

# TRANSFORM

FOR ENVIRONMENT AND SUSTAINABILITY PROFESSIONALS

Environment  
Economy  
Society

Dec 2018 - Jan 2019  
[www.iema-transform.net](http://www.iema-transform.net)

## Into the wilderness

Global warming and the loss of  
landscape, livelihood and legacy



### PLUS

**Battle lines drawn** Anne McCall on saving Scotland's natural heritage

**Communication breakdown** The biggest threat to biodiversity

**Special K** Localising potassium production

IEMA

Transforming the world  
to sustainability

# TAKE YOUR CAREER TO THE NEXT LEVEL

## STAND OUT WITH AN IEMA DIPLOMA

With an IEMA diploma you are equipped with the strategic sustainability knowledge and skills to drive your business's agenda. And, by gaining the knowledge needed for full membership of IEMA, (MIEMA) and Chartered Environmentalist status (CEnv) you're a step closer to being recognised as an elite of the profession.

“I have thoroughly enjoyed the course. It has been a great opportunity to expand my knowledge on a variety of sustainability topics outside those that I encounter on a daily basis and to engage with others working in the sector. I have taken a lot away that I will use throughout my career.”

**Kimberley Lasi, Environment Officer | IEMA Diploma**

At EEF, we don't just deliver training we are setting the benchmark and are the only provider for the **IEMA Diploma in Sustainable Business Practice**.



The  
manufacturers'  
organisation

**0845 293 9850**  
[www.eef.org.uk/training](http://www.eef.org.uk/training)

# DEC/JAN

## Upfront

### 04 Comment

Diana Montgomery reflects on a successful 2018 for IEMA

### 05 Industry news roundup

### 07 IEMA news

IEMA at Cop24; new CPD platform; Blueprint for a new Environment Act; Modern Slavery Act review

### 08 IEMA preview

Martin Baxter looks ahead to key developments in 2019

## Regulars

### 10 Legal brief

Regulations, consultations and court news

## Connect

### 29 In the news

Forthcoming events; event reviews; Quote unquote

### 31 Member profile

Amber Harrison FIEMA, director, SITA

## Web exclusives

### From cradle to grave

Julia Goodfellow-Smith examines the sustainability credentials of natural burials [bit.ly/natural\\_burial](http://bit.ly/natural_burial)

### Time for a rethink

How systems-level thinking could revolutionise infrastructure projects. Ian Nicholson explains [bit.ly/systems-level](http://bit.ly/systems-level)



12

## FEATURES



16



20



Julia Goodfellow-Smith  
on natural burials

### 12 Interview: Anne McCall

The RSPB Scotland director on her fight to protect her country's natural heritage

### 15 Natural resources

Is palm oil always as destructive as it's made out to be? Andy Green shares the work of the Roundtable on Sustainable Palm Oil

### 16 Economy

Localised supply chains could be the answer to a more sustainable world, argues Helena Norberg-Hodge

### 18 Biodiversity

Lack of cooperation between countries is damaging global ecosystems, says Elisabeth Jeffries

### 20 Policy

Mary Creagh MP, Environmental Audit Committee chair, talks to Chris Seekings about Defra's waste strategy

### 22 COVER STORY Climate refugees

Increasing numbers of people are driven out of their homes by global warming; Chris Seekings shares their stories

### 26 Agriculture

Local potassium production in the Global South is crucial to securing the world's food supply. Oliver Heidrich and team at Newcastle University reveal their findings

DR DIANA MONTGOMERY FIEMA CENV, CHAIR OF THE IEMA BOARD

# Looking ahead to 2019

**A**s we approach the end of a busy year, I feel this a good time to reflect on all we have witnessed and achieved together – from my position as Chair of the Board, and as a member. The only difficulty is covering everything in one short column!

I'll start by looking at the big picture. There has been a real sea change in sustainability this year. The public's overwhelming response to the single-use plastics issue has taken many by surprise, but it's presented an example, and a fresh opportunity for us to engage on the big issues – which are much wider than just waste plastic – with business and society. It seems to me that environment and sustainability value has never been more recognised or more embedded, despite the high levels of political uncertainty. This makes it an exciting time to be working in our profession.

A little closer to home, 2018 has been a landmark year for IEMA. Speaking now as the COP24 climate talks come to an end, the UK government considers the shape of bold new environmental legislation and the world's first Modern Slavery Act is reviewed, it feels good to know that IEMA's work is having an influence in all these areas (see p7). Having a place at the tables where policies, standards, legislation and practice are influenced doesn't just happen – it is the recognition of our combined expertise and ability to catalyse change, which has really stepped up throughout 2018.

Elsewhere, 2018 will be marked as the year when members voted for Chartership. Our petition for a Royal Charter is progressing well. This route is full of hurdles, which is perhaps why many organisations do not choose to go down it, but we are in a strong position and look forward to telling you more in 2019 as we work through the process.

Looking to next year, we will be firmly focused on keeping you connected to changing issues (see p8-9) and growing the scale and influence of our membership. I hope I can count on you to get involved, make the most of your membership and use your own influence to grow our global network even further.

"Environment and sustainability value has never been more recognised or more embedded"



**IEMA** Transforming the world to sustainability

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.

**Editor**  
Sharon Maguire  
sharon.maguire@redactive.co.uk

**Assistant editor**  
Kathryn Manning  
kathryn.manning@redactive.co.uk

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

**Feature and news journalist**  
Christopher Seekings  
christopher.seekings@redactive.co.uk  
iema@redactive.co.uk

**Sub-editor**  
Kate Bennett

**Content assistant**  
Nicole Bains

**Business development manager**  
Daniel Goodwin  
tel: +44 (0) 20 7880 6206  
daniel.goodwin@redactive.co.uk

**Sales executive**  
Lucy Filamba  
tel: +44 (0) 20 7324 2755  
lucy.filamba@redactive.co.uk

**Designer**  
Callum Tomsett

**Picture editor**  
Claire Echavarry

**Publishing director**  
Joanna Marsh

**Subscriptions**  
Kate Hampshire  
tel: +44 (0) 20 7324 2733  
subscriptions@iema-transform.net  
The 2018 annual subscription rate is £142.

**Production manager**  
Aysha Miah-Edwards

**Printer**  
Warners Midlands PLC, Lincolnshire

**Published by**  
Redactive Publishing Ltd  
Level 5, 78 Chamber Street, London, E1 8BL  
tel: +44 (0) 20 7880 6200  
www.redactive.co.uk



© IEMA 2018  
This magazine aims to include a broad range of opinion and articles that do not necessarily reflect the views of IEMA, nor should such opinions be relied upon as statements of fact.

All rights reserved. No part of this publication may be reproduced, 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 paper used to print Transform comes from sustainable sources. Visit: transform.iema.net/think-green.

# ROUNDUP

ENVIRONMENT &  
SUSTAINABILITY  
NEWS AND VIEWS

## LEGISLATION

### Marking a decade of the Climate Change Act

A decade ago, the UK introduced the world's first law to cut greenhouse gas emissions. Here, we look at what the Climate Change Act has achieved, and what challenges await.

#### A celebration

The Act received royal assent on 26 Nov 2008, and created a practical pathway for the UK to achieve an 80% cut in 1990 emissions levels by midway through this century.

According to the Committee on Climate Change (CCC), which was established to provide evidence on how to meet these targets, the UK had cut 1990 emissions levels by 43% in 2017, with the economy growing by two-thirds during the same period.

This means that the country will have met its first two carbon budgets for 2008-2012 and 2013-17, and is also on track to meet its third for 2018-2022.

The Act is also boosting climate change resilience, with the government spending more on flood defences, looking at sustainable urban drainage

systems, and considering enhanced natural flood management – all things that are recommended by the CCC.

Other nations have introduced their own legislation since 2008; Sweden has created its own laws along similar lines to the Act, while Australia and Ireland are looking to do the same.

CCC chief executive Chris Stark said: "The Climate Change Act is a celebration of what can be achieved by a confident, optimistic parliament, demonstrating global leadership on the defining issue of our times."

#### No longer sufficient

However, the CCC warns that the next 10 years will be critical if the UK is to build on the last decade, with intensive action needed to achieve its carbon budgets in the 2020s and 2030s. A report published by the watchdog last June revealed that failure to decarbonise transport and agriculture has meant the UK is likely to miss its fifth carbon budget for 2028-2032.

The good news is that the government can be taken to court if it fails to act on the CCC's advice, which includes recommendations for low-carbon heating, carbon capture and storage, and policies for agricultural emissions that have so far been "largely ignored".

There is hope that the UK will achieve its fourth and fifth budgets; in October, energy minister Claire Perry wrote to the CCC asking for advice on setting a net zero greenhouse gas emissions target.

"The Act provided the impetus for the story of the last decade: decarbonising electricity. That was the right strategy, but it's not sufficient now," Stark said. "10 years is a good review point, we can check in on the latest science and the global position. I'm pleased we've received the instruction to look again at the UK's long-term 2050 climate change target – our advice is due to be published in spring 2019, then all eyes will be on parliament again."

Read IEMA chief policy advisor Martin Baxter's blog post on 10 years of the Climate Change Act at [bit.ly/2QoRixC](http://bit.ly/2QoRixC)





## BUSINESSWATCH



### Coca-Cola demands 2050 net zero emissions target

Coca-Cola is among a group of companies that have written to UK prime minister Theresa May demanding the government set a net zero emissions target for 2050 at the latest.

The signatories, including Unilever and Thames Water, said the target is needed to plan emission reductions that minimise business disruption, boost innovation and attract "the industries of the future".

[bit.ly/2DNOvaw](https://bit.ly/2DNOvaw)



### BT launches electric vehicle company car scheme

Telecoms giant BT has launched its first electric vehicle (EV) company car scheme as it looks to cut emissions intensity by 87% by 2030.

The scheme will be available to more than 3,000 drivers across the business, and is reinforced by EV training for BT Fleet Solutions engineers.

BT said the move was a "natural progression" after it found that many of its staff had stopped using fossil fuel vehicles in favour of plug-in hybrids.

[bit.ly/2PZtTmR](https://bit.ly/2PZtTmR)



### Sainsbury's trials edible insects

Sainsbury's has become the UK's first supermarket to trial insect-based products at its convenience stores as demand for sustainable protein sources grows.

Eat Grub's Smoky BBQ Crunch Roasted Crickets will be available at 250 UK stores, with the producer claiming the insects are full of nutrients, environmentally friendly and a "superfood of the future".

Sainsbury's head of future brands, Rachel Eyre, said: "It's clear that consumers are increasingly keen to explore this new sustainable protein source."

[bit.ly/2ShTeoJ](https://bit.ly/2ShTeoJ)

## BIODIVERSITY

# World's first natural capital tool launched for financial sector

An online tool has been launched to help financial institutions assess firms' exposure to natural capital risks and "plug nature into decision-making".

Developed by the Natural Capital Finance Alliance (NCFA), the ENCORE tool will determine how dependent businesses are on biodiversity, and the risks they face from, for example, forest destruction and ocean pollution. It is hoped this will help banks, insurers and investors funnel their finance into more sustainable companies.

An assessment of the FTSE 100 found that 13 of the index's 18 industries – representing \$1.6trn in market capitalisation – are associated with production processes with 'high' or 'very high' dependence on nature.



This comes after the World Wide Fund for Nature found that natural capital provides services worth approximately \$125trn a year, helping ensure the supply of fresh air, clean water, food, energy, medicines and other materials.

NCFA chairperson Namita Vikas said: "ENCORE will enable financial institutions to easily identify and mitigate risks and help mainstream natural capital considerations in decision-making."

## CLIMATE CHANGE

# Multiple reports forecast dire climate change impacts

A series of reports published for the UK and US governments have predicted profound consequences, should climate change continue unabated.

The UK's Environment Agency estimates that summer temperatures could be up to 5.4°C hotter by 2070 depending on greenhouse gas emissions, while London's sea levels may rise by up to 1.15 metres by 2100.

Meanwhile, a report mandated by the US congress and issued by 13 federal agencies has warned that the damage inflicted by global warming could knock as much as 10% off the country's economy by the end of the century.

Both claim that infrastructure and property are at high risk without

substantial, sustained global mitigation and regional adaptation to increasingly frequent extreme weather events.

However, a UN report has revealed that emissions are on the rise for the first time in four years, and that nations will have to triple their reduction efforts without delay.

UN Environment Programme deputy executive director, Joyce Msuya, said: "Governments need to move faster and with greater urgency – we're feeding this fire while the means to extinguish it are within reach."

## COP24

## IEMA at COP24

As the UNFCCC COP24 climate conference comes to a close today (14 December), IEMA is delivering a fringe event at the talks in partnership with ISO and the IAF.



Global leaders gathered in Katowice, Poland on 3 December to address critical climate change issues and implement the 'Paris rulebook'. Following successful application to attend as a 'non-state actor', IEMA has also attended the conference to ensure that members' work and views on climate standards and practice feature as part of the wider discussions.

The ISO-IEMA-IAF event focuses on ISO 14001 and its relationship to climate change adaptation and mitigation. Check [iema.net](http://iema.net) for an update in the coming weeks.

