

TRANSFORM

FOR ENVIRONMENT AND SUSTAINABILITY PROFESSIONALS

Environment ●
Economy ●
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February 2019
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GREENWASH OR HOGWASH?

Whether accidental or
intentional, dubious
sustainability claims are
on the rise



PLUS

Business case Nick Molho on moving to a low-carbon economy

One step at a time Using water footprints to mitigate shortages

Legally liable Why company directors need to get a grip on slavery

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MARTIN BAXTER, IEMA CHIEF POLICY ADVISOR

Stepping up to the plate

Welcome to the first TRANSFORM of the new year. The year ahead promises to be one of significant challenges and opportunities for the profession.

The biggest challenge will be working through the UK's exit from the EU and ensuring that vital environmental and social policies and protections are retained. As a member of the Defra Legislative Sounding Board, which is providing pre-parliamentary scrutiny, oversight and advice on the transposition of EU law into UK law, it is striking how much time and effort is being given to maintaining, as far as possible, the status quo. So too with the initial draft Environment Bill, which, in large effect, is seeking to fill the environmental governance gap arising from Brexit.

However, the opportunities could far outweigh the challenges, and IEMA's focus during the coming year will be capitalising on these opportunities. Our work as part of the Broadway Initiative (www.iema.net/broadway) sets out proposals for an ambitious, world-leading Environment Act that could have a transformative effect of truly integrating environmental systems thinking into our economic and social systems. From a high-level policy framework through to place-based decision-making, it is essential that we have clear and predictable expectations in place to give certainty for investors about what needs to be protected and improved. We're delighted that key business organisations such as FSB and CBI, together with environmental NGOs, professional bodies and leading academics, are supporting the proposals. We'll be engaging with members to ensure the profession plays a leading role as the government's proposals are finalised and the parliamentary process begins.

It seems we're at a tipping point, with the environment and sustainability becoming mainstream issues for the economy and society. The public is demanding action, and whether it's by cutting down on single-use plastic or moving towards plant-based diets, behaviour is changing.

As a profession, it's essential that we support organisations to move from being part of the problem to being integral in the development of sustainable solutions.

"It seems we're at a tipping point, with the environment and sustainability becoming mainstream issues"



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.

IEMA

City Office Park, Tritton Road,
Lincoln, Lincolnshire, LN6 7AS
tel: +44 (0) 1522 540069
info@iema.net | www.iema.net

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
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ROUNDUP

ENVIRONMENT &
SUSTAINABILITY
NEWS AND VIEWS

INTERNATIONAL

Geopolitical tensions hindering climate action, says WEF

Rising geopolitical tension is the most urgent risk facing the world this year and is making it harder to tackle climate change, a survey of nearly 1,000 experts and decision-makers has found.

Published in the World Economic Forum's (WEF) Global Risks Report 2019, the findings show that 90% of respondents expect hostility to grow between major powers this year.

This will leave the world's ability to muster collective action against global challenges at "crisis levels", according to the report, with environmental threats accounting for four of the top five perceived risks for 2019.

These include extreme weather events, water crises, climate change mitigation and adaptation failure, and natural disasters. Biodiversity loss is also ranked among the top risks.

This comes after a year of historic wildfires, continued heavy flooding and

increased greenhouse gas emissions, along with worsening US-China relations and growing tension between the UK and the EU.

"The tension between the globalisation of the world economy and the growing nationalism of world politics is a deepening risk," the report states.

"Against this backdrop, it is likely to become more difficult to make collective progress on global challenges like protecting the environment, and the results of climate inaction are becoming increasingly clear."

A growing frequency in extreme weather events is also expected to increase the level of infrastructure investment needed to respond to climate change and transition to a low-carbon economy.

The report states that \$97trn of investment is needed by 2040, but that only \$79trn is forecast during that time, with this "infrastructure

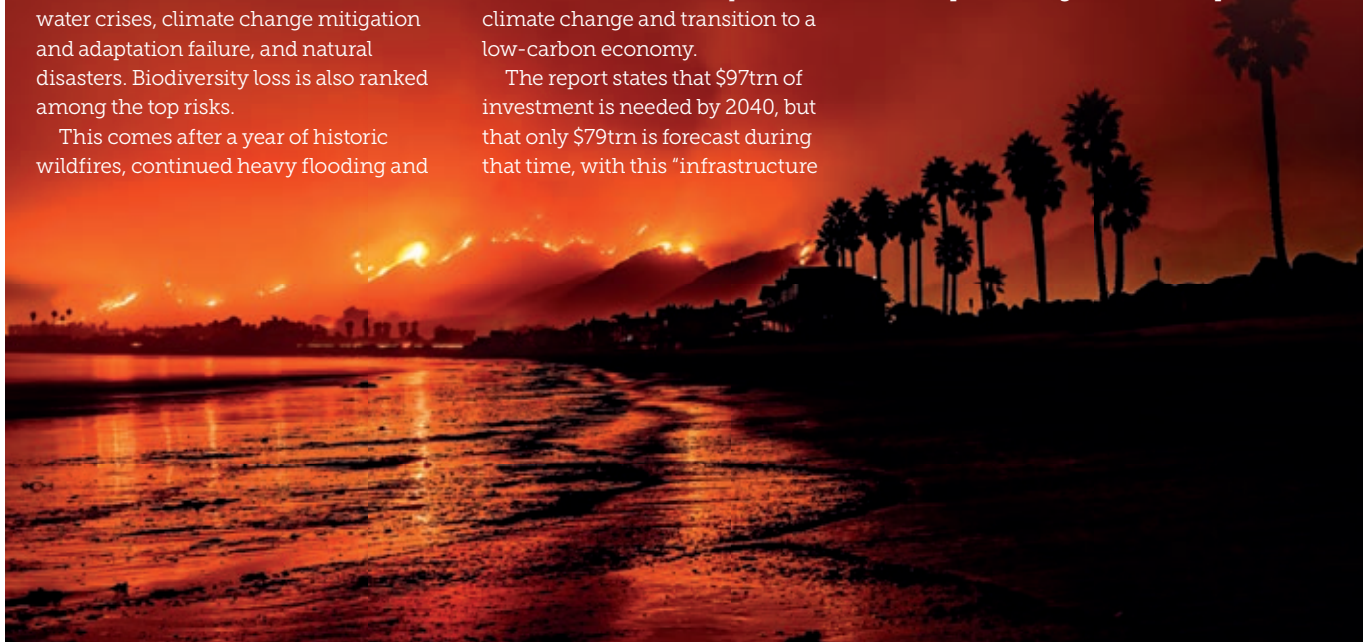
gap" likely to widen amid rising floods and droughts.

Zurich Insurance's group chief risk officer, Alison Martin, said it was important for businesses to develop a climate resilience adaptation strategy in response, and to "act on it now".

Moreover, the report highlights biodiversity loss as a "particular concern", with species abundance thought to have reduced by 60% since 1970.

"In the human food chain, biodiversity loss is affecting health and socioeconomic development, with implications for wellbeing, productivity and even regional security," it concludes.

► **Report link:** www.weforum.org/reports/the-global-risks-report-2019





BUSINESSWATCH



Alliance to End Plastic Waste

Nearly 30 companies have committed to invest more than \$1bn on developing

solutions to eliminate plastic waste, including Mitsubishi and Total. The Alliance to End Plastic Waste said it would design infrastructure to manage waste and increase recycling, and also support technologies to create value from post-use plastics.

It hopes to increase investment to \$1.5bn during the next five years, and will also help clean up areas with concentrated plastic waste.

bit.ly/2Dg1EbG



M&S removes 'best-before' dates from fruit and veg

Marks & Spencer is trialling more than 90

lines of fruit and vegetables without 'best-before' date stickers in a bid to reduce food waste. The retail giant will also introduce trained greengrocers to give customers tips on preserving produce, and sell loose items.

M&S head of food sustainability, Louise Nicholls, said: "We're proud to launch a series of market-leading initiatives without compromising on food quality and contributing to waste."

bit.ly/2RzP1kk



European utility giants launch sustainable finance hub

EDF, Orsted and

ENGIE are among 17 European utility companies that have teamed up to form the Corporate Forum on Sustainable Finance. Representing more than two-thirds of sustainable bonds issued by major European companies, the group said it was well placed to develop more innovative financing instruments.

The group said it would also help set future standards and regulations, and discuss how to deeply integrate socially responsible investment criteria into assessments of companies' financial sustainability.

bit.ly/2HfyQE4

FINANCE

Record year for sustainable finance market

The sustainable finance market surged by 26% last year on the back of rising demand for green bonds and sustainability-linked loans – making 2018 the seventh consecutive record year for sustainable financing, with \$247bn (£192bn) worth of debt instruments raised.

These are used to finance projects with environmental or social benefits, and are increasingly issued by governments and corporations to raise money for green initiatives.

"The markets are responding, with new products emerging such as green loans, green commercial paper and sustainability-linked loans," said Dan Shurey, head of green and sustainable finance at BloombergNEF, which

compiled the data.

While green bonds continue to make up the largest part of the market, issuance grew by just 5% last year, compared to 68% in 2017, while sustainability-linked loans surged 677%. These are loans linked to the sustainability performance of the borrower. Last November, for example, French electricity company EDF agreed a €4bn credit facility tied to its environmental targets.

Meanwhile, green sovereign debt hit \$17.6bn in 2018, rising 64% from the previous year as countries like Belgium and Ireland continued to raise funds for climate change mitigation and adaptation.

ETHICS

European Investment Bank sued over loan to biomass plant

Environmental lawyers are taking the world's largest multilateral financier to court after it "failed to apply crucial environmental scrutiny" before financing a biomass plant in Spain.

ClientEarth said the European Investment Bank (EIB) made "numerous errors" when assessing the project, and that its €60m loan breached its own funding criteria for responsible renewable energy generation. The law charity is now seeking a ruling from the European Court of Justice after the EIB refused to review its decision last year.

"This case shines a light on the lack of transparency in the EIB's approach to funding projects, some of which have a

huge environmental impact," ClientEarth lawyer, Anna Heslop, said.

Experts described the Curtis-Teixeiro biomass plant at the centre of the loan as having "very low efficiency", and said the amount of energy produced in comparison to the fuel burned was considerably low. This comes after the European Ombudsman asked the EIB – which invests around €80bn in projects annually – to increase transparency of its lending activities last May.

"Despite using public money, the EIB provides only minimal information about its funding decisions and refuses to subject those decisions to the scrutiny required by EU law," Heslop added.





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MEMBERSHIP

Why is CPD important?



At IEMA, our mission is to help our members build their knowledge, better map their careers and excel in their roles, but just how much of your activity are you evidencing?

Continuing Professional Development is a way to showcase each step you take towards major career goals, keeping your knowledge, skills and capabilities up to date and on track. Continuous learning is an important part of career growth, demonstrating your competency to employers.

