisurl.com/iema12895">lexisurl.com/iema12895</a>
2 July 2012   	Water	The British Waterways Board (Transfer of Functions) Order 2012 transfers the statutory functions of the British Waterways Board in England and Wales to the Canal & River Trust. It also makes consequential amendments to provide for the board to continue to exist as a statutory corporation exercising statutory functions in relation to Scotland. The Inland Waterways Advisory Council (Abolition) Order 2012 abolishes the Inland Waterways Advisory Council. <a href="http://lexisurl.com/iema13071">lexisurl.com/iema13071</a> ; <a href="http://lexisurl.com/iema13072">lexisurl.com/iema13072</a>
2 July 2012 	Wildlife	The following measures have been introduced in relation to the Wildlife and Natural Environment (Scotland) Act 2011: Wildlife and Natural Environment (Scotland) Act 2011 (Commencement No.4, Savings and Transitional Provisions) Order 2012; the Wildlife and Countryside Act 1981 (Keeping and Release and Notification Requirements) (Scotland) Order 2012; the Wildlife and Countryside Act 1981 (Exceptions to Section 14) (Scotland) Order 2012; and the Wildlife and Natural Environment (Scotland) Act 2011 (Consequential Modifications) Order 2012. <a href="http://lexisurl.com/iema12888">lexisurl.com/iema12888</a> ; <a href="http://lexisurl.com/iema12889">lexisurl.com/iema12889</a> ; <a href="http://lexisurl.com/iema12890">lexisurl.com/iema12890</a> ; <a href="http://lexisurl.com/iema13065">lexisurl.com/iema13065</a>
10 July 2012 	Environmental protection	European Commission Regulation 519/2012 amends Regulation 850/2004 on persistent organic pollutants by including in Annex I three new substances – short-chain chlorinated paraffins, hexachlorobutadiene and polychlorinated naphthalenes. <a href="http://lexisurl.com/iema13081">lexisurl.com/iema13081</a>
18 July 2012 	Environmental protection	The Plant Protection Products (Sustainable Use) Regulations 2012 transpose EU Directive (2009/128/EC) on establishing a framework for community-wide action to achieve the sustainable use of pesticides and provide enforcement provisions. <a href="http://lexisurl.com/iema13067">lexisurl.com/iema13067</a>
27 July 2012 	Environmental protection	The Volatile Organic Compounds in Paints, Varnishes and Vehicle Refinishing Products Regulations 2012 revoke and remake the 2005 Regulations and implement the EU Directive (2004/42/EC) on the limitation of emissions of volatile organic compounds (VOCs) due to the use of organic solvents in certain paints, varnishes and vehicle refinishing products. In particular, the 2012 Regulations transpose, through Schedule 3, the new analytical methods for determining VOC content contained in Directive 2010/79/EU on the adaptation to technical progress of Annex III to Directive 2004/42/EC. <a href="http://lexisurl.com/iema13068">lexisurl.com/iema13068</a>
27 July 2012 	Environmental protection	European Commission implementing Regulation 607/2012 provides detailed rules for the due diligence system required under Regulation 995/2010 to prevent illegally harvested timber from being sold. It also includes details of the frequency and nature of the checks required on monitoring organisations. <a href="http://lexisurl.com/iema13080">lexisurl.com/iema13080</a>

## LATEST CONSULTATIONS

21 September 2012

### Smart regulation

 In its 2010 communication on smart regulation in the EU, the European Commission set out a strategy to improve the way it designs, enforces, evaluates and revises policies and regulations. The commission is now examining the progress of the strategy and is seeking views and proposals to inform a future communication on smart regulation. [lexisurl.com/iema13086](http://lexisurl.com/iema13086)


25 September 2012

### EU noise Directive/policy

 The European Commission is consulting on the strengths and weaknesses of EU environmental noise legislation, particularly Directive 2002/49/EC on assessing and managing environmental noise (END). This consultation is part of a follow-up process to the first implementation report on the END, which was published in June 2011. [lexisurl.com/iema13085](http://lexisurl.com/iema13085)

26 September 2012

### Biodiversity


 The Scottish government has issued a consultation on its response to the EU biodiversity strategy for 2020 and the "Aichi" targets set by the UN convention on biological diversity. The government's proposals include: increasing the general

level of biodiversity on land and in Scottish seas; engaging people with the natural world; and maximising the benefits for Scotland of a diverse natural environment and the services it provides, and which contribute to sustainable economic growth.

[lexisurl.com/iema13090](http://lexisurl.com/iema13090)


28 September 2012

### Resource use

 The Scottish government is consulting on a programme to encourage the sustainable use of Scotland's resources – to support both the environment and the economy. It builds on its zero waste plan's vision of a Scotland where as little as possible is wasted, and which recognises that every item and material has a value. The Scottish government wants to use materials efficiently, avoid waste and reuse items, because it believes such action can deliver the greatest benefits, both financially and environmentally. [lexisurl.com/iema13092](http://lexisurl.com/iema13092)

4 October 2012


### Fuel cells and hydrogen

 Following the establishment in 2008 of the Fuel Cell and Hydrogen Joint Undertaking (FCH JU), a public-private partnership between the European Commission and industry to

significantly accelerate the market introduction of hydrogen and fuel cell technologies, the commission is now consulting on continuing the FCH JU beyond its expiry in 2014 to 2020. [lexisurl.com/iema13087](http://lexisurl.com/iema13087)


12 October 2012

### Waste Regulations

 The Department of the Environment in Northern Ireland is consulting on its plans to amend the Waste Regulations (Northern Ireland) 2011, following a legal challenge as to whether the definition of separate waste collections accurately transposed the requirements of the Waste Framework Directive (2008/98/EC). [lexisurl.com/iema13093](http://lexisurl.com/iema13093)

31 October 2012

### Aviation policy

 The Department for Transport (DfT) is consulting on a draft policy framework for sustainable aviation in the UK. The framework seeks to maintain a balance between the benefits of aviation, particularly as a major contributor to the economy, and its costs, specifically climate change and noise. The DfT describes the draft framework as a "high-level" strategy, which sets out the government's overall objectives for aviation and its policies to achieve those objectives. [lexisurl.com/iema13089](http://lexisurl.com/iema13089)

## NEW GUIDANCE

### Permitting charges

The Environment Agency has revised its guidance ([lexisurl.com/iema13095](http://lexisurl.com/iema13095)) on charges under the environmental permitting charging scheme. The scheme applies to waste carriers, brokers and dealers; exempt waste operations; international waste shipments; waste electrical and electronic equipment; waste batteries and accumulators; and the transfrontier shipment of radioactive waste and spent fuel. The guide details what the agency charges as well as methods of payment. The agency says the guide is designed to help both charge payers and its own staff, and should be read in conjunction with the scheme itself.

### Hazardous waste

Revised HWR03 guidance has been published by the Environment Agency, following amendments to the Hazardous Waste Regulations in September 2011. To improve the clarity of the guidance, the agency has split HWR03 into two sections: HWR03a ([lexisurl.com/iema13096](http://lexisurl.com/iema13096)), which provides step-by-step advice on completing the five parts of a consignment note for standard and multiple collections; and HWR03b ([lexisurl.com/iema13097](http://lexisurl.com/iema13097)), which gives further advice for those involved in moving hazardous waste by pipeline, across internal UK borders or from ships.

### Waste Framework Directive

The European Commission has issued guidance ([lexisurl.com/iema13098](http://lexisurl.com/iema13098)) on interpreting key provisions of the EU Directive on waste (2008/98/EC), commonly known as the Waste Framework Directive (WFD). The WFD, which came into force on 12 December 2010, introduced new provisions to boost waste prevention and recycling as part of a waste hierarchy. The commission says national authorities and stakeholders have raised many questions regarding the interpretation and application of the WFD since the Directive was introduced. The new guidance aims to help authorities and waste operators better understand the legislation.

## EVENTS CALENDAR

Date	Course	Location and details
6–7 September 2012	Sustainable water 2012	Park Plaza Victoria, London <a href="http://lexisurl.com/iema12639">lexisurl.com/iema12639</a>
11 September 2012	Base Leeds city region	University of Bradford <a href="http://lexisurl.com/iema12929">lexisurl.com/iema12929</a>
17–18 September 2012	Energy from waste	Copthorne Tara Hotel, London <a href="http://lexisurl.com/iema12640">lexisurl.com/iema12640</a>
28 September 2012	Environmental sustainability in the workplace	TCPA, Carlton House Terrace, London <a href="http://lexisurl.com/iema12916">lexisurl.com/iema12916</a>
3 October 2012	Water Scotland	Hilton Edinburgh Grosvenor <a href="http://lexisurl.com/iema12918">lexisurl.com/iema12918</a>
9–11 October 2012	6th European water and wastewater management conference and exhibition	Lancashire CCC, Manchester <a href="http://lexisurl.com/iema12919">lexisurl.com/iema12919</a>
10–11 October 2012	Energy solutions	Olympia, London <a href="http://lexisurl.com/iema12641">lexisurl.com/iema12641</a>
10–11 October 2012	Microgen 2012	Stoneleigh Park, Warwickshire <a href="http://lexisurl.com/iema12323">lexisurl.com/iema12323</a>
23 October 2012	The carbon show 2012	Business Design Centre, London <a href="http://lexisurl.com/iema13063">lexisurl.com/iema13063</a>
30 October – 1 November 2012	RenewableUK 2012	Scottish Exhibition & Conference Centre <a href="http://lexisurl.com/iema13197">lexisurl.com/iema13197</a>

## Environmental Auditing

22 - 26 October 2012

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# Fleet of footprint

Motoring expert **Farah Alkhalisi** on the practicalities of greening an organisation's vehicle fleet and the range of options available

**C**leaning up an organisation's transport policy and business vehicle fleet is not only about sustainability; besides reducing its carbon footprint and energy consumption, there is also an ever increasing incentive to do so to save money. Quite apart from rising fuel costs, the upcoming changes to company car tax thresholds for qualifying low-emission cars (QULECs) will prompt many fleet managers to consider vehicles which produce less, or no, carbon dioxide from their exhaust pipes.

Yet rushing to trade dependable diesels for electric vehicles, for example, may not be the answer. Alternative technologies and powertrain solutions (the various bits that make the vehicle go – the engine, electric motor, transmission and gearbox, plus control

systems) will not necessarily suit the needs of every vehicle fleet or the facilities available to them. Nonetheless, the range of unconventional vehicles is increasing (see pp.20–22) as automotive manufacturers introduce entirely new models using alternative technologies or “greener” versions of existing models.

## Plugging in: the electric option

You do not have to be a fan of a certain popular BBC TV motoring show to know that electric vehicles (EVs) are the subject of much debate. Or to realise that the ratio of EVs sold to dedicated column inches, YouTube videos and media coverage remains very small. Just 343 Nissan Leafs were sold in the UK in the first six months of 2012, for example.

However, though going electric will not work for every business user or company, all-electric vehicles are becoming more viable in particular niche sectors, and numbers are expected to increase as a wider variety of models, and vehicles with improved versatility, come onto the market.