## ETHICS

## Modern Slavery Act – further review

Member views on the remit and reach of the UK's Modern Slavery Act have now been submitted to the Home Office.

IEMA was invited by the Home Office to contribute to the review of the world's first dedicated legislation on modern slavery. Members shared their views and experience of working with the Act in the autumn, and these have been included in the full report. The Home Office recently confirmed that there will be a second stage to the review; members who have experience of the Act will be invited to get involved further.

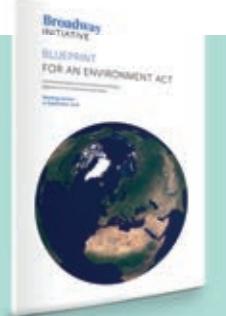
## ENVIRONMENT ACT

## The Blueprint goes live

On 29 November, the Broadway Initiative – a cross section of major stakeholders and nationally recognised experts, which includes IEMA – officially launched its ambitious Blueprint for the Environment Act report.

The report, which sets out how the UK can have a world-leading environmental regulatory framework after Brexit, features key recommendations that have been shaped and tested by IEMA

members. The launch formed part of the Aldersgate Group's event, What does business want from the Environment Bill?, where Parliamentary Under Secretary of State for the Environment Thérèse Coffey MP gave a keynote address. Read the full and final report at [iema.net/broadway](http://iema.net/broadway)



## CPD

## New CPD platform almost ready to go

Get set for a new way to set your career goals, plot your learning and track your progress via your CPD record.

In late January 2019, we will switch on a brand new online CPD portal that will help you to clearly plan, record and reflect on your continued learning with structure and ease. Look out for more details this month and early January.

## PUBLICATIONS

## Essential reading now available

One new guide, an insight briefing and IEMA's first journal have all been published within the past month.

- Driving Climate Actions Through ISO 14001:2015 and Environmental Management Systems
- IEMA Guide on Sustainable Finance
- Impact Assessment Outlook Journal: Perspectives upon Proportionate EIA – Thought pieces from UK practice

Go to [iema.net/reading-room](http://iema.net/reading-room) to download all your latest documents

## IEMA MEMBERSHIP

## 2019 membership fees

The 2019 membership price list has now been confirmed. This features all membership joining, upgrade, renewal and specialist registration fees for the coming year.

Increases are minimal, and in line with the rising costs of delivery and associated changes to SocEnv fees. Go to [iema.net/membership/fees-2019](http://iema.net/membership/fees-2019) to find out what this means for your 2019 renewal or upgrade. If you have any questions, get in touch at [info@iema.net](mailto:info@iema.net)

2019 PREVIEW

# A look to the year ahead

IEMA's chief policy advisor, **Martin Baxter**, talks to TRANSFORM about some of the key developments members should look out for in 2019 as the UK prepares for Brexit

**Environment Act** to be laid before parliament around May 2019 and receive royal assent by the end of the year

**IEMA:** Has worked with various NGOs and business groups on the Broadway Initiative to develop an initial blueprint for the Act. Work will continue into 2019.

**Martin Baxter:** "Our work on the Broadway Initiative with our partners is an important contribution to what we think has the potential to be an ambitious Environment Act. However, IEMA members want to see far more than recreating the status quo, which was in Defra's initial consultation and the EU (Withdrawal) Act, if we are to meet the government's intention to leave the environment in a better state over the next 25 years."

**Biodiversity Net Gain consultation** opened in December 2018

**IEMA:** Has worked with the Construction Industry Research and Information Association (CIRIA) and the Chartered Institute of Ecology and Environmental Management (CIEEM) to develop guidance that helps professionals and industry achieve 'net gain' targets for biodiversity.

**Martin Baxter:** "The government committed to environmental net gain for new developments in its 25-year Environment Plan. The work we have done is referenced in its biodiversity net gain proposals, and there will be a full 12-week consultation for that and the Resources and Waste Strategy, which should both run into January and February 2019."

"As we exit the EU, there are many implications for environment and sustainability, and we will keep people up to date"

**ISO 14008 – Monetary valuation of environmental impacts and related environmental aspects** to be published in Q1 2019, followed by ISO 14007 by the end of the year

**IEMA:** Martin has helped develop the standards through his work as chair on the International Organization for Standardization's (ISO) subcommittee for EMS standards.

**Martin Baxter:** "Those are relevant standards that I think will be really useful for members to be aware of, which link economics and accounting to environmental impacts. ISO 14008 is the methodology, and ISO 14007 is how you apply that in an organisation. We also expect ISO 14090 to be published in the middle of next year, which is a framework standard for climate change adaptation."

**COP25 in the planning stage**

**IEMA:** Partnered with ISO and the IAF, was selected by the United Nations Framework Convention on Climate Change (UNFCCC) to jointly host a side event at the COP24 climate talks in Poland, focusing on standards and climate change. More than 1,000 organisations applied for side events.



**Martin Baxter:** "We hope to be able to organise a side event at COP25, and will explore opportunities with potential partners – it's a great opportunity to raise the profession's contribution on such a critical issue."

### Modern Slavery review ongoing

**IEMA:** Was invited by the UK Home Office to provide input to the review of the UK's Modern Slavery Act, with members' feedback included in IEMA's final submission. The sustainability body is in continued dialogue with the government and other stakeholders.

**Martin Baxter:** "We have submitted evidence for the review and await further information on the next step. We will continue to play a full part when the review results are published and the government comes forward with proposals to act on. We expect further movement on this next year."

### Final word

**Martin Baxter:** "We will continuously engage with IEMA members, both in terms of contributing to our thoughts and ideas on how we respond to various initiatives, and on the areas we are looking to address.



"As we exit the EU, there are many implications for the environment and sustainability profession and we will continue to keep people up to date on important changes and developments. All the statutory instruments are starting to come through now with regard to the Withdrawal Act.

"I suspect this will be one of our busiest years from a policy perspective – they are always busy, but there are some really significant issues that are coming up. It will be an exciting and challenging year ahead."

## COUNTDOWN



Quote IEMA19  
for £10 off ticket price

### JANUARY

- |      |            |                            |
|------|------------|----------------------------|
| 22nd | BELFAST    | The MAC                    |
| 23rd | GLASGOW    | The Lighthouse             |
| 24th | CARDIFF    | Chapter                    |
| 25th | BRISTOL    | The Grand Hotel            |
| 28th | GATESHEAD  | Thought Foundation         |
| 29th | LIVERPOOL  | Constellations Observatory |
| 30th | BIRMINGHAM | Fazeley Studios            |
| 31st | LONDON     | One Park Crescent          |

### FEBRUARY

- |     |           |                       |
|-----|-----------|-----------------------|
| 1st | SHEFFIELD | Showroom Work Station |
|-----|-----------|-----------------------|

## Legislation Update Roadshow 2019

cedrec.com  
0191 490 6700  
info@cedrec.com



# NEWREGULATIONS

THE LATEST

■ GUIDANCE ■ LEGISLATION ■ CONSULTATION



**2 NOVEMBER 2018**  
■ 1 DECEMBER 2018

## Plant health

The Plant Health (Wales) Order 2018 and the Plant Health Order (Northern Ireland) 2018 revokes and consolidates with amendments to previous plant health legislation, in order to implement Directive 2000/29/EC on protective measures against the introduction of harmful organisms and their spread.

► [cedr.ec/515](#)

► [cedr.ec/514](#)



**14 NOVEMBER 2018**

## Brexit

The Draft Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community details the terms reached by the European Commission and UK negotiators on the United Kingdom's withdrawal from the European Union and the European Atomic Energy Community.

► [cedr.ec/519](#)



**31 DECEMBER 2018**

## Noise

The Environmental Noise (England) (Amendment) Regulations 2018 and the Environmental Noise (Scotland) Amendment Regulations 2018 amend their respective main Regulations in order to establish a new common noise assessment methodology.

► [cedr.ec/512](#)

► [cedr.ec/513](#)



**1 APRIL 2019**

## Carbon reporting

The Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 makes changes to reporting requirements for quoted companies and introduces new requirements for large unquoted companies and large limited liability partnerships to annually report on emissions, energy consumption and energy efficiency action.

► [cedr.ec/511](#)



**1 OCTOBER 2018**

## Pollution prevention

The latest Guidance for Pollution Prevention (GPP) has been published. GPP22 deals with spills and provides support for anyone responsible for storing and transporting materials that could cause pollution if they spill, or to those who respond to spills or are responsible for transport or storage of waste from spills.

► [cedr.ec/5ky](#)



**22 OCTOBER 2018**

## Waste

The Department for the Environment, Food and Rural Affairs seeks views on banning the distribution and/or sale of plastic straws, cotton buds with plastic stems and plastic drink stirrers.

► [cedr.ec/510](#)



**26 OCTOBER 2018**

## Planning

The Ministry of Housing, Communities and Local Government is consulting on changes to planning practice guidance and policy clarifications, which will involve amendments to National Planning Policy.

► [cedr.ec/5kz](#)



**6 NOVEMBER 2018**

## Hazardous substances

The Department for the Environment, Food and Rural Affairs is proposing to update the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Regulations 2012, to implement the amended Directive (EU) 2017/2102 into UK law.

► [cedr.ec/5kx](#)

Clinical waste was allowed to build up at five HES waste handling sites

# IN COURT

## WASTE MANAGEMENT

### Environmental permit breach costs waste firm NHS contract

**H**ealthcare Environmental Services (HES) has been found in breach of environmental permits by the Environment Agency.

The company was contracted by the NHS to dispose of clinical waste, but has been stripped of its contract after stockpiling hundreds of tonnes of human body parts. Leaked NHS England memos revealed amputated limbs, infectious liquids, refuse linked to cancer treatment and other hazardous materials had been allowed to build up at its five waste handling sites. One site in Normanton reached excess waste levels of 350 tonnes in September – five times its limit of 70 tonnes.

In a statement to parliament, health minister Stephen Barclay said that HES "failed to demonstrate that they were operating within their contractual limits. Consequently, 15 NHS Trusts served termination notices to HES formally to terminate their contracts."



New arrangements have been made with Mitie to "step in and replace this service", and "NHS services continue to operate as normal", Mr Barclay told MPs.

The Agency formally notified the government on 31 July that it was concerned too much waste was being stored at some HES sites. Although the waste was being stored securely, it was not being processed and disposed of within the correct timescales. It stressed that "at no point has there been any impact on public health or any delay to the ability of the NHS to carry out operations".

An Agency spokeswoman said: "We are taking enforcement action against the operator, which includes clearance of the excess waste, and have launched a criminal investigation."

The Scottish Environment Protection Agency is working with the Agency and robustly monitoring HES sites in Scotland, but said the company had not gone over its agreed regulatory limits.

## OTHER NEWS

### Environment Agency releases annual whistleblowing disclosures

The Environment Agency has an obligation to act on third-party disclosures to it concerning malpractice on environmental matters. From 1 April 2017 to 31 March 2018, it received 28 disclosures.

The Agency has published a report including a summary of each disclosure, the action taken and the impact this had on the Environment Agency. Disclosures included issues with permit conditions, mis-description of waste, acceptance of non-permitted wastes, storing of waste, disclosures involved unlawful movement of fish, permit breaches, land contamination, illegal disposal of waste, illegal waste sites, land and water pollution, and oil and chemical spills.



Actions taken included site inspections, enforcement notices, the use of the National Incident Reporting System, the storing of intelligence on the MIMEX database, ongoing investigations, the notification of responsible persons, and discussions with reporters or other agencies for further information.

The impact these disclosures had included improved incident handling process, better training for Agency officers, the Agency notified of permit breaches, and better awareness of environmental risk to ensure future compliance.

The report concluded that as a result of such disclosures, the Agency is able to protect and improve the environment, as well as support healthier and safer communities.

## CASE LAW

### Judicial review against Environment Agency dismissed

The judicial review sought in R. (on the application of Baci Bedfordshire Ltd) v Environment Agency has been dismissed. Baci Bedfordshire sought the review against the Environment Agency, which granted Covanta Energy Ltd an environmental permit.

The permit was for an energy recovery facility and allowed a proposed operation for an emissions management system in relation to fugitive emissions from incinerator bottom ash (IBA).

Baci Bedfordshire said that there was a risk of unmonitored discharge of heavy metals via surface water damage into the nearby lake. This would breach the Industrial Emissions Directive

and the Environmental Permitting Regulations. Covanta stated that heavy metals within the IBA will be present as salts, which would be retained in solution when mixed with water and would not be expected to dissolve. This was proven wrong.

Information suggested the interceptors in the drainage system would prevent discharge of suspended solids. Covanta assumed the metals would be included in the suspended solids collected, and would not discharge

into the surface water systems. This was also incorrect.

Covanta and the Agency accepted the error, but denied that the Agency relied upon the error when granting the permit. The risk of unmonitored discharge of toxic dissolved heavy metals into the surface water drainage system was also denied.

The judge was satisfied the Agency had not made the same mistake as Covanta and that necessary measures were in place to ensure only uncontaminated surface water would enter the attenuation pond and lake.