To help support you through this process and ensure you get the most from your CPD goals, we've put together some important steps to map your success:

1. Keep a record

If you forget to record what you achieve, it will become much more difficult to reach your goals. A clear record shows others that you are dedicated to your profession, and that you are well informed of any changes to important policies, regulations, legislation, standards and practices required of you as a professional.

2. Set yourself goals and activities

Goals establish what you want to achieve and help you plan the best types of activities to help get you there. Setting goals highlights gaps in your knowledge and helps you bridge those gaps.

Activities can range from training courses to reading articles and attending workshops. As long as the type of learning relates to your career goals and demonstrates to your employer that you are committed to developing your knowledge and abilities, then there's a wide range of activities to get involved with.

3. Make logging CPD records simpler

Because it's such an integral part of your working life, it's important that logging your goals and learning is both simple and convenient. That's why we have developed a new, useful and easy-to-use dashboard and portal system to help you record all activities.

The online CPD portal allows you to easily plan, record and reflect on your learning each year. Simply log in, set up a profile and you're good to go. IEMA members can easily log into the new CPD portal with the following steps:

1. Log into MyIEMA
2. Follow link to CPD
3. Select your profile and begin.

If you are not an IEMA member and would like to talk to us about how CPD can benefit your career environment and sustainability, contact us at professional.standards@iema.net at any time. Or, if you have any questions about CPD or the IEMA CPD portal, simply get in touch.

For more information about CPD, please see our useful video: iema.net/cpd
Any questions? Check out these useful FAQ's: iema.net/cpd/cpd-faqs

QUOTE UNQUOTE

Looking forward to delivering a keynote address to the Westminster Energy, Environment and Transport Forum's Seminar: The future for environmental principles and governance post-Brexit today!

[@MBAXTERIEMA](#)

Enjoying reading my Fellow membership pack for [@iemanet](#). Thrilled to be invited into this network and looking forward to engaging and collaborating with other Sustainability thought leaders and driving change. 2019 is off to a good start!

[@ANNA_LISAMILLS](#)

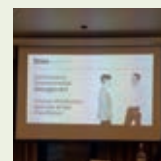


It's great to see that our chief policy advisor, [@mbaxteriema](#), has been mentioned in [@envanalyst](#)'s latest article 'Gove unveils draft Environment

Bill and waste strategy' buff.ly/2CXwUw8
[#EnvironmentBill](#) [#Environment](#)

[@IEMANET](#)

And so it begins... my IEMA course: Certificate in Environmental Management with [@Astutis](#) [@iemanet](#) [#CPD](#) [#EducationForFuture](#) [@LOSETHEPLASTIC](#)



& that's it! Brilliant workshop by [@iemanet](#) [@cieemnet](#) on mandatory [#biodiversity](#) [#netgain](#) for the UK. Be part of these exciting next steps!

[JULIA BAKER](#)

Biodiversity Technical Specialist at Balfour Beatty Construction Services UK



IEMA FUTURES

Get involved in Futures

IEMA Futures is a network of students, graduates and young professionals who are passionate about environment and sustainability issues. This member-led network provides tailor-made events and activities designed to prepare our members to be future leaders of the profession.

Hear talks by industry-leading experts, participate in interactive event workshops and take part in a programme of events that ensures you have what it takes to make change. By attending our events, you will expand your knowledge, connect with like-

minded individuals and stay up to date with the profession to ensure you're positioned to kick-start your career.

Futures' first event of 2019, 'Brexit: what does it mean for the environment?', kicks the events programme off on 6 February. Go to iema.net/events to book.

Come along to debate, discuss, shape and inform topics that really matter. Join IEMA Futures.



IEMA Futures members meet with IEMA COO Maria Turnbull-Kemp (left) and head of marketing Emma Buyers (second from left)

Together, we can transform the world to sustainability.

For more information about joining the Futures network or simply to find out more about what we do, go to

iema.net/futures

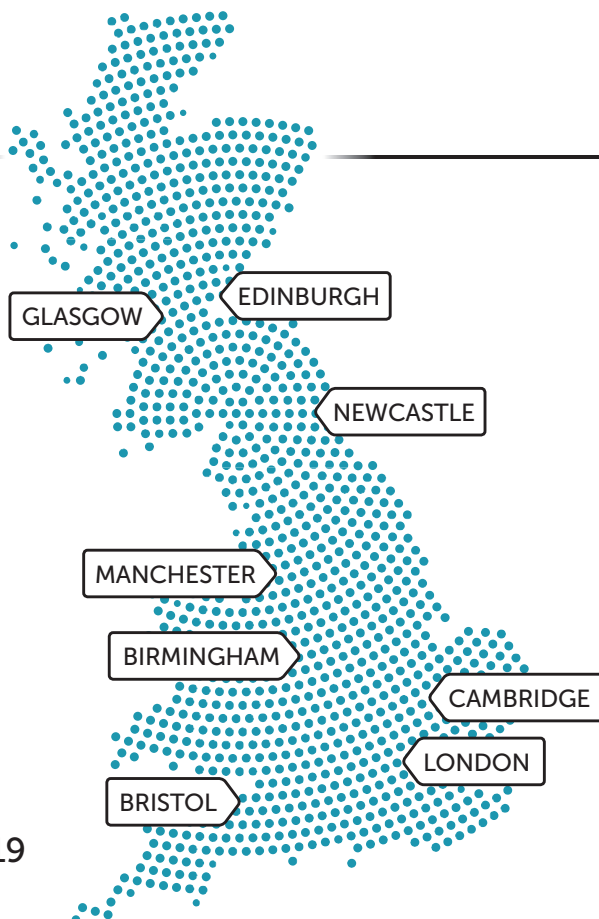
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iema.net/policy/ia/ia-roadshows-2019



NEW REGULATIONS

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**22 NOVEMBER 2018**

Pollution prevention and control

The Environmental Protection (Miscellaneous Amendments) (England and Wales) Regulations 2018 make various changes, including to the Environmental Permitting regime, to improve performance at permitted waste sites. They also introduce a fixed penalty notice for breaches of the new household waste duty of care.

cedr.ec/5o9
**21 DECEMBER 2018**

Planning

The Building (Amendment) Regulations 2018 amend the Building Regulations 2010 to prohibit the use of combustible materials within the external walls and certain attachments to the external walls of high-rise buildings.

cedr.ec/5o7
**1 JANUARY 2019**

Waste

The Waste Electrical and Electronic Equipment (Amendment) (No. 2) Regulations 2018 amend the main Regulations to implement the open scope principle to bring all electrical and electronic equipment into scope and retain the current UK product categories, and make membership of the Producer Compliance Schemes Balancing System mandatory.

cedr.ec/5pg
**17 JANUARY 2018**

Air emissions

The Fluorinated Greenhouse Gases (Amendment) Regulations (Northern Ireland) 2018 make updates to existing legislation to set new requirements for some sectors of industry which use fluorinated greenhouse gases. As a result, several new offences are established.

cedr.ec/5o8
**PENDING**

Regulator

The Draft Environment (Principles of Governance) Bill contains proposals for how the environment will be regulated by the Office for Environmental Protection once the UK leaves the EU.

cedr.ec/5o2
**18 DECEMBER 2018**

Waste

The Department for Environment, Food and Rural Affairs has published a new waste strategy for England which aims to set out how raw resources will be preserved; help move towards a circular economy; minimise damage to the natural environment; help tackle waste crime; and eliminate all 'avoidable' plastic waste.

cedr.ec/5o4
**18 DECEMBER 2018**

Waste

The Department for Environment, Food and Rural Affairs has released a guidance document which establishes a food and drink waste hierarchy to be applied by the food and drink industry to eliminate or reduce the amount of waste it produces.

cedr.ec/5o5
**27 DECEMBER 2018**

Waste

The Department for Environment, Food and Rural Affairs seeks views of the public on the plans to extend the Single-use Carrier Bag Charge to all retailers, as well as increasing the minimum charge to 10p per bag.

cedr.ec/5o0

INCOURT

POLLUTION

Polluter served 'notice of liability'

The Environment Agency has served a 'notice of liability' on Omex Agriculture Ltd following a pollution incident that resulted in at least 100,000 fish being killed.

The agricultural and fertiliser company was responsible for what has been described as the worst river pollution ever recorded in Lincolnshire, when ammonia entered the River Witham in March last year.

The notice was served under the Environmental Damage (Prevention and Remediation) Regulations 2015 and is only the second the Agency has issued since the Regulations came into place. Under the notice, Omex Agriculture is required to develop plans for repairing the environmental damage caused to the river.

The ammonia affected the river from Bardney to the Wash and severely impacted its condition and ecosystems. ManFai Tang, environment

manager at the Agency, commented: "We know the pollution had a devastating effect on delicate river ecosystems, and issuing this notice means the process of helping the river recover to its natural, healthy state can start sooner."

"It's one way we're working to protect and improve our environment for local people and wildlife. We look forward to receiving proposals from Omex for review, and working with it to restore the Witham."

Environment Agency experts and biologists worked with other organisations following the incident in order to clean up and mitigate the damage. Fisheries teams have since restocked the river with 1.5m fish larvae, including bream, roach and tench. They have also re-introduced roach and bream between 30 to 40mm long.

The Agency is continuing to investigate the circumstances of the pollution, and may yet take separate action under the Environmental Permitting Regulations (England and Wales) 2016.



OTHER NEWS

Pollution benefits environment charities to sum of £2.2m

Figures have been released that show environmental charities and projects will benefit from more than £2.2m in payments made as a result of enforcement undertakings agreed with the Environment Agency.

Companies and individuals will make payments for various environmental offences, such as the pollution of rivers and the sea, and failing to recover packaging waste. A total of 15 charities and projects will benefit from the money, which will be put to good use by local groups on projects that benefit the environment, including cleaning up and enhancing parks, rivers and beaches.

The latest list includes the Agency's largest ever financial contribution of £975,000, which was offered by Wessex Water Services Ltd in November 2018 for an environmental offence that included sewage spills in Swanage in Dorset. In this case, £400,000 will go to Dorset Waste Partnership, £400,000 to Purbeck District Council and Swanage Town Council, £100,000 to Dorset Litter Free Coast and Sea Project, and £75,000 to Durlston Country Park and Nature Reserve.

It is significant that the companies that agree an enforcement undertaking have accepted liability, demonstrated restoration of harm and will make improvements to avoid future offences.

It is becoming increasingly common to see the Environment Agency using enforcement undertakings as an opportunity to restore or enhance the environment, improve practices of the offending business and help ensure future compliance with environmental requirements.

However, it stressed that prosecutions will still be taken in the most serious cases.