A typical “pure” battery-electric EV will still only manage 90–100 miles between recharges, a figure that may fall further in cold weather and difficult operating conditions, but for local or low-mileage use, they can be appropriate. Citroën, for example, has recently delivered three C-Zero EVs to Stirling Council’s environmental services team; these cars (part-funded by Transport Scotland) will be put to day-to-day use, with a view to expanding the council’s electric fleet in the future. “There are customers with a very specific need which fits well with EVs, such as those in the public sector, local authorities or those delivering materials from one fixed point to the next, in a finite urban setting,” says Citroën spokesman John Handcock.

So running an all-electric fleet or pool of cars is unlikely to be practical for a long time yet, but EVs are already working to supplement conventional cars in larger fleets. The Nissan Leaf is being trialled by corporations such as Coca Cola, British Gas and the National Grid, according to Nissan’s fleet sales director Barry Beeston, as well as by local councils. Nissan Leafs now operate out of Coca Cola’s Wakefield and Uxbridge sites, while National Grid has taken delivery of four of the vehicles for use by its inspectors in London.

Meanwhile, Mitsubishi has supplied its i-MiEV to the likes of the Environment Agency, councils in Camarthenshire and North Lanarkshire, and the Thames Valley Police. The agency took delivery of its first i-MiEV last May and Mark Ford-Powell of its fleet operations commented: “Over recent years we have seen technology in cars improve resulting in many low CO<sub>2</sub> cars on the road and in our fleet. The introduction of an electric car to our fleet will provide us with further CO<sub>2</sub> savings and the opportunity for us to measure the long-term suitability of operating an electric car.”

### Go electric, save money?

Electric vehicles remain comparatively very expensive to buy outright or to lease. However, local schemes, such as the Transport Scotland initiative, and the nation-wide programme run by the Department for Transport’s office for low-emission vehicles (OLEV) aim to bridge the gap in purchase price between an EV and its conventional ICE (internal combustion engine) equivalent. OLEV’s plug-in car and plug-in van schemes, which run until 2015, offer grants of up to £5,000 per qualifying car or 25% of its showroom price, or £8,000 and 20% of the price for new vans.

These incentives reduce the price of an i-MiEV and Renault Kangoo Van ZE, for instance, to £23,990 and £13,592 (excluding VAT) respectively.

Electric cars are currently exempt from annual road tax and benefit-in-kind company car tax (until April 2015), and qualify for a 100% first-year capital write-down allowance.

London-based businesses or drivers travelling regularly into central London will perhaps benefit the most, however. EVs are exempt from the £10-a-day congestion charge, potentially saving owners around £2,500 a year (EVs must be registered with Transport for London, costing £10 a year).

There is also the opportunity to save on everyday running costs. A full charge, giving 90–100 miles in a typical EV, can cost less than £1 or, at worst, up to £3.50, depending on the electricity tariff used. Charging overnight on an off-peak tariff is the best option, providing an achievable 2p-a-mile energy cost. Peugeot has calculated a saving of more than £1,765 for every 10,000 miles travelled in its iOn EV, compared with a similar car returning a typical 30 miles per gallon in a city.

Peugeot’s iOn customers include solar technology developer G24i, based in Cardiff, which will use the wind turbine that generates power for its head office to recharge its two cars.

Though not every EV user will be able to fit their own solar array or harness wind power, and much domestic electricity in the UK still comes from gas- or coal-fired power stations, many owners and operators choose to sign up to a renewable-source supplier. And, although sceptics have pointed out that EVs are typically more carbon-intensive in their manufacture than vehicles with conventional powertrains, recent research for the Low Carbon Vehicle Partnership found that, over their projected lifespan, EVs still win out over their petrol and diesel counterparts.

With electric cars expensive to buy despite the OLEV grants, and residual (resale) values uncertain, manufacturers are aiming to ease concerns by offering comprehensive all-in lease deals that cover servicing and routine maintenance, as well as measures to reassure customers over battery life.

“Our leasing solution is a creative way of our assuming the responsibility for the vehicle, ie its residuals, and tackling anxiety over an emerging technology,” says Citroën’s Handcock. “It’s a fixed amount of money and all you have to do is charge it and insure it.”


Renault, meanwhile, has taken the step of leasing the batteries that will power the Kangoo Van ZE, Fluence ZE saloon and upcoming Zoe supermini separately, with all battery repairs, replacement or maintenance covered as part of its package.

### The charging conundrum

Most manufacturers recommend that you recharge using an approved, dedicated power point – not an extension lead from a domestic socket. The £250–£1,000 cost of installing a dedicated charging facility at a workplace can be regarded as a legitimate business expense and is tax-deductible. Some local councils will offer free charging at their on-street charging points, while others are issuing reduced-rate – or even free – parking permits for EVs.

Nonetheless, the biggest operational drawback, aside from the limited range between recharges, remains access to recharging facilities, and the time taken for a full recharge. Typically it can take up to six or seven hours for a 100% charge from a conventional socket,





though 32-amp fast-chargers can give up to 80% in as little as 30 minutes. At the moment, most EV users recharge at home or at their workplace, as research trials for BMW's Mini E programme found.

Peugeot spokesman Kevin Jones says that their biggest orders for the iOn so far have come from areas where there's been a concentration of charging facilities. "It depends on where the charging zone initiatives are. It gives a company the confidence that they can go further," he says, adding that "charging (a car) is a different way of life, but not really any different to having to charge up your phone or laptop."

Public recharging infrastructure is growing, however, with fast-charge points being installed at motorway service stations, in car parks and in other public areas. Brighton-based Elektromotive recently announced plans to install 10,000 public access pay-as-you-go charge points across the UK, and London is on course to install 1,300 publicly accessible points across the city by 2013.

### Counting the cost

Despite grants and an expanding charging network, the fleet and leasing industry remains sceptical about the longer-term cost of running EVs. "Whole-life costs point away from electric vehicles," says Neal Francis, managing director at leasing company Pendragon Contracts. "Operationally they are a challenge, and financially you are going to pay a premium. Electric vehicles are still demonstrably more expensive in terms of acquisition costs, and we would not at this point advise jumping into an all-electric fleet."

Data from CAP Motor Research underline this, putting the three-year, 24,000-mile cost of running a Nissan Leaf at just over £16,000, compared with less than £14,500 for a close equivalent Volkswagen Golf 1.6 TDI 105 Match DSG. And, while the predicted second-hand value of both vehicles is quite similar – £10,800 for a Leaf and £10,050 for a Golf – there is scepticism about the likely demand for used EVs. "It's very easy to sell a Golf, but I suspect it's going to be harder to sell a Leaf because the market for it is so limited," warns CAP chief editor Christopher Crow.

"The big issue is price, and the length of the warranty of the batteries," adds Andy Cutler of Glass's Guides, who nonetheless sees Renault's separate battery-leasing system as "a huge advantage, if a customer is going to keep the vehicle a long time".

Insurance is more costly in many cases for EVs, but savings can be made on their simpler servicing and maintenance. "Depending on usage cycles and how much people pay for energy, we believe there is a strong case for cost savings, dependent on battery hire, which is paid up front," says Andy Heiron, head of Renault UK's electric vehicle programme. "We'd urge anyone interested to get out their calculators, get a quote and work out their energy savings."

### Engines with benefits

Pure EVs are not the only option when it comes to greening a fleet. For higher-mileage and less localised use, some degree of electrification remains an option, with range-extended EVs (REEVs), such as the new Vauxhall Ampera and Chevrolet Volt, addressing

## POWERING FUTURE VEHICLES

Fuel cell cars are still only in the field trial stages, but as hydrogen becomes more readily available as a fuel, this highly energy-efficient technology will be a further alternative. A fuel cell contains electrodes and a film of electrolyte fluid. As the cell takes in oxygen, the hydrogen is catalysed and broken down, releasing electrical energy, with the only by-product being water vapour.

On-board storage of pure hydrogen has been an issue, as it needs to be compressed and contained at very high pressures. Some prototypes have instead carried hydrogen-rich substances, such as methanol or ethanol, from which the hydrogen is then extracted in a reformer. Safe refuelling practices and strong fuel tanks are being developed, and cars such as the Honda FCX Clarity and Hyundai ix35 FCEV have been through rigorous crash-testing.

In the long term, hydrogen has been hailed as "the fuel of the future" as fuel cell cars have all the zero-emissions benefits of EVs and the range of internal combustion engine cars, but do not need heavy, bulky batteries nor a dedicated recharging infrastructure.

At the moment, there is just one hydrogen refuelling station in the UK open to the public – at the Honda production plant in Swindon – and fuel cell vehicles are not available for general sale. However, a small number are taking part in trials with selected fleets.

# GREENING A FLEET: THE OPTIONS

## All-electric vehicles

Today's all-electric vehicles (EVs) are capable of motorway speeds and deliver good around-town performance. Automotive firms offer a number of cars engineered to the same standards as their conventional models, and the choice is now not only limited to tiny city cars, lightweight quadricycles, glorified golf carts or exotic sports cars such as the Tesla Roadster.

Most electric cars on sale are offered via all-in lease deals, which give extensive warranty cover, including battery guarantees. These are designed to allay fears about reliability or battery durability, and residual (resale) values are underwritten as well. Renault is offering an alternative option, leasing batteries separately from the cars themselves, and assuming full responsibility for them. Electric vans on offer in the UK now or in the near future are mainly either aftermarket conversions of existing conventional vans or trucks, or small, low-speed vehicles from niche manufacturers such as the Italian firm Alke.

British importers are also lining up to bring in low-cost Chinese-built electric vans and utility trucks, which could come to market shortly. Renault has launched several electric versions of its Kangoo van, however, and Peugeot is training some of its own franchised dealers to service and maintain the Allied Electric-converted Peugeot vans.



