

### Shipping forecast

Maritime industry attempts to tackle carbon footprint

p16

### Challenging environment

IEMA members in the Middle East talk about work

p24

### Resource standard

How BS 8001 could help to drive the circular economy

p30

# the environmentalist

**IEMA**

Transforming the world to sustainability

[environmentalisonline.com](http://environmentalisonline.com)

December 2016



## Toys for Christmas

What are the impacts?





Transforming the world  
to sustainability

# Progress your journey.

Being a member of  
IEMA is a journey with  
real and exciting goals.

Each stage of the journey calls on you to play  
new roles, whether through doing, influencing,  
developing, learning or leading.

Go to  
**[iema.net/progress-  
your-journey.html](http://iema.net/progress-your-journey.html)**

01522 540069  
[info@iema.net](mailto:info@iema.net)



# December

## News

- 3** Chancellor delays decisions on energy  
Climate talks advance despite Trump
- 4** Defra trims data collection  
EU refines approach to ecodesign  
**Business plans** Atlas Copco, Ford, Total,  
Legal & General Investment Management,  
International Finance Corporation
- 5** Energy innovation key, says Clark  
Value of untapped resources revealed
- 6** Stern sets out low-carbon pathway  
**Online** News from environmentalistonline

## IEMA news

- 8** Revised Full and Fellow standards  
IEMA support for members in 2017
- 9** Four new IEMA for Business members  
**Policy column** Paris agreement and Trump
- 10** Employer demand for members rising  
**IEMA Futures** Interest in nature

## EIA and political news

- 11** Bats and post-construction assessments  
**IA network update** Rufus Howard
- 12** Defra grapples with Brexit complexities  
**In parliament** Alan Whitehead MP

## Legal brief

- 13** **In court** Toxic vapour releases cost  
Grimsby company £3m; £15,000 fine for  
permit breach; waste firm and director fined  
**Case law** LexisPSL experts on exemption to  
the Climate Change Levy
- 14** **New regulations** Energy; climate change;  
finance; pollution; water; planning;  
emissions; ecolabelling
- 15** **Consultations** Fuelled and geothermal  
technology; capacity market; national  
infrastructure; circular economy standard;  
reuse of water; REACH refit; onshore wind  
**Guidance** Flood risk; enhanced capital  
allowances; fire prevention; water abstraction

## IEMA members

- 34** **My career** Ruth Henderson,  
environment impact assessment  
co-ordinator, Royal HaskoningDHV
- 35** Latest member upgrades

## Features



### 16 On a ship to nowhere?

The global shipping industry has so far escaped setting a long-term plan to cut carbon emissions. Is this about to change? Alex Marshall investigates



### 20 The environmental Nightmare before Xmas

The seven days before Christmas are the busiest in the toys calendar. But what are the environment impacts of these goods? Samantha Lyster reports



### 24 Going global

With IEMA membership growing worldwide, John Barwise talks to members in the Middle East on the challenges they face in their day-to-day activities



### 27 Cleaner energy and thriving communities

In part five of her series on the UN sustainable development goals, Penny Walker looks at corporate action on energy and sustainable communities



### 30 Coming full circle

With the draft circular economy guidance standard out for comment, Paul Suff discusses the content with those involved in developing and piloting it

## Supplement

### Winter training focus

- Why you should update skills regularly
- Effective ways to communicate
- The latest training courses



# The year of engagement

There are no two ways about it: 2016 has been a landmark year for IEMA. It has been a busy and productive time, and the sole focus of all we've done has been about making sure the organisation is future fit. It's been the year of relevance, in terms of the membership offer, appeal for individual and corporate audiences, and our message.

Members have driven the changes, and I would like to thank you as the year draws to a close, for working with us and for your support. IEMA is now ready to move on to ensuring members reap the rewards.

I feel we now have firm foundations to take our membership and profession skyward, but only if we continue to work together. Over the next year, you will see more opportunities to contribute your knowledge, skills, experience and guidance to the membership community as it grows and diversifies. The flip side of that is that you will soon experience as many chances to benefit from the range of learning and expertise of your fellow members. In other words, members will be able to withdraw from and deposit into our vast bank of collective knowledge on an entirely new scale.

In a year of widespread political uncertainty, from the vote for Brexit to the election in the US of Donald Trump as president, the world needs an expert voice, and experts to establish a long-term approach to the economy. The UK, Europe and the US are all in the midst of major shifts, and we do not know what the effects will be. It strikes me that we need to stick together more than ever. If we share what we know, use our collective power to influence decisions and collaborate to innovate in the workplace, it almost does not matter what goes on around us. Together, we can steer the ship any way we choose.

All talk of 'engagement' may sound a little nebulous but, in practical terms, it really means joining forces with other members to develop much-needed guidance and generally tapping into the deep well of opportunities open to members. We have an opportunity here to harness the power of our worldwide alliance, to combine our collective expertise and present that expert voice to the world. This means engagement at local and national levels, and engagement with specific areas of expertise and general business development. We will explore partnerships and stand up to bad policy.

And that is more powerful when we work together.

The UK, Europe and the US are all in the midst of major shifts and we do not know what the effects will be. It strikes me that we need now to stick together; to use our collective power to influence decisions



**Tim Balcon,**  
CEO of IEMA

IEMA is the worldwide alliance of environment and sustainability professionals, working to make our businesses and organisations future-proof. Belonging gives us the knowledge, connections and authority to lead collective change, with IEMA's global sustainability standards as our benchmark. By mobilising our expertise we will continue to challenge norms, drive new kinds of enterprise and make measurable progress towards our bold vision: transforming the world to sustainability.

**IEMA**  
City Office Park, Triton Road  
Lincoln, Lincolnshire  
LN6 7AS  
tel: +44 (0) 1522 540069  
fax: +44 (0) 1522 540090  
info@iema.net | iema.net

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

**Deputy editor**  
Catherine Early  
catherine.early@lexisnexis.co.uk

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

**Sub-editors**  
Mike McNabb; Angela Partington

**Display and recruitment advertising**  
Harry Toomey  
tel: +44 (0) 20 8212 1989  
harry.toomey@lexisnexis.co.uk  
Dean Chapman  
tel: +44 (0) 20 8212 1913  
dean.chapman@lexisnexis.co.uk

**Marketing campaign manager**  
Rakhee Patel  
rakhee.patel@lexisnexis.co.uk

**Design**  
Jo Jamieson  
jo.jamieson@lexisnexis.co.uk

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

**Publisher**  
Chris Jones  
chris.jones@lexisnexis.co.uk

**IEMA PR and communications manager**  
Katrina Pierce  
k.pierce@iema.net

**Advertising, subscription and back-copy enquiries to**  
Customer services,  
tel: +44 (0) 845 370 1234  
The 2016 annual rate is £142.

**Printing**  
Headley Brothers Ltd, Ashford, Kent

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

© IEMA 2016

LexisNexis aims to provide authoritative and accurate information at all times. Its publications are, however, for guidance only and are not an official information source. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical or otherwise, without the prior written consent of the publisher and editor.

ISSN 14727625



the environmentalist is printed by ISO 14001 certified printers on 55% recycled paper stock and despatched in biodegradable polywrap





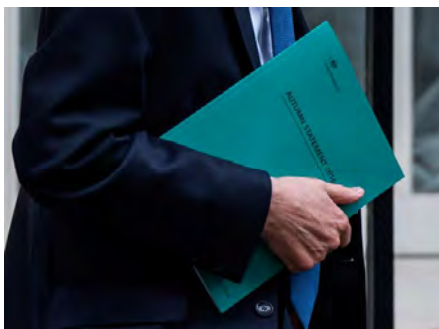
# Chancellor delays decisions on post-2020 energy policy

Industry and campaign groups have slammed the autumn statement for lacking detail on energy policy after 2020.

In the March Budget, George Osborne had pledged to set out the long-term direction for rates of the carbon price support (CPS) and the carbon price floor, both of which are designed to boost investment in renewable energy. His replacement, Philip Hammond, confirmed last month he would freeze the CPS at £18 tonne/CO<sub>2</sub>, adding only that the Treasury would continue to consider the appropriate mechanism for setting the carbon price in the 2020s. He also delayed a decision until the March Budget on the fate of the levy control framework, which caps future spending on low-carbon energy.

Dustin Benton, acting deputy director at the Green Alliance, said the postponement was disappointing given that renewable energy infrastructure could deliver £22bn in private sector investment before 2020.

Dr Jonathan Marshall, energy analyst at the Energy and Climate Intelligence Unit (ECIU), said: 'Considering the long-term nature of energy investments, clarity more than three years into the future is



© James Gourley/REX/Shutterstock

vital. Vast swathes of the UK's generating capacity are reaching retirement age.'

Friends of the Earth senior campaigner Liz Hutchins said the CPS needed to be extended until at least 2025 to support the phase-out of coal-fired generation.

Hammond announced £390m to support renewable fuels, ultra-low emission vehicles and driverless cars. But the Renewable Energy Association pointed out that more clarity on future power system decarbonisation was essential since electric vehicles could reduce emissions only if they were powered by low-carbon sources.

IEMA chief policy advisor Martin Baxter said the government had said little to prove its commitment to the environment.

## Climate talks advance despite Trump

Businesses and governments came together at the UN climate talks in Marrakech, Morocco, to launch a platform to push for climate strategies to 2050.

The initiative was spearheaded by the United Nations Framework Convention on Climate Change (UNFCCC). Twenty-two countries, including the UK, 15 cities, 17 regions and 196 firms in the We Mean Business network, have backed the 2050 pathways platform. It aims to support countries to devise long-term climate plans to back up the domestic commitments required by the Paris agreement. Finance and training will be provided, and it would be a 'space for collective problem solving', the UNFCCC said.

Meanwhile, the Prince of Wales Corporate Leaders' Group published a report outlining what business-friendly long-term plans could look like. Eliot Whittington, deputy director of the group, said 2050 national plans should be

flexible enough to support and respond to innovation without trying to predict the future, and must be accompanied by broad political support and transparent processes.

Jonathan Grant, director of climate change at consultancy PwC, said 2050 goals were essential. 'But they're no substitute for near-term signals to businesses for investments they need to make today. The Paris agreement on its own is not strong enough to support investment – that will need to come from measures such as tax policies and carbon taxes.'

The election of Donald Trump as the next US president cast a shadow over the talks, but countries including the UK and Australia ratified the agreement in spite of fears that the US would pull out. More than 190 countries reaffirmed their commitment to 'full implementation' of the global climate deal through the Marrakech Action Proclamation. They agreed to finalise the rule book for implementation by 2018.

### Short cuts

#### Remediation market

The global remediation market is predicted to be worth \$123bn by 2022, and achieve compound annual growth rate of almost 8% over the next six years, according to research firm Markets and Markets. It said the growth would be driven by the large number of initiatives undertaken by governments for environment protection and pollution control. The US market research company said demand for remediation services would be highest in the Asia-Pacific region, with the rapid increase in government funding and the adoption of eco-friendly industries spurring the need for this type of work in China, Japan, India, and South Korea. It also reported that demand would be highest for groundwater remediation services and technologies between 2016 and 2022 due to rising levels of products, such as petrol, oil and chemicals, in groundwater, which rendered it useless for human consumption.

#### Measuring impacts

An Australian water company has published an integrated profit and loss account (IP&L), quantifying its annual environmental, social, employee and financial costs and benefits in monetary terms. Yarra Valley Water worked with environmental data provider Trucost and consultancy GIST Advisory to calculate its positive and negative impacts on natural, social, employee and financial capital. The analysis found that the firm had created benefits of AU\$53m in 2014–15, mainly due to its wastewater treatment operations, employee benefits of AU\$13m through training, and social benefits of AU\$6.4m through providing water services to vulnerable households. Its impacts are primarily emissions of greenhouse gases from electricity and fuel use, and disposing of waste to landfill, which were valued at \$AU3.8m. The firm plans to use the results of its IP&L to prioritise projects including integrated water management opportunities, community health and how far it can integrate renewable energy generation, such as energy-from-waste in its business.

## Businessplans

**Atlas Copco** has revised the key performance indicators (KPIs) for its non-financial priorities. The manufacturer of compressors and air treatment systems identified five priorities last year, among them one to improve resource efficiency. The new KPIs in this area include the continued reduction of energy consumption from operations in relation to cost of sales and an increase in the renewable energy used. Business units must also drive down transport emissions and water consumption in water risk areas.

**Ford** has revised its water use targets. The company is aiming for a 72% reduction in per-vehicle water usage by 2020 compared with 2000. It said the target was the next step in its new long-term water conservation plan, which is to use no drinking water in manufacturing processes. Ford reported that it had saved 377 billion litres of water between 2000 and 2015 (a 61% decrease) and aims to save a further 30% by 2020.

**Total** has announced plans to install solar panels on the roofs of 5,000 service stations worldwide over the next five years. The French oil firm is investing \$300m to install 200MW of solar capacity, which will reduce its carbon emissions by 100,000 tonnes a year and cut its annual electricity bill by \$40m.

**Legal & General Investment Management (LGIM)** has launched Future World Fund, a global equities fund to address investment risks associated with climate change. It aims to reduce investment in companies with worse-than-average carbon emissions and fossil fuel assets, and increase backing for firms that generate revenue from low-carbon opportunities. HSBC Bank UK Pension Scheme is one of the first investors to choose the fund. 'This is a mainstream fund, the new normal,' said the scheme's chief investment officer, Mark Thompson.

The **International Finance Corporation (IFC)** has issued a bond that gives investors the option of being repaid in either carbon credits or cash. The fund will raise \$152m to help to prevent deforestation in developing countries, says the IFC. Investors choosing the first option can retire the credits to offset emissions, or sell them on the carbon market.

## Defra trims data collection

Collection of some datasets on environmental protection, farming, greenhouse gases, and waste is to be scrapped or scaled back, the environment department (Defra) has confirmed.

Defra's response to feedback to its consultation on the proposals revealed that collection of local pollution control statistics would cease. These cover light industrial processes, such as vehicle respraying and printing, that are regulated by councils. The latest data in July revealed that almost half of the most environmentally damaging activities were undergoing no inspections.

The department will also stop compiling data for the Campaign for the Farmed Environment, a voluntary scheme to encourage farmers and land owners in England to enhance the environmental value of farmland. Data on UK expenditure on environmental protection will not be gathered in 2016, although Defra said the Office for National Statistics would take on the task from 2017. The annual survey, which is required by EU law, covers UK businesses in the extraction, manufacturing and energy and water supply sectors.

Local authority waste data will now be collected annually instead of



© FLPA / Steve Trewhella/REX/Shutterstock

quarterly. The Environmental Services Association opposed this. The trade body said regular data collections were more important than ever, given that the UK is likely to miss its target to recycle 50% of household waste by 2020.

The department climbed down on its proposal to cut data collection on air quality, but said it would consider plans next year on revising how the statistics are gathered. The Committee on Climate Change had raised concerns about several sets of statistics related to agricultural emissions. Defra is still reviewing consultation responses on these datasets. A survey on the public's use of the natural environment is to be cut.

## EU refines approach to ecodesign

Solar panels are among the products targeted by the European Commission as it revises EU ecodesign standards.

Setting out the commission's approach, first vice-president Frans Timmermans said the working plan for products to be included for possible future ecodesign measures had focused on those with the most savings potential. 'We recommend six new [products], like hand dryers, lifts, electric kettles and solar panels, where evidence shows that you can get the highest yield,' he said. 'That is very important. Products with the biggest yield in energy savings are already on the list and are already subject to ecodesign but now we need to go into the next phase and select further products that would have a good impact in terms of energy saving.'

Timmermans also confirmed that the commission would review of existing ecodesign standards to ensure they keep up with technological progress.

Implementing regulations already cover 23 product groups, from air conditioners and comfort fans to water pumps, under the recast Ecodesign Directive (2009/15/EC). According to the commission, these measures will save the equivalent of the annual primary energy consumption of Italy by 2020. The new proposals will add to these savings, benefiting consumers by €490 a year and generating annual revenues of €55bn for industry. The commission added that the policies would help to deliver nearly half of the EU's energy savings targets by 2020 as well as one-quarter of the bloc's emissions reduction targets.

Timmermans said the package-based approach to ecodesign proposed by the commission linked with its circular economy action plan by enlarging the scope and giving more attention than in the past to wider resource efficiency aspects, and not just focus on energy and water.



## Energy innovation key, says Clark

Business secretary Greg Clark has pledged to back innovation in the energy sector to reduce the impact humans have on the planet. He told the annual Energy UK Conference that developing a low-carbon economy would form the basis of the government's industrial strategy.

'We must harness new technology to deliver more secure, cleaner energy at a lower cost,' he said, citing super-efficient lightbulbs, less polluting forms of electricity generation and electric vehicles as ways to achieve this.

Moreover, the merging of the business and energy and climate change portfolios to create the Department for Business, Energy and Industrial Strategy, which Clark heads, had put action on climate change at the centre of Britain's economic future. 'The debate about whether to reduce emissions is over,' he said. 'The question, post the Paris agreement, is how you make it happen, and in so doing, how to capture the huge economic opportunity of climate change action for UK businesses. That is why bringing together climate, energy, business and industrial strategy is so important. Indeed, the imperative to act on the low-carbon economy will underpin our industrial strategy.'



© Tolga Akmen/LNP/REX/Shutterstock

Clark argued that cutting pollution and protecting consumers were not incompatible, but warned that transforming the energy system needed to be economically viable. 'We need the cheap option to be the clean option,' he said.