CASE LAW

Appeal brought by Boots UK Ltd dismissed

The appeal sought in Boots UK Ltd v Severn Trent Water Ltd has been dismissed. The manufacturer sought the appeal against a judgement that the water and sewerage undertaker did not owe it alleged overpaid trade effluent charges.

The question of the appeal was whether a mixed liquid comprising surface water and effluent produced in the course of a trade or industry was 'trade effluent' within the meaning of the Water Industry Act 1991 and thus liable to charges.

Boots UK manufacturing processes gave rise to trade effluent, which was discharged into private sewers and metered to calculate trade effluent charges. Before the effluent reached the meter it was mixed with surface water that

had not been discharged through designated surface water outlets. The mixture was discharged into a public foul water sewer. Severn Trent Water charged for trade effluent to the mixed liquid passing through the meter and charged for surface water drainage by rateable value or area.

Boots UK argued it should only be charged for the trade effluent, not the mixed liquid containing surface water, and sought reimbursement. Severn Trent Water argued that the entirety of the mixed liquid was a trade effluent within the meaning of the Water Industry Act 1991. The

original judge agreed.

At appeal, the judge concluded he agreed with the original judge that the mixed liquid of surface water and trade effluent was still a trade effluent within the meaning of the Water Industry Act 1991, and Boots UK was liable to charges.

He commented: "It seems to me that there is an entirely rational purpose for treating a mixed liquid as falling with the definition of trade effluent. The mixture of trade effluent and surface water is still contaminated water, and will need to be treated in a different way from surface water". The appeal was dismissed.



Down to business

Nick Molho is a leading advocate of the business case for strong environmental regulation. The Aldersgate Group executive director tells **Huw Morris** about the major opportunities in moving to a low-carbon economy

On one level, Nick Molho sees the transition to a low-carbon economy as a fascinating debate of ideas. On another, he sees a firmer objective. For the executive director of the Aldersgate Group, it is a major opportunity for business.

Aldersgate is an alliance of leaders from across the business community, as well as politics and civic society, which lobbies for a sustainable economy. It is quietly gaining more and more clout behind the scenes. Increasingly, alarming climate change warnings from the world's scientists are the global backdrop for its work, but the UK context for Aldersgate is the government's 25-year environment plan and crucial forthcoming legislation.

With a background as an energy lawyer at CMS Cameron McKenna, and as head of climate and energy policy at the World Wide Fund for Nature UK (WWF-UK), Molho is steeped in the challenges posed by climate change, low-carbon growth and international development. These roles were fertile ground for what he does today.

PHOTOGRAPHY: GETTY/SHUTTERSTOCK



◀ Molho argues that the UK is well-placed to reap the benefits from a transition to a resource-efficient, low-carbon economy

“Everything we do is across the economy. We would never advocate in favour of one sector”

“As a lawyer, I was doing very interesting work for investors and energy companies, learning a lot about how an industry works, the considerations that make or break investment in a project, and how regulation and policy can impact on a business negatively or not, depending on how it’s done,” he says.

“A lawyer supports clients in developing projects, but you don’t take part in the debate of ideas that ultimately shapes policy, goals, targets and regulation. I was keen to help a wide range of businesses shape what should be the governmental, environmental and climate priorities and see if you can meet them in a way that is economically sound while creating opportunities.”

The transition to a more resource-efficient, low-carbon economy is a golden opportunity, he argues, reeling off sector after sector where the UK is particularly well-placed to make an international mark – from supply chains and offshore wind manufacturing to green finance and more efficient building engineering design.

Strength in breadth

At first glance, Aldersgate’s membership is an unlikely alliance. A random sample of supporters reveals Aviva Investors, Bank of America Merrill Lynch, BT, Michelin and Tesco rubbing shoulders with Friends of the Earth, the RSPB and Woodland Trust. It is a hybrid organisation that is part campaigner, part forum, part thought leader and part lobbyist, all while publishing original research on environmental policy and its implications for business. Its strength is in its different members, Molho argues.



Environmental plans must be backed up by legislation in order to succeed, Molho believes

“We are ultimately about making the business case for strong environmental policy,” he says. “We do that by having a cross-economy membership, with a few members across each sector. We are not trying to be as big as possible, because we are more interested in breadth. The more breadth we have, the more authoritative and thought-through our policies will be.”

Aldersgate goes about its work by regularly publishing an array of policy briefings, research reports and opinion pieces, using this material to engage policymakers. Each year, it holds around 100 critical meetings with MPs, peers, ministers and civil servants across Whitehall, as well as the business community. All this is backed up by roundtables and various other events to debate its latest research findings and ram home key messages.

“Everything we do is across the economy,” says Molho. “We would never advocate in favour of one sector against another. It’s the subject matter we are focused on – we are not driven by the considerations of one sector or company.

“Our work is very driven and targeted on policy input, but based on evidence and business case studies. We are always thinking about the environmental integrity of what we say while ensuring it is combined with an astute economic perspective on how you can deliver environmental gains in the most sustainable way.”

A global example is the Paris Agreement, signed in 2016, which aims to keep the world’s temperature rise this century to less than 2°C above pre-industrial levels, and to pursue policies to limit the temperature increase even further to 1.5°C. Molho says this opens the door for UK exports, whatever the presidents of the US and Brazil may think. He cites estimates by the International Finance Corporation, part of the World Bank, that up to \$23trn of investment will be needed in low-carbon technology to deliver the Paris Agreement during the next 15 years.

“The UK is well-placed to compete in these markets and already employs around 470,000 people,” he says. “We have multiple strengths in



areas such as electric vehicles, offshore wind manufacturing, information and communications technology to help customers cut their energy use and carbon emissions, as well as smart energy installation and energy-efficient building design. We also have many big consultancies with a lot of expertise. Then there is renewable, wave and tidal energy, green finance and battery storage – all areas where we can develop industrial strength.

"It's a growing market and it's only going to get bigger in the next 15 years. We have a strong foundation for this market as we have made an early start in developing policies and innovation in those areas."

The importance of legislation

Closer to home, the government's 25-year environment plan and forthcoming environmental bill offer an immediate agenda. Molho welcomes some aspects of the plan, particularly its key goals for the natural environment and the principle of reversing the damage done to it. The prime minister's presence at its launch alongside the environment secretary was a noteworthy statement of intent. However, Molho has a stinging caveat.

"The 25-year plan sends some important policy signals to business, but it is just a plan and a piece of paper. If you're in business, you might be sympathetic to what the plan says about improving air and water quality or restoring soils – but there is only so much you are going to do on the back of a plan that may be completely overturned or modified by the next government. It sets a good vision, but for it to be credible it needs to be accompanied by legislation. That's why the environment bill is so important."

Molho was one of the key stakeholders behind the Broadway Initiative's recent blueprint for the forthcoming legislation. This must have two key functions, he argues: "The first is that we maintain the same level of regulatory enforcement on

"The 25-year plan sends important policy signals to business, but it is just a plan and a piece of paper"

environment law after we have left the EU. We need an independent watchdog that is able to take legal action as a last resort against government departments or public bodies if there is clear and persistent non-compliance or improper application of environmental law."

"Second, we should use the environment bill not just to ensure we stand still, but to go beyond the status quo and deliver the natural environment improvements envisaged by the 25-year plan, making them a legal requirement.

"Once you have that, you have a structure that businesses can invest in. You know the goals, you know there is an independent body scrutinising the government's progress against them and you know policies will be in place to make it easier for you to invest your money and get a return on it."

His message to any government is robust: well-designed, properly implemented and rigorous environmental regulations deliver significant economic benefits. Yet Molho also acknowledges the problems. Consistent and complementary policies are vital. He was particularly annoyed by the government's cancellation of the zero-carbon homes requirement in 2016, arguing that "businesses work on long-term timescales, they don't work well in a chopping and changing landscape".

Molho is also concerned about potential gaps between policies and the goals they aim to achieve. "A target with a policy undermining it does not take you very far," he says. "We need policies that support innovation in key sectors such as agriculture and energy-intensive sectors like cement, steel, aviation and shipping. But we need to ask what the transition risks are.

"As we move to a heavily decarbonised economy, are there industries where the



A CAREER PUSHING FOR CHANGE

- 2014** Executive director, Aldersgate Group
- 2013** Head of climate change policy and energy, WWF-UK
- 2010** Head of energy policy, WWF-UK
- 2004** Energy law solicitor, CMS Cameron McKenna
- 2003** Oxford Institute of Legal Practice
- 1999** Studied English law and German law at the University of Kent at Canterbury/Philipps Universität Marburg

changes will be quite tricky in the short and medium term, because the effects on service levels and equipment are significant? What support can we give to industries while they make those changes?

"For policies that encourage growth in renewable energy or electric vehicle manufacturing, you need to invest in skills to make sure the UK workforce is supported by what they are taught in the education system. Are we equipping younger generations with the skills they need in a low-carbon economy when they hit the job market? And what do you do for the people who might need to change industries?"

Despite the scale of the challenge – and the disastrous consequences that await if we fail to meet it – Molho is optimistic.

"During the next 30 years we need a revolution in transforming the economy, and it has to happen at a scale and pace that is more pronounced than anything we saw in the 20th century. That requires multiple actions on multiple fronts, but also a very coordinated approach so that one area does not adversely impact another.

"There are big changes ahead but the UK is well-placed to develop innovation. There are a lot of reasons to believe the UK can turn this into a concrete industrial opportunity." 

HUW MORRIS is a freelance journalist

The need to tackle global warming and consequent climate breakdown is growing in urgency. We know that we need to take drastic action by 2030, which is just over 10 years away.

The first thing any organisation must do is reduce energy consumption – but even after the most rigorous energy reduction programme, there will be some residual carbon emissions. These can be offset by supporting projects that combat deforestation, create woodland, generate renewable energy and improve energy efficiency. This ‘charismatic’ brand of carbon offsetting has additional benefits, such as community development, recreation and habitat improvements. As well as the social and environmental benefits, organisations that do this benefit from an enhanced reputation, and can engage customers by offering the option of carbon neutral products.

Some local authorities have made commitments for their jurisdictions to become carbon neutral. By offsetting residual carbon emissions, your organisation would be supporting these local ambitions as well as national targets. This could keep you one step ahead of any fiscal or regulatory changes implemented to support such targets.

Many carbon offsetting projects take place in developing countries, but there is an option closer to home. The UK government’s standard for woodland carbon projects – the Woodland Carbon Code (WCC) – now has verified credits available to purchase. All projects are validated and verified by UKAS-accredited third parties, giving confidence that they really are sequestering carbon. Every project relates to the creation and management of new woodland that wouldn’t have been able to go ahead without this additional funding stream. Only 80% of the sequestered carbon is sold, creating a contingency to cover any unexpected carbon losses.