# Fighting the good fight

RSPB Scotland director

Anne McCall has been through thick and thin in conserving her country's natural heritage. She tells **Huw Morris** about her battles with US multimillionaires, important partnerships and holding ministers to account

**A**nne McCall could be forgiven for having a problem with US businessmen who want to build golf courses on highly protected sites. With her extensive background as a planner, RSPB Scotland's first female director was a key objector to Donald Trump's plans to build a golf course partly on Aberdeenshire's Foveran Links, a Site of Special Scientific Interest (SSSI). She was heavily involved in the public inquiry, which ultimately backed Trump's scheme. "The public inquiry was not planning's finest hour," she recalls. "It was hard to get

away from his influence and reputation, and as a system we didn't deal with it well. What's depressing is that what they proposed to mitigate its effects wasn't going to work.

"Unfortunately, we've been shown to be right. The dunes have been damaged, the SSSI has been ruined, the mitigation has not worked, the economic benefits and the huge scale of investment have not materialised."

The Trump Organisation's latest proposal, to build 550 luxury homes near the golf course, has prompted 3,000 people to formally object to the plans; another 19,000 have signed an online petition.

"People have realised that there were a lot of promises and a great deal of under-delivery, and they're not willing to take the chance again. It's contrary to the development plan and I hope Aberdeenshire Council takes a more sceptical approach."

She says it is depressing to have had "an almost identical application" for a championship golf course at Coul Links, near Embo in East Sutherland – one of Scotland's last undeveloped species-rich dune habitats. Highland Council granted consent to plans by Todd Warnock and Mike Keiser for this SSSI, Special Protection Area and Ramsar site, although both businessmen reject comparisons with Trump. The Scottish government called in the consent in August, with a public inquiry due next year.

"Once again, we are being promised a great deal in economic returns," says McCall. "I just hope we don't repeat the mistakes of the past."

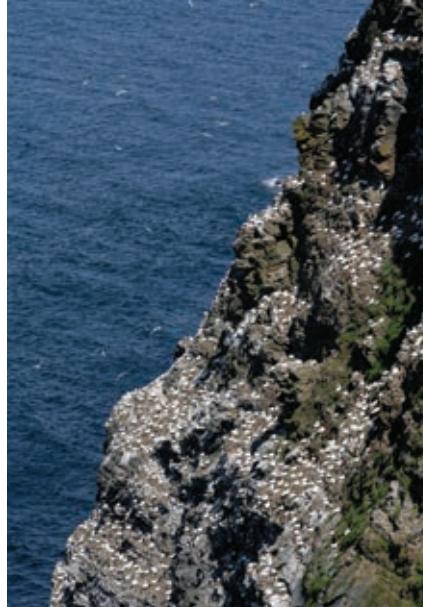
### A rocky road

McCall has experienced bitter disappointment elsewhere with her conservation work: RSPB Scotland unsuccessfully challenged the Scottish government on consents for four offshore wind farms in the Forth and Tay last year. Renewable energy projects are crucial to tackling climate change, she says – but not if they cause direct damage to wildlife.

"If we look at onshore wind in Scotland, we've avoided significant issues for nature, and from a conservation view we have no horrible news stories. But the primary focus is moving offshore, and that is presenting a grave risk to our seabird population."

The British Isles is one of the richest areas in the world for seabirds. It's a globally important population and the majority of them are in Scotland, amounting to some five million seabirds and including a third of Europe's breeding seabirds. However, they are declining fast globally.

"We challenged the Forth and Tay wind farms because the scale of the impact was unprecedented. The government,



Scotland is home to around five million seabirds – including a third of Europe's breeding seabirds

to nest, reducing pressure on sand dunes and improving cross-border cooperation.

"Those conversations are not happening," she continues. "We challenge governments when we think they are making the wrong decisions. I believe we did the right thing. Undertaking legal challenges is costly, time-consuming hard work, and we never do it lightly. The stakes were high, and we had no choice."

## "Undertaking legal challenges is costly, time-consuming hard work, and we never do it lightly. The stakes were high"

in consenting to them, was willing to accept these massive impacts with no compensatory conservation measures.

The UK government has an ambition to install 50 gigawatts of offshore wind by 2050 – a sixfold increase on the current operational capacity. The Netherlands is looking at 60 gigawatts of offshore wind, and there are plans for cross-border floating energy hubs. There are 7.8 gigawatts of offshore wind in the North Sea at the moment, but you could be looking at 180 gigawatts capacity by 2050. The nature of the North Sea will change dramatically."

The big challenge, she explains, is to find a strategic solution that accommodates both seabirds and offshore wind farms – "joining the dots on climate change without destroying our natural heritage".

"We need to talk about conservation measures that would be good for seabirds, such as restoring seabird islands, eradicating non-native species, providing security and safe places

### Building consensus

Partnerships are "utterly critical", she argues, and core to her organisation's business. RSPB Scotland has form here, from the peatland restoration project in the Flow Country and its corporate relationship with Famous Grouse through to the Orkney Native Wildlife Project. Its latest partnership is Cairngorms Connect, the UK's biggest habitat restoration project. Under this partnership of neighbouring land managers, RSPB Scotland is committed to a 200-year vision to enhance habitats and species across 600 square kilometres within the Cairngorms National Park.

"No single body is going to halt the loss of biodiversity on its own," McCall admits. "Partnerships come in all shapes and sizes – public, private, charities or individuals – but the bottom line is that we have to work with other people."

One recent partnership with NHS Shetland involves GPs offering 'nature prescriptions'; patients access nature as part of a non-drug approach to improving health. There is growing awareness of such links. Research by environment charity the Nature Conservancy found that nearly half of humans across the world live in population densities that damage their mental wellbeing.

This mirrors the RSPB's 2013 research with Essex University, which found that four in five children were not connected with nature.

This is leading to the phenomenon of 'shifting baselines', in which expectations of the natural world shift with each generation.

# Interview

"What you grow up with becomes the new normal, and that's how a spiral of decline becomes embedded," McCall explains. "Through working with different bodies, we are increasingly aware of connections between mental health and the natural environment.

"With the Shetland project, there is a moral imperative for us to halt the loss of biodiversity. But the more we learn about the effect that alienating ourselves from the natural world has on us, the clearer it becomes that to start restoring and stop destroying nature is in our own interest.

"It's a curiosity that, as a species, we choose to live apart from the environment and see it as an issue or a government department, rather than the context in which we all live."

RSPB Scotland has a considerable role in that context. Its landholding amounts to 77 nature reserves, totalling more than 72,000 hectares. It is Scotland's biggest nature conservation estate and supports thousands of rare and threatened species. This leaves McCall well placed to comment on the state of the country's natural environment.

According to RSPB Scotland's State of Nature 2016 report, "the general trend of decline that we see elsewhere in the UK is the same in Scotland". Other alarm bells come courtesy of World Wide Fund for Nature research that found humanity

has wiped out 60% of global wildlife populations in 45 years. McCall also cites Scottish Natural Heritage's (SNH) report on the country's progress in meeting 20 Aichi biodiversity targets, published in May. This found that Scotland is meeting seven targets, but needs further action on 12 in order to reduce key pressures from pollution, land-use change, invasive species and climate change. Funding is one Aichi target that is heading in the wrong direction: SNH's budget has been slashed by 26% during the past five years.

"We have a rich natural heritage, and we take it for granted at our peril," says McCall. "By any measure, we're not halting the loss of biodiversity. We know we can turn it around in certain circumstances, but we've still got quite a hill to climb.

"If we can diagnose the problem and tackle it, with the financial framework altered so the solution can be delivered, we can change things. That is encouraging, but it requires strong political leadership."

## Post-Brexit problems

Future challenges will include Scotland's emerging forestry policy and finding a replacement for the Common Agricultural Policy. The Welsh government and Whitehall have "opened up the discussion over what is possible," McCall says, but Scotland is "a bit light on what the long-term vision is".



## A CAREER IN CONSERVATION

1992	Graduates with a master's degree in politics and history from Edinburgh University
1992	Internship at State of Maine Planning Office
1995	Graduates with a master's degree in town and country planning from Heriot-Watt University
1995	Planning adviser at New Lives New Landscapes
1996	Peatland officer, then greenspace planning researcher, at Scottish Wildlife Trust
1996	Planning assistant at North Lanarkshire Council
1998	Conservation planning officer at the RSPB
2000	Head of planning and development, RSPB Scotland
2008	Regional director, RSPB
2017	Director, RSPB Scotland

Brexit is furrowing McCall's brow in other ways, especially as 80% of UK environmental legislation comes from Europe. The Scottish government has made some signals about retaining existing laws, but details are uncertain.

The Habitats Directive has been especially influential for conservation, she argues. "Species fare much better in countries implementing the Habitats Directive than countries that do not. It's been pivotal for 30 years, and it's the real cornerstone of protecting the environment.

"We have had SSSIs since 1949 and we used to see 10%-15% of those sites damaged every year. Since the Habitats Directive, that has fallen to 2%-3%. It's had a huge impact, and that's largely because you can take complaints somewhere and have results. What will happen with a future watchdog and how that works out across the four countries in the UK is uncertain." T

**HUW MORRIS** is a freelance journalist

## BIRD'S EYE VIEW

RSPB Scotland is working to prevent wildlife loss across the country

**4 in 5**

A 2013 RSPB study found that 4 in 5 UK children are not connected with nature

**77**

RSPB Scotland holds 77 nature reserves, covering 72,000 hectares

**5m**

There are some 5m seabirds in Scotland – a globally important population

# Can palm oil ever be sustainable?

Palm oil is an emotive product. The supermarket Iceland has announced it is phasing palm oil out of its products, and consumers are regularly using social media to call on companies to change their palm oil policies. There are social, economic and environmental challenges associated with palm oil, but significant misconceptions also exist.

To be clear, there is no such thing as a 'bad' plant. Palm oil has extremely good properties: it has a high yield; it is a low-tech crop, harvested by people rather than machines; and it is low waste. Cultivated properly, palm is sustainable and efficient, and offers social benefits in terms of employment and capital. The issues around it relate to land grabbing, deforestation – which impacts wildlife habitats, including endangered orangutans – and modern slavery. The problem is not the plant; the problem is humans.

Palm oil can be found in about half of all packaged products in supermarkets, and demand is increasing. If it is banned, manufacturers will need alternatives. The next best option is rapeseed, which is less efficient and requires more space to harvest. The land space needed to harvest the world's palm oil requirement is roughly the size of Spain; the space needed for the same amount of rapeseed oil would be the size of Canada.

It is not viable to sustain global requirements without palm oil – but if it is not grown and harvested responsibly, the impact will be enormous – and the orangutan could be driven into extinction.

## Certified sustainable

How do we meet increasing demand for palm oil while ensuring that the environment, wildlife and local people are protected? The Roundtable on Sustainable Palm Oil (RSPO) was established by a number of parties, including the World Wide Fund for Nature, and has taken on the task of solving this issue.

The RSPO seeks to protect the environment for orangutans and other species at risk of extinction, and believes the answer is certification. It is not pushing for the removal of palm oil, but

**Andy Green** discusses how the supply chain could help make the world's most consumed vegetable oil both viable and sustainable

for it to be properly cultivated. Organisations can ensure that they are supporting this by certifying all products containing palm oil to the RSPO standard.

The RSPO's definition of sustainable palm oil significantly

limits High Conservation Value (HCV) forest clearance and prohibits burning – of waste products, for example – in its cultivation. The welfare of local communities that depend on the forest must be safeguarded, and employees must be offered fair conditions.

For the palm oil to be certified, each stage of the supply chain must be certified. The plantation, the mill, the crude oil refinery, the oil itself, the manufacturers, and anyone who takes legal ownership of the palm oil and physically handles it before it reaches the end-user all need to be individually audited by an independent RSPO-accredited certification body. As each stage is certified, it leaves a paper trail, so the certification can easily be traced. The certification only focuses on the palm and palm derivatives, which tend to be a very narrow part of the business stream; usually, very few changes are required.

After being vetted and accepted as a member of the RSPO and putting in place what is known as an 'internal control system', a business wanting to be certified is ready to be audited. Auditors confirm production processes are adequate, approve documentary records, and check the accuracy of sales and marketing literature. This usually takes about one day. Provided there are no non-compliances, certification is issued shortly after. Each certificate lasts five years, with yearly 'surveillance' audits along the way.

There are cost implications involved in certification, and the RSPO standard is currently voluntary – but for businesses wanting to offer a sustainable product, act against modern slavery and protect biodiversity, this process is crucial. Plus, with consumers expecting organisations to take their environmental responsibilities seriously, and such high stakes on the line in terms of wildlife and communities, can any business afford not to? 

**ANDY GREEN** is certification sales manager at BM TRADA

## **Helena Norberg-Hodge** outlines how localising economic activity could halt ecological breakdown

**A**mong environmental activists and ordinary citizens, climate change is seen as the most serious sign of ecological breakdown. But there are others: from species extinction and ocean 'dead zones' to topsoil loss, nuclear waste, and microplastics in the food chain, ecosystems are under assault from a deadly disease: economic globalisation.

