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Full of contradictions

Once you've hit your target, should you stop there or go further? It's a question that is worth asking after the government followed through on its election manifesto pledge to end subsidies for new onshore wind projects by closing the renewables obligation (RO) scheme one year earlier than planned (p.6).

Energy and climate change secretary Amber Rudd justified the decision by saying that, when the projects with planning permission are factored in, the UK was on course to meet its 2020 renewable electricity objective. "We expect around 12.3GW of onshore wind to be operating in the UK by 2020," she told MPs. This is above the middle of the deployment range set out in the 2013 EMR delivery plan, which was for onshore wind to provide between 11GW and 13GW of electricity by the end of the decade. "Without action we are very likely to deploy beyond this range," Rudd said.

> Pulling the rug from under the feet of the onshore wind sector is not the best way for the UK to demonstrate leadership on tackling emissions in the run-up to the Paris climate summit

However, the European commission has cast doubt on the UK's ability to meet its overall 2020 renewables target. The UK is one of five member states advised to review its policies and tools by the commission to ensure it meets its 15% target, which includes heating as well as electricity. The commission also said 19 countries are likely to exceed their 2020 target.

So why is the UK government unwilling to back deployment of more onshore wind and go beyond what is a fairly arbitary target? According to Rudd, continuing to provide financial support could result in the UK with more onshore wind projects than it can afford, causing energy costs to rise because the RO is funded through a levy on consumers' bills. She argues that the government needs to balance the interests of onshore developers with those of bill payers. Yet many believe the removal of subsidies for onshore wind will have the same impact that the government claims its policy will avert, and increase bills. Figures from ScottishPower, which were cited by Scotland's energy minister Fergus Ewing, forecast that UK consumers could pay up to £3 billion more. With onshore wind the cheapest form of low-carbon electricity generation, the policy also contradicts the government's ambition to reduce emissions at the lowest cost.

Removing financial support will mean about 7.1GW of planned onshore wind capacity – around 2,500 turbines – is unlikely to be built. That neither makes financial sense nor will be help efforts to decarbonise the UK power generation industry. Pulling the rug from under the feet of the domestic onshore wind sector is also not the best way for the UK to demonstrate leadership on tackling emissions in the run-up to the Paris climate summit (p.5).

Paul Suff, editor

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.
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Short cuts

Cutting fuel and CO_2

Corporate fleet managers have significant influence over carbon emissions from road transport, according to a report from analysts CE Delft for Greenpeace. Europe's corporate fleets produce around 380MtCO_2e a year, which is about 45% of the total GHG emissions from road transport in Europe, the study found. Fleet managers are responsible for 50% of new car purchases in Europe, but the impact of their decisions is far greater since the majority of company cars are sold into the secondhand car market, according to the report. In the UK, 90% of new vans and 54% of new cars were bought by companies in 2014. Company cars travel on average twice the miles private cars do, so are responsible for the majority of road transport's impact on climate change, according to Andy Eastlake, managing director of the Low Carbon Vehicle Partnership (LowCVP). Fleet managers could save millions of tonnes of CO_2 and €28 billion a year through efficiency measures and technologies that are already available, such as eco-driving and retrofitting aerodynamic features to HGVs. The LowCVP has launched a guide to advise fleet managers on purchasing decisions.

Energy audit support

Small businesses will be able to find help with energy management through a new service from the Royal Bank of Scotland (RBS) and Utilitywise. RBS already offers advice on environmental management and health and safety through RBS Mentor. Its partnership with the energy consultancy will now expand to cover onsite energy audits. These will demonstrate possible financial and carbon dioxide savings along with a range of detailed recommendations. The RBS/Utilitywise team will help SMEs understand the information and provide support to help them become more energy efficient. John Muncey, head of RBS Mentor, said: "Energy is an important but often forgotten part of most small businesses' supply chains and better management of energy use can help reap important savings that add to cash flow."

ETS price to rise, but not by enough

Members of the International Emissions Trading Association have forecast that the price of allowances under the EU emissions trading system will average €18.40 between 2020 and 2030.

Although the predicted price is a substantial increase on the €6.42 average allowance auction price recorded over the past 12 months, it is well below the level (€29.60) members say is necessary to drive investment in low-carbon technologies. Meeting this level within the foreseeable future may be challenging, says IETA, although most respondents to its annual survey believe the introduction of proposed ETS market stability reserve (MSR) will help push up the average price of permits. The plan involves a portion of allowances being automatically transferred into the MSR if the surplus exceeds a specified threshold. Allowances could also be returned to the market if the surplus is below the threshold.

The majority of IETA members want the Paris climate summit (COP21) to agree a legally binding deal that includes emissions reduction targets for all major economies. Seventy-eight percent believe this would be the most desirable outcome, although 54% believe it is more realistic to expect a nonbinding reduction and

Image: Photofusion/REX

limitation pledge by the major economies. Around one-third (36%) expect carbon markets, such as the ETS, to expand as a result of COP21. More than 70% of respondents believe Japan, Australia, Mexico and South Africa will establish national carbon pricing mechanisms before 2025. And, after the Chinese government revealed plans last year for a domestic carbon market, 63% of IETA members believe it is likely that China will have a national scheme by 2020.

"Carbon market sentiment is on the rise for the first time in years. After years of low prices and policy turmoil in carbon markets around the world, business is still saying that market-based approaches are the most effective," said Jonathan Grant, director of PwC's climate and sustainability practice.

Top 100 sustainable solutions

A digital platform that enables buyers and suppliers to interact and exchange data to help create circular supply chains is among the top 100 sustainability solutions highlighted in the fourth annual study from the Danish think tank Sustainia.

Selected by sustainability experts from 18 international research organisations, including Yale University and the World Resources Institute, 20% of the this year's innovations are related to circular economy business models. The innovations include food waste turned into biofuel, reused aircon filters and 100% recycled workwear. "An increase in commodity prices over the past 15 years has erased the real price declines of the 20th century, giving businesses and consumers a good reason to break free of the linear model of resource use," said Laura Storm, Sustainia's chief executive.

The think tank says that, by embracing reuse, recycling or takeback systems, circular solutions are reaping financial rewards while protecting themselves from the rising costs of resources. Its also says the innovations illustrate how companies are recognising and acting on strong economic incentives to rethink the conventional definitions of waste and value. One example is Colombian furniture business Diseclar, which is turning non-degradable plastic and agro-industrial waste into a timber-like material for its products and reduces energy consumption by 85%. Another is Olleco, which produces biodiesel from food waste in the UK.

The innovations and technologies in the Sustania 100 have been deployed in more than 150 countries and were selected from more than 1,500 projects across 10 sectors, from the built environment to transport. The think tank says their development illustrates that new sustainability solutions are increasingly becoming affordable and convenient options.

Warning of eleventh hour chaos at UN climate talks

The draft negotiating text was cut by just five pages at the latest UN climate talks in Bonn, leading to countries authorising the two co-chairs to take over producing a streamlined document.

The 85-page draft negotiating text still has several options under each heading, according to Jonathan Grant, director of sustainability and climate change at PwC. The edited document will be published on 24 July, a month before the next round of talks. There is a risk that an agreement will be watered down if a lack of time leads to text being cut drastically at the last minute, Grant said. Samantha Smith, leader of WWF's global climate and energy initiative, agreed: "This was the last UN meeting where we can afford to have negotiations this slow, or we'll face chaos trying to pull it all together at the last minute."

There was progress on some issues, including an agreement on policy to avoid deforestation and forest degradation (REDD+). All countries also agreed that more ambitious emissions cuts are needed in the next five years, a critical step forward since much of the discussion has focused on what needs to happen between 2020

Image: Flickr/UNclimatechange

and 2050 despite scientific evidence that emissions need to peak sooner, Smith said.

Meanwhile, leaders of G7 countries called for a decarbonisation of the global economy by 2100. But analysis by PwC of emissions reduction pledges by these countries shows they fall well short of the average 6% reduction per unit of GDP needed to keep global temperature rises below 2°C. However, there is a growing expectation that the Paris talks will agree a legally binding requirement for countries to report, review and, if emissions reductions are not on track, to do more. This was a key recommendation of a report by the International Energy Agency on energy and climate change published in June.

Bonuses tied to green issues

Most of the world's 500 largest companies now link executive bonuses to environmental factors, according to *Newsweek*'s 2015 green rankings.

The magazine rated the 500 biggest publicly-traded companies according to how well they manage energy, greenhouse-gas emissions, water and waste. It also considered the proportion of revenue that came from products and services that contribute positively to the environment. In addition, the ranking took account of whether senior executive pay was linked to corporate environmental performance, if the mandate of board members was linked to the sustainability of the company, and if environmental metrics were audited by a third party.

This year's rankings showed for the first time that the majority of global businesses (69%) linked at least part of their executive bonus to issues such as energy use and greenhouse-gas emissions, *Newsweek* said. Ten years ago, less than 10% of companies did so, it added.

All 29 UK companies in the rankings now have executive pay linked to sustainability, *Newsweek* found. These include Reckitt Benckiser, which came third overall, scoring particularly highly on energy (14.3% out of a possible 15%). Unilever was seventh, its waste management being the most highly ranked indicator (14.5% out of 15%), and BT came 10th, scoring 16% out of 20% for providing products that contribute to sustainability.

The rankings were created by investment business Corporate Knights Capital and ratings firm HIP Investor Research using data from Bloomberg and the CDP. *Newsweek* acknowledges that the research fails to take into account the context of resource use. For example, water used in a dry area may have more impact than where rainfall is high, it said.

Short cuts

High-level 14001

To gauge how ready organisations are for the revised ISO 14001 (environmental management) and ISO 9001 (quality) standards, consultancy DNV GL has surveyed its clients on their existing level of compliance with two new common clauses. Some 16% of respondents believe they already comply with clause 4.1 on understanding the organisation and its context, while 43% claim to be somewhat compliant. The results reveal a difference in perceived compliance between the two standards. Twenty-one per cent believe they already comply with the clause in 14001: 2015 compared with 14% for 9001: 2015. Around 11% say they are far from being complaint with 4.1 in the environmental standard. Almost 60% of those polled say they would achieve compliance with clause 4.1 by discussing context during the management review meeting. Clause 4.2 relates to understanding the needs and expectations of interested parties (pp.12–14) and 15% of those polled by DNV GL believe they already comply, while 39% say they comply to an extent. Companies certified to 14001 are more likely to already comply (20%) than those certified to 9001 (16%).

Value of standards

A study for BSI has found that standards contributed 28.4% towards the UK's annual growth in gross domestic product (GDP) in 2013. The UK standards body commissioned the Centre for Economics and Business Research (Cebr) to update the 2005 report from the government on the impact of standards on the economy. The Cebr research incorporated an econometric analysis measuring the contribution of standards to UK labour productivity between 1921 and 2013 and a survey of 527 companies in seven key sectors as well as interviews and case studies with businesses. The findings show that standards contribute 37.4% of annual UK labour productivity growth, which translates into 28.4% of annual GDP growth or £8.2 billion. BSI says this amount is consistent with similar studies for France and Germany.

UK receives renewable energy warning


Image: Global Warming Images/REX

The UK is at risk of missing its 2020 renewable energy target, a report from the European commission has revealed.

It advises the UK, together with France, Luxembourg, Malta and the Netherlands, to review whether their policies and tools are sufficient to achieve their national goals under the renewable energy Directive. The 2009 legislation commits the EU to source 20% of its energy from renewables by 2020, with member states required to reach their own national renewables targets. These range from 10% in Malta to 49% in Sweden. The UK's share is 15%.

Renewable sources include those for heating as well as electricity, and the commission's report shows that the UK failed to meet its 5.4% interim target for 2013/14, achieving 5.1%. "Since the interim targets will become more ambitious over the coming years, some member states may need to intensify their efforts to keep on track [to 2020]," the commission warned.

Across the EU as a whole, the commission predicts that renewable energy reached a share of 15.3% in 2014, and said Europe was on course to meet its overall 20% ambition, with 19 member states likely to exceed their 2020 targets.

Meanwhile, the latest renewable energy country attractiveness index, which is compiled by professional services firm EY, warns that the outcome of the UK general election has unsettled the renewables industry. Although the UK retains sixth place in the index, EY says the new government's pledge to scrap subsidies for new onshore wind projects and change planning rules to give local communities more say has perplexed the sector and cast a shadow over an estimated 7GW of projects in the pipeline.

With the cost of onshore wind set to fall further, EY says the government's decision to withdraw support contradicts its pledge to reduce emissions at least cost. Energy prices could then rise as more expensive sources, such as offshore wind, are used to fill the capacity gap as onshore wind projects fall away, it warns.

There is also uncertainty in the solar sector. EY says the omission of solar from the Conservative party's election manifesto has left the previously burgeoning sector unsure as to whether it will have a starring role in the UK's future energy mix or be nothing more than a footnote.

From environmentalistonline.com…

Efficiency focus

Energy efficiency is to be designated a national infrastructure priority after Scotland again failed to meet its climate change targets. Scotland's emissions fell to 49.7 million tonnes of carbon dioxide equivalent ($MtCO_2e$) in 2013, according to government figures. This is a 38.4% reduction from the 1990 baseline against which the targets are measured, and is a larger decline than the 31.7% anticipated when Scotland passed climate change legislation in 2009. However, since the targets were set, the baseline has been increased by 10.6 $MtCO_2e$ due to technical changes in the way carbon emissions are measured. As a result, Scotland missed its 2013 target by 1.7 $MtCO_2e$. The government has identified energy efficiency as key to meeting targets, as the energy to heat and cool buildings in Scotland accounts for about half the country's greenhouse-gas emissions, according to Scottish climate change minister Aileen McLeod.
environmentalistonline.com/ScotCC

Missing vision

Most companies have no clear vision on how to manage the transition to more sustainable business models, according to the Carbon Trust. Despite recognising the risks and opportunities of an environmentally sustainable future, most businesses continue to have a short-term focus, it found. The trust interviewed experts from business, finance, government, academia and civil society, as well as board-level decision makers in the UK, South Africa, south-east Asia, Latin America and the US. The trust cites governance failures as a key reason for the weak business response to environmental sustainability. There is a lack of tools to help boards and senior executives to effectively assess and quantify business value at stake, it said. The trust has developed a methodology and a set of questions to help boards with this process, which include identifying the drivers most likely to affect the business and the impact of each.
environmentalistonline.com/visionlack

Scrutiny chiefs

Cross-party committees in charge of scrutinising the government's work on the environment now have new chairs. Labour MP Huw Irranca-Davies was elected chair of the environmental audit committee with 307 votes, beating fellow Labour MPs Barry Gardiner, who received 209 votes, and Alan Whitehead, who received 78 votes. In the last parliament, Irranca-Davies held posts as shadow minister for environment, food and rural affairs, energy and climate change, and marine and natural environment. He was also parliamentary secretary for environment, food and rural affairs and marine and natural environment under the last Labour government. The energy and climate change committee will be headed by the SNP MP, Angus MacNeil, who was the only MP nominated for the post, while the Conservatives' Neil Parish will chair the environment, food and rural affairs committee, having been a member since 2010.
environmentalistonline.com/newchair

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Fracking verdict divides county council


Image: FLPA/REX

A decision on controversial plans to exploit shale gas reserves in Lancashire was deferred by county councillors as *the environmentalist* went to press to allow time to study new legal advice.

