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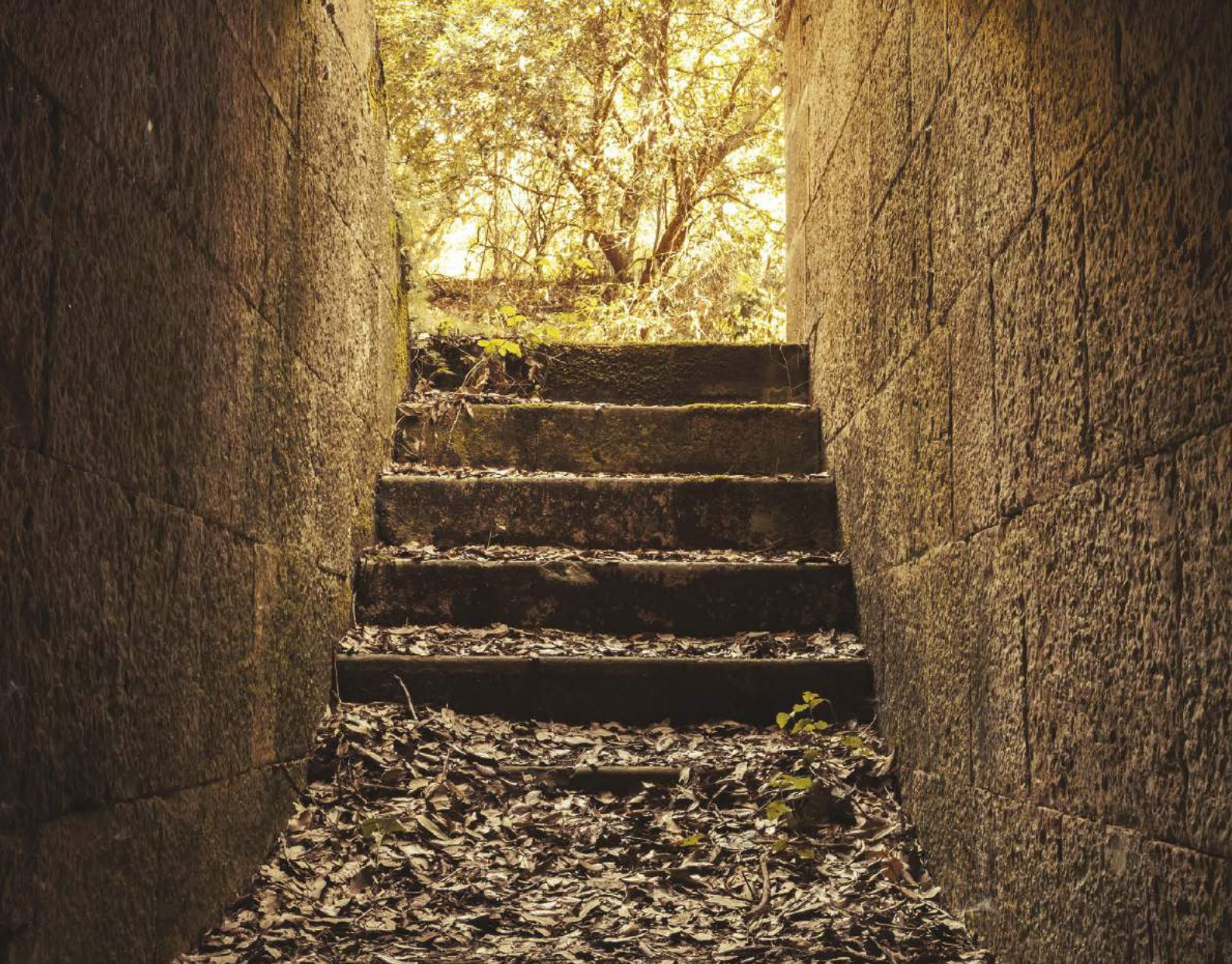
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February 2016

Sustainable development goals

The position businesses can play

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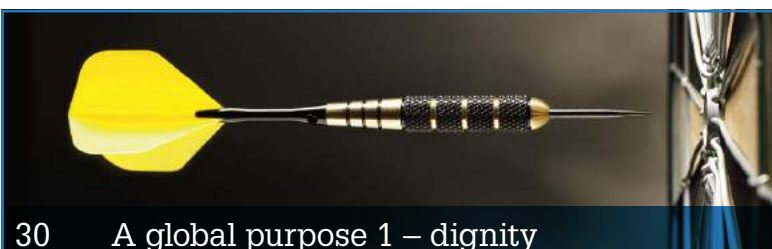
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Harnessing the power of 'generation S'

Our annual practitioner survey closed last month and we immediately examined the data for new trends. One of the most pressing and encouraging changes is coming from younger members or those with fewer than five years' experience in the environment and sustainability profession, which we have named 'generation S' – with 'S' standing for sustainability. More than half of survey respondents in this group said they would refuse to work for an organisation with a bad reputation on environment, sustainability, ethical and human rights issues.

Although there is always the argument that these are the very organisations that most need the help of zealous professionals, poor reputation alone is enough to prevent younger IEMA members from taking a sullied salary. Rather, they said they wanted much more from a career than a wage packet – though from my experience that is typical of our entire IEMA membership. This group tends to have a lifelong interest in environment, sustainability and nature and has deliberately sought a role that reflects this. There's a real concern here about protection – of the planet, of people, of economies – that is unique to the environment and sustainability profession. I think this is what makes our profession special and is evidence of the kind of disruptive innovation that our membership needs to embrace and nurture. It is the motivation to reject norms, demand better performance and be fearless in the face of convention.

What we are seeing is a new generation of workers with fire in their bellies, and our membership is the cradle of this kind of practitioner. They've seen what more experienced professionals have achieved and changed, and they want to build on that momentum. The only challenge that deters them is flagrant disregard for the life of, and life on, the planet.

Raw talent alone can of course be disruptive, but not in the way that will achieve change and make businesses worldwide sit up and take notice. This ardour needs to be matched with the ability to talk the language of business and to articulate a compelling business case. That's where IEMA and its more senior members have a clear role to play: coaching and nurturing those new to the profession to harness the power of their passion without suppressing it. Achieving the goals set by COP21 will need the very best from all of us, and I'm massively encouraged that the IEMA membership contains people with huge passion and good business sense.

A desire to protect the planet, its people and economies is what makes the profession special and is evidence of the disruptive innovation that the entire IEMA membership needs to embrace and nurture



Tim Balcon,
CEO of IEMA

The Institute of Environmental Management & Assessment (IEMA) is the professional home of more than 15,000 environment and sustainability practitioners from around the globe. We support individuals and organisations to set, recognise and achieve global sustainability standards and practice.

We are independent and international, enabling us to deliver evidence to governments, information to business, inspiration to employers and great stories to the media that demonstrate how to transform the world to sustainability. Join us at iema.net.

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Environmental KPIs needed

Environmental matters need to be better integrated into overall corporate strategies, an analysis of annual reports of FTSE 350 companies has found.

Although environmental factors were identified as principal business risks by 41% of the reports studied, only 27% of companies reflected these in the key performance indicators (KPIs) used by management to monitor progress, according to a report of the findings. The analysis was carried out by the Climate Disclosure Standards Board (CDSB), a consortium of international NGOs and businesses working to make reporting of environmental risk and impacts mainstream.

Most companies (90%) reported the environmental impact of their business, but the lack of environmental KPIs is at odds with guidance from the environment department (Defra), which recommends that firms should report at least three KPIs associated with their key environmental impacts. The CDSB report also notes that the international integrated reporting (<IR>) framework and guidance from the Financial Reporting Council promotes the importance of linking KPIs with an organisation's wider goals and objectives. 'It is clear from our analysis that companies often struggle with the challenge of



finding and presenting a clear, coherent and connected picture of their business, particularly with regard to linking strategy with relevant KPIs,' the CDSB said.

Where environmental matters are defined as KPIs, the research found a wide range used. This is unhelpful, according to Richard Barker, professor of accounting at Saïd Business School in Oxford: 'It's actually quite difficult to make sense of a whole host of KPIs from different organisations. The whole point of reporting is to enable resource allocation, investment and decisions that require the comparison of one organisation with another.'

But Stephen Haddrill, chief executive of the Financial Reporting Council, said that standardisation of reporting could lead to 'boilerplate' or merely compliant disclosure.

Transforming plastic waste

Applying circular economy principles to global plastic packaging flows could transform the plastics economy and drastically reduce negative impacts such as leakage into oceans, says a new report.

The *New plastics economy: Rethinking the future of plastics* from the World Economic Forum and Ellen MacArthur Foundation finds that most plastic packaging is used only once, with about 95% of the value of the material, worth up to \$120bn a year, lost to the economy. Continuing the same model, coupled with expected growth, would lead to more plastic in the ocean by weight than fish by 2050. Plastic packaging will also consume 20% of total oil production, and 15% of the annual carbon budget by the middle of the century. The report states that plastic packaging already generates negative costs amounting to \$40bn.

It outlines a new approach based on creating effective after-use pathways for plastics, which it says would drastically

reduce leakage of plastics into natural systems, particular oceans, and decouple plastics from fossil feedstocks.

Martin Stuchtey, at McKinsey & Company, which collaborated on the report, said: 'Growing volumes of end-of-use plastics are generating costs and destroying value to the industry. After-use plastics could, with circular economy thinking, be turned into valuable feedstock.'

Waste firm Recycling Technologies, which participated in research for the report, said the approach offered the plastics value chain an opportunity to deliver better system-wide economic and environmental outcomes. It warned, however, that achieving such systemic change would require major collaboration between all stakeholders, including consumer goods companies, plastic packaging producers and plastics manufacturers, businesses involved in collection, sorting and reprocessing, cities and policymakers.

Short cuts

Cost of scrapping CCS

Cancellation of the carbon capture and storage (CCS) commercialisation programme by the government will make it more costly for the UK to meet its carbon targets, according to the Energy Technologies Institute. It estimates that if scrapping the programme delays CCS deployment in the UK by 10 years, to 2030, it will add £1-2bn a year throughout the 2020s to the otherwise best achievable cost for reducing emissions. Even if CCS is deployed in 2030, the delay caused by abandoning the £1bn programme, which was announced in November, is also likely to increase longer term costs, adding an estimated £4-5bn a year to the cost of reducing emissions in 2040, says the institute.

Climate tops risk list

Failure to mitigate and adapt to climate change tops a list of global risks, according to the World Economic Forum risk report. The rankings were compiled by almost 750 experts, with 29 types of risk assessed for both impact and likelihood over a 10 year horizon. Risks associated with climate change and adaptation were considered to have the potential for greater damage than weapons of mass destruction and water crises. In terms of likelihood, climate change risks came third after large scale involuntary migration and extreme weather events. Interconnections between risks, such as climate change and involuntary migration or international security are becoming stronger, the analysis also found. Not only is climate change exacerbating other risks, but political conflicts are reducing the potential and resources for political cooperation on the issue, said Cecilia Reyes, chief risk officer at Zurich Insurance.

Correction

On p 28 of the January issue, we stated that the reporting obligation under the Modern Slavery Act 2015 (Transparency) Regulations applies to companies with a financial reporting year end on or after 1 April 2016. It should be on or after 31 March 2016. We apologise for the error.

Short cuts

Govt fails CO₂ target

The government missed its target for reducing emissions from its estate, according to an update on its greening government targets. Emissions from government properties and UK business-related transport declined 22% in 2014/15 compared with 2009/10 levels. However, the reduction target was 25%. The Ministry of Defence (MoD) accounted for 49% of the government's entire GHG emissions last year, the report states. Despite cutting emissions by 19% compared with 2013/14, the scale of the MoD's estate and operations precluded significant further reductions, says the report. If the MoD is excluded from the calculation, the government would have met its 25% target. The environment department (Defra) cut its emissions by 25% in 2014/15, while the energy and climate change department (Decc) achieved a 26% reduction.

2015 breaks records

Provisional figures indicate that last year was the warmest since records started in 1850, according to scientists at the Met Office Hadley Centre and the University of East Anglia's climatic research unit. The organisations, which used the HadCRUT4 dataset, revealed that, compared with the pre-industrial period, the 2015 average global temperature was around 1°C above the long-term average from 1850 to 1900. Separate datasets from the US National Oceanic and Atmospheric Administration and Nasa, which go back to 1880, confirmed that last year was the warmest recorded. The World Meteorological Organisation (WMO) said 15 of the 16 hottest years on record have all been this century, and that 2011–15 was the warmest five-year period. 'An exceptionally strong El Niño and global warming caused by greenhouse gases joined forces with dramatic effect on the climate system in 2015,' said WMO secretary-general Petteri Taalas. 'The power of El Niño will fade in the coming months but the impacts of human-induced climate change will be with us for many decades.'

Record investment in clean energy, but warning for UK

Global investment in clean energy projects reached record levels last year, according to Bloomberg New Energy Finance (BNEF).

Almost \$329bn was invested in 2015, said BNEF, with 64GW of wind and 57GW of solar PV commissioned during the year, a capacity increase of almost 30%. China led the way, investing \$110.5bn, a 17% rise on 2014 levels, while the UK was the strongest European market, with investment up 24% to \$23.4bn.

According to trade association RenewableUK, onshore and offshore wind farms generated 11% of UK electricity in 2015 – up from 9.5% in 2014. This set a new annual record, while the 17% generated in December set a new monthly high. 'We've had a bumper harvest thanks to increased deployment and superb wind speeds,' said Gordon Edge, RenewableUK's director of policy.

The 11% of UK electricity generated by wind last year comprised 5.8% from onshore and 5.2% from offshore wind. Overall, 21% of the UK's electricity came from renewable energy sources in 2015.

Despite the record-breaking year for wind power, separate BNEF research for the *Independent* warned that the UK renewable energy industry was about to 'fall off a cliff'. BNEF forecasts that the government's decision to end subsidies for onshore wind will result in at least 1GW less of renewable energy generation being installed in the UK over the next five years. After 2020, the new renewables infrastructure will collapse to almost nothing, it forecast.



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'The government is kicking the onshore wind industry off the ladder too soon,' said David Hostert, an analyst at BNEF. 'Without some form of change in policy support, we could see investment drop off a cliff after 2019.'