The causes of this ailment run deep.

Through a combination of aggressive subsidies, dysfunctional taxes and skewed regulations, governments around the world have spurred the growth of an international 'free market' that supports global corporations and banks at the expense of smaller, more rooted businesses. The costs of this process are heavy for people and the natural world.

The global food system provides many examples. Government handouts to the fossil fuel industry, for instance, facilitate long-distance transport – so food from the other side of the world can be cheaper than food from the farm next door. Worse is redundant trade: the simultaneous import and export of the same product. The UK, for example, imports and exports millions of litres of milk and thousands of tons of wheat and lamb every year, and the US does the same for beef, potatoes, sugar and other foods. Redundant trade wastes resources and is a major contributor to greenhouse emissions, but subsidies for fossil fuels make it profitable.

Propaganda from big agribusiness has convinced the public that the global food system – with its large-scale monocultural production and world-spanning trade – is the only way to feed the planet. But the 'efficiency' of monocultures is based solely on yield per unit of labour. Studies conducted all over the world have shown that, when the more relevant metric of yield per unit



of land is measured, smaller-scale farms are typically eight to 20 times more productive than large-scale monocultures.

In fact, small farmers are feeding the world; although they control just 12% of the world's farmland, they produce most of our food. Many of those farmers are in the Global South, where big agribusiness is relentlessly pushing the industrial farming model – leaving farmers increasingly dependent on costly chemical inputs and patented seeds, and loans to pay for it all. The result? Worsening rural poverty and farmer suicides by the hundreds of thousands – one of the most underreported tragedies of our time.

Meanwhile, agribusinesses continue to consolidate – witness the recent merger of agrochemical giant Bayer with GM seed titan Monsanto. This leaves the global food supply dangerously dependent upon a shrinking number of corporations and a dwindling diversity of food crops and seeds.

### **Undermining cultures**

The increasing costs of globalised business are evident in other ways. Jeff Bezos' online commerce giant, Amazon, has become an emblem of worker mistreatment and high street business closures. Nonetheless, cities across the US offered Amazon massive subsidies and tax breaks in the hope of becoming the site of the company's second headquarters. Because the global growth



Shrinking the distance between production and consumption brings people closer to the impact of their purchasing choice – encouraging them to choose more ethically

imperative requires even the largest companies to grow still larger, Amazon is extending its reach to every corner of the world, including the remote Himalayan region of Ladakh, where I have worked for several decades. The undermining of Ladakh's local economy and culture has already put its ecosystem at risk; this latest incursion will accelerate the breakdown.

Government support for globalisation benefits a handful of global businesses, but the ecological costs are borne by the planet as a whole. Most of the fossil fuels that have been burned in the past 150 years have been extracted by a select group of 90 entities, including private

corporations such as Exxon-Mobil and state-controlled institutions such as Saudi Aramco. According to a 2013 study, these fuels were responsible for "nearly two-thirds of all the carbon that has been emitted into the atmosphere during the industrial era."

What can we do to reverse the damage?

Resisting corporate-backed politicians and the policies they enact is crucial, but it is only half of what is needed. We must create an economic model that can replace globalisation, so that people can feel inspired, rather than frightened, by the promise of systemic change.

## Common good

This model is already being built at the grassroots, often with help from enlightened local governments. Those local governing bodies – more in tune with their citizens – are discovering that resilient localised economies need not depend on global flows of wealth and capital in order to function. This gives them the power to say 'no' to multinational corporations and banks.

The benefits of localising economic activity are manifold. Rather than concentrating wealth in a handful of global monopolies, local economies tend to disperse wealth more

equitably among a wide swathe of the community. Local economies are also, by definition, rooted to a particular place, making the long-term health of the environment a shared concern for all. Corporate giants, on the other hand, can up sticks and move in search of higher profits elsewhere, leaving behind a despoiled environment and thousands of jobless residents.

Shrinking the distance between production and consumption also makes it easier to choose ethically: when we know the farmer who produces our food, it's easy to know whether pesticides were used, or if farmworkers were treated unfairly. The distances involved in global trade, by contrast, make it impossible for people to know the impacts of their purchasing choices.

Across the world, communities are strengthening connections between local food producers, small businesses, local government, and other sectors, including healthcare, banking and energy. In Catalonia, the Catalan Integral Cooperative is aiming to create an 'ecosystem' of post-capitalist institutions, including a financial co-op, food pantry, open-access repair workshop and local currency. The French town of Mouans-Sartoux has a municipally-owned organic farm that grows vegetables for school meals, provides produce at a discount to low-income residents and donates surpluses to the local food bank. In Zimbabwe, the Chikukwa permaculture project has lifted

villages out of food insecurity and environmental disaster through place-based education and training programmes. There are thousands of such initiatives worldwide – Local Futures' series, Planet Local, highlights many of them.

Ecological breakdown is telling us that modern societies are on the wrong track. It is essential that we draw on the full range of human creativity to envision diverse alternative paths – each appropriate in a particular cultural and ecological context – rather than continuing down the road to a global monoculture. Coupled with widespread resistance to globalisation, these steps towards renewal provide a blueprint for a better world – a world that celebrates diversity not just in the biosphere, but among the human cultures that draw from it for their lives and livelihoods. [T](#)

**HELENA NORBERG-HODGE** is the founder of Local Futures

In October, a pair of Eurasian brown bears was airlifted to the Pyrenees from Slovenia in order to bolster diminishing numbers of the species. This was a welcome piece of good news for the bears, whose survival depends on collaborative conservation activity. Unfortunately, most other European countries were unaware of the bears' plight. This lack of information matters. In July, the French government published its biodiversity strategy, which contained an objective to increase the population of brown bears in the country. However, it failed to translate the documents associated with the strategy – so the news only hit the headlines in France. As a result, fewer people worldwide care.

## Policy gaps and barriers

The Eurasian brown bear's situation may be very specific but the problem is not. All over the world, gaps and barriers in government, communications and business obstruct biodiversity management – delaying the successful international strategies that are essential for thriving ecosystems, which often cross national boundaries. This, in turn, leads to disjointed policy.

"Rules are fragmented across jurisdictional levels, between countries, between states within countries, between agencies with particular responsibilities, and across specific biophysical and social problems," says professor Paul Martin, director of the Australian Centre for Agriculture and Law at the University of New England, Australia.

In land-based environments, forests are an obvious casualty of these inconsistencies; they are managed differently across countries, with varying laws on land use and diverse or lax regulations on business. According to Tony Juniper, executive director of Advocacy and Campaigns at the World Wide Fund for Nature, forests are an area requiring urgent attention. "Lots of major companies have said they aim to be selling products unassociated with deforestation by 2020, but many of them are struggling to do this, not least because of the absence of an international framework that is aligned with trade agreements," he says.

# Bearing the brunt

PHOTOGRAPHY: ISTOCK

Global biodiversity has been pushed to crisis point by a lack of international collaboration;  
**Elisabeth Jeffries** investigates

Protecting species such as the Eurasian brown bear will require collaboration and communication

Another issue is the use of agricultural chemicals, which can be toxic enough to harm the pollination process in plants. This affects not just flowers and plants, but wildlife of all kinds. According to Juniper, national laws around agricultural chemicals are inadequate. "If we are to conserve biodiversity while protecting food security, we need a new regime for the management of pesticides," he says.

### Maritime activities

With the recent massive increase in media attention on ocean plastics, a chasm in maritime policy has become evident. "About 45% of the planet is not reasonably managed," says Carl Gustaf Lundin, principal scientist on the Global Marine and Polar Programme at the International Union for the Conservation of Nature (IUCN). He draws particular attention to maritime species, which he describes as "miserably managed". "We've lost more than 95% of big fish," he says.

Demersals, he says, are among the fish most in trouble. These flatfish, which include flounder, sole, plaice and skate, live on the seabed and are subject to recurring fishery disputes. At the same time, governmental demersal high-seas policy is not managed internationally but regionally. "Demersal fish are already fished out in some places," says Lundin. "If you took a broader approach, you might solve the problem. But in some cases, countries in fishing areas are completely uninterested in significant reform and don't want to cede any management authority. They prefer miserable fish stocks to broader management."

Meanwhile, the noise of human activity has been ignored – another governance gap. "Shipping has an impact through noise, which is an important issue," says Lundin. "Animals communicate through sound, and many of these problems are particularly significant in coastal waters."

Across the world, the activities of many industries at sea are either poorly managed or unmanaged, providing an opportunity for entrepreneurs. Fisheries have historically been the most controversial example of management difficulties. However, new industries or technologies provide the biggest headache, often exploiting policy loopholes.

Lundin cites seabed mining for manganese nodules as the most pressing concern. Manganese nodules are about four inches wide and may contain manganese, iron, nickel, copper or cobalt. "They are not very valuable," says Lundin. "You need a lot of nodules for this to be worthwhile, which would have a significant effect on the seafloor if mined."

Crusts on underwater mountains, which have formed over millions of years, also contain minerals. As Lundin points out, though, excavating these zones means stripmining whatever is living in them. "There is high biodiversity in these areas, and this activity would mean enormous losses."

These are just a few examples, of course; transboundary and intra-national management is fraught with conflicting interests between governments and industries. "Action is patchy and uncoordinated, and this needs to change if we are to stop mass extinction," says Tony Juniper.

**"Action is patchy and uncoordinated, and this needs to change if we are to stop mass extinction"**

### New agreements

Much of current global biodiversity policy originates from the UN Convention on Biological Diversity (CBD), signed in 1992. Under the CBD, governments aim to conserve biodiversity, and use it sustainably. They must develop national biodiversity strategies and action plans, such as the strategy published by France this year, and integrate these into broader national plans for environment and development. However, implementation is inconsistent between countries, and is not always completed.

"In many countries, implementation is poor," says Paul Martin. "And even if it is happening, effectiveness is a concern." The aim of the CBD, he explains, was to embed a fully accountable and comprehensive system of biodiversity governance, rather than to put in place a few principles here and there. "Unfortunately, it is the latter interpretation that dominates."

Nevertheless, there is some cause for optimism. An opportunity to learn from the experiences of the last 25 years will arrive in 2020, when countries will negotiate a new treaty under the CBD. The post-2020 policy arising from this agreement is expected to provide a 'New Deal for Nature' to help the international community to address biodiversity and ecosystems loss.

At the same time, a new UN legally binding marine agreement to limit exploitation in the high seas – usually zones more than 370km from a country's coastline – is due in the next couple of years. It would be the first to protect biodiversity in areas beyond national jurisdiction. However, Carl Gustaf Lundin is doubtful whether it will have a significant impact, citing a reluctance to engage from nations such as the US and Russia. "There is a general lack of interest from a number of countries," he says. "I'm not overly optimistic; there are stumbling blocks." Of these, he believes the most significant is the ideological conflict around access and benefit sharing, which would help developing countries avoid making the mistakes of ex-colonial era countries.

### Better communication

Greater environmental pressure demands further international collaboration, requiring diplomacy and a constructive approach that may involve some compromise. For centuries, countries have considered environmental issues primarily within their own national boundaries, in terms of their own national interests or patriotic perceptions of land use and industries. More cooperation is challenging, but there is a simple way to get started: good communication. Translating and publicising national policies across borders would be an obvious first step. ↗

**ELISABETH JEFFRIES** is a freelance journalist



# Truth to power

Environmental Audit Committee chair Mary Creagh talks to **Chris Seekings** about Defra's long-awaited Resources and Waste Strategy – and post-Brexit Britain

"The biggest thing the government can do is to be more green now – it talks the talk but doesn't walk the walk"

**G**azing out of her parliamentary office window, Mary Creagh is downcast as she talks about the UK's approach to tackling waste – much of which is destined for the River Thames below.

On her request, the National Audit Office (NAO) produced a report earlier this year that highlights major flaws in the country's recycling system, finding that it is open to abuse and poorly enforced.

As chair of the Environmental Audit Committee, Creagh leads a cross-party group of MPs that is tasked with holding the government's feet to the fire and ensuring its much-delayed Resources and Waste Strategy rectifies these failings.

Originally expected in July, the document is seen as a key element of the UK's 25-year Environment Plan and Clean Growth Strategy, and is set to contain a raft of sustainability measures.

## A new dawn

"What I am hoping for is an entirely new vision for waste and environmental management," Creagh tells me. "I want to see a series of different approaches that are more resource-efficient and embed circular economy principles in the UK."

The recent autumn budget has already paved the way for new manufacturer responsibilities by introducing a tax on plastic packaging with less than 30% recycled content.

Creagh expects the new strategy to extend those responsibilities by focusing on the 'polluter pays' principle, and says that it should also include a formal ban on plastic straws, stirrers, and "other useless things that have crept into our lives in so many ways".

"What we need to see is a bending of the curve on plastic use, and a simplification of plastics. And I want to see very strong action on things like polystyrene, which has no recyclable value at all."

While the strategy will likely mark the official opening of a consultation on a deposit return scheme for plastic containers, Creagh says that we will not see it in action until 2020, at the very earliest. "It has taken a very long time to get to this stage, but I welcome the fact that we are here and at least making progress on these issues," she says.