He warned that subsidies would not be available for all renewable technologies and that only those with the potential to scale up and for costs to fall would be backed: 'That means offshore wind and nuclear have a big role to play, alongside greater interconnection with grids in neighbouring countries.' He did not expect Brexit to alter the advantages of linking the UK electricity market to those in the rest of Europe because this trade was mutually beneficial.

## Value of untapped resources revealed

UK manufacturers, pharmaceutical and chemical businesses and firms in the food and beverage sector underuse resources worth £4bn a year, according to a report by waste management company Veolia.

*Imagine 2050* looks at the innovative business models needed in the three sectors to meet resource and waste challenges between now and 2050. It estimates that, together, the manufacturing, pharmaceutical and chemical, and food and beverage sectors generate around 13 million tonnes of waste each year. If this was properly reused, recycled or remanufactured could it generate £4bn.

'The hidden value of unutilised resources in these industrial sectors is not something we can ignore,' said Estelle Brachlianoff, senior executive vice-president at Veolia UK and Ireland. 'Realising this value has a double windfall – it helps businesses manage their resources more efficiently, and generates new revenue streams.'

According to the report, manufacturing businesses could benefit from £2.8bn of hidden value in waste streams by generating, using and recovering energy and water resources. It says that, by 2050, waste materials are likely to be turned into tradeable commodities, potentially enabling 100% recovery rates.

Meanwhile, the value of waste resources in the pharmaceutical and chemical, and food and beverage sectors is estimated at £800m and £460m respectively. In pharmaceuticals, designing efficiency into products at a concept stage would enable medicines to be produced more efficiently. And, although people are unlikely to greatly alter their diets, the report predicts that where food comes from will be radically different, with people consuming cultured meats and insects. The food industry could also benefit from new technology that made better use of energy and helped to minimise costs.

### Short cuts

#### Deforestation defined

Palm oil suppliers, buyers and campaigners have agreed a set of principles for meeting targets for eliminating deforestation from their operations and supply chains. Two methods, known as the High Carbon Stock Approach and the High Carbon Stock Study, have converged and a revised toolkit representing the new approach will be published in early 2017. The agreement has been signed by palm oil companies including Asian Agri, Cargill and Musim Mas, and campaigners Greenpeace, Rainforest Action Network and WWF. Meanwhile, a new tool has been launched to enable companies, financial institutions and governments to better understand and address the social and environmental impacts linked to their supply chains. Transparency for Sustainable Economies (Trase) draws on production, trade and customs data to reveal the flows of commodities that are driving deforestation worldwide. Starting with Brazilian soy, it will expand over the next five years to cover 70% of total production of palm oil, soy, cattle and timber. Trase was developed by the Stockholm Environment Institute and the Global Canopy Programme.

#### Support for green ships

The European Investment Bank and French financial services business Société Générale have backed a €150m fund to support shipbuilding projects in France that promote sustainable transport and environmental protection. It is the first time the new EU guarantee mechanism, the Investment Plan for Europe, has been applied to making maritime transport greener. EU transport commissioner Violeta Bulc said it would increase responsible investment in the maritime sector. 'It will also improve the environmental performance of the "motorways of the sea," an EU transport policy priority. The maritime sector must play its part in tackling climate change,' she said. The money will be used to finance improvements in the energy efficiency of new and existing ships, and cut emissions from maritime transport (see pp16–19).

# Stern sets out low-carbon pathway

Political resolve will be critical to making the radical changes necessary to build sustainable infrastructure and combat climate change, Lord Stern said in a speech marking the tenth anniversary of the publication of his seminal review of the economics of climate change.

He warned that, without rapid implementation of the Paris agreement on climate change and the UN Sustainability Development Goals (SDGs), it may soon become impossible to meet the target of holding global warming to well below 2°C.

'We have made progress in the ten years since the Stern Review. But we must now seize the opportunities presented by the next ten years,' he said. 'The transition to low-carbon economic growth and development offers something even more powerful than a fundamental reduction in climate risks. It is an opportunity to take a much more attractive, sustainable and inclusive path for development, which delivers on the global agenda for growth, climate responsibility and the SDGs.'

Stern, who is chair of the ESRC Centre for Climate Change Economics and Policy and the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and Political Science, urged immediate action: 'The window of opportunity for making the right choices is uncomfortably narrow because bad infrastructure and other investments can lock in capital, technology and emissions patterns for decades.'

He pointed out that the world was not on track to hold global warming to below 2°C. 'Collectively, the nationally determined contributions for the Paris agreement are insufficient. The next ten years will be absolutely crucial if we are to get on track. There is grave danger of the lock-in of emissions.'

Despite the inadequate global response, Stern said Paris had at least shown there was now much clearer recognition around the world not only of the immense risks of unmitigated climate change but also the attractions



© Sipa Press/REX/Shutterstock

that lie in the transition to low-carbon and climate-resilient economic growth. 'We have a unique opportunity now, with historically low interest rates, rapid technological change, particularly in energy production and use, digital communications, new materials, biotechnology and construction, coinciding with a period of strong investment in infrastructure, to build a new path of sustainable growth.'

He called on policymakers to set clear expectations for shifting economies on to new low-carbon pathways.

From [environmentalisonline.com](http://environmentalisonline.com)...

## Emissions flat

Global carbon emissions did not increase in 2015 and are projected to rise marginally in 2016, according to climate scientists. The forecast increase in CO<sub>2</sub> emissions for this year is 0.2%, and follows a 0.7% rise in 2014. The figures reveal a clear break from the rapid emissions growth of 2.3% on average a year in the ten years to 2013, according to the research by the Global Carbon Project and published in *Earth System Science Data*. The researchers cited declining use of coal in China as the main reason for the slowdown. Carbon emissions in China, which accounts for 29% of global emissions, declined 0.7% in 2015, compared with growth of more than 5% a year since 2005. A further 0.5% decline is predicted for China for 2016, although the researchers warned of large uncertainties associated with this estimate. US emissions fell by 2.6% between 2014 and 2015, while those in the EU rose by 1.4%.

[bit.ly/2gafvWO](http://bit.ly/2gafvWO)

## Penalties rise

Fines levied on companies guilty of committing environmental offences have risen significantly since new sentencing guidelines were introduced in 2014, according to the government's official monitoring body. Between January 2013 and June 2014, the median fine for an environmental offence in England was £12,500, while the mean was £39,200. But between July 2014, when the Sentencing Council guidelines came into effect, and December 2015 the median increased to £21,500 and mean to £70,600. Some organisations have received particularly high fines, which resulted in the sharp increase in the mean penalty imposed, the council noted. For large businesses (with a turnover of at least £50m), the mean fine between July 2014 and December 2015 was £56,900, and the median £35,000. For very large companies, the mean was £166,200 and median £100,000.

[bit.ly/2ggGQXh](http://bit.ly/2ggGQXh)

## Reporting risk

Information on a firm's environment and social impacts and risks should be included in its annual accounts rather than in a separate report, the government has said. In its response to a consultation on transposing the EU Non-Financial Reporting Directive, the Department for Business, Energy and Industrial Strategy (BEIS) has confirmed that it will not require firms to produce separate reports on non-financial issues up to six months after publication of the management report and accounts. BEIS said 31 of the 36 respondents to its consultation believed a delay between the publication of the accounts and non-financial information would impede attempts to give shareholders a holistic picture of the business. EU member states are required to transpose the rules into national legislation by 6 December 2016 so that companies can adhere to the requirements in their annual reports in 2017.

[bit.ly/2fEGAPf](http://bit.ly/2fEGAPf)

Visit [environmentalisonline.com](http://environmentalisonline.com) for daily news updates



# Industrial Air Pollution Monitoring

Monday 27 February – Wednesday 1 March 2017

Industrial air pollution monitoring is a complex and challenging topic for all those who are involved, in whatever capacity:

A technically difficult measurement process with many pitfalls for the unwary.

A steady flow of directives from Europe.

An evolving management and legislative context.

A continually expanding range of documentation from different sources.

To view the full course programme or to register please visit:

[www.engineering.leeds.ac.uk/short-courses](http://www.engineering.leeds.ac.uk/short-courses)

or contact the CPD team on:

T: 0113 343 2494

E: [cpd@engineering.leeds.ac.uk](mailto:cpd@engineering.leeds.ac.uk)



UNIVERSITY OF LEEDS



## the environmentalist



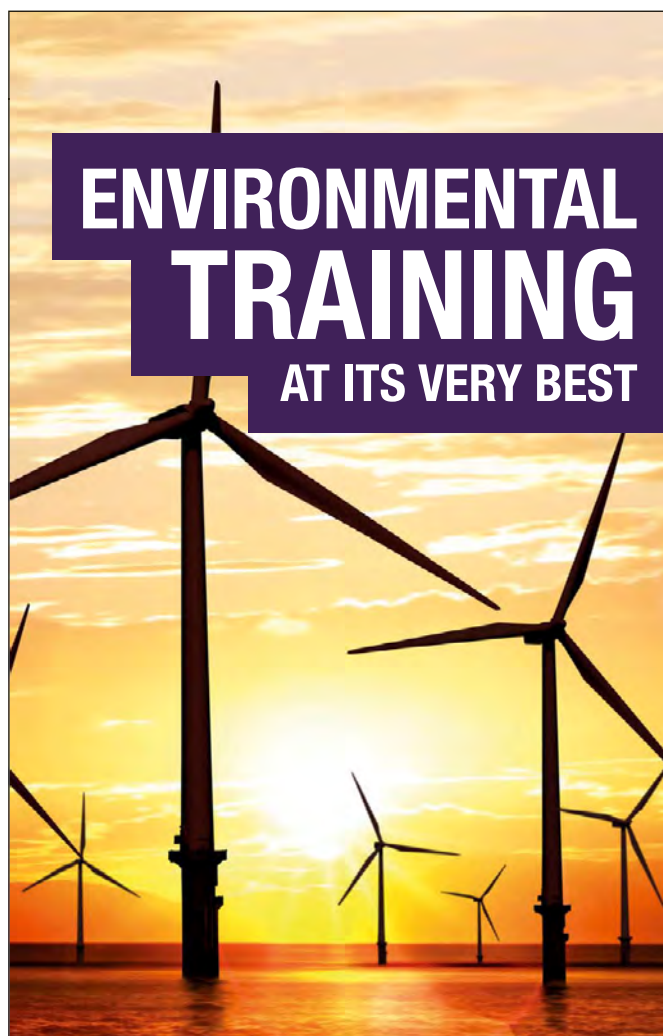
For all advertising in *the environmentalist*, please contact:

**Harry Toomey**

T: 020 8212 1989 E: [harry.toomey@lexisnexis.co.uk](mailto:harry.toomey@lexisnexis.co.uk)

**Dean Chapman**

T: 020 8212 1913 E: [dean.chapman@lexisnexis.co.uk](mailto:dean.chapman@lexisnexis.co.uk)



## ENVIRONMENTAL TRAINING AT ITS VERY BEST

### IEMA Courses

- Foundation Certificate
- Associate Certificate
- Lead Environmental Auditor
- Working with Environmental Sustainability
- Managing with Environmental Sustainability
- Leading with Environmental Sustainability

### NEBOSH Courses

- Environmental Award
- Environmental Certificate
- Environmental Diploma

**Classroom, Online, In-Company**

**RRC**  
INTERNATIONAL

[www.rrc.co.uk](http://www.rrc.co.uk)

+44 (0)20 8944 3100

[info@rrc.co.uk](mailto:info@rrc.co.uk)



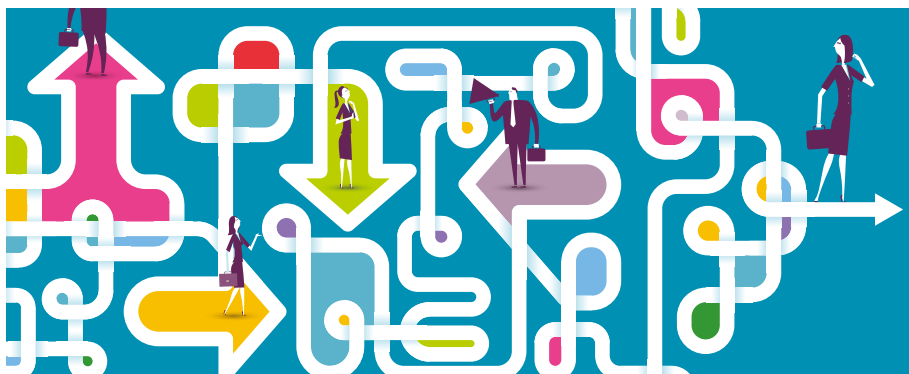
## A new kind of leadership: the revised Full and Fellow standards to launch next month

On 1 January, the new Full and Fellow membership standards go live. Both reinforce the strength and business relevance of the managerial and leadership grades, and members will see welcome changes to the application and assessment methods.

The changes follow six months of bedding in of the new IEMA membership journey. In June 2016, IEMA introduced the refreshed entry level and operational grades, as well as revealing the new Practitioner grade that many businesses had demanded. The amends for the Full and Fellow grades were deliberately delayed to allow time for members to become acquainted with the new membership structure and to ensure those part-way through their upgrade to Full were not assessed against an unfamiliar standard.

The changes to the Full and Fellow standards are relatively light touch. The Full standard was reviewed in 2013 in line with amendments to the requirements for Chartered environmentalist. Feedback indicated it was largely fit for purpose, and just needed broadening to include sustainability principles and some business practices.

Feedback on the assessment process for Full indicated that, although it is appropriately thorough and upholds the high standards expected, it ought to be more supportive and inclusive to encourage more members to upgrade. The application process has also been refreshed. IEMA will continue to offer the upgrade support programme, which has proved immensely popular during recent months. Designed to help those ready to take their next career step with



confidence, the programme offers assessor feedback and access to a dedicated library of tools and resources to help prepare for the Full assessment.

Under the new approach, Fellows will be 'a new kind of leader', acting as inspirational representatives of the profession and of modern business values. Described by IEMA as a 'new generation of ambassadors for sustainability – leaders who are challenging the norms and transforming the world', this group of increasingly diverse experts will act as spokespeople for the profession. The institute will work with Fellows to identify and tackle sustainability challenges, and ensure those with the wealth of experience and knowledge have the opportunity to share what they have learned with each other as well as members working in operational roles.

The application route for Fellows will also change from January, when members will be able to nominate those they believe represent the best of the profession. The standard has been broadened to welcome those who have made an impact in business through innovation, leadership

or skills development. As wider business and sustainability skills increasingly need to be honed to operate at a senior level in any role, IEMA Fellows will start to come from an even more diverse range of backgrounds and specialisms.

The changes to Full and Fellow are the final pieces of the membership level review project that began in 2013 with an all-member consultation. As part of the Vision 2020 review, members said they needed IEMA's professional standards at all levels to be more relevant to their roles and incorporate sustainability values, issues and focus areas. The review and relaunch of all membership grades is now complete, and the institute looks forward to introducing new opportunities for members to maximise the value of their membership and involve them in the IEMA community.

Members can view the new standards and details of how to apply or upgrade at [iema.net](http://iema.net). If you have a question, contact [professionalstandards@iema.net](mailto:professionalstandards@iema.net).

## IEMA support for members in 2017

IEMA is planning to run regular consultations, workshops and other programmes in 2017 to help support and inform members as the implications of Brexit unfold. Defra's 25-year plan, the government's industrial strategy and the Great Repeal Bill are all expected to influence the policy and regulatory framework that shapes the work members do and it is important to

keep up to speed during this period of substantial change.

IEMA will not only inform members but also seek input to help set IEMA's future position. The institute said that, with current political and market uncertainty and the scale of the change required, it is important that both IEMA and members continue to deliver best practice in sustainability. Martin Baxter,

IEMA's chief policy advisor, said: 'There is significant uncertainty on how the policy and regulatory framework for environment and sustainability will develop over the coming years. We'll be engaging IEMA members in developing the profession's response and use this to shape longer-term outcomes.'

Members will receive more details as developments progress.



# Four organisations join list of IEMA corporate members



IEMA has welcomed four more organisations to its growing list of IEMA for Business members. They are:

- **Qatar Rail** – established in 2011 to develop the country's rail network;
- **Northern Rail** – the train operating company owned by Serco-Abellio;
- **The Wellcome Trust** – the world's largest medical research charity; and
- training organisation **TSP**.

IEMA will now work in partnership with each organisation to address skills gaps, strengthen business links to the profession and influence policy. They will be promoted alongside long-standing IEMA for Business members, such as Skanska, BP and Royal HaskoningDHV.

IEMA's corporate memberships include packages specially designed for any size of business as well as

for educational establishments and consultancies. Each package is tailored to support organisations to achieve their sustainability goals, make the most of skills and resources, and partner with IEMA on campaigns and policy changes.

Chief executive Tim Balcon said he was looking forward to working with the new member organisations: 'Seeing names like Qatar Rail and The Wellcome Trust added to our ever-growing list of corporate members really shows the international and diverse relevance of our IEMA for Business partnerships. I'm excited that we will be able to work together on some big sustainability issues, and I look forward to seeing our business community growing even further.'

To find out more about IEMA for Business, go to [bit.ly/2gv7mw9](http://bit.ly/2gv7mw9) or contact [s.j.oates@iema.net](mailto:s.j.oates@iema.net).

