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August 2014



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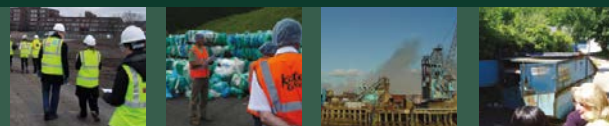
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Parts of London, Leeds and the west Midlands will not meet the EU limits on nitrogen dioxide (NO₂) until at least 2030, 20 years late, Defra has admitted (p.6). European legislation initially placed limits on NO₂ pollution from January 2010. Several other areas, including Bristol, Cardiff, Glasgow, Manchester and Sheffield, are forecast to be compliant only from 2025. Overall, just five out of 43 air quality zones in the UK will comply by the 2015 deadline extension granted by the European commission.

Transport emissions are mainly to blame for the non-compliance. Busy roads in London, for example, regularly breach the annual NO₂ mean limits – 40µg/m³ – imposed in 2010 by the ambient air quality Directive. In 2013, the annual mean NO₂ in Oxford Street was 135µg/m³. At a recent meeting of the environmental research group at King's College London, air quality scientist David Carslaw described the measurements of NO₂ concentration recorded at the Oxford Street roadside air pollution-monitoring site as the highest in the world.

The environmental audit committee at the House of Commons has reported that poor air quality was responsible for 4,000 deaths in London and about 30,000 across the whole of the UK in 2008, while shortening the lives of 200,000 people by two years on average. New figures from the World Health Organization (WHO) reveal that in 2012 around seven million people worldwide died as a result of air pollution exposure. The finding, which means that poor air quality is responsible for one in eight global deaths, is more than double the previous WHO estimate. It is worth noting that even meeting the thresholds set in 2010 by the European commission are insufficient to meet the 2050 air quality guidelines set by the WHO. Air pollution also damages ecosystems. It contributes to eutrophication, which is an oversupply of nitrogen and can change ecosystems. Although eutrophication in the EU from air pollution has improved since it peaked in 1990, the European Environment Agency recently found that almost 60% of the ecosystems are still affected.

The European commission calculates the annual economic cost to Europe of the health impacts of poor air quality at up to €940 billion, while damage to crops and buildings is about €23 billion a year.

The UK is not alone in finding it hard to reduce NO₂ pollution in urban areas. Yet tackling it continues not to be a government priority. The high level of the human, environment and financial costs of poor air quality should mean that it is at the top of the in-tray of the new environment secretary Liz Truss and for whoever forms a new government next year.

The high human, environment and economic costs of poor air quality should mean that tackling it is at the top of the in-tray of the new environment secretary Liz Truss



Paul Suff, editor

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Short cuts

Money for CCS project

The European commission has awarded the White Rose carbon capture and storage (CCS) project up to €300 million under its NER300 programme. The project, a partnership between engineering company Alstom, energy firm Drax and gas supplier BOC, aims to use an oxyfuel CCS process to capture emissions from a new 426MW coal-fired power station at the Drax site in North Yorkshire. It will be equipped with CCS technology from the outset; and 90% of the carbon produced by the plant will be captured and transported by pipeline for permanent offshore storage beneath the North Sea seabed. NER funds are generated by the sale of allowances under the EU emissions trading systems and are used to support innovative renewable energy, energy grid integration and CCS projects. White Rose is the first CCS project to receive NER funding. In December 2013, the UK government awarded the project cash from Dec's £1 billion CCS commercialisation programme to fund front-end engineering design work.

Food waste landfill ban

Plans to ban separately collected food waste from landfill are going ahead in Northern Ireland, the environment department (DoE) has confirmed. Under the proposed Food Waste Regulations (Northern Ireland), the landfilling and mixing of separately collected food waste will be prohibited from 1 April 2015. The legislation will also place a duty on local authorities to roll out receptacles for household food waste collection. Feedback from a consultation in 2013 convinced the DoE to give councils until April 2017 to comply, a year later than originally proposed. There will be a phased introduction for requirements on businesses because the DoE believes small food waste producers will benefit from the experience of the larger producers. Businesses creating more than 50kg of food waste per week will be required to present it for separate collection from 2016, with those producing 5-50kg a week doing so from 2017.

Future carbon budgets at risk

As the government announced it had decided not to amend the fourth carbon budget (2023–27), the committee on climate change reported that the first budget (2008–12) had been met through a combination of low-carbon policies and economic recession.

The committee pointed to positive advances in improving the fuel efficiency of new cars and investing in wind generation. Foundations had also been laid for the electric vehicle market and for demonstrating carbon capture and storage (CCS), though progress on CCS is slow.

In other areas, little headway had been made, most notably in energy efficiency in the commercial and industrial sectors and in uptake of heat pumps. Based on evidence so far, the committee warned that future budgets would not be met. Lord Deben, chair of the committee, said the UK was not on track, adding that the longer we left improving energy efficiency, for example, the costlier it became.

According to the report, current policies may reduce emissions by only 21–23% from 2013 to 2025 rather than the 31% reduction set out in the budget.

To close the gap, the committee calls for stronger policies and more ambition. Increasing uptake of low-carbon heat



Industrial energy efficiency in the UK must improve, says committee

should be a priority, the committee urges. Although the renewable heat incentive scheme is generous, take-up of heat pumps has been low. Rather than increase subsidy further, the government should extend its commitment beyond 2016, and allow access to green deal finance for renewable heat installations.

The energy company obligation is being redesigned to include more low-cost measures and new financial incentives are being introduced for the green deal. "This is welcome, but ambition remains low and should be increased," says the committee.

Energy and climate change secretary Ed Davey said the decision to stick with the level of 1,950 MtCO₂ equivalent for the fourth budget was consistent with advice from the committee.

Green economy to create jobs

Better use of resources can encourage innovation and create jobs across the EU, according to a new report from the European Environment Agency (EEA).

Resource-efficient green economy and EU policies considers how European economies can drive more efficient material resource use as part of a move towards a green economy. "Innovation may be the single most important driver to change the inefficient way we currently use resources," said EEA executive director Hans Bruyninckx. "If we want to 'live well within the ecological limits of the planet' as stated in the seventh environmental action programme, we will need to rely heavily on Europe's inventiveness."

Reducing labour taxes, such as income tax, and replacing the lost revenue by taxing inefficient resource use and environmental pollution may offer another lever for improving resource efficiency, the study says.

Such environmental taxes could encourage job creation but are under-used, equivalent to only 2.4% of EU gross domestic product in 2012. Evidence suggests countries with the highest environmental taxes also rank highly for eco-innovations and competitiveness.

The report's findings were released as the European commission announced its green employment initiative, which focuses on anticipating and establishing the skills required to support workers dealing with structural change.

"The shift to a green and resource efficient economy is above all an opportunity to increase European global competitiveness and create sustainable and high-quality jobs," said environment commissioner Janez Potočnik. "The green employment initiative will help ensure that environmental and employment policies converge and play an active role in supporting this process."

Commission ups its energy efficiency target for 2030

The European commission wants a 30% cut in the EU's energy consumption by 2030 as part of its framework strategy on climate and energy. The EU council will vote on the proposal in October.

Officials in Brussels had omitted an energy efficiency target from its 2030 climate goals when they were published in January, waiting until a review of the Energy Efficiency Directive had been completed. That review has concluded that the EU is likely to fall slightly short of its existing target to reduce energy use across the bloc by 20% by 2020. The review estimates that energy savings will be 18–19%. However, it also found that if all member states work seriously to properly implement the already agreed legislation, the 20% target could be reached without the need for additional measures.

Although Günther Oettinger, commission vice-president for energy, described the proposed 2030 target as ambitious, it significantly less than the 40% that some member states had wanted. "It is ambitious and at the same time it is realistic," said Oettinger. "Our aim is to give the right signal to the market and encourage further investments in energy-saving technologies to the benefit of businesses, consumers and the environment."

The commission says it expects energy savings to create new jobs over the next 15 years by increasing opportunities for European businesses, such as manufacturers of energy-using equipment. Measures to reduce energy consumption include improving the energy efficiency of Europe's buildings and household appliances, and the widespread adoption of electric vehicles and smart meters.



Meanwhile, the second international energy efficiency scorecard, which rates the 16 largest economies on reducing their energy use, ranks Germany first. The top-scoring countries in each of the four categories examined by the American Council for an Energy-Efficient Economy (ACEEE), which produced the scores, are: China (buildings), Germany (industry) and Italy (transportation); there is a three-way tie between France, Italy and the EU as a whole in national efforts to reduce energy consumption. The UK was ranked sixth, having been top in 2012 when the first scorecard was published. The ACEEE says Germany, Japan and China have surged ahead of other countries since 2012.

UK performance was particularly poor in improving energy efficiency in the industrial sector, coming 12th out of the 16 economies assessed. The ACEEE says the UK could learn from Germany and Italy, both of which have reduced the energy intensity of their industrial sectors. Periodic energy audits and mandating manufacturing plants to cut consumption would help improve the UK's position, says the ACEEE.

Energy standards for buildings

Decc is consulting on draft regulations to set a minimum energy performance standard (MEPS) for privately-rented commercial and domestic buildings in England and Wales.

The long-awaited proposals will have an impact on the 18% of non-domestic properties that have the lowest energy performance certificate (EPC) rating – F and G. Under the regulations, all eligible properties will have to achieve the MEPS – EPS rating E – by 1 April 2018 if they are to be let to tenants. The minimum

standards will apply to all new lettings, including sub-lettings and assignments, and possibly lease renewals.

David Eynon, from property company Colliers International, says the proposals have significant implications: "[The] MEPS is set to be a major game changer for the commercial property sector... This is a wake-up call to both landlords and tenants to evaluate their exposure now in order to allow sufficient time to plan any improvement works and associated expenditure, and ensure compliance in advance of the 2018 deadline."

Short cuts

Nagoya protocol

The Nagoya protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their use will enter into force on 12 October 2014. Fifty one parties to the convention on biological diversity have now ratified Nagoya, representing a major step towards achieving Aichi biodiversity target 16, which states that, by 2015, the protocol is "in force and operational, consistent with national legislation". The protocol will provide greater legal certainty and transparency for providers and users of genetic resources, creating a framework that promotes their use and supports the fair and equitable sharing of benefits. "Practical tools such as the Nagoya protocol are critical for the sustainable and equitable use of biodiversity," said UN secretary general Ban Ki-moon, adding that the ratifying nations have made a significant contribution to the post-2015 sustainable development agenda.

eSAP collaboration

Wrap is inviting stakeholders to join its electrical and electronic equipment sustainability action plan (eSAP) to help improve the business efficiency of products throughout their lifecycles. The eSAP initiative focuses on consumer electronics and household appliances, including televisions, laptop computers, vacuum cleaners, refrigeration products and washing machines. It aims to bring together designers, manufacturers, retailers, service providers, consumer groups, recyclers and compliance schemes to share evidence and implement sector-wide activities that improve business efficiency and support sustainability. eSAP will take specific actions, by product category, across five themes: extending product durability; minimising product returns; understanding and influencing consumer behaviour; implementing profitable, resilient and resource-efficient business models; and gaining greater value from reuse and recycling. Wrap estimates that consumers in the UK discard around 1.4 million tonnes of electrical goods each year, only 7% of which is reused.

In parliament



Barriers to the circular economy

The circular economy is in vogue again in parliament. I have no doubt that this interest will, among other things, produce some good guidance as to where we ought to be going on circularity. But all this is likely to founder on the fact that it means joining together various processes to produce circular rather than linear outcomes, and Whitehall does not do joined-up very well, particularly when it comes to regulations.

Take energy-from-waste (EfW), for example. I remember how the 2007 energy white paper contained initially no reference to the possible contribution that EfW could make to the UK's energy mix. That's largely because energy and waste are dealt with by a different government department. That omission has largely been rectified but, even so, regulatory silos continue. I was reminded of this by a report on the burgeoning anaerobic digestion (AD) market. It warned that the built capacity of digestion plants is likely to substantially outstrip available food waste feedstock over the next few years.

That sounds potentially disastrous for the industry, except that AD is doing very well in the water sector, which is increasingly hoovering up sewage sludge. In Southampton, a large sewage AD plant is being developed. On the other side of Solent, useable feedstock is being incinerated and, in Dorset, a farm-based AD plant is contributing electricity to the grid. So perhaps the answer to warnings about scarce feedstock is to combine farm manure, sewage sludge and food waste. Except you cannot do that because the regulations say no. Combining feedstock in this way will require a comprehensive overhaul of regulations, quality protocols for digestate and so on.

So water companies will continue to build AD plants, and waste firms and farms will each build theirs – and some or all will run out of feedstock in the process. Not very circular.

Alan Whitehead, Labour MP for Southampton Test and a member of the House of Commons' energy and climate change committee.

Defra comes clean on air quality

Nitrogen dioxide levels in parts of London, Birmingham and Leeds will not meet EU limits until after 2030, Defra has conceded. The environment department had previously maintained that the limits would be met by 2025 in London and by 2020 in 15 other air quality zones.

Defra's concession came as the Court of Justice of the EU (CJEU) began hearing evidence against the UK government for breaching its legal duty to achieve EU limits for nitrogen dioxide, which is produced mainly by diesel vehicles. Last year, the UK Supreme court ruled that the government was in breach of the duty and referred the case, brought by lawyer activist group Client Earth, to the CJEU.

The 2030 date is 20 years after the EU Directive on air quality set limits for nitrogen dioxide and led lawyers for the European commission to describe the UK's non-compliance as "perhaps the longest running infringement of EU law in history".

When the EU restrictions came into effect on 1 January 2010, levels of nitrogen dioxide in 40 of the 43 air quality zones in the UK were exceeding the annual 40 µg/m³ threshold. Several countries, including the UK, were granted five-year extensions,



but Defra has acknowledged that 16 areas would not meet the revised 2015 deadline.

Client Earth expects the CJEU's judgment by the end of 2014, and says it will be binding on the UK courts and the national courts in all 28 EU member states. The case will return to the UK Supreme court in early 2015 for a final ruling.

The European commission announced in February that it had launched its own proceedings against the UK for failing to deal with air pollution.

In its 2012 response to a report on air quality by the House of Commons' environmental audit committee, Defra said that the costs of complying with EU air quality targets may outweigh the potential benefits.

Policies not causing leakage

Fears that climate change policies might be harming the competitiveness of UK businesses are not substantiated by the available evidence, a new study has found.

The research, by the Centre for Climate Change Economics and Policy and the Grantham Research Institute on Climate Change and the Environment, reveals that the impact of current policies is small or negligible and dwarfed by other factors, such as raw material prices, labour costs and the impact of institutional frameworks.

Economic theory suggests that if UK climate change policies are introduced before other countries act they can increase production costs and prompt relocation, a process known as "carbon leakage". But, while data from predictive models indicated some carbon leakage could occur, most of the empirical studies showed current UK policies had had little or no impact on business competitiveness. A similar result was found for other EU countries.

The researchers concluded there was "no compelling evidence" that investments in Europe had been cancelled, or production moved, because of the EU emissions trading system (ETS) or, in the UK, because of the climate change levy. They added that this was "not surprising given the relatively low carbon prices" and the existence of compensatory measures, such as the allocation of free permits in the ETS.

But the researchers also warned that carbon prices were likely to rise and, without targeted compensation for certain energy-intensive sectors – such as iron and steel, and refined petroleum products – there could be some relocation.

As a single global carbon price is unlikely soon, the study looked at how best to create a level playing field. But compensatory measures, such as tax breaks, should be carefully targeted, the researchers argued, to avoid undesirable market distortion or costly over-compensation.