Smart Fortwo



Nissan Cabstar



Peugeot eBipper



Alke ATX

## Electric Vans

Available now or later this year:

- **Alke XT** – Low-speed but road-legal utility vehicles, made by Italian company Alke and supplied in the UK by ePower Trucks of Oldham. Top speed 35mph; 12kW; range 60/120 miles (double battery pack option); payload 1,000kg, towing capacity 4,000kg. Price on application.
- **Alke ATX** – Light-duty, road-legal utility vehicles; numerous body configurations, including tipper truck and waste collection. Top speed 25mph; 6kW; range 40 miles; payload up to 1,000kg; towing up to 3,000kg; price dependent on specification.
- **MegaVan** – French quadricycle-maker Aixam sells through a number of approved agents in the UK; a variety of body styles available including pick-up, chassis cab, tipper, chill van and coffee van. Top speed 30mph; 8kW; range up to 100km; payload 435kg; price from around £8,500 excluding VAT.
- **Mercedes-Benz Vito E-Cell** – The production-line electric Vito is currently undergoing testing with selected fleets in the UK and Europe. Top speed 56mph, 60kW, range 81 miles, payload up to 775kg; contract hire rates to be confirmed, but will be eligible for plug-in van grant.
- **Mia electric** – Developed by Heuliez and built in France, the Mia electric is a microvan with the Mia K the box van variant. Top speed 62mph; 13bhp; range 80 miles; from £22,000 (with a plug-in van grant).
- **Nissan New Electric Cabstar** – Conversion supplied by ePower Trucks. Top speed 25mph; range 45 miles; payload 1,000kg; price on application.
- **Peugeot eBipper, ePartner, eExpert and eBoxer** – Conversion by Allied Electric of Glasgow, a leading Motability and Cab Direct supplier. Teepee passenger-carrying versions also available plus eBoxer Monarch minibus and eExpert Eurobus. Top speed 65mph/70mph; 30kW/60kW; range 60 miles/100 miles; payload: 375kg (eBipper), 350kg (ePartner); price on application.
- **Renault Kangoo Van ZE** – Purpose-built by Renault, the Kangoo Van ZE range includes the two-seater Maxi and five-seater Maxi Crew. Top speed 81mph; 44kW/60hp; range 100 miles; payload 650kg; from £13,592 (excluding VAT, with a plug-in van grant); battery hire from £62 per month (48 months/9,000 miles per year, excluding VAT).
- **Smith Edison** – Edison is a Ford Transit-based conversion by Smith in Washington, Tyne & Wear, and offered in medium- and high-roof, minibus and tipper forms. Smith also makes a larger truck called Newton. Top speed is limited to 50mph; 90kW; range 100 miles; payload 1,500kg; price on application, but qualifies for a plug-in van grant.





Renault Fluence

## Electric cars

Available now or later this year:

- **Citroën C-Zero** – Top speed 80mph; 49kW/67hp; range 93 miles; available for lease at £249 per month excluding VAT over four years/40,000 miles, including battery pack, all servicing and routine maintenance.
- **Mitsubishi i-MiEV** – Top speed 80mph; 49kW/67hp; range 93 miles; £23,990 (with a £5,000 plug-in car grant); lease from £235 per month excluding VAT (over 59 months/10,000 miles per year).
- **Nissan Leaf** – Top speed 90mph; 80kW/109hp; range 109 miles; from £25,990 (with a plug-in car grant); lease from £299 per month excluding VAT (35 months/10,000 miles).
- **Peugeot iOn** – Top speed 81mph; 49kW/67hp; range 93 miles; £26,216 including VAT (excluding a plug-in car grant); lease at £249 a month (35 months/10,000 miles).
- **Renault Fluence** – Top speed 84mph; 70kW/95hp; range 115 miles; £17,495 (including VAT and with plug-in car grant); battery hire from £72 per month (including VAT).
- **Renault Zoe** – Top speed 84mph; 65kW/88hp; range 130 miles; £13,650 (including VAT and with a plug-in car grant); battery hire from £70 per month (36 months/7,000 miles).
- **Smart Fortwo electric-drive** (on sale autumn 2012) – Top speed 75mph; range 87 miles; price to be confirmed.



Chevrolet Volt

## Range-extended electric vehicles

If you were to visualise a continuum between all-electric vehicles and conventional internal combustion engine (ICE) cars, then range-extended EVs (REEVs) would be the next step along the line from the “pure” EVs. REEVs feature a battery pack and electrically driven motors, but add a small and relatively simple “range-extender” engine, which kicks in to act as a generator when extra power or range is needed.

The Chevrolet Volt and closely related Vauxhall Ampera have a 1.4-litre petrol engine and an all-electric range of up to 50 miles. Drivers doing a low daily mileage around town and regularly plugging in to recharge the batteries might use the engine only rarely – but it’s there to give the flexibility for longer trips and higher speeds, giving a total range of more than 300 miles.

At the moment, the choice of REEVs in the UK is restricted to the Volt and Ampera (and the £87,000 Fisker Karma), but trials are starting of prototypes from other manufacturers.



Chevrolet Volt

Available now:

- **Chevrolet Volt** – Top speed 99mph; 63kW/86hp; all-electric range 50 miles, total range 300 miles; 235.4mpg; 27g/km CO<sub>2</sub>; £29,995 (including VAT and with a plug-in car grant).
- **Vauxhall Ampera** – Top speed 100mph; 63kW/86hp; all-electric range 50 miles, total range 360 miles; 235.4mpg; 27g/km CO<sub>2</sub>; from £32,250 (including VAT and with a plug-in car grant).



## Hybrids

Hybrid vehicles, such as the Toyota Prius and Honda Insight, feel more like conventional ICE vehicles, and their engines are fuelled in the usual way – but they add a little electrical assistance. They have smaller batteries than REEVs, and a much shorter range running on electric power alone, but do not need to be plugged in – energy otherwise lost from braking is captured through an energy recuperation system for reuse driving the motors. The petrol engine of the Prius can disconnect completely, and the Prius can move off under electric power alone. It is described as having a “power-split” or “series-parallel” hybrid system. The Insight has a simpler, “mild” parallel hybrid system and can cruise all-electrically for a short distance. Consider these hybrids as a stage further along the electrification line from ICE vehicles with stop-start and energy recovery systems.

Some hybrids, such as the Peugeot 3008 hybrid4 and 508 RXH hybrid4, use their different power sources for four-wheel drive effect – in these cases, their diesel engines drive the front axle and their electric motors the rear. And, while high-performance and luxury vehicles, such as the Infiniti M35h saloon, the Porsche Panamera and Cayenne hybrids and the limo-like Lexus LS 600h are hardly the most fuel-frugal or lowest- CO<sub>2</sub> options, they do offer significant improvements over their conventional counterparts. Plug-in hybrids give the opportunity to further extend their all-electric mode by topping up their batteries from an external power source.

Porsche Cayenne S hybrid



BMW 5-Series activehybrid 5



Porsche Panamera S hybrid



Toyota Prius PHV



Volkswagen Touareg

### Available now or later this year:

- **BMW 5-Series activehybrid 5** – Top speed 155mph; 305bhp; 44.1mpg; 149g/km CO<sub>2</sub>; £46,860.
- **Honda Jazz 1.3 IMA** – Top speed 109mph; 88hp; 62.8mpg; 104g/km CO<sub>2</sub>; from £15,995.
- **Honda CR-Z** – Top speed 124mph; 124hp; 56.5mpg; 117g/km CO<sub>2</sub>; from £17,695.
- **Honda Insight** – Top speed 113mph; 88hp; 64.2 or 61.4mpg; 101g or 105g/km CO<sub>2</sub>; from £16,995.
- **Infiniti M35h** – Top speed 155mph; 306hp; 40.9mpg; 159g/km CO<sub>2</sub>; £46,840.
- **Lexus CT 200h** – Top speed 113mph; 98bhp; 68.9mpg; 94g/km CO<sub>2</sub>; from £23,750.
- **Lexus GS 450h** – Top speed 155mph; 341bhp; 36.7mpg; 179g or 180g/km CO<sub>2</sub>; from £44,615.
- **Lexus RX 450h** – Top speed 124mph; 295bhp; 44.8mpg; 145g/km CO<sub>2</sub>; from £44,530.
- **Lexus LS 600h** – Top speed 155mph; 439bhp; 30.4mpg; 218g or 219g/km CO<sub>2</sub>; from £90,580.
- **Peugeot 3008 hybrid4** – Top speed 118mph; 163bhp; 74.3 or 70.6mpg; 99g or 104g/km CO<sub>2</sub>; from £26,995.
- **Peugeot 508 RXH hybrid4** – Top speed 132mph; 163bhp; 68.9mpg; 107g/km CO<sub>2</sub>; £33,695.
- **Porsche Cayenne S hybrid** – Top speed 150mph; 328bhp; 34.4mpg; 193g/km CO<sub>2</sub>; £59,058.
- **Porsche Panamera S hybrid** – Top speed 168mph; 328bhp; 41.5mpg; 159g/km CO<sub>2</sub>; £86,396.
- **Toyota Yaris Hybrid** – Top speed to be confirmed; 98bhp; 76 or 80.7mpg; 79g or 85g/km CO<sub>2</sub>; from £14,995.
- **Toyota Auris Hybrid** – Top speed 112mph; 98bhp; 74.3 or 70.6mpg; 89g or 93g/km CO<sub>2</sub>; from £20,295.
- **Toyota Prius** – Top speed 110mph; 98bhp; 72.4 or 70.6mpg; 89g or 92g/km CO<sub>2</sub>; from £21,560.
- **Toyota Prius+ (seven-seater)** – Top speed 105mph; 134bhp; 64.2 or 68.9mpg; 101g or 96g/km CO<sub>2</sub>; from £26,195.
- **Toyota Prius PHV (plug-in hybrid)** – Top speed 110mph; 98bhp; 135mpg average; 49g/km CO<sub>2</sub>; from £27,895 (with a plug-in car grant).
- **Volkswagen Touareg 3.0 V6 TSI hybrid** – Top speed 149mph; 333hp; 34.4mpg; 193g/km CO<sub>2</sub>; £57,985.
- **Volvo V60 plug-in hybrid** (deliveries from November 2012) – Top speed 142mph; 180bhp; 148.7mpg average; 49g/km; from around £45,000 (excluding a plug-in car grant).



Honda Jazz

“range anxiety” by adding a small engine which acts as a generator, kicking in to supplement the electric power unit when needed.

Low-mileage drivers who regularly recharge may find that they can do the majority of their driving on electric power and rarely engage the engine at all. REEVs are conventional-feeling to drive, the engine boosting acceleration as required and helping out the motor for overtaking and going uphill, for example. However, with even the cheapest Volt costing £29,995, even with the £5,000 grant, they are pricey, and it is a complex solution as yet unproven in long-term everyday use.

Petrol-electric hybrid technology, as used in the popular Toyota Prius and models including the Honda Insight, Honda CR-Z and Lexus CT 200h, requires no external recharging, has a longer track record and has proved to be durable – many 10-year-old Prius cars are still clocking up high mileages and have been found to be as trustworthy as any other Toyota. Such hybrids are at their most efficient in stop-start city driving, when they can start up and pull away from a standstill in a short-range all-electric mode, but may be less efficient than comparably powered conventional models in higher-speed conditions such as motorway driving.

Diesel-electric hybrids, including Peugeot’s hybrid4 models, are starting to come to the market, and for those with access to recharging facilities, plug-in hybrids, such as the Prius PHV, promise increased capability in their all-electric mode. The Volvo V60 plug-in hybrid, meanwhile, is both diesel-electric and externally rechargeable.

Cost-wise, petrol-electric hybrids do work out more expensive to buy and run than their conventional equivalents, says Francis at Pendragon Contracts, but he does see a place for diesel-electric models. “Diesel hybrids could be quite an attractive proposition for the fleet sector, borne out by their whole-life costs and the fact that most fleets are running diesels anyway.”

As well as their better fuel-efficiency, diesel-electric hybrids are expected to have higher resale values than petrol-electric models and EVs. “Diesel-electric hybrids make a much stronger case,” says Crow, “but you’re paying a high premium, and until the technology becomes more mainstream, it’s probably not going to stack up as a business case in the short term.”