The application by Cuadrilla sought permission for exploration and fracking of shale gas at Preston New Road in Lancashire. The application was recommended for refusal in January due to noise impacts, but the council agreed to allow Cuadrilla to submit further noise mitigation plans. Planning officers subsequently recommended approval of the plans, subject to conditions on issues including noise, air quality and traffic.

The meeting was watched closely by anti-fracking protesters. The council received 18,022 objections to Cuadrilla's plan and 217 letters in support, the planners' report said. Many objections were against the principle of exploiting shale gas, but planners said that they could not support these views since national planning guidance states that shale gas is necessary.

A motion to refuse the application was watered down after councillors received advice from a barrister. The council's head of development management, Stuart Perigo, had already warned councillors that the suggested grounds for refusal would not stand up at appeal. A vote to refuse the plans then split the council. Several councillors raised concerns that the legal advice had forced their hands and should be made public. They then voted to defer the final decision to allow the committee and the public to study the legal advice.

Financing a green transition

Quantitative easing, the mechanism used across the developed world to stimulate economies after the 2008 financial collapse, is being championed in a report for the European parliament as a way to boost the green economy.

The procedure involves central banks pumping money directly into the economy, usually by buying assets from financial institutions so they can raise the amount they lend. In his report, professor Victor Anderson of Anglia Ruskin University argues that "green quantitative easing" (GQE), whereby the money created is used specifically to boost the green sectors of the economy, would help Europe move towards a sustainable economy.

"The Bank of England has a duty to play its part in helping the shift towards a greener economy no longer dependent on dirty sources of energy," he says. "EU governments should be urgently examining every type of policy that could be used to help in this low-carbon green revolution. GQE deserves to be near the top of their action list."

The GQE advocated in the report would entail central banks buying debt from private sector businesses, local and regional governments, and social enterprises, where the organisations can demonstrate that money will be used for green purposes. Rather than boosting banks' reserves and profits, which has been the main outcome of the recent conventional quantitative easing, GQE would boost the green sector of the economy, says Anderson.

According to his report, there are two clear reasons for preferring GQE to conventional methods. One is the need to move to an increasingly green economy, with GQE providing one opportunity and mechanism for funding such a transition. The other is that GQE provides money to productive projects, rather than hoping it will reach such projects through the finance system, which may absorb the funds.

UK Green MEP Molly Scott Cato, who commissioned the report, said: "Quantitative easing to date has further benefited wealthy elites. We need the money we create to be invested in a future we want to see. This public investment will create jobs for thousands of unemployed people while simultaneously building up our green infrastructure."

Business plans

Sustainability initiatives and practices at **Carillion** made a net contribution to profits of £27.2 million in 2014. Last year, the company's profit before tax was £142.6 million. The support services business has also reported that its direct carbon footprint fell by 17% in 2014, against a target of 11%. Its 2014 sustainability report also revealed that the firm's operations diverted 95% of its waste from landfill last year, while water consumption on its construction projects declined 28% against a 2012 baseline.

BT has reported that products and services to help its customers avoid carbon emissions equivalent to 1.5 times the telecom company's "end-to-end" carbon impact generated £3.4 billion in revenue in 2014/15. Under its "Net Good" strategy, BT has set itself a 2020 goal to assist its customers in reducing their total carbon footprint by 3.1 times the CO_2 impact of its business, which encompasses emissions from its operations, supply chain and the equipment it supplies. In 2014/15, the total carbon emissions from its business were 4.6 million tonnes of CO_2 equivalent, while BT says it helped to cut customers' emissions by 7.1MtCO_2e.

High street retailer **Marks & Spencer** has published its annual report on its sustainability strategy Plan A. Highlights include: a 36% improvement in the energy efficiency of its stores, offices and warehouses in the UK and Ireland compared with 2007; the installation of LED lighting in 417 stores over the past 12 months; a 60% reduction in the amount of packaging used for home deliveries against a 2009 baseline; and zero waste to landfill from its operations since 2012.

Fast-moving consumer goods company **P&G** has announced the launch of a cloud-based supplier assessment scorecard to help drive increased engagement and analysis of supplier sustainability performance.

In the public sector, the **NHS Isle of Wight Clinical Commissioning Group** and the **Isle of Wight NHS Trust** have produced a joint plan, Greener Care, which sets out the organisations' ambitions for reducing their environmental impacts and embedding sustainability principles throughout their operations.

In court

Court upholds Thames Water's £250,000 fine

The Court of Appeal has ruled that the sentence imposed on Thames Water Utilities for allowing untreated sewage to enter a brook running through a nature reserve was proportionate (also p.11).

Reading crown court fined the company £250,000 in September 2014 in one of the first cases to reflect the sentencing guidelines for environmental offences that came into force on 1 July last year.

The guidelines introduced four categories of offence that relate to the level of harm caused. Also considered is the offender's culpability – was it deliberate, reckless or negligent, or whether it committed with little or no fault on the part of the organisation.

Thames Water pleaded guilty to allowing sewage to enter The Chases, a nature reserve near Newbury, from an emergency overflow pipe at its Broad Layings sewage pumping station on 2 September 2012. The Environment Agency said the discharge had been caused by a blockage in the pumps at the station on 29 August 2012 and that Thames Water had failed to act on the alarms system to attend and unblock them.

At the earlier hearing, the judge, recorder Arbuthnot, said: "The parties agree that the level of culpability is negligence and with which I agree. With regards to harm I find that this is a category 3 offence but at the severe end." The starting point for fines for negligent, category 3 offences committed by firms with a turnover of at least £50 million is £60,000, rising to £150,000. The courts, however, can impose financial penalties outside this range for large companies by considering whether the fine is proportionate to the means of the offender.

The court of appeal agreed the fine was proportionate. The judges also referred to Thames Water's record as a repeat offender, warning: "To bring the message home to the directors and shareholders of organisations which have offended negligently more than once before, a substantial increase in the level of fines, sufficient to have a material impact on the finances of the company as a whole, will ordinarily be appropriate. This may therefore result in fines measured in millions of pounds."

Anne Brosnan, deputy director of legal services at the Environment Agency, said: "This sentence should act as a deterrent. In fact, the court said that it would have upheld a very substantially higher fine in this case."

Illegal waste site gets £18k penalty

Recycling and skip-hire business Eastside 2000 (E2L) has been fined £18,000 for illegally storing waste at site in Hereford. E2L was also ordered to pay costs of £7,732. The firm pleaded guilty at Hereford magistrates' court to storing demolition waste at the site, which has no environmental permit.

The court was told that, in June 2012, the Environment Agency ordered the waste to be removed. At the time, the agency agreed to halt legal action until the outcome of the planning application by E2L to build a waste washing facility at the site. Permission was refused in March 2013 and the agency reinstated its enforcement action. By the end of January 2014, the date for final compliance with the notice, agency officers found the site still contained around 12,000 tonnes of waste. By August 2014, half the waste remained. Magistrates ordered the site to be cleared within three months.

US utilities fined $68 million

Three subsidiaries of the Duke Energy Corporation, the largest utility in the US, have pleaded guilty to violations of the Clean Water Act at facilities in North Carolina. The firms were fined $68 million and agreed to spend $34 million on environmental projects and land conservation to benefit rivers and wetlands in North Carolina and Virginia.

The Environmental Protection Agency said four of the nine charges relate to the spill of coal ash from a steam station into the Dan River near Eden, North Carolina, in February 2014. The remaining related to historical violations at other facilities.

Case law

Green belt development and changing boundaries

In *Luton Borough Council v Central Bedfordshire Council*, the Court of appeal held that the National Planning Policy Framework (NPPF) did not create a presumption or requirement that boundaries had first to be altered via the local plan before green belt land could be built on.

Central Bedfordshire council (CBC) granted planning permission for a major development in an area designated as green belt. The adjoining authority, Luton borough council, alleged that CBC had failed to take into account paragraph 83 of the NPPF on green belt boundaries when deciding whether to grant planning permission and that the decision was premature. The court said para 83 did not lay down a presumption or create a requirement that the boundaries had to be altered before any development. It said that paras 87 (inappropriate development) and 88 (weighing harm to the green belt) "plainly contemplated that development might be permitted on land within the green belt, without the need to change its boundaries in the local plan, provided 'very special circumstances' existed".

The officer's report for CBC had properly emphasised to the planning committee that they could grant planning permission for development only if they believed the very special circumstances test had been satisfied. There had been no misdirection or material error as a result of the omission of a reference to para 83 in the report, said the court. It ruled that there had been a proper basis for the planning committee to conclude that very special circumstances existed and that there had been no sound prematurity objection to the granting of planning permission.

Jen Hawkins

LexisPSL

New regulations

In force	Subject	Details
1 Apr 2015 NI	Waste	The Planning (Management of Waste from Extractive Industries) Regulations (Northern Ireland) 2015 support the implementation of the Planning Act (Northern Ireland) 2011 and replace the 2010 regulations to reflect the transfer of planning duties to district councils. lexisurl.com/iema87638
1 Apr 2015	Water	The Provision of Water and Sewerage Services (Reasonable Cost) (Scotland) Regulations 2015 amend the 2011 regulations by setting out formulae for determining reasonable costs for Scottish Water to provide water and sewerage services to dwellings and non-dwellings. lexisurl.com/iema78017
6 Apr 2015	Enforcement	The Environmental Permitting (England and Wales) (Amendment) (England) Regulations 2015 will allow the Environment Agency to accept enforcement undertakings for: knowingly causing or permitting an operation requiring a permit to be carried out; breaching or failing to meet a permit condition; failing to comply with a notice requiring information; and failing to meet record keeping obligations under a waste management exemption. Offences by third parties will also be subject to this regime. The Environmental Permitting (England and Wales) (Amendment) Regulations 2015 amend the 2010 regulations to transpose art 14(5) to (9) of Directive 2012/27/EU on energy efficiency. The Environmental Permitting (England and Wales) (Amendment) (No.2) Regulations 2015 correct an error in the 2010 regulations. lexisurl.com/iema87631; lexisurl.com/iema87632; lexisurl.com/iema87634
6 Apr 2015	Planning	The Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015 amend the 2011 regulations by raising the screening thresholds where it is necessary to determine whether an EIA is required. lexisurl.com/iema87630
6 Apr 2015	Noise	The Control of Noise (Code of Practice for Construction and Open Sites) (England) Order 2015 replaces the 2002 order and approves parts 1 and 2 of BS 5228–1: 2009 (as amended) for guidance on minimising noise on construction and open sites. lexisurl.com/iema77902
6 Apr 2015	Waste	The Control of Waste (Dealing with Seized Property) (England and Wales) Regulations 2015 extends the vehicle seizure powers of the Environment Agency, Natural Resources Wales and waste collection authorities. Vehicles and their contents may be seized from any party suspected of waste transport or disposal offences. lexisurl.com/iema78023
7 Apr 2015	Energy	The Energy Performance of Buildings (England and Wales) (Amendment) Regulations 2015 amend the 2012 regulations by altering the fees for entering or obtaining data in the energy performance certificate register. lexisurl.com/iema87635
12 Apr 2015	Natural environment	The Infrastructure Act 2015 (Commencement No.1) Regulations 2015 brings sections of the Act into force, including giving regulators powers to require the control of invasive non-native animal and plant species with a significant adverse impact in England. The Infrastructure Act 2015 (Commencement) (Wales) Regulations 2015 make the same provisions in Wales. lexisurl.com/iema87644; lexisurl.com/iema87652
12 Apr 2015	Planning	The Infrastructure Act 2015 (Commencement No. 2 and Transitional Provisions) Regulations 2015 brings two sections of the Act into force: the appointment of examining authorities for nationally significant infrastructure projects; and powers to refuse applications for orders to change or revoke existing development consent orders, where these should constitute an application for a new development consent order. lexisurl.com/iema87616
14 Apr 2015 NI	Energy	The Energy (Amendment) Order (Northern Ireland) 2015 amends the 2003 order to provide for the closure of the renewables obligation scheme. lexisurl.com/iema97473

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

Latest consultations

31 Jul 2015

Ecolabels

EU regulation 1379/2013 requires the European commission to produce a feasibility report on options for an ecolabel scheme for fishery and aquaculture products. The commission has issued a consultation as part of its work to produce this study.
lexisurl.com/iema96621

7 Aug/18 Aug 2015

Radioactive waste

The Scottish government is consulting on a strategy to support Scotland's higher activity radioactive waste policy, which was published in 2011. This determines that long-term management of higher activity radioactive waste should be in near surface facilities. The consultation ends on 7 August 2015. Meanwhile, the Welsh government adopted its policy for the geological disposal of higher activity radioactive waste in Wales in May 2015. It is now consulting on the processes to determine whether a geological disposal facility might be sited in Wales, and to provide information to communities that may want to volunteer to host such a site. This consultation ends on 18 August 2015.
lexisurl.com/iema96618;
lexisurl.com/iema96612

12 Aug 2015

Infrastructure planning

Proposals for a new category of planning application – "developments of national significance" (DNS) – have been put out for consultation by the Welsh government. It seeks views on, for example: the thresholds and criteria of what qualifies as an application for DNS; secondary consents that may be submitted for consideration and determination alongside an application for DNS; pre-application notification, advice and consultation; and the role of local planning authorities throughout the process.
lexisurl.com/iema96614

20 Aug 2015

Circular economy

The European commission is consulting on aspects of a circular economy to support its development of a strategy to transform Europe into a more competitive, resource-efficient economy. Development of the strategy comes after the commission withdrew proposals earlier this year that had been put forward by the previous administration. The commission says its plans will include revised waste legislation and a communication that sets out an action plan on the circular economy to cover its period in office. The action plan will cover the whole value chain.
lexisurl.com/iema96611

6 Sept 2015

Marine plan

The Scottish government is consulting on a pilot marine spatial plan for the Pentland Firth and Orkney.
lexisurl.com/iema97475

15 Sept 2015

Marine environment

A consultation by the European commission is seeking input on how the EU could contribute to achieving better international governance of oceans and seas to the benefit of so-called sustainable blue growth. The commission describes oceans as a core asset for the EU, and says Europe's maritime economy employs more than 3.6 million people and creates a gross added value of just under €500 billion a year.
lexisurl.com/iema96619

New guidance

CRC	Updated guidance on the carbon reduction commitment (CRC) scheme has been published. Decc and the devolved governments have revised the guidance on the CRC appeals process for phase one, as well as for the second phase and beyond (lexisurl.com/iema96841). Meanwhile, the Environment Agency has produced revised supporting information for phase two (2014-2015 to 2018-2019) participants, including: scheme guidance (lexisurl.com/iema96848); "annual reporting screenshots" (lexisurl.com/iema96845), which show what will be displayed when organisations submit their annual reports; and "payment etiquette" (lexisurl.com/iema96846).
Noise impacts	The Environment Agency has revised its guidance on noise impact assessment for applications that include computer modelling or spreadsheet calculations (lexisurl.com/iema96850). It sets out the general information that is required, such as description of site location and layout, proposed activities, noise sources, noise remediation approach and local receptors, as well as the different noise data that must be submitted.
Electricity-intensive industries	The business department has updated its guidance for applicants seeking compensation for the indirect costs they incur due to the EU emissions trading scheme and the UK carbon price support mechanism (lexisurl.com/iema96854). The topics covered are: eligibility, including the NACE codes (the European industry classifications) and the "5% test"; how compensation is calculated, including efficiency benchmarks and CO_2 emission factors; scheme administration; and validation.
Behaviour change	Sustainability consultancy Carbon Smart has published *Empower change* to assist individuals charged with leading change in organisations (carbonsmart.co.uk/empower-change-guide). The guide provides a robust structure designed to engage employees in building a sustainable business. In the foreword, Ramon Arratia, sustainability director at Interface, who writes: "It's particularly good that this book has been designed for use in more than one way – to suit the requirements of different people in different situations."