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Reports reveal worsening global climate

Global climate indicators in 2013 continued to reflect trends of a warmer planet, according to a new report from the American Meteorological Society (AMS).

Atmospheric CO₂ concentrations increased by 2.8 parts per million (ppm) in 2013, reaching a global average of 395.3 ppm for the year, says the *State of the climate in 2013* report. It notes that on 9 May last year the Mauna Loa Observatory in Hawaii recorded the daily concentration of CO₂ exceeding 400 ppm for the first time since measurements began at the site in 1958.

Last year also provided further evidence that surface temperatures are continuing to increase. The AMS reports that four major datasets show 2013 was among the warmest ever recorded, with temperatures in Australia the highest on record. Data indicates that the globally averaged sea surface temperature for 2013 was among the 10 warmest on record, while the Arctic observed its seventh warmest year since records began in the early 20th century.

The global mean sea level continued to rise last year, increasing at the same pace (about 3.2mm a year) as that recorded annually over the past two decades.

Separate research, meanwhile, shows that weather, climate and water-related disasters are increasing. A study by the World Meteorological Organisation and the Catholic University of Louvain in Belgium shows that between 1970 and 2012 there were 8,835 disasters, 1.94 million deaths and economic losses totaling \$2.4 trillion reported globally as a result of hazards, such as droughts, extreme temperatures, floods, tropical cyclones and related health epidemics. Storms and floods accounted for 79% of the total number of disasters due to weather, climate and water extremes,



and caused 55% of lives lost and 86% of economic losses over the 42-year period.

New findings from European commission scientists indicate that climate damage in the EU could amount to at least €190 billion a year if global temperature increased by 3.5°C. Heat-related deaths could reach about 200,000, the cost of river flood damages could exceed €10 billion, and 8,000km² of forest could burn in southern Europe, says the commission's joint research centre.

EIA update

EIA Directive – government ponders its position

IEMA understands that the communities and local government department is exploring the costs and benefits of implementing the recent amendments to the EIA Directive. These internal government discussions are thought to indicate a preference to use the full transposition period allowed to member states (until spring 2017).

From IEMA's viewpoint, there are clear costs of an earlier transposition, particularly for screening. Nonetheless, the Directive's amendments should also deliver more focused EIA, so benefits could accrue from early application, contributing to the government's aim to make development consent regimes more proportionate. A preference for later transposition would mean consultation on implementing the Directive's amendments in England unlikely before 2016.

Noise guidelines due in October

IEMA's guidelines on noise impact assessment are due to be published in early October. Members can pre-order a copy by emailing a.honey@iema.net.

EIA Quality Mark forum 2014 develops draft action plan

The fourth EIA Quality Mark (QMark) forum was held on 12 June, with keynote presentations by Steve Quartermain, chief planner at the communities and local government department, and Stephen Tromans, leading EIA lawyer and regular columnist in *the environmentalist*. The day focused on making EIA practice more effective and a draft action plan was drawn up by delegates. Proposed actions include:

- establishing a joint working group between IEMA, QMark and the UK contractors group to improve delivery of environmental design and mitigation measures at the post-planning consent stage;
- establishing an informal developer group on delivering more effective EIA and a sustainability culture for UK infrastructure projects; and
- enhancing QMark and members' steer on future direction of activities around EIA.

Anyone interested in being involved should contact j.fothergill@iema.net

Consultation on revising EIA schedule 2

Steve Quartermain's speech at the EIA Quality Mark (QMark) forum indicated that the communities and local government department would soon launch a consultation on raising the schedule 2 thresholds for EIA in England. He said the consultation would focus on ways to reduce screening burdens on developers and planning authorities, and potentially reduce the number of "undue" EIAs.

IEMA will respond to the consultation and engage members on the proposals. Meanwhile, it is advisable for practitioners to start to consider the potential consequences of re-writing the rule book in England on screening.

EIA webinars

Future EIA webinars from IEMA include:

- 28 August – EIA and managing community impacts.
- 25 September – Effective noise impact assessments.

For further details and to book a place go to iema.net/events.

MPs back circular economy

Lower VAT on recycled products, longer warranty periods for consumer goods and a ban on food waste being sent to landfill are among the recommendations in a new report from MPs looking at how the government could help insulate the UK from rising resource prices and create a circular economy.

“Less than half of all the stuff we throw away each year is recycled and turned back into something useful, despite prices for raw materials rising across the world,” said Joan Walley, chair of the environmental audit committee, which produced the report. “Unless we rethink the way we run our economy and do business in a different way, environmental problems like climate change will get worse.”

The committee says the government should give new guidance to local authorities in England to standardise recycling collections to create new economic opportunities, as Wales and Scotland have done. It also advocates reform of taxation and producer responsibility regulations so that companies are rewarded for designing greener products. Differential VAT rates should be introduced, based on the environmental impact or recycled content of products, say the MPs.



The committee says EU ecodesign standards should be introduced to make products easier to repair, upgrade or recycle. Such standards should phase out products made from materials that cannot be recycled and encourage companies to design goods that have a clear end-of-life recovery route and are fabricated using easily separable and recyclable components.

In June, IEMA published a guide on implementing sustainable resource management in an organisation to help create a more circular economy, while the European commission recently proposed new waste targets (pp.20–21) to encourage a move away from the current linear, “take-make-use-discard” model of production and consumption.

MoD identifies resource strain

Rising sea levels, water shortages, desertification and a mismatch between global energy supplies and demand are just a few of the threats identified in a report from the Ministry of Defence (MoD).

The fifth edition of *Global strategic trends* sets out a range of likely developments in the years to 2045 to help provide a strategic context for policymaking in the MoD and other government departments. It does not attempt to predict the future but describes the phenomena that could have a significant impact.

Thirteen overarching themes are covered in the report, including resources and the environment. A key issue for the environment will be the growing population, which by 2045 may have reached nine billion. This growth will increase the strain on vital resources, such as water and food. The report suggests, for example, that, without successfully managing water stress, it is likely that 3.9 billion people will suffer water shortages.

And, as people cluster in vulnerable areas, such as coastal regions, the consequences of poor weather may be felt more keenly.

By 2045, climate change will be producing increasingly noticeable effects, says the MoD. Rising global sea levels – likely to increase by between 0.32 and 0.38 metres by 2050 – will heighten the risk of coastal flooding, particularly in regions affected by tropical cyclones. Droughts and heatwaves are also likely to increase in intensity, duration and frequency.

Extrapolations from current data suggest demand for energy could more than double by 2045, says the MoD. Although non-polluting power sources and better energy storage may make an increasing contribution, coal and hydrocarbons will remain the most important sources.

Overall, the MoD concludes that the effects of climate change are likely to be less severe in Europe than in other regions, although agricultural productivity may reduce in the south as water becomes scarce.

Business plans

Beer and soft drinks business **SABMiller** has set new sustainability targets to achieve by 2020. These include a water-efficiency target of 3 litres per litre of beer and the extension of its watershed partnerships to every site that faces potential water shortages, securing the supplies it shares with local communities. It also aims to reduce the carbon footprint of its entire value chain, from grain to glass, by 25% per litre of beer, and an average of 50% across all its breweries.

Apple is to build a third large solar farm in North Carolina. The 17.5 MW facility in Claremont will help the company behind the iPad and iPhone to achieve its pledge to power all Apple corporate offices, retail stores and datacentres entirely with energy from renewable sources. Apple already has two solar panel farms in the region, which together produce 40 MW of solar power. **Microsoft**, meanwhile, has signed a 20-year agreement to purchase wind energy in Illinois. Under the agreement with EDF Renewable Energy, Microsoft will buy up to 675GWh of renewable energy a year from the Pilot Hill wind project – a 175 MW facility 60 miles from Chicago.

Nationwide has become the first high street financial services business to receive the Carbon Trust triple standard. The building society was awarded the standard for its achievements in reducing carbon, water and waste. Over the past three years, the Nationwide has reduced its carbon emissions by 15%, cut water use by 20% and increased from 43% to 94% the amount of waste diverted from landfill.

Future Energy Solutions has installed 50,000 LEDs since it started work in January on the first phase of a project to install energy efficient lighting in 150 multi-storey car parks in the UK owned by **NCP**. The project is funded by a partnership between FES and the **Green investment bank**.

The **UK government** is providing £5 million to help drive the introduction of plug-in cars and vans across central government fleets. In the first wave of the ultra-low emission vehicle readiness project, more than 150 plug-in vehicles will be added to government fleets.

MPs give IPCC clean bill of health

The processes applied by the Intergovernmental Panel on Climate Change (IPCC) to produce its latest assessment of climate change science have been adjudged to be robust by a committee of MPs. They said there is no reason to doubt the credibility of the science or the integrity of the scientists involved.

The House of Commons' energy and climate change committee examined the fifth assessment reports (AR5) after criticism by some commentators of the IPCC review process and its conclusions. "We were impressed with the integrity of the IPCC and the way it had responded to criticisms by strengthening its peer review procedures since its last assessment review," said committee chair Tim Yeo. He added that some of the criticism directed towards the IPCC had been from people who, for various political or economic reasons, simply did not like its conclusions.

The MPs said the tightening of the IPCC review processes had made AR5, which is based on 9,200 peer-reviewed

scientific papers, the most exhaustive assessment to date. The MPs did, however, call for further transparency, recommending that non-scientists be allowed to observe the review process and attend the IPCC plenary sessions.

Yeo advised policymakers in the UK and around the world to act now on the IPCC's warning and work to agree a binding global climate deal at Paris in 2015 to ensure temperature rises do not exceed a point that could dangerously destabilise the climate.

The first of four AR5 reports was published in September 2013. It concluded that the warming of the Earth's climate system was "unequivocal" and that human influence was clear. It confirmed that the past three decades had been successively



warmer at the Earth's surface than any preceding decade since 1850, with concentrations of CO₂ increasing by 40% since pre-industrial times, primarily from the burning of fossil fuels.

Further reports in the AR5 series have revealed that limiting the increase in global temperatures to the 2°C threshold scientists say is necessary to avoid dangerous anthropogenic climate change would entail reducing GHG emissions by between 40% and 70% by 2050 compared with 2010.

From environmentalisonline.com...

Cities in peril

Climate change poses a physical threat to 207 of the world's largest cities, affecting half the world's population and putting 80% of global GDP at risk, according to a new report, *Protecting our capital*. It says 75% of the world's largest cities have identified extreme weather and other climate change events as a major threat to the stability of their local economies and the wellbeing of their citizens, with damage likely to property and capital assets. Drought, storms, floods, heatwaves, intense rainfall and sea-level rise represent the biggest risks to cities and are becoming a financial burden for many businesses, finds the report. The Carbon Disclosure Project, which jointly produced the report with AECOM and C40 Cities Climate Leadership Group, says the number of cities disclosing their climate change activities has nearly doubled in the past year and action taken by local authorities has reduced 129 of the 194 risks reported by businesses.

environmentalisonline.com/cities

Material cost

The volatile cost of materials, commodity supply risks and the UK's high dependency on imports are threatening UK growth and are an increasingly serious concern in the manufacturing sector, according to a new report from the EEF. *Materials for manufacturing – safeguarding supply* says that the global growth in middle-class consumers, increased demand for all commodities and an over-reliance on China for strategic supplies, such as silicon metals, rare earth elements and coking coal, is leaving the UK vulnerable. It says that, while other manufacturing nations such as Germany and Japan have implemented sophisticated resource strategies to shield their economy from resource risks, the UK has so far responded weakly and is in danger of being left behind. The manufacturers' organisation also cautions that the era in which global economic growth was based on cheap resources has ended.

environmentalisonline.com/EEF

Future of ETS

A two billion surplus of carbon allowances under the EU emissions trading system (ETS) threatens to depress low-carbon investment for at least 10 years, and undermines the bloc's claim to be a global leader on climate change, according to a new position paper from Decc. Setting out its proposals for revamping the ETS at the start of phase IV in 2021, the energy department argues that existing European commission proposals to reform the scheme fail to correct the persistent oversupply of allowances, which has caused their price to plummet from €30 in 2008 to around €6 now. Decc wants the authorities in Brussels to cancel an "ambitious volume" of allowances. "The UK is asking for bold and comprehensive reforms to restore the ability of the EU ETS to drive cost-effective emission reduction and low-carbon investment," said the energy and climate change secretary, Ed Davey.

environmentalisonline.com/ETSIV

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Recent prosecutions

Commission closer to taking action over power station

The European commission has issued a “reasoned opinion” setting out its case on UK government infringements of EU law when granting permission for the Pembroke power station in Wales.

The 2GW gas-fired plant, which is operated by RWE Generation UK and is one of the largest of its kind in Europe, officially opened in 2012. The commission has now concluded that the government failed to adhere to the requirements of the directives on environmental impact assessment and habitats before granting consent for its construction. The commission had first raised concerns in 2012 about the plant’s cooling system, alleging that discharges of warm water with a high biocide load was damaging the surrounding ecosystem, which is a marine special area of conservation and protected under EU law.

“Development consent should only [have been] given after all the potential environmental impacts have been assessed,” notes the opinion, adding that this does not appear to have been the case for the plant. “Development and construction consents as well as a water abstraction licence and a permit for the dredging of the cooling system intake and outflow were granted before the full environmental assessments were completed.” The commission says that the warm water from the cooling system entering the protected Milford Haven waterway is damaging small fish, their eggs and other smaller organisms.

The opinion also raises concerns about the application of the Integrated Pollution Prevention and Control Directive on the final permits issued for the plant, in particular accepting the cooling system as best available technology in the location and allowing an environmental quality standard to be breached as a result.

In a statement, RWE Generation UK said the reasoned opinion was a matter for the UK government. But it noted that Decc had granted consent for the plant in February 2009 after a “thorough and robust determination process, which included consultation with the Environment Agency regarding operational aspects of the project”. It added that the agency had granted an environmental permit in November 2011 after considering the potential impacts of the plant. “Since then, no legal action has been brought against RWE or [the] station and we are continuing to operate the plant in accordance with the strict conditions set out in our permit.”

Issuing an opinion is the precursor for taking legal action. The government has two months to respond to the commission’s findings.

Drax ‘wins’ biomass case

The high court has ruled that the conversion of a second unit at the Drax power station to burning biomass instead of coal is eligible for subsidies under the long-term contracts for difference (CfDs) scheme, which guarantees a level of payment for electricity generated from low-carbon sources.

In April, Decc awarded a CfD to only one of the two units at the coal-power plant being converted to biomass, even though the energy department had said at the end of 2013 that both were eligible. Decc ruled that the second unit would instead receive support under the Renewable Obligation (RO) subsidy regime. However, RO rates are less generous. The court has now quashed that decision, although the energy department has been given leave to appeal.

£50,000 fine for Anglian Water

Contaminating a brook in Essex with sewage, which killed around 1,500 fish, has cost Anglian Water £94,751. Chelmsford crown court fined the company £50,000 and ordered it to pay £44,736 towards the Environment Agency’s costs as well as a £15 surcharge.

The case relates to the breakdown of all three pumps at the Ingrave pumping station near Brentwood in April 2011. Although the site’s permit authorises sewage to be discharged to a nearby brook an emergency, it also requires the company to ensure an alert system is operational to notify personnel should problems arise. Agency officers noted, however, that no emergency overflow alarm was ever generated or received when the discharge of raw sewage from the emergency overflow commenced.