**IEMA** Transforming the world to sustainability

## Changes to fees

Membership, renewal and upgrade fees change from 1 January 2017 to ensure continued support and investment in membership tools and services. The new prices are:

- Student – £25
- Affiliate – £120
- Graduate – £125
- Associate – £125
- Practitioner – £155
- Full – £170
- Full Member with Chartered environmentalist – £170
- Fellow – £200
- Fellow with Chartered environmentalist – £200
- Retired – £52

Members who have a January renewal date will have been advised already of their 2017 fee. For a full list of joining and upgrade fees, plus all specialist register and Chartered environmentalist administration costs, visit [bit.ly/2gdm0Wl](http://bit.ly/2gdm0Wl), where you will also find FAQs about costs for your 2017 renewal.

## International UN climate agreement and president-elect Donald Trump

Just as the UN climate agreement entered into force, the election of Donald Trump as US president raised immediate questions about the durability and likely effectiveness of action to limit global warming to 2°C with an aim towards 1.5°C.

Setting out his views after the election, Trump's path to 'energy independence' made grim reading. He said: 'Rather than continuing the current path to undermine and block America's fossil fuel producers, the Trump administration will encourage the production of these resources by opening onshore and offshore leasing on federal lands and waters. We will streamline the permitting process for all energy projects, including the billions of dollars in projects held up by President Obama, and rescind the job-destroying executive actions under his administration. We will end the war on coal, and rescind the coal mining lease moratorium, the excessive interior department stream rule, and conduct a top-down review of

all anti-coal regulations issued by the Obama administration.'

This matters because 15% of annual global greenhouse-gas emissions are from the US – second only to China (30%). There are three key downsides: the US fails to achieve the emissions reduction commitments set out in its nationally determined contribution, resulting in either an overshoot of the global target or a need for other countries to achieve more.

Failure by the US to engage, either by a lack of action or by withdrawing from the agreement, will provide a basis for other countries to backslide on moves to achieve their targets; and financial contributions to support climate action in developing countries will not materialise, putting at risk programmes to enhance climate resilience and adopt low-carbon technology.

There are, however, reasons not to be too gloomy. Climate science has not changed and societies and economies around the world will continue to

experience extreme weather, forcing governments to act. The economics of low-carbon energy, particularly renewables, continues to improve and, when more efficient energy storage comes on stream, the cost effectiveness of renewables will surely out-Trump fossil fuel electricity generation. And the shift to electric vehicles is, in part, being pushed by poor air quality in major cities around the world, not just to tackle climate change. So the business case to reduce emissions is becoming more compelling and it is difficult to see major companies, such as Google, Apple and GE, making an about-turn on their low-carbon investments.

Although it is clearly a setback that the US is unlikely to play a meaningful role in the global action to halt dangerous climate change, it is certainly no reason to give up.



**Martin Baxter** is chief policy advisor at IEMA.

## IEMAFutures

Last month, *Planet Earth II* launched on the BBC, with the first episode attracting 9.2 million viewers. The large number watching a nature documentary demonstrates that the natural world still sparks an interest in many people. More than just a window into the exotic, *Planet Earth* is a mirror that reflects the global challenges threatening our world, bringing the far away issues of climate change into our living rooms. The narrator, Sir David Attenborough, stressed that, never before had the wildernesses been as fragile or as precious as they are today.

The public reception for *Planet Earth II* should be a beacon of hope for the profession in an otherwise disappointing month of news for the environment and sustainability.

Practitioners are in the minority of those who truly appreciate that fast action is needed to protect the future of the planet. Faced with expert opinion, most people tend to disconnect. Statistics are not evidence for alarm, but a cue to turn off. Show them an engaging video, however, and suddenly the fate of one iguana is the trending concern. Instead of making people recoil, visuals make them lean in. This is a clear signal that the future of communicating environment and sustainability issues rests on a medium that is immediately accessible and absorbing.

Research suggests that 90% of information transmitted to the brain is visual. Today's younger generation – the IEMA Futures generation – consumes much of its learning and forms opinions through visual media. To engage young people with the environment, it is essential practitioners employ visual techniques with which they can connect. Whether we are presenting environmental audit results, expressing the impact of a change in practice or explaining a new policy, we should be using visuals to engage audiences and deliver the right impact.

We should be guided by the reaction to *Planet Earth II*: visual technology holds the potential to engage millions with the environment, and will help us articulate why we need to transform the world to sustainability.

Natasha Yorke-Edgell, @IEMAFutures

## Industry reports increasing demand for IEMA members



Feedback from recruitment specialists, business leaders and corporate members suggests there has been a sharp upturn in demand for IEMA members this year. To ensure supply can meet this demand, IEMA has developed a series of services and one key partnership to welcome more early career members into the profession.

IEMA has been informed that, since the launch of the new Practitioner grade in June, more employers are seeking to appoint IEMA members at all grades. Employers have said that IEMA's professional standards give them confidence in the high calibre of work they can expect from a member, and that they understand the membership journey.

In order to support more members to join and progress their own personal journeys in the early years of their careers, IEMA has been creating a specialist recruitment campaign and package of tools and opportunities.

Entering the profession unsupported can be a barrier. With many jobs asking for some experience as well as a good knowledge base, those currently outside it can feel blocked from placing a foot on the first rung on the ladder. To help those in that position, IEMA has launched a work experience directory. By matching members looking for opportunities with corporate members who want to support early career talent, the directory helps young members gain the experience they need to enter the profession.

IEMA has also produced two exclusive webinars for Student and Graduate members. They were created in association with employability partner Shirley Parsons Associates, and provide practical tips and advice on how to get the most from work experience, job hunting, crafting a CV and preparing for interviews.

The partnership with Shirley Parsons Associates is aimed not only at those at the start of their careers, however. The

### Take action

- To add your CV to the Work Experience Directory, go to [iema.net/cv-library](http://iema.net/cv-library).
- To advertise details of a work experience vacancy at your organisation contact [g.price@iema.net](mailto:g.price@iema.net).
- Student and Graduate webinars are at [iema.net/career-webinars](http://iema.net/career-webinars).
- If you are currently job hunting go to [jobs.environmentalisonline.com](http://jobs.environmentalisonline.com) to view all the current vacancies.
- To find out more about Shirley Parsons Associates and its current opportunities, contact [matthew.bransby@shirleyparsons.com](mailto:matthew.bransby@shirleyparsons.com).

recruitment agency is also connecting members and employers across the economy, using its experience over 11 years of placing environment and sustainability professionals in jobs to provide members with specialist career guidance and updates.

Matthew Bransby, the firm's divisional lead of sustainability, said: 'Shirley Parsons Associates has seen a clear increase in the demand for IEMA membership across the whole of industry. With the newly designed skills map, which is impacting sector standards, it's become imperative for people entering the sector to be members and progress along the IEMA journey. At Shirley Parsons Associates we are proud to be working closely with [IEMA chief executive] Tim Balcon and IEMA to connect employers, IEMA and its members. As a partner of IEMA, we are delighted to be assisting members at all stages of their careers.'

The current student and graduate campaign is just the start of IEMA's relationship with Shirley Parsons. A full programme of careers support available for all members is planned for 2017.



# Bats would benefit from post-construction assessments

Ecological assessments of wind farms fail to adequately predict collision threats to bats, according to scientists at the University of Exeter.

They said hundreds of bat deaths at onshore windfarms in the UK could be prevented by better risk assessments and simple changes to the operation of turbines. 'There are effective ways of preventing bat deaths,' said Dr Fiona Mathews, a mammalian biologist who led the research. 'Unfortunately we have found that assessments conducted when wind farms are being planned are very poor at identifying whether a site is likely to be risky. This means that appropriate action is not taken to protect bats.'

The researchers used sniffer dogs to find 194 dead bats at 29 windfarms in one month. The highest number at a single site was 64. Most were found within a short radius of the turbine tower. The main casualties were the common pipistrelle, a small bat widely found in the British Isles, and the closely related soprano pipistrelle.

The discovery of a dead nathusius's pipistrelle, which is a rare species in the UK and was thought to be migrating, raised concerns about whether onshore and offshore wind farms could pose a threat to their navigation route, said the researchers. 'These animals will be encountering multiple wind farm sites as



© iStockphoto/milehightraveler

they make their way from eastern Europe along the north coast of continental Europe,' said Mathews.

According to the academics, there was little follow-up to discover whether the 'pre-construction assessments' for wind farms were useful or whether any mitigation measures delivered benefits for conservation. They called for a switch in emphasis to post-construction assessments to identify and address any problems.

They said many ecological impact assessments (EcIAs) carried out before wind farms were built failed to assess accurately the true threat to bats. 'Either the EcIAs may not have been sufficiently thorough or bats may have changed their behaviour when the turbines were built,' said Mathews. Bats unaccustomed to

encountering objects at the height of a turbine might switch off their sonars or might fly towards the turbines in search of insects.

Shutting down turbines at night in the summer when bats are most active would reduce the number of deaths, Mathews said. She suggested that operators that did this could be rewarded with higher electricity tariffs.

Josh Fothergill, IEMA policy and engagement lead, said both pre- and post-construction surveys were needed: 'Monitoring and acting post-construction would be useful but we should also look to improve pre-construction assessment rather than shift the emphasis to post-construction. We want to avoid impacts rather than find them afterwards.'

## Impact assessment network update by Rufus Howard

In May 2017, the new environmental impact assessment Directive will come into force in the UK and it includes a requirement for an EIA to be prepared by 'competent experts'. Planning authorities must also have access to sufficient expertise to examine the EIA.

There has been much debate about what these requirements mean in practice. My view is that we can divide competent experts into three groups: topic experts, EIA experts and EIA examiners.

- A **topic expert** – let's call them a chapter author (in an environmental statement) – could be deemed competent if they can show demonstrable expertise in their field. An easy market signal for this would be chartered status with a relevant

body, such as a Chartered ecologist writing the ecology chapter. I would envisage this would function in much the same way as we provide credentials for an expert witness.

- The overall **EIA lead expert** – let's call them the environmental statement author – should also be able to demonstrate expertise in their field, the equivalent credential here is the IEMA EIA practitioner register for individuals, and the EIA Quality Mark for organisations.
- The **EIA examiner** is perhaps the trickiest classification. Many examiners will not be competent EIA experts but civil servants or planners, for whom review of EIA is one of their tasks, but not their expert

profession. However, the bar is lower here because the requirement in the directive is 'sufficient expertise' rather than expert competence. For those performing the role of EIA review and who cannot demonstrate sufficient expertise, authorities will need to turn to EIA practitioners to perform the review on their behalf. Again, the EIA practitioner register and EIA Quality Mark provide a ready-made supply of experts to turn to.

More information about the IEMA EIA practitioner register can be found at [bit.ly/2f7Q6Ls](http://bit.ly/2f7Q6Ls). Details about the Quality Mark are at [bit.ly/2fZcLr1](http://bit.ly/2fZcLr1).



# Defra grapples with Brexit complexities

Chemicals, greenhouse gases (GHGs) and pesticides are the most complex areas of legislation for the environment department to prepare for the process of leaving the EU, Defra minister Thérèse Coffey has told peers.

Giving evidence to the House of Lords' EU Energy and Environment Sub-committee on the impacts of Brexit on environment and climate policy, Coffey said Defra had yet to finish mapping all legislation that would be affected because the task was so big. Chemicals, GHGs and pesticides were 'consuming a lot of grey matter', she reported. 'Very detailed work is being done to make sure that nothing falls between the gaps in preparation for the Great Repeal Bill. It wouldn't be good for our legal system to suddenly develop a hole. That's not our intention.'

There is a particular focus on developing policy for how Defra will deal with issues that are governed centrally by an EU institution, such as chemicals, the environment minister said.

In earlier evidence to the inquiry, Steve Elliott, chief executive of the Chemical Industries Association, had pointed out it was likely that the UK would need its own agency to govern the regulations. The trade body had also warned that the UK would lose influence in EU negotiations on regulations such as REACH, the EU regulation on chemicals. The third



© Defra

registration phase for REACH, will be in 2018, before the UK leaves the EU.

Defra continues to fully resource its engagement with the EU on the environment and climate, Coffey confirmed, adding that officials were still able to attend relevant discussions. 'We're hoping to negotiate a good trade deal and quite a lot of regulatory equivalence will almost certainly be required. It's in the interest of the UK industries that we're very active in negotiations,' she said.

Coffey also told the peers that the UK could have multiple environment plans for different regions under the umbrella of the government's 25-year plan. She said the plan would recognise that different parts of the country had different environmental challenges.

The committee also took evidence on the impacts of Brexit on waste, water and air quality. Alan Andrews, clean air project manager at ClientEarth, said he was pessimistic about the future of EU air quality laws once the UK leaves the bloc. The government has been trying to weaken the ambient air quality directive for years, he said. Although politically it would be difficult to repeal it, subtle amendments could have the same impact by removing its legal effect. When questioned on the issue, Coffey insisted that the UK would honour its air quality commitments. However, she added that the government could achieve much on its own and local authorities would have to play their part in improving air quality: 'It's a shared challenge going forward.'

## The rocky road to the rollout of smart meters

Smart meters should be installed in all UK homes by 2020, making physical reading a thing of the past and enabling households to monitor and manage their energy use. These are potentially good outcomes, but there is a long road to travel yet, including installing the meters and setting up a system that can deal with all the smart communication traffic.

A report on progress has been released by the Department for Business, Energy and Industrial Strategy. It suggests that this road is becoming an increasingly rocky one. At its heart is the continuing delay to when the Data Communications Company (DCC), which will manage the meter network, will start to operate. Without this up-to-date, interoperable smart meters cannot realistically be installed. Outsourcing business Capita is responsible for DCC

and has repeatedly failed to meet its own start dates. It has just staggered into life in two of the three main areas of the UK – the northern area is further delayed. When I say staggered, it seems that the go-live process itself is plagued with all sorts of unresolved issues and may not yet be reliable enough to assure the safe rollout of the most up-to-date meters.

This is important because no leeway has been given by the government on the completion date for installation. It is still 2020, but is now being compressed into a shorter timeframe. Installing more than 50 million meters was always a big challenge, but projections from the report suggest that the programme will peak now at more than 15 million installations in one year (2019) – an increase of more than 2 million on projections a year ago. This starts to strain credibility, not only

about whether it is technically feasible, but, if it is, the additional costs of employing extra installers and managing the programme over a shorter period. It would add to an already strained budget.

I support the aims of a smart meter programme. But as matters stand, it is increasingly looking like the rollout is in danger of becoming a roll into a ditch. I have called for a pause in the programme to allow for an independent appraisal of overall progress and problems. I think this is necessary to ensure that we get the rollout right, and do not, as I think we are in danger of doing, resort to ever more counterproductive fixes to keep the show on the road.

Alan Whitehead, MP for Southampton Test.





# In court



## Toxic vapour releases cost Grimsby company £3m

A chemical company has been fined £3m for twice releasing a toxic vapour, which on the first occasion killed one worker and left another with life-changing injuries.

The fatal incident was on 5 March 2010 at the Grimsby plant of Cristal Pigment UK (formerly Millennium Inorganic Chemicals) after a build-up of titanium tetrachloride in a vessel came into contact with water, causing an explosion. After being released into the air the liquid formed a large cloud that blanketed Paul Doyley and his colleague, Ron Ingoldby. Doyley, who was also showered with the corrosive liquid, died 13 days later. Ingoldby survived but has irreversible lung damage.

The vapour escaped into the atmosphere and was blown across the River Humber, closing shipping lanes for several hours. Humberside Fire and Rescue Service brought the incident under control.

A second release of the same gas came on 27 July 2011 while a redundant vessel was being cleaned.

An investigation into the first incident by the Health and Safety Executive (HSE) found the company had deviated from its normal operating procedures, which led to the dangerous build-up of the chemical.

Parts of the plant and its procedures were poorly designed, the regulator said. The firm had not established robust safety management procedures and systems of work to assess and control risk.

The second incident was also due to poor management as well as the design and installation of plates to seal the vessel before cleaning started. The HSE said the plates were incompatible and incorrectly designed, and the firm had used inadequate sealants that could not contain the gas created during the procedure.

At Hull Crown Court, Cristal Pigment UK pleaded guilty to two offences under the Health and Safety at Work Act 1974 for the incident in 2010 and was fined £1.8m and £600,000 respectively. The offences related to the duty to ensure the health, safety and welfare of employees (s 2(1)) and the duty not to expose employees to risks to their health or safety (s 3(1)). For the incident in 2011, it was fined £600,000 for an offence under reg 4 of the Control of Major Accident Hazards Regulations 1999. It was also ordered to pay costs of nearly £37,900.

## £15,000 fine for permit breach

Violations of an environment permit for a waste transfer station has cost a haulage firm almost £29,000.

Environment Agency officers found waste piled well above the 2.5 m height allowed when they visited the Winters Haulage site in Southgate, north London. The officers also found waste stored in a yard, which was not permitted. The permit breaches occurred between June 2014 and January 2015. 'Storing waste in excess of the amount permitted and outside rather than inside the designated covered area increases the potential risk to the environment and human health,' said agency officer Ruth Shaw.

Company director Mark Winters acknowledged that the permit had been breached but said various problems, including an arson attack on another site in Hitchin, Hertfordshire, had caused a backlog of waste.

Highbury Corner Magistrates' Court fined the firm £15,000 and ordered it to pay costs of £13,878.34 and a surcharge of £120.

## Waste firm and director fined

Connect Waste Management UK has been fined £6,000 and ordered to pay costs of £8,000 after ignoring permit conditions. Fines and costs amounting to more than £6,000 were also levied on the firm's director, Samantha Jones.