Meanwhile, research by consultancy DNV GL for WWF Scotland has concluded that Scotland can meet its 2030 energy decarbonisation target of 50g CO₂/kwh if it adopts a renewables-based electricity system and improves energy efficiency. 'An almost entirely renewables-based system is possible with moderate efforts to reduce demand for electricity and ongoing work to reinforce the grid,' says the report, *Pathways to Power*. 'The current pipeline of renewables will be more than adequate to hit the decarbonisation target and allow for substantial export of electricity to the rest of Britain.'

The report puts the cost of the additional renewables capacity needed to hit the 2030 target at £663m a year. This, it says, is roughly the same as generating the equivalent electricity from unabated gas-fired plants.

Renewables can aid global economic growth, says IRENA

Achieving a 36% share of renewables in the global energy mix by 2030 would increase global gross domestic product (GDP) by up to 1.1% – or about \$1.3trn a year – according to analysis by the International Renewable Energy Agency (IRENA).

Its report, *Renewable Energy Benefits: Measuring the Economics*, provides the first global estimate of the macroeconomic impacts of renewable energy deployment. It outlines the advantages that would accrue by doubling the global share of renewable energy by 2030 from 2010 levels, and says improvements in human welfare

would go well beyond gains in GDP due to a range of social and environmental benefits. The impact of renewables deployment on welfare is estimated to be three to four times larger than its impact on GDP. Meanwhile, employment in the renewable energy sector would increase worldwide from 9.2 million to more than 24 million by 2030.

'Mitigating climate change through the deployment of renewable energy and achieving other socio-economic targets is no longer an either/or equation,' said Adnan Amin, IRENA director-general. 'An investment in one is an investment in both. That is the definition of a win-win.'

EU plans stricter rules for cars

New rules to tighten controls on car manufacturers to ensure they comply with environmental requirements have been announced by the European commission in the wake of the Volkswagen emissions scandal.

The commission was already reviewing the EU type approval framework for cars when it was found that software had been fitted to some Volkswagen vehicles in the US to artificially lower nitrous oxide emissions from diesel engines during testing. It has now published its proposals to overhaul the system. These include strengthening the independence of national testing regimes so that they are more impartial in applying the rules, and more surveillance of cars already on the road.

'The Volkswagen revelations have highlighted the need to further improve the system that allows cars to be placed on the market,' said Jyrki Katainen, commission vice-president for jobs, growth, investment and competitiveness. He said the rules required tightening to



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regain customer trust and to ensure they are observed effectively. 'It is essential to restore a level playing field and fair competition in the market.'

Liberal Democrat MEP and *environmentalist* columnist Catherine Bearder welcomed the proposals: 'Dieselgate has shown that national authorities are either incapable or unwilling to enforce the rules they have signed up to. Stronger oversight of the car industry is vital to ensure standards to cut deadly pollution are upheld across Europe.'

Nature bodies underfunded

Local nature groups launched by the government just five years ago are facing a bleak future because their funding is drying up.

In an article for *the environmentalist* (pp 28–29) Peter Young, trustee of the Wildlife Trusts, says that most of England's local nature partnerships (LNPs) are not fit for purpose since they have no stable source of funding. Many are staffed solely by people on secondment, who may be part-time and on a short-term contract, he says. 'All the LNPs believe there's a future for them but it's not there now so they're operating as shells.'

LNPs were created in 2011 through the Natural Environment White Paper, and were encouraged to form strong links with businesses and councils in local enterprise partnerships (LEPs) to support the green economy. The environment department (Defra) provided them with more than £900,000, after which they were intended to be self-sustaining, with funding leveraged through local communities and LEPs.

A survey by consultancy ICF International for Defra in 2015 found that 34 out of the 35 LNPs responding reported 'considerable constraints' in terms

of time, capacity and resource. Only four were receiving funding from business. Without stable funding, businesses will lose confidence in the concept of LNPs, and there will be no-one to engage with, Young said.

The next 12 months would be crucial for the future of the LNPs, Young said, as further budget cuts to councils and Defra bodies, which are the main source of funding for many, continue to bite. 'There's quite a few that won't be able to operate. I'm not sure anyone would take the notice off the door but there won't be anyone behind it.'

Hugh Ellis, chief planner at the Town and Country Planning Association, said staffing at LNPs was 'desperate', adding that the government was 'delusional' to think that councils could to continue funding them. Annabel Lambert, RSPB policy officer, said government funding for LNPs was far lower than for LEPs, which received £500,000 each over two years just for building their strategy.

A Defra spokesperson said: 'Many LNPs have been successful in securing additional funding. For example, the Cumbria LNP secured £429,600 from the Heritage Lottery Fund for its work on meadows.'

Businessplans

Facebook has announced plans to build what it says will be one of the world's most advanced, efficient and sustainable data storage facilities in Ireland. All the racks, servers and other components have been designed and built from scratch as part of the Open Compute Project, an industry-wide coalition of companies dedicated to creating energy- and cost-efficient infrastructure solutions and sharing them as open source. The site, at Clonee in County Meath, will be powered by 100% renewable energy.

French company **Sagemcom** is to test **BT's** Better Future Supplier Forum's sustainability assessor tool with the aim of rolling it out to other suppliers. The tool is a seven-step process that asks the supplier a series of simple questions about the company's sustainability measures. The answers are assessed and a comparison made with previously identified best practice case studies. It also provides recommendations on how the supplier can improve its business practices. Sagemcom makes the BT Homehub.

McDonald's is trialling a scheme that enables its paper cups to be recycled and returned to the supply chain. The fast-food chain is working with British papermaker James Cropper on the pilot. Used cups from 150 McDonald's outlets will be collected by Simply Cups, the UK's only paper cup recovery and recycling scheme, and sent for reprocessing at James Cropper's reclaimed fibre plant in Kendal, Cumbria. Paper cups constitute about 30% of McDonald's packaging waste. If the pilot is successful the company will roll out the scheme to its 1,250 UK outlets.

Renewable Energy Systems (RES) is to build its first UK battery energy storage system in Somerset. The Hertfordshire-based company, which has pioneered energy storage in the US and Canada, has signed contract with **Western Power Distribution (WPD)**. The 300kVA/640kWh storage system will be installed alongside a 1.5MW solar park near Glastonbury and connect to WPD's south west network. The project will investigate the technical and commercial feasibility of battery energy storage combined within distributed generation installations in the UK.

Carbon budget in line with Paris, says CCC

The fifth carbon budget can remain unchanged as a result of the Paris agreement in December, the government's climate change advisers say.

The Committee on Climate Change (CCC) published its advice to government on the budget in November, but pledged to revise the advice if need be when the outcome of the UN climate talks at COP21 was known.

In a letter to energy and climate secretary Amber Rudd, the CCC has acknowledged that the Paris agreement to limit the global temperature rise to 'well below 2°C' introduces a greater ambition than current UK targets assume.

However, the EU has yet to tighten its target to reduce emissions by 40% below 1990 levels by 2030, the CCC pointed out. It noted that UK budgets already allow for stricter EU targets and therefore do not need to be altered, but it also urged the government to push for higher ambition at EU level. The fifth carbon budget should remain at 1,765 MtCO₂e for the period

2028–32, 57% lower than in 1990, the committee wrote. This would continue the trajectory on which UK emissions fell by 36% between 1990 and 2014.

However, the CCC added that, if the EU tightens the cap on its emissions trading system (ETS), the UK would need to align its budget with the new ceiling.

The committee said it would continue to monitor evidence that may affect the fifth carbon budget, such as the planned review of EU climate targets and the forthcoming special report on the 1.5°C goal introduced by the Paris agreement, which is due to be published by the Intergovernmental Panel on Climate Change in 2018.

It will also carry out further work on whether the UK's 2050 target, which



was based on keeping temperature rise within 2°C, is enough in the light of the COP21 deal.

But emissions trading campaign group Sandbag slammed the committee's analysis. It claimed that, in effect, accounting rules allow the UK to meet only half its carbon budget since emissions from electricity and manufacturing are treated as being met automatically through

the ETS, irrespective of whether they fall.

Damien Morris, head of policy at Sandbag said: 'Remarkably, this means that government is under no obligation to reduce emissions from these sectors, and these sectors can even grow their emissions so long as they continue to comply with the EU emissions trading system.'

From environmentalisonline.com...

Marine zones

More habitats and species of national importance will be protected after the second tranche of marine conservation zones (MCZs) was announced by the environment department (Defra). The 23 new zones include Land's End in Cornwall and the Cromer Shoal Chalk Beds in the North Sea, thought to be Europe's largest chalk reef. Twenty-seven zones were announced in 2013 in the first phase. MCZs are protected areas for habitats and species of national importance, such as seahorses and cold-water coral reefs. Designation does not automatically restrict economic and recreational activities in the area, however. Regulators will review each zone separately and put in place management plans to address activities that damage the conservation aims of the area, said Defra. The MCZs in England now protect an area of more than 20,424km². A consultation on the third phase of MCZs will take place in 2017. bit.ly/1OYKdsl

Slavery blitz

The Consumer Goods Forum has launched a plan to eradicate forced labour from its members' supply chains. The business group, whose members include retailers Marks & Spencer and Tesco, and manufacturers Diageo and GSK, believes that the sector is at risk due to complex supply chains that rely on low-skilled labour. The International Labour Organization estimates that there are about 20 million people in forced labour worldwide, 90% of them in the private sector. The forum aims to examine suppliers and locations that members have concerns about and develop action plans to eliminate forced labour, using the UN guiding principles on business and human rights. It also plans to work with other industries, governments and civil society; harmonise supply chain standards and systems; and share best practice. Companies interested in joining the initiative should contact ssc@theconsumergoodsforum.com. bit.ly/1SaOQWs

Ranking rise

More large companies are calling for governments to introduce progressive climate policies and regulations, according to analysts at non-profit organisation InfluenceMap. They tracked corporate attitudes over the past year and identified growing support among large firms, particularly in the run-up to the UN talks in Paris, for forward-thinking climate policies and regulations. Companies were scored from A to F based on how actively and positively they engaged. Responses to major consultations, such as on the clean power plan in the US and emissions trading system in the EU, were also considered, as was membership of trade bodies that oppose climate action. In the past three months, the average score for the top ten companies increased from C+ to B, it said. The top ranking companies include Unilever, GSK and National Grid, which all scored B+. Vodafone, Nestlé and Cisco, meanwhile, scored B-. bit.ly/1PEWDVN

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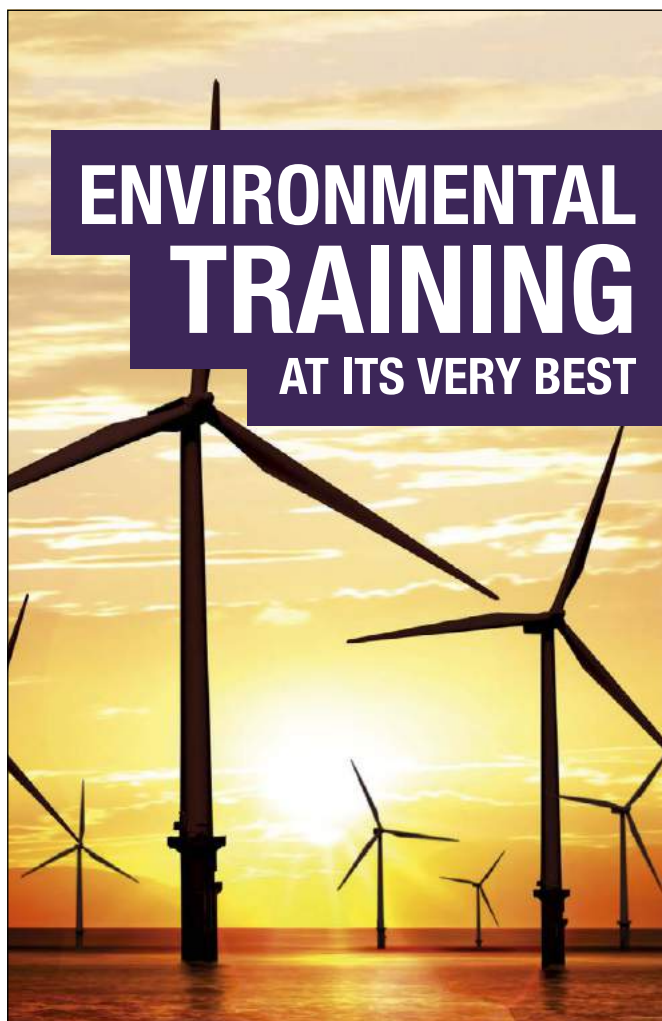
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Half of IEMA 'generation S' members stay away from unethical employers



Initial results from IEMA's annual practitioner survey reveal that those entering the profession are becoming increasingly selective about the organisations they work for.

The poll closed on 15 January and 1,047 members responded. The first set of findings focus on responses from members with less than five years' experience in an environment and sustainability role. This group of professionals has been dubbed 'generation S' because they are motivated by sustainability issues and the results suggest this stimulus is influencing their choice of sector and employer.

More than half of generation S respondents said they would refuse to work for employers that had a record

Generation S workers:

- are typically in their mid-thirties, and men and women are equally interested in ethical employers;
- have above average qualifications, with 45% having a Master's degree or doctorate;
- are looking for more than just a career and earning money, with the leading motivator for those seeking a new career in environment and sustainability being a desire to add more value than other jobs offer;
- say they are concerned about the negative impact that some industries and organisations have on the environment;
- are actively seeking a career that is primarily 'ethical' in nature; and
- typically have a lifelong interest in environment and sustainability, and want a job that reflects their innate values.

of using slave labour, generating high levels of pollution, employing unsafe working conditions, poor environmental performance, questionable investments and unethical practices.

Tim Balcon, chief executive at IEMA, said: 'We're now looking at a new generation of savvy professionals. Generation S candidates are refusing to work for unethical employers. These career movers are typically extremely well qualified and employers who don't have a sound reputation for good environment and sustainability performance are missing out on the pick of the crop, whether they are new graduates or career movers. Rather, generation S are looking for employers that offer opportunities to advance their career in a role that can make a positive difference to the planet, the economy and society.'

The early analysis of the survey results also shows that respondents with more than five years' experience would advocate others joining the profession. More than a third (35%) said that, if they were advising generation S candidates about what to expect from an environment and sustainability career, they would say this is an area where practitioners can make a difference and have a rewarding career.