Laying down the law

The polluter to pay a heavier price

The Thames Water appeal case judgment means fines for all environmental offences are likely to rise, says Simon Colvin

The Court of Appeal judgment in *R v Thames Water Utilities Ltd* [2015] is the latest chapter in the saga of environmental sentencing. The court was considering an appeal by Thames Water against a fine of £250,000 in relation to a water pollution incident (p.8). In rejecting the appeal, the judges clarified the approach they expect the courts to take when applying the Sentencing Council guidelines for environmental offences, which came into effect last year.

On the up

Since the guideline was introduced there has been a marked increase in the level of fines for environmental offences. However, the Thames Water judgment is a more prominent line in the sand that will lead to significantly higher fines for environmental offences. The judges said they would have imposed a higher fine on Thames and noted that £100 million penalty might be appropriate for the most significant environmental offences by the largest companies.

In calculating the fine, the chief justice, Lord Thomas, and justices Mitting and Lewis advised: "In the worst cases … the objectives of punishment, deterrence and the removal of gain – for example by the decision of the management not to expend sufficient resources in modernisation and improvement – must be achieved by the level of penalty imposed. This may well result in a fine equal to a substantial percentage, up to 100%, of the company's pre-tax net profit for the year in question (or an average if there is more than one year involved), even if this results in fines in excess of £100 million. Fines of such magnitude are imposed in the financial services market for breach of regulations."

The judges also said that, but for the mitigating factors and prompt guilty plea by Thames Water, the fine would have been not less than £500,000.

The future possibilities

The effect of the judgment will mean courts at all levels making full use of the extended sentencing powers made possible by the guidelines. We will see an increase in the level of fines for all companies. Although this case concerned a very large organisation, there are many important themes and messages that are relevant to companies and operators of all sizes. Particularly important are those that relate to the steps companies can take to protect their interests there is an environmental incident. They include:

- Do not ignore signs of failing equipment or concerns raised by employees. The courts will take a dim view of any inaction that results in an environmental incident.
- Where operations are close to sensitive sites, such as one of special scientific interest, firms will need to ensure they take additional steps to prevent environmental harm.
- Do an immediate assessment of an incident. Having your own evidence of the level of harm could be key in reaching agreement with the regulator concerning the correct categorisation of harm. Under the guideline there are four categories of harm, with 1 being the most significant and 4 the least damaging. Culpability is also assessed using four categories: deliberate, reckless, negligent and low/no.
- Organisations with a turnover well in excess of £50 million, need to ensure they have systems in place that enable the board of directors and shareholders to be engaged in ensuring environmental compliance.
- Do not make the same mistake twice – companies should undertake a thorough debrief after an incident to prevent a repeat elsewhere. A failure to do so will often be punished by the courts.
- Companies that have previously committed environmental offences must ensure they have very accurate records of the incidents and all the connected mitigating facts and circumstances, particularly relating to any steps taken to prevent a recurrence.
- Be aware that the courts and the regulators will undertake a detailed analysis of financial accounts (and groups in some cases). Companies need to ensure they have access to accurate, up-to-date financial data.
- The Thames Water judgment suggests that larger companies will be expected to meet a "high" standard of environmental performance and compliance.

The judgment sends a clear message to companies whose operations pose a risk of environmental harm: get it wrong and you could face fines of tens if not hundreds of millions of pounds.

Companies should analyse the key points in the judgment. This will enable them to identify changes and improvements they can make to their environmental management and compliance systems, as well as their incident response protocols.

'Proportionate' financial penalties

The guideline introduced a tariff system for England and Wales, where the level of fine is decided in relation to the level of harm caused, the culpability of the offender – whether the offence was committed negligently, recklessly or deliberately – and the size of the organisation. It came after a review of sentencing practices for environmental offences by the Sentencing Council had concluded that some fines were "too low and did not reflect the seriousness of the offence". The changes were aimed at ensuring courts impose fines that are "proportionate" with the means of the company.

Simon Colvin is partner and national head of the environment team at Weightmans LLP . Follow him on twitter @envlawyer

In everyone's interests

Organisations will benefit greatly from the requirement in the new 14001 standard to be more outward looking and receptive to their stakeholders, says **Greg Roberts**

Environmental management systems (EMS) tend to be insular and defensive in their outlook. The existing EMS standard ISO 14001: 2004 and the guidance standard ISO 14004 require little more than the public disclosure of the environmental policy, a procedure to deal with complaints and, possibly, taking stakeholders into account when evaluating the significance of environmental aspects. This results in an EMS that provides incremental operational improvement, but fails to take advantage of wider lifecycle opportunities.

Many organisations are already benefiting from stakeholder engagement, however, which is often used to identify what is important to key influencers and to ensure that informed decisions are taken. Graham Sprigg, founder of IMS Consulting, has seen the benefits from this process. "The more you know about your stakeholders, the more likely you are to succeed," he says. "Whether it's finding out what the local community thinks is important about the way you run your plant to minimise nuisance, or what your staff feel could be done to improve your waste management plans, engagement provides plenty of valuable information."

British Gypsum, part of the Saint-Gobain group, a world leader in design, production and distribution of construction materials, has used stakeholder engagement successfully at both the corporate and local levels. It has used online surveys to establish the views of employees and customers to develop a more intuitive sustainability strategy. Heidi Barnard, sustainability leader at British Gypsum, explains the advantage of this approach: "We know we have a leading role to play in addressing some of the enormous challenges that society faces. We engage with a variety of stakeholders in order to understand what is important to them and therefore what we should focus on in depth. Through this engagement we are able to prioritise on the correct issues."

British Gypsum has engaged the local community around its East Leake site in Leicestershire to provide direct practical benefit. "Neighbours now have a personal contact with someone at the site for discussion, rather than historically feeling the need to raise complaints about an issue. Taking the time to meet them quarterly reduces their concerns and ensures they always have a point of contact," explains Lorna Pilbin, environment manager at the site.

There are likely to be more examples of positive engagement after the 14001 standard is published in the autumn. It will require organisations to identify their relevant stakeholders and what these groups or individuals require from the EMS. From this information, the organisation can then determine the stakeholder requirements it needs to abide by, such as legislation, and those it chooses to observe, such as a customer objective.

Who's interested?

An interested party is defined in 14001: 2015 as a person or organisation that can affect, be affected by, or perceive itself to be affected by a decision or activity. A person can be a single neighbour, while interested organisations can include community associations, regulators, suppliers and customers. Interested parties can be internal (as defined by the scope of the EMS), such as employees, trade unions and the senior management team. They may also fall outside of the scope the EMS but within the wider corporate entity; this will avoid situations where the design or procurement functions are ignored because they sit outside the scope of an EMS for a manufacturing site, for example.

The new standard does not require interested parties to be specifically named; rather, broad groups will suffice. However, additional value may be gained from the exercise where named interested parties are listed. An organisation should also be conscious that it is likely to be an interested party to others. For this reason, and in

Image: iStock

Different dimensions when identifying stakeholders

Dimension	Description	Types of interested parties	Examples of requirements
By responsibility	People to whom the organisation has, or in the future may have, legal, financial and operational responsibilities in contracts, policies or codes of practice	Investors	Risk management; for example, climate change and resource scarcity, to protect and/or provide a return on investment
		Parent company	Sustainability data reporting, adherence to corporate policies and procedures
By influence	People who are, or in the future may be, able to influence the ability of the organisation to meet its goals, whether their actions are likely to drive or impede performance	Non-governmental organisations	Support to meet their environmental objectives
By proximity	People with whom the organisation interacts most	Neighbours	Quiet operations and clean air
		Local community	Community projects
By dependency	People dependent on the organisation, such as employees and their families; customers dependent on the products, services or activities for their safety, livelihood, health or welfare; or suppliers reliant on the organisation	Employees and their families	Work in a safe and healthy environment
		Customers	Assistance in meeting environmental objectives
By representation	People that, through regulatory structures or culture/tradition, are entrusted to represent other individuals	Regulatory or statutory agencies; trade unions; membership organisations; local councillors	Compliance with the law, accurate and timely reporting

order to be ahead of its customers, an organisation may want to tackle the requirement to identify their relevant stakeholders early in the transition to 14001: 2015.

Requirements consist of what the stakeholder needs and what the stakeholder expects. Only relevant interested parties and relevant requirements need to be considered. For example, the Health and Safety Executive may be a relevant stakeholder because it regulates environmental related legislation, such as the EU REACH Regulation and the environment elements of the domestic Control of Major Accident Hazards Regulations.

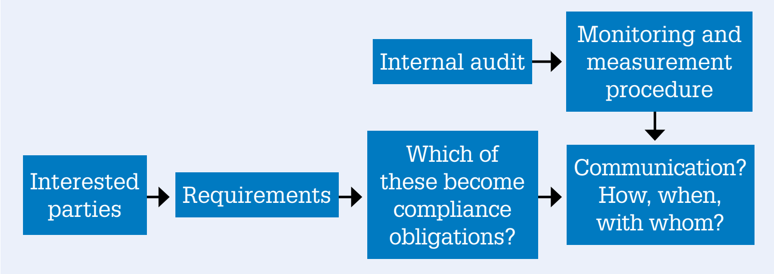
At this stage, the expectation will be to gain a general, high-level understanding of the requirements of stakeholders, but the value gained will increase with the detail provided.

When implementing or transitioning to the new standard, a factor that contributes to success is the involvement of all functions or departments.

This is true when determining interested parties, because certain functions will identify with their own stakeholders; for example, procurement with suppliers and sales with customers. Gaining the input from all functions can be achieved through a one-to-one interview; a more valuable approach can arguably be gained from a workshop, which acts as a forum to share ideas.

In preparation for the workshop, and in keeping with the 14001 principle of integration, any previous work undertaken relating to stakeholders should be reviewed. Are they considered in strategic or communication

Communicating with stakeholders



planning or sustainability strategies, for example? If the organisation already has good information on who its stakeholders are and what their requirements are, it may not need to do more. It is also worth remembering that the revised quality standard, ISO 9001, which is also due to be published this year, and the forthcoming international standard for health and safety management systems (ISO 45001) will have a similar requirement to identify and engage interested parties. Therefore, a single overarching exercise may suffice to cover all three standards.

Working together

The workshop can be a simple brainstorming exercise or it can follow a recognised methodology, such as AccountAbility's stakeholder mapping tool. It considers five dimensions when identifying stakeholders (see panel, p.13) and can be a good first step in drawing up a list of interested parties, after which those deemed not to be relevant can be excluded.

Although not specifically required by 14001: 2015, value will be added by listing some named stakeholders. This can help those participating in the workshop to identify with these individuals and groups and to learn about their requirements. These requirements can include the environmental objectives of a specific customer; employee perceptions of environmental performance; local community projects; and the reporting requirements of regulators. Gaps in knowledge should be embraced. The collective recognition that they exist and that everyone involved needs to help to plug them being one of the main strengths of this exercise.

A single workshop is unlikely to provide all the information needed on every interested party, so a follow-up meeting or mechanism to enable participants to give feedback may be necessary. It is worth noting that an organisation is unlikely to gather a complete picture of its stakeholders, but once the workshop group feels that it has enough information, the organisation should move on.

Compliance obligations

The next step is to consider which stakeholder requirements are compliance obligations, known as legal and other requirements in the 2004 version of 14001. Compliance obligations consist of interested parties' requirements that are legal mandatory obligations; and those obligations which the organisation has discretion over whether to adopt. Legal obligations should be identified first, with an organisation selecting from the remainder the others it wishes to adopt. This formal process of adopting requirements allows an organisation to focus and coordinate what is important, rather than meet them in an ad hoc way.

14001: 2015 recognises the importance of communicating with stakeholders, particularly in relation to compliance obligations. Communication should be based on information generated from the EMS, which will require robust monitoring and measurement to ensure that it can be relied on. The monitoring and measurement processes will benefit from being included in the internal audit programme. In this way, an organisation can ensure that what it communicates is required and reliable (see panel, left).

Critically, compliance obligations and the requirements of interested parties need to be considered when developing environmental objectives. Some companies are already thinking about their implementation of the new standard and are setting objectives that their existing system rarely cover. These can include advising their customers on how to make their processes more efficient and investigating how end-of-life products can be taken back for recovery. Such progress will reinvigorate those stagnant EMS, which are struggling to find improvement on site.

Keep partying

The exercise to identify stakeholders and their requirements should not be regarded as a one-off. Its real value will come as it is repeated and matures from a largely "desk-top" approach into direct dialogue with stakeholders. Once organisations start to understand their stakeholders, it should become routine for the two to engage to help inform business decisions.

Sprigg at IMS Consulting explains how a company can build on the basic 14001 requirements: "The simplest approach would be to undertake a survey to understand what is important to your stakeholders. This can be undertaken by conducting interviews or increasingly through the use of online surveys."

Prior to the engagement, it is essential that a clear purpose or objective is established, such as examining stakeholders' views on a specific issue or its relative importance, or to gather feedback on proposed objectives. The questions posed to stakeholders need to be carefully constructed so that the answers they elicit are unambiguous and actionable. For this reason, open-ended questions should be avoided. Keep the engagement to a few major issues, perhaps to significant environmental aspects, and keep it short. Where appropriate, report back. Stakeholders will be keen to know the findings and, more importantly, the action to be taken as a result of their input.

With more than 300,000 14001 certificates worldwide, it is exciting to think of the conversations in, and between, companies that will take place because of this new requirement. Each organisation cannot deliver sustainability alone. Joint working and partnering will be a necessity and 14001: 2015 might just be the catalyst to get this party started.

Greg Roberts, MIEMA, is a manager at Ramboll Environ.

Managing by numbers

With the new 14001 standard due soon, **Rick Gould** says it is time to look again at the ISO guidelines on assessing performance

When ISO started revising 14001, the standard for environmental management systems (EMS), it emphasised the importance of measuring, monitoring and managing performance. Under the clauses in the draft standard covering objectives and targets and in the section on performance evaluation, organisations are required to adopt performance indicators. The draft defines an indicator as a measurable representation of the condition or status of operations, management or conditions. This definition originates from ISO 14031, which provides guidance on environmental performance evaluation (EPE).

14031 is referenced in the 14001 draft as well as in the proposed changes to 14004, the guide on applying the EMS standard, which is also being revised. Both drafts recognise that 14031 could make a significant contribution in assessing environmental performance, as well as potentially providing organisations with a means to track their progress towards a more circular and sustainable economy.

But this begs the question as to why the 14031 guidelines have had little impact so far, other than fragmented applications and often in research-focused investigations. After all, the current edition was published in 2013 some 14 years after ISO first brought out the guide. Surely if 14031 had any real value, it would have made a much larger impact.