Still, the low carbon dioxide emissions from hybrids means lower tax bandings than for conventional counterparts, and some models are eligible for enhanced capital allowances. Those vehicles emitting less than 100g of CO<sub>2</sub> per km (g/km CO<sub>2</sub>) are also exempt from the London congestion charge.

There is a wide variety available, from the runaround Toyota Yaris hybrid to the luxury Porsche Panamera S hybrid saloon. There are also four-wheel drive models, SUVs and crossovers such as the Peugeot 3008 hybrid4 or Volkswagen Touareg 3.0 V6 hybrid, for those who really need to go off-road or tow a trailer.

### Keeping it conventional

With continued improvements to traditional internal combustion engines, there remains a lot to be said for sticking with tried and tested petrol- and diesel-

powered cars, perhaps downsizing, either in terms of engine size and power, or in the choice of vehicle itself where possible.

ICE vehicles are getting cleaner and more economical. Carbon emissions from new cars in the UK fell a further 4.2% in 2011, reaching a record low of 138.1g/km CO<sub>2</sub>, the Society of Motor Manufacturers and Traders reported recently. It also found that new cars in the UK now emit 27% less carbon than in 1997, and are on average 18% more fuel efficient than their used counterparts.

Many models now feature stop-start technology, which automatically cuts the engine when it’s idling, which can reduce fuel consumption and emissions during city driving in particular. Fuel injection, valve timing and exhaust-treatment technologies are getting ever more sophisticated in petrol and diesel powertrains alike, and improved transmissions, the use of light-weight materials and enhanced vehicle aerodynamics are all playing a role in reducing the impact of the ICE.

And, importantly for fleet operators, the industry has a clearer idea of ICE vehicles’ resale values and operating costs across their life cycle, so more accurate whole-life costs can be calculated.

The 2012 Budget brought the announcement that company car tax rates, levied at a percentage of new list price, would increase from 2014 for cars emitting more than 75g/km CO<sub>2</sub>, and that from April 2015, the exemption for zero-emissions and ultra-low carbon emissions vehicles (including EVs and plug-in hybrids) would end.

For the financial year 2012/13, cars emitting 0–75g/km CO<sub>2</sub> are levied at 5% of list price for benefit-in-kind and those emitting 76–99g/km at 10% – the threshold for QUALECs will fall to 94g/km for 2013/14.

Another important threshold to bear in mind is 130g/km CO<sub>2</sub>. From 2013, the outright purchase of cars emitting less than 130g/km can be written off against profits at an 18% rate, a 10% saving over vehicles that emit more emissions.

The range of ICE vehicles emitting 99g/km CO<sub>2</sub> or less is now extensive; versions of popular superminis and city cars such as the Audi A1, Fiat 500, Ford Fiesta, Mini, Seat Ibiza, Vauxhall Corsa and Volkswagen Polo now fall into this category. Likewise, numerous larger vehicles including the Audi A3 1.6 TDI 99g, Citroën C4 1.6 e-HDI, Seat Leon 1.6 TDI CR Ecomotive, Skoda Octavia 1.6 TDI CR, Vauxhall Astra 1.7 DCTi ecoFLEX, Volkswagen Golf 1.6 TDI CR and the Volvo V50 1.6D DRIVE also emit 99g/km CO<sub>2</sub> or less.

And, going up to the 130g/km CO<sub>2</sub> limit gives no end of choice of mainstream models.

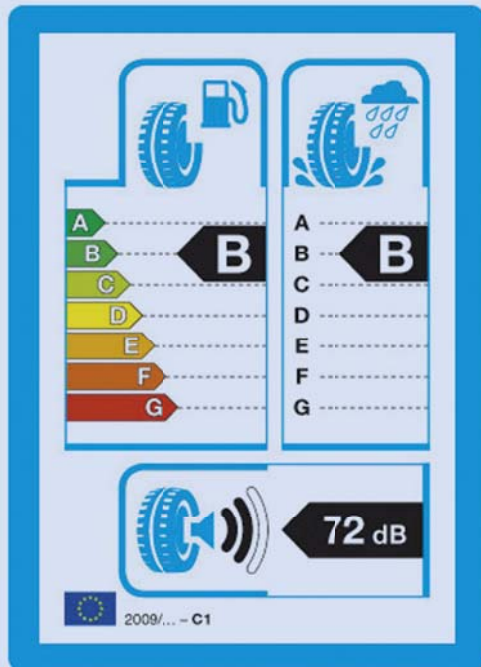
### Don't forget the drivers – or the data

Greening a fleet is not only confined to vehicles: when and how they are driven, and maintaining an effective management policy, is just as important.

Monitoring mileage and miles per gallon is now easy using fuel cards or telematics, while the heavy-footed could benefit from eco-driving training. Figures from the Driving Standards Agency suggest that drivers



## WHAT'S IN A LABEL?



From November, new tyres will bear a label similar to the energy-saving-rating labels that can be found on white goods such as fridges and washing machines. New European legislation (Regulation 1222/2009) will require that any tyre sold in the UK comes with a label measuring its impact on the environment.

Tyre labels will contain three pieces of information. First, like white goods labels, they will demonstrate the fuel efficiency of the tyre

using a categorisation system running from A to G. The category letter will be displayed on the label and each category will link to a colour, also on the label. A is bright green, G is dark red. The greener the category rating the higher the fuel efficiency of the tyre and the lower its environmental impact. Second, tyre labels will offer information on wet braking distances so that motorists can be sure they are buying a safe tyre if they select one that is also highly environmentally friendly. The third piece of information will be the noise levels of each tyre at speed, measured in decibels.

So what makes a tyre “green” and why do tyres impact the fuel efficiency of a vehicle? As tyres roll along the road they deform to accommodate changes in the road surface. As the tyres deform they release energy in the form of heat. This energy comes from the engine and can account for up to 25% of all fuel used. The majority of this is to overcome the resistance of the tyres alone, so accounts for no distance travelled and therefore, on average, one in every four visits to the fuel pumps only covers getting the tyres moving from standstill. The new breed of “green tyres” contains a high percentage of neodymium polybutadiene rubber – a synthetic rubber that has been specifically designed to retain more of the energy that is usually released by tyre deformation, reducing energy consumption and therefore fuel consumption. So small changes to the materials in a tyre can have a massive impact on fuel and environmental efficiency.

Buying green tyres thus reduces fuel consumption and produces less carbon dioxide. Research from the University of Munich suggests that, on average, a family car travelling 20,000 miles a year can reduce its carbon emissions by up to 300kg and drop its annual fuel bills by up to £250 by switching to a set of A-rated green tyres.

The figures suggest that tyre labelling, if used properly, will have a significant impact on both the environment and our wallets.

*Kim O'Connor, managing director of LANXESS in the UK*

schooled to adopt a more energy-efficient driving style could cut their consumption – and thus carbon dioxide emissions – by 10%–15%.

“It’s easy to get involved in looking at vehicles with new technology,” says Chris Endacott, director of Gfleet, an independent sustainable transport consultancy. “But if each vehicle is not being used efficiently or driven well, you’re not going to get the results. We constantly come back to how efficiently you use the energy you’re buying, whether it’s electricity, diesel or petrol.”

Gfleet has calculated that using 392 litres of diesel produces a tonne of CO<sub>2</sub>, costing cost around £460 before VAT. By contrast, a tonne of CO<sub>2</sub> from natural gas costs around £100, and a tonne of CO<sub>2</sub> from electricity £140.

This brings home the fact that, by reducing fuel use, fleets can make not only a major impact in terms of improving their carbon footprint, but also cost savings. “If you’re going to cut carbon,” says Endacott, “cut your most expensive carbon.”

He points to the importance of collecting detailed data on how each vehicle in a fleet is used, the mileage it does and the fuel consumption it is returning before assessing its suitability for its role. Endacott also champions “fuel management” – that is, keeping tabs on individual drivers’ fuel usage, where the fuel was bought and how much it cost.

“Fleet managers have the problem of integration of their data,” he says. “You may have people buying fuel on fuel cards, company credit cards, their own cards – but all of that fuel should be tracked down and accredited to a vehicle and driver.”

He warns that without continued and ongoing monitoring, drivers who have undergone efficiency training may revert to their old habits.

Another key way to improve a fleet’s environmental performance, says Endacott, is to reduce the use of a “grey fleet” – privately owned cars or vans driven on business, which are often older, less efficient and more heavily polluting vehicles.

This is a particular issue in the public sector, he explains, where “there are still some organisations that pay lucrative rates, up to 65p a mile, and it’s difficult to give people an incentive to get out of their cars.”

Fleet operators could consider further ways to reduce business mileage, perhaps by introducing travel plans and incentives for employees to take public transport, lift-share (see pp.26–28 to learn about BT’s scheme) or exploit technology, such as video conferencing ([lexisurl.com/iema13232](http://lexisurl.com/iema13232)).

If taking to the roads is unavoidable, some businesses and organisations are starting to downsize or cut their fleets altogether, instead joining car clubs and daily rental schemes. Integrated points-based mobility management systems, giving access to a variety of vehicles for different tasks, tickets for public transport and perhaps even incentives for walking and cycling, are also on their way to the UK.

**Farah Alkhalisi** is a journalist who has been writing about cars and the automotive industry for nearly 15 years.



# Bowled over

Stephen Tromans examines an appeal to block the redevelopment of a bowls club through the application of the 'precautionary principle'



**Stephen Tromans**  
QC, 39 Essex  
Street

One does perhaps not immediately think of the environmental impact assessment (EIA) regime as being primarily focused on projects such as the redevelopment of a sedate bowls club at Bexhill-on-Sea. Yet in the EIA field, cases with rather unpromising facts seem to have a way of giving rise to far-reaching decisions.

The Bexhill-on-Sea redevelopment was the subject of a recent and important decision by the Court of Appeal in *R (Loader) v Secretary of state for communities and local government* [2012] EWCA Civ 869.

A proposal to redevelop Gulliver's Bowls Club to form 41 sheltered apartments for elderly people, as well as a new outdoor bowls green and indoor rink, was challenged by Anne-Marie Loader, who, in 2008, had succeeded in getting planning permission for the same scheme quashed for failure to follow the procedural requirements of the EIA Regulations.

The matter had then been remitted to the secretary of state, who made a screening direction that the scheme fell within para. 10(b) of Sch 2 (urban development project) and exceeded (by 0.2 hectares) the 0.5 hectare threshold, but was unlikely to have significant effects on the environment. The matter then proceeded to appeal, again. The inspector confirmed that in view of the scale of the development and the lack of adverse impact on sensitive areas or protected species there would indeed be no significant effects.

Straightforward enough, one would think. But counsel for Loader advanced a submission that sought to link the decision on screening to the precautionary principle and the approach to screening for appropriate assessment under the Habitats Directive (92/43/EEC) in the *Waddenzee* case (Case C-127/02). This would mean that unless the decision-maker could exclude on the basis of objective evidence the real possibility of there being significant effects, then an EIA was required.