Most organisations that offset via a WCC project don’t simply want to tick a box so that they can claim to be carbon neutral. They want to be a part of a story of regeneration in the UK, with benefits that are far wider than just the carbon capture. During the lifetime of an average WCC project, the social and ecological

benefits include £70 of recreational benefit per tonne of carbon captured, almost £10 of air quality improvements and more than £20 of biodiversity improvements. These projects also contribute £7 per tonne to GVA (Gross Value Added). This is an order of magnitude higher than the sale price of units, which makes carbon offsetting through the WCC great value for money.

WCC projects are also tangible to the participants. As they are UK-based, stakeholders can relate to them, and possibly even visit them. It gives a real sense of satisfaction to be able to walk in a woodland or watch it grow and know that you helped to make it happen. This makes staff tree-planting days particularly popular.

It might be reasonable to expect that a scheme like this in the UK would cost more per tonne of carbon sequestered than those overseas, but costs are broadly comparable with those for Gold Standard carbon offsets – a verified charismatic carbon offsetting scheme set up by WWF for developing countries.

In practice

Most organisations taking part are SMEs, although there are some larger organisations involved. Slough Borough Council, for example, planted a new woodland on its own land and uses the WCC to validate and verify the value for its greenhouse gas reporting, rather than selling the units to others.

Fuel card company Allstar, meanwhile, offers carbon offset fuel. This gives it a great story to tell customers, which it does via an animated video on its website. It also simplifies matters for customers, who don’t need to participate in the offsetting market directly. To date, Allstar has bought from 44 WCC projects and supported the planting of more than a million trees.

Waitrose offsets the emissions from home deliveries, and is working with the Woodland Trust to create a 50-hectare woodland in Cumbria. The company feels that this has given it a strong marketing message for all of its stakeholders, and improved staff engagement through popular tree-planting days. 

JULIA GOODFELLOW-SMITH MIEMA CENV is a director of Quest for Future Solutions, a woodland owner and a freelance writer

The Woodland Carbon Code presents an opportunity for organisations to offset their carbon emissions in a way that engages the public, says

Julia Goodfellow-Smith

Codegreen





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Richard Andrews reports on how the Environment Bill can help businesses progress in the UK following Brexit

Opportunity knocks

The government's intention to bring forward the first Environment Bill in more than 20 years, building upon the 25 year environment plan, was announced in July 2018. This bill is intended to clarify how we can reduce our impact on the environment and ensure that environmental protections do not deteriorate as Brexit progresses.

Once the UK leaves the EU, existing environmental principles that are currently set out in EU treaties will not apply. The European Commission can act if it considers that EU law is not being properly implemented, referring cases to the European Court of Justice where necessary.

The UK government's environmental principles and governance consultation in May 2018 did not suggest equivalent enforcement powers for the proposed independent body to address this governance gap. However, this consultation was superseded by the European Union (Withdrawal) Act 2018, giving the government six months to publish a draft Environment Bill and including a minimum set of environmental principles, a duty on the Secretary of State for the Environment to publish a policy statement on the interpretation and application of those principles, and provisions to establish a new body to take enforcement action when environmental law is breached.

Legal enforcement powers should remain available, albeit as a last resort, when environmental law is breached – particularly as the consistent application of environmental regulations is key for creating a level playing field that supports business investment.

Preserving the future

Fundamentally, the Environment Bill should include provisions that deliver upon the government's intentions, going forward. The bill will establish an independent environmental watchdog and incorporate environmental principles into UK law, and represents a unique opportunity to provide a legal basis for the government's environmental ambitions in the 25 year environment plan.

The Withdrawal Act did not include provisions for forward-looking objectives in the draft Environment Bill, as Defra has focused on the parts it is legally obliged to deliver. However, a

separate statement could be issued, setting out the government's intentions in this area, once the final bill is introduced in 2019. The Environment Bill is therefore an important opportunity to define long term and measurable goals that help improve the state of the environment and give businesses clear signals that they should invest in environmental improvements. Specific and measurable targets could be established in legislation to cover, for example, improvements to air and water quality, soil health, peatland restoration, net biodiversity gain and the UK economy's resource efficiency – all reinforced by clear milestones.

Once in legislation, these goals can be used to form environmental policies in the medium term and to provide long term policy direction to business. They would also help create a supportive policy and regulatory framework after Brexit, ensuring the government is accountable for the delivery of the set goals.

An environmental body equipped with independent advisory and scrutiny powers would be able to report on the development of government policy to deliver the goals.

Economic benefits

If implemented properly, the bill could also bolster the British economy. When

launching the 25 year environment plan in January 2018, Theresa May recognised that investing in natural assets and improving the economy's resource efficiency is vital to the UK's competitiveness.

While some feel environmental regulations hinder economic growth, recent research commissioned by the Aldersgate Group (of which Ramboll is a member) suggests that well-designed and properly enforced environmental regulations could deliver positive economic outcomes in the form of increased business investment in innovation and skills, better quality products and infrastructure, greater business competitiveness and job creation.

The legal guidelines provided by the Environment Bill will help to shape the UK's environmental policies post-Brexit. It is vital that measurable goals and an effective regulator are included in the Bill, so it sends a clear message for investment and innovation in environmental improvements. We can help the UK become a world leader in this field by tapping into the green economy. 

RICHARD ANDREWS PIEMA is a managing principal at Ramboll

"Legal enforcement powers should remain available"

Carbon footprints can help us mitigate climate change, and water footprints can do the same for water management, explains **Rick Gould**

Strong evidence suggests that over-consumption is the principal cause of water scarcity. Global freshwater use has increased nearly sevenfold during the past century, while water withdrawal has consistently outpaced population growth since 1940. Unsustainable water use creates crises – so much so that, in 2014, the World Economic Forum declared the potential impacts of water crises to be the largest worldwide environmental and social risk.

A deepening crisis

“We see water crises worsening all over the world and increasing water scarcity,” says Rick Hogeboom, executive director of the Water Footprint Network (WFN). “Four billion people live in a region of water scarcity for at least one month of the year.”

No aspect of life – ecological, agricultural, political, social and economic – is unaffected by water shortage. “All economic activity depends on clean water, and water scarcity means an economic downturn,” explains Hogeboom. In 2016, for example, the World Bank predicted a 6% fall in global GDP by 2050 if water scarcity continues to grow.

Is climate change the issue here? “The real problem is our growing population and affluence,” says Hogeboom. Affluence means more consumption, higher energy use and a diet richer in meat – all activities that involve high water consumption. Measuring and monitoring water use is a starting point for tackling the problem, and this is where ‘water footprints’ (WFs) can play a key role. What are they, and how can we use them?

Tracking the footprints

A WF is the total volume of water needed to produce and use a product or service during its life-cycle. This includes the water sources, whether these are direct or indirect. The concept was developed by

The shape of water

Professor Arjen Hoekstra in 2002, when he was working at the UNESCO-IHE Institute for Water Education. He wanted to create a metric to measure the amount of water consumed and polluted to produce goods and services along their supply chain.

Hoekstra himself explains further. “That same year, we were the first researchers to estimate WFs of different countries by tracing indirect water use in international trade.”

Traditionally, water use was gauged by simply looking at freshwater abstraction and where the water was used. Hoekstra saw that this was simplistic and wanted to develop a methodology that included transboundary flows. This method also calculates ‘virtual water trade’, which is the water virtually embedded in traded commodities. In this sense, virtual water is analogous to embedded carbon.

A WF considers three components – green, blue and grey water footprints – and considers both direct and indirect water-use. “A multi-dimensional WF tells

“In simple terms, a WF is the total volume of water needed to produce and use a product or service during its life-cycle”

you when and where water is consumed and polluted,” says Hogeboom. “It gives more information than just a national withdrawal of freshwater.”

Hoekstra and his team have examined the WFs of hundreds of crop and animal products, and traced all virtual water flows between nations, calculating WFs from product level up to national level. The data revealed that many countries are either net importers or net exporters of water – and it is environmentally risky for a country to be a long-term net water exporter, especially if there is a net overall loss in supplies.

Research into action

Researchers worldwide have embraced WFs since 2002, and their results are enabling a growing number of organisations to manage water more sustainably. Hoekstra and his team, for example, have characterised WFs for numerous products: *Figure 1* shows the WFs for several widely used animal and plant-based products. Hoekstra’s team has also researched the WFs of different European diets, finding that southern European consumers typically have a larger WF than those in northern Europe, due to higher meat consumption. Europe collectively appears to be a large importer of water: about 40% European consumers’ WF lies outside Europe. Consuming less meat will reduce Europe’s WF considerably.

As the research evidence grew, Hoekstra’s team further developed the WF methodology and processes of

flow mapping, water-use accounting, efficiency and sustainability assessments. The result was a comparable and scientifically robust metric, while the methodology evolved into the Water Footprint Standard in 2009. The concept was strengthened when companies such as Coca-Cola and Unilever saw the value in using WF assessment to identify risks and reduce their impacts.

The Water Footprint Network sprang from this work, evolving in order “to maintain the Standard and serve as a focal point for research, data and exchanging information,” according to Hogeboom.

Two steps forward

The International Standards Organisation (ISO) has also developed a standard, ISO 14046, for calculating WFs. How does it compare to the Water Footprint Standard? “Our standard is a volumetric measure of pressure on water, whereas ISO 14046 is a measure of impact,” says Hoekstra. “There is some overlap, but they have different aims.”

The Water Footprint Standard is a generic approach that can be applied to assess the WF of products, companies, individual consumers and even countries, whereas the ISO standard focuses on “estimating environmental impacts of water consumption, and does not include rainwater or polluted water,” Hoekstra explains. As such, it is aimed at assessing environmental impacts of water use of

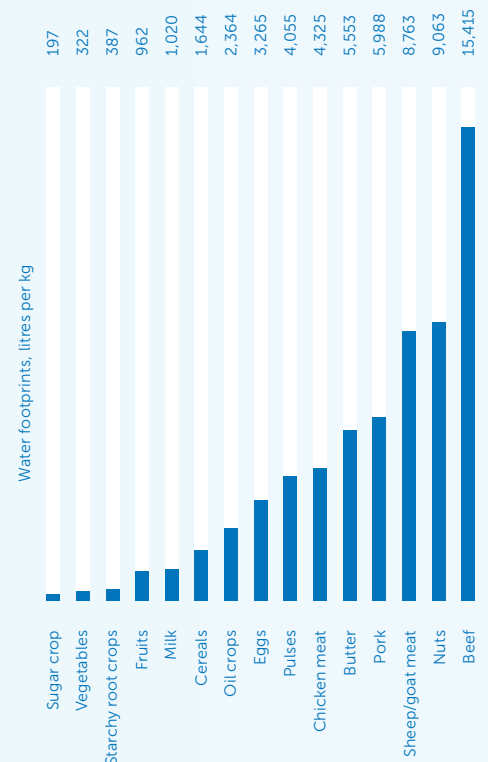


Figure 1: Water footprints for common foods and products

Source: Mekonnen MM and Hoekstra AY. A global assessment of the water footprint of farm animal products. *Ecosystems*. 2012; 15(3): 401-415.

products in the context on a Life Cycle Assessment (LCA) and the ISO 1404x series of LCA standards. In this way, the WFS and ISO 14046 serve different and even complementary roles.