The benefits of 14031

- Improved identification and understanding of environmental aspects and impacts – and hence a better management of environmental performance.
- The use of ratios can help identify areas of processes that have the potential to be circular and sustainable – for example, the proportion of recycled and renewable materials in a product or process.
- The use of ratios helps to identify processes to support the more efficient use of resources, reducing waste.
- A stronger environmental performance gives a greater assurance to stakeholders and can increase both credibility and reputation.
- Supports implementation of an environmental management system because environmental performance evaluation can help identify significant risks, set objectives and targets, and track performance.
- Recognition of good performance management can help an organisation improve its risk rating and compliance with legislation, potentially reducing annual charges for permits and consents.
- Organisations can harmonise and streamline significant performance indicators in sectors, assisting benchmarking.

In theory…

The UK national standards organisation, BSI, says 14031 can help an organisation maximise the management of its environmental impacts. It does this by providing users with a set of tools to identify, measure, assess and then communicate their environmental performance.

The intention of EPE is to give an organisation a better and more detailed understanding of its environmental risks so that it can manage them more effectively. Simply, EPE set out in 14031 is designed as a management process that combines the input-process-output model, the plan-do-check-act (PDCA) cycle and three types of key performance indicators (KPIs). The inputs include resources while the management of the activities processing them will affect the quality of the environment through the outputs. The KPIs chosen to quantify the inputs, processes and outputs reveal an organisation's past and current environmental performance. 14031 also encourages the use of ratios to normalise indicators, thus improving their comparability.

The three types of indicators described in 14031 focus on:

- environmental condition (ECI);
- operational performance (OPI); and
- management performance (MPI).

The ECIs describe the state of the environment affected or influenced by an organisation. For example, an ECI could be the noise levels caused by the organisation and received by residents of a nearby housing estate. An OPI could be the levels of noise generated by machinery and the activities of an organisation's employees on site. Noise incidents and the organisation's objectives and targets for employee training in noise monitoring and control could serve as MPIs. ECIs, OPIs and MPIs can therefore be applied in a related manner.

14031 encourages the use of indicators to examine causes and effects, and hence manage an environmental impact better. The indicators that an organisation chooses will depend on its activities and its significant environmental aspects. The panel (p.18) shows examples of ECIs, OPIs and MPIs.

… and in practice

Shortly after ISO published 14031, there was an intense spell of activity exploring and reporting its use. As part of this, the international standards organisation published a technical report, *ISO/TR 14032*, with more than 30 examples of its successful application. These showed that EPE can be adaptable across a range of organisations.

The value of environmental performance indicators

The new version of ISO 14001 requires the "integration of environmental management system [EMS] requirements into the organisation's business processes". It makes sense to use other business processes for integrating EMS thinking into business planning. This is where the approach used in ISO 14031 has significant value because it specifically identifies performance measures that enable evaluation of improvements, which will deliver an overall business benefit.

14031 supports 14001 in other ways too. It includes guidance to help determine objectives (draft 14001 standard clause 6.2) and measure performance (9.1). It can also be used to show how an organisation considers its impacts in context (4); its leadership and integration of environmental objectives in the business (5.1); how the significant environmental aspects are clearly identified (6.1.2) and planned (8.1); and how they are appropriate and how performance is evaluated (9.3).

The model used by 14031 relates to the business context for EMS, but also a best practice approach for sustainability in general, identifying three key performance indicators:

- **Management performance** – for example, by identifying how leaders are making business decisions which lead to an overall improvement in outcomes or a measurement of how users of products and services are influenced.
- **Operational performance** – for example, measurement of impacts related to manufacture or consumption of products and services, such as the amount of carbon dioxide attributed to the manufacture of each product.
- **Environmental condition** – for example, indicators that establish a baseline against which change over time can be measured, and specifically demonstrate value or the impact of an environmental programme, such as pollution emissions on local air quality.

Many organisations do adopt operational and management performance indicators, but few recognise environmental condition indicators (ECI). Barclays provides an example of one that does.

Banking is a relatively low polluter in its direct operations; the sector's greatest environmental impacts arise from lending and investments. Here ECIs can be crucial and used to manage local environment impacts in a globally consistent and beneficial way, such as through the positive selection and investment of sustainable operations and technology.

There is evidence of all three types of indicator at Barclays. An example of an MPI is the inclusion of environmental categories in business cases and capital investment plans, which support effective decision-making and enable the tracking of the environmental impacts of decisions.

On OPIs, Barclays has been developing stringent environmental criteria to improve its operational footprint both directly and indirectly. In recent years, Barclays has established comprehensive and robust systems to measure electricity consumption, water use, waste disposed and recycled and its carbon footprint.

In terms of ECIs, Barclays has established an environmental, social and governance taskforce to create a holistic view of its sustainability and a vision known as Ambition 2020. This aligns key initiatives throughout the organisation to key sustainability objectives. The aim is to measure the value and impact of the environmental programme and enable Barclays to benchmark itself within the finance industry.

David Smith, chair of ISO 14031 committee on environmental performance evaluation, and Emma Page, director of Corporate Real Estate Solutions – environmental management, Barclays.

Image: iStock

Examples of indicators

Environmental condition	■ Noise levels at sensitive locations, such as houses and schools ■ Groundwater levels and quality ■ Ambient concentrations of nitrogen dioxide and particulate matter ■ Chemical and biological indices for local streams, rivers and lakes where discharges occur ■ Tree cover ■ Biological diversity of the surrounding land, such as lichen variety and abundance ■ Soil quality and contaminant concentrations
Operational performance	■ Total consumption of electricity ■ Ratio of renewable energy to fossil-fuel generated energy ■ Ratio of energy use to units of production ■ Indirect and direct emissions of greenhouse gases ■ Ratio of total emissions of greenhouse gases per unit of production ■ Combined ratio of energy consumption and emissions of greenhouse gases per unit of production ■ Water use per unit of production ■ Ratio of raw water to recycled water ■ Ratio of hazardous waste produced per unit of production ■ Energy cost of waste per unit of production
Management performance	■ Degree of compliance for internal environmental audits ■ Ratio of level of compliance for energy-management procedures and energy consumption per unit of production ■ Proportion of staff with a measured level of understanding of sustainability ■ A ratio of the level of understanding and decrease in waste production or energy consumption per person hour in the office

The organisations showcased in the report varied from a small furniture manufacturer in Germany employing 11 people, to multinational companies with more than 100,000 employees. In all cases, the use of 14031 highlighted several common factors: it provided a useful basis for identifying significant aspects, managing their impacts, and encouraging employee participation and continual improvement. The case studies also demonstrated that the 14031 guidelines are invaluable for reporting, communicating and influencing.

Indicators to assess environmental performance are not unique to 14031. They are also a feature of the EU eco-management and audit (EMAS) scheme. The regulations implementing EMAS have specified the use of performance indicators since 2001. The regulations have always been prescriptive when compared with 14001, which suggests that complying with EMAS should itself lead to consistency and comparability when using indicators, so eliminating the need for 14031.

A team of Italian researchers looked into this by examining the EMAS statements of 111 municipalities in Italy. Their findings, which were published in 2012, showed that, although the EMAS regulation specified a limited set of indicators, the municipalities used more than 2,000 types of indicators between them, with relatively few in common. The researchers concluded that the disparate and fragmented way that the municipalities used indicators made benchmarking performance almost impossible. Indeed, the team noted that many of the indicators were poorly designed or irrelevant.

So how does the EMAS compare with the use of 14031? Two other teams of Italian researchers explored this subject. In the first investigation, researchers from the Faculty of Environmental Engineering at the Politecnico di Torino examined the use of 14031 in the automotive sector. They sent a questionnaire to manufacturers in north-west Italy, deliberately choosing one sector and companies that had been 14001-certified for at least three years. Although only one-third of the companies answered in detail, their responses were very informative. All reported that indicators based on 14031 provided a good understanding of their environmental aspects and impacts, an effective means for continuous improvement, and resulted in cost savings. The responses also revealed that the companies using indicators focused consistently on resource efficiency and waste minimisation.

In the second study, a group from the department of chemical processes in engineering at the University of Padua looked at whether 14031 was an effective tool for municipalities in relation to Local Agenda 21 (LA21) – the non-binding, voluntarily implemented action plan on sustainable development that was a product of the 1992 Earth summit. The study revealed that 14031 had proved valuable for analysing the complexity of environmental aspects in a municipality and provided a "clear and well-developed picture of the level of sustainability" in a city. 14031 was also found to be effective in supporting decision-making and communicating performance. The researchers concluded: "14031 is absolutely consistent with the fulfilment and management of the LA21 process and plan-do-check-act cycle."

Raising the profile

14031 describes a systematic process for analysing environmental aspects and then setting indicators to measure, monitor and manage environmental performance. Nonetheless, its use has been fragmented and hardly widespread. This may simply be due to a lack of awareness. However, two things should change that. First, BSI has been publicising and promoting 14031, with support from bodies such as IEMA. Second, the references to 14031 in the revised versions of 14001 and 14004 will lead to a much greater awareness of its potential benefits. The use of ECIs, for example, will support organisations in determining their environmental context, while the application of OPIs and MPIs is now well proven for understanding and improving environmental performance.

Rick Gould, MIEMA, CEnv, works for the Environment Agency. He is writing in a personal capacity.

Natural health service

Paul Suff reports on how a project in New Zealand to assess the health of ecosystems is producing benefits

Image: iStock

Much of New Zealand's economy, from food production to tourism, depends on the health of its ecosystems. The country's Sustainable Business Council (SBC) has been working with local businesses through its ecosystem health programme to help them understand their dependencies and impacts on ecosystems and how these affect their business strategy and resource use.

Penny Nelson, the SBC's executive director, says the project, which runs to 2016, aims to help organisations integrate an ecosystem approach into their business management. "It uses tools, guides, case studies and presentations to encourage businesses to think about biodiversity and ecosystem issues," she explains.

Tooling up

To assess the ecological impact of an organisation's activities five leading businesses in New Zealand have been using the corporate ecosystem services review (ESR) tool developed by the World Resources Institute and the World Business Council for Sustainable Development. At a conference in March to showcase the early results, representatives of the five organisations championed ESR and the insights derived from using it.

Allyn Glaysher, general manager of human resources and corporate affairs at Aotearoa Fisheries, the Māori-owned seafood business, told delegates that the ESR had revealed previously unknown evidence of decreasing kelp in parts of the Marlborough Sounds. This alga is essential for the survival of pāua, a species of large, edible sea snails that are a key product for the business.

In another use, Marta Karlik-Neale, a sustainability consultant at engineering and environment consultancy

AECOM (formerly URS)

AECOM (formerly URS) provides engineering and environmental services globally. Its New Zealand arm is a long-standing member of the Sustainable Business Council. The company saw the potential for the corporate ecosystems services review (ESR) process to enhance the three features of its internal 3i programme – innovation, integration and involvement – by encouraging cross-disciplinary thinking and cross-sector cooperation with clients, regulators and other stakeholders.

The project ran from the end of 2013 until mid-2014 and was confined to the services offered to the firm's water sector clients in Auckland. It focused on freshwater issues, global and regional climate change, natural hazard mitigation, and regulation of water timing and flows. New Zealand academic papers on ecosystem valuation and ecosystem classification, international literature on green infrastructure, and case studies from AECOM experts in the UK were used to the review conditions and trends. A key risk identified by the study was the increasing costs of infrastructure related to supplementing or substituting ecosystem services, such as freshwater, water purification or natural hazards mitigation. Climate models for Auckland predict heavier rainfall but also more frequent droughts. These changes will put pressure on existing infrastructure, perhaps damaging it. As a result, the costs of infrastructure upgrades and maintenance are likely to rise. The review found that ecosystems-based solutions, such as green infrastructure to manage storm water at source, could reduce those costs and generate additional benefits, including improved air quality and noise mitigation.

AECOM says the review confirmed the business case for applying an ecosystem services framework in the water sector. Now it plans to support regulators and its clients to incorporate this way of thinking into their planning and infrastructure design. The company intends using the results of the project to increase awareness of ecosystem-related risks and opportunities.

Aotearoa Fisheries

Aotearoa Fisheries is the largest Māori-owned seafood company. Its Prepared Foods division is the biggest processor of pāua – the Māori name for abalone, or edible sea snails. The firm acknowledges that ecosystem change driven by climate change and erosion presents risks to its pāua business. It used the corporate ecosystems services review (ESR) tool to examine the operational issues facing the production of wild pāua in the marine environment.

The ESR identified trends, risks and opportunities across three selected ecosystem services. The general manager of human resources and corporate affairs at Aotearoa Fisheries, Allyn Glaysher, said the most significant finding, which was unknown to the company, was the serious kelp loss in the Marlborough Sounds, at the north of New Zealand's south island. Aotearoa Fisheries discovered almost a complete loss of kelp and a 90% loss, respectively, in the inner and outer Queen Charlotte Sound, while a 50% decrease was recorded in the Tory Channel. Glaysher said the reduction was probably due to a combination of land management practices and sediment infiltration.

Glaysher described the use of the ESR by Aotearoa Fisheries as a "leap of faith": "We had never done anything of this nature in the company. We have been surprised at the amount of information we've got out of it and what it might mean."

The company is discussing with the department of conservation a kelp restoration project in the Marlborough Sounds.

Contact

Contact is one of New Zealand's largest electricity generators and retailers, with more than 500,000 customers. It generates electricity from geothermal, gas and hydro sources, with hydrodams on the Clutha River accounting for 45% of its production in 2014. The Clyde Dam is the larger of the two dams on the Clutha. The hydro-generation operations on the river were selected to pilot the corporate ecosystems services review (ESR) as it provided a geographically discrete ecosystem with clearly identified stakeholders for Contact to invite to participate in the project. The aim was for Contact to better understand the benefits and impacts, risks and opportunities of its operations on the Clutha. Among the risks and opportunities identified were:

- increasing demand for freshwater from irrigation-based agriculture and horticulture, for example, leading to the regional council to review water allocation on the Clutha. This may affect allocations under Contact's existing consents;
- the Clutha and Roxburgh dams inhibit the natural migration of native fish, such as tuna (native eel). Although fish management programmes are in place to provide passage, the issue continues to be of concern to local communities and environmental groups; and
- tourism is critical for the local economy. Opportunities exist to assist tourist activities, such as river-based events and facilities.

Nicholas Robinson, general manager of corporate affairs, says: "What I've found so valuable about the ESR process has been the structure to identify the ecosystem services Contact is dependent on and those our stakeholders are dependent on. Stepping back, you could see a symmetry; we were dependent on fewer services than our stakeholders, which helped identify where tensions lay and provided a framework for addressing those tensions in the future."

AECOM (formerly URS), reported that the tool provided evidence that soft-engineering solutions, such as green roofs and living walls, rain gardens, and swales and wetlands, were generally preferable to conventional infrastructure because of the multiple benefits that arise (see case study panels).

Engaging businesses

SBC has partnered with New Zealand's department of conservation and Landcare Research, one of seven crown research institutes in the country, on the programme, which was developed after the council hosted a conference in Wellington on valuing nature in 2013. Pavan Sukhdev, study leader on the TEEB report, *The economics of ecosystems and biodiversity*, told delegates that businesses should measure the externalities of their operations, and manage, disclose and reduce them.

After the conference, the council decided to find companies in six major sectors in New Zealand to act as champions in the business community to gain a better understanding of their dependence and impacts on ecosystem services, says Nelson.