More than a quarter (28%) of those polled said a career in the environment and sustainability offers a lot of variety. Some 59% reported that roles can be challenging, reflecting the diverse and fast-moving pace of the profession, as more businesses and entire industries are waking up to the scale and scope of environment and sustainable opportunities.

The full results from the practitioner survey, detailing the satisfaction levels, earnings, bonuses and work areas of IEMA members, will be published with the March issue of *the environmentalist*.

Issues that would stop IEMA members working for an employer

56%
unethical practices

53%
poor environmental performance

48%
unsafe working conditions

39%
slave labour

37%
high levels of pollution

Senior members offer career advice

The start of a new year is traditionally when people look to change careers or plot how they might secure a promotion. With this in mind, experienced IEMA members have offered their advice to those who are thinking of moving into an environment and sustainability role or who want to take on more responsibility.

Doing voluntary work or serving as an intern in industry and studying for an environment or sustainability related degree are among the top tips from senior members on what a new graduate or a career changer would need to do



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Getting ahead in your environment career

- Do voluntary experience or an internship in the industry or a sector you want to work in.
- Study for an environment or sustainability related degree.
- Get the right qualifications, such as the IEMA Associate certificate.
- Look at your existing transferable skills and assess what kind of role would best suit you.
- Seek mentoring from someone already doing the job you want.
- Use IEMA's environment skills map to plot your career path.
- Network, network and keep on networking!

to get their foot on the career ladder. Practitioners also recommend getting relevant professional qualifications, such as the IEMA Associate certificate.

Indeed, a growing number of organisations, such as Network Rail (see *the environmentalist* training supplement, December 2014), stipulate that candidates must have IEMA membership or an equivalent for many environment and sustainability posts.

Respondents also said individuals new to the profession and those wanting to advance their environment and sustainability careers should consult the IEMA skills map, which gives users a clear idea of the skills and knowledge expected in specific roles. Another piece of advice

is to ask someone in a role similar to one sought to be a mentor to help enhance their skills, knowledge or performance in specific areas.

'There is no better careers advice than the kind offered by people who actually do the job, so these tips are hugely valuable to school leavers and career changers,' said IEMA chief executive Tim Balcon. 'What members have offered here is real-life guidance that mixes the vocational and the academic routes into the profession and I would like to see the membership own these top tips and share them far and wide.'

The recommendations were outlined in responses by senior IEMA members to the institute's 2015 practitioner survey.

Helping professionals meet challenges and take opportunities wherever they are

The UN sustainable development goals (pp 30–34) and the climate change agreement reached in Paris in December present significant challenges and opportunities for the environment and sustainability profession. Practitioners have a huge role to play in implementing actions that will help to achieve the outcomes set out in these international initiatives, while IEMA has a key role to play in engaging with and supporting members to make a real contribution to achieving them.

Judging by the quality of the debate when IEMA's Middle East and North Africa (MENA) group met in January, it is clear that there is an appetite to participate. The networking session in Doha on sustainability in construction attracted more than 150 delegates and presented the perfect forum to

debate issues. What is clear from the discussions is the need for a broader understanding of best practice and to share learning and ideas.

IEMA head office staff met many members and stakeholders during the visit, including the undersecretary at the ministry of environment and climate affairs in Oman. An IEMA breakfast meeting brought together people from businesses, consultancies and the government to consider what role IEMA could play in supporting the transition to sustainability – including how to implement the Paris agreement and ensure that Oman exceeded the obligations set out in its nationally determined contribution.

A follow-up session with a wider group of stakeholders is planned to help gain a consensus on the three

key sustainability priorities for the country. Partnership working will be critical to ensuring success.

A clear message from the members in Oman and Qatar is the importance of skills development and capacity building. Support programmes for members looking to progress to Full membership and Chartered environmentalist status are important in this respect, as is raising awareness more generally across different professions and society more broadly. In many ways this is no different from what members elsewhere require, although the geographical context is very different.



Martin Baxter is senior policy advisor at IEMA; @martinbaxter on Twitter

ISO 14001:2015

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Quarry plans founder on lack of an assessment

Plans to reopen a quarry in Cornwall to supply rock to the proposed tidal lagoon in Swansea have been halted by the High Court for failing to include an environmental impact assessment (EIA).

Cornwall County Council granted Shire Oak Quarries planning permission in April 2015 to build an office, staff room, storage facility and security fence at the Dean quarry on the Lizard peninsular, which had been mothballed since 2008. The council decided the proposed development was unlikely to have significant environmental effects so did not require an EIA. However, communities secretary Greg Clark ruled in June that it was likely the plan would have significant effects on the environment. Then, on 13 November, a judicial review commenced to consider the legality of



© Warden armstrong

approving a major industrial development in an area of outstanding natural beauty without an EIA. Justice Dove confirmed in December that Clark's decision was binding and quashed the planning consent.

Although disappointed, the company said: 'Dean quarry has a valid minerals consent to operate until August 2035 and that consent is unaffected by [the] decision.'

Cornwall County Council said last month that it had decided not to appeal against the High Court's ruling.

IEMA IA network update with Rufus Howard

Raising EIA expertise

The new environmental impact assessment (EIA) Directive, due to be transposed into domestic regulation by spring 2017, requires competent experts to undertake an EIA. It also instructs competent authorities to use experts in the appraisal of EIAs.

When does someone move from being competent to being an expert? Or a competent expert? Can you have an incompetent expert? Many people who have looked to answer these questions have taken an academic, theoretical or psychological basis. I am more interested in the pragmatic, real-world issues of defining experts: for the purpose of standards and accreditation, for roles, such as expert witness, and for procurement. But if you need expert advice, you have no way of defining or verifying expertise and could end up paying for advice but not from an expert.

In the UK, there is a long tradition of chartership, whether it is as a chartered engineer or chartered environmentalist. Chartership in many ways seeks to

provide that formal external verification that you are at a particular level of experience and competence. In this it succeeds. However, chartership is broad in purpose and nature. There are as many types of engineering specialisms as there are environmental professions. You would not want a mechanical and electrical engineer advising on your structural designs nor an ornithologist undertaking your air quality assessment.

Chartership is an indication of competence and experience in a general field, but it does not provide a guide to identifying experts.

IEMA's EIA practitioner register – bit.ly/1SnsAHD for details – does this for impact assessment professionals at least. It provides a true guide to individual expertise and competence and could be used by practitioners to show they meet the test of competent expert as set out in the directive.

The IEMA IA Network, which I chair, will shortly host a webinar on expert competence and the new Directive.



EIA research

The nature of things

Delivery of an environmental impact assessment (EIA) can be significantly hampered if tight timescales prevent adequate ecological survey at the correct time of year for different types of wildlife, argues Christopher Slater, environmental planner at TEP, in a new QMark paper. The author presents a seasonal guide, which reveals that only otters and badgers of seven species listed can be surveyed throughout the year. He notes that poor weather may also prevent effective assessment even in optimal periods. Nocturnal bat surveys are not advisable in rain and high winds, while warm, dry and calm weather is best for butterflies and reptiles. Slater says engaging ecological experts early in the design process can help ensure that enough time is available to properly assess different types of wildlife. bit.ly/23jdpDV

The bigger picture

In a QMark paper, Kitty Hankins, senior environmental consultant at RSK, considers how EIA can become a better tool for wider sustainability objectives. She explains that the process could promote better resource efficiency, for example, by considering building materials that are more sustainable or the use of materials that are more easily recovered for reuse or recycling at the end of a development's lifespan. In terms of addressing climate change, Hankins says an assessment should consider the whole lifecycle of the project. She uses the example of a new road, which the ecologist assessing the impact proposes rerouting to avoid a wood. Although this would ensure the trees continued to store carbon and prevent damaging local biodiversity, Hankins points out that the new route could require more material. This in turn could result in more carbon emissions and greater overall impact on the environment. Considering the overall effects at every stage of the project might lead to an alternative mitigation scheme where the wood is lost but more trees are replanted as compensation and less aggregate and associated haulage are needed to complete the project. bit.ly/1RYTKFX

Dutch outline EU presidency ambitions

The circular economy is a priority for the Dutch government, which started its six-month presidency of the EU in January.

'Sustainable growth involves more than just reducing CO2 emissions. Not only does our economy need to become climate neutral, it also needs to become circular, which entails a cycle in which economic goals converge with the responsible (re)use of raw materials and energy,' it said in a statement.

The European commission unveiled its circular economy package in December and the Dutch government is keen to get agreement from member states on a non-legislative action plan ahead of the meeting of the environment council on 20 June. It also plans to hold talks on definitions and targets for recycling under the package. EU environment ministers will first debate the circular economy package at a meeting on 4 March.

The Dutch presidency also wants to follow up the UN climate summit (COP21), held in Paris in December 2015, by making progress on further reforms to the EU emissions trading system (ETS). In July 2015, negotiations started on the commission's proposals for phase four of the ETS after 2020. Conservative MEP Ian Duncan was appointed rapporteur for the reforms by European parliament and is expected to develop amendments by mid-June, ahead of the environment



council meeting that month. In the second quarter of 2016, the commission is expected to propose new national targets for further CO2 emissions reductions in non-ETS sectors, including transport and buildings, and the Dutch government says it will strive to make progress in these negotiations.

Another ambition for the Dutch presidency is the revision of the National Emission Ceilings Directive (2001/81/EC) and getting agreement on new legally binding caps for 2030. One sticking point is binding interim targets for 2025, which the parliament has demanded but which the commission says should only be indicative.

The Dutch will also pursue its 'Make it Work' initiative, which it is running with the German and UK governments, aimed at delivering more consistent and effective EU environmental legislation. This will run alongside the commission's fitness check programme, which has been evaluating the EU Birds and Habitats directives and whether actions required by the legislation are proportionate to their objectives, and will shortly examine reporting obligations under EU environmental law. 'In elaborating Make it Work, the Netherlands will focus attention on alternative ways of steering developments besides legislation,' said the Dutch government.

Putting an end to microplastic pollution of the seas

The scourge of microplastics, tiny pieces of plastic that pollute the world's oceans and threaten marine wildlife, has been documented since the 1970s. However, while most people are aware of plastic pollution, such as discarded bottles or plastic bags washed up on beaches, few realise the damage caused by these millions of largely invisible fragments of plastic.

In fact, microplastics are the most abundant items of plastic debris in the sea and pose the biggest threat to marine animals and plants. They have been found in all the world's major oceans and in sea creatures ranging in size from small invertebrates to large mammals. These plastic pieces are also thought to pose a potential threat to human health, as they pass harmful pathogens into the bodies of fish that are later eaten as seafood.

Unfortunately, it is not feasible to clean up this existing mess, as removing substantial amounts from the sea is not practicable. What we can do is to tackle the problem at source, by regulating some of the major sources of microplastics. One of these is the microbeads used to exfoliate the skin in cosmetic products. These go down the drain and many later end up in the sea.

Up until now, there has been little concerted effort to tackle this huge environmental issue. Now momentum is building for global action. Several US states have passed legislation restricting the use of microbeads in cosmetic products, and major companies have also pledged to replace them with biodegradable alternatives. And, at the beginning of this year, President Obama announced a full US ban on the products

to protect the country's waterways and seas. Now it is time for Europe to follow suit.



I have launched a written declaration, a process used by MEPs to request the European commission to develop new legislation, to demand a ban on microbeads in the EU. I now need to build support among at least half the European parliament (376 MEPs) for the campaign to succeed. You can back the call by contacting your local MEPs and asking them to support the campaign. That way we can ensure Europe plays its part in cleaning up our oceans and tackling this threat to our health and environment.

Catherine Bearder, MEP, is a member of the European parliament's environment committee.



In court

Yorkshire Water fined £600,000 for sewage incident

Yorkshire Water Services has been fined £600,000 and ordered to pay costs of £24,000 for polluting a lake with sewage and killing hundreds of fish.

Leeds Crown Court imposed the penalty after the company pleaded guilty to one charge of causing a water discharge at Walton Colliery Nature Park, Wakefield in October 2013 that was not authorised by an environmental permit.

An earlier court hearing was told that a rising main sewage pipe at Yorkshire Water's Shay Lane pumping station burst on or before 5 October 2013 and raw sewage flowed into Drain Beck, which feeds a fishing lake in Walton Park and flows into Barnsley Canal. More than 860 dead fish were recovered from the lake and canal, which are stocked by the Walton Angling Club, although the full extent of the damage to aquatic life is unknown, as fish were either eaten by gulls or sank to the bottom of the lake.

Water samples taken by the Environment Agency confirmed that the pollution was significant enough to be fatal to aquatic life and a survey in April 2014 found the lake was still almost devoid of fish. Restocking only started in March 2015 and the fishery will take several years to recover.

Mark West, environment management team leader at the agency, said: 'This pollution incident had a significant impact on the ecology of the lake and the canal and it could have been avoided had the company taken action to replace the pipe following earlier bursts. Aside from the devastating loss of fish, this incident has had an impact on the lake that will last for some time.'

Yorkshire Water apologised for the incident. A spokesperson said the company was investing £1 million at the Shay Lane plant to avoid such pollution in the future.

The fine is the third largest imposed on a water company for a prosecution brought by the agency since sentencing guidelines were altered in 2014 to allow higher penalties. In January, Thames Water was fined a record £1 million after it repeatedly polluted the Wendover Arm of the Grand Union Canal with sewage from its Tring treatment works between July 2012 and April 2013.

Sepa fines average £20,314

The Scottish Environment Protection Agency (Sepa) referred 36 cases to the Procurator Fiscal, served 116 statutory notices (not including information notices) and issued 141 final warning notices in 2014/15.

Sepa's latest enforcement report also reveals that the majority of referred cases were for offences under the waste (15 cases or 41%) or water regimes (nine cases or 25%). Of the 18 cases that resulted in convictions in 2014/15, a total of 14 fines were imposed, amounting to £284,400, the largest total over the past five years. The average fine imposed by the courts was £20,314, compared with £10,965 in 2013/14. The average fine awarded against companies as opposed to individuals was £28,583.