Snaresbrook Crown Court was told that Environment Agency officers found large amounts of unprocessed mixed waste overflowing out of a shed at the company's site in Rainham, Essex. The waste filled the building to the roof, about 10 m high, and extended out into the front yard by about 30 m, exceeding permit conditions. The officers provided advice and guidance, and issued a warning for non-compliance, but in April and May 2014 there were reports of fires at the site.

## Case law

### Appeal against ending of CCL exemption rejected

The Court of Appeal has backed the government's decision to withdraw the renewable source electricity (RSE) exemption under the Climate Change Levy (CCL). The ruling came in *Infinis Energy Holdings v HM Treasury and Revenue and Customs* [2016], when the court dismissed the renewable energy firm's argument.

The exemption was designed to increase demand for renewables from business consumers and support the renewable generation sector. The chancellor announced on 8 July 2015 that it would be scrapped from 1 August 2015. Infinis and Drax Power applied for a judicial review, but the application was dismissed in February 2016.

Drax did not join Infinis in its appeal against that decision.

There were two main grounds of appeal: that the judge had erred in law by concluding that withdrawal of the exemption did not violate EU legal principles of foreseeability, legal certainty and legitimate expectations; and that it infringed the EU principle of proportionality and Infinis's right to property under Art 17 of the EU Charter of Fundamental Rights.

The court held that there had been no violation of the principles of foreseeability, legal certainty or legitimate expectations. It also ruled that there was no breach of the EU principle of proportionality – that government actions shall not exceed what is necessary to achieve the objectives of EU treaties. The judges said the government had decided to withdraw the exemption after weighing the impact on renewable energy firms against the public interest, concluding that it was no longer good value.

Emma Lui

Lexis®PSL

# New regulations



In force	Subject	Details
1 Oct 2016 	Energy	The Oil and Gas Authority (Fees) Regulations 2016 enable the authority (OGA) to charge a fee when a licence application or consent or authorisation is submitted for an activity. <a href="http://bit.ly/2ckxlRp">bit.ly/2ckxlRp</a>
1 Oct 2016 	Climate change	Council decision 2016/1841 ratifies the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement across the EU. <a href="http://bit.ly/2eVBIDL">bit.ly/2eVBIDL</a>
1 Nov 2016 	Finance	The Aggregates Levy (Registration and Miscellaneous Provisions) (Amendment) Regulations 2016 clarify the exemptions against the duty to register for the aggregates levy with the HMRC. <a href="http://bit.ly/2eF9wnr">bit.ly/2eF9wnr</a>
1 Nov 2016 	Pollution	The Capital Allowances Act 2001 (Cars Emissions) Order 2016 amends the 2001 Act by extending to 31 March 2021 the 100% first-year allowance for low CO2 emission cars that was due to expire on 31 March 2018. It also amends the qualifying emissions threshold for enhanced capital allowances from 75 g per km to 50 g per km, and for the main rate of capital allowances from 130 g per km to 110 g per km. <a href="http://bit.ly/2fUdqPj">bit.ly/2fUdqPj</a>
1 Nov 2016 	Water	The Water Act 2014 (Commencement No. 7 and Transitional Provisions) Order 2016 brings into force further sections of the Water Act 2014. The act aims to improve water supply and sewerage resilience. The order largely applies to England and Wales and mainly amends the Water Industry Act 1991. <a href="http://bit.ly/2fEI8Zr">bit.ly/2fEI8Zr</a>
7 Nov 2016 	Planning	The Town and Country Planning (Environmental Impact Assessment) (Wales) (Amendment) Regulations 2016 amends regulations to alter the deadline a person can submit an appeal to ministers for failure by a local authority to determine an amended planning application that requires an environmental impact assessment (EIA). The period is changed to four weeks from the date the amendment is received or 20 weeks from the date the original application requiring an EIA was received. <a href="http://bit.ly/2fEOObY">bit.ly/2fEOObY</a>
23 Nov 2016 	Emissions	Decision 2016/1926 approves the use of battery-charging photovoltaic roofs as an innovative technology for reducing carbon emissions from passenger cars. The decision was made under regulation 443/2009, which sets emissions performance standards on new passenger cars. <a href="http://bit.ly/2eu0o8r">bit.ly/2eu0o8r</a>
1 Dec 2016 	Pollution	The Pollution Prevention and Control (Fees) (Miscellaneous Amendments) (No.2) Regulations 2016 amend various legislation to enable fees to be charged to recover costs for activities relating to the environmental management of the offshore oil and gas industry. The proposed regulations cover fees in relation to: consents to locate under Pt 4A of the Energy Act 2008; marine licences under Pt 4 of the Marine and Coastal Access Act 2009; and appropriate assessments under the Offshore Petroleum Activities (Conservation of Habitats) Regulations 2001. <a href="http://bit.ly/2f4wKFf">bit.ly/2f4wKFf</a>
31 Dec 2016 	Ecolabelling	Decision 2016/1332 revises ecological criteria for furniture and extends the scope of the product group to include non-wooden furniture. It replaces existing criteria on wooden furniture established under 2009/894/EC. A qualifying product that satisfies the criteria may be awarded the EU Ecolabel. The revised criteria will apply for six years from 31 December 2016. Existing licences for wooden furniture remain valid until 28 July 2017. <a href="http://bit.ly/2aU8pEe">bit.ly/2aU8pEe</a>




# Latest consultations




20 Dec 2016

## Fuelled and geothermal technology

 The Department for Business, Energy & Industrial Strategy has issued a call for evidence on fuelled (which burn a fuel source derived from biomass) and geothermal technologies in the contracts for difference scheme to determine whether further policy proposals are needed.  
[bit.ly/2ekdMh7](http://bit.ly/2ekdMh7)

23 Dec 2016

## Capacity market

 Plans have been published by the Department for Business, Energy & Industrial Strategy to remove any potential advantage under the capacity market (CM) system that favours small, embedded generation, including diesel. Proposals include changing the way the CM supplier charge is calculated so costs are recouped from suppliers on the basis of gross rather than net demand, and amending deadlines relating to metering assessments and tests.  
[bit.ly/2eVNNIU](http://bit.ly/2eVNNIU)

9 Jan 2017


## National infrastructure

 Plans to create a National Infrastructure Commission for

Wales have been published by the Welsh government. It aims to establish the body by the end of 2017 to provide independent and expert advice about infrastructure investment.  
[bit.ly/2fnOxXR](http://bit.ly/2fnOxXR)

15 Jan 2017

## Circular economy standard

 A draft of BS 8001 – the framework for implementing the principles of the circular economy in organisations – is available for public comment (see pp 30–33). IEMA is among the organisations that have contributed to the development of the standard. The final version should be available in May 2017.  
[bit.ly/2eaXYNw](http://bit.ly/2eaXYNw)

27 Jan 2017

## Reuse of water

 The European Commission is consulting on policy options to set minimum quality requirements for reused water in the EU. The objectives of the consultation are: to gather information and data on the benefits of, and barriers to, further development of water reuse; and how minimum quality requirements will apply.  
[bit.ly/2dTUQkh](http://bit.ly/2dTUQkh)

28 Jan 2017

## REACH refit evaluation

 The European Commission is seeking views on the general approach to the 2017 REACH refit evaluation. It wants to gather opinion on the strengths and weaknesses of the EU regulation on chemicals as well as pointers to elements that may be missing. REACH is reviewed every five years against five criteria: effectiveness, efficiency, relevance, coherence, and EU added value. The evaluation should be completed in the second quarter of next year.  
[bit.ly/2fET9df](http://bit.ly/2fET9df)

31 Jan 2017

## Onshore wind

   The Department for Business, Energy & Industrial Strategy (BEIS) is consulting on its position that non-mainland GB onshore wind projects should not be classified as a separate technology or allowed access to pot 2 (less established technologies) under the contracts for difference scheme. BEIS maintains that non-mainland GB projects – on Orkney, Shetland and the Western Isles – should continue to be treated in the same way as mainland onshore wind.  
[bit.ly/2fZ9nQZ](http://bit.ly/2fZ9nQZ)

## New guidance

### Flood risk activities

Defra and the Environment Agency have published guidance on activities that are excluded ([bit.ly/2dHXJVT](http://bit.ly/2dHXJVT)) or exempt ([bit.ly/2eNo0oL](http://bit.ly/2eNo0oL)) from the requirement for an environmental permit for work on or near a main river or sea defence in England. Those planning to undertake an excluded activity are reminded that they must operate within the description and conditions of the exclusion, while those undertaking an exempt activity must register it and check whether the area supports protected species.

### Fire prevention

The Environment Agency has updated its guidance on what to include in a fire prevention plan and prevention measures that must be put in place at sites storing combustible wastes and covered by a permit ([bit.ly/2aUP3dE](http://bit.ly/2aUP3dE)). It applies to operators in the waste metals (end-of-life vehicle sites and scrap metal) and non-hazardous waste sectors as well as those in biowaste treatment (open windrow, in-vessel composting and dry anaerobic digestion); agriculture (intensive farming only); incineration; combustion; paper and pulp; and cement lime and minerals. It updates the guidance published in July.

### Water abstraction

A new edition of *Managing Water Abstraction*, setting out how the Environment Agency manages water resources in England, has been published ([bit.ly/2g125w1](http://bit.ly/2g125w1)). It explains the technical, legal and policy requirements behind the agency's abstraction licensing strategies.

### Enhanced capital allowances

HMRC has published updated tax information and impact notes on the lists of technologies and products covered by the energy-saving and water-efficient enhanced capital allowances (ECA) schemes. The schemes allow 100% of the cost of an investment in qualifying plant and machinery to be written off against the taxable income of the period in which the investment is made, improving cash flow for businesses.

# On a ship to nowhere?

The shipping industry has so far escaped setting a long-term plan to cut its carbon emissions. Is this about to change? **Alex Marshall** reports

Over the past ten years, a German start-up has arguably attracted more media attention than any other company working to green the shipping industry. Undoubtedly, Hamburg-based SkySails has been assisted by a proposition that is easily understandable: It wants to install huge kites – 320 sq m in size at first – that can be released from the front of ships to help to tow them across oceans. These could cut fuel use by 35% in favourable winds, the company claims, with a similar reduction in carbon.

In 2011, agriculture and food business Cargill announced it would trial the technology for five years on a cargo vessel, a decision that elicited much positive news coverage. However, it is a different picture for SkySails today. ‘Due to the low oil price and shipping’s poor economics, investment in wind propulsion is unattractive for shipowners,’ says Henning Kuehl, the company’s head of marketing and business development.

## Money, money, money

The ‘poor economics’ Kuehl refers to is a huge overcapacity after the 2008 financial collapse. This has led to regular bankruptcies, most recently South Korea’s Hanjin Shipping, then the world’s seventh-largest container carrier, and governments are propping up many shipbuilders.

‘There is also a structural problem in the market,’ says Kuehl. Ship owners do not normally pay for fuel; charterers do. And charterers are restricting themselves to short-term contracts because they know the overcapacity shows little sign of abating and prices will continue to fall. Charterers have no incentive to invest in novel propulsion systems for trials, let alone ones with an estimated three to five-year payback.

These issues have forced SkySails to refocus and it is now trying to use its technology for other purposes, such as generating electricity. ‘Don’t get me wrong,’ Kuehl says. ‘We are still convinced wind power will find its way to the shipping industry as it’s the cheapest source of energy on the high seas. The question is, how long will it take?’

## Escaping regulation

Shipping is the only major transport sector so far to have escaped major regulation to cut its emissions. Unlike aviation, shipping is not part of the EU’s emissions trading system (ETS). Part of the reason is that it is a

relatively green form of transport. It is responsible for only about 2.5% of global carbon, although that is due to grow. The International Maritime Organization (IMO), the UN agency that regulates shipping, expects emissions to rise by up to 250% by 2050 and be responsible for 17% of annual global carbon output.

These emissions need to be halved by 2050 if the sector is to contribute its fair share to keeping the global temperature rise below 2°C, according to research from University College London’s Energy Institute and the University of Manchester (see panel, p19).

In 2011, the IMO agreed a measure for new vessels called the energy efficiency design index. However, this regulatory system quickly proved inadequate, with many ships already meeting targets for 2025. Environmentalists hoped this situation would change when IMO’s Marine Environment Protection Committee convened for a week-long meeting in London in October.

Several European countries had called for a working group to be set up to urgently agree shipping’s share of future emissions, and then develop processes to meet it. However, lower income countries, including China, India, Brazil, Iran and South Africa, opposed the move. ‘Shipping has become truly indispensable to the world,’ they said in a joint paper submitted to the meeting. ‘As long as world trade is growing, shipping will grow too. This responsive characteristic...makes it impossible to determine its peak emissions in the same way that a country would do.’

The IMO needed to collect and analyse data on ship emissions before taking any action, they said, and forecast that policies would not be agreed until 2025 at the earliest.

In the end, a compromise was reached. The IMO agreed to set up the working group but only to develop ‘an initial greenhouse gas strategy to be adopted in 2018’. A final strategy will not be approved until 2023, and it may only be that which includes a target and measures to meet it.

Unsurprisingly, reaction was mixed. NGO Transport & Environment called it an ‘abject failure’ and urged shipping to be brought under the ETS. But Ellen Burack, Canada’s IMO negotiator and one of the few delegation heads who would talk to the press, said the deal ought to be regarded as progress. ‘A year ago, people wouldn’t even discuss the idea of a strategy,’ she told *the environmentalist* at the meeting. ‘We’ve now agreed to meet one or two extra weeks a year to just talk about climate policy. Those discussions also have a more precise timeline, with key results due in 2018. It is a step forward.’

Yet the part of the meeting that could have an immediate impact on shipping emissions had nothing to do



with climate change. The IMO also agreed to ban high-sulphur fuels from 2020 to cut pollution. This is likely to double fuel prices and should cause ship owners to refocus efforts on trying to save fuel to cut costs, although it could also lead to investment in sulphur-removing scrubbers – which, paradoxically, would increase carbon.

### A shopping list of options

It would be wrong to say shipping firms have done nothing to cut their emissions. Maersk, the world's largest, has a target to cut carbon by 60% on each container moved by 2020 compared with 2007 levels. It had achieved a 42% reduction by the start of 2015. The biggest contributor to this fall has been slow steaming, says John Kornerup Bang, Maersk's climate change lead. This involves ships travelling at a slower, steady speed rather than rushing to ports and having to wait outside, burning fuel. Other measures that have helped include route optimisation, installation of waste heat recovery systems, new propellers and bulbous bows to reduce drag, and painting hulls more often to reduce friction with the sea (see panel, p18).

The Mediterranean Shipping Company, the world's second largest shipping firm, is at the end of a five-year \$250m investment programme to improve the efficiency of about 200 vessels. A spokesperson says this will save two million tonnes of carbon a year, although the company will not reveal its total emissions to show what

percentage that is. The company's 2M network with Maersk, in which the two firms share vessels, has also cut emissions by 10%, the spokesperson adds.

'The [financial] driver is still there to do more,' says Bang. 'We are confident we will meet our target. But we are reaching the part where, if you look further ahead, we will need regulation to help us. If market conditions are similar – and there are scenarios in which prices continue to drop – we will need help to make efficiencies more affordable.'

Maersk is working on more fundamental ways to cut its emissions beyond efficiency gains. 'At this point, the most promising potential is in liquefied natural gas and biofuel, but others might become more interesting in the more distant future, such as batteries run by wind or solar,' says Mads Stensen, Maersk Line's global sustainability adviser.

But Bang insists there needs to be developments at the IMO for any of that work to come to fruition, which is why Maersk is stepping up lobbying for a long-term emissions trajectory to be agreed in 2018. Questions around how that will be met, what responsibilities will be placed on operators and who will pay for them can wait, he adds.

The first part of Maersk's campaign is a policy paper, issued in November by the Danish Shipowners Association, of which the company is a member. This states that shipping's emissions need to peak in 2025 if the industry is to respect the Paris climate change





## Measures to improve fuel efficiency of ships

### Container vessels, designed for speed

- Speed reduction 23%
- Waste heat recovery 4%–10%
- Lightweight construction 7%
- Hull coatings (reduce drag) 5%
- Bow thruster improvements 5%
- Efficiencies of scale (larger ships) 4%
- Autopilot adjustments 4%
- Propeller blade redesigns 2%

### Tankers and bulk carriers, designed for long, slow voyages

- Wind power 20%
- Better route planning 10%
- Improved design such as slender hulls 9%
- Air lubrication under hull (reduces drag) 5%
- Better rudder and propeller design 4%
- Hull cleaning (reduces drag) 3%
- Improved engine tuning 1%

*Source: Sustainable Shipping Initiative, data from Korean shipbuilder Daewoo and Finnish shipbuilder Wärtsilä.*

agreement. Regulation may lead to firms buying offsets to cut their emissions in the 2020s and 2030s but, after that, the industry will need to transform significantly.

‘The world is going to decarbonise. Shipping is going to decarbonise. Saying “we want to be exempt as we’re the greenest form of transport” will not make us stronger,’ Bang says.

### In limbo

Most companies working on novel ways to power ships seem resigned to having to wait for serious action. ‘It will take a while, but I do expect our technology to be seen on a lot of ships,’ says Noah Silberschmidt, chief executive of London-based Silverstream Technologies.

Silverstream makes an air lubrication system, in which a layer of micro-bubbles is produced underneath the hull to reduce friction. This saved 4.3% of fuel in trials on a Shell-chartered tanker over the winter of 2014–15. Silverstream will be installing the technology on a Norwegian Cruise Lines vessel in 2017.