Agreement was struck with organisations in five – agriculture, power generation, infrastructure, fishing and an SME. Aside from Aotearoa Fisheries and AECOM, the project involved: Archeus, an SME producing natural skincare products, mainly for export; Contact, one of the country's largest electricity generators and retailers; and dairy cooperative Fonterra. Nelson says they were selected because of they are leading companies in key sectors of the economy. All five completed their ESRs by the end of 2014, and more SBC members will undertake a review using the tool this year and in 2016.

Under the five-step ESR process (see panel, top right), businesses identify the key ecosystem services for their operations by evaluating their degree of dependence and impact on a range of different services. The tool then guides them through an analysis of the conditions or trends in the priority ecosystem services, as well as drivers that significantly influence the trends. The next step is to evaluate how trends can have an impact on the company, either as risks or opportunities. Finally a strategy to manage those risks and opportunities is developed.

Making an impact

Suzie Greenhalgh, portfolio leader at Landcare Research, which worked with each of the five organisations on their reviews, describes the ESR as a

The five stages of the ecosystem services review

Step	1 – Select the scope	2 – Identify priority ecosystem services	3 – Analyse trends in priority services	4 – Identify business risks and opportunities	5 – Develop strategies
Activity	Choose boundary within which to conduct the ESR – for example, business unit, market, product, customer or supplier	Systematically evaluate degree of company's dependence and impact on more than 20 ecosystem services. Determine those that are most relevant to business performance	Research and evaluate conditions and trends in the priority ecosystem services, as well as what is driving these trends	Identify and evaluate business risks and opportunities that might arise due to the trends in priority ecosystem services	Outline and prioritise strategies for managing the risks and opportunities

Guidelines for identifying business risks and opportunities arising from ecosystem change (lexisurl.com/iema97078)

scoping tool for firms to think about their impacts and dependencies in terms of ecosystem services. "ESR is there to open people's eyes to see what is really important," she told the gathering in March to discuss the outcomes from the pilots. According to Greenhalgh, the ESR process had been very effective in engaging internal and external stakeholders on natural capital issues. "It was reassuring that people found the concept of ecosystem services was relatively easy to understand," she said. Greenhalgh also highlighted how the ESR could provide useful insights for the businesses at relatively little cost.

Craig Griffiths, community relations manager at Contact, said positive engagement with people inside and outside the organisation had been a key benefit of ESR: "The programme allows you to ask people to evaluate your business performance. We got some great insight." Glaysher also highlighted the tool's potential to improve engagement and talk with communities that companies tend not to reach: "We talked to some people who had been in the Marlborough Sounds for a long time and they said they had noticed the change in kelp. They were the people we engaged with as we went through the ESR process. It demonstrates what an effective tool the ESR is in getting people to discuss things."

Griffiths reported that the ESR pilot had cost Contact about NZ$50,000, mostly on the 16 employees who worked 433.5 hours. He also highlighted how the energy company was planning to use the ESR framework to embed sustainability, mainly by helping it move to a material aspects approach in its business, including its reporting.

Meanwhile, Sean Goddard, biodiversity manager at Fonterra, told delegates that the ESR had helped the organisation move beyond focusing on reducing its impacts to looking at the opportunities, the value of investments and improving ecosystems. Similarly, Karlik-Neale said the ESR differed from the usual assessment of impacts because businesses have to focus on how they depend on nature.

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Archeus

Archeus produces a range of natural skincare and petcare products. The company's founder, Georgina Langdale, was part of the team that produced the TEEB – *The economics of ecosystems and biodiversity* – and was familiar with the corporate ecosystems services review (ESR). She was keen to use the tool to provide information on how suppliers were growing ingredients and to identify potential risks in the supply chain. The trends, risks and opportunities identified by the review included:

- the growing demand for natural and organic ingredients is placing pressure on availability of raw ingredients;
- rising demand risks soil depletion, while an increase in production of raw ingredients using pesticides or clearing of habitats can lead to a further decline in pollinators;
- intensification of agriculture threatens habitats, although biodiversity-friendly land management practices can limit impacts.

In response, Archeus is seeking to source certified natural ingredients and packaging materials. Langdale says: "The ESR helped us ask better questions of our customers, suppliers and our own business planning."

Fonterra

Fonterra is a New Zealand dairy cooperative and the world's largest processor and exporter of dairy nutrition, each year producing more than two million tonnes of dairy and specialty ingredients, and consumer products. The company piloted the corporate ecosystems services review (ESR) in the production of strawberry yoghurt at its Takanini factory in Auckland with the aim of assessing its value and limitations and use it to develop strategies to enhance the sustainability of Fonterra products.

The study involved members of the company's global sustainability and social responsibility team as well as staff from the factory and the corporate procurement team.

The priority ecosystem services identified were crops, livestock, freshwater and the regulation of water timing and flows. Risks identified included security of supply and risk of strawberry crop failure due to climate change, pollination difficulties and other factors. Water was also identified as a key risk, primarily associated with rising costs and drought, shortages due to population growth, and flood damage to crop production. Opportunities included improving the procurement framework and process to enhance supply-chain sustainability.

Fonterra says it will now explore using the ESR as an engagement, scoping and planning tool for working with farmers.

Building in the round

Maxine Perella finds out how the construction industry is adopting a circular approach for its materials and waste

Collectively, the construction, demolition and excavation sectors are the largest contributors of waste in the UK. It is estimated that together they generate around 80 million tonnes of waste every year. According to Wrap, the body that advises on waste and resource issues, managing and disposing of unwanted materials costs the construction industry the equivalent of 30% of pre-tax profits.

Although good progress has been made by the sector in terms of landfill diversion, with recycling rates at around 90%, a stronger business case is now emerging to push construction waste not just up the waste hierarchy, but beyond it.

Going in circles

One approach gaining traction is to apply the circular economy model to construction. This aspires to design waste out of not just the construction process, but the entire lifecycle of a building. Work undertaken by Wrap indicates that, in the built environment, lifetime maintenance and management costs are around five times those of construction. The adoption of lifecycle thinking – such as designing for deconstruction so that components and materials can be disassembled, reused or reassembled – can not only help reduce these costs over the long-term, but retain the resource value embedded in structures.

Such a fundamental rethink represents a challenging proposition but, as interest grows in the circular economy, moves are being made to examine how feasible this shift is, led in part by the UK Contractors Group (UKCG). Last year, it published a beginner's guide to circular principles in sustainable construction. Simon Nathan, head of policy at UKCG, believes the concept is likely to have "profound effects" on the delivery of construction projects. "While UKCG have other existing workstreams on waste and materials, it was considered that a working group on the circular economy was needed to examine the wider issues," he says.

The group is seeking to define what the circular economy means for UKCG members and to identify opportunities. In terms of immediate priorities, the UKCG is looking to establish current practices and develop training materials to engage members, as well as their suppliers and clients, to encourage uptake. Asked where he sees greatest appetite for circular economy thinking in the supply chain, Nathan replies: “There are isolated examples, with construction industry suppliers beginning to develop and offer circular economy solutions and service offerings that respond to this agenda. To make it happen it requires the buy-in of all parties.”

Balfour Beatty

One contractor keen to push forward on this agenda is Balfour Beatty Construction Services UK. The company’s director of sustainability, Paul Toyne, says it is still “early days” for the industry. “If you think about all the different components you find in buildings, companies are looking at leaner ways of manufacturing their products – but that doesn’t necessarily consider the afterlife use,” he says.

Toyne maintains that, for a circular economy to work in construction, contractors need to have confidence that the products or materials they use, both in the building frame and the internal fixtures, will retain their value when the time comes for deconstruction or adaptation – often several decades later.

“If you’ve got materials that are embedded in the building … we don’t know what the value of those materials might be in 50 or 60 years’ time,” Toyne says. “The effort that goes into designing buildings to deconstruct, or to take those elements out, is handicapped by the fact we can’t predict the future.”

Balfour Beatty’s first venture to deliver a building capable of being deconstructed can be viewed at its flagship project, St James’s Market in central London. The company’s commercial redevelopment for the Crown Estate incorporates into the build, timber, slate and stone sourced from the client’s forests and quarries. At the same time, waste minimisation techniques, such as off-site prefabrication, salvage and reinstallation activities are being pursued.

Balfour Beatty is also employing building information modelling (BIM) to store component details, including maintenance and ownership.

Internally the contractor has identified 16 potential opportunities for circular construction, four of which it has prioritised. These centre on:

- **design** – standardisation, design for deconstruction, easy repair/life extension, flexibility and biomimicry;
- **waste** – waste as a resource, zero waste, research and development, new materials and manufacture to design;
- **energy innovation** – energy efficiency, not just in terms of energy use in operation, but in build and decommissioning; and
- **dematerialisation** – reviewing what is built and how it is built.

Whole-life costs

On a wider level, one development that could provide an industry framework for more circular buildings is RE-Fab – a protocol that looks to reduce whole-life costs through increased use of adaptation and refurbishment. The organisation behind this concept, the Alliance for Sustainable Building Products (ASBP), hopes it will enable new models of financing, such as product leasing.

So far, RE-Fab has received funding from Innovate UK to undertake a series of feasibility studies and is now looking to take its work into the wider community.

“We want to create a framework for better decision making – we are talking about reframing the whole way building [work] is done,” says Gary Newman, executive chair at ASBP. The principles of RE-Fab have already been reflected in Chobham Manor Marketing Suite, a demountable showroom at the Queen Elizabeth Olympic Park. Developed by Suitebox and ES Global, the building uses standard construction materials and components that have been adapted to suit the requirements of reuse.

Chobham Manor also employs a novel on-ground foundation system of steel padfeet to save on the cost of complex foundations and slash onsite build time. Using this approach, buildings can be constructed with a design life of between six months and 60 years. Graham Hilton, director at ASBP and co-founder of RE-Fab, hopes the project will challenge the view that buildings are permanent, fixed structures. They can and should be more fluid, he says, describing demountable builds as “Lego for adults”.

Generating ideas

More emerging best practice should start to appear with Innovate UK’s latest funding competition – it is investing up to £4 million in collaborative research and development projects that lead to better whole-life performance of buildings. The government-sponsored agency, formerly the Technology Strategy Board, is interested in proposals that can either show evidence of, or improve, a building’s whole-life performance or stimulate customers to procure and manage better solutions – this might involve product leasing or performance-based contracts.

Dr Mike Pitts, lead specialist for sustainability at Innovate UK, believes construction represents one of the biggest opportunities in the circular economy due to how much material it consumes. “How can we get a building to have lower running costs, lower impacts and better performance over its lifecycle?” he asks.

Much of this links back to design. Here, building material suppliers have a key a role to play, according to Charlie Law, founder of Sustainable Construction Solutions. “Material suppliers have to come up with solutions that can be taken down and are demountable because a lot of what they design at the moment goes up and is fixed in place,” he says.

Some of the solutions mooted appear simple. These include bolted rather than welded connections for steel beams, and “glueless” substitutes for traditional brick-bonding agents of cement and sand. Although there are a few products on the market designed with disassembly in mind, such as demountable ceilings and leasable carpet tiles, these are geared more towards internal fittings. “There’s only a limited range of materials available that are able to be used in a circular way at the moment. Questions need to be asked by designers and clients to push industry forward to develop these solutions,” Law says.

Investors think they own the bricks and mortar in a building … but the asset is the space. You don’t need to own the bits that make up that space; it’s the space itself that you own

A move away from composite structures such as foam insulated metal panels that are difficult to separate out for recovery or reuse might also be beneficial. But whether you design for durability, deconstruction or adaptation, much depends on the intended use of the building, the tenancy and the land it sits on, as well as the governance and legal structures in place when preparations are made for materials to be reclaimed at the end of their use phase.

Toyne at Balfour Beatty believes the most sustainable building in terms of its foundations is one that is built to last but with adaptation built in. “That functionality, so that a building’s use can change over time, is key. That would help in terms of its longevity and that’s a fundamental challenge back to designers.”

Echoing this, Law says that perceptions need to be changed on the future financing of this type of property. “Investors think they own the bricks and mortar in a building … but the asset is the space. You don’t need to own the bits that make up that space; it’s the space itself that you own. It’s trying to work out how those contractual agreements work over the long term, and how the building changes hands over that lifetime.”

Going Dutch

Here, the UK could learn from the Netherlands, which is pioneering some interesting work in the ownership of the materials in buildings.

Dutch firm Delta Development Group sees buildings as “material banks” and believes developers should start tapping into the residual value of materials tied up in commercial real estate. By taking a more inclusive supply chain approach to material specification, the company has created supplier material lease agreements. This means that, in effect, large parts of the buildings that Delta develops are now owned by individual suppliers. This has led to several benefits, including lower costs for changing interiors or workplaces, lower rates for tenants and a reduction in real estate investment risk.

Another circular exemplar is Villa Welpeloo in the Enschede region of the Netherlands. It is a house and art studio designed and constructed by Superuse Studios. It is notable not just because 60% of the house is built from locally salvaged materials, but because they were sourced through the use of satellite technology. The agency employs Google Earth to identify waste stock in nearby industrial zones so that it can access high-quality materials cost-effectively.

Superuse Studios has scaled up its materials recovery strategy and has created an open-source online tool called Harvestmap.org. Visitors to the site can identify large quantities of waste materials, including plastics, wood, metals and chemicals, that are available for local collection. The work of Superuse has been picked up by the Ellen MacArthur Foundation as having significance for creating circular economies in buildings through the optimisation of material flows.

Meanwhile, the Dutch-based Circle Economy Institute has developed ACT (assessing circular trade-offs), a tool for assessing end-of-life scenarios and has done some initial application work in the construction sector. It looked at options from the downcycling of construction and demolition waste for road-based aggregates to the reuse of concrete blocks to identify the best economic solution for a specific situation.

It found that, from a circular perspective, recycling is still a form of value destruction since all the embodied energy is wasted. As concrete is responsible for 25% of energy use in the building and demolition sector in the Netherlands, reusing concrete blocks can reduce that impact and save significantly on production costs.

UK barriers

In the UK, there are still many barriers to address. UKCG’s Nathan cites a lack of knowledge, institutionalised mind-sets, the perception that circular products may be inferior, insurance issues, and the need to address supply and demand cycles.

It is a view shared by Law, who believes the construction industry is some way off making that shift: “In the next few years I would hope to see a lot more people thinking seriously about how they can make their products more circular and see some of these ideas incorporated into buildings. It’s definitely getting some traction out there. I think everyone can see the benefits of it – material suppliers are seeing it because they can see potential for getting their raw materials back and, if they’ve got issues with future security of supply, this is a way they can guarantee that.”

He adds that customers will stand to gain too. “There are benefits for the client especially around things like the service type model agreement. It could be that they end up paying less for the installation of the product and that the actual cost of [it] ends up in the operational budget. The capital expenditure for a building becomes less, the operational expenditure might be a bit more … but that means they’ve got a building that is always going to function.”

Maxine Perella is a freelance journalist.

Image: iStock

Managing supply chains effectively is key to any successful business. This is particularly true in today's world of global supply chains and in which civil society, the media and non-governmental organisations demand more transparency.

Sustainable supply chain management incorporates the tender process to ensure that proper criteria are included, as well as measures to protect profit, such as business continuity, and brand and reputation management.

This is a challenge for all companies, regardless of size. A recent report from insurance company Zurich found that, although 80% of firms with a turnover of between £5 million and £300 million say their supply chain is critical to their operations, only 17% have business continuity plans in place and check their suppliers have similar arrangements.