Civil penalties for ETS failures

The Environment Agency published in January the names of 20 organisations penalised since June 2015 for failing

to surrender sufficient allowances to cover aviation emissions under the EU emissions trading system. They were:

- Jet Airways (India) – £12,716.25;
- Bel Air – £66,124.50;
- Embraer SA – £52,136.63;
- Flying Lion – £37,385.78;
- FL510-GmbH – £25,347.73;
- American International – £24,076.10;
- Midroc Aviation – £56,460.15;
- 21st Century Fox America – £17,463.65;
- Turkmenhovayollary – £10,766.43;
- SPX Corporation – £10,427.33;
- Al Rushaid Aviation – £3,645.33;
- Bahrain Royal Flight – £60,698.90;
- GF Air – £6,358.13;
- Hill Air Corporation – £7,205.88;
- The Jet Centre (trading as The Private Jet Company) – £69,345.95;
- J C Bamford Excavators – £157,596.73;
- Franklin Templeton Travel – £25,178.18;
- DJT Operations I LLC – £1,610.73;
- MIG Russian Aircraft – £1,441.18; and
- General Avileasing – £16,192.03.

Case law

Defining damage under the EU liability directive

In *R (on the application of Seiont, Gwyrfaï and Llyfni Anglers' Society) v Natural Resources Wales* [2015], the High Court ruled on the scope of 'damage' under the Environmental Liability Directive (ELD).

In this case, the society notified Natural Resources Wales (NRW) that discharges into a freshwater lake, Llyn Padarn, from the Llanberis sewage and wastewater treatment works was causing environmental damage. Llyn Padarn is a site of special scientific interest (SSSI) and home to a genetically distinct species, *Salvelinus alpinus*, known as Arctic charr. NRW decided there had been no damage to any relevant species, SSSI or surface water at Llyn Padarn. The society challenged NRW's decision, arguing that the regulator had incorrectly considered only damage that occurred after 6 May 2009, which is when the regulations transposing the ELD came into force. However, member states had been required to implement the ELD by 30 April 2007, so NRW agreed it would also take into account damage caused to Llyn Padarn after that date.

The key issue for the court was whether 'damage', as defined in article 2(2) of the ELD, includes not only deterioration of the environmental condition, but preventing, limiting, decelerating or otherwise impairing the progression of any relevant element to the environment. The court held that damage was restricted to deterioration in the environmental situation and did not include the prevention of an existing, already damaged environmental state from achieving a level that was acceptable in environmental terms or a deceleration in such achievement.

Hayley Tam

Lexis®PSL

New regulations



In force	Subject	Details
1 Dec 2015  	Energy	The Renewables Obligation Order 2015 provides a definition for biomass and waste eligible under the scheme and specifies that waste is classified as a renewable resource if not more than 90% is derived from a fossil fuel source. The Order also details how municipal waste is covered under the scheme; and how the obligation is calculated and issued to a supplier, and what they need to do to meet their obligation. bit.ly/1P7JfgU
4 Dec 2015   	Energy	The Electricity Capacity (Amendment) (No. 2) Regulations 2015 amend the 2014 Regulations to extend the period days – from five to 15 days – that permit have to submit credit cover after receiving a conditional prequalification notice. bit.ly/1OyPxV3
15 Dec 2015 	Emissions	EU Directive (EU) 2015/2193 on the limitation of emissions of certain pollutants into the air from medium combustion plants introduces stricter limits for plants with a thermal input of 1 to 50MW. The Directive must be transposed into domestic legislation by 19 December 2017. bit.ly/1ZOpiCI
18 Dec 2015 	Environment protection	The Environmental Damage (Prevention and Remediation) (Wales) (Amendment) (No.2) Regulations 2015 amends the 2009 Regulations to update references. bit.ly/1QgJD0n
25 Dec 2015 	Waste	The Waste Electrical and Electronic Equipment (Amendment) Regulations 2015 amend the 2013 Regulations. Changes include clarification of the the terms: ‘appropriate authority’, ‘evidence note’ and ‘very small electrical and electronic equipment’. bit.ly/1Wx5v5f
31 Dec 2015  	Hazardous substances	The Animal By-Products (Enforcement) (England) (Amendment) Regulations 2015 and the Animal By-Products (Miscellaneous Amendments) (Scotland) Regulations 2015 amend relevant 2013 regulations in both countries. bit.ly/1NmBLc ; bit.ly/1PGMg40
31 Dec 2015 	Waste	The Waste Management Licensing (Amendment No. 2) Regulations (Northern Ireland) 2015 amend the list of prescribed offences in the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations (Northern Ireland) 1999 and the Waste Management Licensing Regulations (Northern Ireland) 2003. bit.ly/23gEtna
1 Jan 2016 	Emissions	The Large Combustion Plants (Transitional National Plan) Regulations 2015 establish a time-limited derogation for existing large-combustion plants under the Industrial Emissions Directive (2010/75/EU). The UK Transitional National Plan ends on 30 June 2020. bit.ly/1Vaw1QL
1 Jan 2016 	Environment protection	The Designation of Nitrate Vulnerable Zones (Scotland) Regulations 2015 implement the requirements of EU Directive 91/676/EEC on the protection of waters from pollution by nitrates from agricultural sources. bit.ly/1NHPNSB
1 Jan 2016 	Waste	The Waste Batteries and Accumulators (Amendment) Regulations 2015 amend the 2009 Regulations to remove the requirement to: provide operational plans; submit independent audit reports; undertake scheme information campaigns; and provide a report from an independent auditor. bit.ly/1P7JfgU
4 Jan 2016 	Climate change	The Storage of Carbon Dioxide (Access to Infrastructure) Regulations (Northern Ireland) 2015 implement articles 21 and 22 of EU Directive 2009/31/EC on the geological storage of carbon dioxide in Northern Ireland. The articles relate to third-party access to infrastructure for the transport and storage of carbon dioxide. The Storage of Carbon Dioxide (Licensing etc.) Regulations (Northern Ireland) 2015 also relate to the implementation of 2009/31/EC and deal with storage permits. bit.ly/1nzR8kI ; bit.ly/1OI8kvg

This legislative update has been provided by Waterman's Legal Register available at legalregister.co.uk

Latest consultations




15 Mar 2016

ETS allowances

 The European commission is consulting on changes to Regulation 1031/2010, which governs the auctioning of EU emissions trading system (ETS) allowances. The regulation will require amending to incorporate the ETS market stability reserve (MSR), which is due to be established in 2018. The commission is also seeking feedback from stakeholders on the functioning of the regulation to assess whether the auctions to date have been effective and efficient, and to identify potential areas for improvement.
bit.ly/1lz5bpb


28 Mar 2016

Noise directive

 The European commission is evaluating Directive 2002/49/EC on the assessment and management of environmental noise, which was transposed in the UK through the 2006 environmental noise regulations. The commission has already gathered the views of enterprises and public bodies and is now consulting more broadly on the relevance, effectiveness, efficiency and EU added value of the directive.
bit.ly/1YydJcJ


5 Apr 2016

Invasive species

 The Infrastructure Act 2015 brought in new control provisions to ensure appropriate action is taken against invasive non-native species. It provides ministers in Wales and Natural Resources Wales with new powers to require owners to control invasive non-native species, or allow them to do so where an owner has refused to act or allow access. The Wales government is consulting on a draft code of practice on how the provisions should be applied.
bit.ly/1mXI2Ob

8 Apr 2016

Water abstraction licences

  Defra, the Welsh government, the Environment Agency and Natural Resources Wales are consulting on proposals to remove most exemptions from water abstraction licensing. The consultation document says licensing control will enable regulators to better manage water at catchment level. The authorities plan to bring 'new authorisations' into the licensing system later this year. Some abstractions that are considered low risk will remain exempt.
bit.ly/1PjWNB5

15 Apr 2016

Non-financial reporting

 EU Directive 2014/95/EU on disclosure of non-financial and diversity information by certain large undertakings and groups entered into force on 6 December 2014. The European commission is seeking feedback from stakeholders on the content of the guidelines to help firms report on environmental, social and employee matters, respect for human rights, and anti-corruption and bribery issues.
bit.ly/1Nk352E

21 Apr 2016

Special protection areas

 Under the EU Birds Directive, the government must establish special protection areas (SPAs) for the conservation of specified species. Defra and Natural England are consulting on establishing three new SPAs and extending three existing ones. These are: Morecombe Bay and Duddon Estuary; Northumberland Marine; Solent and Dorset Coast; Poole Harbour; Hamforth Water; and Outer Thames Estuary.
bit.ly/1JZz65p; bit.ly/20gzuQY; bit.ly/1VaDvD2; bit.ly/1PGQlVS; bit.ly/1P7QyoE; bit.ly/1SzfAPS

New guidance

Flood management

The Scottish Environment Protection Agency (Sepa) has published a new handbook to help local authorities and landowners implement natural flood management measures. *Natural Flood Management Handbook* (bit.ly/1KsWsLD) details how natural flood management can contribute, as part of a suite of measures, to help reduce the impact of frequent, small-scale floods. It covers: river and catchment-based natural flood management; coastal natural flood management; potential benefits; assessment tools; implementing and managing a project; sources of funding; and monitoring programmes. There are also five case studies.

Ecological impact assessment

The second edition of *Guidelines on Ecological Impact Assessment: Terrestrial, Freshwater and Coastal* has been published by the Chartered Institute of Ecology and Environmental Management (bit.ly/1OEBkaG). The publication, which is endorsed by IEMA, covers the key elements of the ecological impact assessment process, with chapters on: scoping; establishing the baseline; important ecological features; impact assessment; avoidance, mitigation, compensation and enhancement; and the consequences for decision making.

ESOS

The energy savings opportunity scheme (ESOS) requires companies to audit their energy consumption to identify waste but not necessarily to implement the findings. Yet analysis by Decc suggests that businesses could save more than £250 million a year if they achieve just 5% of the cost effective energy efficiency potential the audits should identify for buildings and industrial processes. The department has now published *A Guide to Implementing Energy Savings Opportunities* (bit.ly/1WxTDQy) outlining the four steps businesses can take to maximise the impact of their ESOS assessment. These are: building the business case; convincing decision makers; implementing a project; and monitoring performance and verifying savings.



A systems approach to ESOS

Paul Suff visits Whatley quarry in Somerset to see how Hanson's energy management system works



After 5 December passed, the Environment Agency reported that 4,000 of the 10,000 eligible businesses had met the first deadline for the energy savings opportunity scheme (ESOS). A further 2,500 had notified the regulator of an intention to comply by the extended 29 January cut-off point.

One business that easily met the original deadline was Hanson UK. The firm complied with ESOS by securing certification to ISO 50001 in September 2015 for its energy management system (EnMS). Senior sustainability manager Martin Crow says Hanson identified more than 12 months ago that 50001, rather than one-off energy audits, was the best option for the aggregates, concrete, asphalt and cement business to comply with ESOS.

‘If we’d taken the ESOS audit route, it would have meant separate reports for all our energy data and audits of every site,’ he says. ‘All this would have been running in parallel with the systems for environment [14001], quality [9001] and health and safety [18001] that we already have in place. It was better for Hanson to see how we could extend 14001 to get 50001 and manage energy through the firm’s integrated management system.’

The international energy management standard includes all the requirements for ESOS and, says Crow, has the added benefit of driving efficiency. ‘ESOS audits will identify areas for improvement but there is no requirement to take action, whereas 50001 requires an organisation to continually improve its energy management.’

Filling in the gaps

The first step towards 50001 was a gap analysis. Although energy had been included in its environmental audits, Hanson was keen to compare its 14001 certified environment management system with the requirements of 50001. ‘We wanted to know where the gaps lay between what we were already doing and what we needed to do,’ explains Crow. ‘A lot of what we had to do for 50001, such as internal audits and monitoring and measuring, was covered by existing procedures.’

The analysis concluded that a procedure for identifying energy improvements and a method for formalising an annual energy management report were required. Crow says: ‘We’d first set corporate energy reduction targets in 2008 and had been active in climate change agreements since 1999, so we were already encouraging businesses to implement improvements. But we needed a stronger system for energy planning and improvement. And energy planning requires an energy review.’

The Hanson EnMS includes an online ‘opportunities improvement database’ to record and manage site objectives and targets (management action plans). This includes ‘energy calculators’ to calculate potential savings from installing more efficient equipment, such as lighting, compressors, fans and motors. There were already 18 health, safety, environment and quality ‘system’ procedures in the integrated management system (IMS) before 50001 and certification has resulted in addition of just one new procedure. This

Case study: VSD project at Bulls Lodge

In 2014 an audit of the Bulls Lodge sand and gravel quarry near Chelmsford, Essex, revealed several opportunities to better control the site's water process pumps by installing variable speed drives (VSDs). 'A trial indicated that the site could achieve potential annual savings of more than £45,000 for an initial outlay of around £65,000. That's a potential 15 months' payback,' says Mat Newton, Hanson's energy manager.

Sand and gravel quarries are pumped to allow them to be worked dry or operated as lakes with extraction below water level. Normally, a conveyor draws raw material into the processing plant, where unwanted clay and silt are removed and the sand separated, dewatered and stockpiled. Gravel then passes over a series of screens that sift it into different sizes.

Washing involves a significant amount of water. Bulls Lodge also has asphalt and concrete plants, both of which have a number of water pumps.

VSDs convert the incoming electrical supply of fixed frequency and voltage into a variable frequency and variable voltage that is output to the motor with a corresponding change in the motor speed and torque. Speed can be varied from zero rpm to typically 100–120% of its full rated speed in either direction. Using VSD to control the flow rate from a pump can result in large power savings given that a small reduction in speed to more accurately match demand can significantly reduce power consumption and enhance the operational life of some equipment.

Newton says VSDs offer several benefits, some of which are relatively easy to quantify, and others that are less tangible. Energy savings on rotodynamic pump installations are typically between 30% and 50%, for example, while motors running at lower speeds are quieter and there is less wear, particularly in bearings and seals. And, by matching pump output flow or pressure directly to the process requirements, small variations can be quickly corrected by a VSD than by other forms of control, which improves process performance.

requires each of the company's 300-plus manufacturing sites, as well as its Maidenhead head office and IT and shared service centre in Chipping Sodbury, to identify ways to reduce consumption. Only those activities that are exempt from ESOS, such as Mendip Rail, which Hanson operates with Aggregate Industries to move stone to London and the South East, and franchise fleet road haulage are excluded from 50001.

The EnMS process ensures energy management is linked to 14001 and constant improvement as well as to the firm's overall sustainability targets, says Crow: 'It seems obvious to link everything together, but historically the links were not clear. We now have a single target tying business and sustainability improvements together.'