Using current fuel prices as a guide, Silberschmidt says his technology will pay back in three to five years, but admits even that is too long given that the industry is still in a crisis. Another issue for these types of technologies is the sheer diversity of ship types and the routes required to undergo trials. ‘If you have a car, it’s relatively straightforward to show whether a technology works or not,’ he says. ‘In the sea environment, you have many variables with wind, currents, temperatures and vessels.’

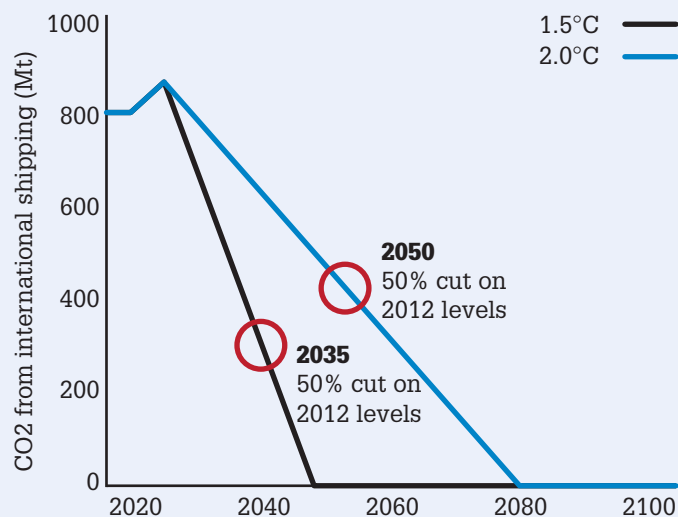
Tuomas Riski, chief executive of Norsepower, agrees. His firm makes a version of the Flettner rotor – a spinning cylinder that uses wind forces to propel ships forward – that can be installed on to ship decks. In trials, it has shown an average 6% fuel saving. ‘If nothing happens, our market is totally determined by the fuel price,’ he says. ‘But our expectation is there will

© iStockphoto/narvikk





XXXXXXXXXXXXXX



Source: University College London, University of Manchester (2015): CO<sub>2</sub> Targets, Trajectories and Trends for International Shipping.

be some kind of market mechanism [for carbon], and if that happens...' He trails off as if to show lingering uncertainty over how shipping firms would react in such circumstances.

There are, of course, those for whom a delay is a good thing. Recycling Technologies, a spin-off from the University of Warwick, is intending to use pyrolysis to take waste plastics and convert them into a low-sulphur hydrocarbon called Plaxx. This is a soft wax at room temperature, but a liquid fuel at 70°C. The company has started tests to find out whether it can be used in marine diesel engines without increasing wear. Rupert Haworth, Recycling Technologies' marketing director, says several years' work lie ahead before approval could be granted for the use of Plaxx, which is likely to be suited to ferries with single bunker points.

The question of whether shipping will decarbonise does seem beyond doubt: it is a matter of when. But there are reasons to be hopeful this will be sooner rather than later. At the IMO meeting, China surprisingly remained silent in discussions on climate change, according to sources. That is a sign, perhaps, that it will not block any action in 2018. But perhaps a more important reason is a simpler one: growing awareness. 'From our perspective, the reason shipping hasn't really done anything so far is it's very much out of mind – there is no public pressure,' says Nishatabbas Rehmatulla, a research associate at UCL's Energy Institute. 'Unless you live near a port, you probably don't ever think about shipping.'

'But we saw with the sulphur ban that just a little attention was enough to force the IMO to act. We're starting to see awareness growing on shipping's carbon emissions too. If that continues, maybe we could see a similar change.'

Alex Marshall is a writer on the environment.



# The environmental Nightmare before Christmas



Toys are a Christmas stocking staple, but what are their environmental impacts? **Samantha Lyster** investigates

**T**he seven days before Christmas are the busiest in the toy market calendar. Last year, 38 toys on average were bought for each child in the UK, with 11 of these being Christmas gifts and stocking fillers, according to the British Toy and Hobby Association and market research company The NPD Group.

But when carers and present givers scan children's Christmas lists this year the environmental impact of the items featuring on them are likely to be furthest from their thoughts.

## Scale of the market

The toy industry is a major consumer of plastic and packaging. There is plenty of data on the energy and resources used to make a plastic bottle, and figures abound for how many plastic bags wash into the ocean, but there are few equivalent statistics for toys.

The British Toy and Hobby Association claims the UK toy market is the largest in Europe, worth £3.2bn a year. It grew by 5.9% in 2015, when 58,000 products were launched. Action figures and building sets, mostly made of plastic, were popular, with Lego Minifigures the best-selling toy in the UK last year.

Yet unwanted and discarded toys, particularly those made of plastic, are not on the radar of many organisations concerned with recycling and plastic usage. The remit of waste and resource body Wrap, for example, does not cover toys and, according to information site recycling.co.uk, which lists what can and cannot be recycled around the UK, the country has no dedicated local authority facilities for toy recycling.

Piles of second-hand toys in charity shops and donations to playgroups account for some unwanted items. Inevitably though, many end up in landfill or, like other plastic, in the ocean.

During the 2015 global coastal clean-up organised by charity Ocean Conservancy, among the 'weird' items recovered was a plastic toy drum kit and a toy elephant. Unfortunately, the charity did not have figures for how much plastic in the form of toys was recovered.

Carole Mars, senior researcher at The Sustainability Consortium, a global organisation focused on improving the sustainability of consumer products, says without such attention it is difficult to keep track of where the toys end up once they are discarded. 'How much makes it to landfill or ocean is a very difficult number to determine,' she says. 'I've found the toy industry does not widely consider end-of-life of its products.'

Mars believes this is partly because toy companies rightly prioritise product safety: 'I don't think it is so much of a blind spot with respect to plastics in toys, more the way issues related to toys are prioritised. With toys, the overwhelming concern is child safety, and what chemicals are included in the plastics themselves.'

'Not many people think about other aspects of toy production and disposal impact. Because of this, there is very little about the sustainability of toy supply chains as we have with other

© iStockphoto/cjmacer/ninjaMonkeyStudio



types of products. Packaging of toys has seen some improvements, as companies move away from PVC films and use recyclable plastics and recycled content in paperboard packaging.

‘Unfortunately, the nature of the industry is that presentation on the shelf is extremely important so size of packaging is not expected to decrease, and the foil and glitter and other surface treatments can contaminate waste streams, and are not really considered recyclable at this point.’

### Leading lights

Within the toy industry there are examples of companies that are aware of the waste and resource issues, Lego being one of the leading players in attempting to make its business more sustainable. Spokesperson Roar Rude Trangbæk says Lego’s approach is ‘reduce, reuse and recycle’. ‘We aspire to achieve zero waste,’ he says. ‘As a consequence we work to reduce our material use, such as the use of cardboard, and reuse materials where we can. We recycle items like paper, cardboard, wood and metal.’

Trangbæk says Lego has experienced significant growth in demand for its products over the past ten years: ‘The quantity of Lego bricks we produce has increased, and with that our consumption of raw materials. This highlights the necessity for us to keep improving our management of waste, and we will continue to work hard to meet our target of recycling 90% of it.’

He says the company is keen for children to play with bricks for as long as possible. ‘Lego bricks are very durable and you can play with them for years. All bricks produced since 1958 fit together, and we always do our best to ensure that all of them stay in play. As such, we believe that a product this durable should not be thrown away.’

### Wasted material

Trangbæk describes waste management as one element of a broader responsibility. ‘As a company, Lego’s overall ambition is to leave a positive impact on the planet,’ he says. ‘Our biggest impact in that respect naturally comes through the Lego play experiences we believe inspire and

help children to develop. But naturally the toys and games children play with have an environmental impact. The initiatives we are working on in the environmental sustainability area should ensure that we minimise our environmental impact from manufacturing Lego bricks.’

To this end, the Danish company has launched a sustainable materials centre. It researches sustainable substitutes for the raw materials used in making Lego products, including packaging. The aim is to have all such materials sustainable by 2030.

It would seem a given that an industry striving for sustainability should look to using recycled plastic when it can, but there are problems associated with this. A report into recycling plastic by the University of Cambridge’s ImpEE project to improve engineering education highlighted various challenges, including contamination from immovable labels or a cross-mix of PVC (polyvinyl chloride) with PET (polyethylene terephthalate).

Mars says these issues prevent the use of recycled material in some toys: ‘In many cases, especially with plush toys and dolls, there are product safety regulations that require virgin materials in parts that children would come into contact with. She also notes that it is difficult for manufacturers to tune production so that items with recycled content go to one market, and the same ones without recycled content go to another.’

### Ethical concerns

There are, however, independent toy producers that have made a unique selling point out of using recycled and sustainable materials. Dr Zigs Extraordinary Bubbles is the brainchild of conservationist Paola Dyboski-Bryant.

She started the business from her kitchen table in Bangor, north Wales, producing high-quality soap bubble mixture sold through its online store. The bottles are made in the UK from recycled plastic, the wands from sustainable wood. Even the string around the wands is sustainably sourced. The environmental credentials and the quality of the mixture are why people are willing to pay £15 upwards for the kits.

‘When you look at the bubble mixture market almost 99% of it comes in from China,’ Dyboski-Bryant says. ‘We wanted to offer an alternative and launch a business that should be as sustainable as it could and as ethical as we can [make it]. I have a background in marine conservation, and I’m passionate about reducing resource use.’

'But the toy industry is a tough sector. I've talked to distributors and the margins that they want are absurd. We're a handmade product, we offer [employees] a living wage, so we have high costs. But because it's a quality product we can charge more. However, it's tough.'

The business looks to incorporate green solutions wherever it can. It uses rainwater for the bubble mixture, and is developing a heat exchange system for its production facilities.

The children's playground equipment company, Marmax, is another brand that uses 100% UK recycled plastic. Marketing executive Kate Stewart says: 'The only material we use in our products that isn't recycled is for the screws and bolts that hold the products together.'

But finding the correct, good quality, raw material to make the range of plastic equipment can be difficult.

Availability is a major challenge for firms that want to use recycled material. The recent low cost of oil has made 'virgin' plastic less expensive, leading to lower prices for recycled material. Wrap recently reported that prices for plastic packaging recovery notes had fallen to £35 a tonne since peaking at £67.50 in November 2015. This drop has led to some manufacturers ceasing production of recycled plastics.

This may prove problematic for future supplies, but it has not deterred British retailer Mothercare from exploring options for its own line of toys. 'We are at the early stages of looking into opportunities for recycled plastics, and some suppliers do use plastic regrind, but we must always ensure these products meet toy safety standards as a priority,' says a spokesperson. 'In terms of sustainable production, our supplier code of practice includes reducing environmental impacts as part of our standard requirements. This is also something we are working on with our suppliers in China.'

Mothercare has developed an environmental scorecard with a Chinese NGO to assess a factory's performance on key metrics, and is now rolling this out to major suppliers. 'We plan to develop some case studies to share with all suppliers and eventually for all factories to have their own scorecard and key performance indicators,' the spokesperson says.

### Resource management

Reducing resources during production is an area toy giant Hasbro has been working on since 2002. It recently announced plans to halve the waste it sends to landfill by 2020 and reduce energy consumption, GHG emissions and water use by 25%, 20% and 15% respectively. The company, whose product range includes Transformers and My Little Pony and board games Monopoly and Cluedo, says it reduced non-hazardous waste by 40%,

energy consumption by 19%, GHG emissions by 32% and water consumption by 31% between 2008 and 2012.

Hasbro is also working on reducing its product-to-packaging ration. It has already eliminated PVC from its packaging and, in 2010, replaced all wire ties with ones made from paper rattan or bamboo mix to reduce environmental impacts.

This is good progress, but packaging continues to be a bugbear for the industry. Mars says packaging is what first appeals to parents and children when browsing shelves. Jessica Green, co founder of toy-sharing service the Toy Box Club, feels that some packaging is 'Machiavellian' in design: 'We spend hours untwisting wires, attempting to cut thick, sharp plastic and unstitching to try to extract the toy before even beginning to figure out how to assemble it or change the batteries.'

Green launched the Toy Box Club with business partner Sheela Berry because, as carers, they were tired of being surrounded by piles of unwanted toys. Green says the subscription service lets a child have the fun of 'new' toys without the waste and expense associated with buying from stores: 'Our subscribers tend to be families who live in limited space in London, who are ethically minded but also aware of not wanting their homes swallowed up by plastic.'

She is staggered that the toy industry seems to have so little interest in sustainability and recycling, and that the sector appears to be unregulated in this area. 'We provide all toys fully assembled, with batteries and instructions – and no individual packaging,' she says. 'Our boxes are fully recyclable, and we donate "tired but intact" toys to charity, and recycle the broken ones.'

### Promotional products

The toys that are given to charity shops or schemes such as the Toy Box Club may at least be granted longer lives before they are discarded. Many of these are toys that have 'value', as opposed to the pocket money products that go into the bin after five minutes of play.

As well as being one of the largest fast-food chains in the world, McDonald's is also the biggest distributor of toys as a result of the plastic promotional ones given out with Happy Meals. According to the *New York Times*, these amount to 1.5 billion worldwide each year. McDonald's is phasing out the paper books and games it used to include, which reduced at least some plastic output. It is an example of where design and forward-thinking to the end of life of a toy can make a huge difference.

There are projects under way that aim to change society's perception of plastic, and these include the use of design as a way to reduce consumption in daily life. The WASTED sustainability organisation in Amsterdam hosts workshops where people can process used plastic into building blocks. And the Send A Cow charity, which supports training in Africa, has an education section on how to upcycle plastic items into toys.

So this Christmas, when pester power is at its strongest, perhaps those buying toys could cite sustainability as an excuse to reduce the number of items on children's wish lists or at least find more environmentally friendly ones to fill stocking space.

Samantha Lyster is a freelance writer.



## Do you want...

- To implement an ISO 14001 Environmental Management System?
- To understand and ensure compliance with Environmental Legislation?
- To enhance your skills and gain Environmental Qualifications?

**WE ARE A PASSIONATE AND PROFESSIONAL ENVIRONMENTAL CONSULTANCY THAT UNDERSTANDS YOUR BUSINESS NEEDS, ADDING VALUE AT EVERY OPPORTUNITY THROUGH BESPOKE BUSINESS SUPPORT AND TRAINING, TAILORED TO THE NEEDS OF OUR CLIENTS.**

Our ultimate aim is to equip companies with the skills, knowledge and tools to make improvements to be sustainable, protect and enhance the natural environment and also meet commercial needs.



## ENVIRONMENTAL MANAGEMENT SYSTEM CONSULTANCY

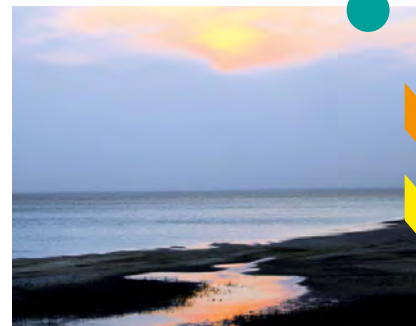
Imvelo works with clients to develop and implement Environmental Management Systems (EMS) designed to achieve certification to international standards such as ISO 14001 and the European Eco-Management and Audit Scheme (EMAS) or to phased certification schemes such as BS 8555.

An Environmental Management System (EMS) is a systematic framework for controlling and minimising the environmental impacts of business processes.

We provide a bespoke approach to the development and implementation of environmental management systems, based on the following stages:

- Gap Analysis
- Policy and Planning
- Implementation and Operation
- Checking and Corrective Action
- Pre-certification Audit Processes

We also offer support to implement Energy Management Systems (ISO 50001), Carbon Accounting (ISO 14064), Quality (ISO 9001) and Health & Safety Systems (OHSAS 18001) and the integration of these standards.



## ISO 14001:2015 TRANSITION ARE YOU READY TO MAKE THE TRANSITION TO ISO 14001:2015?

Imvelo has been actively involved in consultation with IEMA in relation to the upgrade to the ISO 14001 standard.

Imvelo Ltd. is an IEMA Approved Training Provider of the 'Making the Transition to ISO14001:2015' training course for businesses and individuals and now it's time to start implementing the theory.

Our highly trained and experienced consultants can help you through every stage of making the transition to ISO 14001:2015, right through to re-certification.

## CONTACT US SO WE CAN HELP YOU:

**Tamma G Carel**  
PIEMA, MSc, BSc (Hons)  
Senior Environmental Consultant

☎ 07891 908 744  
✉ [tamma@imveloltd.co.uk](mailto:tamma@imveloltd.co.uk)  
[www.imveloltd.co.uk](http://www.imveloltd.co.uk)

Company Registration  
09928086

**IMVELO'S CLASSROOM-BASED TRAINING PRIDES ITSELF ON ITS ABILITY TO ENGAGE AND INTERACT WITH CANDIDATES. THIS ENHANCES THE LEARNING EXPERIENCE BY ALLOWING STAFF TO APPLY ENVIRONMENTAL EDUCATION TO THEIR PRACTICAL BUSINESS ACTIVITIES.**

Our tutors are practicing environmental consultants and are able to bring up-to-date and topical knowledge to the workshop environment to enhance the learning experience for your staff.

Imvelo are an IEMA Approved Training Partner, and deliver two IEMA Certified courses. IEMA Certified courses have a prescribed specification developed by IEMA with a focus on enhancing the professional development. Through rigorous quality assurance processes, Imvelo works with IEMA to ensure you will complete the course with the knowledge and competencies validated by an individually recognised professional body.

Our workshops are best delivered in-house, for a minimum of five people (please enquire about group discounts).