Case law

‘Implied right’ to discharge into private watercourse

In *Manchester Ship Canal Company Ltd v United Utilities Water plc* [2014] the supreme court considered whether a sewerage undertaker had an implied statutory right to discharge into a private watercourse without the owner’s consent.

It was accepted that there was no express statutory right to discharge surface water and treated effluent into a private watercourse, so, if this was done without the owner’s consent, it would be a tort. Both parties acknowledged that *Durrant v Branksome* [1897] established an implied right to discharge and that right existed at least until 1989. The court had to consider whether the right remained under the Water Industry Act 1991.

The court rejected the argument that there was a general right of discharge under the 1991 Act similar to the one recognised in *Durrant*. Lord Sumption held that the Act “merely authorised the laying of pipes across private land and in itself provided no basis for any implication about the places where those pipes were authorised to discharge”. In addition, a right of discharge into private watercourses was not necessary to enable a sewerage undertaker to exercise its statutory powers, said the court. It did, however, accept the second argument put forward by United Utilities, which centre on whether the pre-existing rights of discharge survived the 1991 Act.

Sewerage undertakers whose pipes had been laid before the Act came into force could only perform their statutory duties by continuing to discharge from existing outfalls, wherever they may be, even into private watercourses, said the court.

Jen Hawkins

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New regulations



In force	Subject	Details
28 May 2014 5 Jun 2014 13 Jun 2014 23 Jun 2014 	Ecolabelling	<p>European commission decision 2014/313/EU amends six decisions on ecolabel criteria in order to reflect changes to the classification of hazardous substances under the Classification, Labelling and Packaging of Substances and Mixtures Regulation 1272/2008. Criteria include those concerning dishwasher and laundry detergents, and all-purpose and sanitary cleaners. Decisions 2014/312/EU and 2014/314/EU establish ecological criteria for the ecolabelling of indoor and outdoors paints and varnishes, and water-based heaters, respectively. In both cases, the new criteria will be in force until 28 May 2018.</p> <p>Decision 2014/336/EU amends seven decisions on ecolabel criteria to extend their validity to 31 December 2015. Products affected include soil improvers, televisions, wooden furniture and computers. Decision 2014/350/EU establishes ecological criteria for the ecolabelling of textile products. The new criteria will be in force until 5 June 2018.</p> <p>Decision 2014/363/EU amends decision 2007/742/EC, which sets ecolabelling criteria for absorption heat pumps. The amending decision removes heat pumps that provide hot water for central heating from the scope of the original decision and extends the validity period for the existing criteria until 31 December 2016.</p> <p>Decision 2014/391/EU establishes ecological criteria for the ecolabelling of bed mattresses. lexisurl.com/iema24743; lexisurl.com/iema24745; lexisurl.com/iema24746; lexisurl.com/iema24747; lexisurl.com/iema24748; lexisurl.com/iema24749; lexisurl.com/iema24750</p>
24 Jun 2014 	Emissions	<p>The Non-Road Mobile Machinery (Emission of Gaseous and Particulate Pollutants) (Amendment) Regulations 2014 transpose changes to the EU Directive on Emissions from Non-Road Machinery (97/68/EC) into UK Law. The amendment requires that emissions reduction devices fitted to stage IV engines perform as intended. It also revises the labelling system for small spark ignition engines.</p> <p>lexisurl.com/iema23862</p>
24 Jun 2014 	Energy	<p>European commission decision 2014/324/EU and decision 2014/325/EU recognise the Gafta trade assurance scheme and the KZR INiG system, respectively, as schemes to demonstrate the sustainability of biofuels.</p> <p>lexisurl.com/iema24751; lexisurl.com/iema24753</p>
26 Jun 2014 	Energy	<p>The Energy Efficiency (Encouragement, Assessment and Information) Regulations 2014 implement six articles of the EU Energy Efficiency Directive (2012/27/EU) in the UK. These articles relate to the identification of energy efficiency barriers and opportunities, and the provision of relevant information to improve energy efficiency.</p> <p>lexisurl.com/iema24754</p>
27 Jun 2014 	Natural environment	<p>The Plant Health (Scotland) Amendment Order 2014 prohibits the landing of elm for planting unless pre-notified to an authorised inspector. Amendments also remove provisions concerning western corn rootworm (<i>diabrotica virgifera virgifera</i>).</p> <p>lexisurl.com/iema23866</p>
30 Jun 2014 	Marine	<p>The Territorial Sea (Baselines) Order 2014 revises the baselines from which the territorial sea around the UK, Channel Islands and the Isle of Man is measured.</p> <p>lexisurl.com/iema23867</p>
30 Jun 2014 	Planning	<p>The Town and Country Planning (General Permitted Development) (Scotland) Amendment Order 2014 revises the types of development that may take place without planning permission. The changes include extending permitted development rights to electric vehicle charging points in off-street car parks.</p> <p>lexisurl.com/iema23868</p>
1 Jul 2014 	Climate change	<p>The Climate Change Agreements (Eligible Facilities) (Amendment) Regulations 2014 add data facilities with a consumption exceeding 200kW and saw mills to the list of facilities eligible for climate change agreements.</p> <p>lexisurl.com/iema23855</p>

Latest consultations



20 August 2014

Local environment



Defra has published its plans to simplify guidance on local environmental quality. The environment department says it is particularly keen to hear views on whether it has covered all the information that is needed from government; how it can work with others to provide good practice advice; and its proposals on what to do with existing guidance. The new guidance covers, for example, dealing with litter and abandoned vehicles, tackling environmental crime and contesting a local environment fine.

lexisurl.com/iema24759

29 August 2014

Flytipping



The Welsh government is consulting on a draft strategy to curtail flytipping in the country. It focuses on three main areas: data collection – the need to develop a robust evidence base will be required to implement this strategy effectively; partnership working – how organisations, including Natural Resources Wales (NRW), the country's 22 local authorities and communities work together to prevent the practice; and communications – delivering consistent

and clear messages at a local level to influence behaviour change. NRW and the local authorities in Wales dealt with almost 35,000 incidents of flytipping in 2012–13, costing nearly £2 million in cleanup costs, says the Welsh government.

lexisurl.com/iema23871

23 September 2014

Drinking water



The European commission has launched a consultation on improving access to quality drinking water in the EU. The commission says it wants to understand better of citizens' views on the need for high-quality drinking water and the possible range of actions that could be introduced to improve the supply of it. The results of the consultation will be used to decide if and where the EU Drinking Water Directive (98/83/EC) might need to be improved.

lexisurl.com/iema24762

1 October 2014

Waste licensing



Authorities in Northern Ireland are consulting on amending the "fit and proper persons" requirements of the waste management licensing regime. The Northern Ireland Environment Agency says the consultation deals only

with the prescribed offences and technical competence elements of the fit and proper persons test and not the financial provision test. However, the agency warns that alterations to the financial provision test may be the subject of a separate consultation at a later date.

lexisurl.com/iema24764

3 October 2014

Regulatory enforcement



The Scottish government is consulting on a new environmental enforcement framework for Scotland. The Regulatory Reform (Scotland) Act 2014 provides the Scottish Environment Protection Agency (Sepa) with a broader range of enforcement tools, including fixed monetary penalties, variable monetary penalties, enforcement undertakings and non-compliance penalties. The consultation sets out the potential design and use of the new enforcement measures, and outlines a number of safeguards in the new framework. The consultation also covers the relevant offences orders for the new enforcement measures, the new sentencing options and additional powers for criminal courts and vicarious liability. The framework will be in place by spring 2015.

lexisurl.com/iema24761

New guidance

Ecolabels

Defra has published a guide (lexisurl.com/iema24768) on applying for a EU ecolabel for a product or service. It covers what the EU ecolabel is and how it works; what products and services it covers; how you can check whether your product is eligible; how the EU ecolabel can help your business; how much it costs to apply for an EU ecolabel; why an onsite inspection might be needed and how much it costs; and how to maintain your licence, including the annual fee and compliance monitoring. Products and services eligible to apply for a ecolabel range from beauty products, such as shampoos and hair conditioners, to tourist accommodation services.

Energy efficient technology

Decc has issued the annual update to the two-part energy technology list, which comprises the technologies that qualify for the government's energy-saving enhanced capital allowance (ECA) scheme and their energy-saving eligibility criteria. The energy technology criteria list (lexisurl.com/iema24769) contains details of the energy-saving criteria that must be met for each of the technology classes; the energy technology product list (lexisurl.com/iema24770) contains details of products that have been certified as meeting those standards.

GHG factsheets

UK greenhouse-gas (GHG) inventory summary factsheets have been published by Decc. In addition to an overview factsheet (lexisurl.com/iema24771), the energy department has also produced summaries for the following sectors and GHGs: agriculture (lexisurl.com/iema24772); the business sector (lexisurl.com/iema24773); energy supply (lexisurl.com/iema24774); industrial processes (lexisurl.com/iema24775); land use, land use change and forestry (lexisurl.com/iema24776); public sector (lexisurl.com/iema24777); residential sector (lexisurl.com/iema24778); transport (lexisurl.com/iema24779); waste management (lexisurl.com/iema24780); CO₂ (lexisurl.com/iema24781); methane (lexisurl.com/iema24782); nitrous oxide (lexisurl.com/iema24783); and f-gases (lexisurl.com/iema24784).



Laying down the law

Dealing with a knotty problem

Ross Fairley warns developers to be wary of changes to the law on eradicating non-native invasive species



The mere mention of Japanese knotweed can send shivers down the spines of many property developers. However, recent publicity on the new powers to be given to environment regulators as a result of the Infrastructure Bill, currently in parliament, will have opened their eyes to other species, such as the zebra mussel, the “killer shrimp”, the Chinese mitten crab, Asian hornets or Brazilian rhubarb.

It is easy to trivialise the establishment of the species but we should not. To tackle this increasingly large and costly problem – both in financial terms (invasive species cost the EU about €12 billion a year in crop losses and damage to infrastructure, says the European commission) and the loss of important biodiversity and habitats – the EU reached a deal earlier this year on a new invasive species regulation.

Controlling measures

The EU’s regulation comes into force from January 2015 and will ban “intentionally or negligently importing, keeping, breeding, transporting, selling, growing or releasing species of EU concern”. Under the provisions, member states will have to analyse the pathways of introduction of potential and listed invasive species and take action to eradicate, control or contain them. The polluter will be forced to pay for this action. Member states are also required to impose dissuasive, effective and proportionate sanctions for breaches of the regulation.

Through the Wildlife and Countryside Act 1981 the UK has certain controls on species, such as Japanese knotweed. However, much of this regulation has revolved around controlling the spread of species as opposed to eradication. The Law Commission review of wildlife law in

England and Wales, which was published in February, concluded that the existing legislation is not sufficient to control and eradicate invasive non-native species. The commission recommended the introduction of enhanced control procedures to allow environmental authorities and bodies to make species control orders.

The commission explained that the Environment Agency, for example, should first offer a species control agreement to the owner or occupier of the land or premises in question. Only when an agreement proves impractical or is not being properly performed should an order be imposed. In most cases, the law does not allow those charged with the management and control of wildlife to enter privately owned land or premises to carry out operations to manage or eradicate invasive non-native species without consent. However, the proposed change provides powers of entry to enable regulators to investigate or monitor a site, or to allow an order to be carried out.

The Infrastructure Bill puts the recommendations of the commission in place by amending the existing Wildlife and Countryside Act. A new schedule 9A will be inserted into the Act to empower environment authorities to enter into “species control agreements” (SCA) with owners of premises where the authority considers that an invasive non-native species is present. An agreement will detail what needs to be done to control or eradicate the species, who is going to do it and the time by which the actions need to be carried out. Further powers will be given to the environment authorities to make species control orders (SCO). So if the owner of a premises has failed to comply with or agree to an SCA, the authority can make an SCO. This can require the owner to carry out species control operations or can allow the authority itself to do so.

It is not entirely clear from the new provisions in the Wildlife and Countryside Act who will pay for this work. In some cases, it may be the environment

authorities, but the owner could be responsible for the actions and the work. If the owner fails to comply with an SCO, they will be committing an offence and liable to a fine or imprisonment.

In practice

Clearly, there will be a much stronger legal requirement for authorities to deal with non-native species. How often SCAs and SCOs will be used will depend on how many species are listed as invasive and also on the resources the regulators can allocate to the problem.

However, owners, leaseholders and purchasers of land need to take this issue seriously. As many a developer will testify, the costs associated with the eradication and disposal of even a familiar invasive species, such as Japanese knotweed, can be significant. Equally importantly is the delay it can cause to redevelopment.

The proposed legal changes must also surely mean that further environmental studies will need to be carried out at the outset of the land acquisition process to assess the risk and it may in time lead to contractual indemnities and provisions being sought from purchasers or occupiers.

EU Regulation

The European commission set out its proposals last year for new legislation to prevent and manage invasive alien species (IAS), noting that there are more than 12,000 non-native species in Europe. Of these, about 15% are invasive and they are rapidly growing in number. In April 2014, the European parliament backed the proposals. The legislation would require EU member states to ascertain the routes of introduction and spread of IAS and set up surveillance systems and action plans. Official checks at EU borders would also be stepped up. For widespread IAS, member states would have to draw up management plans. They would also be responsible for determining penalties for breaches of the legislation. The proposals now need approval by the European council.

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Digging further into the UK's natural capital

Mark Everard examines the outcomes from the follow-on to the national ecosystem assessment

Seeing the value and urgency of the ecosystems agenda as a “green issue” is to miss the point. The “eco-” prefix of ecosystem may suggest that it is about the natural world, as indeed it is. However, ecosystems are considered not in some altruistic way, divorced from social and economic contexts, but as the primary resource for continuing human wellbeing. Perhaps the most important part of the word ecosystem is its stem, “system”, as it recognises the interdependence of human health, economic opportunity and quality of life with the processes and services of the natural world.

The report on the follow-up to the 2011 national ecosystem assessment, which was published in June, confirms that the ecosystem services generated by the natural world are vital not just to human health and life experiences but also to economic performance at all scales. People take centre stage in the findings from the UK NEA follow-on programme (NEAFO). One area of focus is cultural services and the often qualitatively different ways in which we express values individually and as communities or as a society, as well as on how decisions influencing ecosystems and their services affect the distribution of “winners” and “losers”.

The most important part of the word ecosystem is “system”, as it recognises the interdependence of human health, economics and the natural world

Follow-up in context

The research underpinning the NEAFO involved academic, policymaking and delivery institutions as well as public, private and voluntary organisations. The research packages spanned four broad categories:

- valuation methods to address more ecosystem services, and the macroeconomic implications of the findings of the original assessment;
- cultural ecosystem services, including how the diverse values people hold vary at individual, community and societal levels, and how to integrate these with economic valuation in decision making;
- consideration of possible ecosystem change through scenario analysis and potential societal responses to address them; and

- incorporation of ecosystems principles into tools and supporting materials to shape more systemic and inclusive decision-making.

More than 150 people were involved in writing the NEAFO, with many more engaged in research and case studies. Wherever useful, strong links were also made with relevant UK, EU and international research.


The key role of ecosystems in supporting all dimensions of human progress is reflected by the NEAFO in the heavy emphasis on economics, cultural services and the diversity of ways people benefit from and value ecosystems, both collectively and individually. The NEAFO's funding consortium – Defra, Natural Environment Research Council, Arts and Humanities Research Council, Economic and Social Research Council and Welsh government – reflects a breadth of interest from central and devolved administrations as well as natural, social, cultural and economic sciences.