Hanson uses kilowatt-hours per tonne (kWh/t) to measure energy use and is aiming to reduce overall consumption by at least 5% against 2010 levels by 2020. In 2015, each site needed to cut energy consumption by 2%. Site targets are reviewed yearly. The firm uses a reporting system, called Entropy, to record and monitor data and information for energy and water use. It feeds into the IMS, recording actions and improvements, and tracking them to ensure they are carried out. The sustainability department has a dedicated IMS audit team and site energy consumption is monitored each month. A non-conformance is

raised if a site is more than 5% off where it should be to achieve its energy reduction target. 'We investigate and, if the variation is not due to a mistake in the data, the manager must develop and implement an action plan to get the site back on course,' says Crow.

Challenging environment

Achieving the energy reduction targets is a challenge, however, as most of Hanson's production operations are energy intensive and consumption can fluctuate widely with demand and product mix. Energy consumption per tonne increased in 2014 by 2.9% compared with 2013 and by 6.5% since 2010, according to Hanson's 2015 sustainability report. It equates to energy consumption of 94.14 kWh/t in 2014 against the overall 2020 target of 83.94.

Nonetheless, Crow believes 50001 will help Hanson make the necessary reductions because the standard has enabled the company to examine energy use across its product range. It highlighted that its three cement plants – Ketton in Rutland, Padeswood in Flintshire, and Ribblesdale in Lancashire – were consuming more than 70% of its energy, with five other operations using a further 10%. '14001 did not focus on our big energy users and, until we started working on the energy management standard, we looked at energy across the whole company and set our targets accordingly,' Crow says. 'But now we are focusing our efforts on the operations where we can make the most difference. We're not ignoring the other sites, as there are always opportunities to reduce energy if you look closely enough, but tackling consumption among the biggest consumers should help us reach our targets.'

Energy reduction initiatives at the three cement plants include greater use of alternative fuels. These include profuel – a solid kiln fuel made from paper, plastic and fibrous wastes that are either uneconomic or impossible to recycle – and solid recovered fuel, which is derived from domestic waste and biomass. More than 207,000 tonnes of waste were used to power



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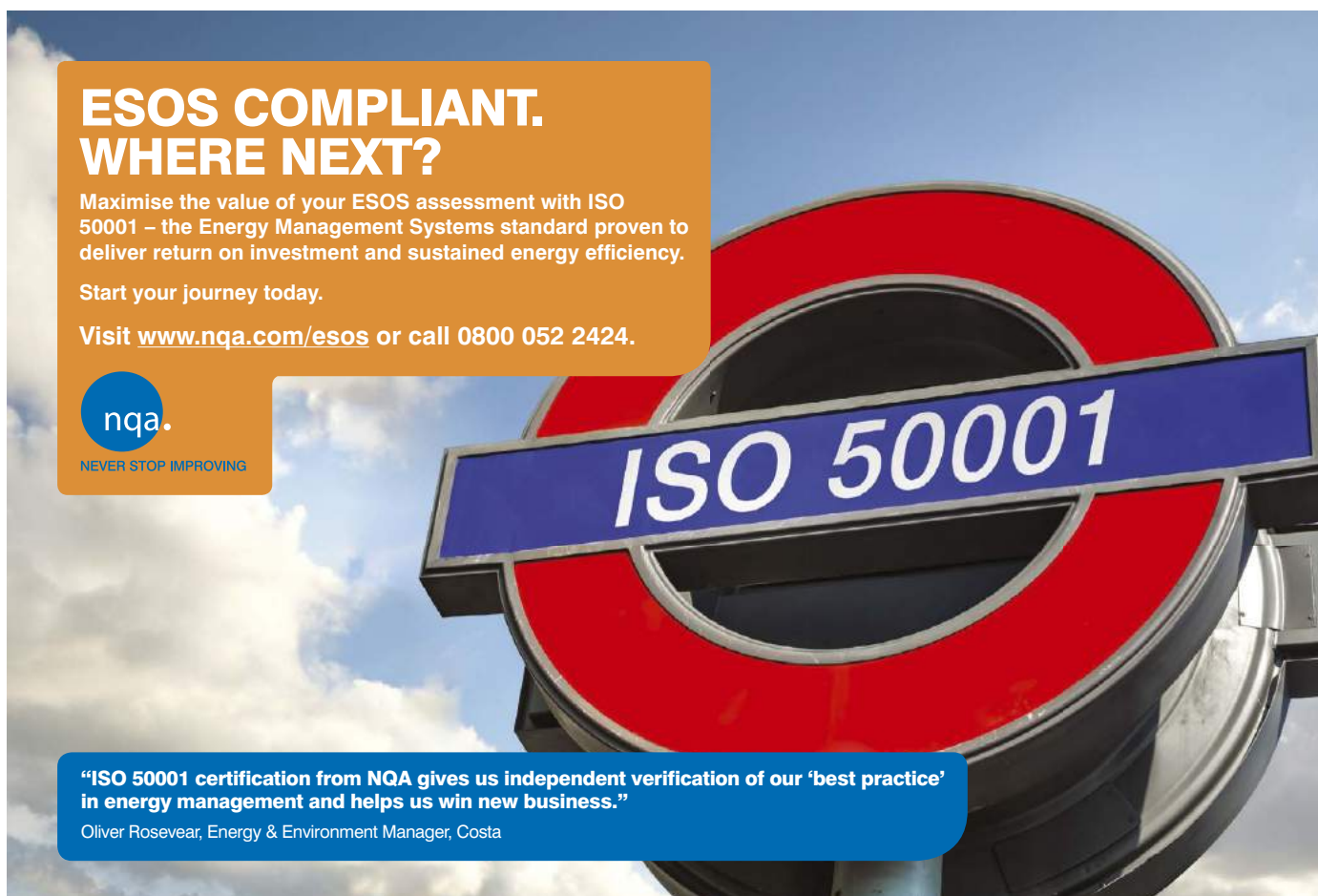
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Learning points

- Do a gap analysis, comparing current management systems and the requirements of ISO 50001
- Identify the largest energy consumers
- Set energy targets
- Establish a system to drive continual improvement
- Facilitate the sharing of energy-saving ideas



cement kilns at Hanson's three sites in 2014, around 61% of their total energy consumption. The Ketton cement works, which consumes 30% of the energy used by Hanson each year, completed the installation of a 12MW solar array in July 2015. It comprises 50,644 solar panels and will save 3,420 tonnes of carbon dioxide emissions a year, provide 13% of the site's annual electricity consumption and cut its energy bill by around £10m.

Hanson has established a group of significant energy using facilities (SEUFs). It consists of the eight largest energy users in each business division or those that consume more than 2% of Hanson's total energy. Each of the 32 sites will undergo a full energy survey at least every six years, with six audits completed annually. Several sites, including Whatley quarry in Somerset, were audited in advance of 50001 certification.

Over time

Another challenge to driving down consumption is that, over time, energy demand can rise as a site, particularly a quarry, matures. 'Generally, the reserve [rock] is close to the plant when a quarry begins production,' says Crow. 'But as time goes on, the rock is further and further away from plant so trucks travel a greater distance. And, the deeper the quarry gets, the more water comes, which means more pumping.'

Whatley illustrates how difficult it can be to cut energy consumption in such an environment. The quarry, Hanson's largest, producing around 4 million tonnes of aggregate a year, is in a belt of steeply dipping carboniferous limestone in the Mendips. Since the present plant opened in 1987, the quarry has expanded and now covers 120 hectares. It is more than 100 m deep, and the furthest point is around 1.6 km from the plant. As it has deepened, its base has sunk below the natural water table and up to 25 million litres a day in

the winter and 15 million litres a day in the summer have to be pumped out. The water is pumped into the plant to clean the aggregate before being recycled and discharged into the Whatley Brook or pumped into the Mells River to help maintain its flow.

The team at Whatley has done much to reduce energy consumption. Simple measures include: stopping the crusher conveyor belts when they are empty and when operators take a break; replacing conventional office lighting with LED bulbs; turning lights off when production buildings have no one inside; and embedding awareness among staff by promoting energy reduction and through a 'switch it off' campaign.

Pat Orman, maintenance manager at Whatley, says the audit of the site before 50001, which was conducted by energy services business Ameresco, identified several areas where savings could be made. One focused on making more efficient use of pumping equipment. 'There are three large pumps at the bottom of the quarry running 24 hours a day, 365 days a year,' Orman says. 'We also have a plant supply pump that feeds water around the quarry for dust suppression. We have stopped using the supply pump and have installed pipework to feed off the larger pumps. The annual saving is £27,000.'

Whatley also hosts an asphalt plant, which produces around 350,000 tonnes a year, and further investment is planned to improve it, says Hadley Alexander, asphalt operations manager. 'The forms required by the energy management system have been completed and improvements identified. These include replacing the old Marini plant with a modern and more energy efficient one. Measures already taken include a new covered aggregate storage area to reduce energy use for drying material.'

The opportunities and improvements database allows sites to share ideas on saving energy. 'If we see something we think can work here, we'll investigate,' confirms Martin Symons, production manager at Whatley. He says Hanson now bases its investment decisions on the lifecycle of equipment rather than the initial cost.

More than carbon

The 50001-certified EnMS and the introduction of ESOS have shown how energy reduction has been accorded a higher priority at Hanson. 'Before ESOS the main focus was on driving down carbon emissions,' says Crow. 'We've still got a challenging 2020 carbon target [to reduce emissions by 10% against 2010 levels], but improving our energy efficiency is also a key objective.'

On the achievement of 50001 certification, head of sustainability Paul Lacey says: 'This forms an important part of our drive to embed energy improvements across the business and demonstrates our commitment to reducing energy use, maximising carbon efficiencies, delivering products and services with lower embodied carbon and supporting national and European energy and carbon reduction targets. Having an energy management system that meets the standard also represents a significant step towards achieving our own challenging 2020 sustainability goals.'

Setting supplier standards



Paul Suff hears how construction firm Willmott Dixon helped develop a model for reducing emissions in the supply chain

Seven 'pathfinder' companies became the first organisations to achieve level one of the Carbon Trust's standard for supply chain in September 2015. One of those firms was construction business Willmott Dixon.

The company has a long commitment to sustainable development. In 2006, it became the first UK construction firm to establish its own internal sustainability consultancy (Re-Thinking). In 2008, it installed sustainability managers in each of its local construction offices to help embed sustainability and implemented a 10-point plan to drive the concept at site level. And, in 2009, it appointed environmental champion Jonathon Porritt to its board. The supply chain standard continues this engagement.

'We have a good handle on our scope 1 and 2 emissions, so it's a natural progression to start looking at scope 3,' says Michael Cross, principal sustainability development manager at Willmott Dixon. 'The standard will help us maintain our position at the forefront of sustainable development.'

A massive number

The Carbon Trust describes the standard as the world's first independent certification to recognise organisations that have put in place a framework to measure, manage and reduce carbon emissions across their supply chain.

Darran Messem, managing director of certification at the trust, explains why the new certification was developed: 'In most sectors, the direct environmental impacts of an organisation are dwarfed by the carbon emissions relating to the products and services in their supply chain. As leading businesses get better at reducing carbon emissions in their own operations, they recognise the responsible thing to do is to focus their efforts on where they can have the greatest impact.'

Willmott Dixon reflects this. The company's supply chain emissions are a massive number, says Cross. Scope 1 and 2 emissions, which are those from its own vehicles and processes, fuel combustion and purchased electricity, made up only around 1% of the company's carbon footprint in 2014. The remainder, scope 3



'Pathfinder' companies I

ABP Food Group, Aviva, Central England Co-operative, Deloitte UK, Nationwide and PwC UK were also pathfinders for the Carbon Trust standard for supply chain, in addition to Willmott Dixon. The trust says each of the seven companies, which started using the standard in early 2015, have procurement spends that are measured in hundreds of millions or billions of pounds, so were ideal for piloting it. 'This purchasing power gives those organisations an opportunity to have a positive influence outside their operational boundaries, through engaging with key suppliers to get them to reduce their own carbon emissions,' it says.

ABP Food

ABP is one of Europe's largest food processors and the processing and supply of beef is a major part of its business. The company receives supplies of beef from more than 35,000 farmers across Europe, from smallholders to commercial producers.



The standard requires businesses to engage suppliers for the long term, and ABP has developed a number of initiatives to do so. A 'low cost' programme for farmers supplying fewer than 300 cattle a year includes supplier outreach and communication, such as a website and forums, as well as encouragement to join sustainability schemes, such as Origin Green. Engagement with larger suppliers is through bespoke approaches and multi-supplier workshops and forums.

Aviva

Aviva provides insurance and investment for around 34 million customers in 16 countries. Its indirect emissions come from its business operations, such as from the procurement of ICT equipment and professional services, as well as from the fulfilment of general insurance, car and property claims, such as automotive repairs.



The company has introduced a sustainable claims process, which aims, through collaboration with suppliers, to find alternative and more sustainable ways to meet insurance claims. One example is restoring rather than replacing stained carpets, avoiding the emissions related to the production, transportation and fitting of new carpets. Other initiatives include setting sustainability expectations with suppliers, such as requiring datacentre providers to use a certain amount of renewable energy.

'The standard for supply chain provides assurance to our stakeholders, and at the same time drives us forward to improving the sustainability of our business, and products and services, in collaboration with our suppliers,' says Tom Spink, group procurement director at Aviva.

Central England Co-operative



Central England Co-operative has more than 400 outlets across the Midlands and East Anglia. The business has introduced a number of supply chain commitments into its policies for procurement, corporate responsibility and the environment. This includes having a clear preference for suppliers that have made credible environmental reduction commitments when purchasing goods not for resale.

Paul Garton, energy efficiency programme manager, says these initiatives have had positive impacts on indirect emissions, such as selecting domestic suppliers to avoid additional transportation emissions, purchasing green electricity and selecting responsible suppliers for waste management.



emissions, include those from upstream transport and distribution, purchased goods and services, and waste from operations. The standard covers upstream suppliers – the emissions associated with the production and transportation of purchased raw materials and goods. It requires companies to complete a 'hotspot' analysis of its suppliers, prioritising for engagement those that are big emitters. The analysis is the first level of the standard.