Here is a sample of some of our most popular courses, we are always adding more so please visit our website at [www.imveloltd.co.uk](http://www.imveloltd.co.uk)

## IEMA MANAGING WITH ENVIRONMENTAL SUSTAINABILITY



### Who is it for?

This course is ideally suited for supervisors and managers across all sectors and has no formal entry requirements.

### Learning Outcomes:

- Understand the strategic opportunities and constraints of Environmental Sustainability for organisations
- Understand the importance of resource efficiency
- Understand the impact of environmental sustainability across the value chain
- Know the impacts of pollution, prevention, control and environmental legislation in Organisations
- Know how employees can support environmental sustainability

### Course Duration:

14 Guided Learning Hours / 2 Days

### Assessment:

The assessment for Managing with Environmental Sustainability consists of a paper-based short answer question test.

## IEMA MAKING THE TRANSITION TO ISO 14001:2015



### Who is it for?

This course will benefit those learners who have experience in implementing ISO 14001 EMS and will need to manage the transition to the updated standard.

### Learning Outcomes:

- Understand the changes to ISO 14001:2015 and their intent
- Identify and plan actions to enable an organisation to conform to, and so realise the benefits of, the new requirements
- Exclusive insight from IEMA for you to know and understand the updated ISO 14001:2015 Environmental Management Standard
- Each delegate issued with the unique IEMA EMS Gap Analysis Tool
- Mapped to the Managerial Level of the IEMA Environmental Skills Map.

**Course Duration:** 1 day (7 Hours)

## CONTACT US SO WE CAN HELP YOU:

**Tamma Grummitt-Carel**  
AIEMA, MSc, BSc (Hons)  
Senior Environmental Consultant

☎ 07891 908 744  
✉ [tamma@imveloltd.co.uk](mailto:tamma@imveloltd.co.uk)  
[www.imveloltd.co.uk](http://www.imveloltd.co.uk)

Company Registration  
09928086



# Going global

IEMA membership is growing worldwide. **John Barwise** talks to members of the expanding network in the Middle East

**I**EMA members and other environment professionals working in developed economies can always rely on regulations and a high level of public scrutiny to support their efforts to improve performance in organisations. This is not always the case in emerging economies, where governance and cultural priorities can be very different and practitioners face the challenge of fostering stewardship in regions where environmental legislation is evolving.

The Middle East and North Africa (MENA) is a diverse region where IEMA is increasingly active. The area encompasses 18 countries, the Palestinian territories and Western Sahara, and includes some of the world's wealthiest nations and some of its poorest. Its combined population of more than 320 million is forecast to double over the next 40 years. GDP per capita ranges from \$2,500 in Yemen to more than \$41,800 in the United Arab Emirates. Some countries have large reserves of oil and gas, while others struggle to sustain water supplies. These features provide some unique challenges for members of IEMA's expanding network in the region.

## Key considerations

The IEMA regional team in the Middle East and North Africa has identified several key considerations:

- **Governance** – the UAE, Qatar and Oman all enjoy stable governance from highly respected monarchies. The method of governance is different from Europe's, with different requirements, constraints and opportunities.
- **Environment** – summer temperatures routinely range between 45°C and 50°C; there is a high density of mega-projects under simultaneous construction; a reliance on desalination for water supplies; and soaring migrant populations.
- **Standards** – through well-established stakeholder public consultation processes, IEMA enjoys significant involvement in the drafting of environmental and sustainability management standards in the UK. By contrast, governments set the standards in the Middle East, with consultation typically between their departments.
- **Professional memberships** – although often required by employers in the UK, it is not yet the case in the Middle East. However, governments are beginning to look for mechanisms by which they can set internationally recognised standards for personnel. IEMA's work on mapping skills could help to support this.



© iStockphoto/mbbirdy

## Host of challenges

Despite the socio-economic differences, a study by the University of Gothenburg identifies many similarities between the countries. *Environmental and Climate Change Policy Brief* describes MENA as one of the most arid regions on Earth, with many countries suffering water stress or scarcity. Other major environmental challenges include land degradation, desertification, coastal and marine environment degradation and air pollution, many of which are related to climate change.

The Middle East Institute (MEI) think tank recognises those differences in a study. Its *Pathways to Sustainability* argues that 'economic growth, water scarcity, food security and health' are the main challenges, with other environmental and social aspects considered secondary or even luxuries.

IEMA MENA is the first regional presence established outside the UK and is focused on building relationships and support for local members and key stakeholders, leading towards higher standards of environmental and sustainability management in the Middle East.

Harry Sealy, a principal environmental consultant at CH2M, established the network. The multidisciplinary consultancy has been instrumental in guiding Qatar's supreme committee for delivery and legacy on environmental and sustainability management for FIFA World Cup 2022. Sealy, who is a Full member and a chartered environmentalist, has also been instrumental in establishing sub-regional branches in United Arab Emirates (UAE) and Oman.

## At work

The UAE branch of IEMA MENA covers seven emirates and hosts the largest base for members in the region. It is led by Salma bin Breik, an environment, health and safety scientist at professional services company GHD. She says the group aims to support members by strengthening the links with IEMA in the UK and building a network platform to share ideas.



From an environmental perspective, bin Breik says the UAE is rising to the challenge: 'Environmental management legislation and its implementation are generally regarded as more advanced than its Gulf Cooperation Council (GCC) neighbours, especially in Abu Dhabi. Initial meetings with its environment agency have been very positive.'

The Middle East is experiencing high population growth and increasing urbanisation. The iconic Masdar City, built on the outskirts of Abu Dhabi, aspires to be one of the world's most sustainable urban settlements. This high-density, pedestrian-friendly development, designed by British architects' firm Foster + Partners, is intended to be a city in which residents and commuters enjoy high-quality living with the lowest environmental footprint. The \$15bn Masdar development fund from the Abu Dhabi government includes 1.5 GW of clean energy capacity that will contribute to the emirate's target of 7% renewable energy capacity by 2020.

### Urban growth

Masdar may well be setting the standard for future urban development, but most MENA cities face more immediate concerns. Rapid urban expansion is adding pressure to transport, water and waste infrastructures. The demand for materials, water and other resources is also rising as construction work intensifies, which in turn increases the risk of further air and water pollution. Average per capita energy use and carbon emissions have almost doubled in the past 30 years, in part because of poor performing buildings, according to Karim Elgendy, architect and founder of Carboun, an advocacy initiative promoting sustainability in the Middle East.

In November, the Qatar Green Building Council (QGBC) organised its annual sustainability week, which included a major conference and workshops on addressing the state's environmental sustainability challenges and to help promote best practice for the built environment there, in the Gulf region and beyond.

Ecology consultant Dr Aspa D Chatzieftimiou, who spoke at the conference, says measures to limit air and water pollution are being adopted. 'As a solution to dust emissions, I know that many construction companies use TSE [treated sewage effluent] to damp down roads on construction sites and piles of excavated soil, and lorries are washed before exiting sites. Some of them also use dust barriers. All these reduce dust emissions.'

TSE is also used to irrigate urban parks, as is desalinated water. Other measures to conserve wildlife are being introduced, including the creation of Doha West lagoon, where an area set aside for sewage is being turned into a wetland to support indigenous and migratory fauna, and native flora. Other rehabilitation lagoons are planned.

### Management strategies

QDVC, a Qatari-owned construction company, has implemented a series of management strategies to reduce the environmental impacts of its projects. These include efficient waste management practices and green procurement methods. The company also promotes clean technologies and best construction practices, and has an investment programme in research, innovation and conservation of natural resources, such as water.

## Sustainable public transport systems – Qatar Rail

Established by Emiri decree in 2011, Qatar Rail was given the mandate to design, build, operate and maintain the country's four metro lines, light transit system and long-distance passenger and freight railway (LDR).

The company's environment and sustainability (ES) team sets priorities across business activities, including design and build, and operations and procurement. These are established by considering whether adverse or beneficial impacts have occurred in the past, now or could in the future.

A significant challenge is to ensure that key issues are regularly appraised and remain relevant as the company moves from asset creation to asset maintenance and railway operation. The priorities are managed through the firm's environment management system, which is certified to ISO 14001. The ES team is also responsible for overseeing the production and implementation of environmental impact assessments for the construction and operational phases of the metro and the LDR.

In addition, the team provides environmental awareness for staff and implements office-based environmental initiatives. Over the past 12 months, these have included the introduction of paper-saving measures, the removal of small plastic water bottles, the fitting of UV screens on windows, the launch of a car club, and a beach clean-up.

Qatar Rail is pioneering the delivery in the state of the Global Sustainability Assessment System (GSAS) for sustainable design and construction. The operator's 100-plus stations will be rated at least four-star under this.



## Algae production technologies – ODVC

Earlier this year, Qatari construction company QDVC set up a four-year collaborative research programme to develop algae production technologies for carbon sequestration. Other organisations involved in the project include Qatar University (QU) and the Centre for Sustainable Development in the College of Arts and Sciences. The research and development team at consultancy Eurovia will provide technical support.

As well as carbon sequestration, the programme aims to produce algae-based bio-products that will contribute towards wider sustainable development goals in Qatar, including water and food security, environment protection and a reduction in climate change impacts. The study will aim to:

- examine whether algal-product can be used in the road or construction sectors or any other industries;
- determine suitable algae strains for production of algal-products dedicated to long-term carbon sequestration;
- develop a laboratory-scale biomass conversion process of identified algae and test the products' quality;
- optimise biomass productivity and carbon fixation efficiency; and
- assess the feasibility of commercialisation of selected product(s) and the potential for carbon dioxide sequestration.

A project board has been set up to monitor progress quarterly.



In 2009, QDVC set up a carbon-offsetting programme. After calculating its car fleet carbon emissions, the company changed its transport policy in favour of purchasing models that were less polluting. It also committed to voluntarily compensate every tonne of CO<sub>2</sub> that was emitted from its car fleet and invest the money in a carbon sequestration research project in Qatar, which it continues to do.

With the support of Qatar University and others, QDVC is also engaged in a four-year research programme to develop algae production technologies for carbon sequestration (see panel, above). 'The new collaboration between Qatar University and QDVC is focused not only on the production of various algae-based bio-products but also on how to solve pressing issues related to sustainable development,' says Sheikha Athba Al Thani, adviser to QDVC's chief executive. She adds that the programme is aligned with Qatar's National Vision 2030 and that the technologies developed could be used for road or other construction sectors.

### Transport schemes

Transport is responsible for about 90% of emissions of carbon oxides in Arab countries and is a primary cause of pollution in MENA urban areas, according to the Gothenburg brief. Other reports point to a rise in private vehicle use in recent years. Public transport projects under way in the Gulf countries aim to reverse this trend. The planned GCC-wide railway project, together with national schemes such as Qatar Rail, Etihad Rail in the UAE and local projects, including the Haramain Rail and Mecca Holy Sites Metro in Saudi Arabia, represent a major shift in the Gulf towards public transport systems.

Qatar Rail is an IEMA corporate member. In 2011, the company was given the mandate to design, build, operate and maintain the country's rail network

(see panel, p25). Qatar Rail's environment and sustainability team aims to ensure that priorities are managed through the ISO 14001-certified environment management system (EMS), which helps to set policies, procedures, requirements and guidance for continual improvement. The company has won two accolades this year for its efforts: a Green Apple award for the built environment and architectural heritage and one from the International Safety Quality Environment Management Association for implementing a best-in-class EMS.

Giovanni Nacci, head of environment at Qatar Rail, says the challenges for practitioners in the region are similar to those faced by colleagues in the West, with one major difference: 'A distinct challenge for the environmental professional in the region is to sustain a high-level of professionalism in situations where there may not be the same level of scrutiny placed on the industry from regulators, pressure groups and the public.'

Qatar Rail believes the prospect of the state holding the FIFA World Cup in 2022 will help to drive its energy and carbon management initiatives, and make a significant contribution to a carbon-neutral world football competition.

### IEMA influence

In September this year, the UAE became the first Arabian Gulf country to accept the Paris agreement on climate change. Saudi Arabia ratified it in November. Martin Baxter, chief policy advisor at IEMA, believes this will set long-term expectations on countries to become more sustainable. Baxter and IEMA chief executive Tim Balcon have met members and key stakeholders in the region to set out aims and objectives to develop the MENA network. 'A key enabling factor will be capacity building and equipping people with skills, competencies and capabilities to make positive sustainable change,' says Baxter. 'We're in discussions with the Ministry of Environment and Climate Affairs in Oman to support the preservation and enhancement of the environment through awareness-raising, skills development and capacity-building activities.'

Environmental management and sustainable development are gaining momentum in the region. The governments of the UAE, Egypt and Jordan began introducing energy efficiency standards for buildings and the Moroccan government has a national charter for sustainable development. Also, non-governmental and professional organisations in Jordan, Qatar and the UAE have set up green building councils and introduced ratings systems to promote sustainable design standards for new buildings.

According to Sealy, IEMA MENA has a crucial role to play in sustaining that momentum: 'As a non-profit, non-political body of qualified professionals IEMA provides a unique vehicle to facilitate sharing of information, ideas, and lessons learned between sectors that may not otherwise have a forum to interact. This is as true in the UK as it is in Oman, UAE and Qatar. We have so much to learn from each other.'

John Barwise is a director at QoL.



7 AFFORDABLE AND  
CLEAN ENERGY11 SUSTAINABLE CITIES  
AND COMMUNITIES

# Cleaner energy and thriving communities

**Penny Walker** looks at corporate action on the UN sustainable development goals on energy and sustainable communities in part five of our series

7 AFFORDABLE AND  
CLEAN ENERGY

## Affordable and clean energy

**E**nergy use is the dominant contributor to climate change, accounting for around 60% of greenhouse-gas emissions. About 20% of the world's population are without access to electricity and 40% rely on wood, coal, charcoal and manure for cooking and heating. Cleaner, affordable energy for the poorest is a priority.

Targets in UN sustainable development goal seven include increasing the share of renewables, doubling the global rate of improvement in energy efficiency, upgrading supply technology, and ensuring universal access to affordable, reliable and modern energy services. Initiatives to achieve these aims are under way worldwide.

Frontier Markets is an award-winning Indian business empowering its network of solar sahelis – women trained in marketing and after-sales servicing who sell clean energy products to people in remote areas of Rajasthan and Andhra Pradesh. This bottom-of-the-pyramid 'last mile' distribution model has helped them sell more than 127,000 products, including solar streetlights, lamps, torches, PV panels and clean cookstoves. The vision of Ajaita Shah, who founded Frontier Markets, is to provide access to clean energy for one million households in India by 2020.

Renewables specialist Acciona is helping off-grid communities in Mexico and Peru through its Microenergia Foundation. The Spanish firm works closely with public authorities and local communities through its Luz en Casa (Light at Home) initiative, which provides subsidised photovoltaic lighting to homes and community centres.

Progress is being made in redesigning and retrofitting energy grids and modern buildings to cut waste and make them renewable-ready. UK-based Demand Logic focuses on energy management solutions. Working with existing building management systems (BMSs), its software continuously monitors data, identifying when pumps, coolers and heaters need adjusting so that they work more effectively and efficiently. Demand Logic's software can benchmark performance across a client's portfolio and rank buildings for energy efficiency, comfort, maintenance requirements and business-critical factors, such as stable temperatures in the case of galleries and datacentres.

The London head office of the *Financial Times* saved £100,000 over two years after investigations and adjustments made by Demand Logic working with Chartwell Energy Solutions and building maintenance and engineering services provider Optimum. Another Demand Logic client is property firm Land Securities, whose senior engineer, Charlie Railton, says: 'The speed of deployment of the software on one of our sites was overnight. It has changed the way we manage our buildings.'

### Managing energy

Individual businesses and sites can also help the grid as a whole to be more energy-efficient. On a windy night or a sunny midsummer morning, more electricity from renewables may be generated than is required. When this happens, National Grid needs to balance the supply. The most sustainable way to do this is to use the excess electricity when demand is there and to reduce it when renewable generation is low.

Power Responsive is one way National Grid is building the UK's capacity to do this kind of balancing. Businesses including utility Dwr Cymru Welsh Water, construction materials manufacturer Saint-Gobain and retailer Sainsbury's are taking part. They are paid for automatically switching electrical equipment on and off within a very short timeframe to help balance out the peaks and troughs in the grid.

Oxford Brookes University's approach is different. It does not have a single large electricity use. Instead, a sophisticated electric heating control system in two student halls of residence allow a large number of small uses to be aggregated. These are remotely managed by Open Energi as part of a pool of demand response assets. Electricity for water heating is interrupted for seconds or minutes, making no difference to students' comfort. Gavin Hodgson, the university's energy manager, says: 'Advanced controls mean we can pool together smaller electrical items which would otherwise not be large enough to receive payment within a demand response programme.'

National Grid hopes that by 2020 power responsive methods will balance between 30% and 50% of energy. 'Traditionally, meeting the energy needs of the nation has meant matching supply to meet demand,' says Paul Lowbridge, power responsive manager at National Grid. 'By using energy intelligently and encouraging the

uptake of demand-side response we can make the most of the energy we have, and reduce costs and carbon, which benefits society as a whole.'

National Grid is also looking at battery storage. This is already in use for frequency balancing, which supports integration of renewable electricity into the grid. In future, the company expects grid-level battery storage to help to make best use of intermittent supply from renewables.

Elsewhere, Nissan, which manufactures the Leaf electric vehicle (EV), is vying with Tesla, which also makes EVs, to turn its cars into portable power stations, selling energy back to the grid and charging their batteries when there is excess supply. Nissan announced in May that it had been working with National Grid and power management company Eaton to develop a storage system to enable additional energy from a Leaf's batteries to be transferred to the grid.