Wood from the trees

One of many insightful case studies in the NEAFO comprises parallel economic analyses of where to plant new forests in Great Britain, relative to a business-as-usual baseline where no new forests are planted.

The first analysis is driven by the market values of timber and the minimisation of subsidies for displacement of agriculture. This market value scenario favours remote upland locations and overlooks the consequences of carbon mobilisation from peat, drainage, and loss of water storage, amenity, aesthetics and biodiversity, among other social benefits. The resulting upland-focused afforestation regime would result in a net loss to society of £65 million a year.

The second analysis prioritises social value, including marketed goods (timber production and displaced agriculture) but also a wide range of non-marketed goods for which it was possible to assign economic values, such as carbon storage, reductions in greenhouse-gas emissions and recreation. This model emphasises optimal social returns from investment



in new natural capital, producing a far more lowland-oriented, peri-urban (landscape with a combination of urban and rural characteristics) map of afforestation opportunities that brings forests closer to where people live. Though costing three times as much in terms of subsidies, this results in a net annual benefit to society of £546 million.

The benefits of action substantially outweigh the costs of inaction, and clear long-term signals also provide businesses with the confidence to invest

The key learning point from the afforestation case study is that it matters not only what is done, but also where and why. The breadth of ecosystem services included in decision-making has potentially profound implications for the distribution and net balance of benefits and harm for different aspects of natural capital and the people whose interests it serves. This learning point applies more generically to all aspects of public policy, private sector procurement and other activities, and local governance.

The policy environment of legislation, subsidies and taxes, protocols and market forces fails currently to consider outcomes across ecosystem services and their beneficiaries. So the NEAFO focuses on the distribution of winners and losers, and practical means to optimise socially beneficial outcomes.

How much knowledge is enough?

The NEAFO further advances knowledge about the production of ecosystem services, how they are perceived and valued by society, how they may change in the future, and some of the things we need to do to incorporate an ecosystem approach into decision making. We always need better understanding about how the world works to inform wiser interventions in policy, markets and other spheres of human activity, and further research is always welcome. However, the need to improve our understanding should not prevent action being taken now.

The cry of “more research is needed” has too often been invoked to kick into the long grass contentious, potentially unpopular and otherwise difficult public policy decisions. Yet we certainly have ample insight to know that any delay in putting into place measures to halt further damage to ecosystems will result in increasing risks, costs and liabilities. As the 2006 Stern review of the economics of climate change showed, the benefits of action substantially outweigh the costs of inaction, and clear long-term signals also provide businesses with the confidence to invest in novel products, services and solutions.

We also know that, when private enterprises and politicians take decisive action, this opens up a wide range of opportunities. So, we need a clear, depoliticised transition to re-orient governance

Follow-on assessment – key messages

- Confirms that ecosystem services derived from natural capital contribute to the UK's economic performance.
- Spatially targeted policies deliver more economically efficient outcomes, while a full consideration of natural capital stocks and flows is important before policy decisions are finalised.
- Embedding knowledge of ecosystems and their services into project, programme and policy appraisals is critical for decision making. Measures to support embedding include better integrated datasets, more accessible language and stronger leadership.
- Adaptive management principles will guide inclusion of ecosystem services in policymaking by showing how to tailor action over time to support and manage changes in ecosystems.

towards a future with sustainability and equity as its driving ethos, rather than decisions taken based on short-term political considerations.

Nearly 20 years on from the UK becoming a signatory to the convention on biological diversity, which highlighted the importance of adopting an ecosystem approach, we have seen some welcome changes. Meanwhile, the capacities of the natural world to sustain continuing human wellbeing continue to decline. Let's be under no doubt that deferred action and short-termism are allowing humanity's prospects for leading fulfilled lives in a secure future to be swamped by the continuing unravelling of the health of ecosystems essential for supporting the needs of still-growing, increasingly resource-hungry global and national populations.

The most important debating points stemming from the NEAFO are not about how much we do or do not know about ecosystems and their services, or about a "best way" to respond to shape a more sustainable and equitable future. They are instead about what to do now to reduce the risks to ecosystems and, hence, our own interests.

So lessons about response options and their effectiveness in different situations and the many ways that an ecosystem approach can be internalised into tools used in the planning process – such as the NEAT Tree, the national ecosystem approach toolkit – are perhaps the most pertinent NEAFO products to precipitate immediate practical action. A more challenging way of looking at our increasing knowledge and these conceptual and practical tools is to ask what the consequences may be of failing to apply them.

The UK's ecosystems are in decline, as are their capacities to support the opportunities and the wellbeing of a growing population

Auditing the course correction

A virtue of the NEA, the NEAFO and the wider ecosystem approach agenda is that it provides a language by which to explain to all stakeholders exactly why decisions are being made now to secure long-term benefits for all. So the most valuable return on investment stemming from the NEAFO may be through

enabling society at large to audit how its leaders are using this impressive body of knowledge about the ecosystems and services that underwrite our collective future wellbeing, or alternatively why it is being dismissed or deferred. If this is the case the implications for the distribution of benefits and costs across society, including future generations, must be considered in all public policymaking and business decisions.

At the NEAFO launch event on 26 June, Lord de Mauley, minister for natural environment and science, welcomed the report, reiterating that the government is intent on progressively taking greater account of the value of nature across policy areas. Professor Ian Boyd, Defra's chief scientific adviser, also approved publication of the report, saying it presented a significant means to promote science-led policy rather than the too-frequent converse of policy leading science. Bold and laudable sentiments from those tasked with leading us to a more sustainable path. But the rhetoric is the easy bit; bold and proportionate, yet ultimately beneficial, action must follow.

The real value of the NEAFO is as a call to action. The UK's ecosystems are in decline, as inevitably are their capacities to support the opportunities and wellbeing of a growing population. From that broader perspective, it is imperative that the kinds of insights and actions highlighted in the NEAFO begin to gain real traction in policy and practice. The NEA and NEAFO represent a user's manual as well as a knowledge base, providing new information and tools including guidance on how to proceed in an adaptive, learning-by-doing way based on inevitably incomplete knowledge. The time for action is not only here but, in the light of the pressing nature of current challenges and the time lag entailed in effective responses, is long overdue. The NEAFO bolsters a growing toolkit for tackling the difficult task of building a more enduring future, honouring our collective interdependence with the natural world and the needs of all who share it now and in the future. What we must now do without further delay is to put it into practice.

Dr Mark Everard is associate professor of ecosystem services at the University of the West of England.

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New European waste targets

Raise municipal waste recycling rate to 70% by 2030 – current target to recycle 50% by 2020



50%

70%

60%

Plastics



-17%

-30%

30% reduction in food waste by 2025

The circular economy

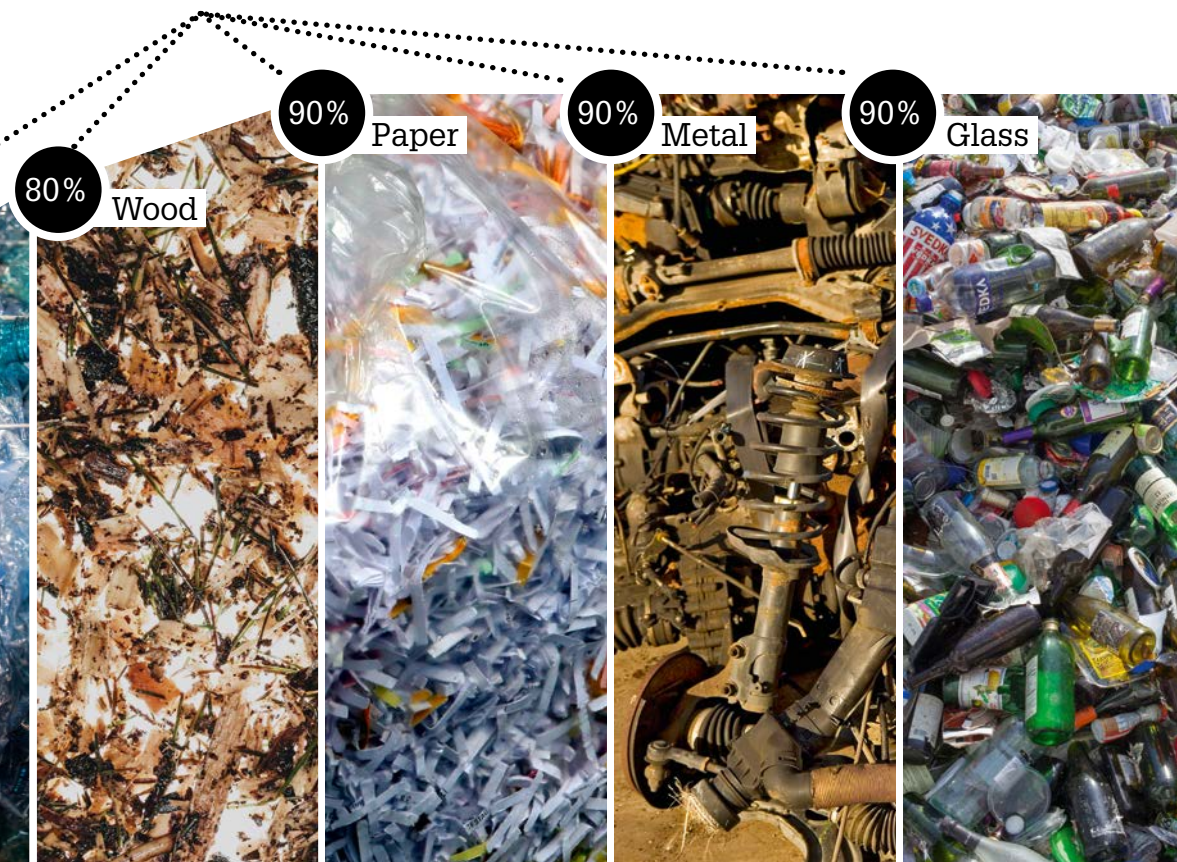
"We are living with linear economic systems inherited from the 19th century in the 21st century world of emerging economies, millions of new middle-class consumers, and interconnected markets. If we want to compete we have to get the most out of our resources, and that means recycling them back into productive use, not burying them in landfills as waste."

Janez Potočnik, EU commissioner

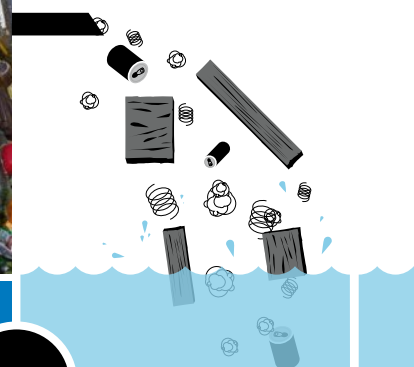
Ban on landfill by
2030



Raise packaging waste recovery to 80% by 2030. Material-specific recovery targets set to gradually increase between 2020 and 2030



Measures to stimulate markets in recycled materials derived from construction and demolition waste



-13%

-27%

Resource efficiency improvements along the value chain could reduce material input needs by 17%–24% by 2030

13% reduction in marine litter by 2020 and 27% cut by 2030

2030

Implementation of targets will create more than 180,000 direct jobs in the EU by 2030

Better use of resources could produce overall annual savings of €630 billion for EU industry and reduce total greenhouse-gas emissions by 2–4% a year



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Road testing

14001:2015

the environmentalist reports on how one group of practitioners views the planned changes to 14001

The public consultation on the revised version of the international standard for environment management systems (EMS) is now open. First published in 1996, ISO 14001 was revised in 2004. The current revision is part of the ISO review cycle for standards and will lead to the publication of the third edition in 2015.

Since the start of the year, a cross-sector group of environment practitioners have been meeting to review the planned changes and the implications for their organisations. “By discussing and refining their understanding of the issues well ahead of the deadline [for comments], those involved hope to maximise the benefits for their organisations and the environment. Learning from the group may also help to shape best practice from a practitioner point of view,” says **Marek Bidwell**, director at Bidwell Management Systems, who has been facilitating the group.

Although the views expressed by members of the group relate largely to the proposals set out in committee draft 2 (CD2) rather than the draft international standard (DIS) recently issued for consultation, they provide an insight into the implications of the changes. Participants are generally enthusiastic about several of the planned changes, particularly the increased visible role of top management and links to business planning. “This will not only enhance the support for those with environmental roles, but also help their organisations to make the link with more strategic environmental issues,” says **Bidwell**.

Nonetheless, the precise meaning and implications of some changes, such as the extent of the value-chain requirements, have been hotly debated. Although some participants are confident that their organisations already exceed certain new requirements due to existing processes and initiatives, others believe they face a lot of work to embed the changes in their organisations.

Taking priority

To digest the implications of the likely changes, participants looked at each requirement set out in CD2 to prioritise the importance of each for their organisation. These were grouped into 12 areas (see panel, p.25). Each organisation ranked the changes

on a scale from one to 10 by considering the relevance and how much was required. A high-relevance score means that this issue is particularly important to the organisation, perhaps because it is linked to a significant environmental aspect or because of the business's structure or market sector. A high-change score means that more time and effort will be required to meet the requirement. It is possible that a topic might be highly relevant, but attracts a low-change score because the organisation is already advanced in that area.

The group scores for change were aggregated, and the top-ranking issues in descending order were: value chain downstream; structure of the standard; value chain upstream; and risks and opportunities. Topics thought to require the least change were compliance status and achieving objectives.


For alterations to the structure of the standard, most participants scored highly for change, but lower for relevance, indicating that amendments to the paperwork would take time but were not seen as business critical. Of particular note is that the smaller organisations gave higher overall scores for how much change would be required compared with the larger ones. This probably reflects the fact that the latter tend to have well developed systems already in certain key areas, such as external reporting and business resilience planning.

The group scores for relevance were also aggregated. The top-ranking issues were: risks and opportunities; compliance status; and context of the organisation. Topics thought to be least relevant were value chain upstream and structure of the standard.

Having gained an insight into the key issues for each organisation, the group turned its attention to the implications of each change – which existing processes can be used (or amended) to provide evidence, and where something new is required. Insights from the group's discussions on four key topics follow.

Leadership and strategy

Members of the group broadly welcome the increased emphasis on leadership and strategy in the revised standard. However, the mechanisms for delivering this will vary, in part, due to the size of the organisation.



Andrew Robertson, safety, health and environment manager for Hydram Engineering, an SME and family-owned business, believes that implementing these requirements will be reasonably straightforward because he is part of the senior management team. He explains that, since implementing 14001, the business has directly benefited from savings in areas such as waste, packaging and energy. He says: "The owners saw the benefits, and resource-efficiency measures were integrated into the design of a large extension to the factory in 2013. In the future, an environmental element could be added directly into our business plan."

In larger organisations, those with responsibility for the EMS are often further from the decision-makers who formulate business strategy. The challenge is, therefore, to ensure that directors see the benefits of embedding environment considerations into their decision-making processes, such as for acquisitions, new products or sourcing.

Kirsten McLaughlin, environmental manager (UK) at Parsons Brinckerhoff, is keen for top management to be more involved in the running of the EMS and thinks the new standard will encourage this. "Its greater emphasis on the role of leaders will make it easier for me to obtain the resources and commitment needed to improve our EMS and environmental performance," she says.

Risks and opportunities

The requirement to determine an organisation's risks – or "threats" in the DIS – and opportunities was seen as an important change by the group. While aspects are related to the impact the organisation has on the environment, risks and opportunities relate to the impact the external environment has on the organisation, and are informed by clause 4.1 – understanding the organisation and its context.

A standard aspect register may not fully address this, though in some organisations this analysis may have been done, at least in part, for other reasons.