Pinpointing major emitters

In 2014, Willmott Dixon spent more than £1 billion on goods and services. A desk study by Cross and his team revealed that the money was spent with almost 1,200 suppliers. Cross acknowledges that the company did not have most of the data required by the standard



'Pathfinder' companies II

Deloitte



Professional services business Deloitte employs more than 14,000 staff in the UK and the majority of its indirect carbon emissions are related to employee travel, IT equipment and telecommunications services, and hospitality services, such as hotels and catering.

Gavin Harrison, head of environment, says that achieving the standard has helped Deloitte to build a framework for its sustainable procurement activities, prioritising existing suppliers to work with to reduce emissions. Tenders for new services ask all potential partners to adopt the principles of Deloitte's sustainable procurement policy, and companies are asked specific questions on their current performance through a sustainability questionnaire.

Nationwide



Nationwide has more than 14 million members. Its supply chain carbon emissions come from the provision of ICT systems and services, as well as postal and telecommunications services, that enable it to handle data and communicate with customers.

Its supply chain focus is, therefore, on engaging with ICT providers to minimise their emissions, as well as to promote lower carbon transport options to reduce emissions in supplier fleets. Under its supplier code of conduct, Nationwide requires shortlisted suppliers to complete an environmental sustainability oversight questionnaire to help it understand how that supplier manages the carbon footprint from its own operations and supply chain.

'The standard provides external recognition of our achievements to date, but more importantly provides specialist support and guidance into our supply chain analysis and future plans, providing real benefits towards reaching our long term sustainability goals,' says Jenny Groves, director of branch and workplace transformation.

PwC



Professional services firm PwC regards its procurement spending in areas such as IT, facilities and hospitality as a way to incentivise better sustainability performance among suppliers. It has put in place a detailed supply chain sustainability programme.

This includes asking its top 100 or so key suppliers to report their greenhouse-gas emissions via the CDP (formerly known as Carbon Disclosure Project) supply chain module. PwC believes this encourages them to measure, manage and reduce the footprints associated with services they provide. The company has also hosted sustainability supply chain forums with key suppliers, engaging them on carbon reduction and to share best practice.

on emissions from its upstream suppliers. 'We looked at the supply chain standard outcomes and submission requirements and we didn't know the answers,' he says.

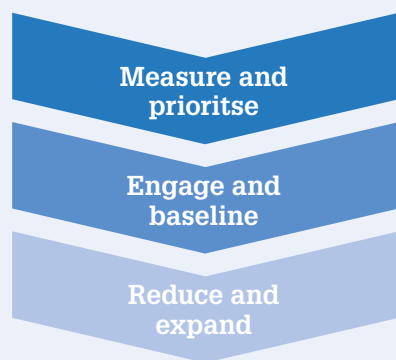
The team applied the tried and tested Pareto principle (also known as the 80-20 rule), whereby a limited number of activities or causes can generate 80% of the issues, to pinpoint those suppliers accounting for most of its upstream emissions. The scrutiny revealed that 16 suppliers accounted for the top 20% of Willmott Dixon's scope 3 carbon footprint in 2014, with 97 suppliers responsible for half. It also found that three sectors contributed more than 60% of emissions.

Cement, lime and plaster was responsible for more than 40% of the footprint, by far the largest source of emissions, and 30% of which was accounted for by

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The supply chain standard – how it works

The Carbon Trust standard for supply chain has three levels of certification: measure and prioritise; engage and baseline; and reduce and expand.



1. Measure and prioritise

Minimum requirements:

- policy or a public statement documenting the organisation's commitment to supply chain carbon/energy management and reduction;
- accountable committee and/or individual responsible for supply chain carbon/energy management and reduction;
- good understanding of its direct suppliers, by spend and industry;
- procurement policy with guidelines on preferentially procuring from suppliers with good energy/carbon credentials;
- complete a 'hotspot' analysis of the supply chain; and
- identify the organisation's significant suppliers.

2. Engage and baseline

- achieve 60% in the qualitative (governance, measurement and implementation) questionnaire weighted for level 2;
- demonstrate engagement with significant suppliers for emissions measurement and reductions; and
- determine a robust baseline for reductions, based at least partly on primary data.

3. Reduce and expand

- achieve 60% in the qualitative questionnaire weighted for level 3; and
- demonstrate engagement with significant suppliers.

At each subsequent recertification, the organisation must fulfil each of the above requirements as well as demonstrate expansion of the reduction engagement to:

- a different subset of suppliers;
- more suppliers; and
- different resources.

To achieve the standard organisations need to complete a detailed hotspot analysis to identify the most significant areas of carbon emissions in their supply chain. This is used to determine a quantitative baseline for emissions reduction and prioritise suppliers for engagement. To retain the standard organisations must demonstrate evidence of supplier engagement, demonstrate reductions in specified parts of their supply chain, and then expand their approach to engage different areas or suppliers.

Source: The Carbon Trust.



just 140 suppliers. Cross says Willmott Dixon is now working with different parts of the business to draw up a plan to engage a number of key cement, lime and plaster suppliers, which together account for 10% of the footprint, as part of stage two of the standard. This stage focuses on engagement and developing a baseline for emissions reductions. Over the next nine months, the company aims to reach suppliers representing at least 15% of the company's scope 3 emissions.

Calculating carbon emissions for the different supplier and product categories identified in Willmott Dixon's supply chain was challenging, says Cross. He used the Defra carbon conversion factors for company reporting, but describes the process as akin to putting round pegs in square holes. 'The factors are not designed for the construction industry. There is no obvious factor for a roofing contractor, for example,' he says.

Driving down emissions

Cross says procurement teams at Willmott Dixon will be one of the driving forces in reducing supply chain emissions: 'They have the relationship with the suppliers and are better placed to have the conversation. We just need to provide them with the information to engage suppliers on carbon emissions.' The company's sustainable procurement policy already outlines how it aims to influence the right choices in order to reduce the consumption of primary resources, and to use materials with fewer negative impacts on the environment.

Willmott Dixon reported last year that it had reduced its carbon intensity – emissions relative to turnover – by 30% between 2010 and 2014, double the target set by its carbon management plan. Cross believes Willmott Dixon's experience of reducing its own direct emissions will be crucial in helping suppliers to drive down theirs. 'They might not know where to start and we will be able to help,' Cross says. 'It's quite timely, as many will be covered by ESOS [energy savings opportunity scheme] and will have identified where energy savings can be made.'

Willmott Dixon's long term objective is to encourage other companies in the construction industry to tackle their emissions. 'The more organisations adopting the supply chain standard and other sustainability initiatives, the more productive our collective supply chain becomes,' he says.



Building better buildings

Maeve McElvaney reviews the new IEMA guide to using EIA to shape quality developments

After the launch of the IEMA quality mark scheme in 2011, opportunities arose to improve practice among environment impact assessment (EIA) professionals in the UK. In particular, it was felt that guidance was needed on the role EIA played in shaping design before a project was granted consent.

IEMA EIA Guide to Shaping Quality Development aims to promote the assessment as a design tool and establish the principles and framework for maximising the interaction between the environmental technical team and the master planning or architectural team.

LDA Design worked with the Environment Agency and IEMA on the guide, which was launched at the institute's EIA masterclass conference in November 2015. LDA is a design, environment and sustainability consultancy that works on development and infrastructure projects, and has a good understanding of how the environmental impact assessment and design processes interact.

Better interaction

As well as achieving higher quality design, it is expected that closer interaction will contribute to the delivery of more proportionate EIA, as well as shaping decision making throughout the development process. EIA coordinators should take responsibility for maximising interaction and aim to achieve these objectives:

- improve environmental outcomes in project design, for example by avoiding or incorporating sensitive environmental receptors in the final plan. This would help to protect and enhance receptors as part of the design and during the life of the project;
- allow better informed decision making across the whole project team to achieve the right outcome for environmental issues;
- contribute to better solutions by taking account of a project's environmental, commercial and operational requirements and deliver a well-rounded design that works and delivers for all; and

A proportionate statement

The proportionate environmental statement

- Has a project description that clearly describes the parameters of the development and sets out all primary and tertiary mitigation.
- Clearly describes the evolution of the design and details how environmental effects have been avoided or reduced through the design process.
- Has a clear, itemised mitigation summary.
- Only contains chapters needed to report on likely significant effects arising from the final design.

The proportionate environmental statement chapter

- Refers to the main ES project description and design evolution.
- Briefly summarises key mitigation relevant to the topic.
- Assesses only potential effects arising from the final design, incorporating all primary and tertiary mitigation.
- Identifies residual effects only if secondary mitigation is required.
- Focuses primarily on significant effects.

- reduce consenting risk and delay, and therefore costs, by ensuring that environmental issues and associated direct and indirect benefits and problems are adequately thought through and discussed with the statutory bodies that must be consulted about a planning application.

While preparing the guide, it became clear that an alternative approach to EIA coordination, rather than the generally accepted standard practice of achieving 'design freeze' before assessment work starts, may help to achieve these objectives.

LDA Design coordinates EIAs by using the 'narrative led' method – a process of environmentally informed design and the inclusion of mitigation (both primary and tertiary) as part of the design, which is clearly described in one place in the environmental statement (ES). We have found that this approach helps to deliver a more proportionate ES by setting out a clear rationale for the final design. It also helps to reduce the complexity of assessment chapters by removing the need to identify and assess potential effects that have been designed out entirely.

A set of principles

The guide makes clear that a narrative led approach is a good way to integrate EIA and design. It also highlights several EIA coordination principles and guidelines that can bring about such an approach.

Principle 1

Ensure early, effective and continuing interaction

– The EIA coordinator should help to drive early, effective and constant interaction between environmental thinking and the design process. Ideally, this should take place early in the process, and the results, whether sensitive environmental conditions or difficult planning issues are identified, should feed into project need and risk, viability and site selection. Early engagement between the environmental and design teams helps to identify issues that may result in a project becoming unfeasible, reduces the likelihood of it being hampered by built-in negative environmental effects, and assists designers to think about how to weave the environment into the final design.

EIA coordinators also need to advocate the benefits of coordinating an assessment using the narrative led approach and strive to involve the whole project team, including planners, designers, engineers, legal advisers and construction contractors.

Persistence in working towards an interactive approach, even in small ways, and truly selling the benefits whether they relate to risk, feasibility or design, will help to deliver a more environmentally-informed design, identifying benefits and minimising risk. This interactive approach allows the clear flow of information across the team, whether it relates to environmental sensitivities or the effects, or mitigation measures. Information exchange enables the EIA coordinator to monitor the design process effectively and to identify whether one form of mitigation could cause adverse side



effects in order to address them – for example, ensuring that a well thought out drainage strategy delivers ecological objectives as well as amenity benefits.

The accurate recording of environmental mitigation measures, starting as early as possible and continuing throughout the project programme, can naturally feed into the design evolution chapter of the ES. It can also form the backbone of key mitigation commitments, all of which can contribute to the wording of planning conditions, management plans and detailed design. Accurate reporting also helps to ensure that amendments to the design do not reverse an important facet that had been decided earlier. This ensures the project is run efficiently, avoids abortive work and keeps down costs.

Principle 2

Undertaking appropriate stakeholder engagement –

Typically, large, complex infrastructure projects benefit greatly from effective, well managed consultation to inform the design and gain buy-in, as well as to identify issues of concern for the local community. As projects evolve, it is good practice to consider whether further consultation is required to allow statutory consultees to respond to any key design changes. This provides an opportunity for the EIA coordinator and team to further reduce the scope of the impact assessment, ensuring that it is proportionate and focused solely on effects that may be significant.

Principle 3

Good management of consenting risk – Using EIA as a risk management tool can help to meet this key requirement expected of developers. Risks include: ensuring that the design responds to the environment; meeting the commercial needs of the client; and clearly communicating the design narrative, while focusing only on significant environmental effects.

From experience, risk can be managed by ensuring the EIA coordinator exercises leadership and has a good understanding of the planning strategy and process. Relaying information on the type of application (full, outline or s73, for example) and level of design detail required to other members of the team is imperative if the assessment is to be adequate and proportionate.

A narrative led approach can help to capture the influence of the environment and consultation responses on the design evolution and how they fed into the final design. This demonstrates to stakeholders the options that were considered – in line with EIA regulation requirements – and why a measure was carried forward.

Although the ES should be a factual and objective document, it should also help users to understand the proposed development. Describing the design evolution in its own chapter, before the one describing the project, helps stakeholders see why particular decisions were taken and in what order, helping to frame their vision of the final design. It is good practice to clearly outline the final design in the project description chapter and refer explicitly to the mitigation measures, both primary and tertiary, that support it. Classifying mitigation into one of these three types aids clarity and achieves a more proportionate ES:

- **Primary** – an intrinsic part of the design evolution, which should be described in the project description chapter. An example includes reducing the height of a development to reduce visual impact.
- **Secondary** – this requires further activity in order to achieve the anticipated outcome. It is described in the topic chapters and secured through planning conditions or management plans. An example includes describing lighting limits, which will be conditional on the submission of a detailed layout.
- **Tertiary** – this is required regardless of the EIA because it is generally imposed through legislative requirements or standard sector practices. One example is implementing considerate contractor's practices to manage activities that have potential nuisance effects.

LDA Design typically includes both primary and tertiary mitigation in the project description. The EIA is based on delivering both forms of mitigation – any effects that might have arisen without them do not need to be identified as potential effects because they should not arise. Therefore, the difference in significance between potential effects and residual effects requires consideration only if secondary mitigation is involved – resulting in a simpler and more proportionate ES.

Building effective and valuable environmental benefits into project design helps secure permission, delivers a better design and provides reasons for communities and wider stakeholders to support a developer's aspirations for the site. The EIA coordinator has a role in encouraging the assessment team to identify these opportunities and in ensuring they are communicated to the developer and design teams, and reflected clearly in the ES.

Principle 4

The ES should present a clear narrative and focused chapters –

Presenting a clear narrative of how the environment has shaped the project design helps to deliver fewer, more proportionate ES topic chapters. The project description should be sufficiently detailed so that each chapter can refer back to it and rely on its content. Each assessment chapter needs to provide only a very brief reference to the aspects of the design (primary mitigation) and tertiary mitigation that are relevant to the topic. Secondary mitigation will, however, require more detailed description in topic chapters. Including a clear, itemised mitigation summary in the ES will also help to keep topic chapters short and focused.