Sustainable procurement

The working definition of sustainable procurement proposed by the government's taskforce on the subject is: "A process whereby organisations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole-life basis in terms of generating benefits not only to the organisation, but also to society and the economy while minimising the damage to environment."

Sustainable procurement should not be confused with green public procurement, which takes into account economic, environmental and social impacts in buying choices.

Most companies work to a business model of cost, quality and delivery. However, this approach ignores risk and the longer-term sustainability of suppliers. For businesses to develop greater resilience in their supply chains they have to identify the risks within them. An effective assessment needs to identify not only a risk in relation to lack of access to raw materials – in the case of manufacturers – but also human trafficking or slavery concerns, and implications for environmental impacts and degradation, as well as reputation.

Research has discovered why organisations are increasingly incorporating sustainability into their purchasing decisions. The business benefits include:

- reducing exposure to risk;
- minimising business disruption arising out of environmental or social impacts;
- enhancing competitive advantage;
- reducing costs;
- attracting and retaining talent; and
- anticipating legal obligations.

Many companies see sustainability as a means of gaining market share through improving brand value and increasing sales with ethical consumers.

However, there are several barriers to implementing sustainable procurement. The top five are:

- Lack of senior (executive) and organisational support.
- Structural and organisational change.
- Lack of coherent corporate procedures, systems and approaches.
- Lack of time, knowledge and capacity.
- Costs, perceived costs and cashable savings.

Steps to sustainable procurement

There are nine key actions that a company needs to take. These are:

- Develop a sustainable procurement strategy.
- Prepare a sustainable procurement policy.
- Develop a suitable labour code of conduct for suppliers.
- Rethink the decision and basis of purchasing.
- Include sustainability criteria in tender evaluations.
- Create a post-tender selection phase.
- Create sustainability contract clauses.
- Select key performance indicators that reflect the sustainability criteria.
- Monitor and manage information from suppliers to ensure continuing improvement.

Organisations should consider establishing a cross-functional team to develop and implement the sustainable procurement strategy; complete an environmental, social and profile risk assessment; compile a contracts risk register; create a documented sustainable purchasing policy; and communicate widely the strategy and approach.

Engaging with suppliers is a critical element of a successful sustainable procurement policy. Organisations should consider mapping their suppliers using tools, such as BS 8903, which provides guidance on adopting and embedding sustainable procurement principles and practices. They must prioritise suppliers that are critical to the organisation and those that pose the greatest risk.

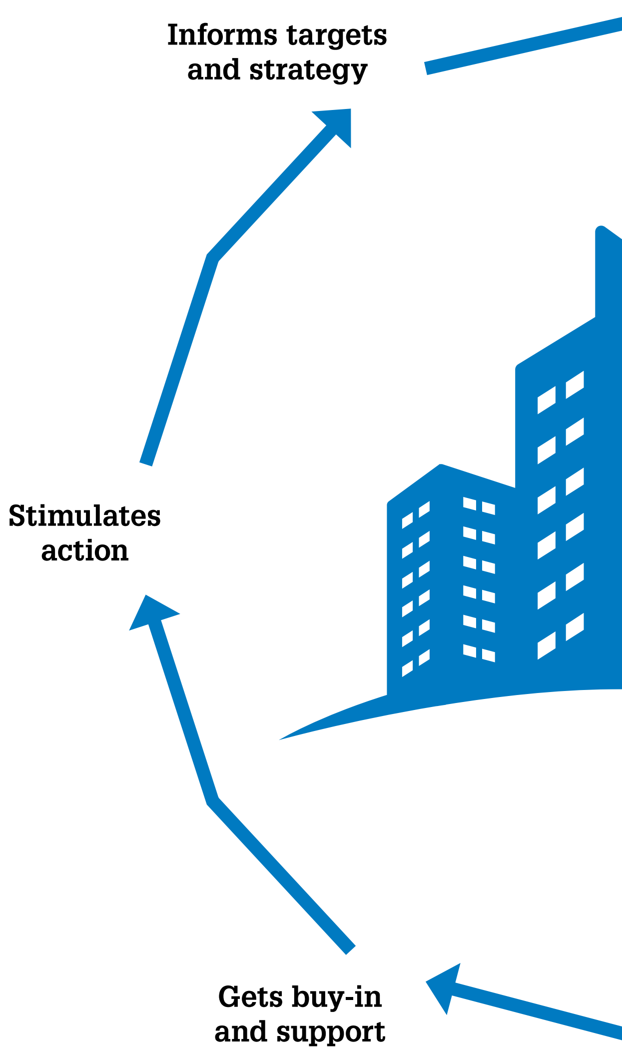
It is also critical to consider the best method to communicate with key suppliers. This could be through face-to-face meetings, surveys, emails or stakeholder engagement forums. A code of conduct can help in establishing and managing expectations for customers and the suppliers.

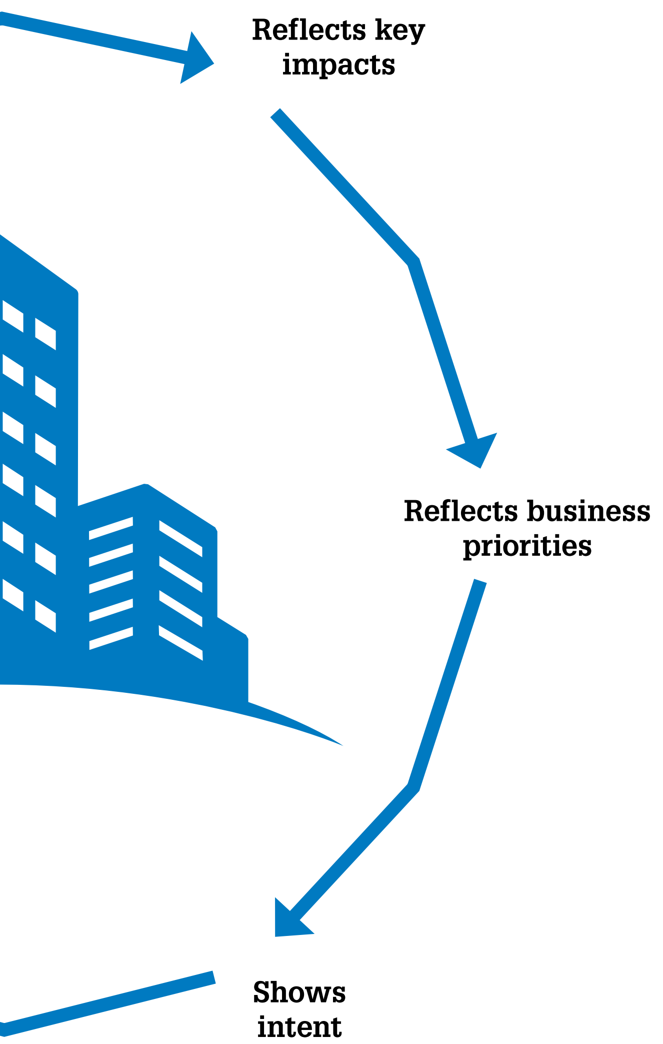
All organisations that want to purchase sustainable goods and services need to ensure they understand these key issues:

- To achieve sustainability in procurement, tenders should be evaluated, not according to the lowest price only but according to MEAT – the most economically advantageous tender (see panel, p.27).
- Understand the differences in the tender award and selection stages, and the role of pre-qualification questionnaires.
- Ensure specifications are properly written.
- Monitor contracts.

What does a sustainable procurement policy do?

Source: Adapted from EAUC and Defra





Tender evaluation criteria for MEAT

Examples of questions	Examples of criteria
Systems for environmental management: "Describe the system, processes and practices that enable your organisation to meet your legal environmental requirements and achieve continual improvement of your environmental performance."	Criteria to be commented on in response to this question: an environmental management system and/or a sustainability or environmental policy.

This year, the Modern Slavery Act and the Public Contracts Regulations 2015 have both changed the procurement process

Legal matters

Two critical statutory amendments this year have changed the procurement process. First, the Public Contracts Regulations 2015, which transpose the EU Directive on public procurement (2014/24/EU), came into force in England, Northern Ireland and Wales on 26 February 2015. Significantly, the legislation will require public bodies and, where applicable, private companies to adapt tender processes to include environmental and social impacts. Second, the Modern Slavery Act (MSA) received royal assent on 26 March. Details of the companies that would be covered were not included in the Act, but will become clear after the government considers feedback to its consultation, which ended on 7 May. It is likely the government will set a £60 million threshold for goods and services in the UK. This is the sum in the California Transparency Supply Chain Act, on which the provisions in section 54 (transparency in supply chains or TISC) of the MSA are modelled.

The TISC clause will require companies to produce and publish on their websites a statement on how they are addressing slavery and human trafficking in their operations and supply chains. The relevance of these provisions to procurement is that they are key to determining what is expected from suppliers and increasingly feed into how suppliers are measured.

Meanwhile, the new regulations on public contracts apply to a contracting authority that covers central government and organisations, such as NHS foundation trusts. The regulations apply when specific thresholds are exceeded. Contracts worth at least £100,000 come under the regulations and, if advertised, a notice must be posted on the government's contracts finder portal. This was not the case previously. There is also a statutory obligation to consider following the Cabinet Office guidance on how and when the information needs to be published.

In relation to environmental and social criteria, regulation 43(1) allows for the contracting authority to specify that a supplier must be entitled to use a specific label as a means of proof that the goods, works or services comply with environmental, social or other characteristics as long as the safeguards are met.

There is now a requirement for contracting authorities to demand an explanation for tenders that appear abnormally low in costs. Regulation 69 states that bids may be rejected only if this explanation is unsatisfactory. However, if the tender is low due to breaches of environmental, social or labour law, the contracting authority is obliged to reject it.

These legal requirements will bind public authorities, but they will also have an impact on private companies seeking contracts from public bodies. In addition, private sector companies pursuing development of best practice in their procurement strategies will no doubt start following the public sector's lead.

Colleen Theron, MIEMA and GASCO, is a director of CLT Envirolaw

Talking about sustainability

the environmentalist reports on a discussion to help clarify the language of sustainability

Given the scale of IEMA's vision to transform the world to sustainability – an objective set by members in 2013 – it is vital to get the foundations right. A strong and universal mastery of the basics of sustainability will prepare the institute and its members to achieve its goal.

That is why IEMA has been striving over the past year to build a shared understanding of sustainability as a principle and to clarify its terms. To achieve this end, IEMA has held workshops with members and consulted on a draft white paper to define and explain terms and concepts, such as sustainable development, sustainable business, corporate responsibility and corporate sustainability.

Nick Blyth, IEMA's policy and engagement lead, says: "It could be easy to get lost in the definitions around sustainability. This initiative is different. It is about a common language and understanding."

A new language?

At a recent roundtable discussion, leading members met to talk about the emerging lexicon. All agreed there was a need for the work.

Phil Cumming, a consultant, said: "What we don't have is agreement on the process and the direction and some of the language. You can talk to a myriad of people within our circles and multiple different job titles and they could all be doing the same thing or they could all be doing something very different."

"I think drawing a line and stopping 'term creep' is a good idea," said Matt Sexton, senior adviser at Futerra. "There are more and more terms coming out and it's starting to bewilder non-expert audiences. The sooner we can lock it down to a few terms the better, and with IEMA's backing that will be very useful."

Once this is achieved, professionals would be free to decide for themselves the words that most resonate with and motivate the companies they are engaging with, he added.

Members favour the Brundtland commission definition of sustainable development, which simplified is "meeting the needs of the present without compromising the future". They also want to draw on "one planet living", a concept developed by Bioregional and WWF International to emphasise the need to work within environmental limits and natural cycles. Under this scenario, members have pushed for sustainable development to be seen as resolving rather than balancing the three pillars of sustainability – environment, economy and society.

"We're not going to limit this to the environmental definition; we are going to broaden into social, ethical and wider considerations. IEMA needs to move into that broader space," said Martin Baxter, executive director of policy at IEMA.

Members expressed broad agreement with this definition. However, roundtable participant Bob Latham, a director at the Delphi Projects consultancy, queried the idea of resolving the three elements of sustainability rather than balancing them.

Blyth responded: "This came out of several discussions we had where there was a feeling that balancing the three pillars can be unambitious. Resolving is implicitly taking it one step further. Rather than looking at silo issues and trading one off against another, it forces you more towards the ambition of trying to find win-win solutions across social, environmental and economic issues."

Jae Mather, director of sustainability at the Carbon Free Group and partner at Responsible Worlds, agreed that balancing the three pillars could lead some organisations to be less ambitious. "This is a problem for many corporations. Often when they face up to this it becomes difficult so we have to coax them in," he said.

Business terminology

Looking at sustainable business as a term, the white paper consultation defined this primarily as an aspirational status for organisations to achieve in the future. However, roundtable participants were concerned that use of the word "aspirational" could allow businesses to think they can delay action.

Beth Knight, head of corporate sustainability at EY, flagged this up: "If someone sees aspirational, they're going to think it means 'let's worry about it later' but we're not saying that. We mean it's an evolution."

Baxter echoed this sentiment: "It's great having aspiration. But anyone can have aspiration safe in the knowledge that they won't be there to see it through."

Martin Baxter, director of policy

Nick Blyth, policy adviser

Jan Buckingham, consultant

Phil Cumming, consultant

Beth Knight, head of corporate sustainability

Bob Latham, director

Jae Mather, director of sustainability

Matt Sexton, senior adviser

Colleen Theron, director

Some roundtable participants felt there needed to be a stronger connection between sustainability and mainstream business strategy. Freelance consultant Jan Buckingham said that, to be regarded as sustainable a business needed to link its sustainability strategy to its corporate strategy. "A business needs to map out its journey to sustainability and then take that into its overall business strategy. I think that's fairly fundamental," she said.

Knight said: "We should say upfront what it is not. We're not talking about 'my business is sustainable because it's been around for 30 years'."

Participants debated whether a truly sustainable business could be profitable, because that would limit the definition to profit-making companies only. Some suggested that the issue was more around how an organisation distributes its profits. Other words, such as "efficient" or "commercially viable", were suggested, though it was felt that "profitable" was more reassuring language to use with business as long as it was put into context.

Corporate accountability

Definitions of corporate responsibility and corporate sustainability were discussed together by the roundtable participants since there is traditionally an overlap and confusion between the two.

There was a suggestion that the best way to differentiate between them is by their timeline. Corporate responsibility can be seen as a shorter-term idea considered up to three years in advance. By contrast, corporate sustainability considers longer term aspects of business, which tend to be more strategic, such as responding to megatrends like climate change.

A sustainable business is identified as one that is frequently reviewing itself and its dependencies, and is not just enduring over time. This type of business is also managing, improving, innovating and changing, and is likely to have an active and ongoing approach to corporate sustainability. The concept of a corporate sustainability timeline is illustrated in the panel on p.30.

Latham pointed out, however, that he has heard corporate responsibility used to mean a longer-term view in reference to the responsibility of a board to pay shareholders. "We're at an important crossroads about defining this language," he said. "If we look at defining responsibility in a shorter time frame with specific activities, and sustainability in a longer time frame looking at transformation, not simply endurance, then go for it because somebody somewhere has got to solve the issue of these four or five words that are causing real problems."