Several participants provide examples of how their organisations address risk. **Gordon Walker**, environment manager at Northern Powergrid, which operates the major electricity distribution network in the North East, Yorkshire and northern Lincolnshire, reports that his company has a well-developed business resilience plan that includes environment risks, such as those related to climate change. "It covers not only an increased risk of flooding, but also issues like the implication of higher air temperatures on the network and the increased growth rate of vegetation around overhead lines," he says.

Stewart Vale, environment, health and safety manager at Imerys Minerals, meanwhile, says external environmental factors are changing the market for the production and processing of industrial minerals, and therefore his business. "Changes in the economy and market demand have placed an increased importance on research and development to identify and promote new products and the associated environmental considerations that are associated with these."

Participants also provide evidence of the sort of opportunities that can emerge if an organisation better manages its environmental impacts. Imerys, for example, has installed a solar farm to generate electricity, and has now received planning permission for a second one, while Northern Powergrid is looking at how the increasing use of renewables will affect the operation of the power network. "Switching to renewables creates risks, but the use of smart grid techniques to address things like intermittency of supply presents opportunities for customers and for companies providing new services and technologies," says **Walker**.

The value chain

The group discusses the extent to which the new value chain requirements will require an assessment of the environmental impact of the products and services in addition to assessing the environmental performance of the supplier. Several members believe that their organisation's existing environment procurement processes will suffice, while others think their processes will need to improve.

Robertson expresses concern that Hydram Engineering might be penalised for not having control over the materials it uses because its customers mainly determine selection. However, there is recognition that the new value-chain requirements apply only where they are related to an organisation's significant aspects, risks or opportunities. The definition of significance retains the phrase "that [the organisation] can control and those that it can influence", which is in the current version of 14001.

One example from the group of how environmental considerations are integrated into downstream processes is the product stewardship audits conducted by a chemical manufacturer of its customer's handling and use of chemicals supplied. **Nicola Martin**, sustainability and environment manager for power transmission and distribution at Balfour Beatty, offers a further example. She says that environmental considerations are integrated into the project design process by the contractor even when a client has not asked for a specific environmental quality standard.

Bidwell comments that when environmental design tools, such as BREEAM or CEQAUL, are required on a project they are sometimes used as a tick-box exercise as a means to gain planning permission. Therefore, for sustainable design to add value it must be fully embedded in the ethos of the organisations rather than be seen as a bolt-on. He says there are many examples of organisations that are doing this for good business reasons, such as reducing costs by light-weighting products or reducing dependence on virgin resources by designing for re-manufacture. "Organisations should see the new design requirements as a business opportunity rather than a burden," argues **Bidwell**.

Interested parties and communication

The group is interested in the nuances of the new communication requirements. Unlike the EU eco-management and assessment scheme, there is no explicit requirement in 14001 for an external report. Nonetheless, it requires communications to be planned, taking into account the requirements of relevant interested parties (or compliance obligations in the DIS), and assurance provided on the quality of the information (changed to "reliable" in the DIS).

Organisations with well-developed external communication systems will be able to apply them to help meet the new requirements.

Northern Powergrid has implemented and been assured against the AA1000 stakeholder engagement standard, for example. "AA1000 will be a good foundation for meeting the new requirements for understanding the needs and expectations of interested parties," says **Walker**. "However, an additional focus on environment may be welcomed by stakeholders in some communication forums."

Most of the organisations represented at the meetings place some environmental information in the public domain, and much of it is verified internally or externally due to existing regulatory schemes, such as the carbon reduction commitment scheme. **Martin** explains that Balfour Beatty, for example, has created an online dashboard for sustainability that includes details of its greenhouse-gas emissions, and both its waste and water intensity. It has also established an expert stakeholder panel that reviews operations across Balfour Beatty.

"Although these requirements have been diluted in the DIS, there is still a requirement to ensure that information communicated is reliable, and it may be wise for some organisations to increase the level of assurance they have of their reported environmental information," advises **Bidwell**.

14001: 2015 – 12 main changes

- **Structure of standard** – changes to the structure of the standard in accordance with ISO's new high-level structure (annex SL).
- **Understand the organisation and its context** – a requirement to determine the environmental context of your organisation (clause 4.1); and a requirement to determine the needs and expectations of interested parties (4.2).
- **Leadership and strategy** – increased focus on the role of top management, and ensuring compatibility between environmental policy and the organisation's strategic direction (5.1).
- **Environmental policy** – make additional commitments in the environmental policy to "protection of the environment" specific to the organisation (5.2).
- **Threats and opportunities** – determine the risk to the organisation of environment threats and opportunities arising from external conditions; in addition to aspects and impacts (6.1.4).
- **Planning to achieve objectives** – more detailed and specific environment management programmes (6.2.2).
- **Competence** – a requirement to evaluate the effectiveness of actions taken to acquire competence (7.2).
- **Communication** – requirement to plan communications, taking into account interested parties (7.4), which may involve additional external reporting; plus need to ensure the reliability of external communications (7.4), which may require increased data verification.
- **Value chain procurement** – consider a lifecycle perspective when identifying environmental aspects (6.1.2), and develop more specific environmental procurement requirements (8.2).
- **Value chain: design and downstream** – consider a lifecycle perspective when identifying environmental aspects (6.1.2), and consider environmental requirements at each stage of a product's lifecycle – that is, design, development, delivery, use, and end-of-life (8.1).
- **Performance evaluation** – an enhanced level of monitoring, measurement, analysis and evaluation as well as a requirement to determine methods to ensure valid results (9.1.1).
- **Compliance status** – maintain knowledge of compliance status (9.1.2).

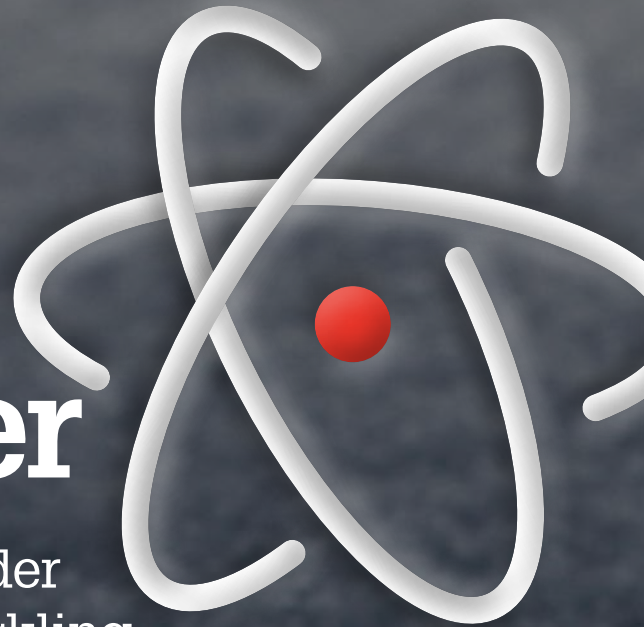
Based on key changes in the published draft international standard (DIS). Comments can be made on the individual clauses of the DIS through the draft review site (drafts.bsigroup.com/Home/Details/53262). The consultation is open until 31 October 2014. IEMA is encouraging all members to comment on the DIS.

The group is continuing to meet to discuss how existing processes in their organisations can be integrated with their EMS, or enhanced to meet the new requirements, ideally without creating more paperwork. Changes in the DIS will also be discussed at the next gathering. The meetings have produced some interesting findings on the extension of environment management systems into other areas, such as the value chain and strategic decision-making.

Get involved

Marek Bidwell and **Kirsten McLaughlin**, in association with **Dr Phil Longhurst** at Cranfield University, would like to invite readers of *the environmentalist* to take part in a short survey looking at the implications of the changes to 14001 for their organisations. The questionnaire is available at bms-services.com/iso-140012015-survey.

The little things matter



Julian Jackson provides a reminder that much can be achieved by tackling emissions of small particle climate pollutants

The effects of carbon dioxide as the main greenhouse gas (GHG) are well known. However, GHGs as a whole include other pollutants that have significant effects on the atmosphere and the process of climate change. Small particle climate pollutants (SPCPs) – methane, hydrocarbons, chlorofluorocarbons, tropospheric ozone and dirty particulates – are expected to contribute 0.6°C of global warming by 2050, and have been given less attention as GHGs than CO₂.

The good news is that they are the “low hanging fruit” of ameliorating climate change. An aggressive programme of SPCP emissions reduction could make a significant difference to climate targets.

A complex picture

The effects of SPCPs are complex. For example, circulation of black or dark particulate matter reduces the effects of atmospheric heating by reducing the amount of sunlight reaching the lower levels, but when it lands on snow or ice it contributes to melting.

The latest IPCC report, assessment 5 (AR5), is careful to distinguish between the positive and negative effects of radiative forcing – that is, the cumulative effects of multiple actors on the climate. The report states: “Concentrations of CO₂, methane and nitrous oxide now substantially exceed the highest concentrations recorded in ice cores during the past 800,000 years. The mean rates of increase in atmospheric concentrations over the past century are, with very high confidence, unprecedented in the last 22,000 years.” The report notes that the net cooling effect of aerosols (chlorofluorocarbons) is less than earlier thought due to improved methods of estimation.

There is also a moral aspect to SPCPs. Among the contributors to SPCP emissions are wood fires, kerosene stoves and lamps, and diesel emissions. All of these cause massive health problems, particularly in developing countries. According to the World Health Organisation, kerosene alone is estimated to cause one million deaths a year. Other malign contributors to indoor air pollution include coal, charcoal, dung and crop wastes. The main sufferers are women and children because they spend more

time around the domestic hearth. Increased ozone also contributes to health problems and reduced crop yields. These pollutants then circulate in the atmosphere, contributing to climate change in numerous ways.

The cryosphere

The area most susceptible to climate change is the cryosphere – a term for the regions that are covered in ice and snow either seasonally or year-round. Climate change is happening in the cryosphere faster and more dramatically than anywhere. It is a leading indicator for what may well happen elsewhere and it is not encouraging. For example, there is a tiny island called Shishmaref in the Chukchi sea between Alaska and Russia. Only a mile wide, it is home to a hunter-gatherer population of 600 Inupiat, a people who have lived there for thousands of years.

Some scientists think that the island has endured the most dramatic effects of climate change: rising temperatures have resulted in a reduction in the sea ice that serves to buffer Shishmaref from storm surges. At the same time, the permafrost on which the island's dwellings are built has also started to melt, leaving the shore more vulnerable to erosion. In recent years the shore has been receding by up to 3.3 metres a year and the sea is undermining roads and other infrastructure, including water and sewage pipes. Coast defences have offered little protection and there is now talk of moving the population.

As the cryosphere melts, darker materials replace the highly reflective white surface of ice and snow, so less heat is reflected back into space. This results in more ice melting – a classic feedback effect. The Arctic council estimates that the global sea level is now estimated to rise by 0.9–1.6 metres over the next 90 years, more than three times the IPCC's estimates in 2007.

Ozone levels and emissions of black carbon also play their part in this mechanism, although there is still uncertainty in AR5 about the cumulative global impact. The overall effect is complex because the anti-climate change effects of aerosols on clouds and the absorption of solar radiation by black particulates complicate the issue. The AR5 report suggests that this has offset a substantial portion of the overall radiative forcing – that is to say, it would have been much worse without this effect.

The Himalayas are also a major region susceptible to pollution effects. The mountain ranges, which extend 2,400km through six countries – India, Pakistan, Afghanistan, China, Bhutan, and Nepal – make up the largest cryosphere region and fresh water source outside the polar areas. Rapid climate-induced changes in the region directly affect the water resources of more than 1.3 billion people, as well as services such as electricity and the food supplies of three billion inhabitants.

Impacts include disruption of the annual monsoons, changes in runoff from river basins, and an increased risk of flooding and landslides. This area has undergone an average 1.5°C surface temperature increase compared with pre-industrial levels.

Because these polar and alpine areas have reacted more strongly in general to global warming, showing an increase in temperature twice that of the global mean, they are also at greater risk. The 2°C global limit set by the Copenhagen accord translates into a 4°C or even higher rise in most snowy regions. This has serious implications for humanity.

“Implementing air quality measures to cut small particulates as soon as possible will improve the health and quality of life for many millions of people each year, while at the same time decreasing risks from sea-level rise, loss of water resources and other impacts of rapid cryosphere change in the first half of this century,” says Pam Pearson, director at the International Cryosphere Climate Initiative. “Yet it cannot be over-emphasised that ambitious actions on CO₂ must also occur within the next two decades to decrease these cryosphere risks as well.”

Tackling small particulates

The sensible method to reduce the danger is to move forward rapidly to using more sustainable methods for heating, cooking and lighting. Four cook-stove models – liquid petroleum gas (LPG), biogas, ethanol and forced-draft stoves – have proven to reduce particle pollution and black carbon.

Biogas digesters, which convert manure from cows, pigs and even human waste to cooking fuel, are commercially available in sizes ranging from a single household to a small village; so are larger installations that gather such waste and distribute the gas. Ethanol provides an increasingly popular alternative fuel in Africa and South America, and the health and climate benefits should equal those of LPG and biogas. The ethanol needs to be sustainably produced, however, given competing demands for land and water use for cultivation.

Because of their remoteness, many of these areas are unlikely ever to be connected to an electricity grid. They do have plenty of sunshine, however. WWF-India has been involved in a number of demonstration projects where kerosene lighting has been replaced with solar panels. The result has been a significantly improved quality of life for villagers.

One project, in the Sunderbans in the Ganges Delta, enabled a village to move to clean energy. The project has established a technically and financially sustainable, off-grid centralised renewable energy-based village power system. It is based on the highly successful

Bushlight project, which, since 2002, has been providing reliable renewable energy services to remote indigenous communities in Australia. It is a scalable solution that can provide access to safe and clean energy in the form of grid-quality electricity in isolated areas.

The microsolar power station at Rajat Jubilee in the Sunderbans connects 49 households, six local businesses and three community buildings, and supplies uninterrupted grid-quality power. Residents are trained to use and operate the systems and are involved in planning their electricity use in 24-hour cycles so that everyone gets a fair share of the power generated. To avoid using wires, the batteries are charged three times a week at a central generating station.

Local women can now supplement their income by working in the evening, by mending clothes for example, and their children can do their homework without now being subject to the potentially deadly effects of kerosene fumes. The benefits of modern communications and computer systems are, of course, predicated on electricity supply.

Sustainable technologies like this can be rolled out across many areas of the developing world and reduce a wide variety of pollutants and GHGs as well as improve the lives of huge numbers of people.

Changing behaviour

It is also necessary to reduce traditional post-harvest crop burning. In many cases this practice can over time cause a net loss of soil nutrients, necessitating greater use of expensive fertilisers. The soil deteriorates, resulting in a cycle of low humus soil structures, reduced yields and declining productivity, and abandonment of the land.

Changing established agricultural methods involves education and a willingness by farmers to realise that the traditional practices they and their ancestors have employed may not be the best way to conserve the land. Although the areas affected are large – more than three billion people are estimated to use wood-stoves – the technologies to address this are available, not costly, and easy to implement. The ability of villagers in the Sunderbans to rapidly learn to use solar power shows how quickly technology will catch on when it addresses a need.

Although a vast amount of GHG emissions come generally from the developed economies, the effects of the various small-particle emissions globally are not negligible. Offsetting some or all of the 0.6°C of warming they produce by using cleaner technology would be an enormous achievement.