## Failing system

The Department for Environment, Food and Rural Affairs (Defra) estimates that the UK has exceeded its packaging recycling targets since 1997 and recycled 64% of all packaging in 2017. However,

this year's NAO report revealed that these estimates do not account for the risk of undetected fraud and error – something thought to be widespread throughout the packaging recycling obligation (PRN) system.

This requires companies that have a turnover of at least £2m and handle more than 50 tonnes of packaging each year to acquire recovery evidence notes from reprocessors that export waste for recycling abroad.

"The system is hopeless," Creagh blasts. "There has been a fall-off in compliance visits – just one to a high-risk exporter in 2017 – and the Environment Agency (EA), which regulates the system, has lost a quarter of its budget in the last eight years."

She explains how supermarket chain Costcutter, living up to its name, "didn't pay a penny" into the system between 1997 and 2014, despite creating 40,000 tonnes of packaging; instead, it paid half a million pounds as part of a settlement case. "That is a huge amount of free-riding, and a failure of the waste management system," Creagh says. "And it's not like they get caught once and stop – they carry on and carry on, so it's cat and mouse."

Defra has said it will reform the PRN system in its Resources and Waste Strategy, but Creagh argues this will be impossible if the EA does not receive the funding it needs, particularly when more and more is being asked of it.

"We are asking it to do everything, from being the frontline of flood defences to tracking shipments of waste, and there is a strong case for it being UK-wide – but there is not enough money," she says. "At a time when climate change is making these challenges even more demanding, you cannot function as a regulator on the cheap."

## Bills, bills, bills

The government's announcement of a new post-Brexit Environment Bill for the first time in more than 20 years is intended to close a "governance gap" around compliance and enforcement. This should include a legal framework for an independent watchdog to ensure environmental protections remain after the UK leaves the EU.

But with the Sustainable Development Commission and the Royal Commission on Environmental Pollution having both closed in the last decade, Creagh points out that the government has "more experience shutting down watchdogs than it does setting them up".

Her committee has called for concrete action, including the introduction of five-yearly legally binding targets for waste, air and water – which are currently overseen by the EU – but also for other areas such as habitats, biodiversity and soil health. "We want that to be set in stone along the same lines of the Climate Change Act, so it can't be scrapped by a future government," Creagh says. "We want to look at trees, plants and animals to ensure they aren't just surviving, but thriving – all of these ecological measurements are important."

She also describes the government's decision to publish the Environment Bill after the Agriculture Bill as "very unfortunate", after the latter outlined where the public subsidy for



● The packaging recycling obligation (PRN) system has been branded "hopeless" by Creagh



environmental goods will be allocated. "We are basically saying 'here is the money, and now here is what we are going to do' – which is problematic."

Having read the government's Agriculture Bill, Creagh reveals her worries around the proposals to pay farmers seven years' worth of subsidies upfront after Brexit, and says it is "tragic" that the plans have had such little public scrutiny. "What happens if farmers pass that farm on to their sons or daughters? Are they then excluded from subsidies? What if they want to introduce nature-friendly farming, are you going to pay twice? It strikes me that there are very large problems with the bill as it currently stands."

## Uncharted waters

Having worked in Brussels for four years, including as an intern at the European Parliament, Creagh is vehemently anti-Brexit, and recently came out in support of another vote on EU membership. She worries that higher tariffs will put many farmers out of business and believes that a flood of cheap imports arriving from trade deals could make it even harder for them to survive. "This could also spark a trend towards mega-farms as smaller ones struggle to stay afloat, which is a hugely damaging prospect and creates massive pollution risks," she says.

However, it is not Brexit that Creagh sees as the biggest threat to the country's environment. She highlights that, while the government is the UK's largest provider of goods and services, it persistently fails to 'buy green'. Creagh also reveals that it's a constant struggle to get her fellow MPs to make even small changes in their lives, such as reducing electricity use.

"If we are going to move away from what the EU does then this is once-in-a-lifetime opportunity to reset the dial, and there are very profound changes that are going to happen to care and management of the landscape over the next 10 years," she warns. "But the biggest thing the government can do is to be more green now – it talks the talk but doesn't walk the walk, and it is about time it led by example."

While outlining a range of other challenges that face the UK – not least addressing the country's fourth carbon budget gap, which is likely to grow should the Committee on Climate Change set a zero net emissions target – Creagh remains optimistic about future environmental policy. "There are big tests that lie ahead, but I am sure we can rise to them," she says. "It's all going in the right direction, but we are walking, and we need to be jogging or running." 

Climate refugees



# Road to nowhere

Global warming threatens the livelihoods of countless millions, and looks set to spark a fresh wave of migrants fleeing extreme weather across the world. **Chris Seekings** reports

In 2005, Hurricane Katrina left 800,000 in the US homeless

**E**ach year, a staggering 21.7m people are displaced by extreme weather events across the world, stripped of their homes, families, friends and livelihoods. This is the human face of climate change. Their stories are rarely heard and their faces seldom seen, with most in the West oblivious to the untold traumas that global warming has helped inflict on some of the world's poorest people.

But with the planet continuing on a path towards 2°C of warming, and weather catastrophes increasing in frequency and intensity, richer countries could soon be forced to confront a migration crisis of biblical proportions.

After travelling to some of the world's toughest and most remote regions, the Environmental Justice Foundation (EJF) has shone a global spotlight on the first-hand accounts of 'climate refugees' fleeing environmental destruction.

## A global problem

Although most migration caused by extreme weather has so far been contained within individual countries, this will increasingly spill across borders as people from warmer countries head north, explains the EJF's co-founder Steve Trent.

Mass migration carries its own social risks, as we have seen with the migration wave resulting from the Arab Spring and the Syrian Crisis. As a result of the Syrian war, 6.6m people have been internally displaced, nearly 5m are refugees in Turkey, Jordan and Lebanon, and 1.2m are refugees in Europe. The latter may have signalled the beginning of the end for the continent's most powerful politician, Angela Merkel.

"It certainly helped drive extreme populist movements across Europe, and led to a fracturing of consensus and very serious political uncertainties," Trent says. "This could ultimately spill over into conflict, but the world is just burying its head in the sand – no one wants to talk about these incoming people."

By way of comparison, 2015 disasters brought on by floods forced 8.3m people to flee their homes, storms displaced 6.3m, and around 87,000 people were displaced by wildfires.

The problem, Trent explains, is that many in the West believe the severe impacts of climate change will only be felt in foreign countries, far in the future. He describes this belief as "profoundly wrong and short-sighted".



**"Those that have benefited least from industrialisation will be the hardest hit by its effects"**

It is easy to forget that, just 13 years ago, Hurricane Katrina left 800,000 in the US homeless – and 1,800 dead. "This was arguably the largest forced migration in American history, yet the president of the world's wealthiest and most powerful nation was frozen in action."

And while some still challenge the scientific consensus, a report published last year by the Energy and Climate Intelligence Unit revealed that 41 out of 59 research papers published on the subject

since 2015 had found a positive correlation between climate change and extreme weather.

"The simple fact of the matter is that climate change will increase the frequency of these events and make them more serious," Trent says. "And if we see many tens of millions move towards Europe, the economic and social consequences could be profound."

## Escaping the motherland

To raise awareness of the issue, the EJF has produced a series of powerful photographic 'portraits' documenting the stories of victims fleeing extreme weather events. One of these stories is Abdul's (pictured overleaf).

Abdul's entire farm was submerged when Cyclone Aila devastated Bangladesh in May 2009. He watched in horror as neighbours perished. When disease broke out, Abdul was forced to flee his village of Gabura and seek a new life in India, before returning to the Munshiganj district and finding work as a labourer. After 18 months he set up his own business and began to thrive, but this just attracted more problems. "The people in this area are jealous now," he explains. "Who is this random man that arrives as a refugee and is now living so well?"

# Climate refugees

His new neighbours contacted the police and accused Abdul of being part of an extremist Islamic political party. He was forced to pay them off, and was left once again with nothing.

"Are we really any better off or are we in hell?" he asks. "We didn't want to leave our motherland, but we had no choice – climate change was mainly responsible. "Developed countries do what they like – polluting, conducting scientific experiments with the climate – and we are the ones paying. If they could change their ways, perhaps people like us can be saved."

## A way of life under threat

But it is not just leaving behind their homes that the most vulnerable to global warming have to contend with. The Sami people of Northern Europe face their entire livelihoods being wiped out. Lars-Ánte (opposite, centre) has been herding reindeer in Sweden all his life, just as his forefathers did before him. His people have an innate understanding of how the seasons impact the landscape and allow for safe passage.

"Our ancestors, our language, our culture, the reindeer, they are all entwined, but Sami people can't recognise the weather patterns anymore," Lars-Ánte says. "Reindeer can't find any pasture for grazing in the winter months, so herders have to watch them starve. There is too much ice or the wrong kind of snow."

While previous generations had enjoyed 30 years of good grazing conditions followed by a couple of bad years, today, the favourable weather lasts no longer than a decade before another 10 years of hardship take hold. "And it isn't only reindeer, it's everything in our nature," Lars-Ánte's says. "In the beginning, there was a kind of tranquility to the landscape, it was not under pressure, but now you can feel all the wildlife struggling."

His people face deforestation and mining projects that deplete natural resources and leave the land barren, while heavy polluting industries have caused black snow to fall from the sky.

"Climate change is global, but people who live in big cities, what can they know about nature? They live their whole lives without ever seeing what is actually happening to the world. This is the problem, they are out of touch."

## Facing up to reality

Oxfam estimates that the world's richest 10% produce half of the planet's carbon emissions, while the poorest 3.5bn account for just one tenth. Trent argues that it is richer nations' responsibility to ensure that those disproportionately impacted are protected.

"These people do not have the resources to protect themselves," he says. "Those that have benefited least from industrialisation will be the hardest hit by its effects."



Reindeer herds in Northern Europe can no longer find pasture for grazing during winter, threatening the Sami people's way of life

## Climate refugees



"We didn't want to leave our motherland, but we had no choice – climate change was mainly responsible"

Abdul



"Our ancestors, our language, our culture, the reindeer, they are all entwined, but Sami people can't recognise the weather patterns anymore"

Lars-Ante



"I sit here in the dark, in the heat, and I think of the home we had, my whole life was washed away by that stream."

Renu Bibi

The EJF recommends that the UN urgently develop an international agreement clarifying the rights of those impacted by climate change and ensuring their protection through clear legal definitions.

Distinguishing between climate refugees and those fleeing conflict or economic hardship will be difficult. Trent says cooperation among nations will be crucial, and argues that engagement with affected communities will also be needed for social cohesion. "Even if you just look at this from a self-interested point of view, there is value in defining a coherent and collective response that is compassionate," he adds. "Giving these people rights and status is important."

The EJF argues that all countries must rapidly implement their Paris Agreement commitments, raise their emission reduction targets, and help boost resilience and adaptation in nations that are most affected.

"If you look at the latest Intergovernmental Panel on Climate Change report, 2°C of warming will create a graveyard for entire ecosystems, communities and countries," Trent says. "This is going to affect us all – our children and their children – and on those grounds alone, we need a trans-boundary response."

### The river took it all

One of the most harrowing stories documented by the EJF is that of Renu Bibi (above, right), an 85-year-old woman forced to migrate to Dhaka after rising river levels and erosion destroyed her home. Large ships now sail through the place where she

used to live. Date palm trees, livestock and ponds full of fish were all lost to the river in the space of just 24 hours after a dam broke.

On arrival in Dhaka, Renu and her family slept in a tent made from paper found on the side of the road, and collected bottles and metals to sell for very little money.

Her children have all left following the death of her husband, and Renu is now forced to live in an abandoned old room that used to house another family's goat.

"The weather here has changed too," she explains. "It rains more frequently than it did, and water pours into my room, around my bed, and the drains overflow. The heat has also become intolerable. I sit here in the dark and think of the home we had – the lands, the trees, the fish. All of it has been taken away. My whole life was washed away by that stream."

Trent hopes these human stories will inspire others to face up to the reality of global warming and extreme weather, with some estimating that 1.4bn people could be displaced by 2060.

"All too often, climate change has been explained with the image of a polar bear," he says. "And while I care passionately about polar bears and our wildlife, I think that the image of people being forced from their homes is very powerful.

"This is about engaging hearts and minds, and I hope people decide to get educated and learn what's going on – this is an issue of human rights and justice." 

To find out more about the EJF's work with climate refugees, visit [bit.ly/2AuYt1M](http://bit.ly/2AuYt1M)



**Oliver Heidrich,  
Brett Cherry,  
Natalia Yakovleva,  
David Manning and  
Alistair Ford** look  
at how the Global  
South could adopt  
more local potassium  
production, rather  
than relying on the  
northern hemisphere

PHOTOGRAPHY:ISTOCK/GETTY

Fertilisers are routinely added to soil to enhance plant growth and increase crop yields. They include three main macronutrients: nitrogen (N), phosphorus (P) and potassium (K). If any of these macronutrients were to become unavailable or inaccessible to agriculture, a global food crisis of unprecedented scale would likely ensue.