Hoekstra is hopeful that the role of WFs will develop further and become more prominent. “I expect that, in due time, companies are going to set WF reduction targets – not only for their own operations, but for their supply chains as well,” he says. He has also proposed that governments would find it beneficial to set WF caps for river basins. “Without any agreed limit to water consumption and pollution, how can we expect to stop water depletion and pollution beyond the carrying capacity of a water basin?”

RICK GOULD, MIEMA CENV, is a technical advisor at the Environment Agency. He is writing in a personal capacity

A THIRSTY PLANET

- Biofuels production has increased significantly during the past decade, with a big impact on water demand. One litre of biofuel needs between 1,000 and 4,000 litres of water to make it.
- From 1996 to 2005, the global annual average WF was 9,087 gigametres³. About one-fifth of the global WF relates to production for export.
- The global annual average per capita WF is just under 1,400m³. The average US consumer has a WF of about 2,850m³.
- About 91% of a consumer WF is due to the consumption of agricultural products, 5% is from industrial goods and 4% is from domestic water use.
- Water abstraction strongly correlates with industrialisation, energy consumption and population growth. The biggest growth in demand is in Asia. Demand is stable in Europe, but the UK is still one of eight nations that the European Environment Agency regards as water-stressed.
- A meat-rich diet consumes disproportionately high amounts of water and energy, with beef being the ‘thirstiest’ meat product.
- Europe is a net importer of virtual water due to its meat-rich diet and international food trade.

A green bill of health

Imagine the life cycle of a sterile plastic water bottle, used in a hospital theatre. Oil is extracted from the ground, shipped to a plastics refinery and transformed into plastic. It is moulded, transported to a supplier, bought by a hospital, picked up by a nurse, opened and used.

Then it is thrown in the recycling bin and (hopefully) recycled – although, globally, only 9% of plastics are recycled, according to a research article in *Science Advances*. Of the rest, 12% is incinerated – often disseminating harmful toxins into the atmosphere – and 79% goes to landfill. Our obsession with plastic has left it piling up all over the planet.

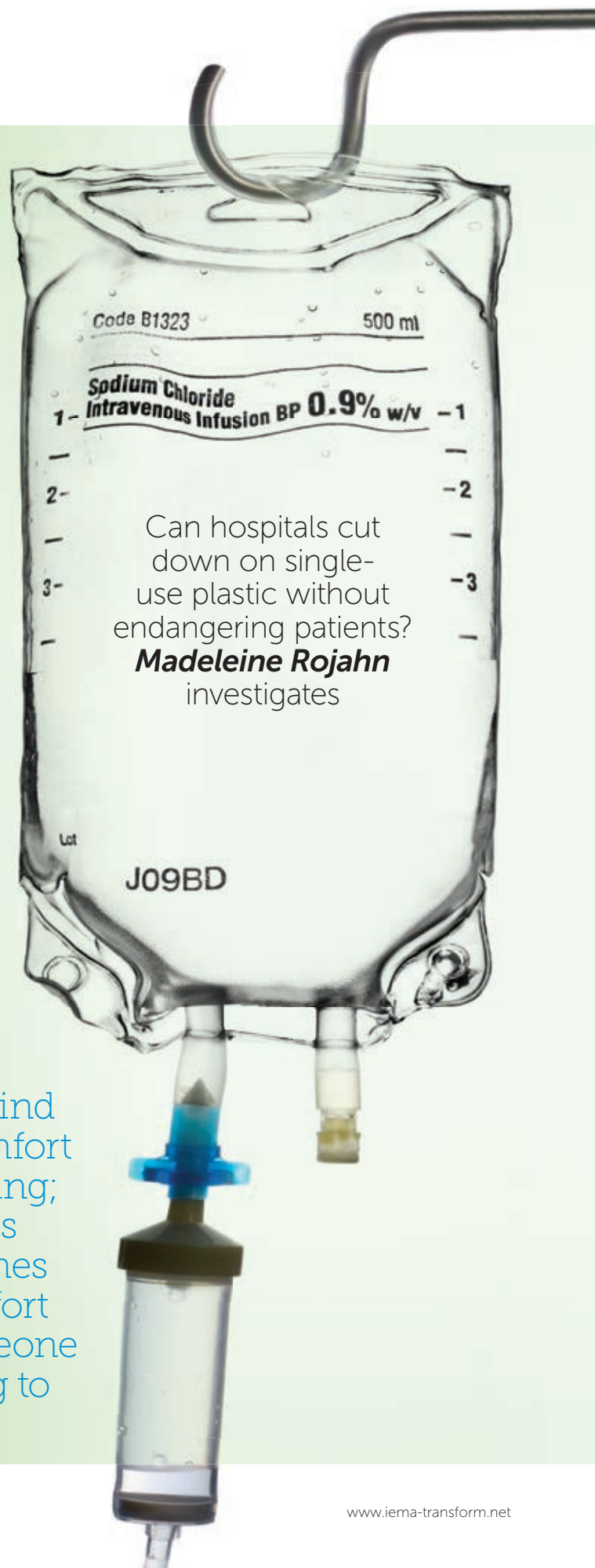
Hospitals are lagging behind in the fight against plastic: the use of single-use and disposable plastics is growing as they seek to cut costs and maximise infection control and convenience. Hospital plastics take many forms, such as excessive packaging, oxygen masks and various containers, including petri dishes and bedpans.

According to a 2018 NHS report, the NHS produced just over 58,000 tonnes of landfill waste in 2017-18 – costing £11.7m. Incineration disposal cost another £25.6m for 74,700 tonnes of waste.

The procurement question

On a more positive note, the NHS has actually committed to reduce the waste it creates. The NHS Sustainability and Development Unit (SDU) has made a series of commitments to the environment, including a commitment to reduce landfill

“People find more comfort in recycling; reuse is sometimes more effort than someone is willing to go to”



Can hospitals cut down on single-use plastic without endangering patients?
Madeleine Rojahn investigates

by improving recycling systems and relationships with waste suppliers.

Bureaucracy, however, can be tough to surmount – especially when sanitation standards must be met. Clare Topping, energy and sustainability manager at Northampton General Hospital, says that in order to push greener procurement, one needs to first source a reusable device, understand the exact situations in which it can be used, find the capacity to clean it efficiently, and get clinical ‘buy-in’ – meaning understanding and agreement from prospective users. One problem, she says, is that people find more comfort in recycling; reuse is sometimes “more effort than someone is willing to go to”.

“When patient safety is always top of the agenda, do they spend their time on something that’s directly related to patient safety, or on trying to prove something’s okay from an environmental perspective?” she asks.

Ruth Stringer, policy coordinator for the international organisation Health Care Without Harm, says infection control should not be a significant barrier to achieving greener practices: “It is a lazy argument, I don’t think it is backed by evidence.” She believes infection control risks are often overestimated, and that, with proper management, infection can be minimised along with environmental concerns.

The World Health Organisation’s (WHO) Blue Book states that, generally, between 75% and 90% of waste produced by healthcare facilities is non-hazardous, and between 10% and 25% is identified as hazardous, thus requiring careful disposal.

Cheap and toxic

Due to a focus on lowering costs, cheaply made plastics such as polyvinyl chloride (PVC) are prevalent in many medical devices, particularly IV lines and bags. “IV lines are necessarily single use, but they need to be made of non-toxic materials that are readily recyclable,” says Stringer.

The WHO identifies PVC as the most difficult plastic to recycle, as it contains an array of additives, and recommends it is “avoided wherever possible” in healthcare because of concerns over toxicity. Latex, polyethylene and silicone are safer and easier to recycle materials suitable for replacement of PVC medical equipment, although they are more expensive. Some European

❗ The use of single-use and disposable plastic is rising in hospitals, as they attempt to cut costs



✔ Attitudes towards sanitation can make it difficult to improve reuse rates



states are currently phasing out PVC due to its harmful nature.

Procuring potentially harmful plastics that are harder to recycle or non-recyclable is appealing, due to their low-cost – but why are these materials so inexpensive? According to Stringer, it’s because nobody pays the environmental cost: “Manufacturers make all this stuff disposable and it creates problems downstream. We need

extended producer responsibility initiatives to put the cost back onto manufacturers, who need to be part of making sure that functioning recycling facilities exist.”

Management of sustainability aspects varies throughout hospitals and trusts within the NHS, which Topping sees as a weakness: “I think it can be a problem that there is a lot of variety in management levels of sustainability. The Sustainability and Development Unit has recently put out a lot of guidance, but it’s only a small team.”

Thanks to this lack of capacity, she says, there is not much focus on efforts that do not directly benefit the hospital. “If you look at the whole picture, most emphasis will be on energy savings, justified from a financial perspective. Waste is not as high a priority because the spend isn’t high, and if you put it in a business case, it’s more difficult to make investments.”

However, studies have been done to show how green action can benefit hospitals in the longer term. A case study by Global Green Hospitals found that at the Renal Dialysis Centre of the Newcastle upon Tyne Hospitals NHS Trust, the implementation of two new pieces of recycling equipment saw an additional 90 tonnes of materials recycled, saving £7,000 in annual disposal costs and just under 50 tonnes of carbon dioxide.

When you imagine the extensive amount of energy used throughout the life-cycle of that single sterile water bottle, one may wonder how, today, we consider it more strenuous to simply wash an item and reuse it. ❶

MADELEINE ROJAHN is a freelance journalist

The right side of the law

Colleen Theron looks at the legal liabilities directors face over human rights and modern slavery

The International Labour Organisation estimates that nearly 40.3 million people in the world today are held in modern slavery, including 24.9 million in forced labour. This means that there are 5.4 victims of modern slavery for every 1,000 people in the world.

A complex and expanding regulatory web now governs global business and human rights violations, and companies can be held criminally liable for any direct use of forced labour, or involvement in human trafficking. There is an increasing global trend for strengthening the accountability of institutions to ensure that senior managers are held personally liable for instances of corruption and bribery. This is reflected in the changes being made to UK corporate governance regulation and to the UK Criminal Finances Act 2017. Corporate directors can no longer afford to remain ignorant of modern slavery in their supply chains.

This article will look at the corporate director's fiduciary duty to monitor and eliminate modern slavery, with reference to the UK Modern Slavery Act 2015, the



recent reforms to the UK Corporate Governance Code, and in particular Section 172 of the Companies Act 2006.