Given the grim warnings of AR5, which include raised sea levels and pollutants remaining in the biosphere for thousands of years, preventing the emissions of small particles is a step in the right direction to reduce climate change. The worldwide rollout of clean energy technologies would also improve the lives of billions of people who depend on horribly polluting and dangerous methods of heating, lighting and cooking.

Julian Jackson is a writer on the environment.
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We are the champions

the environmentalist finds the workforce is key to driving down emissions at PHS group

PHS group has decades of experience in waste management and providing workplace services, and takes seriously its environmental responsibility. It is keen to cut its carbon footprint. But how best to do so when it runs a fleet of more than 3,000 vans, which are responsible for 76% of the business's total emissions?

It is a challenge for Emma Wood, sustainability manager at PHS group. "Environmental responsibility is inherent in our business model, which by focusing on providing service and rental products allows us to control the entire product lifecycle from design to ongoing maintenance and end-of-life disposal," says Wood. She cites the example of the PHS washroom business, which each year recycles more than 50 tonnes of plastic sanitary bins and recovers around 28,500 product components for repair and reuse.

PHS has been measuring its own carbon footprint since 2008. Its first target, set in 2009, was to reduce scope 1 and 2 carbon intensity by 10% in three years. So far so good. But what about those vehicles and the 60% of staff who are on the road? Undoubtedly, there is a pressing need to reduce the primary source of emissions – the remainder is attributable to the gas and electricity used at its 140 UK sites – but reaching the individuals and engaging them is a trial in itself.

The answer lies in a network of environmental champions and "footsteps leaders" to encourage behaviour change and help reduce emissions on the part of every employee, which number more than 5,000.

Creating a network of leaders

Footsteps is the name with which PHS brands its efforts to become a more sustainable and environmentally focused organisation. It represents a campaign to reduce the company's carbon footprint and covers employee communications and a diverse range of initiatives, many of which are inspired and "owned" by staff. The champions are integral to footsteps and bring PHS's sustainability aims to life.

The network of 140 footsteps leaders comprises mainly PHS depot managers. Together with the

champions, they monitor energy use and support improved energy efficiency. "It is line managers who have day-to-day contact with employees and so footsteps leaders are key to engaging staff in more energy-efficient ways of working," says Wood. "They are also closest to the operational process and can have a real impact on saving energy by setting heating timers, switching off lights and motivating others to do the same."

There are 12 "divisional environmental champions", each responsible for one of PHS's 12 business divisions. "The champions all work at a senior level in the organisation and are in a position to influence and make a significant difference to the environmental impact of PHS's operations," says Wood.

The firm's aim in creating the champions network is to upskill this senior group of staff so that they have a good understanding of sustainability issues and can make more environmentally sound business decisions.

Ensuring that the champions and footsteps leaders have the right skills and expertise is seen as the first step in ensuring they are effective in their role, and all 152 individuals have undertaken an IEMA-certified environmental awareness course. Wood says that the practical content of the course was well received by participants. "We expected a certain level of cynicism from some, so used the initial stage to air people's preconceptions about environmental issues," says Wood. "The open debate helped to move the discussion on to how energy and fuel efficiency can support business efficiency, and the difference that practical environmental solutions can make to people's day-to-day jobs. That focus struck a chord."





The dozen environmental champions also attend regular workshops to help boost their knowledge and understanding of sustainability. These sessions have a strong focus on how to include environmental considerations when making major operational decisions and have been developed specifically for PHS in conjunction with the Carbon Trust in Wales (the company's head office is in Caerphilly).

One workshop focused on employee engagement, an area that divisional champions found useful not only for helping them to secure staff buy-in on sustainability, but also for developing behaviour change across a range of organisational issues. Another workshop was dedicated to lighting, while a third, which dealt with building a business case for considering environmental impacts, was more generic but practical.

"Divisional champions deal with investment projects – upgrading major pieces of industrial equipment, for example – that have considerable implications for the environment," explains Wood. "The champions found the business case workshop very useful for helping them to justify procurement and other operational decisions in terms of environmental considerations; it is about assessing the business need and that helps them in their day-to-day role."

Considering the level of responsibility that divisional champions have for PHS operations and their diverse locations in the UK, taking them away from the business for a day to undergo training has to be justified. "If we want senior managers to come from as far away as Scotland to attend a sustainability workshop, it has to be worth their while," says Wood. "Therefore, the training

must be business-relevant and help this group of senior people to do their job." The work of the champions is now extending through the establishment of "cluster groups". Each comprises three or four champions who exchange experiences on specific environmental issues such as sustainable warehousing practices.

The sustainability team also undertakes an annual one-to-one meeting with the head of each division to review environmental progress. "Given the competing demands that division heads have to juggle, we try to tag this review on to a meeting that is already scheduled, or make use of the extensive investment we have made in video-conferencing equipment," adds Wood.

Step by step

Wood says that, although it is early days since the training, she has already seen evidence of more sustainable projects coming into operation. She explains that opportunities to procure more energy-efficient machinery, such as the huge industrial washers at PHS depots, are infrequent because most equipment is replaced every 10 years. But the divisional champions are still making a difference to the environmental impact of the group's operations through a range of projects and initiatives.

One initiative concerns a lighting upgrade at the group's Curdworth site in the West Midlands. Ian Cairns, the site's environmental champion, led a project to install LED lamps and cut lighting costs by more than 50%. The branch is one of the group's biggest energy users, so the switch to LED has significantly reduced overall consumption at the site and for the firm



generally. The project used a new type of LED fitting that can be retrofitted relatively quickly and cheaply.

Andrew Patterson, the environmental champion responsible for Greenleaf, the commercial landscaping division at PHS, managed another energy-saving scheme. When one site's lease was due for renewal recently, Patterson was keen to find energy savings and make the warehouses more comfortable for staff. With support from the sustainability team, the site has undergone some dramatic improvements. All the warehouse lights have been upgraded to LEDs and more switches installed to provide better control. Meanwhile, installation of a lightweight partition to split the building in half has cut heating costs. It has separated warehouse storage activities from the production area, consequently reducing the number of heaters required and retaining the warmth where it is needed. Wood says that these measures will pay for themselves within two years, demonstrating a clear return on investment.

Smart meters

Footsteps leaders have also been actively contributing to PHS's goal to reduce energy usage through a further initiative. More than 50 leaders have taken part in training to use a new smart-metering tool called "Oneview". PHS has spent the past two years investing £150,000 installing meters at more than 60 sites and Oneview is the online platform to monitor and manage the metering.

After one training session on the tool, leaders focused on finding overnight energy wastage and identified examples, ranging from thermostats that turn on equipment to boilers that heat unused pipework in the early hours. The initiative resulted in leaders across the organisation collectively saving enough energy in five weeks to power a house for a year – the sort of comparison that motivates employees to instigate further energy savings, says Wood.

The six footsteps leaders based at the PHS head office in Caerphilly have taken part in a project run by Business in the Community to encourage organisations to be more conscious of their energy use. Based on the idea that small changes can make a difference, the team at PHS has been encouraging staff to switch off their computers and monitors that would otherwise be standing idle. By communicating the cost of this wasted electricity, highlighting potential carbon savings and rewarding with chocolates those who did switch off, the initiative achieved a 35% reduction in the number of computers left on overnight.

Energy-saving campaigns at PHS are supported by a range of branded literature targeted at employees, including booklets, posters and a quarterly newsletter called *Footsteps*. All of the material is designed and produced by a local social enterprise, further contributing to the company's corporate social responsibility agenda.

The double-sided A4 newsletter is attractive and accessible, says Wood, and keeps employees informed about sustainability achievements so that they can appreciate the value PHS places on reducing its carbon footprint. As well as news items on local environmental

initiatives implemented across the workforce, each edition includes key facts and progress reports. There is a "who's who" for new appointments of footsteps leaders and a Q&A section featuring queries from employees on environmental issues – with a £25 retail voucher for every question printed.

Drive well

PHS is acutely aware that fuel-related carbon emissions remain its most significant environment impact and is therefore a critical element of the group's carbon reduction strategy.

Engaging employees in reducing the emissions from its extensive vehicle fleet – ranging from small vans to articulated lorries and specialist waste collection vehicles – is integral to the PHS strategy. "Every single one of our 3,000 drivers needs to understand the importance of fuel efficiency and share our aim of reducing our fuel use," says Wood.

To achieve this, PHS has launched a "Drive well" training programme to promote professional driving skills and best practice fleet management processes. "The Energy Trust has identified that that there can be up to a 40% difference in fuel consumption between the best and worst driving; educating drivers on the most fuel-efficient ways of driving can therefore make a significant impact on our carbon emissions and costs," says Wood.

Drive well is supported by a range of bright green branded literature, including a key ring for every driver and a pledge postcard to sign up for the campaign. The sustainability team spent considerable time recruiting two driving instructors, or "coaches", to train PHS drivers in a sustainable driving course originally developed by Balfour Beatty in partnership with Cranfield University.

"We knew that it was important that the driving coaches had the right competences to deliver the course, particularly the behavioural element because it is understandable that some of our drivers could be quite sensitive to receiving instruction in an area where they consider themselves to be experienced and proficient," explains Wood.

Although launched only a few months ago, the course has been well received by PHS drivers and the group aims to achieve a 10% reduction in its fuel-related carbon emissions in the long term. A one-day workshop for depot managers was staged to launch the course and to help promote the training intervention throughout the group.

Managing expectations

Wood says that launching an employee engagement programme on sustainability has resulted in tangible efficiency improvements, but has also proved to be a learning curve. "Initially I thought we would enthuse the workforce to be passionate about environmental issues. Some are, but you have to be realistic about how you reach a diverse workforce spread across a wide geographical base," she says.

Many PHS employees have competing work demands, Wood continues, and in some cases what works best is to follow a compliance approach rather than a behaviour change one.



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Susanne Baker provides a summary guide to authorisation under REACH

Although the EU chemicals' regulation, REACH, entered into force in June 2007, the authorisation process has only recently started. With so much attention initially focused on the requirement to register chemicals, there are fears that companies have overlooked the significance of authorisation.

REACH stands for the registration, evaluation, authorisation and restriction of chemicals and is aimed at controlling chemicals in the EU and improving the protection of human health and the environment from the risks of substances. It applies to substances on their own, in mixtures and in articles (objects). As such, REACH has the potential to have an impact all UK business sectors, from chemical manufacturers and retailers to builders, food manufacturers and printers. Authorisation is one of the REACH processes for managing the risks of certain hazardous substances, known as substances of very high concern (SVHC), and promoting their replacement with safer alternatives. In the EU, a company may not use substances that are subject to authorisation unless it has been authorised to do so. This means that SVHCs will eventually be phased out of all non-essential uses.

Will authorisation affect your business?

A business will be affected if it relies on a substance that is going to be subject to authorisation. The effect can be either direct, if it uses the substance, or indirect, if the business purchases products or materials that use it. If an organisation's specific use of the substance has not been authorised, it will no longer be able to use it in the EU regardless of how vital it is to the business.

Conversely, there could be market opportunities if a business provides alternatives that could be used to replace substances being considered for authorisation.

What are your options if a substance is subject to authorisation?

Users have five key options:

- replace the substance with a suitable alternative or adapt processes to avoid its use;

- switch to products (articles) that avoid the use of the substance;
- consider applying for authorisation for a specific use;
- ensure a specific use is covered by another authorisation; or
- cease use of the substance in the EU.

How to get permission to continue to use the substance

Companies need to apply to the European Chemicals Agency for permission to continue to use a substance subject to authorisation. Permission may be granted if the applicant demonstrates that risks are adequately controlled – that is, exposure does not exceed levels that may cause adverse effects to human health and the environment.

However, this route applies only to substances for which a safe level – defined as “derived or predicted no effect level” – can be determined.

Users may receive permission to continue using a substance if they can demonstrate that the risks to human health or the environment from the use of the substance are outweighed by socioeconomic benefits and there are no other suitable substances or technologies available. This is the route for SVHCs for which a safe level (derived or predicted no effect level) cannot be determined or when adequate control cannot be demonstrated.

The application for continued use needs to include:

- a chemical safety report covering the risks arising from the properties of the substance and demonstrating adequate control of the risk, if this is not already available;
- an analysis of options, including the technical and economic feasibility of using a different substance and any research and development activities in which the applicant is engaged to identify an alternative;
- a substitution plan outlining the actions and timelines required to switch to alternative substances and technologies if they exist but are not immediately available; and
- if required, a socioeconomic analysis.

Rolls-Royce authorisation

Last year, Rolls-Royce became the first company to seek an authorisation under REACH. This is for the continued use of bis(2-ethylhexyl) phthalate (DEHP), which the company uses during the diffusion bonding and manufacture of aero-engine fan blades. The European Chemicals Agency concluded in January that adequate control had been demonstrated by Rolls-Royce for the specific use applied for. The final decision to authorise DEHP will be made by the European commission. The agency reported on 2 July that it had received 13 authorisation applications so far.

The agency's technical committees initially assess applications and the analysis of alternatives is open to public scrutiny. The European commission has the final decision on whether to grant authorisation.

Seeking authorisation can be time-consuming and resource-intensive. It may also be expensive to prepare and submit an application. A fee must be paid to the agency – €5,330 to €39,975, depending on the size of the business. Additional costs can be incurred from consultancy support, if the applicant needs access to technical information or if preparation work is carried out with others.

How are substances identified for authorisation?

There are three key steps to consider before a substance is subject to authorisation.

- **Step 1: identify the most appropriate risk management measure:** Through screening activities, authorities identify potential substances of concern that might require further action. When there is sufficient understanding of the properties of the substance, the agency or the responsible member state will carry out a risk management options (RMO) analysis to decide whether measures are needed and, if so, the most appropriate regulatory route. The proposed approach is reviewed by a group of risk management experts. If it is agreed that authorisation is the most appropriate route, notification is through the agency's registry of intentions, which provides advance warning of action.
- **Step 2: include SVHCs on the candidate list:** After notification, the responsible member state or the agency prepares a justification dossier (also known as an annex XV dossier) to formally set out why the substance can be defined as SVHC and should be included on the candidate list for authorisation. The dossier is subject to a public consultation, during which interested parties can submit information. If comments are received during the consultation, unanimous agreement by the agency's member state committee (MSC) is needed before the substance's inclusion in the candidate list.

- **Step 3: prioritise and include in the authorisation list:** The agency is required to periodically make a recommendation to the commission on the substances from the candidate list to be prioritised for authorisation. Prioritisation is based on the available information on the substance's properties, uses and volumes. The draft agency recommendation is subject to a consultation, which is followed by the MSC's opinion. The commission, in collaboration with member states, finally decides whether the proposed prioritised substances should be included in the authorisation list (annex XIV). Substances listed in annex XIV are subject to authorisation.

While not all substances on the candidate list will be recommended for authorisation, substances are being prioritised every year. Once prioritisation occurs, the inclusion in the authorisation list is a quick process.

How long do authorisations last?

Authorisations do not last forever. When an authorisation is granted, a time-limited review period is set. The duration of the review period is assigned on a case-by-case basis. The likely review periods are four, seven or 12 years.

How can I keep track of which substances are being targeted?

It is important to monitor developments in order to plan for, and manage, potential changes. Companies should monitor the registry of intentions, the candidate list and the authorisation list. The candidate list is usually updated twice a year and public consultations occur in March/April and September/October ahead of the update. The latest candidate list contains 155 substances. Consultations on new proposals typically run from June to September each year.

Companies can also sign up for agency news alerts or the HSE eBulletin. Organisations, such as EEF and REACHReady, also provide free alerts.