Potassium is integral to plant growth and animal health, but it is a non-renewable resource. Unlike nitrogen and phosphorus, whose supply and recycling details are well-documented, little is known about the potassium supply and

consumption cycle. Although potash, the raw material used to produce potassium fertilisers, is abundant, it is located in the northern hemisphere, meaning its availability in the tropics involves a high transport cost.

By 2050, global demand for grain is expected to have increased by 60%, while global cropland area will have increased by only 10%. Estimates show that crop production needs to increase by 25%-70% above current levels to meet 2050 demand, but emissions and nutrient losses must drop dramatically in order to restore and maintain ecosystem functions. Can countries work together to

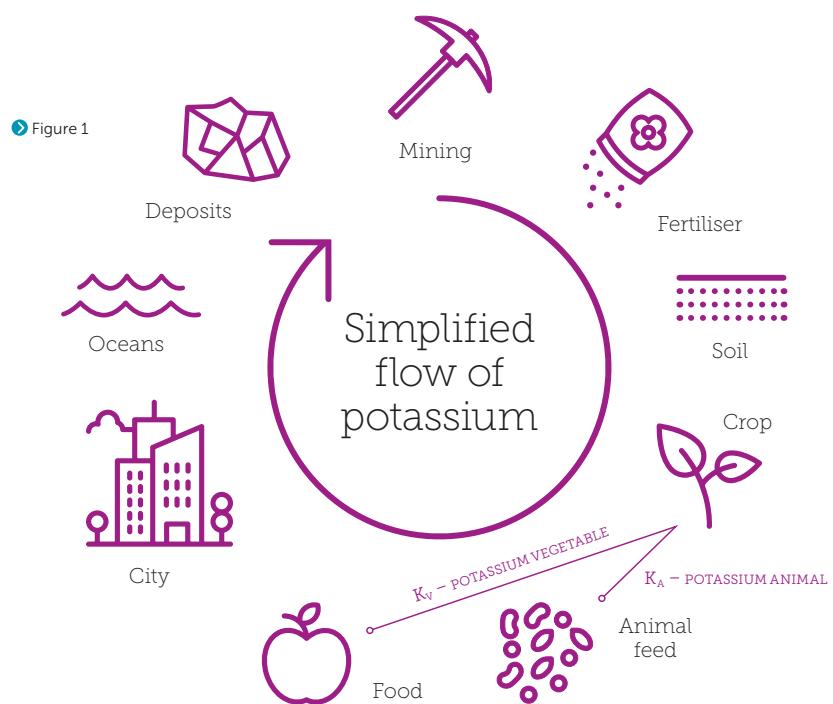
close yield gaps in the Global North and South in order to feed humanity by 2050, when the global population is expected to exceed 9bn?

## One-way system

If agriculture and soils in the southern hemisphere are to reach the outputs required to feed their populations, local alternative potassium supplies need to be developed. At present, potassium fertilisers in the form of potash are derived from soluble salts mined in the upper parts of the northern hemisphere. From there, they follow a one-way stream from production to agriculture to human food consumption to waste disposal. No effective method for potassium recovery or recycling exists, although crop residues do provide one input (see *Figure 1*). Most of this vital mineral is mined in just a handful of countries – Canada has 53% of world potash reserves; Canada, Russia, Belarus and Germany combined have 92%. From these places, potash is shipped around the world to fertilise crops.

Agricultural mineral resources in the soil are depleting faster than our ability to put them back into the land. On a global scale, the problem is complex. Soils in tropical countries are highly weathered and tend to have a low nutrient content. Rapidly growing populations in Africa have limited or no access to the fertiliser needed to replenish their soils, while in South America, Brazil is one of the top food exporters in the world and one of the largest fertiliser consumers. China is the largest consumer and importer of potash from the Global North, which covers 70% of its demand. The south of China is generally short of potassium, resulting in annual potash imports of about 6m tonnes. If agriculture is to support a growing global population, local alternatives may be worth considering.

To date, there has been no rigorous agronomic research or survey of the potassium status in Africa's tropical soils. Potassium deficiency has affected maize, rice, cassava, fruits and vegetables. This is a problem not only for Africa, but also for countries that depend on its food exports – including the UK. Food consumers



**"Most potash is mined in just a handful of countries – Canada, Russia, Belarus and Germany combined have 92% of the world's reserves"**

in the UK rely on foreign sources of food, crop and animal feed, and this dependence could increase in the future.

In 2016, just over half of the UK's food supply originated outside the country, including 30% from the EU, 5% from Africa and 4% from South America. After Brexit, if the UK's food imports originate less from the EU and more from countries in the Global South, the gaps between nutrient outputs and fertiliser inputs could widen (*Figure 2*).

The UK is effectively mining nutrients from soils in the world's poorest countries, which have no local fertiliser production. This makes food supplies even more vulnerable – especially when factoring in ongoing pressures such as climate change, which pose a significant risk to global food security. There are, however, opportunities for countries with no local fertiliser production to establish it, especially where there are known deposits that could be mined.

In many low and middle-income countries, minimal fertiliser is used for growing crops. Zambia uses the most fertiliser in sub-Saharan Africa, for example, at 46.2kg per hectare. This figure pales in comparison to the amount used in EU countries – 160.1kg per hectare. Latin America and the Caribbean use 127.9kg per hectare, and North America uses 126.6 kg per hectare. Countries with low fertiliser production should not necessarily be raising their fertiliser input to the same level as those with high inputs, because overuse is undesirable for increasing yields over the long term. To sustain the global food supply, fertiliser inputs will need to increase, but potassium inputs may need to double to compensate for what is removed by crops. In addition, intensification of agricultural lands is likely to be required in order to feed the rapidly growing populations in the developing world.

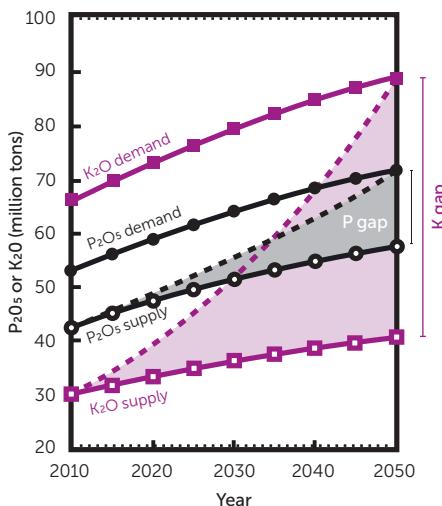
## Localised production

What can be done about this global challenge? Local potassium fertiliser production in the Global South is urgently needed to enable agricultural systems in developing countries to feed local populations. National governments need to support geological exploration of potassium-bearing minerals such as potassium feldspar in Malawi, Ethiopia and Eritrea. It's clear that the problem of potassium deficiency and other mineral resources for agriculture are not merely a global trade concern, and that much work remains to be done.

Geologists, agronomists and soil scientists must drive forward scientific initiatives to identify new potassium-bearing minerals and explore conventional mineral-based fertilisers in developing countries. Agronomic knowledge also needs to increase to allow us to understand the potassium status of soils, especially in Africa. This approach has been pioneered in Brazil, where the use of novel locally derived 'remineralisers' is federally regulated.

**"To sustain the global food supply, fertiliser inputs will need to increase"**

Figure 2: Projected future gaps between potassium oxide ( $K_2O$ ) and phosphate ( $P_2O_5$ ) supply and demand



In addition, new markets need to be developed for alternative potassium fertilisers – a process that requires scientists, policymakers and economists to work together. The UK and EU countries stand to benefit from working with the Global South to secure food supplies both locally and globally.

They can do this by discovering and investing in innovations such as mineral recycling, alternative mineral resources and alternative farming practices that improve soil quality and maximise yields.

Scientific and policy leadership from the UK could help the developing world reach targets for the UN Sustainable Development Goals, to make potassium consumption and production responsible and sustainable. We must understand the impact that local consumption has on the global market – not just for potassium, but also for the other minerals and nutrients needed to maintain a healthy diet. <sup>T</sup>

The authors are members of and contributors to the Institute for Sustainability at Newcastle University

## SEEKING ALTERNATIVE SOURCES

Producing fertilisers for agriculture can be an energy-intensive chemical process, especially for nitrogen and phosphorus. With lower energy costs, mined potash is used to produce potassium chloride, the main fertiliser product used to increase crop yields. Animal feed also requires potassium fertilisers. Between 1964 and 1997, animal protein consumption more than doubled in developing countries, from 10kg/year to

25kg/year; it is expected to reach 36.7kg in 2030, which is still low compared to the 79kg of meat the average person in the UK consumes each year. Local alternative mineral sources that are slow-releasing and cheaper than traditional ones would make global food production more secure.

Alternative sources of potassium include polyhalite, nepheline, potassium feldspar and verdete. Through cooperation between

governments and industry, these could be used to produce crop fertilisers. Potassium feldspar and nepheline exist in several African countries, including Malawi, and the former has been investigated as an alternative source of potassium for developing countries – it is locally produced and obtained through green chemistry processing. In Brazil, silicates are an alternative source of potassium for crop production, as is carbon sequestration.



# CONNECT

SOCIAL AND COMMUNITY NEWS FROM IEMA

## MEMBERS EVENT

### Businesses take a walk on the rewilding side

Rewilding is defined as restoring an area of land to its natural uncultivated state, with reference to the reintroduction of species that have been driven out or exterminated. There are many rewilding projects throughout Europe and the UK, including Carrifan Wildwood, Dingle Marshes, Great Fen, Wild Ennerdale and Knepp Castle Estate.

Back in March 2018, through our community interest company Climate Action North East and with the support of IEMA, we decided to run a series of events. The first was entitled 'Rewilding – An Introduction', and it was followed by 'Rewilding in Practice' and then 'Rewilding the Future'.

The latter, which took place in September, featured our main speaker Chris Packham (above). Our aim was to raise awareness of rewilding within the business sector, mobilise action for projects that could encourage smaller scale and more manageable rewilding, and kick-start partnerships and create future business collaboration opportunities.

To find out more about our future rewilding work, please contact us at [www.climateactionnortheast.org.uk](http://www.climateactionnortheast.org.uk)

Read the full event report at [bit.ly/rewilding\\_event](http://bit.ly/rewilding_event)



## IEMA FUTURES

### Autumn Budget 2018: Creating green corridors

Kirsty Peck argues that the Budget's funding for urban tree planting could be used to boost biodiversity in towns and cities

One of the environmental aspects of this year's autumn Budget was the government's dedication to increase the number of trees planted. This will be achieved with £10m of funding for street trees and urban trees, and with a Woodland Carbon Guarantee scheme, which will aim to support the planting of around 10m trees through the purchasing of £50m carbon credits for tree planting.

How could we use this funding for urban tree planting to counteract biodiversity loss in our urban environments? We could create new green spaces that act as 'stepping-stones' or 'green corridors' between previously established and now-isolated habitats. Increasing the connectivity of habitats in urban environments has the potential to recover and stabilise populations that are currently in decline by connecting them with other populations of the same species. Using the tree planting budget, we could connect and even save populations that are in decline. This process could be a fundamental part of improving and regaining biodiversity in urban areas.

Read the full article, visit [bit.ly/green\\_corridors](http://bit.ly/green_corridors)

QUOTE UNQUOTE



Delighted that @iemonet has been nominated for "Best Membership" at the International Content Marketing Awards tonight.... fingers crossed! **@IEMANET**

We're at the Camden Roundhouse for the 2018 @cma\_uk #contentmarketingawards, where we are nominated for Best Membership magazine for TRANSFORM. Keep everything crossed! **@IEMANET**



It's a full house for our Sustainability and Climate Change conference at #EMEXLondon! #sustainability #climatechange **#IEMA @IEMANET**



Chris Stark presenting to jam packed IEMA Climate Change & Sustainability theatre last week EMEX 2018. An update much appreciated by IEMA members and the many energy professionals who crammed in to listen. **@NBLYTHIEMA**



Many thanks to all of our speakers last week at IEMA Theatre within EMEX2018. Favourite image below... Thanks all – John Dora, Maria Pooley, Jamie Quinn, Johnathan Scurlock and many many more... **@NBLYTHIEMA**



Essential @iemonet @IEMA\_Transform reading on a train journey to Edinburgh – getting ready to deliver our #wastesmart training tomorrow. **@SHARONENV1**

# Connect

## WEBINAR

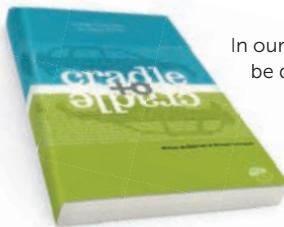
### BOOK CLUB: Cradle to Cradle by Michael Braungart and William McDonough

⌚ 22 NOVEMBER 2018

In our next interactive book club, we will be discussing a work that has become a classic in its authors' lifetimes – Michael Braungart and William McDonough's *Cradle to Cradle*. However, don't think that just because this book is widely read that the authors' arguments have been adopted by industry, or even accepted by sustainability professionals.