Directors' duties

Both the modern slavery act (MSA) and the amendments to Section 172 include increased reporting requirements for directors and companies, in order to ensure that companies provide information on how they are managing their social and environmental impacts. This includes steps they are taking to combat modern slavery in their organisations and supply chains.

Section 172 imposes a general duty on every director to act in good faith to promote the success of the company for the benefit of shareholders. When making decisions and setting policies, directors must consider effects on the supply chain, the community, the environment and the company's reputation. The new legislation requires the strategic report for a financial year to include a statement on how directors have given regard to the matters set out in Section 172. This is to be published on the company website.

Section 54 of the MSA requires organisations that meet the threshold of the legislation to publish annual slavery and human trafficking statements. The statement has to be approved by the board of directors (or equivalent managing body) and signed by a director (or equivalent).

The board of directors is responsible for the governance of their company, and there are now multiple human rights-related legal risks to business that expose directors and officers to personal liability if they fail to address human rights, or misrepresent the effectiveness of corporate human rights governance.

In addition to statutory duties, directors also have fiduciary duties. A fiduciary relationship is a relationship of trust, placing a duty on company directors to act within in good faith, ethically, and in the best interests of the company.

Incurring liabilities

Where a director is found liable for breach of Section 172 to the extent that they have not complied with the requirements of publishing the statement on the website, they can be found guilty of an offence, liable on summary conviction to a fine.

Under Section 54 there is no criminal liability for a director who fails to comply with the provisions of the MSA, although they can be held personally liable for criminal liability in the event that they are found guilty of human trafficking offences.

"There are now multiple human rights-related legal risks to business that expose directors and officers to personal liability"

Directors may, however, be found liable for breach of fiduciary duties where, for example, they have failed to exercise their duties of good faith, or not made a business judgment in good faith, or acted deceitfully or dishonestly. Examples of failure to act with reasonable care, skill and due diligence when signing off the annual modern slavery statement include:

- Failing to get enough information to understand the risks to the business
- Not getting the approval of the board for the statement
- Not ensuring the statement complies with the requirements of the law
- Failing to exercise due care and diligence when determining what steps the company is taking, or should be taking, to tackle slavery in the organisation and its supply chains
- Failing to act in good faith in the company's interests as a whole (for example, not providing the resources needed to identify the risk of slavery in supply chains, or dismissing any risk in the first place)
- Failing to ensure that public disclosure

is underpinned by robust records of company due diligence procedures.

Good governance

The establishment of good corporate governance rules and sufficient due diligence processes may protect directors from allegations that they have breached their duty of care. Directors should consider how they can discharge their duty under Section 172, as well as meet their fiduciary duty under the MSA, by taking the following practical steps:

- Consider the culture of the company and make it consistent with 'doing the right thing'
- Understand the legal disclosure requirements relating to modern slavery and human rights in all the jurisdictions the company operates
- Consider how the company's activities and the board's decisions will impact on its suppliers, customers, employees, the community and the environment
- Consider whether sufficient information has been provided to make informed decisions
- Understand which policies and procedures need to be put in place to ensure the company has proper due diligence processes, and to support the company's culture and strategy
- Consider what training is required to ensure directors understand how to manage the risk of human rights abuses and modern slavery, and provide guidance
- Understand the impacts of Section 172 considerations for directors of subsidiary groups and joint venture companies.
- Ground any commitments in business-specific frameworks, such as the UN Guiding Principles on business and human rights.

It is also important however, not to just adopt a checklist approach, but to consider modern slavery reporting as part of holistic corporate risk management. 📌

COLLEEN THERON FIEMA is CEO at Ardea International

Glossing over the truth

Misleading claims about the sustainability of products – greenwashing – has become more common, says **David Burrows**. What can be done to control it?

Last year, Ancol Pet Products claimed that a product it was selling, Refill Poop Bag Rolls, was “biodegradable to lessen your dog’s impact on the environment.” As it turns out, the claim itself was a load of crap.

Following a complaint made to the Advertising Standards Authority (ASA), Ancol couldn’t prove the product was biodegradable. “No testing or evidence of the claims had been provided to demonstrate the bags’ ability to biodegrade,” the ASA ruled, meaning the company was in breach of UK advertising codes and had to remove the advert. In other words, it was a greenwash.

It will be news to nobody that companies often create misleading marketing that promotes a product, service or brand as more eco-friendly than it really is. However, this particular case is significant – because in the post-Blue Planet era, dubious sustainability claims are on the increase. Has David Attenborough inadvertently fuelled a surge in greenwashing, and if so, how can it be stopped?

Early promise

According to the Oxford Dictionary, greenwash is ‘disinformation disseminated by an organisation so as to present an environmentally responsible public image’. A decade or so

ago, it was a major problem, and regulators were struggling to keep up. “This is new, almost virgin territory for us,” admitted Chris Smith, a former Labour minister and then-chairman of the ASA. “We are breaking new ground and this is a growing area, as we are increasingly finding that advertisers are using green claims to sell their products and services and to give them an edge over their rivals.”

In 2006, the ASA received 117 complaints about environmental claims in 83 adverts. A year later, it was 561 complaints about 410 adverts, with the likes of Suzuki, Shell, Ryanair and Toyota all censured. In their desperation to be seen as green, many companies got out their greenwashing brushes – but it wasn’t always deliberate. “Most greenwash is due to ignorance and/or sloppiness rather than malicious intent,” noted the sustainability consultancy Futerra in its guide to the subject.

Still, it was easy for campaigners to identify bad apples and flag them to the ASA so that, before long, stories would be splashed across the newspapers. The Guardian had its own dedicated email address for the subject, while Greenpeace launched a stopgreenwash.org website. In the space of a couple of years, companies became so fearful of ‘killer’ publicity that the number of complaints quickly dried up. ASA figures published in *Marketing* magazine at the end of 2009 showed that 158 ads referencing the environment had attracted complaints so far that year, compared with 264 for the whole of 2008. Was the



"In the post-*Blue Planet* era, dubious sustainability claims are on the increase"

initial flurry of green claims a reflection of early 'quick wins' that required little in the way of genuine product or brand shifts? Did companies clean up their acts? Or did sustainability fall out of fashion following the recession?

It was probably a mixture of all three. A decade on, though, the environment is back in vogue, thrust into the social and political spotlight thanks to the issue of plastic consumption and pollution. As *The Guardian* noted recently: "The public backlash has undoubtedly brought a serious environmental problem to the attention of the highest level of government and business, and convinced them it is a winning issue."

The new wave

Fail to act on plastic these days and you are labelled a sinner. Businesses and politicians are desperate to be seen as green and are making the same mistakes. Some fibs have already been exposed. The disposable paper cups so ubiquitous on the high street, for example, were touted as 'recyclable' for years – but only 1 in 400 was actually recycled. The exposure has given industry a kick, but the new figure – 1 in 25 cups recycled – puts a positive spin on a recycling rate of just 4%. Indeed, increased recyclability and recycling claims have attracted the loudest cries of greenwashing from NGOs, says Robert Blood from campaign tracking firm Sigwatch. "NGOs are pushing industry to accept reduced use, rather than increased recycling, as the proof point of sustainability."

Interest in biodegradable packaging has also surged on the back of anti-plastic feeling, with companies eager to switch to options that are supposedly more sustainable. Straws are an example of this: some of the largest firms in the food service and hospitality sector have ditched plastic straws in favour of 'eco-friendly' alternatives such as paper and compostables, but with

little thought given to where the items end up. "I'm not sure that some of the companies understand the full value chain impacts of their decisions," Stuart Hayward-Higham, technical development director at waste management group Suez, told me recently.

Using plastic doesn't look good, but what does 'good' look like? This can be hard to determine and very circumstance dependent, admits Mark Hilton, head of sustainable business at Eunomia, an environmental consultancy that has been working with a variety of global brands on their plastics strategies. "There's a lot of confusion about which materials to use, and it's not confined to food and drink," he says. "In fashion, for example, over-simplistic claims are often made about bamboo and other cellulose-based fabrics, ignoring the chemically-intensive manufacturing impacts."

Many of Eunomia's clients are considered in their approach and want science-based advice before they make a move, but plenty of others have gone ahead and publicised their initiatives without understanding all the pros and cons. "The use of terms such as 'sustainable' and 'degradable' without any real justification is also still common," Hilton says.

Truth telling

There are three golden rules when it comes to truthful green marketing. The first is to avoid vague terminology, such as 'eco' and 'biodegradable'. There is growing support for brands to ban the latter word in reference to packaging; the Foodservice Packaging Association has argued that it is "misleading for the public, many of whom erroneously believe it is acceptable to litter biodegradable packaging".

The other two rules are: make sure it's not misleading (for example, comparisons with other products must be fair,



and any pictures used must relate directly to the benefit you're claiming), and stick to objective and transparent data (for example, consider the whole life-cycle of the product). Soda Stream, for example, used a certification from the Carbon Trust – which compared the carbon footprint per 250ml of sparkling water produced using its home drinks maker with the same amount of bottled sparkling water – to convince the ASA that the phrase 'eco-friendly' was justified in a 2016 green marketing video.

How many businesses adhere to these rules is a moot point, especially when there's a bandwagon steamrolling through the corporate sustainability space. Analysis for Defra in 2010 showed that, of 4,492 claims made across 3,234 items (both products and services) in 32 sectors, one in 10 were 'general' and 'non-specific' (for example, using the term 'eco-friendly' without any support or certification). In 2011, the Coalition government updated guidance to companies making claims. This guidance ran to 40 pages, advising firms on everything from the use of images to carbon neutrality. However, there was little specific help for those advertising online.

Seven years later, the guidance has been slimmed down to a single page on the department's website. This hardly seems sufficient given the way the marketing landscape has changed, with digital tech and algorithms having taken over. As Solitaire Townsend, co-founder of Futerra, put it in a blog for *Forbes* in 2018: sustainability needs to live on social media. Thousands of sustainability reports are published every year,

"Businesses and politicians are desperate to be seen as green, and some fibs have already been exposed"

packed with social and environmental revelations, but most are buried away in ancient formats or on sub-sub-pages of corporate websites. "It's almost as if those answers are deliberately hidden from the young consumers asking the questions," she noted.

Once bitten, twice shy, perhaps? A year on, though, plastic has given many brands the confidence to talk publicly about sustainability again. In opening up, they once again run the risk of greenwashing, of course, and the stakes could not be higher. Consumers – especially the younger ones, well-versed in social media – are savvier, more critical and more demanding than ever, suggests Josh Ford, founder of marketing and communications agency Enviral. "People share things that are amazingly good or amazingly bad – that's contagiousness." What represents good or bad remains far from clear-cut, however. 🌱

DAVID BURROWS is a freelance journalist

IT'S A WASHOUT

Greenwashing in numbers

In 2006, the ASA received 117 complaints about environmental claims in 83 adverts

117

561

In 2007, it was 561 complaints about 410 adverts

10%

Defra analysis in 2010 showed that, of 4,492 claims made across 3,234 items in 32 sectors, one in 10 were 'general' and 'non-specific'



Do you think the TCFD's recommendations should be mandatory?
To publish your views, contact features@iema-transform.com

The big question

Should the Task Force on Climate-related Financial Disclosures' recommendations become mandatory?