More information

More information about authorisation and whether it will affect your business can be gathered from suppliers. You should also contact sector organisations, which may be coordinating or signposting relevant activity or may have developed guidance specifically for your area of business. The agency has recently introduced a partner service for applicants to help identify possible collaborators in preparing applications, which could also help to reduce costs. Finally, the HSE, the UK competent authority for REACH, provides a free helpdesk – UKREACHCA@hse.gsi.gov.uk

These questions have been taken from a new Q&A guidance document produced by the UK chemical stakeholder forum. It is available at lexisurl.com/iema24420.

Susanne Baker, AIEMA, is senior climate and environment policy adviser at the EEF.



Doing things differently round here

In the second of her two-part series, **Penny Walker** finds out how to use an existing culture to support change

The first part of this series looked at what organisational culture is, how to spot it and why it is significant to successfully meeting organisational sustainability goals. So how can the existing culture be harnessed to help achieve such targets? Text book definitions of organisational culture tend to be generic, and it can be hard to properly understand it without examples.

TUI Travel's retail division

TUI Travel provides an example of where sustainability professionals have focused on organisational culture to support change. The company, which owns the brands First Choice and Thomson, has made good progress in its sustainability journey. But sustainability planning and communications manager Rosie Bristow says the firm faced challenges when it came to engaging colleagues in its retail operations on communicating its "greener and fairer" holidays to customers.

TUI Travel's sustainability team needed to look through "new eyes" at the retail department and adapt the approach to fit the culture. Bristow highlights some significant cultural features in the retail department. For example, staff are used to having clear performance

targets and regular feedback. Also, opportunities for promotion are competitive, so the chance to take part in recognised professional development is highly valued.


Harnessing this enthusiasm for professional development, TUI Travel's sustainability team worked with senior retail management to appoint an up-and-coming regional manager to refresh the methods on implementing sustainability in the department. Presented as a professional development project and sponsored by a retail leader, the project acquired visibility and credibility. Having got an insider's view on what would be motivating and culturally significant to retail colleagues, the sustainability team took forward its work.

"Retail people are brilliant at selling what they understand to colleagues and to customers. So we focused one of our regular educational trips on sustainability. Retail staff love these trips, which are high-profile and sought-after," says Bristow. The fact-finding mission to Turkey included examining how hotels were reducing their direct environmental impacts, visiting a sustainable food project part-funded by customers' donations and a stop-over at a turtle rescue centre.

Cultural savvy also helped inform the way senior managers chose the sustainability champions for retail's 28 regions: they preferred to make appointments rather than

Organisational culture – in summary

What is it?	The pattern of shared assumptions about basic truths, which influence how people see the world and their organisation's relationship with it. It consists of commonly held values, attitudes and beliefs, and specific symbols and systems.
How can you spot it?	Surveys (for example, William Bridges' organisational character index); workshops (such as Edgar Schein's culture assessment process); recognising signals, such as what it takes to "belong", why someone is considered a "hero" or an "outsider", and what people pay attention to.
Why is it significant?	It is the character of the organisation and why it operates in a particular way – your sustainability journey will be much smoother if it goes with the grain, and may be impossible otherwise.



rely on volunteers as proof that they valued the role and averted any chance that it gained a reputation as an add-on. Targets were set for customer donations, which fitted well with the target-focused way that retail staff were already working. And shops' sustainability performance was benchmarked by mystery shoppers, a method used to check other aspects of employees' work and one recognised as a valuable tool by the 700-plus shop managers.

Bristow thinks that the key aspect of the retail culture to which TUI Travel has tied its sustainability work is the value placed on clearly stated and structured expectations: in this case, asking for small donations for the World Care Fund from each holiday sold and explaining greener and fairer holidays to customers. "We have used the ways they normally learn and the fact that they are 'up for it' once they understand what they are being asked to sell," she says.

Other cultures, other solutions

Much as the retail operations at TUI Travel have their own culture, every other organisation will have its own way of doing things and its own unique characteristics, and these need to be harnessed to bring about change or achieve an objective. If engaging staff depends on the prospect of finding solutions to difficult problems, that possibility needs to be exploited. Some organisations work at tremendous speed. One I know shows this by having very short meetings focused on decision-making. If you cannot make the meeting, you send a deputy – and it is your lookout if you do not.

In many organisations, it is obvious who the heroes are – that is, the types of people who are celebrated for their approach. The traits that are valued will vary from organisation to organisation. It might be aggression, wisdom, the ability to bring out the best in any team, bravado, a positive disposition or a record of success.

Bringing these individuals onside and giving them responsibility for the big sustainability project is a valuable way to show that it is genuinely important to the organisation and encourages buy-in by others.

Good cultures, bad cultures?

There is a lot of debate about whether some kinds of organisational culture are more suited to sustainability than others. Edgar Schein, author of *Organisational culture and leadership*, sees "learning cultures" as fundamental to long-term success in a turbulent world, with its unknown technical, economic, political and societal responses. Learning cultures assume that it is a good thing to be a proactive problem-solver, rather than passively accepting the way the world is.

Organisations with a commitment to finding the truth through inquiry among a diversity of perspectives will do better than those that rely on any one source or method. Those that assume they already know and just have to browbeat or educate everyone else will do worst of all.

Experimentation and allowing time to gather evidential proof are critical – do not expect instant success or even instant clear feedback, especially when you are trying to make a difference in the system of which the organisation is a part.

So, some organisational cultures are, in Schein's view, inherently weaker than others. It seems likely that cultures characterised by short-term, risk-averse or cynical assumptions will be less fruitful ground for the sustainability practitioner. They will have more success by tailoring their approach to the existing culture than by not doing so, but the journey will be hard.

Making a start

Begin with the sustainability goals that make most sense for your organisation. When planning your strategy for achieving these objectives, take account of the existing culture by identifying:

- what already works, and what the organisation is good at and proud of;
- who the heroes are – the part of the organisation they work in, the kind of people they are;
- what people pay attention to, what is discussed in important meetings, what the boss always asks;
- what is "taken as read" about how things are; and
- how people explain why goals have not been met.

If, after some time, it turns out the plan is not working as you would like, enquire into why. Schein's book suggests a 10-step process of cultural assessment, while William Bridges includes a survey tool in his book, *The character of organisations*. If the underlying culture itself needs to change in order to meet the sustainability goals, you need to take this to the top. Organisational culture change can succeed only with the wholehearted commitment from the leadership. And sustainability practitioners will win leadership support only if the sustainability goals are seen as critical to organisational success.

More likely you will discover some aspects of the current culture that can help: capitalise on those existing strengths and harness them to meet the sustainability goals. And, for the aspects that are weak or not valued in the organisation's culture, avoid relying on them or find ways to compensate for them.

Penny Walker is an independent sustainability consultant. Read her blogs at penny-walker.co.uk/blog.

Building on firm foundations

In his latest blog, IEMA chief executive Tim Balcon considers how the Institute's central business of providing membership, development and support for environment and sustainability professionals remains as important as ever in its planned future growth through Vision 2020.

Balcon explains how, despite significant changes and new additions to the IEMA group, ensuring members have access to training, networking and recognition opportunities will continue to be at the heart of any growth activities. Here is an extract from the blog:

“We have set ourselves some ambitious targets through Vision 2020 – namely around sustainability, membership growth and global influence – and, with the support of members, our governance groups and our staff, we are equipped and ready to go for it. However, I'm very conscious that, since I stepped into the ‘CEO of IEMA shoes’ in April 2013, I've talked a lot about what needs to change and a series of new objectives. That's important because most of those things,

like the merger with GACSO or the launch of IEMA Sustainability Training Solutions, were sparked by what members said they want or need. But what is equally significant is that we retain much of what IEMA has always been about, what has already made us very successful.

It's not by accident that IEMA membership grew to 15,000 in little over a decade and managed to remain stable throughout a very gloomy economic period. Our intent to build and empower a profession that will change the world is what resonated with our very earliest members and continues to hold clout in 2014.

We always have been and always will be primarily committed to the learning, development, promotion, recognition and celebration of environment and sustainability professionals. We're making a clear call that everyone in every role



should become armed with environmental sustainability skills and we've put the mechanisms in place to make that happen. But environment management, assessment, auditing, leadership and compliance will always be at the very heart of what we do. Environmental skills are crucial to a sustainable economy and it's our role to ensure that specialists will always be supported to do their very best work.”

The full blog is available at lexisurl.com/iema25191.

IEMA announces its 2014 annual general meeting



Notice is hereby given that the 14th annual general meeting of the Institute of Environmental Management and Assessment will be held at 6pm on Wednesday 17 September 2014 at 30 Euston Square, London, NW1 2FB.

Ordinary business

1. To receive and accept the directors' report and accounts of the Institute for the financial year ending 31 December 2013.
2. To appoint Streets LLP 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.

Special business

To consider and if thought fit, to pass a resolution that: “The new articles of association proposed by the board and council are adopted in order to ensure that our governance structure better supports our ability to achieve IEMA's Vision 2020 objectives and that the existing articles are therefore replaced with the new articles of association.”

Martin Baxter, company secretary
IEMA, Saracen House, Crusader Road,
City Office Park, Tritton Road,
Lincoln LN6 7AS

Any member will be entitled to speak on any matters arising out of the directors' report and accounts, but no other 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 or 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 attending and voting at the meeting in person should he or she wish to do so. All proxies so appointed should be notified in writing, by no later than noon on Tuesday 16 September, to the following name and address:

Governance officer, IEMA,
Saracen House, Crusader Road,
City Office Park, Tritton Road,
Lincoln LN6 7AS

Further details, including a full copy of the new articles and explanatory notes, can be found at iema.net/agma.

14001 and sustainability consultations – member feedback required

IEMA is encouraging members to get involved in two important consultations: the draft international standard (DIS) of the revised ISO 14001 and a white paper on the language of sustainability from the Global Association of Corporate Sustainability Officers (GACSO).

In June, ISO published the DIS of the proposed 14001: 2015 for public comment, and IEMA is urging members to contribute vital user experience (see p.25). Martin Baxter, executive director at IEMA and one of the UK's appointed experts on the revision's working group, said the extent of the changes meant it was crucial for IEMA members to make their voices heard.

"Given the widespread use of the standard, it's essential that users engage in the revision process and also begin preparations for transitioning to the new requirements," he said. "IEMA will continue to work with members to ensure that environment and sustainability professionals can implement the changes in their organisations and add maximum business value."

The IEMA consultation is being conducted through a series of free workshops hosted by Baxter – see iema.net for details. The Institute's national forum on environment management

systems (EMS) on 26 November will provide members with an opportunity to hear the latest thinking from leading practitioners on their approach to maximising value from 14001. And, to further support members on implementing 14001: 2015, an IEMA STS training course will launch next month (p.37).

Meanwhile, GACSO is seeking input from IEMA members to help define and establish a lexicon of sustainability. With the publication of its white paper, *Defining corporate sustainability*, GACSO aims to stimulate debate on the developing language used by the profession. The paper calls for contributions from environment and sustainability professionals as well as wider occupations in order to build understanding of what it describes as a "business critical" agenda.

The concept for the sustainability lexicon emerged at an event in April to cement GACSO's new relationship with IEMA. Delegates identified the need for a common glossary of terms to support and build a shared understanding of corporate sustainability. *Defining corporate sustainability* has been developed, written and launched in collaboration between GACSO and IEMA members and is available for download at gacso.org.



To ensure the paper achieves its objectives, GACSO and IEMA are now seeking feedback on the proposals. This consultation includes regional workshops, which with wider work will provide an opportunity to explore and develop the lexicon. Members who wish to contribute their thoughts on the lexicon are also invited to submit comments, suggestions or proposals to gacso@iema.net. Members will be kept up to date on developments in future issues of *the environmentalist*.

IEMA reshuffles to deliver Vision 2020

The Institute's head office has undergone some essential changes, all of which aim to provide a greater focus on the membership and drive IEMA's aspirations and ambitions. The restructuring has created several distinct functions, each driving the four central objectives of Vision 2020. New roles have been created out of existing positions and staff recruited to ensure the Institute can deliver the vision – though overall headcount is broadly the same.

The four teams – which operate under chief executive Tim Balcon, and are led by Martin Baxter, Lynda Millar, Bea Walshaw and Claire Kirk – are:

- **IEMA Sustainability Training Solutions** – established to enable IEMA to lead and drive the development and uptake of environment and sustainability skills.

- **Professional standards** – responsibility for setting, establishing and promoting globally recognised environment and sustainability standards, and transformational sustainability practice.
- **Policy and engagement** – leading on events, projects and programmes to engage, empower and connect members and partners to lead and deliver improved environment performance and sustainability.
- **Operations and performance** – supports the business across a broad range of key areas, including member support, finance, IT and HR in order to ensure that IEMA is efficient and effective in its delivery.

"Vision 2020 is all about changing IEMA to create a forward-looking, ambitious

professional body recognised around the world for the knowledge and expertise of its members. These changes are aligned to making this a reality," says Balcon. "The strategy, the objectives, our business priorities, engaging the members, empowering our volunteers and maximising the skills of our staff are all as important as each other in the success of the vision. I know that what we've done in terms of repositioning our staff will be one of the key drivers in our future success."

The four functions are now operational. As a result, IEMA members will continue to see opportunities and programmes of engagement, networking, learning, development and training emerge. To find out more about Vision 2020, IEMA's structure, its directorates and its team go to iema.net/about-us.

IEMA has the solution to the skills challenge



In an interview published in June between Tim Balcon and editor of *the environmentalist* Paul Suff, the IEMA chief executive outlined how the increasing global need for environmental sustainability skills had led the Institute to establish a new training arm – IEMA Sustainability Training Solutions (STS).

During the interview Balcon said: “IEMA training providers already offer some fantastic learning opportunities but, as the profession changes and becomes more global, we need to provide a more comprehensive range of courses and have a bigger international reach.”

To help develop more courses and extend the reach of its training provision, IEMA STS, which is described as “one-stop shop for quality-assured training”, launched on 1 July.

“IEMA STS is designed to provide more courses, delivered by an increased number of trusted providers in more locations around the world,” says the Institute.

IEMA STS is committed to the highest standards of training and assurance and is dedicated to driving demand and meeting the supply of environmental sustainability skills. As part of that work, IEMA STS is working with the Institute’s stable of approved training providers and corporate members as well as with individual members, universities and public and private sector organisations worldwide to bridge the growing green skills gap.

Under the direction of Lynda Millar – who previously led Ford’s UK training academy – IEMA STS aims to provide a comprehensive “cradle-to-grave career pathway” solution to the supply of essential sustainability skills. “The size of the challenge around embedding sustainability skills into every business is huge, but IEMA STS is not only the catalyst to help organisations realise where they have a sustainability skills gap, it will deliver the right training that

arms their organisation,” said Millar. “I believe that IEMA STS will practically and strategically enable individuals and businesses everywhere to have access to training that really makes a difference.”

As part of the launch, all of IEMA’s approved training providers have transferred to STS and the Institute’s portfolio of courses has been relaunched to operate under the new training brokerage provider.

The development of a series of new courses and training products – including a specially developed new course for environment and sustainability professionals with responsibilities to implement the revised ISO 14001 from next year (see panel, below) – is already well under way.

To find out more about IEMA STS and to view the complete range of courses, training providers and other learning opportunities, go to iemasts.com.