### Further information

- National Grid's Power Responsive – [powerresponsive.com](http://powerresponsive.com)
- Forum for the Future's Living Grid – [livinggrid.net](http://livinggrid.net)
- Demand Logic – [demandlogic.co.uk](http://demandlogic.co.uk)



## Sustainable cities and communities

**H**umans are an increasingly urbanised species. Half of the world's population live in cities, with more than 860 million living in slum conditions, according to the World Health Organization. Cities put enormous pressure on water resources, waste systems and wildlife, but also offer opportunities for efficiency, community and sharing.

The UN's sustainable cities targets cover housing, transport, disaster resilience, air quality, green spaces, and protection of cultural and natural heritage. There is a strong emphasis on safety and inclusion of vulnerable groups. One country buying into these UN targets is China, where urbanisation continues apace. Shanghai Landsea Architectural Planning and Design, as a founding member of the China Green Building Council, has promoted the use of ground-source heat pumps, solar thermal and, in a country with notoriously bad air pollution, filtered fresh air. Its green building museum is open to the public. Yang Ke, Shanghai Landsea's chief engineer, says the company is committed to putting sustainable development into practice.

'The strategic goal of green building is not only the focus of our company, it is a first choice for developing countries with a big population, like China,' he says. 'Because China's per capita natural resources are not rich, the ecological environment cannot be deteriorated any more. Only by taking the sustainable development path can we achieve balance in economic development and ecological environment.'

### City-wide

Elinor Huggett, sustainability officer at the UK Green Building Council, says the challenge of sustainability is often best viewed through a city-scale lens. 'Making meaningful interventions can be simpler at a city level than a national level, but the collective impact will be of a similar scale,' she says. 'Smart, green, resilient cities will provide a high quality of life for their citizens without compromising the wider environment and can support economic growth, jobs and poverty alleviation.'

This is the approach taken by the C40 Cities Climate Leadership Group, a global coalition of more than 80 cities that between them house one in 12 of the world's population. C40 cities work on mitigation and adaptation, alongside improving wellbeing and opportunities for citizens. One of C40's 16 specialist networks focuses on mobility management. Network members learn from each other about using data to optimise routes and schedules, and how cashless payment can provide flexible pricing options, such as combinations of low-carbon travel choices.

MasterCard is supporting this network. 'If you're responsible for transport operations within a city you're in a constant battle for market share with private cars,' says Will Judge, head of urban mobility at the financial services company. 'Do not underestimate how many imagined barriers stop people making the journey without their car in the first place. There are ways you can streamline the experience for customers, using



technology to make payment simple or to provide real-time updates about the most convenient transport options. The ultimate goal is to encourage more people out of their cars and on to public transport.'

Another C40 initiative is its work on financing sustainable cities, supported by Citi Foundation in partnership with the World Resources Institute's Ross Center for Sustainable Cities. The programme enables cities to learn from each other, benefit from practical tools and receive specialist technical advice on developing financing options for sustainability projects and services.

Valerie Smith, director and head of corporate sustainability at Citi, says the initiative is intended to accelerate the financing and implementation of sustainable urban projects by helping city decision-makers, technical experts and financiers to better understand their funding choices and work strategically with each other. She also highlights the importance of sustainable urban projects to efforts to tackle global

warming: 'Under the Paris Agreement, world leaders have committed to ambitious targets to fight climate change. Our collective ability to achieve those goals depends in part on an equally visionary plan for creating sustainable and equitable cities.'

Accessibility is not just about transport for the masses. On a different scale, technology giant Microsoft has been working with Guide Dogs and Future Cities Catapult, the global urban innovation centre, to develop hardware and software as part of an initiative called Cities Unlocked, which aims to improve mobility for people with sight loss. The innovations include modified headphones so people with sight difficulties know which way they are facing and an app that provides a detailed audio description of the streetscape, down to benches and rubbish bins. This makes walking through unfamiliar places easier and safer for people with visual impairments.

Jarnail Chudge, user experience architect at Microsoft Consulting Services, is enthusiastic about the potential: 'Cities Unlocked trials continue and we are validating the feedback from trialists to ensure we get the experience right before making concrete product promises. The pace of technical development has been promising, however, and we are really excited about the direction it is headed.'

**Penny Walker** is an independent consultant; penny-walker.co.uk/blog.

## Further information

- Future Cities Catapult – [futurecities.catapult.org.uk](http://futurecities.catapult.org.uk)
- C40 Cities – [c40.org](http://c40.org)
- UK Green Building Council – [ukgbc.org](http://ukgbc.org)

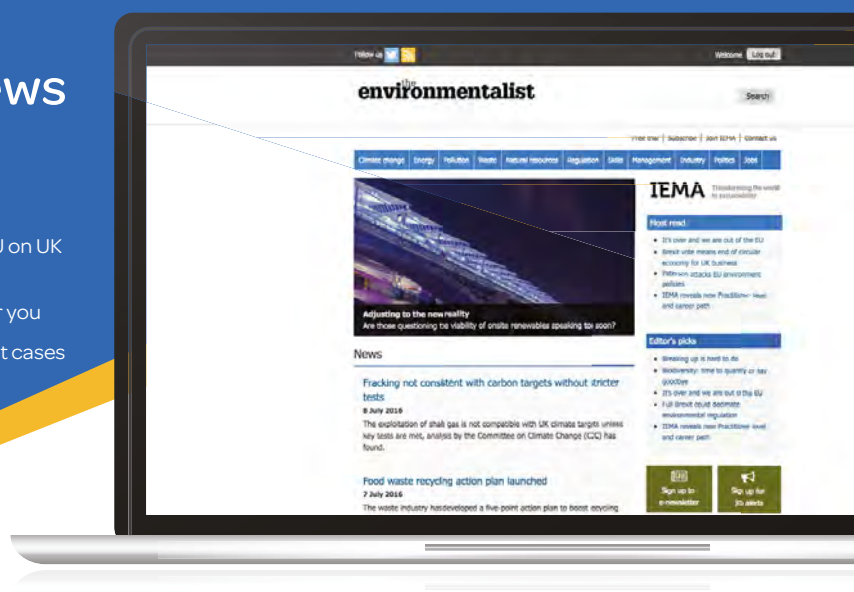
the  
**environmentalist**

## Up to the minute news

Visit [environmentalisonline.com](http://environmentalisonline.com) where you can access:

- ▶ Daily news including the impact of leaving the EU on UK environmental practice
- ▶ Features and analysis on what changes mean for you
- ▶ Regulation and the latest prosecutions and court cases

Ensure you don't miss what matters.



**IEMA** Transforming the world to sustainability

RELX (UK) Limited, trading as LexisNexis®, Registered office 1-3 Strand London WC2N 5JR. Registered in England number 2746621. VAT Registered No. GB 730 8595 20. LexisNexis and the Knowledge Burst logo are registered trademarks of Reed Elsevier Properties Inc., used under license. © 2016 LexisNexis SA-0716-033. The information in this email is current as of July 2016 and is subject to change without notice.

# Coming full circle

With the draft circular economy guidance standard out for comment, **Paul Suff** speaks to some of the practitioners involved in its development

Outside the sustainability profession, most people will not have heard of BS 8001 but, when finalised, the new guidance standard is likely to have a major impact as businesses confront the growing challenge of accessing resources and moving from linear to circular economy business models.

A draft – the framework for implementing the principles of the circular economy in organisations – is available for public comment and is the fruit of two years' work by a committee established in December 2014 by standards body BSI (see *the environmentalist*, June 2015, pp 20–21). The committee consisted of nearly 60 members, representing the environment (Defra) and business, energy and industrial strategy (BEIS) departments as well as the Scottish and Welsh governments, IEMA, the CIWM, Wrap and the Ellen MacArthur Foundation (EMF). A smaller panel of ten experts, including Josh Fothergill, IEMA policy lead for sustainable resource management, produced the draft. Work started in November 2015, and 16 organisations, including Highways England, home improvements retailer Kingfisher, construction firms Skanska UK and Tarmac, and office products supplier Wiles Greenworld, have been engaged in discussing and piloting development of the document.

Phil Cumming, director of Koru Sustainability, chair of the committee and a member of IEMA's strategic advisory council, believes 8001 is essential: 'There is no

shortage of standards, publications and online resources covering particular aspects of the circular economy, but few are specifically directed at helping organisations take practical action and shifting them from a linear to a more sustainable and circular economic model.'

He says the benefits include standardising the use of terms, some of which are open to interpretation and potential misuse, helping organisations identify their roles and providing clarity and direction on key issues to promote collaborative working.

## Starting points

Given that BSI approved the development of 8001 just two years ago, the draft has been produced quickly, especially bearing in mind that the committee started with a blank piece of paper and had to accommodate competing views. Cumming says the makeup of the drafting panel, which consisted of experts in sustainability and the circular economy, and the high level of engagement with interested stakeholders, particularly through the pilots (see panel, p33), helped to speed the process. 'We got the right people round the table,' he says.

One of the first steps was to agree definitions for some of the common circular economy and resource management terms and concepts. Committee and steering panel member Dr Stuart McLanaghan, director at consultancy Eden21 and a resource and sustainability

© imageBROKER/REX/Shutterstock





specialist, says it was crucial to define key terms: 'There is a lot of terminology emerging in the circular economy space and some of the language introduced is not generic. Encouragingly, feedback from the industry pilots revealed that the definitions in 8001 really added value for the user.'

Martin Charter, director of The Centre for Sustainable Design at the University for the Creative Arts (UCA), was also a member of the drafting panel. He says 8001 aims to bring together different thinking about the circular economy and provide clarity on the terminology. 'There's a lot of complex information around the circular economy and it is also evolving. Merging it in one document will help organisations think through the issues,' he says.

The draft defines 79 core and ten supplementary terms. For example, under the heading 'loop', there is an explanation of 'open-loop' and 'closed-loop' systems. Circular economy concepts, including cradle-to-cradle, industrial symbiosis and biomimicry, are also described.

Charter says it was crucial to ensure the language in the standard was used correctly. 'Jargon alienates non-specialists. You have to speak the language of the audience,' he says, explaining that, at UCA, the pilot focused on the built environment because the director of estates has operational responsibility for sustainability.

'The topic of conversation has to resonate with the audience. Discussions with the director were about the implications of circular economy thinking for the built environment, such as reusing material from excavations and ensuring new buildings are easier to upgrade and repair. And when we involved the head of catering, the main topic of conversation was food waste.'

Achieving consensus on the terminology in 8001 was a challenge in some areas, particularly definitions of closed- and open-loop systems, says Cumming. There was also debate over the role of energy-from-waste (EfW). He admits that the reference in the draft to EfW is pragmatic, but says this is because it is a process that must remain under appraisal. 'What is too expensive to reclaim and recycle now might not be in the future. A wider range of waste types is likely to become more viable, so organisations will need to continually review whether EfW is the best solution for the residual waste going to it,' he says. Cumming went on to say, half-jokingly, 'nothing breaks a material cycle more than burning it', adding:

'After all, even landfills can be mined to extract resources. So society needs to be cautious about burning waste for energy. Nonetheless, EfW has a role to play, particularly as firms transition to a more circular approach.'

McLanaghan led the work on business models, an area that also triggered some debate, specifically how organisations of different longevity implement the principles of the circular economy. 'Established organisations are more likely to begin with a more limited transition to a circular mode of operation – for example, single product level – but once concepts and systems have been developed, implemented and improved, companies can explore roll-out at a macro-level,' he says.

In the event, the draft states: 'Adopting a new disruptive business model might be preferable for a start-up organisation. However, for an established business, with many years' trading experience, innovation around the existing business model might be preferable to adapt (eg re-engineer) from more linear towards more circular operational functionality. For example, an organisation profits from the extension in the life-time of ink cartridge components by offering a refill service.'

The analysis of business models started with an extensive international literature review, followed by testing across committee members' networks and industry piloting. 'The first hurdle was to filter the findings because descriptions of circular business models vary enormously and similar approaches can be defined in different ways,' says McLanaghan. 'Sharing platforms, lease agreements, remanufacture and product life-extension were some of the models examined.'

Fothergill ensured the views of IEMA members were represented on the drafting panel, particularly in relation to the standard's framework (cl 5). He says the panel refined the thinking on business models down to a core of six headings. 'However, our work also recognised that, beyond these models, there are numerous enabling mechanisms, such as 3-D printing, which are sometimes mistakenly described as circular economy business models when they are more often a means to enable a change in business practices. As such, we hope the standard will help to provide clarity in communicating organisational circularity initiatives in a consistent manner.'





### Guidance only

Panel members are keen to point out that 8001 is a guidance standard, providing practical advice on the circular economy rather than a prescriptive benchmark like ISO 14001, which sets out absolute requirements that have to be met if a user wishes to make a claim of compliance. 'It's not a technical standard, it's not about metrics,' says Ella Jamsin, research lead at the Ellen MacArthur Foundation and another panel member. 'It's more of a guidance on the practicalities of putting in place a circular system.'

The foundation was established in 2010 by MacArthur, the retired solo, long-distance yachtswoman, with the aim of accelerating the transition to the circular economy. Jamsin leads the charity's research programme. She says that, by concentrating on implementation, the standard complements the work of the foundation. 'It goes into the practical details to help an organisation put in place a process to support circularity,' she says. 'The standard also highlights the potential opportunities and innovations that could flow from adopting a circular economy rather than treating the idea as a set of constraints.'

Charter envisages sustainability practitioners using 8001 to start conversations on what the circular economy means for their company with colleagues in other parts of the business: 'Perhaps they will meet those in product design to look at the opportunities for remanufacturing parts or for offering a repair service.' He says it is important for everyone to be at the same level of understanding so they can work together on what circularity means for the business. He cites the example of the chief executive at a large company who set the business a circular economy target but left without bequeathing a clear vision on what it entailed. 'The firm has ended up with different pockets of interest across the business and varying perspectives for how it should move forward.'

Charter says the content is set out deliberately to engage organisations at different stages in their journey and understanding of the circular economy. 'It looks at different levels of maturity. There are only a small number of organisations re-engineering their business models to a circular approach. Most, however, are at the beginning of their understanding, so the standard provides them with a way of looking at one product or process.'

Twelve circular business models under six headings are in the draft: on demand; dematerialisation; product lifecycle extension/reuse; remanufacture and manufacture with secondary materials; product as service; and sharing economy and collaborative consumption. There are six principles, from collaboration to value optimisation, and an eight-stage framework for putting them into practice. Cumming describes the framework as a general tool and is keen to stress that it is important that organisations go through the steps, determining first the relevance of the circular economy to their business and then where to begin. 'After framing and scoping, some might conclude that a circular model is not for them, and that is important.'

Several areas are not covered by other BS or ISO standards. One of these is change management, defined in the standard as an 'approach taken to prepare, equip and support individuals, teams and organisations





to successfully adopt change in order to drive organisational success and outcomes'. Cumming says: 'Change management is foremost about people and this aspect doesn't really seem to be covered in other British or international standards.'

The inclusion of systems thinking is also novel but necessary, says Cumming, because you cannot drive systemic change without a systems thinking approach. The draft explains systems thinking as 'how different parts of a system can influence one another within a whole and the relationship of the whole to the parts over time'. Cumming adds: 'Although they found it challenging, the pilot organisations accepted that it was a process they had to go through to identify issues in their wider value chains and how to tackle them.'

Importantly, 8001 highlights that, in many cases, addressing demand-side solutions to encourage more sustainable consumption patterns, such as influencing consumer behaviour, may be equally or more important than supply-side interventions, such as the mechanics of materials selection, product design and manufacture.

### Next steps

Consultation on the draft standard ([bit.ly/2eaXYNw](http://bit.ly/2eaXYNw)) closes on 15 January and Cumming is looking forward to receiving comments, believing they will make the document more robust. IEMA has held workshops and hosted a webinar (available at [bit.ly/2gmoXqU](http://bit.ly/2gmoXqU)) on 8001. The drafting panel will review comments and aim to produce the final standard for publication in May.

Cumming expects lots of feedback on cl 7, which provides 15 key areas to consider that could help or impede companies' progress in delivering their circular economy objectives. 'Moving to a more sustainable and circular mode of operation is a complex process and there are established rules and processes that can hinder progress,' he says. 'These include existing regulation, which mostly underpins a linear rather than a circular economy, and management and governance arrangements, which do not support the exchange of information and collaboration on resources.'

There has been international interest in the standard, with paper goods giant Kimberly-Clark in Atlanta in the US and two Singapore-based firms, the multinational conglomerate Sime Darby and real estate specialist City Developments, among those participating in the piloting and engagement work facilitated by Forum for the Future. 'The Dutch and Swedish standards bodies have taken a keen interest,' Cumming says. He also spoke about 8001 at a recent meeting of CEN, the European standards body.

Cumming says the standard is just the start and he expects more technical supporting standards will emerge in due course, such as a potential specification for closed-loop materials.

Will 8001 make a difference? Jamsin believes it will help to shift thinking and the standard has made a good fist of making a complex subject more approachable: 'Unavoidably, the language of circular economy is different from the business as usual – it's a whole different mindset. But that's why the standard includes a long section about definitions. That clarity is necessary to engage organisations and encourage them to do things differently.'

### Piloting 8001

UK standards body BSI appointed Forum for the Future last summer to test aspects of the draft standard with various organisations. In particular, it was tasked with developing a programme of pilot sessions to test the content and structure of the standard's core clauses – cl 4 on the principles of the circular economy, and cl 5 on putting the principles into practice.