Shape of things to come

Using EIA to shape design at LDA Design has produced higher quality developments, improved its understanding of how to ensure the process interacts effectively with other pre-application project activities and achieved better environmental outcomes than would have been attained. Importantly, it helps to promote EIA as both a design tool and risk management tool.

Maeve McElvaney is an associate at LDA Design and co-author of *IEEMA EIA Guide to Shaping Quality Development*, available as a pdf at bit.ly/1N79IFF.



The partnership

Local nature partnerships should be at the forefront of objectives in England, otherwise what's the point in having

Collaboration is essential to set England on course to stop eroding its natural capital and deliver genuinely sustainable growth. Local nature partnerships (LNPs), created by the coalition government, are one model for delivering that cohesive aim throughout the country.

LNPs reflect an undoubted aspiration by the previous government to integrate the natural environment into local planning and strategies, and have been cited in guidance as contributors to good health, positive wellbeing, infrastructure and economic development activities. They sound essential to the current administration's agenda to develop a 25 year plan to restore the natural environment and place natural capital investment at the heart of economic planning. Their potential role is enormous yet few are ready to deliver, and many are far from meeting their objectives.

Confusing landscape

LNPs were defined in the 2011 *Natural Environment* White Paper and by 2013, after a bidding process for modest seedcorn funding, 48 had been created. Collectively they formed one element of the government's institutional framework to support the recovery of nature and were key to its goal of leaving the natural environment of England in a better state than when it was inherited. Their overall purpose was to:

- drive strategic, positive change in the local natural environment for the benefit of nature, people and the economy;
- help the local delivery of national environmental objectives; and
- champion the natural environment and its value to society and the economy, working with local authorities, local enterprise partnerships (LEPs) and health and wellbeing boards (HWBs).

LNPs form part of a confusing landscape, however. The lack of structural guidance, reflecting the 'local knows best' attitude of the localism agenda, has led to a complicated array of structures and jurisdictions. The 48 LNPs cover nearly all of England, although parts of Essex and Rutland have none. More confusingly, some areas, such as the south Pennines, have two that overlap while Thames Gateway has three. This partnership,

straddling the Thames estuary, overlaps with those of London, Kent and the otherwise LNP-bereft Essex.

Across many LEPs and HWBs across the country are in line with local planning authority boundaries, they cannot be assumed to have the same footprint as LNPs or as each other. All this geographic complexity frustrates engagement by businesses and investors; and particularly frustrates other stakeholders who requested local strategic oversight and coordination of natural environment activity when setting up LNPs.

Strong leadership and LNP governance are essential for success. These must bind in the planning, health and economic development functions, preferably at board level. In Dorset and Surrey this has been achieved, and coherent plans are emerging for measuring, assessing and investing in natural capital. In other locations the links are weak or absent, and important factors deny the LNP relevance to the dominant development and health budgets.

While such discrepancies exist, LNPs cannot be regarded as fit for purpose to deliver national policies at a local level.

Cinderella funding

Defra's now-expired support for establishing LNPs amounted to less than £20,000 each on average. Even taking account of subsequent funding over three years from national delivery bodies, such as the Environment Agency and Natural England, the total national body funding is less than double this.

There is reason to expect local organisations like LNPs to be supported by local public bodies, including councils and HWBs. However, it is clear that success will be the exception among these new, ill-defined bodies that are faced with sweeping expectations and rely on funding from shrinking local government budgets. It certainly will not create a coherent network for the whole country.

In addition, the scientific knowledge that underpins good decision-making is in decline as planning authorities reduce their in-house teams of ecologists and environmental specialists, and national bodies, such as Natural England, step back from filling the vacuum. Voluntary organisations and charities have performed a sterling job in upholding the quality of decision-making both nationally through organisations such as the



approach

delivering environmental
them, asks **Peter Young**

National Trust and RSPB, and at the LNP level, notably through the local English Wildlife Trusts. All 37 trusts are involved in LNPs, chairing 17 them.

Taking over statutory responsibilities for free is neither desirable nor sustainable. There needs to be secure core funding. Ironically, in many areas environmental groups accuse the partnerships of taking a share of the limited budgets but failing to deliver improvements.

There is a clear credibility test for government. The 39 LEPs have been allocated £12 billion of local growth funding to spend over the next five years. By contrast, LNP funding so far amounts to less than 0.02% of this.

This fundamentally impedes healthy and strong relationships between LEPs and LNPs. Without charismatic local leaders, an LNP cannot gain traction. This is especially the case when so many LEPs cherish their simple government mandate to focus on gross value added and employment, often using it to justify ignoring their non-statutory duty to cooperate with LNPs, despite Defra's pleas to forge strong links.

Natural capital

Defra confirmed in September 2015 that the Natural Capital Committee (NCC) would continue and the body chaired by Dieter Helm has more than earned its extension. Its latest report, published in January 2015, set out the value of natural capital as a tool to make the correct future investment decisions to improve the economy and the environment. Helm spoke at the second World Forum on Natural Capital in Edinburgh in November, stating: 'It is a matter of economic efficiency to compensate for any further natural capital loss.'

Future economic development need not erode the natural capital base and can contribute to its restoration, all for net gains, even in the narrow definition of the LEPs' jobs and growth mandate. There is also business and investor interest in finding natural solutions for climate change resilience and to avoid natural resource risks and ever more expensive end-of-pipe solutions for water and air quality.

The UK enjoys an enviable international record in its analysis of the state of nature, not least through the work of the NCC. We now require delivery of this thinking in a local context, which is exactly the territory of the LNPs. However, they need to be

transformed into an adequately funded, fully supported, inclusive body with the capacity to shape policy and to create and oversee projects to restore natural capital in a way that improves health, wellbeing and productivity.

Reasons to be hopeful

Defra is committed this year to reviewing the LNPs' effectiveness and, while much can be improved by sharing the success stories, a higher minimum bar is needed to deliver economic and natural benefits effectively. This will require some central core funding plus an obligation on LEPs to fund LNPs, with match funding leveraged from local government, HWBs and the private sector. And there needs to be a system introduced to enable other LNPs to learn from the pioneers – those which are succeeding despite, not because of, the government support to date.

In November, the Surrey LNP launched its natural capital investment strategy, Naturally Richer. This is underpinned by a sound baseline assessment of the immense wealth creation engine that a high-quality natural environment gives the county. Dorset LNP has used its broadly drawn board to support an excellent analysis of the threats and assets of its natural environment and seas. And at Cornwall and Isles of Scilly LNP, which is aided by European structural investment funds, the board is being strengthened in anticipation of initiatives that will produce health, wellbeing, tourism and other business benefits.

Collaboration is essential to set England on course to stop eroding its natural capital year on year and deliver genuinely sustainable growth, as measured by better lives for citizens. The LNPs are an efficient model for delivering that cohesive aim, yet they cannot do it without proper financial backing. My challenge would be to give LNPs just 1% of the LEP funding. LNPs would then not only deliver more value for the economy and create jobs, but they would do so in a way that starts to restore nature and the ecosystems that underpin future wealth. If such support is not forthcoming, we should dismantle all the dysfunctional LNPs to highlight our failure to live up to the rhetoric of Defra's 25 year plan.

Peter Young is past chair of the Aldersgate Group and a trustee of The Royal Society of Wildlife Trusts.

A global purpose

In September 2015, the United Nations unveiled 17 sustainable development goals to achieve by 2030. Businesses worldwide will play a critical role in meeting them. **Penny Walker** explains why

Over the next few months, I will look at the UN sustainable development goals (SDGs) in detail in a series of articles grouped into six themes: dignity; people; planet; partnership; justice; and prosperity. This first piece (pp 32–34) focuses on dignity and goals for ending poverty and achieving gender equality.

Introducing the goals

On 25 September 2015, the world's governments came together to adopt a set of sustainable development goals that are wide ranging and specific. The 17 goals (see panel, opposite) and 169 associated targets – created through a multi-stakeholder consultation – form a comprehensive description of the environmental and social challenges to overcome if greater sustainability is to be achieved. The goals and targets came into effect on 1 January and are expected to trigger action. 'The SDGs provide a stimulus for individual action on targets that would add up to greater recognised change, even if incrementally, across a very broad set of global challenges,' says Adrian Campbell, associate director at Arup.

Leading names in business and sustainability are already exploring how to use the SDGs. Stephanie Draper, deputy chief executive at Forum for the Future, explains her organisation's experimental approach. 'We'll map all our major projects against the goals and ask questions about what the analysis implies.'

As well as providing a baseline, Draper anticipates this will help staff understand how Forum for the Future's work can accelerate achieving the goals.

Campbell says his team is using the SDGs as a basis to review the consultancy's current sustainable building design strategy. Campbell says: 'As independent consultants, we value the freedom to define how we approach our work. The SDGs are so universal. For once, they allow us to use these as guiding principles for our thinking without constraining how best to advise clients.'

Why are businesses focusing on the SDGs?

There are four main reasons why many companies are engaging with the goals. First, the SDGs, which replace the millennium development goals, are likely to set the context for action by governments and



multi-sector initiatives around the world over the next 15 years. Phil Cumming of Koru Sustainability points out that they provide 'insights into future investment and public policy – and in particular offer a more international view of what sustainability is all about'.

Second, the SDGs can be a benchmarking tool, helping organisations spot gaps and opportunities as Arup and Forum for the Future are finding out.

Third, as Colleen Theron of CLT enviroLaw, explains: 'They are a brilliant shortcut to briefing yourself on the non-environmental sustainability issues that you may need to get up to speed with quickly.' Having emerged from a multi-stakeholder process and with the stamp of approval from the UN, the SDGs form a credible systemic survey of the issues, especially when the targets that underpin each goal are examined.

Last, they provide a common language and shared purpose, making in-house and external communication and collaboration easier.

The tools to help

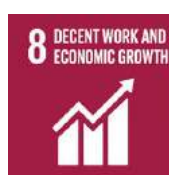
For businesses wishing to use the goals strategically, a free online toolkit called SDG Compass is available. It shows how companies can align their strategies with the SDGs and how to measure and manage their contribution. It was produced by three organisations, the World Business Council for Sustainable Development, UN Global Compact and the Global Reporting Initiative.

- sdgcompass.org – online guidance on using the SDGs in your business.
- sustainabledevelopment.un.org/sdgs – homepage for the SDGs.
- unstats.un.org/sdgs – the ongoing development of indicators to measure progress on the SDGs.



SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD



1. End poverty in all its forms everywhere.
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
3. Ensure healthy lives and promote wellbeing for all at all ages.
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
5. Achieve gender equality and empower all women and girls.
6. Ensure availability and sustainable management of water and sanitation for all.
7. Ensure access to affordable, reliable, sustainable and modern energy for all.
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.
10. Reduce inequality in and among countries.
11. Make cities and human settlements inclusive, safe, resilient and sustainable.
12. Ensure sustainable consumption and production patterns.
13. Take urgent action to combat climate change and its impacts.
14. Conserve and sustainably use the oceans, seas and marine resources.
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
17. Strengthen the means of implementation and revitalise the global partnership for sustainable development.



SDG 1: Dignity

Penny Walker looks at the role of businesses in helping to end poverty and achieve gender equality



Poverty

The first of the UN's sustainable development goals (SDGs) is to end poverty in all its forms everywhere. Targets focus on halving poverty and eradicating the most extreme examples of it, building social protection systems, establishing economic rights and access to basic services, ensuring resilience and developing policies that help to end destitution.

Business can play a profound role in lifting people out of poverty, other than through the established methods of corporate philanthropy and charity drives. How an organisation conducts its business can make a huge difference – positively or negatively – to the very poorest people. They may be part of the supply chain or want to be; they may be neighbours, impoverished or empowered by the way the organisation uses natural

resources and looks after the local community. CARE International is a development NGO that has worked with businesses to make their operations more 'pro-poor', as well as drawing on expertise and funding to set up projects to help people rise out of poverty.

One of its partners is the mining multinational Anglo American. The company has funded CARE projects as far apart as Brazil and Zimbabwe to help micro-entrepreneurs establish and grow businesses. It also runs a long-standing enterprise development initiative in South Africa, supporting small and medium-size enterprises (SMEs) through a mixture of finance and mentoring. For its own staff with money problems, Anglo American provides a programme to help them manage their debts.

Other companies have looked at personal financial management in their wider supply chains. Nyati Sacco Society is a savings and credit cooperative set up to help current and former security guards in Kenya. Companies can partner with the society to give their lower paid employees access to low cost loans and interest bearing savings accounts.

UK owned drinks company SABMiller and Colombian food processing conglomerate Grupo Nutresa are two firms that have prioritised bringing small, local producers into their supply chain.

SABMiller's Nile Breweries subsidiary in Uganda has trained local farmers in agricultural and entrepreneurial skills, and the farmers in turn supply the company directly with locally grown sorghum, thus increasing their income. Grupo Nutresa, meanwhile, which has nine production plants across South and Central America, works with local farmers to improve yields and quality, increasing the competitiveness of small, local suppliers so that their businesses are on a sounder footing.

In the UK, more companies are signing up to become a living wage employer, with more than 2,000 registered at the end of 2015. The range of organisations that have committed to paying the living wage rate, as set by the Living Wage Foundation, include ready meals business COOK, charity Friends of the Earth, the City of Lincoln Council and the National Grid.

Making a start – poverty

There are myriad ways in which an organisation can make life better or worse for the poorest people, and lots of starting points when it wants to better understand and improve its impact. These include:

- Making an overall assessment – through, for example, the poverty footprint process developed by Oxfam and the UN Global Compact.
- Employment commitments – employee and sub-contractor wages and security of employment. For example, paying the UK living wage through the supply chain and recognising trade unions.
- Support – helping staff through short-term challenges, such as their homes being flooded or sudden illness, which can spiral into a crisis for those without a safety net.
- Accessibility – consider the goods and services the organisation supplies. Are they available to poorer people? Do the poorest end up paying more for the same service because they cannot access the discounts available for paying by direct debit or online?
- Procurement – are new, smaller businesses able to sell the organisation its goods and services or does the procurement process preclude or hinder them?
- Reaching out – what groups could the organisation help by providing access to financial support? Employees? Companies in its supply chain? The local community?



Gender issues

The fifth SDG is to achieve gender equality and empower all women and girls. Associated targets focus on discrimination and equality of opportunity; ending violence, including sexual violence; eradicating practices such as child marriage and female genital mutilation; ensuring unpaid domestic work is valued; providing access to sexual and reproductive healthcare; and achieving equal rights in democratic and economic spheres.