ISO 14001: 2015

This new course from IEMA STS is aimed at individuals that are responsible for implementing or maintaining an environment management system (EMS) based on ISO 14001. It will provide an overview of the new requirements of ISO 14001: 2015, enabling delegates to evaluate and implement changes and improve their organisation’s EMS, as well as the tools to adapt to the updated standard. Delegates will also receive a unique electronic IEMA STS EMS gap analysis tool.

Ahead of the new standard being launched in 2015, approved training providers will be available to deliver this essential new course from next month. Visit iemasts.com for more details and to book.

Policy update



Building skills for a sustainable economy

A sustainable economy is one that works over the long-term to deliver economic, social and environmental stability. To build towards delivering such an economy, governments and organisations must review their approach to ensure they are contributing to delivering high employment and improved equality, while responding to the challenges of climate change, resource constraints and biodiversity loss.

To deliver a sustainable economy will require a different mix of skills, knowledge and competences from those in the current system. IEMA has identified three key catalysing actions to get the ball rolling: a national strategy on skills for the sustainable economy; a wide coalition of business and institutional support for action; and collaboration across this agenda between government and business. The Institute has chosen to tackle this challenge head-on by developing an outline strategy in our forthcoming position statement, *Skills for the sustainable economy*, which will launch in December.

Alongside this, IEMA is working with businesses and wider organisations to generate a broad campaign of action to demonstrate what is being achieved already by those leading the way on embedding sustainable skills across their business. IEMA’s position statement will highlight the actions and support needed from the government and wider institutions to enable a high-performing economy that drives social improvements and does so within environmental limits.

Member engagement is central to developing IEMA’s position statement and this consultation began in July. Wider consultation will take place in September, with a number of regional workshops on developing organisational capabilities to deliver sustainability. If your organisation is interested in supporting this initiative, contact j.fothergill@iema.net.

Josh Fothergill is policy and practice lead at IEMA.

More successful IEMA members

IEMA would like to congratulate the following individuals on recently upgrading their membership as part of their ongoing commitment to learning and professional development.

Associate

Tina Arnison, Unipart Group
Ian Beddis, BASF
Charles Boswell, Von Roll UK
Steve Brown, Lovell Partnerships
Laura Cahill, BP
Javier Ramos Canada, Eurofins Scientific
Steven Collinson, De La Rue
Cameron Craig
Grant Davison
Patrick Davison, Mayer Environment

Ike D'Cruz, Securitas
James Dyson, Rolls Royce
Steven Paul Fleiss, Gothenburg University
Claire Elizabeth Geeson, Gleeds
Elizabeth Gibson
Steven Grange, Communis
Barry Guckian, Siemens
Amber Haigh, Aspire Defence Services
Darryl Hammond
Paul Hayes, BAE Systems
David Hobden, Unilever
Amanda Horton, Llewellyn Ryland
Paul Howe, Coca Cola Enterprises
Stephanie Huddart, Sellafield
Steve Jones, Lovell Partnerships

Shaun Kent
Phil King, HS2
Rebecca Leach
Darren Lilley, Heineken UK
Philip Mackie, National Assembly for Wales
Stephen Madden, Grouphomesafe
Adam Martin
Sarah McDowall, Arup
Angela Myers, Morrison Utility Services
Peter Nicholls, Ovivo Water
Kerry Parris, Safety and Risk Management
Giles Prowse, Arup
Matthew Scott, Darchem Engineering
Anne-Cécile Serrano, EDF Energy
Rachel Sweeney, Royal Navy
Brian Sweet, Rio Tinto

Alan Taylor, Capital Cooling
Katherine Taylor, RPS Energy
Nicola Wheeler, Argyll Environmental
Alan Woodage, Vinci Construction UK

Full

Karl Thorsten Geyer, Boskalis Australia Pty
Michael Hardisty, Parsons Brinckerhoff
Sharon Palmer, Environment Agency
Naomi Warr, Stockton Warr Environmental

Full and CEnv

Charlotte Breen, Grosvenor Group
Esther Hombarume, Biogen UK

IEMA events

Date	Region/Time	Topic
20 Aug	South West	Social (Exeter)
27 Aug	Yorkshire and Humber	Sustainable freight transport best practice
3 Sept	Wales	Open forum and social
4 Sept	South East	Social (London)
16 Sept	East of England	EPSRC centre for innovative manufacturing in industrial sustainability
17 Sept	South West	Social (Exeter)
18 Sept	North East	SITA Tees Valley energy-from-waste plant, lines 1–3
18 Sept	Wales	Membership upgrade surgery and mentoring initiative launch
2 Oct	South East	Social (London)
6 Nov	South East	Social (London)

Workshops

3 Sept	North East	ISO14001 revision
4 Sept	North Scotland	ISO14001 revision
10 Sept	South West	ISO14001 revision
11 Sept	Wales	ISO14001 revision
17 Sept	Midlands	ISO14001 revision
3 Oct	East of England	ISO14001 revision
21 Oct	West Scotland	ISO14001 revision

Please book early – several 14001 revision workshops are already sold out

Conferences

24 Sept	Cambridge	Leading in sustainability
16 Oct	Leeds	IEMA Resource and waste management
26 Nov	London	EMS national forum

Chris Reynolds

Energy management and sustainability officer, Guildford Borough Council, and director at Step Lightly Limited



Why did you become an environment/sustainability professional? I had a strong interest in the environment as a teenager, so I chose the environmental economics option in my degree. It was always my calling; I just needed the jobs to arrive before making the opportunity for myself.

What was your first environment/sustainability job? I became environmental coordinator at the Woolwich Building Society on the understanding that I would also continue to manage my existing function.

How did you get your first role? I could see the landscape was changing and that eventually the Woolwich would employ an environment professional. I was then running the forms design and control function, and let it be known that I'd be interested in the environment job.

How did you progress your career? I immediately threw myself into becoming professionally qualified through IEMA, and also in developing contacts. One success led to another, though at the time I often didn't realise this. It was quite lonely to start with, as there were no other internal environment professionals, so it was important to develop external contacts.

What does your current role involve? I run a team of four who drive the energy and sustainability agenda for the council. As well as council operations, my brief now involves improving the energy and sustainability performance of the borough.

How has your role changed over the past few years? I love this role for two main reasons. First, I'm given so much support and scope to use my knowledge and experience to bring about positive change. Second, the council's genuine commitment to improve sustainability is a refreshing change compared with what I have seen elsewhere.

What's the best part of your work? I have a great team with wide ranging responsibilities that do not necessarily fit together, such as, energy procurement and community engagement. But, by working well as a team, we deliver benefits that are greater than the sum of our individual parts.

What's the hardest part of your job? A gradual removal by central government for councils to set local standards is unhelpful and frustrating. So too is the level of uncertainty over government initiatives, such as the energy companies' obligation.

What was the last training course you attended? It was focused on implementing change management. It taught us to look very carefully at the difference between "luggage" and "baggage" – the former is what you need for your journey, while the latter is what you carry with you but don't need.

What experiences have been valuable for your role and why? I have found my broad-based experience most useful. The only thing that I did not anticipate was the speed with which the financial year came to an end. I have also learned that all experiences are useful, even those that we might think irrelevant to our careers at the time. Sometimes we don't value an experience until much later.

Where do you see the profession going? I think this very much depends on where our general economic model goes in the future. It is clear to me that, for all our successes, we have only been taking baby steps. The recession was a golden opportunity to disconnect growth from consumer spending. It didn't, and we are consuming our way out of the recession once again. Meanwhile, the growing global middle class will put strains on the environment that far outweigh our baby-step improvements.

Career file

FIEMA, CEnv, BSc economics, postgraduate diploma in management services, postgraduate certificate in lifecycle assessment, NEBOSH general certificate

Career history:

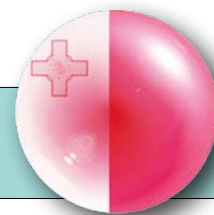
2013 to now Energy management and sustainability officer at Guildford Borough Council
2007–13 Climate change and competitiveness executive, Chemical Industries Association
2001–07 Group safety manager (from 2004) and environmental manager (to 2004), Barclays Bank
1989–2001 various environment roles, Woolwich Building Society
1987–89 Business analyst, Royal Borough of Kensington & Chelsea
1983–87 Management services officer, London Borough of Bexley

Something will give somewhere and people's values will change either voluntarily or through necessity. That will probably be the moment when the sustainability profession comes of age.

What advice would you give to someone entering the profession?

This is a great profession and being committed to sustainability is a great career advantage. But compared with most professions, there is a lot less stability and we are more vulnerable to a range of opinions, prejudices and vested interests. It's good to have a career vision and plan your journey, but almost all of us will be blown off course at some time.

How do you use IEMA's environmental skills map? I use it as a benchmarking matrix to ensure that I and my team continue to develop.



Malta

Ivor Robinich highlights a government strategy to reduce the environmental impacts of aquaculture on the Maltese islands

Aquaculture in Malta goes back three decades and the farming of aquatic organisms, such as fish and crustaceans, is still a growing sector in the country's economy. But the cumulative effects on the coast from the industry, as well as from tourism and housing, have been felt in recent years.

Malta's ministry for sustainable development, environment and climate change has responded with its "Aquaculture strategy for the Maltese islands" to improve management, reduce environmental impacts, and mitigate conflicts with other coastal uses. Its implementation should ensure aquaculture becomes a contributor towards a greener national economy.

Through the consideration of the carrying capacity of the marine waters and

the enhancement of monitoring, Malta will be pursuing its objective to achieve a good environmental status under the EU Marine Strategy Framework Directive, which aims to protect more effectively the marine environment across Europe.

Aquaculture in Malta is governed by various regulations but the framework has developed more slowly than the industry. The development planning process for fish farms now operating requires an environmental impact assessment, and includes monitoring and periodical reporting. However, this process was only based on the development's spatial demands, and omitted environmental impacts from other nearby marine and coastal activities.

The scope of the new strategy is to ensure that aquaculture is taken into

account in the formulation of all major policies, while constantly monitoring its environmental performance. An interim review is set for five years after its adoption and will assess any technological or regulatory developments. The strategy provides for the possibility of establishing new aquaculture zones. It also addresses the need for vocational training programmes, mechanisms that ensure funding and research in species diversification, technological improvements, and better mitigation and reduction of environmental impacts.

Malta expects the strategy to lay down the foundations for it to become a leader in sustainable aquaculture in the Mediterranean region and Europe.

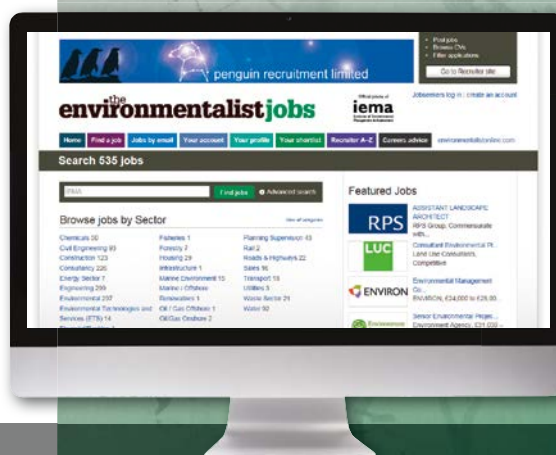
Ivor Robinich, AIEMA, is the head of secretariat at the ministry for sustainable development, environment and climate change in Malta.



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Ecologist

Southampton

£25,000 - £30,000 Dependant on experience

We are looking for an experienced Ecologist to join the busy and thriving team in our Southampton office.

The main duties of the role are as follows:

- To undertake and manage habitat and protected species surveys
- To undertake data analysis, evaluation, report writing and project research
- To provide day-to-day project management, including quality assurance and/or supervision of junior staff
- To undertake/assist with production of tenders and quotes

You will need to hold an Ecology Degree (or similar) and, ideally, have 3-5 years' experience within a consultancy environment. You will also need to be able to demonstrate knowledge of a range of taxa to survey level standard and hold at least one European protected species licence. The ability to write clearly and concisely is important to this role as is the ability to assimilate often complex information into intelligible reports.

In return, we offer a very competitive salary and benefits package together with the opportunity to develop your career within one of the UK's leading multi-disciplinary consultancies.

To apply, or for more information, contact our Recruitment Manager, Geoff Thorpe via e-mail at geoff.thorpe@rpsgroup.com

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Our Company

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Are you prepared for ESOS compliance?



The Energy Savings Opportunity Scheme (ESOS) is our Government's approach to implementing the requirements of Article 8 of the Energy Efficiency Directive with compliance required by **5 December 2015**.

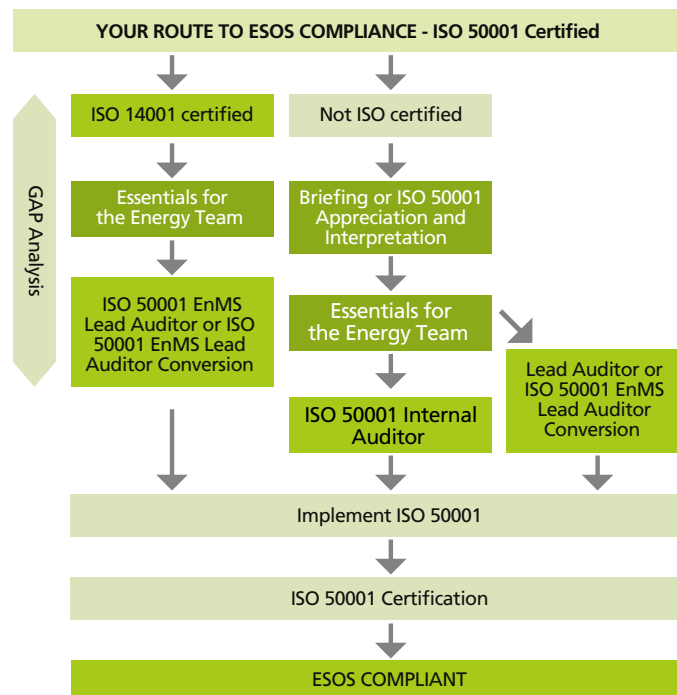
Participation in ESOS will be mandatory for any organisation which carries out business activity within the UK and which meets any one of the following criteria:

- More than 250 staff
- Fewer than 250 staff but has an annual turnover exceeding €50m and a balance sheet exceeding €43m

Failure to undertake an ESOS Assessment or comply via an alternative approved route can lead to a discretionary fine of **£50,000**.

Your route to ESOS compliance

The Department of Energy and Climate Change have confirmed that organisations with a certified ISO 50001 Energy Management System will have no further compliance requirements under the ESOS (Energy Savings Opportunity Scheme). The route to compliance will be to inform The Environment Agency that a valid certified ISO 50001 certificate is in place.



This internationally recognised EnMS will meet the assessment criteria requirements of ESOS but also support companies to use energy more efficiently, validate their environmental credentials, and to save money.

ISO 50001 is based on the management system model of continual improvement also used in ISO 9001 and ISO 14001 which means that businesses that already operate certified quality and environmental management systems should find that ISO 50001 requirements can be readily integrated.

LRQA offer a range of solutions to help you gain ISO 50001 approval including ISO 50001 training through to onsite gap analysis to support your organisation in identifying the gaps in your environmental management system. All of the courses that we offer can also be run onsite at your premises as In Company Training, these can be tailored to suit the needs of your organisation and your management system.

The Benefits of ISO 50001

- **Competitive edge:** through improved environmental performance, productivity and compliance.
- **Minimising risk:** reduces risk and increases energy security.
- **Best practice:** creates transparency and facilitates communication on the management of energy resources.
- **Reduced costs:** through energy efficiency in the organisation.

Call **0800 328 6543** to find out more
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