This hard-edged approach would be a very different test to that previously applied by the courts – that significant effects and their likelihood are not a precise legal test but a matter of degree, calling for the exercise of judgment by the decision-maker. The challenger's approach would mean that pretty much every planning application that was controversial on environmental grounds would be subject to the procedural

requirements of EIA. In that, the challenger relied on the sentence in the European Commission guidance that says: "A useful simple check is to ask whether the effect is one that ought to be considered and to have an influence on the development control decision."

Giving the judgment of the Court of Appeal, Lord Justice Pill said: "The decision-maker must have regard to the precautionary principle and to the degree of uncertainty, as to environmental impact, at the date of the decision. Depending on the information available, the decision-maker may or may not be able to make a judgment as to the likelihood of significant effects on the environment. There may be cases where the uncertainties are such that a negative decision cannot be taken. Subject to that, proposals for ameliorative or remedial measures may be taken into account by the decision-maker."

He went on to say: "The proposed test does not accord with the overall purpose and tenor of the procedure initiated by the Directive. A formal and substantial procedure is contemplated, potentially involving considerable time and resources. It is contemplated for a limited range of Sch 2 projects, those which are likely to have significant effects on the environment. To require it to be followed in all cases where the effect would influence the development consent decision would devalue the entire concept. It is not contemplated, for example, that if the secretary of state took the view that a proposed house extension might affect the amenity of a neighbour on environmental grounds, and do so decisively, it would for that reason necessarily be EIA development."

"Applying that approach to the present facts, I have no doubt that the inspectorate was entitled to conclude that the proposed redevelopment would not have significant effects on the environment."

The decision is important as obviously the alternative approach, if accepted, would have very far-reaching implications. However, it should be noted that the approach requires the screening decision to be placed in context – the less information available the more precautionary the approach required and there may be cases where the uncertainties leave the screening authority with no alternative but to give a positive opinion that EIA is required.

# A vehicle for change

*the environmentalist* reports on a car-sharing scheme that is reducing BT's carbon footprint and will save £250k a year in fuel costs

In 2011, BT was faced with a considerable challenge: moving up to 900 staff from different locations into a new office with just 75 parking spaces. The site, 1 Providence Place, is in West Bromwich. Although not all the relocating employees would be moving at the same time, the vast majority would be coming from an environment where they had been used to ample, free parking at work.

Because the new building was subject to a s.106 agreement under the Town and Country Planning Act 1990, BT had no choice but to implement a radical travel plan focused primarily on car sharing.

The s.106 agreement stipulates that single occupancy cars entering the site must be reduced to 47% within five years. But BT was motivated by more than just regulation. The company is committed to tackling climate change, and sustainable travel is a firm part of its strategy.

BT teamed up with *liftshare*, a social enterprise that helps individuals to travel more sustainably by sharing their journeys. The telecoms giant introduced a *liftshare* scheme based on just 45 dedicated car-sharing bays for staff. The project has encouraged many employees to take a fresh look at their commute, and the results have been impressive. In addition to being well on the way to meeting the conditions of its s.106 agreement, BT's scheme has already made significant CO<sub>2</sub> savings – as well as helping staff to save money on a daily basis.

## The drivers for change

The first tranche of people was due to move into the new building in October 2011 and so, from July, the car-sharing scheme was launched as part of BT's overall relocation programme. In recognition of the behavioural change that BT knew would be needed



to implement the new scheme, business change manager Ian Coward led the project and held a series of workshops aimed at getting people on board with the relocation.

Car parking at the new site dominated proceedings, as Coward comments: "We had an impressive, purpose-built new office to show people but the main focus of our communications was parking, and the discussions became emotional at times."

With just 75 parking spaces to play with, Coward knew the car-sharing scheme had to start as it meant to go on, regardless of the fact that there would be far fewer people working in the building initially.

Of the 75 available spaces, 45 were allocated for staff as car-sharing bays, 12 reserved for disabled drivers and the remaining spaces turned into visitor parking. Although the tight ratio of staff to car-parking spaces meant that, ideally, every car travelling to the office should be as full as possible, Coward had to take other factors into account when deciding on the requirements for the scheme.

"At first we thought the basic criterion should be a minimum of three occupants per car but because of initial resistance to the scheme we realised that we had to ease people in more gently, so we agreed on a minimum of two occupants per car for the first phase of the scheme," he explains.

In August, before the move, BT carried out a poll to establish a baseline of car occupancy levels among the 400 or so employees who would be the first to move to 1 Providence Place.

The results indicated that the overwhelming majority drove to work and, among this sample, there was an 85%–90% single occupancy rate. This was a daunting statistic for BT to change but, by May 2012, it was reduced to just 65%.

However, BT's commitments under its s.106 agreement apply not only to cars entering the on-site car park but to all employees' driving patterns. So, for instance, the existence of a cheap, £2 per day car park close to the new office

is a significant barrier to BT achieving its 47% single occupancy rate by 2017.

### Working with *liftshare*

BT contacted *liftshare* (for more details on *liftshare*, see panel, p.28) quite early on in the project. Coward says the social enterprise's expertise has been very valuable, as well as the software infrastructure that BT has been able to put in place.

Being part of the *liftshare* scheme means that BT has access to an online journey-matching tool. BT employees working at 1 Providence Place can register their details online ([carsharesandwell.com](http://carsharesandwell.com)) and search to find other commuters at the telecoms company who are travelling a similar route to and from work.

Representatives from *liftshare* helped BT to promote the scheme, giving presentations to staff. Coward says the people at *liftshare* are passionate about the environmentally friendly service they are providing, which can also help generate enthusiasm internally for the scheme. Being part of a nationally run initiative means that Coward and his colleagues can tap into a knowledge-sharing hub and exchange information with other organisations that are part of *liftshare*.

Being part of the *liftshare* network also gives Coward access to the monitoring pages on the website enabling BT to evaluate the success of the system. "The ongoing support provided by *liftshare* makes a real difference to the scheme's success," says Coward. "The website has given me the foundation tool to manage the scheme and help adapt employee behaviour, for example by being able to measure key metrics like CO<sub>2</sub> and fuel savings on a car-by-car basis."

Using figures from the 100 or so people that are already car sharing at the site, BT estimates its workforce will save 164 tonnes in CO<sub>2</sub> emissions and £250,000 in fuel costs each year.

### BUDi groups

So far, BT's *liftshare* scheme has 150 members, with 107 successfully converted into car sharers – this two to three conversion rate is considered to be good progress at such an early stage. It means, however, that 43 people are still waiting to join a suitable car share. Sadly, says Coward, 'there will always be a few individuals whose work journeys simply do not match up with any of their colleagues.'

On a day-to-day basis, the scheme operates by employees registering on the website and signing up for a potential car-share opportunity, and then forming suitable "BUDi groups". People need to create BUDi groups with colleagues where a lift share could work in practice because their buddies live in similar locations or on similar routes into work. In BT's case, Coward encouraged people to set up BUDi groups before signing on to the site, giving the scheme a head start.

Coward says there was a small but firm shift in some people's attitude to the scheme as soon as it was launched, with a proactive minority making links online and embracing their new travel arrangements. Some staff have been creative in their car sharing by not limiting their travel buddies to those who live nearby. One four-person car share begins its journey in Sutton Coldfield and picks up passengers in Walsall before reaching its West Bromwich destination.

Flexibility is the key to the scheme's success, says Coward, which is why it needs ongoing monitoring and tweaking. "It is not a static system because the working lives of people are subject to change," he says.

For instance, one current car share involves at least six BT trainers sharing a ride to and from work for a four-month period as that is the length of their assignment. Once they have moved on, their allocated space needs to be reassigned to a different group.

Another car share is a seasonal arrangement, made up of some keen cyclists working in IT who only want to travel by car in the winter months.



## LIFTSHARE'S JOURNEY

*liftshare* was founded in 1998 by Ali Clabburn while he was still at university. Like a lot of students, one holiday Clabburn did not have the funds to travel home from Bristol to Norfolk and so he posted a lift request on the student noticeboard. The concept "grew a bit" among the university population and, 14 years on, is now a sophisticated but user-friendly online tool with more than 500,000 individual members and 600 corporate *liftshare* schemes. Around 100,000 people share lifts through the site every day, ranging from regular work drives to one-off festival trips or occasional weekend journeys.

Although the early impetus for setting up the car-sharing scheme was based on promoting social networking to a practical end, *liftshare* very quickly embraced the significant environmental goals that could be achieved from car sharing. As Clabburn says: "Efficiency and sustainability go hand in hand and sharing more, like car journeys, can have a huge impact on saving the planet's resources."

Sustainability is now a key part of *liftshare*'s mission, with the company already having won a number of prestigious environmental awards, including, in June 2012, the Eurostar Ashden award for sustainable travel and the EU's Sustainable Energy Europe award in the travelling category.

When *liftshare* was first set up, before the internet boom, the site was hosted in Canada as the capability to manage a database-driven site did not yet exist in the UK. That is no longer a problem and the "back-office" element of the site contains a wealth of data that can be analysed and mapped to help organisations manage their car-share schemes.

Clabburn says the average commuter logging on to the site has 36 potential matches for their journey. And members have options on how they search for companions to share with – for example, female commuters can limit their search to other women drivers.

"You don't need your own car to join – many drivers are happy to offer a lift in exchange for a contribution to running costs," Clabburn adds. Generally, those who car share tend to stick with the same car and BUDI team indefinitely.

For organisations that want to introduce a car-share scheme, Clabburn mentions several critical success factors:

- appoint a car-share champion and/or manager – someone who believes in the scheme and can publicise it to staff;
- promote the incentives of being part of the scheme – such as the benefits to the environment, fuel-cost savings and the opportunity for social networking; and
- use every opportunity to raise awareness of the incentives of the scheme – such as clear signage for the car-share parking bays and recognition for being part of the scheme.

"Organisations should consider introducing a car-share scheme even if they do not have a pressing parking problem," advises Clabburn. "The investment in a corporate car-sharing scheme is minimal and is far outweighed by the potential benefits for both the environment and staff."

For more information about *liftshare*, go to [liftshare.com](http://liftshare.com), or contact Ali Clabburn on 01953 451166 or [ali@liftshare.com](mailto:ali@liftshare.com).



Although the online tool acts as a big coordination prop for people, there is still some onus on individuals to take responsibility for setting up precise arrangements, typically via a follow-up email.

### Driving forward the scheme

Currently, 32 of the 45 available car-share parking bays are taken by two-person car shares. There are five three-person journeys and seven four-person car shares in the scheme.

Although Coward took the decision at the outset to allow car shares with just two people to qualify under the scheme, to get it off the ground, now the scheme is more established this decision is up for review; to progress the scheme and ensure it achieve its potential, the minimum number of individuals sharing one car needs to be raised.

"In practice, a two-person car share is open to abuse if one person is on leave or individual circumstances change," says Coward. "Unfortunately, there are a few people who are not following the spirit of the scheme and it is not easy to monitor every single car journey."

At present, around 65% of the workforce at 1 Providence Place travel to work in a car, so there is plenty of potential to increase the car-sharing population towards the target of 47%. This is another reason why a car-sharing scheme needs ongoing monitoring and review, as well as reinforcement, according to Coward.