Colleen Theron, director of CLT Envirolaw, said: "One of the biggest challenges is how to bring that long-term thinking into what is a short-term consumerist agenda."

Mather believes that the term corporate sustainability is absent from most boards. "That's why the world finds itself in our current circumstance," he said. "It's the absence of any level of greater responsibility, the quarterly methodology has infused itself into all aspects of politics and governance. It started in finance and spread like a virus throughout society and it's the central fundamental challenge of any sustainable thinking because you cannot have sustainability with short-termism."

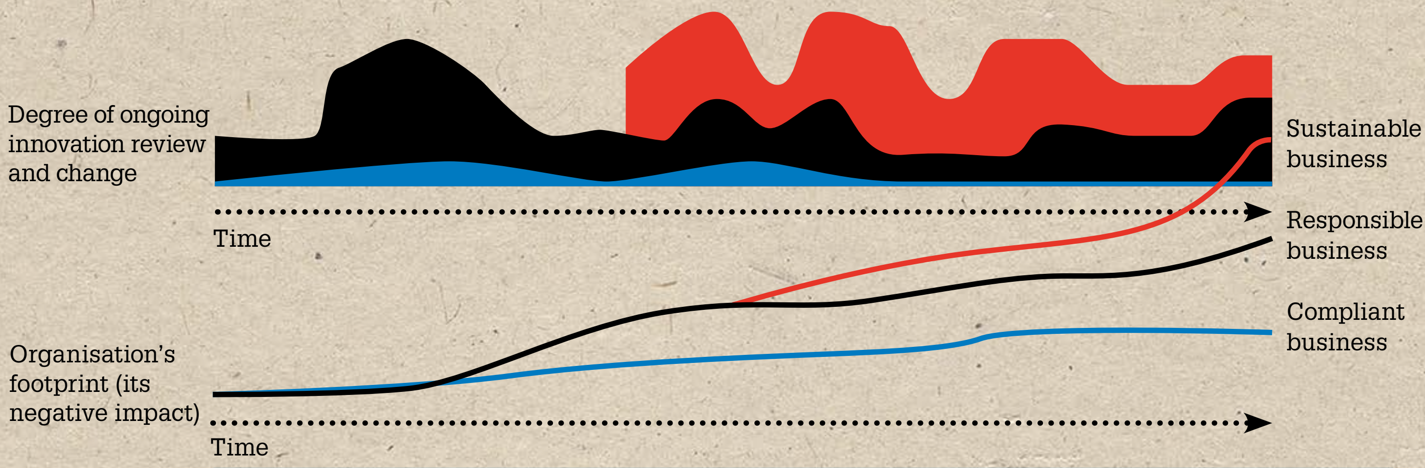
Cumming stressed the importance of top-level leadership in achieving corporate sustainability. "Some organisations have well-thought-out sustainability strategies but they're completely divorced from the actual governance architecture of the organisation and there's no oversight at all," he argued.

Roundtable participants also debated whether certain types of business, such as those in the tobacco and oil sectors, could ever be truly sustainable. "We need to be bold in distinguishing between corporate responsibility and corporate sustainability," said Cumming. "For example, some tobacco companies have some great programmes in place. But while they can do as much as they can to make their business more responsible, can they ever be aligned with what sustainable development is all about? Should they be pursuing corporate sustainability?"

Others thought it would be damaging to exclude types of business and that the more important outcome is to get all businesses to employ sustainability professionals to help them transform.

The session concluded with a discussion of the dynamic nature of corporate sustainability beyond responsible business. Roundtable participants agreed on the essential imperative to seek to embed sustainability in the mainstream strategy and the importance of ongoing innovation, review and change. These and other factors, such as collaboration, are essential in differentiating and defining the sustainable business, they said.

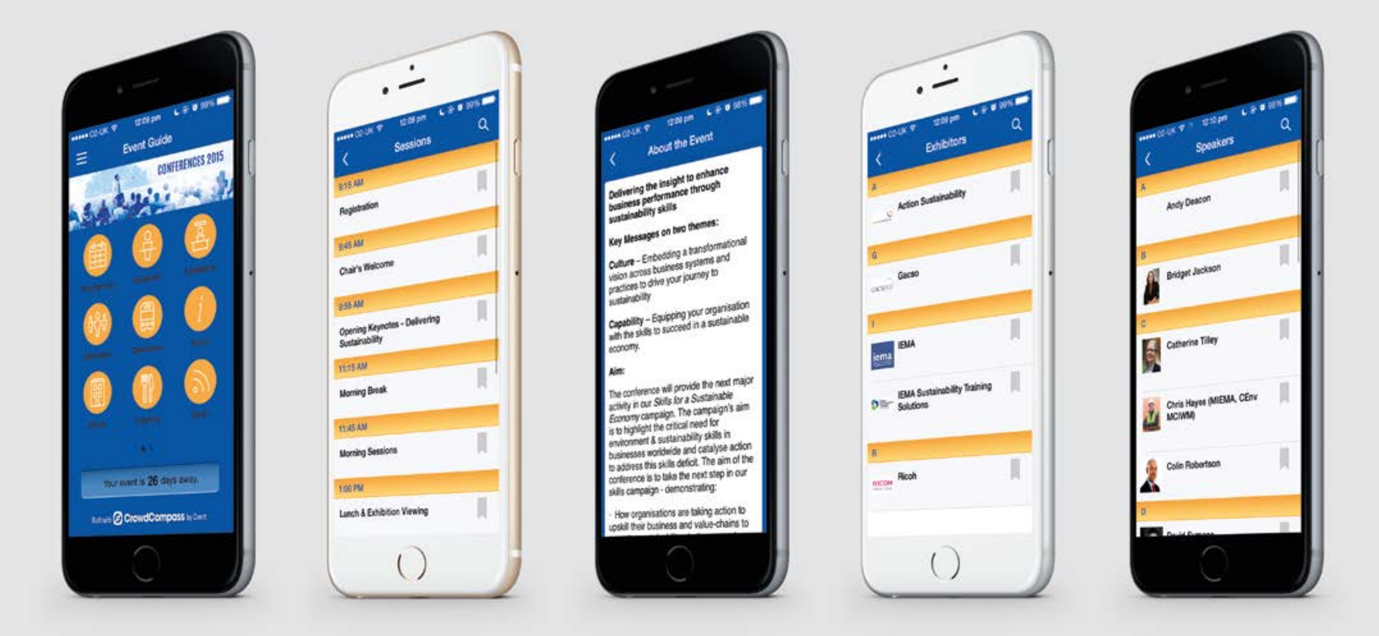
Image: iStock



The evolution of a sustainable business

The top half of the diagram shows to what extent a compliant business, a responsible business and a sustainable business review their strategies. The compliant business carries out only low-level reviews and consequently does not undergo change. The responsible business has a greater level of ongoing review but there are periods of inertia between peaks. The sustainable business is almost continually reviewing its situation, with regular periods of innovation and change. The lower half of the diagram shows the relative impact on the environment of these three types of business. The compliant business is making only marginal improvements, while the responsible and sustainable businesses are both going beyond compliance and therefore making stronger progress. Over time, the sustainable business undergoes transformational change and even becomes net positive.

IEMA conferences go paperless



This month's Delivering sustainability: culture and capability conference – sponsored by Ricoh – will be IEMA's first paperless event, thanks to a specially developed smartphone app.

The focus of the conference, on 14 July at 11 Cavendish Square in London, is on what can be achieved when delivering transformational sustainability performance through capable people and the right culture. The event is essential for all environment and sustainability professionals yet also invaluable to the wider workforce of every organisation.

The app will feature the day's programme, speaker profiles, delegate list, venue map, exhibitor details, image gallery and a live Twitter feed, eliminating the need for paper delegate packs. With more than 120 delegates expected, this will save at least 1,000 pieces of paper.

Delegates who attended the forum on environment management systems in November 2014 may remember that IEMA trialled the app then. Due to the positive feedback and obvious savings on paper and ink, IEMA is now making the app a key feature of conferences. The app is available on iPhone and Android devices so can be used on most smartphones and tablets. Conference delegates can download it at any time from their app store; direct download links have already been sent to those who have booked their place.

As *the environmentalist* went to press, there were a small number of places remaining, so to take up one of the last available seats and hear keynote presentations from Marks & Spencer's Mike Barry, the former minister for environment, sustainability and housing in the Welsh government, Jane Davidson, and the environmentalist Tony Juniper, go to iema.net/conferences-2015-skills.

New online payment portal coming soon

From 3 August, IEMA members will be able to renew their membership using the institute's new online portal. Online renewal is the modern way to pay, and the portal will provide a quick, simple and efficient way for members to pay their annual subscription.

Although the portal will be fast and easy to use, it is not the most convenient way to renew. Direct debit remains best. It is completely automatic and means members will always have constant access to their membership benefits. Direct debits take the hassle out of renewal; sign up and you will never again have to remember to call to pay or go online to renew. It is also the most cost-effective way to renew; switch and you will get a £5 discount off your renewal fee for the first direct debit payment.

However, the portal also makes signing up for direct debit easier than ever. You will no longer need to fill in, sign and submit a paper form as the online platform will put you in complete control of your sign-up. This also means that when you set up your direct debit it will be the last time you will ever have to login to sort your payment.

After 3 August, IEMA will be removing the annual renewal reminder letter. Instead, members will receive a reminder by e-mail. This will help IEMA save at least 15,000 sheets of A4 paper each year – that is equivalent to an average-size tree and will save 150,000 litres of water!

The institute's current online renewal system will be available until the new portal goes live, so members can still visit iema.net/membership-renewing to pay or find out how to set up a direct debit.

Short cuts

2015 AGM

IEMA's annual general meeting will take place in London on Wednesday 26 August. All members are invited and entitled to attend the AGM where the institute's annual accounts will be received and approved. Details of the venue and a full agenda will be sent to all members by e-mail in the coming weeks, and will feature in your August issue of *the environmentalist*.

Half-price BRE Academy membership

Later this month, all IEMA members will have the opportunity to become a member of our partner, the BRE Academy. IEMA members will be eligible for a 50% discount. Membership of the academy will help build knowledge by providing more insights into key areas in the built environment, and access to a broader network of contacts. Academy members receive discounts on training courses, free webinars, discounts on BRE publications, events and facilities, and a badge of recognition. Full details of the offer and application details will be sent to members by the end of the month.

Newsletter schedule

Since the launch of IEMA's new newsletter schedule in May 2015, the institute has analysed data of open rates to find an optimal schedule of delivery. As a result, the schedule will shift slightly from this month to ensure members get the best content, delivered at the right time. Members who have opted in to receive newsletters will now receive Newsroom – membership news, offers and updates – on the first Tuesday of every month; the webinars newsletter on the second Tuesday; a careers update on the third Tuesday; and an events reminder on the fourth Tuesday. Members will also receive fortnightly updates from environmentalistonline.com, which features the latest news, magazine articles, regulatory updates and job opportunities.

Uniting one billion voices

IEMA is backing Live Earth's campaign to generate one billion signatories to a petition to be delivered to world leaders ahead of the Paris climate summit.

The UN Framework Convention on Climate Change will hold its 21st conference of the parties (COP21) in the French capital between 30 November and 11 December. The aim of the negotiations is to pass a new international climate agreement, which will apply to all countries and set expectations for each nation to take action on climate change.

Live Earth's goal is for world leaders to "take climate action now" and sign a strong emissions reduction agreement in Paris. Live Earth believes that a long-term commitment to zero global warming pollution should be central to the agreement, as well as a commitment to eradicate extreme poverty.

Image: UKWiki

IEMA is backing the campaign, with the institute's chief executive Tim Balcon, urging members to sign the petition: "Let's help Live Earth to unite a billion voices to deliver a single message to global leaders this November."

To add your name to the Live Earth petition, go to goo.gl/jSkqFi or find the link direct from iema.net's home page. From there you can sign up manually or automatically using Facebook, Twitter or Google+.

New perfect storm supporters

Nine months after it was launched, IEMA's campaign, Preparing for the perfect storm: skills for a sustainable economy, is still gaining support from those who recognise the need to bridge the environment and sustainability skills gap.

The campaign was launched in October 2014 with a report outlining the megatrends that threaten the future prosperity of the global economy. The report identified that the way to prepare for this perfect storm of issues is for organisations worldwide to train their workforce so that they have the right environment and sustainability skills. Currently there is a skills gap in this area as just 13% of organisations claim to be confident they have the necessary environment and sustainability skills to survive as part of a sustainable economy. IEMA believes this needs to change and has launched a call for collaborative action to help bridge the gap.

By May 2015, 38 organisations and two high-profile individuals – former MP Joan Walley and environmental campaigner Jonathon Porritt – had pledged their support. In June, two more organisations signed up. They are:

- **Sustain–Live** – a Bristol-based sustainable development consultancy, which aims to help its clients to become more sustainable through strategy, practice and innovation.
- **KnewRow** – a multi-disciplinary management consulting firm, which advises the oil and gas industry as well as government agencies, tourism organisations, and small and medium-size enterprises in Nigeria.

With the addition of Sustain–Live and KnewRow the IEMA campaign now has 42 supporters. Their logos now been added to those of the campaign's other backers, which include Jaguar Land Rover, WSP, EDF Energy, EY, Skanska, the British Safety Council and HP.

IEMA would like to thank Sustain–Live and KnewRow for their support and looks forward to working with them and the other supporters on further action to bridge the skills gap.

If you or your organisation would like to get involved in the campaign to gain profile and take advantage of upcoming opportunities, visit iema.net/get-involved-0.

More successful IEMA members

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

Associate

Robert Adamson, Elliott Environmental Surveyors
David Annetts, Johnson Controls
Scarlett Benson, Carbon Credentials Energy Services
David Bowers, Building Research Establishment
David Burke, Goodyear Dunlop Tires Operations SA
Robyn Chadwick, WSP UK
Christopher Davies, South Wales Trunk Road Agent
Sarah Dickson, West Berkshire Safety Management
Gordon Douglas, Mabbett and Associates
Andy Duffy
Rhianna Fulker, Novus Consulting (UK)
Claire Fundrey, Keltbray Group
Michael Gallagher, Costain
Richard Gallagher
Rob Gardner
Christopher Hall, Environment Agency
Dan Hilbourne, Centrica
Ella Hunt, BP Exploration Operating Company
Oliver Jago, Deloitte
Katherine Jenkins, Novus Consulting (UK)
Ala'a Sukhni, Al Khayyat Contracting & Trading
Peter Kneen, WYG
Clive Lamb, Contract Fire Security
Pam Leese, Sanofi
Stuart Livesley, Nov Mono
Robin Mace-Snaith, Marine Management Organisation
Grace Marshall, Siemens
Phil Mazzone, Johnson Controls
Michael McLeish
Alex Mullings
David Murgatroyd, Turbine Surface Technologies
John O'Connor, Schofield Lothian
Bope Arachcige Don Tharanga Dinuka Perera, Reliance Facilities Management
Claire Richardson
Matthew Shepherd, Waterman Energy Environment and Design
Caroline Railston-Brown, Stride Treglown Management
Charlotte Smyrl, Lake District National Park Authority
Natasha Stibbs, G4S Facilities Management
Heather Stratford, Valpak
Shane Tasker, Beyond Waste
Jamie Trybus, EC Harris
Hannah Watts

Full and Chartered environmentalist

Steven Bater, Balfour Beatty Group
Isla Davidson, Scotland Transerv
Dewi Day, QinetiQ
Lee Gardner, Doosan Power Systems
Emily Harris, SRK Consulting
Samantha Langford-Holt, Ministry of Defence
Mary McTernan, Atkins
Nicola Parker, Ministry of Defence
David Price, Planning Inspectorate
Richard Snow, Ministry of Defence
Edward Warner, Taylor Woodrow
Leilani Weier, Linklaters
Katharine Wellard, Atkins
Steven Wheeler, Skanska UK
Alexandra Wnuk, Siemens
Simon Worsley, Environment Agency

Chartered environmentalist

Darren Amos, Sulzer Pumps

IEMA events

Date	Region/Time	Topic	
8 Jul	Wales	Full member and CEnv mentor forum	
8 Jul	Wales	IEMA network meeting and social	
6 Aug	South East	Social (London)	
3 Sep	South East	Social (London)	
9 Sep	Wales	Full member and C Env mentor forum	
23 Sep	North West	Management of wastewater and waste	
23 Sep	Yorkshire & Humber	Social (Leeds)	
IEMA conference			
14 Jul	London	Delivering sustainability: culture and capability	
Webinars			
6 Aug	12:30 – 13:30	Introduction to the ISO 14000 series	
External conferences			
3 Sep	London	National infrastructure planning	lexisurl.com/iema97892
10 Sep	London	Next steps for the water industry	lexisurl.com/iema97891
15 Sep	Birmingham	Responsible procurement and supplier engagement	lexisurl.com/iema97889

EIA update

ERM defends its canal assessment

UK consultancy Environmental Resource Management (ERM) has responded to criticism of its environmental and social impact assessment (ESIA) for the Nicaragua canal project.