JOE PIGOTT

Carbon Credentials
associate director

"A mandatory framework would result in wider adoption"

As of September 2018, more than 500 companies had publicly supported the TCFD. Its voluntary nature has allowed companies to understand the requirements and work to develop meaningful disclosures. In the medium term, though, voluntary recommendations will not be enough to drive widespread adoption.

In June 2018, the Environmental Audit Committee published a report stating that the UK government should make climate risk reporting mandatory by 2022. This would result in widespread information being available to investors – but the key to change will be how the investors use that information. They must recognise the implications of climate change for investments.

The TCFD recommendations that seek to standardise disclosure on climate change risk and opportunities are a good place to start. The fact the recommendations are voluntary gives industries time to develop information, but a mandatory framework would result in wider adoption. Ultimately, the mandatory question would be redundant if investors started allocating capital based on companies' climate change resilience – companies would not need to be compelled to disclose, as it would be essential to their survival.



KATE LEVICK

E3G sustainable finance
programme leader

"All firms must share climate information with the market"

To avoid harmful climate-induced financial instability at global level we must surface missing risk data. This means all firms sharing climate information with the market, and this being an established element of financial accounts and forecasts. It also means firms providing meaningful, complete and trustworthy data, whether or not this is convenient for them. For traditional financial information, these expectations are understood as part of a firm's license to operate – why would we treat climate-related financial information differently?

Finance has a crucial role to play in reducing climate risk, and regulators should tell financial institutions they are expected to disclose the climate risk associated with their investments. UK regulators are beginning to make it clear corporate risk reporting includes TCFD-style climate risk disclosure, as recommended in 2018 by the UK Green Finance Taskforce and supported by the Environmental Audit Committee.

Too few companies and investors know about the TCFD's work, and best practice is still developing in some areas, such as the use of risk scenarios. But the former is a call to action for regulators, and the latter should be a driver of innovation, rather than a barrier to action.



NADINE ROBINSON

Climate Disclosure Standards
Board technical director

"Voluntary reporting is insufficient to yield behavioural change"

Voluntary reporting is catalytic in spurring collective action, but is insufficient to yield behavioural change in corporate practice and impact the provision of decision-useful information to the market. Governments can boost climate action by mandating climate-related disclosures, such as those recommended by the TCFD.

The TCFD has galvanised political will brought disclosure of climate-related risks and opportunities into the mainstream. One of its strengths is that it advocates for disclosures on climate-related risks to take place within the mainstream report for which mandatory regulation covering other areas is already well-established.

CDSB's First Steps review of non-financial reporting within the EU found 30 of 80 major companies mentioned TCFD in their annual reports. The TCFD recognises that full adoption will take at least five years. The IPCC recently noted the need for significant decreases in global net CO₂ emissions within the next 12 years. Can the market keep pace and achieve the desired level of change at scale? We need greater, faster uptake to make a tangible difference. We are at a tipping point, and mandatory disclosure is an important driver for accelerating corporate action on climate change.

Measuring up

The value of intangible enabling resources such as social and human capital has skyrocketed during the past 50 years. Today, only 20% of market capitalisation relates to financial assets, meaning intangibles are now responsible for up to 80% of a company's total market value. Investors understand this, and businesses must strive to make better decisions when they consider the full picture of value.

Measurement and valuation of social and human capital helps companies understand intangible value and deliver solutions that will contribute to better performance, as well as resilient and sustainable communities. RSSB's work, for example, highlights the intangible value of the UK rail network. Stations are more than places for people to get on and off trains: they are community hubs that provide spaces for other businesses or community facilities. They regenerate areas and affect housing markets.

This relationship goes both ways, though – organisations are dependent on social and human capital. No business can be profitable without a skilled, engaged and productive workforce or supportive communities, and they must build trust with customers and suppliers.

Once an organisation understands the value of its relationship with social and human capital, it can make more informed decisions to maximise positive impacts for people, communities and society. Organisations that include measures on social value when tendering can demonstrate value for money. Contracts managers can include social performance measures in contracts, incentivising good work that benefits society. Through risk assessment that includes a robust valuation of community effects

Lucie Anderton and Matthew Watkins explore methodologies that aim to help businesses assess their impact and dependency on people and society

during construction and operation, an organisation can better understand where the greatest hazard lies and concentrate efforts to mitigate it.

The lay of the land

There is little consensus on the standards and tools for measuring businesses' impacts and dependencies. As such, companies are applying different and often incomparable methodologies, leaving the landscape for measuring and valuing social and human capital fragmented. Decision-makers consequently lack confidence – leading them to undervalue and under-invest in people and

relationships. The WBCSD's Social and Human Capital Protocol and the RSSB's Common Social Impact Framework (CSIF) aim to consolidate and converge existing methodologies.

The Social and Human Capital Protocol aims to enable businesses to measure their impacts and dependencies. It is the result of three years of collaborative development based on input from companies, leading academics, a public consultation and contributions from a range of expert partners. The Protocol consists of four stages – Frame, Scope, Measure and Value, and Apply – which help companies understand, measure, value and improve their social and human capital performance, and provide a consistent process for decision-making.

To support the Protocol, WBCSD founded the multi-stakeholder Social and Human Capital Coalition (SHCC) – a global collaboration that convenes leading organisations and initiatives to help companies recognise the importance

"No business can be profitable without a skilled, engaged and productive workforce or supportive local communities"

of people and communities to business decision-making and sustainable growth. The SHCC aims to build a community around the topics of social and human capital and is free to join.

RSSB's role and skills are in research and standard-setting, and as an organisation that works across the whole industry, it is well placed to bring about a consistent standard for valuing social impacts. As a member organisation, RSSB reacted to member demands for a common, consistent basis for understanding and measuring social impacts across British rail industry organisations, projects and programmes. It responded by producing a Common Social Impact Framework for Rail, which:

- Identifies 10 key social impacts of rail
- Provides a library of goals, indicators, metrics and monetised values for each impact, from which stakeholders can select measures to best report their activities
- Outlines approaches that can be used for qualitative reporting.

RSSB and its delivery partners Action Sustainability, Symetrica and Arup were able to draw on existing literature, frameworks and peer experience, as well as consultation with stakeholders.

Monetary valuation

It is possible to value business impacts and dependencies on people and society in terms of qualitative descriptions and quantitative data, in addition to monetary valuation. Different valuation methods are appropriate for different circumstances.

Monetary valuation can be useful; it allows an organisation to determine the relative worth of impacts and/or dependencies in a common unit of measure, such as US dollars, which makes it easy to compare with financial values





WESSEX CAPACITY ALLIANCE

The Wessex Capacity Alliance (WCA) is responsible for increasing capacity at London Waterloo and carrying out improvements along the Wessex route. The WCA includes Network Rail, Skanska, Colas Rail, AECOM and Mott MacDonald.

WCA took part in piloting the CSIF and its lessons have fed back into the final version. WCA selected five of the 10 topic areas – accessibility, health and wellbeing, employment and skills, staff engagement,

as well as local and sustainable procurement – and within them, 25 sub-impact measures. These measures were a combination of best practice monetised valuations in line with government guidance and qualitative measures. The CSIF allowed WCA to structure a report that demonstrates the social value of the project, with both monetised values and the narrative to accompany the figure.

Example of one of the calculations in one of the impact areas

Sub-impact outcome	Monetised
Apprenticeships	£2,863,130
Training (non-accredited)	£1,057,725
Training (accredited)	£822,765
Employment	£6,498,360
Work experience	NA
Graduates	Qualitative
	£11,241,980



such as business revenue. However, assigning monetary value to social or human impacts requires the consideration of certain issues, such as:

- **Practicality and reliability.** Monetary valuations only capture a limited proportion of the economic value of a company's impact and/or dependency on people and society. It is impossible to ascribe a monetary value for every aspect of change experienced by all stakeholders impacted.
- **Ethics.** Some stakeholders may find it difficult to accept or interpret monetary valuation of certain issues, such as serious injury or loss of life.
- **Consider the culture of the company and make it consistent with 'doing the right thing'.**
- **Aggregation.** A single net impact figure can obscure the context behind the data, and may hide significant negative impacts. For example, there may be situations where employment and wage payments create value for workers, but working conditions are unfavourable.

"Once an organisation understands the value of its relationship with social and human capital, it can make more informed decisions"

It is important to examine the individual elements of the assessment, including different groups impacted, to ensure key risks are not overlooked.

If monetary values are estimated using robust and consistent techniques, they can provide reliable economic values for direct comparison and integration with financial information in business decision-making.

Social and human capital measurement and valuation has progressed exponentially in recent years, with interest from both business and civil society. However, experimental methodologies are still not widely used or comparable. We recommend trialling methodologies such as those contained in the Social and Human Capital Protocol and RSSB Common Social Impact Framework for Rail.

Join the Social and Human Capital Coalition to discuss these topics with likeminded organisations, and work with us to help bring this approach into the mainstream. [i](#)

FURTHER READING

Download the CSIF on SparkRail at bit.ly/2BWJ5IX

Watch the 16-minute guidance film on Buto at bit.ly/2BW9p5S

Download the Social and Human Capital Protocol at: www.social-human-capital.org

LUCIE ANDERTON PIEMA is senior sustainable development specialist at RSSB
MATTHEW WATKINS is manager, redefining value, at WBCSD

Aleksandra Taskovic and **Jonny Dawson** share the qualities needed to build a career in international environmental and social practice

Ingredients for success

IEMA members founded the Global Environmental and Social Assessment Group (GESA) in 2016 and launched it in May 2017, aiming to share good practice and develop capacity to improve the performance of international environmental and social management systems.

With a focus on professional development within the international sector, GESA identified that young professionals (YPs) often face barriers gaining initial exposure to, and building a career in, international practice. In response, GESA established the YP working group, whose aim is to support early career professionals interested in this field.

It was important to understand the competencies and experiences needed to excel in international practice. The GESA YP working group launched the development of an evidence base through interviews with leading practitioners, focusing on the career pathways and competencies needed for success.

Drive to succeed

The road into the international sector is not always straightforward, but most interviewees had built a strong academic foundation, with backgrounds in environmental studies and most holding a masters degree.

Where their careers started was not a major barrier for interviewees, who began their careers across affiliated industries (such as engineering), local government and consulting. We found that the structured career paths within these organisations helped hone technical skills and experiences. However, interviewees also attributed personal drive as key, alongside a little luck.