### Maintaining momentum

Although the mood around the car-share scheme has palpably shifted among staff since it was first mooted, there are still pockets of negativity about it – a fairly inevitable result of any business and behaviour change programme, says Coward. In the majority of cases, however, the mood has moved to a much more positive "can do" attitude and most negativity now is directed at individuals who are perceived as abusing the scheme, demonstrating clearly how it is now widely accepted by employees.

Inevitably, as the scheme has become established, it has reached something of a plateau and Coward intends to change hearts and minds to raise it to the next level – mainly by increasing the qualifying car-occupancy rates. "We are learning as we go and can't assume that the scheme is now 'done' – it will need constant review and change," he says.

BT's car-share scheme is already well on its way to being a real success story but, looking back, Coward says that if he were to launch a similar scheme again, he would focus even more firmly on promoting the initiative on a green platform and its potential for a significant reduction in carbon emissions, rather than focusing mainly on the s.106 agreement.

His final recommendation for other organisations considering a car-share scheme is that you cannot do enough marketing and promotion to get the scheme off the ground and employees on board. "There is a lot of ingrained behaviour around single-car occupancy in society," he advises, "and it is not easy to change that behaviour."



# Global action

Alison Cambray describes her role in designing and managing a £70 million programme to help developing countries respond to climate change



**Alison  
Cambray**  
AIEMA

**I**n 2009, the Department for International Development (DFID) put out to tender the management of a new programme to support low-carbon growth and improved climate-change resilience in Africa, Asia, Latin America and the Caribbean. At the time I was working in PwC's sustainability and climate change consultancy team, and was involved in the company's bid for the work.

The initial challenge was how to design a two-part research and technical assistance programme in line with DFID's requirements. The tender document was clear: the support element had to be demand-led and respond to country's identified needs – it could not simply involve picking specific countries and sustainable development projects. We had to think about how we would create demand from nothing and how to turn requests for assistance into something practical.

I led the part of the tender that described how we would develop the assistance programme.

## Quality of life

We were successful in our bid and, since 2010, have managed the Climate and Development Knowledge Network (CDKN), a five-year £70 million programme funded by the UK and Dutch governments ([cdkn.org](http://cdkn.org)). The ultimate goal of the network is to improve the quality of life of the people most vulnerable to climate change, by supporting decision-makers in developing countries to deliver climate-compatible development.

We spent much of the first two years of the contract cultivating relationships with administrations of developing economies, both regional and national, to understand their development needs and design programmes that will best deliver those in a climate-compatible way. As the head of technical assistance at CDKN, a big part of my role is analysing a country's request for assistance and then working with my team to identify and bring in the world's best experts, as well as building capacity in appropriate local institutions, to ensure we are creating a solution with the best chance of success. This has been a steep learning curve and I now oversee more than 70 projects across 15 countries.

In Colombia, for example, we have been working with the mayor of the historical coastal city of Cartagena to integrate flood risk into planning policy. Cartagena is already dealing with the impacts of climate change, with sea-level rise resulting in flooding and subsidence. Despite this, the existing planning

process does not consider climate vulnerability, so infrastructure and buildings are being constructed in areas of high flood risk. In response to a request for assistance, we funded a local institution to produce a vulnerability assessment. It brought together the best available information on current and future climate-change risk and how Cartagena would be affected.

The project used modelling and mapping tools to present the results to the mayor and the local planning department, and it is now being integrated into new local spatial and zoning plans for the city.

One of our biggest achievements so far has been in the Caribbean, where we supported the Caribbean Community Climate Change Centre to develop an implementation plan outlining the region's strategic approach for coping with climate change up to 2021 and how the 18 countries in the region can work together to increase resilience and develop renewable energy sources. This was approved by heads of state earlier this year and is already leveraging significant support for further implementation.

## Lessons to learn

As an environment professional it's a real privilege to learn about so many different countries and to work with people at a senior level who really understand the issues of climate change and are committed to helping their country take a low-carbon and climate-resilient path. They have very high expectations of the support they will receive and it's very rewarding to work with them and with global experts on climate and development to meet those expectations.

As a knowledge network, a big part of what we do, and my role in particular, is about sharing best practice across our projects, and I believe there are many things the UK can learn from the approach being taken in Africa, for example, which I hope to share through my work as a sustainability consultant.

As we approach the midway point of the CDKN contract, we are shifting from getting projects under way, to working on how to make sure we leave a legacy of enhanced climate-change resilience. We've already had success in integrating climate change mitigation and adaptation into countries' policy processes and in two years' time I hope to go back to those countries and see that, as a result, developments have been constructed differently and we are really improving people's quality of life.

# Voluntary agreements

Experts debate the best way to get firms to

**T**he way the world does business needs to change. And fast, because we're living in rapidly changing times. But how are we going to get there at the required pace?

We know that regulation can be effective. Look at the Landfill Tax Directive or the Ecodesign Directive. Both have pushed the market in the right direction over a sustained period of time. There is a place for legislation when the commercial drivers are not sufficiently compelling. But the problem with regulation is that it tends to focus on pulling up the bottom end of the market, which can be a slow process.

What we need is to create the right conditions for a race to the top, to put the right framework in place so that businesses strive to be the best because it is in their interests. And that's where voluntary approaches have so much to offer.

Voluntary agreements work with the grain of business – ensuring the actions businesses take don't just meet environmental objectives but also bring commercial gains. Get the voluntary approach right and it can stimulate a seismic shift through innovation because the benefits can be felt throughout a company. Given the right conditions, organisations will radically reduce their environmental impact as well as gain a competitive advantage.

There are good fiscal reasons to adopt more sustainable methods of doing business. We know the near future will bring significant changes to weather patterns and increased risks of disruption, as well as greater fluctuations in price and in the availability of resources.

We need to be sure we'll be able to continue to supply good-quality products at affordable prices. Retailers and brands that adjust to these risks will be better placed than those that do not. The case for change makes itself, no regulation required.

There are plenty of good examples from the retail sector. The Courtauld Commitment has achieved massive reductions in packaging and food waste, preventing more than a million tonnes of food and packaging waste between 2005 and 2010. The On-Pack Recycling Label is used by more than a hundred companies on over 60,000 product lines and has driven up recycling rates. The recently established Product Sustainability Forum is addressing the gargantuan task of pioneering ways to improve the environmental performance of everyday products over their entire life cycle, from manufacture to disposal.

Regulation has its place but, given the pace of change we need to see, incentivising best practice and stimulating innovation are essential. Let the most responsive to change thrive under progressive voluntary initiatives and let the laggards lose ground as they fail to evolve with the times.



**Bob Gordon** is environment policy adviser at the British Retail Consortium





# or binding regulation?

## improve their environmental performance



**Alan Whitehead** is MP for Southampton Test and a member of the energy and climate change committee

**T**he problem with arguments that suggest environmental goals can better be reached through voluntary measures than through regulatory requirements is that there are plenty of anecdotes, but little actual evidence that the voluntary approach works.

On the other hand, there is quite a lot of evidence that voluntary measures fail to result in the intended environmental protection. Relying on voluntary measures means businesses that want to do the right thing by taking on additional environmental costs are put at a disadvantage and face undercutting from less responsible competitors. And because all businesses see the same policy landscape and assume they will be undercut in this manner, there is a slow and inexorable trend against any company being more environmentally responsible than they are required to be: a classic “prisoner’s dilemma”.

These perceptions about disadvantage are simply not borne out by the evidence either. A recent Defra-commissioned report on environmental regulation and competitiveness concluded that when regulations are introduced there may be “a modest productivity penalty in the short term ... [but] there is evidence of a countervailing innovation push over the longer term.”

In other words, regulation works by stimulating newer and better practices among companies because, among other things, they are all subject to the same rules. Regulation creates the level playing field necessary to drive innovation. The case for regulation to reduce impacts on the environment is, at heart, fairly simple. If you want to achieve real shifts in those impacts, regulation will do it; voluntary agreements, by and large, will not.

There is, of course, such a thing as over-regulation, and a necessary check for any proposed legislation is whether the goal of the regulation will be achieved with the minimum cost and complexity.

There is a very real red-tape challenge to be had in continuously reviewing whether there are simpler ways of lowering environmental impacts. Good regulation must focus on fairness – no loopholes, no preferences – giving all concerned an equal chance to succeed. And that also goes for “leakage” – the extent to which, in interconnected markets, regulation needs to be compatible and minimise the shift of activities to a less regulated market.

Bearing in mind these caveats, regulation must remain at the heart of good environmental practice. In the end, it’s a case of whether or not we are serious about environmental objectives, and in many areas of industrial and commercial life, such as air quality, carbon emissions and resource depletion, we cannot afford not to be serious.

# Powering the water industry

As water companies embrace wind energy, **Steve Mustow** describes how to tackle the challenges of installing turbines

**T**he water industry consumes around 2% of the power used in the UK, and is seeking to reduce its carbon footprint as well as energy costs. It is increasingly achieving both objectives by installing renewable energy technologies to help power its operations.

Yorkshire Water, for example, now produces sufficient renewable energy to meet around 10% of its electricity needs and aims to increase this to 14% by the end of 2015, while Thames Water consumed 1,264GWh of energy (excluding heat) in 2009/10, 15% of which the company generated on its own sites using renewable sources. In 2011/12, Severn Trent generated 212GWh of renewable energy from sewage gas, energy crops and hydro, which satisfied about 24% of the firm's electricity demand, and the company aims to generate 30% of its energy from renewable sources by 2014/15.

## In the wind

The majority of water firms' renewable energy generation is provided by combined heat and power (CHP) plants, which utilise the gas generated by the wastewater treatment process. However, several firms are installing wind turbines on their land or leasing their land to energy firms to construct wind farms.

Thames Water's £200 million upgrade of the Crossness sewage treatment works in east London includes the installation of a wind turbine that will generate up to half the energy needed to power the site. Yorkshire Water has installed wind turbines at its Loftsome Bridge site near Howden and at its wastewater treatment works at Saltend in Hull. The turbine in Hull reduces the company's carbon emissions onsite by

about 1,150 tonnes every year – the equivalent of taking 20% of the firm's fleet cars and vans off the road.

Scottish Water has the largest installed capacity on its land, however, through the Whitelee wind farm development near Glasgow. This was built by and is owned and operated by ScottishPower Renewables. Scottish Water has also identified other potential sites for turbines.

A survey by consultants WYG in 2009 found that of 22 participating water companies, nine indicated that they either had planning permission for wind turbines and/or were actively pursuing initiatives at specific sites. Updated information reveals:

- Anglian Water is planning to build three wind turbines on its land during the 2012/13 financial year.
- South West Water has installed a single 100kW wind turbine at its Lowermoor wastewater treatment works in north Cornwall.
- Severn Trent Water has identified a number of its sites as suitable for harnessing wind power, and hopes to generate 54GWh of electricity from wind by 2015. It has submitted planning applications at seven sites, and has secured planning consent to construct single wind turbines at its Wanlip sewage treatment works in Leicestershire and Newthorpe sewage treatment works in Nottinghamshire. It hopes the Wanlip turbine will be up and running in 2013.
- Wessex water is considering the potential of installing four wind turbines at its Bristol sewage treatment works, which could generate a total of 20GWh each year.