An expert panel established by Florida International University reviewed several draft chapters of the ESIA for a new shipping corridor across central America. The panel raised 15 concerns, including: the 18-month study period was insufficient given the magnitude of the project; a more complete analysis of options to the proposed route is essential before a scientifically robust evaluation can be completed; and there were inadequate resources allocated to support a proper sampling effort and analysis for a number of ESIA topics, including species and habitat loss at a regional level.

ERM has responded to the criticisms in a 16-page statement. The consultancy says it had previously described the 18-month study period as aggressive, and had recommended in the project's environmental and social action plan that additional studies be completed to confirm key design assumptions before the Nicaragua government makes it final decision. On other routes, the statement says: "We believe the consideration of alternatives was sufficiently robust to identify route 4 as the only route

Image: Getty/STR/Stringer

with the potential to adequately mitigate/offset its impacts and meet international standards. Nonetheless, it conceded that further consideration of alternatives is warranted in several areas."

ERM describes its sampling programme as "fit for purpose", saying it was designed to gather sufficient data on which to base conclusions about likely project effects and to develop effective mitigation measures. It also says it applied the precautionary principle where risks were high.

The Hong Kong-based company (HKND) behind the 259km canal, which will link the Pacific Ocean and the Caribbean Sea, presented the 14-volume ESIA to the authorities at the end of May. The waterway is intended to provide transit for ships too large for the expanded Panama canal, which is expected to be completed in 2016.

HKND says the Nicaragua canal will take five years to construct.

EIA practice update with IEMA's Josh Fothergill

On 3 November, 150 professionals will meet in London at **IEMA's EIA and ESIA masterclass**. Mark King, the World Bank's lead on environmental and social standards, will present the keynote address at this one-day event, which focuses on how to further improve EIA and ESIA. The programme includes:

- Plenary on evaluating significance, delivering quality development and improving ESIA.
- Briefings on climate change resilience in EIA, health IA, social IA and stakeholder engagement.
- Panel discussion on the implications for practice of revised EIA Directive.

The European commission has updated its ***Guide on ECJ case law related to defining EIA project types for annex I and II*** (lexisurl.com/iema98292). IEMA's review found limited new material, as there appears to have been little significant ECJ EIA case law over the past 18 months. CIEEM is updating its **ECIA guidance**. Changes include: emphasis on scale of approach, proportionality and transparency in ECIA; a revised chapter on scoping; and a new section on establishing the baseline.

New **IA network webinars**:

- Third runway at Hong Kong airport EIA (lexisurl.com/iema98294).
- 30 July: Health impact assessment.

EIA research

UK research into EIA and SEA

A study in the *Journal of Environmental Assessment Policy and Management* has found that researchers and students at several UK universities are actively engaged in research in the fields of environmental impact assessment (EIA) and strategic environmental assessment (SEA). However, it also found evidence to suggest that research funding is lacking and that there is variation over time in the number and scale of research projects funded in the UK. To gauge activity over recent decades, Thomas Fischer and colleagues at the University of Liverpool looked at the number of articles related to EIA and SEA published in academic journals as well as dissertation theses.
lexisurl.com/iema97068

Four steps to significance

Significance is fundamental to EIA but it is sometimes unclear how significance is determined. A study in *Impact Assessment and Project Appraisal* by two Canadian academics outlines a significance spectrum designed to improve clarity. The graphic model illustrates a process for determining significance, using four steps: determining the threshold of significance for each valued component; weighing the evidence and considering predicted impacts; deciding which side of the threshold the predicted adverse impact falls; and, for unacceptable impacts, deciding whether mitigations can make the residual impact acceptable.
lexisurl.com/iema97072

Lifecycle in assessment

A study in *Environment Impact Assessment Review* found that lifecycle thinking (LCT) is appropriate for most impact assessments (IA), but that lifecycle assessment (LCA) is rarely applied to provide such a perspective. The research looked at 85 impact assessments from Denmark and found that, without LCA, the IAs show mixed performance in regard to LCT.
lexisurl.com/iema97077

Graham Wood

Principal auditor, DNV GL

Why did you become an environment/sustainability professional? I was in the second year of a geography degree, while others around me were starting to apply for various jobs. I began to think: what do I like doing? I spoke to my tutor who advised me to do an MSc. She recommended the environmental technology course at Imperial College. So that was it, a plan.

What was your first environment/sustainability job? It was for Aspinwall & Company. I was a graduate and for the first year did quite a bit of "grunt" work, such as environmental monitoring or working on contaminated land sites. I then moved into an audit team.

How did you get your first role?
I am fortunate to be old enough to have been at college when the need for environmentalists was starting to grow. I was at Imperial College doing my MSc when several employers came for an evening seminar. I had a chat, posted my CV and did not think anything of it until a job offer came back. I was not specifically thinking of a consultancy role, but the opportunity was there.

How did you progress your environment/sustainability career? I was made redundant from my first job, which in hindsight made me stronger. I realised that I wanted to be a generalist, dealing with multi-issues, so that's the direction I took. I did a month's contract with David Bellamy Associates in Durham and loved it. While I was there, I secured a job with Southern Science, part of Southern Water. The work was diverse as it was a start-up, so you did what was available – from EAs, some liability assessments, contaminated land investigations and water/effluent sampling. After three years, I moved to PE/David Bellamy Associates.

What does your current role involve? I project manage and undertake certification audits for 14001, EMAS, 9001 (quality), OHSAS 18001 (safety and health) and 50001 (energy) in a diverse range of industrial and business sectors. I am also a lead EU ETS verifier and do some non-mandatory carbon reporting verifications.

How has your role changed over the past few years?
The main area of change is that I have moved into carbon accounting.

What's the best part of your work? Working with a diverse range of clients, and sometimes getting to see things that are "awesome". I still find different business cultures and the way that companies work interesting.

What's the hardest part of your job? Travelling and numerous nights away from home can lead to personal stress and be very tiring. Conversely, some of the most memorable work experiences have come through travel – I have now worked in about 30 countries. It is difficult to keep up with information. I have to consider just about every business type, from offices to offshore installations.

What was the last development/training course/event you attended? It was an in-house supplier ethical data exchange (SEDEX) course. The last external course was an ETS verifiers course.

What did you bring back to your job? I have not had an opportunity to use the SEDEX course, but the area of labour practices and "sustainability" is an interesting one. The ETS course was very good in terms of gaining some of the background to the scheme.

What is/are the most important skill(s) for your role and why?
Very simply: robust technical knowledge and communication.

Where do you see the environment/sustainability profession going? I think that this is an interesting time for the environmental management. It has recognition as a discipline in its own right now and environmentalists are starting to crop up in varied roles, slowly migrating out into various business channels.

Where would like to be in five years' time? The truth is I don't know, but I think it's important to keep evaluating opportunities as they arise.

What advice would you give to someone entering the profession?
If you are dedicated to following an environmental career, I would say that a postgraduate qualification is really worth doing. It puts you one rung higher up the ladder and will probably give you the opportunity to learn from others on your course – some of whom are likely to be mature students already working.

How do you use IEMA's environmental skills map?
I work in a profession that has its own competence management system, and we have to demonstrate this to our third-party auditors (UKAS). My company, DNV GL, also has its own career path model, which ostensibly is a pyramid of grades built around technical/managerial skills and behavioural requirements.

Career file

Qualifications:
BSc, MSc, DIC, MIEnvSc, MCIWEM, MIEMA, CEnv

Career history:
1989–91 environmental consultant, Aspinwall & Company
1992 environmental consultant, David Bellamy Associates
1992–95 environmental consultant, Southern Science
1995–97 environmental consultant, PE International/ David Bellamy Associates
1997 to present principal auditor, Det Norske Veritas – now DNV GL

Shirley Parsons Associates

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REC Member

SELECTION OF CURRENT OPPORTUNITIES

Senior Sustainability Consultant

LONDON £40K–£45K + EXCELLENT BENEFITS PACKAGE TN 7187

A sustainable design consultancy is seeking a Senior Sustainability Consultant to provide expertise on major UK and international infrastructure projects. This role will see the consultant advising clients on broad sustainability strategy whilst providing guidance on sustainability practices such as BREEAM, LEED or CFSH. The suitable candidate should have experience specifically regarding sustainable design concerning infrastructure projects.

Environmental Coordinator

LONDON £35K–£4K + CAR LO 7133

One of the UK's leading multi-disciplinary consultancies is currently seeking a Regional Environmental Coordinator. Within this role, you will be responsible for driving and delivering plans to meet environmental targets, ensuring data for environmental KPIs are recorded accurately and effectively. Candidates must hold an IEMA membership and have a technical understanding of building engineering systems.

Environmental Scientist

EAST MIDLANDS £35K–£40K TN 7322

An international engineering consultancy is currently looking to hire an environmental professional to lead on environmental issues across a large scale site in the defence sector. The successful candidate will be responsible for establishing an environmental management system and implementing it across site. Candidates should be aware of issues concerning hazardous waste and be qualified to degree level.

Senior Environmental Consultant

NOTTINGHAMSHIRE £180–£230 PER DAY LO 7215

A leading service provider is currently seeking a Senior Environmental Consultant for a 12 month contract. You will be responsible for delivering support and environmental advice to the project development team in the form of environmental assessments and reports. Candidates will be expected to independently lead on specific projects so effective management skills are required. Suitable candidates will also hold an Environmental degree.

Environmental Advisor

MIDLANDS £30K–£40K LO 7355

A British construction company are currently seeking an experienced Environmental Advisor. You will provide on-site environmental advice with regards to waste management, pollution prevention controls and environmental management plans. Candidates must have 2 years' experience in the construction sector and be a member of IEMA.

Ecologist

LONDON £27K TN 7325

A growing specialist ecology consultancy is looking for an Ecologist to work on a variety of client issues. The successful candidate will be responsible for undertaking impact assessments and a range of ecological issues, whilst producing technical ecological reports and liaising with clients. Suitable candidates should be qualified to degree level, hold an IEEM membership and have previous consultancy experience.

Environmental Advisor

LONDON £30K – £35K + CAR ALLOWANCE LO 7300

A leading UK construction and civil engineering company is currently seeking an Environmental Advisor. You will provide on-site training as required as well as championing environmental policy across the business. Candidates must have three years' experience within the construction or civil engineering sector as well as excellent knowledge of ISO 14001.

Sustainability Consultant

EAST MIDLANDS £35K–£42K TN 7323

A leading product testing consultancy is seeking a Sustainability Consultant to manage existing projects and undertake new business development. The candidate should have experience in undertaking sustainability practices, specifically around sustainable supply chain, life cycle assessment and chemical compliance. This role requires a candidate who is qualified to degree level and has an understanding of chemical materials.

EIA Consultant

LONDON £35K TN 7153

We are currently working with a global property services consultancy in London who is seeking an Environmental Impact Assessment Consultant to join their growing team. This role will see you be a point of contact for clients whilst supporting the team, undertaking EIA from design to completion stage. Suitable candidates will need to be qualified to degree level and have previous consultancy experience.

Sustainability Advisor

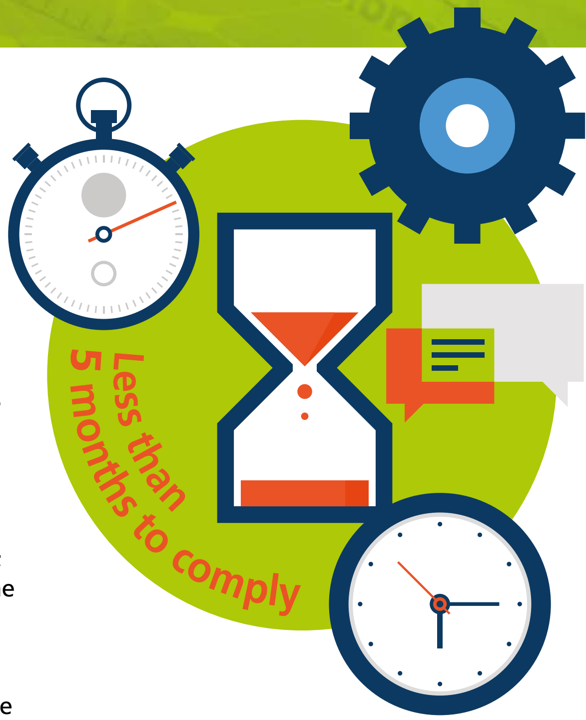
LONDON £35K LO 6571

An international contractor is currently recruiting an experienced Sustainability Advisor. This role will see you ensure that all environmental objectives relating to regulation, law and contractual commitments are met. You will also implement and manage ISO 14001 as well as managing company environmental requirements. Candidates must be a member of IEMA and have a minimum of two years' experience within the construction/infrastructure industry.

www.shirleyparsons.com

ESOS compliance deadline is less than 7 months away
. . . failure to comply may result in a £50,000 fine.

Countdown to ESOS compliance



The Energy Saving Opportunity Scheme (ESOS) Regulations 2014 mandates all large businesses in the UK to undertake comprehensive assessments of energy use and energy efficiency opportunities at least once every four years.

If you qualify . . .

Time is running out! With 5 December 2015 deadline for the first compliance period; you have less than seven months to comply. Are you confident that you have the time and resource available to meet this deadline?

LRQA can help . . .

As a leading provider of management system certification and training, LRQA has the knowledge and expertise to help you meet the December deadline. We have been conducting energy management system training and auditing services for many years, and can provide:

– ISO 50001 certification and training
– ESOS energy audit and training.

**For help and guidance, call us on 0330 4141 342
or e-mail enquiries@lrqa.co.uk**

www.lrqa.co.uk/esosguidance

Certification	**0330 4141 342**
Training	**0330 4141 340**

Lloyd's Register
LRQA

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reducing risk