The authors mock the concept of eco-efficiency as 'making the wrong things less bad' and instead promote eco-effectiveness: redesigning products and buildings to make them nourish the world. Is this really possible, or just a green dream? Whatever your thoughts on this provocative book, join us to share them with our host, Marek Bidwell.

⌚ Book your place at [bit.ly/2OUqmkn](https://bit.ly/2OUqmkn)



## VISIT

### Wissington sugar factory

⌚ 13 DECEMBER 2018

Take the opportunity to explore how British Sugar has found new uses and markets for co-products that come out of the sugar-making process. The factories operate an advanced manufacturing model that avoids waste by turning process outputs into inputs for a wide range of co-products. This focus on driving up productivity has huge environmental benefits, including lower waste and carbon emissions.



⌚ To book, visit [bit.ly/2DON7oK](https://bit.ly/2DON7oK)

## WEBINAR

### 2019 with IEMA: setting the profession's voice for the year ahead

⌚ 9 JANUARY 2019

In this webinar, you will get an insight into some of the biggest challenges on the radar for our profession, and how IEMA is planning to tackle them. IEMA's chief policy advisor, Martin Baxter, will outline the key activities for the year ahead.

⌚ Book at [bit.ly/2DP4ISS](https://bit.ly/2DP4ISS)



# Quick links

## IEMA BREAKFAST BRIEFING

### Waste management: keep compliant and keep out of the headlines

⌚ 10 January 2019

Find out how good waste management compliance is a result of strong leadership, engaged people and robust process.

⌚ For more information and to book, visit [bit.ly/2RkUFTj](https://bit.ly/2RkUFTj)

## WEBINAR

### Trees and air pollution – an ironic duality

⌚ 17 January 2019

An event for those who are involved in planning, ecology or site works, or who want to learn more about how trees can benefit our environment.

⌚ For more information and to book, visit [bit.ly/2BG0MMU](https://bit.ly/2BG0MMU)

## SITE VISIT

### Saltire Print Centre

⌚ 12 January 2019

We will explore the print centre to discover the newsprint process and learn how the site minimises its environmental impact

⌚ For more information and to book, visit [bit.ly/2TYWc34](https://bit.ly/2TYWc34)

## MEMBERS' SUCCESSFUL UPGRADES

With so many members joining and progressing to Professional grades, we no longer have enough space in the pages of TRANSFORM to list these worthy achievements.

Head over to [iemajobs.net/blog](http://iemajobs.net/blog) to view the latest list of members who are celebrating their recent upgrades.

IEMA would like to congratulate everyone listed on their success.



Visit [www.iema-transform.net](http://www.iema-transform.net)  
for the full member profile



**Why did you become an environment/sustainability professional?** I have a background in print, communications and brand, but have always tried to live sustainably. Seeing the environmental impacts of the industries I work in (aviation and IT), I wanted to make a difference.

**What was your first job in this field?**  
Senior manager in corporate social responsibility at SITA.

**How did you get your first role?**  
I lobbied to create a role to look at CSR after looking at trends in the aviation and technology industry that SITA operates in. It covered both the environmental and social aspects, and had a global remit.

**What does your current role involve?** I look after a range of programmes globally, from our ISO 14001 certification management to CSR strategy and reporting, a community foundation and work on the UN Sustainable Development Goals. I've just started a new carbon remediation programme to mitigate our air travel impacts. It's busy!

**How has your role changed/progressed over the past few years?**  
There has been a shift from high-level thinking on what sustainability could

**"Sometimes you need to be pragmatic and set aside time to focus on one or two key areas for a while"**



CAREER PROFILE

## Amber Harrison FIEMA

Director, corporate social responsibility, SITA

mean to delivering against a strategy that's material to the business. Credibility through frameworks such as ISO, UNGC and the UN SDGs has also increased, and new legislation means new focuses.

**What's the best part of your job?**  
Looking back to where we started and seeing that a difference has been made – and sharing our journey with others.

**What's the hardest part of your job?**  
Balancing the priorities – sometimes you need to be pragmatic and set aside some time to focus on just one or two key areas for a while.

**What was the last development event you attended?** Edie's Sustainability Leaders Breakfast with BaxterStorey and Vodafone presenting.

**What did you bring back to your job?**  
That any business with the commitment and dedication can engage its teams to make a difference.

**What are the most important skills for your job?** Adaptability, influencing, engagement and determination.

Connect

**Where do you see the profession going?** I see it being a consultative part of any business, so that sustainability is considered part of corporate strategy, rather than being reactive.

**Where would you like to be in five years' time?** I'd like to be sharing the experiences I've had in my career with organisations or individuals looking to expand their own knowledge.

**What advice would you give to someone entering the profession?**  
Go for it. The breadth of opportunity is great, and it's hugely rewarding. IEMA is a great place to start. Try and talk to as many people in the profession as you can about what they do – most of us will willingly share our insights.

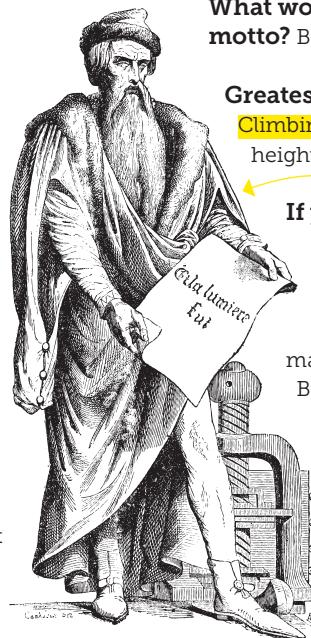
**How do you use the IEMA Skills Map?** It's a great way to introduce people to the scope and scale of the profession, and to show them the competencies they need to progress. It's also useful to review your own CPD opportunities.

**If you had to describe yourself in three words, what would they be?**  
Curious, driven, passionate.

**What motivates you?** Making a difference – whether in tangible terms, or by changing mindsets to think about sustainability as 'business as usual'.

**What would be your personal motto?** Be useful, be kind, be fair.

**Greatest risk you have ever taken?**  
**Climbing the Sydney Harbour Bridge** – heights are not my strong point!



**If you could go back in history, who would you like to meet?**

**Johannes Gutenberg.**

As the printer of the first major book (the Gutenberg Bible) using metal type in the 1450s, he started the revolution that brought access to information to a much wider audience, instead of just those who could afford it. [①](#)

# Energy from Biomass

Tuesday 15 – Thursday 17 January 2019

Overview of the status and developments in energy delivery from biomass combustion.

Delegates will gain a sound understanding of the fundamentals and practicalities of:

- basics of solid biomass combustion
- dedicated biomass installations
- solid biomass for electricity generation
- biogas and landfill gas for process heat and power generation
- and sustainability of biomass supply chains

# Industrial Air Pollution Monitoring

Monday 25 – Wednesday 27 February 2019

Broad overview of the management of emissions monitoring and manual and instrumental methods for particles and gases.

The course will focus on:

- Day one: regulatory framework, safety management and operator monitoring
- Day two: manual sampling for particles and gases, instrument performance, particulate monitoring
- Day three: calibration and data acquisition, gas analysis instrumentation

To view the full course programmes 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 8104

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



Climate Change  
Energy  
Food Security  
Low Carbon  
Poverty  
Public Policy  
Social Inequality  
Urban Sustainability  
Water Management



Enhance your career  
Study an MSc online

MSc Climate Change  
and Development

MSc Sustainable Development

[www.soas.ac.uk/cedep](http://www.soas.ac.uk/cedep)

TRANSFORM

IEMA

Transforming the world  
to sustainability

# EDUCATION FOCUS

Develop your career  
and enhance your skills

Winter 2018-19

INSIDE

## Training dates

Find a course to suit  
your next career step



# LEAD THE WAY IN ENVIRONMENTAL SUSTAINABILITY

Complete an MSc Sustainability and Environmental Management and pursue your career aspirations

Our part-time, online Sustainability and Environmental Management MSc has been designed to develop your confidence and know how to make a vital difference as an Environmental professional.

This is a highly relevant and up to date programme accredited by IEMA. Benefits include free IEMA student membership and exemptions for IEMA practitioners.

Learn more and apply  
[derby.ac.uk/IEMAonline](http://derby.ac.uk/IEMAonline)



University of Hertfordshire **UH**

## SHAPE THE FUTURE WITH EXCITING POSTGRADUATE COURSES

You can balance work with study through our flexible study mode that includes 2-3 days short courses. Give your career a boost by studying at the University of Hertfordshire.

### CHOOSE FROM:

- MSc Environmental Management with general, agriculture and water pathways
- MSc Sustainable Planing with general, transport and environmental management pathways



**CIWEM** Chartered Institution of Water and Environmental Management  
Accredited Course

Visit [go.herts.ac.uk/GEA](http://go.herts.ac.uk/GEA) or contact  
[admissionsenvman@herts.ac.uk](mailto:admissionsenvman@herts.ac.uk)

## DATES

# Training dates

## IEMA CERTIFIED FOUNDATION CERTIFICATE IN ENVIRONMENTAL MANAGEMENT

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
Throughout the year	Alcumus HSE Ltd	E-learning
17/12/18	Astutis Ltd	Warrington
7/1/19	Astutis Ltd	Cardiff
28/1/19	Astutis Ltd	Heathrow
28/1/19	Astutis Ltd	Wakefield
4/2/19	Astutis Ltd	Kensington
25/3/19	Astutis Ltd	Warrington
8/4/19	Astutis Ltd	Cardiff
13/5/19	Astutis Ltd	Wakefield
20/5/19	Astutis Ltd	Heathrow
17/6/19	Astutis Ltd	Kensington
1/7/19	Astutis Ltd	Warrington
Throughout the year	British Safety Council (BSC)	E-learning
Throughout the year	EnviroSolutions - Support and Training	E-learning
25/2/19	Mabbett and Associates Ltd	Glasgow
25/2/19	Mabbett and Associates Ltd	Belfast
18/3/19	Pivotal Scotland Ltd	Glasgow
10/6/19	Pivotal Scotland Ltd	Edinburgh
19/8/19	Pivotal Scotland Ltd	Glasgow
Throughout the year	RRC International	E-learning
11/3/19	RRC International	London
9/9/19	RRC International	London
23/9/19	RRC International	London

## IEMA CERTIFIED CERTIFICATE IN ENVIRONMENTAL MANAGEMENT

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
7/1/19	Astutis Ltd	Wakefield
21/1/19	Astutis Ltd	Heathrow
4/2/19	Astutis Ltd	Kensington
11/2/19	Astutis Ltd	Glasgow
18/2/19	Astutis Ltd	Darlington
18/3/19	Astutis Ltd	Cardiff
13/5/19	Astutis Ltd	Warrington
Throughout the year	Charburn Consulting Ltd	Applied learning
Throughout the year	Envirotrain Training	E-learning
Throughout the year	RRC International	E-learning

## IEMA CERTIFIED ENVIRONMENTAL SUSTAINABILITY SKILLS FOR THE WORKFORCE

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
7/1/19	Act Sustainably Ltd	London
4/2/19	Act Sustainably Ltd	Warrington
18/2/19	Act Sustainably Ltd	Southampton
4/3/19	Act Sustainably Ltd	Glasgow
18/3/19	Act Sustainably Ltd	Newport
8/4/19	Act Sustainably Ltd	Nuneaton
29/4/19	Act Sustainably Ltd	Darlington
13/5/19	Act Sustainably Ltd	London
3/6/19	Act Sustainably Ltd	Wakefield
24/6/19	Act Sustainably Ltd	Warrington
2/9/19	Act Sustainably Ltd	Southampton
16/9/19	Act Sustainably Ltd	Edinburgh
7/10/19	Act Sustainably Ltd	Newport
21/10/19	Act Sustainably Ltd	Darlington
4/11/19	Act Sustainably Ltd	Nuneaton
2/12/19	Act Sustainably Ltd	Wakefield
12/2/19	Green Business Centre	Bristol
26/3/19	Green Business Centre	London
30/4/19	Green Business Centre	Cardiff
25/5/19	Green Business Centre	Manchester
5/11/19	Green Business Centre	London



# Training

## IEMA CERTIFIED ENVIRONMENTAL SUSTAINABILITY SKILLS FOR MANAGERS

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
13/2/19	Green Business Centre	Bristol
27/3/19	Green Business Centre	London
1/5/19	Green Business Centre	Cardiff
22/5/19	Green Business Centre	Manchester
18/9/19	Green Business Centre	Birmingham
6/11/19	Green Business Centre	London

## IEMA CERTIFIED LEADING WITH ENVIRONMENTAL SUSTAINABILITY

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
Throughout the year	TSP	Bristol, Manchester, York, Birmingham, Reading

## IEMA CERTIFIED MAKING THE TRANSITION TO ISO14001:2015 COURSE

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
17/12/18	TSP	Reading
24/1/19	TSP	Bristol
26/2/19	TSP	Bristol

## IEMA CERTIFIED AUDITING TO ISO 14001:2015

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
26/3/19	Green Business Centre	London
30/4/19	Green Business Centre	Cardiff
21/5/19	Green Business Centre	Manchester
5/11/19	Green Business Centre	London
Throughout the year	TSP	Bristol, Manchester, York, Birmingham, Reading