## Opportunities and constraints

Despite these developments and plans, WYG also found in 2009 that some companies had considered installing wind turbines but had decided against it due to various potential difficulties, including: obtaining planning consent; limited space at operational sites; site-access difficulties; grid-connection issues; and noise regulations. Many of these are the same issues that other wind farm developers have to address, and they are complex and difficult to resolve.

One way forward is for developers to adopt a staged approach, identifying sites that have the greatest





opportunity for wind energy. The key constraints associated with each of these sites should then be assessed to determine whether they can be overcome. As a result, any barriers to the project will be revealed at an early stage and work can be stopped before major costs have been incurred. For example, a water company might have a number of sites where it is considering installing wind turbines. An initial feasibility study, involving desk-based research and initial site walkovers, would rank the suitability of the sites, allowing the most suitable ones to be selected for further, more detailed consideration.

This involves undertaking comprehensive survey, modelling and consultation work. The feasibility study might, for instance, indicate that ecological, radar and noise issues are most likely to prevent the installation of turbines. At the next stage, the developer would have to conduct initial ecological surveys, undertake noise monitoring and modelling and start detailed

consultation on radar issues. If the results demonstrate that the development is likely to be viable, further studies can then be carried out.

Such a staged process can be linked to the formal planning application procedures. Most large-scale wind farm developments require an environmental impact assessment (EIA), and the initial scoping phase of the EIA fits with the feasibility/post-feasibility stage of the development process, while the detailed phase of the assessment links to the development design stage. The environmental statement, which reports the results of the EIA, is then prepared in time to accompany the planning application.

Mitigation design is a key element of both EIA and the development design process. It is often possible to avoid or compensate for the constraints identified earlier, although this may involve costs.

It might be possible, for example, to avoid or reduce certain environmental issues, such as noise, shadow flicker, landscape and visual, archaeological and ecological impacts, by careful siting of wind turbines and selection of appropriate turbine models and heights. However, this can potentially reduce installed capacity and, if so, the impact on financial returns needs to be considered.

### Regulatory issues

As the 2009 WYG survey results and the earlier examples demonstrate, wind power is a feasible renewable energy option for water companies to exploit. However, installing wind turbines is more appropriate to some organisations than to others, as the main requirements are an adequate wind resource and sufficient available land to allow selection of sites with the greatest potential for wind power development.

In England and Wales, whether or not wind farm developments fall within “regulated business” is seen as an issue by some water companies. The situation, however, is different in both Scotland and Northern Ireland, where the water companies are not regulated in the same way and this could partly explain why large wind farms are being considered or have already been constructed on water company land in those countries.

Ofwat, the regulator for water companies in England and Wales, set out its views on whether wind turbines can be funded as part of water companies’ regulated business in a 2008 document entitled *PRO9 Treatment of renewable energy*. This clarifies that proposals for investment in renewable energy can be considered as part of the regulated business if:

- the process or technology has natural synergies with the functions of the appointed business, such that it does not make economic sense to separate the energy generation function from the core appointed business;
- any incremental costs associated with renewable energy generation are cost beneficial;
- the main function of the assets remains delivery of the appointed business function; and
- the appointed business benefits from any income streams associated with energy generation.

It also adds that where renewable energy is generated as a non-appointed business or is undertaken by an associate company, Ofwat expects the appointed business to be able to demonstrate that it is trading at arm’s length.

### Powering ahead

There is a significant potential for water companies to generate energy from wind in the UK. However, biogas and hydro-electric generation are likely to be the options that are considered first as water firms seek to meet their ambitious carbon-reduction targets at the same time as having to meet increasingly stringent environmental requirements.

As Severn Trent points out: “[The company] faces an increasing need for energy, to ensure supply resilience as a consequence of climate change and ever tightening quality standards. Maximising renewable energy generation from sewage, water and our landholdings is an essential part of our strategy to minimise greenhouse-gas emissions.”

**Steve Mustow** is a director at WYG Environment Planning Transport (steve.mustow@wyg.com).



# IEMA backs Scottish green awards

**Best practice** The call for nominations for the annual Scottish green awards, whose sponsors include IEMA, the Scottish Environment Protection Agency (SEPA) and utility company ScottishPower, has now closed.

The awards are designed to reward and recognise individuals and organisations that have shown initiative in the reduction of their overall carbon/environmental footprint, and can demonstrate that this has had a positive effect on their surroundings and/or a positive commercial impact on their business.

Over the past few months, individuals and organisations throughout Scotland have been nominating candidates for the following categories:

- Best green small firm (turnover up to £20 million) – sponsored by SEPA.



- Best green large company (turnover greater than £20 million).
- Best green community initiative – sponsored by SEPA.
- Best green campaigner/activist.
- Best green campaign by a school or youth group – sponsored by ScottishPower.
- Best green public relations campaign.
- Best green public service or public sector provision.

- Most innovative green product.
- 20/20 carbon reduction award.
- Outstanding contribution to the Scottish environment – sponsored by ScottishPower.

IEMA has supported the nominations and the ceremony – which is being held on Thursday 4 October 2012 at the Glasgow Science Centre – for several years and is proud to be associated with the event again in 2012. Martin Baxter, IEMA's executive director of policy, is also returning as a member of the judging panel for the awards.

The shortlist of the awards will be featured in the September issue of *the environmentalist*. To find out more about the award categories and the event in October, go to [lexisurl.com/iema13158](http://lexisurl.com/iema13158).

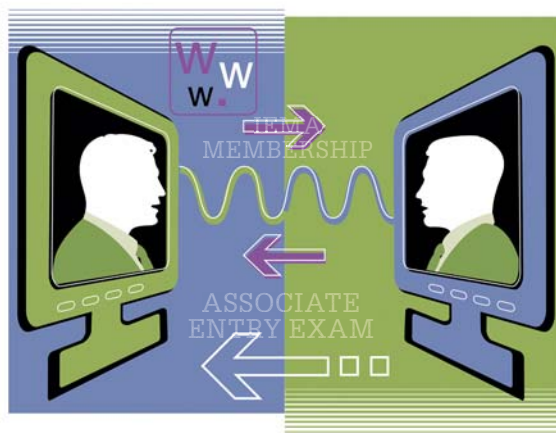
## Associate resources

**AIEMA** The new online Associate entry exam has now been live for almost four months and already several people have taken and passed the assessment (see successful membership upgrades on p.36 for details).

Interest from within the IEMA membership is strong and an increasing number of people are registering every week to take the exam. A key attraction for those registering is the flexibility to choose the start date for the 28-day period in which they can complete the 2.5-hour exam, giving full control of the exam's timing to the candidate. This new flexibility means candidates can use the time before their exam period to prepare and study for the assessment using the free resources at [lexisurl.com/iema12414](http://lexisurl.com/iema12414).

Since the online exam was launched on 1 May the study support area on [iema.net](http://iema.net) has been viewed more than 2,300 times, demonstrating the usefulness and value of easily accessible downloads and links, and associated webinars.

This includes a webinar for those about to take the exam, presented by the Associate chief examiner, Helen Manns. Originally broadcast on Friday 29 June, the webinar takes prospective



AIEMAs through the recent additions to the standard, offers useful guidance on preparation and registration and demonstrates the style of suitable answers to sample exam questions. The webinar is still available at [lexisurl.com/iema12414](http://lexisurl.com/iema12414), alongside a wealth of other resources.

If you are planning on taking a step up to Associate membership, then go along to [lexisurl.com/iema13155](http://lexisurl.com/iema13155) to learn more about the recent additions to the Associate standard and the new online exam.

If you would like to discuss your upgrade options with a member of the IEMA team, then call us on +44 (0)1522 540 069 or email [technical@iema.net](mailto:technical@iema.net).

## Preference poll

**Membership** The "preference" survey, which provides every member with the opportunity to tell IEMA about what they want from their membership, remains open until 4 September.

In a follow-up to a similar poll carried out last June, IEMA is conducting this research to establish your views on what elements of membership you find most valuable. We are also asking how and when you would prefer to access information from IEMA.

We are aiming to establish where our members are positioned on the IEMA environmental skills map ([lexisurl.com/iema11446](http://lexisurl.com/iema11446)) and where development is most needed across the membership.

This is a crucial piece of research, and is relevant to every single member of IEMA as the outcome will direct how the Institute will prioritise the provision of updates, services, publications, training and events.

You should have already received an email invite containing your unique access link to the online poll form – sent from [research@iema.net](mailto:research@iema.net). If you have not yet taken part in the survey, please do so now.

The results of the research will be published in the October issue of *the environmentalist*.

# Green skills for green jobs summit

**Conference** IEMA members are entitled to claim a 35% discount on the Green skills for green jobs summit, taking place in London on 22 November 2012.

This one-day national conference and exhibition at the QEII conference centre in Westminster serves to ensure that workers are ready for the green jobs of the future. It boasts the following line-up of speakers:

- John Hayes – minister for further education, skills and lifelong learning;
- Gordon Marsden – Labour shadow minister for further education, skills and regional growth;
- Mark Farrar – chief executive at CITB Construction Skills; and
- David Strong – chair of the green deal qualification and accreditation forum at DECC.

With the launch of the green deal in the autumn, now is the time to address



the skills gaps in an organisation. By identifying how to improve the performance of staff to enable them to take advantage of the opportunities the green deal can offer, a business could be on the receiving end of some very lucrative government contracts, say the organisers.

Conference delegates will have the opportunity to ask the speakers questions that relate to their business and find guidance on how to develop employees' skills to compete for contracts and jobs that will become available via schemes such as the green deal.

They will also have the opportunity to network with more than 300 like-minded

attendees, as well as explore the training options available via the exhibitors and sponsors of the summit.

To book a discounted place, go to [lexisurl.com/iema13157](http://lexisurl.com/iema13157) and click the "order now" tab to select the number of delegate places you wish to book, followed by the promotional code GSGJ35. Once the discount is applied, hit the order now tab and fill in the relevant details.

IEMA members who are representatives of small businesses (SMEs) can attend free of charge – to qualify, the organisation must have no more than 50 staff. To claim a free SME place, email your details to [info@greenskills4greenjobs.co.uk](mailto:info@greenskills4greenjobs.co.uk).

## SocEnv update to CEnv changes

**Qualification** As reported in the July issue of *the environmentalist*, the Society for the Environment (SocEnv) has recently undertaken a review of its Chartered Environmentalist (CEnv) practice direction.

The revisions relate mainly to the eligibility criteria and competences that need amending due to new legislation on age discrimination. The outcomes of the review will not impact on any members who are already qualified as a CEnv, except in being relevant for any continuing professional development (CPD) activities. IEMA has been working with SocEnv to establish the date from which any CEnv applications will be subject to the new specification. SocEnv says this will be 1 March 2013; however, IEMA is likely to process applications under the new guidance from 1 January 2013.