The pilots consisted of workshops involving employees from participating companies and sometimes people from other organisations. Gary Rogerson, sector sustainability manager for highways at Skanska UK, took part in the pilots with colleagues from Highways England, talking through the principles in the standard and what embracing them would require of businesses. 'Here you had a client and contractor discussing the implications for the delivery of construction projects,' Rogerson says. He says the conversation centred on the use of common construction materials, such as aggregate and fill, in projects with a 60-year life and how circular economy thinking applied to them.

Rogerson believes the principal challenge to achieving greater circularity in the use of materials is the relatively long life of schemes: 'We recently completed some work on the M25, which involved installing new gantries and signs but, with automated vehicles not too far off, these could be redundant and we might need to rethink their use with circular economy principles in mind. That's the sort of discussions we'll have to have.' Rogerson says it is likely that Skanska, which has a clear sustainability vision and a long tradition of 'greening' its projects, will adopt the standard and apply its principles as a way to embed the circular economy concept in its day-to-day operations. 'The circular economy links with lean construction practices and repairing assets rather than replacing them, which are processes that Skanska has embraced,' he says.

Toby Robins is former sustainable development director at office supply firm Wiles Greenworld and now chief executive at Office Club, a firm providing consolidated procurement and other services to 230 independent office products dealers. A member of IEMA's strategic council, Robins also took part in the pilots. 'Under the auspices of Wiles Greenworld, we involved experts from the paper industry to discuss how clauses 2 and 4 would apply,' says Robins.

Clause 2 is the terms and definitions used in 8001, and cl 4 is focused on the principles of the circular economy. Robins says defining the myriad terms, from 'assemble' and 'bill of materials' to 'waste and warranty', is hugely beneficial. Diagrams are not common in standards, but Robins backs their inclusion in 8001: 'The definitions are really constructive and are supported by good graphics, which I think will help users better understand concepts and how different elements are linked.' He adds that the six principles set out in cl 4 provide a clear structure and a frame of reference for organisations. 'What really impressed me was the focus in the standard on systems thinking and how organisations need to take a holistic approach to understand how individual decisions and activities interact within their wider value chain,' Robins says. 'It should ensure there is no blind application of the waste hierarchy dogma.'

Robins says Wiles will apply the principles internally, seeking to promote a transition to the circular economy. 'The standard will add value by offering greater clarity and structure and a framework against which to work,' he says.

Martin Charter at the University for the Creative Arts and a member of the panel that drafted the standard, says its development benefited greatly from the pilots. 'Because standards take time to finalise, they tend to lag practice,' he says. 'But BSI received funding to pilot 8001, enabling the drafting panel to identify real issues in organisations. It is not out of kilter with what is going on.'

# Ruth Henderson

Environmental impact assessment  
co-ordinator, Royal HaskoningDHV



**Why did you become an environment/sustainability professional?** I have always been passionate about the environment and the outdoors so there was no doubt I would end up turning it into a career.

**What was your first job in the profession?** I volunteered as a research assistant with an NGO, gaining first-hand experience of conservation fieldwork, learning about different cultures, and spending time scuba diving! As an ecological surveyor in Tanzania and Madagascar, I conducted underwater surveys on fish populations and coral reefs.

**How did you get your first role?** I studied for a master's degree because at the time this was something that would help me stand out against my peers. I was able to use my formal qualifications along with the skills learned volunteering to demonstrate I had the right capabilities to join Atkins, one of the world's leading design, engineering and project management consultancies. I joined its graduate scheme and worked on a range of environmental projects and undertook formal training, attended conferences and built my network.

**How have you progressed your career?** By getting as much experience as possible and learning different skills. I tried to keep my options open by working on river restoration, flood defence, onshore wind and port projects, to name a few. A secondment to the Thames Tunnel wastewater project helped me to understand the complexities of major projects and working in a large, multidisciplinary team.

**What does your current role involve?** I provide consenting advice for large-scale infrastructure projects, mainly in the energy sector. I liaise with developers, planning authorities, stakeholders and local communities on managing risks to help raise the quality of environmental impact assessments (EIA) and the design process, as

well as identify opportunities for environmental enhancement and efficiencies and cost savings.

**How has your role changed over the past few years?** Fundamentally I provide consenting advice and that has not changed. However, the advice is changing. Both the consultancy industry and clients' needs are evolving so it is about being innovative and anticipating future needs.

**What's the best part of your work?** Diversity. Large projects can be incredibly complex, and I have to find the right solutions. This can mean working with different teams, preparing technical information, engaging with local communities or just sharing advice and lessons learned. No two days are the same.

**What's the hardest part of your job?** Accepting that my priorities are not always the same as the priorities of others.

**What was the last development/training course or event you attended?** An internal leadership development programme – it was a great opportunity to meet people within our company from around the world.

**What did you bring back to your job?** How important it is to understand a situation from someone else's perspective.

**What is/are the most important skill(s) for your role and why?** Communication and negotiation. As an EIA co-ordinator I need to ensure the right information is available for project decisions at the right time and this often involves being in the middle of the debate. I need to help find the balance in project teams on design, cost and programme, risks, opportunities, environmental sensitivities, consultation and consenting processes. Identifying the different communication techniques across these different disciplines is difficult but necessary to get the best results.

## Career file

**Qualifications:**  
BSc, MSc, CEnv, MIEMA

**Career history:**  
**2012 to date** senior environmental consultant, Royal HaskoningDHV  
**2011–12** EIA technical assistant, Thames Tideway  
**2008–12** environmental scientist, Atkins  
**2007** volunteer research assistant, Frontier

**Where do you see the environment/sustainability profession going?** The future looks different, particularly in the areas of climate change, resource efficiency, society and technology. We need to adapt now. Sustainability is such a wide-ranging profession that the opportunities are endless.

**Where would you like to be in five years' time?** Driving best practice and setting standards in an impact assessment leadership role. I would also like to spend more time mentoring others.

**What advice would you give to someone entering the profession?** Recognise skills that you have and play to your strengths. Do not be scared to challenge ideas and behaviours – this drives change and it will be acknowledged.

**How do you use IEMA's environmental skills map?** I have used it to assess my own skills, especially when applying for Full membership. Colleagues often ask me what the most appropriate IEMA membership level is for their level of experience – I use the skills map to help them identify areas to focus on in order to target their learning.



## Latest member upgrades

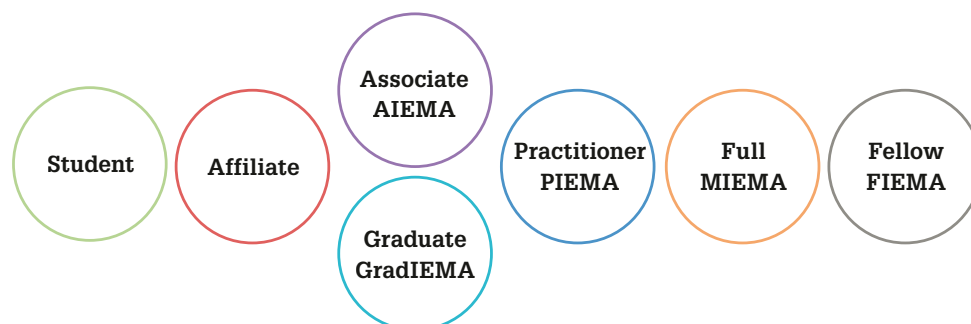
IEMA would like to congratulate the following members on recently upgrading their membership as part of their ongoing commitment to learning and professional development.

### Associate

**Ryan Burrows**, AECOM  
**Alice Davies**, SRK Consulting  
**Robyn Greenaway**, Skanska  
**Margo Mosley**, Vertex Pharmaceuticals  
**Maria Walentek**, Royal HaskoningDHV

### Practitioner

**Hani G Abdalla**, RTI International  
**Lina Hasan Abdalla**, RTI International  
**Nnaemeka Achionye**, RTI International  
**Hind Al Jawdar**, RTI International  
**Collins Nengimote Arthur**, Nigerian Agip Oil Company  
**Jade Beech**, Sugarich  
**Daniel Billington**, Mace Group  
**Kolapo Bolade**, SMRP Consulting  
**Abigail Botsha**



**Zied Bousserouel**, RTI International  
**Alex Cooper**  
**Saif Dulaimi**, RTI International  
**Peter Omietimi Etele**, McMatthy Nigeria  
**Etopobong Emmanuel Etuk**  
**Sue Green**, Jones Lang LaSalle  
**Florin Grigor**  
**Ebosetale Iyayi**, Institute of Natural Resources  
**James Lumsdon**, Capita  
**Timothy Mzaga Mkpenga**, SPDC

**Abdullah Mohammed Matar**  
**Alremeithi**, RTI International  
**Rachael Okpaku**  
**Oyintariemi Boma Oti**, NESREA  
**Yomi S Rasaki**, Gulf Treasures  
**Ala'a Ahmad Rezek**, RTI International  
**Aisha Rodriguez**, WSP|Parsons Brinckerhoff  
**Suzanne Saxon**, Sulzer Pumps  
**Diane Sinclair**, Coleg Llandrillo Cymru  
**Kabari Visigah G**, Amazing Environmental Solutions  
**Obinuchi Wali**, Seagrand Integrated Services Nigeria

**Alejandro Zapata**, BSC

### Full and Chartered environmentalist

**Jon Allen**, Royal HaskoningDHV  
**Casey Jake Fleming**, KEO  
**Jenny Legg**, Caterpillar UK  
**Benny Siu**, Hong Kong Air Cargo Terminals  
**Adam Turner**, MoD  
**Anne Willoughby-Richards**

### Chartered environmentalist

**Kay Walker**, Atkins

## IEMA events

Date	Region/Time	Topic
5 Dec	<a href="#">Wales</a>	Guide to integrating the circular economy in organisations – BS 8001 consultation
5 Dec	<a href="#">Yorkshire and Humber</a>	Christmas social and post-Brexit discussion with Martin Baxter
8 Dec	<a href="#">Midlands</a>	Site visit to Lincolnshire energy-from-waste plant
8 Dec	<a href="#">Midlands</a>	Q&A with IEMA chief executive Tim Balcon and Christmas social
13 Dec	<a href="#">South East</a>	Guide to integrating the circular economy in organisations – BS 8001 consultation
13 Dec	<a href="#">West Scotland</a>	Transition to ISO 14001: 2015; meeting and social
13 Dec	<a href="#">South East</a>	IEMA Sussex and Surrey Christmas social
15 Dec	<a href="#">North West</a>	Brexit: implications for environment and sustainability; and ISO 14001 transition
18 Jan	<a href="#">Northern Ireland</a>	Social
<b>Webinars</b>		
6 Dec	12.30–13.30 (GMT)	Making the most out of ISO 50001
14 Dec	12.30–13.30 (GMT)	Preparing for greater emphasis on Health in EIA – What do you need to know?
<b>External events</b>		
25–26 Jan	<a href="#">London</a>	Edie sustainability leaders forum <a href="https://events.edie.net/forum">events.edie.net/forum</a>

## Professional Standards Chair and Committee Members

IEMA's vision is very ambitious, and intentionally so!

Organisations worldwide will be left vulnerable to the impacts from a perfect storm of environment and sustainability issues if they fail to engage the expertise of our 14,000 members.

We've recently reviewed our membership structure, and the next step is to seek talented professionals to bring their best to our refreshed Professional Standards Committee. We are looking for a new Chair and committee members to ensure that the development and application of IEMA's professional standards, assessments and training, are global, valid and fair.

To be part of this insightful and influential Committee, you will bring expertise in setting occupational or professional standards, as well as experience in assessment and/or training and development at a senior or expert level. **For the Chair position**, you will also be able to demonstrate clear capability of operating at Board level as you will simultaneously take up a key position on the IEMA Board.

Find out more and apply online today at [www.iema.net/vacancies](http://www.iema.net/vacancies) before 2nd January 2017.



**UNIVERSITY OF  
CAMBRIDGE**

### Sustainable Buildings Advisor (Fixed Term) Estate Management Cambridge – £34,956 to £46,924 pa

The University of Cambridge is looking to recruit a Sustainable Buildings Advisor to join its Environment and Energy Section, which provides strategic direction to the University on environmental sustainability issues on a fixed term basis.

Within this new position, the role holder will be responsible for promoting and embedding a culture of environmental sustainability in construction and refurbishment activities, helping to achieve the objectives and aspirations set out in the University's Estate Strategy and Environmental Sustainability Policy and Strategy. The Sustainable Buildings Advisor role will champion, encourage and support the inclusion of environmental sustainability issues, particularly carbon reduction and energy efficiency, in the design and operation of capital projects. They will develop appropriate policies and processes to ensure that projects and works achieve not only compliance but the highest levels of environmental sustainability.

Candidates should have extensive knowledge and experience of sustainable construction policy, standards and practice. They will have excellent inter-personal and communications skills, and a proven ability to lead partnership working with internal and external stakeholders to reach an agreed objective.

This is a great opportunity to help shape the environmental sustainability policy and performance of a world class institution.

Fixed-term: The funds for this post are available for 5 years in the first instance.

To apply and to view further information about the role, please visit:

<http://www.jobs.cam.ac.uk/job/12200>

If you have any questions about this vacancy or the application process, please contact Cheryl Dyet, HR Co-ordinator by email on [EM.HR@admin.cam.ac.uk](mailto:EM.HR@admin.cam.ac.uk).

Please quote reference **BA10799** on your application and in any correspondence about this vacancy, closing date **11th December 2016**.

*The University values diversity and is committed to equality of opportunity.*

*The University has a responsibility to ensure that all employees are eligible to live and work in the UK.*

**nationalgrid**

### Environmental Assurance Manager Warwick – with some travel to other UK locations ca £50-65k dependent on experience + excellent benefits

We currently have an exciting opportunity for an Environmental Assurance Manager based in Warwick to join our leadership team within a new Asset Assurance team. This is a key role in our business to provide independent assurance within Gas Transmission, regulatory controls and a robust environmental management system in order to meet key legislative requirements.

#### Main Responsibilities:

- Establish, implement and manage the environmental compliance assurance strategy to meet key legislative requirements for the gas transmission business.
- Develop, manage and strengthen the Environmental management framework across gas transmission and assess the effectiveness of the organisation to consistently adhere to it;
- Proactively manage, develop and maintain positive relationships with the Environmental regulators and be the principle point of contact;
- Develop and deliver incisive internal intervention plan on emerging risk situations to proactively assess legislative compliance;
- Monitor and review the performance against the environmental management framework and assess the appropriateness of control measures to manage risks;
- Proactively influence Senior Leaders across the business to ensure they are managing and discharging obligations under the respective environmental legislation/ environmental permit conditions.

#### What we're looking for:

- Membership of relevant professional body and/or relevant experience in an environmental assurance area;
- Excellent leadership skills (you will manage a team of up to 8 direct report)
- Degree level education in an environmental engineering/management discipline preferred;
- Significant experience of leading an environmental function in a regulated environment;
- Track record of developing working relationships quickly and effectively;
- Strong influencer and excellent communication skills;
- Extensive understanding of the application of key legislation;
- Environmental Management experience to supervisory level;
- Leading edge understanding of environmental management philosophy and application.

<https://natgriduk.taleo.net/careersection/careersection/ext/jobdetail.ftl?job=11902>





RPS

# Excellent Opportunities in EIA

This is a fantastic time to join RPS. We are looking to recruit highly motivated and ambitious employees to work on a wide variety of high-profile projects. With an enviable client list, and the highest calibre multi-disciplinary back up team, we are able to offer unparalleled opportunities to showcase your talents and truly develop your career.

## EIA Consultant

### Oxford

£Excellent Salary & Benefits package on offer

The role is to work on EIA across a range of projects, from nationally significant infrastructure projects to small scale housing, energy and renewable projects. You would work with specialist practitioners and senior staff, assisting with EIA project management and coordination, writing sections of Environmental Statements and producing application documents for submission.

You will need to hold a degree in a relevant discipline and, ideally, have at least 2-3 years' experience within a consultancy environment. You will need to have excellent communication skills, both written and verbal, and have strong Project Management skills. Finally, a good understanding of relevant EIA legislation, together with an awareness of assessment methods used by specialist disciplines, is required for this role.

## Senior EIA Consultant

### London

£Excellent salary & Benefits package

Ideally, you will have around 3 - 5 years' experience of working in a Consultancy in London or the South East and will hold an appropriate planning or environmental degree, preferably at Masters level. Ideally, you should have experience across a range of EIA project types, including within the Urban Regeneration and/or Aviation sectors.

You will need to demonstrate good Project Management skills and the ability to 'hit the ground running' as we would expect you to quickly become involved with some of our major ongoing projects.

**For these roles, we offer a very competitive salary and benefits package, together with the opportunity to develop your career with one of the UK's leading environmental consultancies.**

**To apply for either of these roles, simply forward a copy of your CV to [geoff.thorpe@rpsgroup.com](mailto:geoff.thorpe@rpsgroup.com)**

**NO AGENCIES**

# Build a stronger foundation for your business and the environment.

NEED ADVICE  
ON DEALING  
WITH COMPANY  
WASTE?



**The Construction Environmental Manual**  
The demands on SMEs to manage and report construction waste is constantly increasing and evolving as legislation changes. The manual can help SME's plan and implement waste reduction and recovery by describing what is legally required and what is considered good practice in dealing with that waste.

**Available as a Manual, CD or Online.**  
To get your copy or to find out more visit [www.cip-books.com](http://www.cip-books.com) or call 0870 078 4400