## IEMA APPROVED INTERNAL AUDITING TRAINING

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
19/12/18	Bywater	Cardiff
16/1/19	Bywater	Manchester
30/1/19	Bywater	London
6/2/19	Bywater	Belfast
13/2/19	Bywater	Aberdeen
20/2/19	Bywater	Bristol
6/3/19	Bywater	Newcastle

## IEMA CERTIFIED LEAD ENVIRONMENTAL AUDITOR COURSE

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
16/7/19	Bywater	Northamptonshire
25/2/19	Green Business Centre	London
4/3/19	Green Business Centre	Cardiff
11/3/19	Green Business Centre	Manchester
1/4/19	Green Business Centre	Birmingham
10/6/19	Green Business Centre	Bristol
16/9/19	Green Business Centre	London
14/10/19	Green Business Centre	Manchester
11/11/19	Green Business Centre	Birmingham

## IEMA CERTIFIED INTERNAL ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS) AUDITOR COURSE

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
18/12/18	Bywater	Cardiff
15/1/19	Bywater	Manchester
29/1/19	Bywater	London
5/2/19	Bywater	Belfast
12/2/19	Bywater	Aberdeen
19/2/19	Bywater	Bristol
5/3/19	Bywater	Newcastle
29/1/19	Green Business Centre	Birmingham
12/3/19	Green Business Centre	Manchester
23/4/19	Green Business Centre	Cardiff
7/5/19	Green Business Centre	London
10/9/19	Green Business Centre	Bristol
1/10/19	Green Business Centre	London
Throughout the year	Marsden International (UK) Ltd	E-learning
Throughout the year	WSP UK Ltd	London/Manchester

COURSE	COURSE PROVIDER
• MSc Environmental Management • MSc Water & Environmental Management • MSc Environmental Management for Agriculture	University of Hertfordshire



CONTACT DETAILS:	LOCATION
admissionsenvman@herts.ac.uk	Hatfield, Hertfordshire, UK

Whether you are a graduate at the start of your career, working in business or an experienced practitioner wishing to expand your knowledge, our MSc courses in Environmental Management (various specialisms available) enable you to develop the knowledge and skills required to be at the forefront of the sector.

## IEMA APPROVED INTRODUCTION TO ENVIRONMENTAL LEGISLATION

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
23/1/19	Green Business Centre	Cardiff
30/1/19	Green Business Centre	London
20/3/19	Green Business Centre	Bristol
11/6/19	Green Business Centre	London
26/6/19	Green Business Centre	Birmingham
24/9/19	Green Business Centre	Manchester
6/11/19	Green Business Centre	Birmingham
28/11/19	Green Business Centre	Bristol

<b>COURSE</b> • MSc Sustainability and Environmental Management	<b>COURSE PROVIDER</b> University of Derby Online Learning 
<b>CONTACT DETAILS</b> UDOLenquiries@derby.ac.uk +44 (0) 1332 594000	<b>LOCATION</b> Online

Our part-time, online Sustainability and Environmental Management MSc has been designed to develop your confidence and know how to make a vital difference as an environmental professional. This is a highly relevant and up to date programme accredited by IEMA. Benefits include free IEMA student membership and exemptions for IEMA practitioners.

## IEMA APPROVED INTRODUCTION TO ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEMS

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
18/12/19	Bywater	Cardiff
15/1/19	Bywater	Manchester
29/1/19	Bywater	London
5/2/19	Bywater	Belfast
12/2/19	Bywater	Aberdeen
19/2/19	Bywater	Bristol
5/3/19	Bywater	Newcastle

## IEMA CERTIFIED EMS IMPLEMENTATION COURSE

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
Throughout the year	WSP UK Ltd	London/Manchester

## IEMA APPROVED ENVIRONMENTAL GOOD PRACTICE ON SITE

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
25/1/19	CIRIA	London
13/2/19	CIRIA	Plymouth
4/3/19	CIRIA	Manchester

## IEMA APPROVED HEALTH IN IMPACT ASSESSMENT

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
Courses are held upon request	Ben Cave Associates	Various, UK

## IEMA APPROVED ENVIRONMENTAL MANAGEMENT IN CONSTRUCTION

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
9/1/19	Act Sustainably	London
6/2/19	Act Sustainably	Warrington
20/2/19	Act Sustainably	Southampton
6/3/19	Act Sustainably	Glasgow
20/3/19	Act Sustainably	Glasgow
10/4/19	Act Sustainably	Nuneaton
1/5/19	Act Sustainably	Darlington
15/5/19	Act Sustainably	London
5/6/19	Act Sustainably	Wakefield
20/6/19	Act Sustainably	Warrington
4/9/19	Act Sustainably	Southampton
18/9/19	Act Sustainably	Edinburgh
9/10/19	Act Sustainably	Newport
23/10/19	Act Sustainably	Darlington
6/11/19	Act Sustainably	Nuneaton
4/12/19	Act Sustainably	Wakefield

## IEMA APPROVED GRI STANDARDS CERTIFIED TRAINING

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
7/2/19	FBRH Consultants Ltd	London
7/3/19	FBRH Consultants Ltd	London
2/5/19	FBRH Consultants Ltd	London

## IEMA APPROVED GRI STANDARDS CERTIFIED TRAINING

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
Throughout the year	Green Gorilla Consultants Ltd	E-learning

**BOOK**  
a training  
session here:  
[iema.net/training](http://iema.net/training)



- COURSE**
- Foundations in Public Participation
  - Three-day Planning for Effective Public Participation
  - Two-day Techniques for Effective Public Participation

**COURSE PROVIDER**

Essential Planning Ltd, on behalf of the International Association for Public Participation (IAP2)

**CONTACT DETAILS:**

Tanya Burdett, director,  
Essential Planning Ltd  
tanyaburdett@essentialplanning.eu

**LOCATION**

University of Westminster,  
London

Foundations in Public Participation was designed with the input of successful practitioners who work with diverse populations and divergent circumstances throughout the world. Divided into two modules, each focusing on major phases of public participation, planning and techniques, participants receive a certificate of completion from IAP2 for attendance.

**IEMA APPROVED ENVIRONMENTAL MANAGEMENT IN CONSTRUCTION**

COURSE START DATE	IEMA TRAINING PARTNER	LOCATION
8/1/19	Act Sustainably Ltd	London
5/2/19	Act Sustainably Ltd	Warrington
19/2/19	Act Sustainably Ltd	Southampton
5/3/19	Act Sustainably Ltd	Glasgow
19/3/19	Act Sustainably Ltd	Newport
9/4/19	Act Sustainably Ltd	Nuneaton
30/4/19	Act Sustainably Ltd	Darlington
14/5/19	Act Sustainably Ltd	London
4/6/19	Act Sustainably Ltd	Wakefield
25/6/19	Act Sustainably Ltd	Warrington
3/9/19	Act Sustainably Ltd	Southampton
17/9/19	Act Sustainably Ltd	Edinburgh
8/10/19	Act Sustainably Ltd	Newport
22/10/19	Act Sustainably Ltd	Darlington
3/12/19	Act Sustainably Ltd	Wakefield



**LOOKING FOR A ROUTE TO  
COMPLY WITH ESOS?  
ISO 50001 HITS THE MARK.**

Having a certified ISO 50001 Energy Management System in place by 5<sup>th</sup> December 2019 is one route to complying with ESOS.

At Lucideon, our specialist auditors have extensive experience across all sectors - manufacturing, retail, power, corporate and service sector.

From multi-site organisations to complex energy-intensive sectors we will work with you to ensure that the certification process is efficient, cost-effective and meets your business objectives.

**NEXT SUBMISSION DEADLINE  
(PHASE 2 OF ESOS) - 5<sup>TH</sup> DECEMBER 2019**

Tony Summers,  
Lucideon Auditor

Find out more at  
[www.lucideon.com/esos](http://www.lucideon.com/esos)

**LUCIDEON**

# We are transforming the world to sustainability. Can you help lead the change?

IEMA is already the largest environment and sustainability body in the world, with 14,500 members in over 100 countries. Right now we are powering up to optimise our capability and influence across the globe, and that means we need the right people on board, at every level.

**We are looking for a new Chair of the IEMA Board** to provide direction and guidance at a truly strategic level. This vacancy presents an exciting opportunity for an ambitious and visionary professional who has previous Board level experience and wants to play a part in shaping a sustainable future.

## Does this sound like you?

The Chair will lead the Board to deliver a clear and continuous strategic direction for the Institute as we grow in size and influence. This means holding the Board and Executive Team to account for the Institute's ambitious vision, providing strong leadership to the Board of Directors, and supporting, championing and challenging the Executive Team. If you are the successful candidate, you will ultimately act as an international ambassador for IEMA and the Environment & Sustainability Profession alongside the Chief Executive.

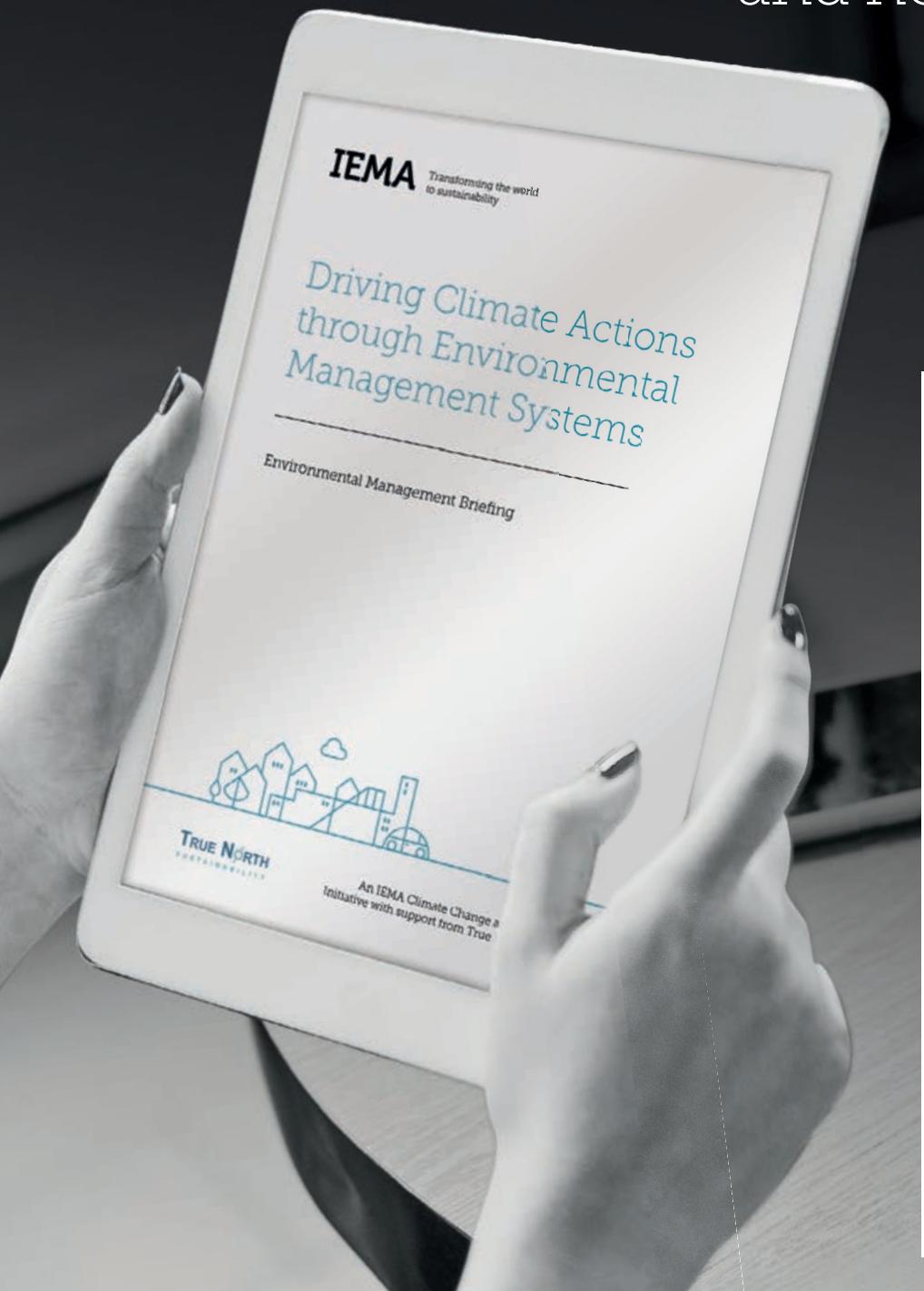
---

Find out more and download  
your application pack at  
**[iema.net/about-us/vacancies](http://iema.net/about-us/vacancies)**.

The application closing date for this position is **Friday 11th January 2019**.

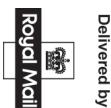


Explore a whole year of  
guidance, advice, support  
and new knowledge



Download all of 2018's  
guides and much more at  
**iema.net/reading-room.**

If undelivered please return to:  
IEMA, City Office Park,  
Tritton Road, Lincoln, LN6 7AS.



Delivered by  
Royal Mail