IEMA will keep members informed on the review as it develops and will communicate the details of how existing CEnvs will be required to submit their CPD records to those concerned. If you have any questions about how this may affect you, please contact [c.kirk@iema.net](mailto:c.kirk@iema.net).

## IEMA EVENTS

Date	Region/Time	Topic
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### Regional events

6 September	South East	Social
13 September	South East	Green drinks (Southampton)
21 September	North East	Social
26 September	South West	Green drinks (Bristol)
2 October	East of England	Water security for the East of England: understanding the issues and potential solutions
4 October	South East	Social
17 October	North East	Renewable energy: opportunities and barriers to renewable energy technology at the business scale
31 October	South West	Green drinks (Bristol)

### Webinars

4 September	12.30 to 1.30pm	Mandatory GHG reporting
27 September	12.30 to 1.30pm	Effective scoping practices in EIA

### Membership workshops

19 September	Yorkshire & Humber	Full membership: waste policy and practice update
26 September	Midlands	Full and CEnv membership workshop (Nottingham)
18 October	South East	Full and CEnv membership workshop (Southampton)

# 2011 annual report published

**Annual report** The IEMA 2011 annual report can now be downloaded from [lexisurl.com/iema13199](http://lexisurl.com/iema13199). The report provides information about IEMA's performance during 2011 across:

- skills and competence;
- strategy and positioning the profession;
- membership engagement;
- partnerships and development;
- *the environmentalist*;
- IEMA's "voice" in the media;
- financial summary;
- organisation structure; and
- greenhouse-gas emissions.

Forewords by the chair of the IEMA board, Adrian Belton, and the Institute's chief executive, Jan Chmiel, open the report, and focus on the organisation's key achievements and challenges over the

past 12 months against its "Vision 2014" and the Institute's strategy.

Their overviews state that, while 2011 was a successful year for IEMA in many areas, including raising the Institute's media profile, influential work in central policy areas and a stable financial position, it was not without difficulties as the recession continued, leading to public sector job losses and contraction of the consultancy sector. These cutbacks have impacted on IEMA's member recruitment and retention, but despite those difficulties and changes to the structure and mass of the membership,



member figures remained stable and IEMA is in an increasingly strengthened position to support and promote the environment profession.

"In 2011, IEMA made big strides towards its vision," says Belton. "The IEMA team, supported by a network of volunteers, have shown how relevant the profession is in taking on the challenges faced by all economies and organisations."

The Institute would like to take this opportunity to thank everyone who served on the various member committees during 2011 to oversee our continued growth and success.

## More successful IEMA members

IEMA would like to congratulate the following individuals for achieving Associate, Full (MIEMA), Dual (Full and CEnv) membership and principal environmental auditor (PEA) status.

### Associate – via the new Associate entry exam

**Dominic Freestone**, Environment Agency (NEAS)  
**Grainne Kennedy**  
**Eric Steltzer**, Office of Energy and Planning

### Full

**Chris Burrows**  
**Anne Glasspool**, Bermuda Environmental Consulting  
**Julian Ross**, Valpak  
**Iain Storer**, Environment Agency (NEAS)  
**Joan Wong**, Amey  
**Paul Wyatt**, Nokia

### Dual

**Emma Clifford**, Foster & Partners  
**Laura Morrish**, URS  
**Howard Waples**, URS

### PEA

**John Dronfield**, **Robert Price** and **Kathryn Richardson**, Environment Agency (NEAS)

# Annual general meeting

**AGM** Notice is hereby given that the 12th annual general meeting of the Institute of Environmental Management and Assessment will be held at 4pm on Thursday 13 September, at 76 Portland Street, London.

Ordinary business:

1. To receive and accept the directors' report and accounts of the Institute for the financial year ending 31 December 2011.
2. To reappoint Duncan & Toplis as auditors of the Institute until the conclusion of the next general meeting at which accounts are laid.
3. To authorise the board to fix the remuneration of the auditors.
4. To confirm the appointment of an executive director.

By order of the board  
 Mr M Baxter, executive policy director and company secretary

Any IEMA member will be entitled to speak on any matters arising out of the report and accounts but no business other than that given in the notice will be transacted at the meeting. Every member entitled to attend and vote at the meeting



is entitled to appoint a proxy or proxies to attend and, on a poll, vote on his/her behalf. A proxy need not be a member of the Institute. Completion and return of a form of proxy will not prevent a member from attending and voting at the meeting in person should he/she wish to do so. All proxies so appointed should be identified in writing, by no later than midday on Friday 7 September, to the following name and address:

Mr M Baxter  
 Company secretary  
 Institute of Environmental Management and Assessment  
 St Nicholas House  
 70 Newport  
 Lincoln, LN1 3DP



# Improving the way the Institute works

**IEMA council** Following the recommendations of a review into how the IEMA council functions, the council's "ways of working" group has been looking at the future composition of the council and regional representation.

The group has highlighted in particular the importance of volunteers and the role that the regional groups play in supporting IEMA, and concluded that effective links are required across the organisation, both regionally and locally as well as with international members.

It has also recognised the different roles and functions of the council and its members – with the council having a distinct responsibility as the key advisory body to the Institute's board, and with its members collectively reflecting the interests of all IEMA members.

# iema

## Institute of Environmental Management & Assessment

The group has, therefore, considered a spectrum of options for further development of the council's membership to achieve greater clarity about the working of council and its operational delivery and feedback. These options are:

- Do nothing – continue to have elected members, and representatives from each of IEMA's 13 regions and from the Institute's professional standards committee (PSC).

- Develop the operationally focused regional chairs forum – which is separate from the council – so that an elected representative from that group joins the council. Representatives would also be elected to represent the overseas members and the PSC.
- As option two, but without regional, overseas or PSC representatives.

Whichever option is taken up, there will remain up to four co-opted members.

These proposals have been sent to regional representatives and chairs. All IEMA members are welcome to comment on the proposals, which are available via Lynn Godson (l.godson@iema.net). Comments are requested by 3 September 2012 for consideration at the council meeting on 13 September.

*Professor Martin Bigg, chair, IEMA council ways of working group*



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say:**

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But I'm joining the suits.

I'll be working as an Energy and Environment officer in a financial services organisation.

Using my IEMA membership and having it on my CV definitely helped to give me some credibility when I was making applications.

I'm passionate about my new role. I've got the opportunity to set the environmental agenda in a big business and this will put me in a position to make a real difference.

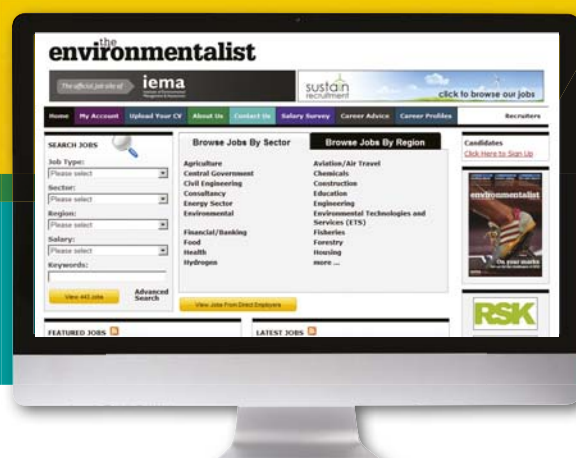
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<p><b>Development Engineer/Scientist</b> <b>£Competitive</b> Surrey Ref: Env02</p>	<p><b>Environmental Business Advisor</b> <b>£Competitive</b> Cumbria/North West Ref: Env05</p>
<p><b>Lead Technical Safety Engineer</b> <b>£Competitive</b> Scotland/North Ref: Env01</p>	<p><b>Consents Manager – Environment</b> <b>£42,000–£50,000</b> London Ref: IRC602029</p>

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Environmental Planning  
Design & Management

## Environmental Planner – Environmental Impact Assessment (EIA) Glasgow

### About us

At LUC we are dedicated to conserving, protecting and enhancing the environment. LUC is one of the UK's leading environmental consultancies, specialising in planning, design, ecology and management. Founded in 1966, we have over 100 employees based in London, Glasgow, Bristol and Edinburgh.

Our clients include a broad spectrum of central and local government, government agencies and environmental bodies, professional institutions and trade associations, the voluntary sector, and private sector companies.

### About the role

We are seeking an Environmental Planner focusing on Environmental Impact Assessment (EIA) to join our Glasgow based Environmental Planning team.

You will be responsible for contributing to our EIA projects, many of which are currently for wind energy developments and associated energy infrastructure. There may also be scope to be involved in a range of private and public sector projects in the fields of planning and environmental policy, strategy, assessment and implementation.

The role will include:

- Providing support to project managers in the co-ordination of EIA projects including liaising with project team members, clients and external organisations

- Managing survey programmes and organising access to sites
- Drafting Environmental Statement (ES) chapters

### About you

You will have a good degree in a relevant discipline, i.e. planning, geography, or the environmental field and preferably will have completed a post-graduate qualification in Environmental Impact Assessment.

Associate membership of the Institute of Environmental Assessment and Management (IEMA) is desirable but not essential as the candidate can work towards membership with LUC.

We are looking for around two+ years experience of EIAs which will ideally include wind energy projects.

Candidates must have good organisational skills with the ability to manage tasks and time, using initiative. Also important for this role are excellent communication skills, report writing and the ability to build effective relationships with colleagues and clients.

For further details about LUC please visit our website [www.landuse.co.uk](http://www.landuse.co.uk).

To apply please email your CV and a covering letter, quoting reference: 2012-19 to Helen Ash, HR Manager at [HR@landuse.co.uk](mailto:HR@landuse.co.uk)

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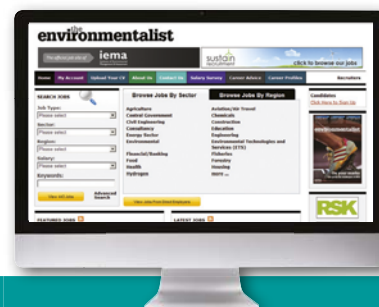
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The role will be primarily working on UK projects but there may be overseas opportunities for appropriately experienced candidates.

Key responsibilities are likely to include:

- Providing advice on radioactive waste characterisation and management
- Undertaking BAT/BPEO/BPM and optioneering studies associated with radioactive waste management
- Undertaking and/or project managing radioactive waste characterisation programmes
- Undertaking and/or project managing radioactivity surveys
- Supporting our Radiation Protection Advisers
- Supporting environmental auditing and assessments of nuclear and industrial sites
- Preparing Environmental Permits associated with radioactive waste
- Preparing proposals
- Technical report writing.

The role involves both office based work and also a variety of site based activities therefore candidates will need to be physically fit and also willing to travel across the UK.

Prospective candidates will be degree qualified, ideally with a post graduate qualification. We seek staff with excellent team working and communication skills, keen to progress technically and commercially. The position will appeal to individuals seeking to become an accredited Radiation Protection Advisor, Radioactive Waste Advisor or Chartered Status through a professional institution.

All selected candidates will also be required to undergo a security clearance and offers of employment will be subject to appropriate clearance being granted.

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