Enthusiasm and proactive opportunity-seeking were also common denominators. An example included learning new skills

to become more marketable, highlighting the importance of building capabilities and being able to exploit a changing business environment.

Get skilled up

Strong technical skills are considered critical to success. These skills include understanding a wide array of environmental and social risk management concepts, and knowing how to apply internationally recognised benchmarks.

Language skills are also important; the ability to communicate in the local language with key stakeholders is a significant advantage. More important, however, are strong communication skills and soft behaviours, including empathy and collaboration. Conveying complex messages in simple terms and successfully working with people from diverse backgrounds, levels and cultures is essential in international work, as every project is distinct and diverse.

It's also important to be flexible. In many cases, opportunities to gain experience in a particular country arise at the last minute or require long periods abroad, disrupting personal lives and plans. For many, seizing opportunities that others had declined provided the opening that propelled them onto the international scene.

Build your network

It is important to constantly work on yourself; you will be building and diversifying your skillsets throughout your career. Ensure early engagement and be observant for the next opportunity to learn. Shape your profile and

engage; go to events and broaden your network.

Such connections may become clients, employers or co-workers. Use every opportunity to learn and to demonstrate your capabilities. International work is rarely glamorous. It is likely to entail long, bumpy journeys, working in remote environments and harsh climates, solving complex issues and being away from family and friends. However,

the rewards can be immense – you are able to travel the world, meet unique people

and work on complex projects delivering progress toward sustainable development. The world is your oyster, so why not start today? 

ALEKSANDRA TASKOVIC is a social consultant at AECOM
JONNY DAWSON is an environmental consultant at WSP

CONNECT

SOCIAL AND COMMUNITY NEWS FROM IEMA

SITE VISIT

Sustainable buildings – Cardiff Central Square

Arup sustainability consultant Ryan Blakely recently invited members of his local IEMA network to visit the Cardiff Central Square development, where Arup is undertaking a BREEAM assessment

I am fascinated by the diversity of fields in which IEMA members work. I was keen to give my local network an insight into my work as a sustainability consultant specialising in building design and operation.

Arup has been involved in the Cardiff Central Square redevelopment in recent years and is providing multidisciplinary services in the design of the Plot 6&7 development. The main contractor leading the construction at Plot 6&7, Sir Robert McAlpine, hosted IEMA members for a presentation and site walk. Sir Robert McAlpine's regional sustainability and quality manager, Simon Richards, and I explained the roles of design consultants and contractors in incorporating sustainability into

Members explored the plantroom and discussed the role of building services in the operational efficiency of buildings



Ryan Blakely outlines the building lifecycle and how we can design for change-of-use and end-of-life to minimise waste and maximise material efficiency

buildings, with examples from the Plot 6&7 project.

Arup is employed to undertake a BREEAM assessment of the Plot 6&7 project, which will provide third-party certification of sustainability performance. BREEAM (Building Research Establishment Environmental Assessment Method) is the most common sustainability assessment method for UK buildings. It takes a holistic approach, with 'credits' in 10 sections including Energy, Materials, Waste, and Land Use and Ecology. Credits are awarded where compliance with assessment criteria is demonstrated through the evidence-based assessment report, and performance is expressed as a rating from Pass to Outstanding. Plot 6&7 has achieved a design stage rating of Excellent; the team is working to maintain this post-construction.

The site visit was a fantastic opportunity for Simon and me to share our work and the challenges we face. Knowledge sharing is crucial if we are to tackle sustainability issues. I look forward to learning about the work of other members at future events.

QUOTE UNQUOTE



Interesting dinner discussion with the kids courtesy of @IEMA_Transform Dec-Jan edition! 2 out of 3 wanting to try out @eatgrubofficial Smoky BBQ Crickets from @sainsburys! Yep! We'll give them a go in this house! #nutritious #sustainable #edibleinsects @DEB_NES



@SciencesNCL Colleagues from our School and @EngineeringNCL in @IEMA_Transform take a look at how the Global South could adopt more local #potassium production, rather than relying on the northern hemisphere. @ALISTAIRCROFT



Fabulous to see @ClimateActionNE in December's @iemanet @IEMA_Transform Magazine. The article is all about our #rewilding conference that we held back in September and welcomed Chris Packham to the region! @JENCLAIRROBSON

Great to see our community interest company @ClimateActionNE featured in December edition of @iemanet @IEMA_Transform - an excellent all action packed #biodiversity and #nature rich issue. Thanks @sharonmaguire9 @WeAreRedactive #Sustainability #Environment #learning @SHARONENV1

Lunch break reading @IEMA_Transform this month's issue is @NOTAYLOTT



Reading @IEMA_Transform about the challenges faced by @RSPBScotland in protecting some of the last undeveloped species-rich dune habitats against being developed into a golf course. @HighlandCouncil there is no IROPI worth it to destroy this #nature we'll never get back! #SDG15 @ABIBRADY



EVENT

Let's talk Impact Assessment

Come along for an informal evening of debate and discussion with members of IEMA staff and the Impact Assessment Steering Group.

Hear about our proposals for taking forward the profession and EIA practice, and tell us what you want and need from your professional body and EIA community. For more information, and to register:

- ◆ CAMBRIDGE Mon 11 February bit.ly/IA_Cambridge
- ◆ LONDON Tue 12 February bit.ly/IA_LOND
- ◆ BRISTOL Wed 13 February bit.ly/IA_Bristol
- ◆ EDINBURGH Wed 20 February bit.ly/IA_EDIN
- ◆ GLASGOW Thu 21 February bit.ly/IA_GLAS
- ◆ NEWCASTLE Tue 26 February bit.ly/IA_NEW
- ◆ MANCHESTER Wed 27 February bit.ly/IA_MAN
- ◆ BIRMINGHAM Thu 28 February bit.ly/IA_BIRM



NEW PATHFINDER SERIES

Fuel from thin air

Our new pathfinder series explores those who are innovating and leading the way in sustainability. We are moving beyond case studies to focus on transformative solutions that enable civilisation to tackle the huge challenges we face in the transition to sustainability.

This month, Jae Mather looks at Carbon Engineering, a Canada-based clean energy company. The sequestration of carbon from the atmosphere is a highly desirable solution to growing greenhouse gas emissions. The company was founded in 2009 and has been capturing CO₂ from the atmosphere since 2015, converting it into fuels since December 2017.

Its focus is on commercialising two technologies that could rapidly advance the world's shift to a sustainable carbon-neutral economy: direct air capture technology, which can remove carbon dioxide directly from the atmosphere for use or storage, and Air To Fuels™ technology, which can significantly reduce the carbon footprint of transportation by creating clean synthetic fuels from air, water and renewable power.

◆ For the full article, visit: bit.ly/fuel_pathfinder



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Why did you become an environment/sustainability professional? I was born in Sheffield. In the 19th century, the social reformer and pioneering environmentalist John Ruskin described it as an 'ugly picture set in a golden frame'. It was still an apt description of the city in the 1970s and 1980s. As I was growing up, the steel industry was in a steep death spiral; I vividly remember striking miners collecting money from passersby in the city centre. But my parents would often take me to the **Peak District national park** – an important part of Ruskin's 'golden frame'. It made me appreciate the importance of nature and – in time – the politics and policy that are required to keep it natural.

What was your first job in this field?

I was a researcher at the Centre for Social and Economic Research on the Global Environment (CSERGE) at UEA.

How did you get your first role? The old-fashioned way. I was unemployed for a brief period after completing my first degree, so in an act of mild desperation I wrote unsolicited letters to academics whose work I really admired. To my great surprise, one invited me to an interview and I got the job.

What does your current role involve? I research and teach environmental policy and politics, and try to use what I learn to advise policymakers.

How has your role changed/progressed over the years? Brexit has completely transformed my work. Together with two colleagues, I created a new network – **Brexit&Environment** – which draws upon decades of academic research on EU-UK policy to inform some of the most urgent policy questions.



Andy Jordan

FIEMA

Professor of Environmental Policy, University of East Anglia (UEA)

Brexit has also transformed my research; before 2016, there was a widespread feeling amongst many scholars that the most difficult research questions had been answered. Not any more.

What's the best part of your work?

Working with PhD students. Often they have the freshest research ideas and (crucially) the time to collect and analyse new data.

What's the hardest part of your job? Managing the many conflicting demands on my time.

What was the last development event you attended? An online course on addressing unconscious bias in staff recruitment.

What did you bring back to your job? It made realise that biases may also be at work in many other situations – in promoting staff, in evaluating students, and more.

What are the most important skill(s) for your job? Curiosity, determination and (increasingly) entrepreneurial flair.

Where do you see the profession going? The demand for dedicated



Visit www.iema-transform.net for more member profiles

environmental professionals will continue to grow, particularly in the rapidly industrialising countries. Decades of social scientific research tells us that, as people grow richer, they demand more, not less, environmental quality.

Where would you like to be in five years' time? I have written that Brexit presents the biggest challenge to UK environmental policy in the last 40 years. But it may also present opportunities, too. I'd like to think that I can use my skills and understanding to help the country strike the right balance between the two.

What advice would you give to someone entering the profession?

Trust in yourself: follow your instincts and do what you are most passionate about.

If you had to describe yourself in three words, what would they be?

Very. Tall. Indeed.

What motivates you? A deep desire to understand the changing world around me.

What would be your personal motto?

My grandmother always said that I should always try my best but not take myself too seriously. Her advice has served me well.

Greatest risk you have ever taken?

At the start of my career – and after a period of unemployment – I turned down the offer of a (relatively) well paid consultancy job in London to commence a research career at UEA. It was the best decision I ever made.

I'm very proud to say that UEA has the oldest and most fully accomplished interdisciplinary environmental science department in the world.

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

Benny Rothman – one of the original mass trespassers. Their direct action in the 1930s eventually led to the Peak District being designated as the UK's first national park. I'd love to write an article on what motivated them to act, ideally after a long walk on Kinder Scout. 🏔️



TRANSFORM

FOR ENVIRONMENT AND SUSTAINABILITY PROFESSIONALS



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Are you a budding writer?

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Editorial Calendar 2019		
	Primary Topic	Secondary Topic
February 2019	Investment/Economics	CSR
March 2019	Diversity Issue	Business/Industry
April 2019	Politics	Brexit/Economy
May 2019	Health/Pollution	Knowledge/Skills
June 2019	Food/Agriculture	Water
July/August 2019	Waste/Recycling	Technology/Innovation
October 2019	Energy	Technology/Science
November 2019	Transport/Infrastructure	Smart Cities
Dec 2019/Jan 2020	Climate Change	Biodiversity

Schedule may be subject to revision from time to time

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IEMA

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Monday 25th February
QEII Centre, London

Shaping the future: Setting the Environmental Objectives for the Environment Bill

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