According to the UN, worldwide women in the labour market still earn 24% less than men in comparable work and more than a quarter of countries do not guarantee equal rights for women in their constitutions. As the UN says: 'In many nations, gender discrimination is still woven through legal and social norms.'

Even in the UK there is no room for complacency. The Fawcett Society, which campaigns for women's rights, says the gender pay gap for full time workers in the UK is 13.9% in favour of men. Moreover, 20% of mothers experience harassment or negative comments related to their pregnancy or caring responsibilities from colleagues or their employer. Executive directorships held by women on FTSE 100 boards reached an all-time high of 8.6% in 2015, according to Cranfield University's annual benchmarking report. Dizzy heights indeed.

Taking action

Cosmetics company L'Oréal has been pioneering an approach to gender equality by getting its businesses around the world certified by EDGE (Economic Dividends for Gender Equality). This third party certification aims to ensure that companies have a 'structured and systematic approach to measure, track and close the corporate gender gap'. The EDGE Standard covers not only the pay gap between men and women, but also the under-representation of women in senior positions and the different advancement opportunities and career paths between the genders.

Angela Guy, senior vice president of diversity and inclusion at L'Oréal USA, says gender equality helps to retain employees by meeting their needs and embracing values that are important to them. 'To us, it is not just

about advancing women; it's about creating a culture where both men and women can thrive,' she says. 'It's good for business and for the bottom line. We want to create a workplace that inspires the creativity of our workforce.'

On why L'Oréal USA has sought external certification, Guy says: 'It's not enough to say we're committed to gender equality; we need to always measure it, track progress and hold ourselves accountable. The EDGE certification creates a system of checks and balances to ensure we're constantly identifying ways to foster equality in the workplace and gives us a major competitive edge in recruitment, development and retention of talent.'

The products and services a company supplies can have an impact on gender equality. Take toys. Toys R Us received a lot of media attention in the run-up to last Christmas by announcing that it would no longer demarcate toys by gender in the UK. Spanish company Toy Planet has gone further. Its catalogue has boys pushing prams and girls playing with toy power tools. Some toy producers, GoldieBlox being one, are designing ranges to encourage girls to learn about STEM – science, technology, engineering and maths.

Making a start – gender equality

- Examine current practices – the Equality and Human Rights Commission has an equal pay audit toolkit. In the UK, the government has been consulting on mandatory gender pay gap reporting, and this year it will make a decision on this. EDGE certification looks at policies and improvement plans, as well as monitoring and measurement. Issues to consider include carers leave and the impact of flexible working on promotion.
- Products and services – do they promote equality or reinforce stereotypes?
- Supply chains – are suppliers predominantly from one gender? Can women work with dignity and an equal chance of economic independence?
- Impacts – consider wider systemic impacts of projects and developments. Are women disproportionately affected? What can the organisation do to address this and improve the lot of women and girls?



Another sector looking at gender is fashion. Explicitly citing the SDGs as its inspiration, Italian clothing business Benetton has taken an integrated approach, raising money and awareness through its orange dress campaign. Posters show women in various careers – from doctor to artist, student to athlete, and soldier to mother – and money raised from the sale of the limited edition dresses is going to the agency UN Women to support its gender equality work.

Benetton is also working in partnership with other companies in the ready made garments supply chain to promote women's empowerment and equality. Initiatives include training on gender issues, microcredit and financial support for women, and programmes in factories for female workers and their children to raise economic self-sufficiency. The firm expects to invest €2 million over the next five years in these projects.

Infrastructure and large construction projects have different impacts on women and men. Tom Streater, social safeguards team leader at engineering and development consultancy Mott MacDonald, says: 'At a World Bank financed irrigation project for which Mott MacDonald is providing resettlement planning services, we found that local women were predominantly economically active in selling shea nuts. The reservoir being developed is expected to result in the loss of some trees, which would potentially have an adverse impact on their livelihoods. We explored these impacts through

surveys and focus group discussions with the women to enable us to develop appropriate livelihood restoration measures, such as the promotion of women-only agricultural cooperatives.'

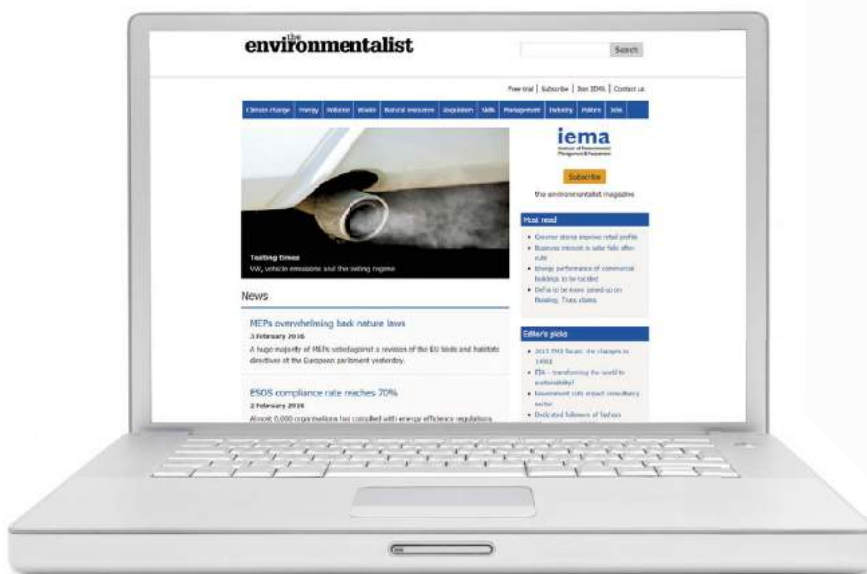
Because multinational lenders demand that social impact assessments for such projects address gender issues, Mott MacDonald offers clients gender action plans. These are intended to reduce any negative effects and make the most of its opportunities to empower women.

Streater says: 'In terms of how this work specifically relates to meeting SDG targets, such as ensuring the equal right of women to own and inherit property, sign contracts and register businesses, we promote the inclusion of women's names on land title deeds provided through resettlement processes. Mott MacDonald also contributes to SDG targets related to ending discrimination, mainly in the arena of labour and working conditions, where we help our clients to develop non-discriminatory human resources policies.'

Other considerations in developing countries include providing: separate bathrooms and changing areas; sexual and reproductive health services; childcare and schooling to free women from caring responsibilities; and safe whistleblowing routes for women to report harassment and sexual violence.

Penny Walker is an independent sustainable development consultant. penny-walker.co.uk; @penny_walker_sd

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Bekir Andrews

Group sustainability manager, Balfour Beatty

Why did you become an environment/sustainability professional? I have always been interested in science and as a teenager took a great interest in forest decline, the ozone hole and climate change. After reading a number of scientific papers and being encouraged by my teachers, I soon realised a lot needed doing in a short space of time if future generations were to enjoy this planet. This spurred me on to study environmental biochemistry.

What was your first environment/sustainability job? Part-time for a consultancy in Manchester. I was tasked with gathering information on coal power stations in Turkey.

How did you get your first role? I happened to be in the right place at the right time. I was already working with the consultancy on my MSc project and was the only person in the office who spoke Turkish, which enabled me to make initial contact with a prospective new client.

How did you progress your environment/sustainability career? After completing my MSc I moved to London. Initially, I found it very difficult to get a job as I did not have enough experience – a problem that graduates still face today. I volunteered part-time for environmental regeneration charity Groundwork. After nine months, I applied for an opening and was successful. In 2004, I was appointed director of Groundwork's trading company and won several contracts on Acorn/BS8555 implementation. I became the first consultant to successfully take a company through IEMA's Acorn/BS8555 inspection scheme. In 2005, I was appointed as director of Groundwork's national environmental consultancy. I worked with many large businesses, government departments, and local authorities and was also contracted by Envirowise as a 'fasttrack' auditor. One of the more interesting contracts was supporting Balfour Beatty Workplace (BBW) on its facilities management tender for Defra. BBW was one of the

first to incorporate sustainability into the scoring process. Given that it did not have a sustainability strategy in place, I advised on what was needed. In 2009, I was offered an opportunity to work for Romec, one of Balfour Beatty's joint ventures, as a sustainability manager, later becoming group sustainability manager.

What does your job involve? I am responsible for providing strategic sustainability focus to Balfour Beatty's divisions around the world. This involves liaising with the boards of our operating businesses, engaging senior managers, undertaking sustainability audits against Balfour Beatty's Blueprint strategy, producing guidance, and managing, checking and analysing non-financial data. I also coordinate third-party verification of scope 1 and 2 emissions, and manage assurance of our data globally. I also manage a team of energy practitioners for CRC and ESOS.

How has your role changed over the past few years? I am more involved in helping business units reduce operating costs by driving fuel and energy saving programmes and working closely with suppliers.

What's the hardest part of your job? Balancing time spent on developing long-term strategy with day-to-day delivery needs. Although I have clear targets to improve our sustainability performance, I also need to work on our long-term strategy and ensure that we engage and support all of our businesses on our sustainability journey.

What is/are the most important skill(s) for your role and why? I believe that being able to listen, communicate and negotiate are all key skills that are vital for making practitioners effective.

What was the last event you attended and what did you bring back to your job? I attended IEMA's 2015 sustainability conference, which I helped to organise. We had an extremely interesting discussion about labour



Career file

Qualifications:
FIEMA, CENV, MSc, BSc

Career history:
2012 to now group sustainability manager, Balfour Beatty
2009 to 2012 sustainability manager, Romec
2007 to 2009 London environment manager (head of business) and director, Groundwork
2004 to 2007 environmental business manager, director of environmental services and director, Groundwork
2001 to 2004 environmental adviser, Groundwork West London
1999 to 2001 volunteer and environmental business assistant, Groundwork West London
1998 researcher

standards and human rights, which I shared with Balfour Beatty's ethics and supply chain team.

Where do you see the profession going? Sustainability is becoming mainstream and it is only a matter of time before all companies start incorporating it into their business strategies.

Where would you like to be in five years' time? Where I can effect positive change on a larger scale.

What advice would you give to someone entering the profession? Learn how to put forward a successful business case. If you fail, unpick the business case with a friendly colleague and learn from your mistakes.

How do you use IEMA's environmental skills map? Balfour Beatty was one of the first firms to adopt it and are currently supporting a number of staff working towards full membership.

More successful IEMA members

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

Associate

Louise Abbey , Signalling Solutions	Matthew Gibb , Marshalls	Jenny Mullett , Colas Rail	Askar Yementayev , NCOC NV
Peter Abbott	Paul Gillen , DB Schenker Rail (UK)	Martin Mulloy , Great Western Railway	Full and Chartered environmentalist
Conrad Ashton , United Biscuits	Gillian Glenny , Clinigen Group	John Newick , BAE Systems	Jo Baker , Terence O'Rourke
Verity Avery , Costain	Andrew Green , Cala Group	Ato Nimoh-Brema , Partner Solutions Team	Camila Bernal , Laing O'Rourke
Bolat Baishiganov	Alison Guscott	Alex Norton , Signalling Solutions	Claire Brown , Seddon Construction
Alessandra Basile , General Motors	Claire Hall , Ocado	Harriet O'Brien , Arup	James Carlisle , RPS Group
Helene Berthonneau , Kier Group	Ben Halliday , Johnson Matthey	Brendan O'Neill , Greencore Group	Manoj Kumar Mani Chaturvedi , Qatar Design Consortium
Andrew Bibby	William Hargrave , Black and Veatch	Romero Okikiade , South Northants Council	Keith Davie , Environment Agency
Daniel Blackhurst , CPC Civils	Vera Higgins , GE Oil and Gas	Elizabeth Parsons , MOD	Linda Dolby , Rhead Group
Nick Bloomfield , Hewlett Packard Enterprise	Catherine Hughes , CEVA Logistics	Sarah Pearcey , Cummins	Peter Duncan , MWH Global
Thomas Brunton , Nuclear Electric	Harriet Jenkins , Mott MacDonald	Sasha Peters , TRAC	Louise Evatt , Network Rail
Malcolm Bryson , Amey	Steve Jennings , SSE Generation	Francis Rowlands , Muntions	Ruth Finlayson , JBA Consulting
Rachael Buckner , RPS Group	David Johnson , RSK Group	Sophie Scott , Home Group	Wendy Hogben , RSK Group
Galina Bystrova	Alima Kabdiyeva , NCOC NV	Julie Simmons , Interserve	Jessica Holland , Mott MacDonald
Jennifer Cleary , Gloucestershire Hospitals	Galina Khrostoforova	Damion Smith , Carillion	Shane McEntee
Simon Corbett , Voestalpine Rotec	James Kirkpatrick , BAE Systems	Keith Smith	Sally Newbold , WSP Brinckerhoff
Dominic Desay , AECOM	Nicholas Kornjaca , EDF Energy	Daniel Staines , Palletforce	Paul Prendergast , ISS UK
Lorna Dickson	Zhanat Kozhan	Julia Stewart , British Sugar	Colin Robertson , NG Bailey
Mark Durno	Mike Laird , ABP Langport	Kayleigh Szekeres , WWF-UK	Kristian Steele
Tracey Elrick , Total Waste Management Alliance	Adam Leeman , Bosch/Sia Abrafoam	Paul Thomas , SuperGroup	Duncan Ian White , RSK Group
Neil Fisher	Ben Leonard , Genesis Oil and Gas Consultants	Katherine Thompson , Cobham	Mark Woodburn-Drayton , Buckingham Group
Alice Foster , AECOM	Livia Levardi , Mott MacDonald	Richard Thorpe , MOD	
Mark Foster , British Gas	James MacPherson , Oxford University Press	Helen Travers , MWH (UK)	
Kevin Frost , McLaren	Callum Mair	Michael Twiss	
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To upgrade your membership visit iema.net or call IEMA on +44 (0)1522 540069 to discuss your options.

IEMA events

Date	Region/Time	Topic
17 Feb	Scotland	Eight golden minutes (Glasgow) – opportunity to practise, develop and deploy your presentation skills or simply learn about what other members are working on

Webinars

16 Feb	12:30–13:30 GMT	Consulting on the Natural Capital Protocol
18 Feb	12:30–13:30 GMT	ISO 14001: 2015 – who's interested?

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