

TRANSFORM

Environment ●
Economy ●
Society ●

FOR ENVIRONMENT AND SUSTAINABILITY PROFESSIONALS

November 2020
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FULL STEAM AHEAD

The role rail infrastructure can play
as the UK 'builds back better'

PLUS

Sowing ideas Vandana Shiva on biodiversity and organic farming

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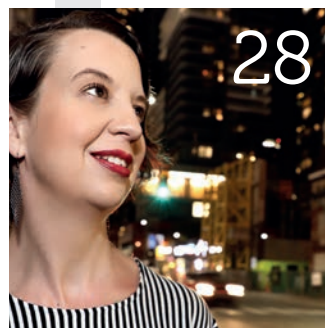
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IEMA is the professional body for everyone working in environment and sustainability. We provide resources and tools, research and knowledge sharing along with high quality formal training and qualifications to meet the real-world needs of our members. We believe that together we're positively changing attitudes to sustainability as a progressive force for good. Together we're 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

Features and news journalist

Christopher Seekings
christopher.seekings@redactive.co.uk
iema@redactive.co.uk

Sub-editor

Kate Bennett

Business development manager

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

Sales

tel: +44 (0) 20 7880 6206
sales@iema-transform.net

Senior designer

Gary Hill

Picture editor

Claire Echavary

Subscriptions

subscriptions@iema-transform.net
The 2020 annual subscription rate is £142.

Production manager

Aysha Miah-Edwards

Printer

Warners Midlands PLC, Lincolnshire

Published by

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



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ISSN 14727625



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SARAH MUKHERJEE, CEO, IEMA

Time for a rethink?

Hello, and welcome to another edition of *Transform* magazine. Around the world, the pandemic is still having severe effects on the global economy and health. Many countries are limiting citizens' ability to socialise, with restaurants and bars operating limited hours or closing altogether. While some nations appear to be through the worst, others face months of restrictions during festive periods such as Christmas, Diwali and Hanukkah. This has left many asking whether we need to fundamentally reassess our current systems and processes, to reduce the chance of this happening again.

One activist and thinker with a clear view of where the future should take us is Dr Vandana Shiva, who I had the pleasure to talk to for this issue (p12). Dr Shiva has the ability of all great thinkers to link disparate and complex concepts together to form a powerful narrative. You may not agree with everything she says, but she provides a powerful challenge to current food systems and global trade.

Another dramatic change is in the way we use public transport. From airports around the world that now look like ghost towns, to the drastically reduced number of people using rail and urban transit systems, the pandemic has forced many in these sectors to think again about the future. We have a series of articles this month looking at how cycling, shipping and rail systems are shaping themselves and adapting.

It was impossible not to be struck by pictures from earlier this year, when much of the world was in total lockdown, of deserted city centres from London to New York to Beijing. But have you ever stopped to wonder whether your own urban space is 'male'? This is the thought-provoking challenge from Leslie Kern, whose new book looks at cities from a feminist perspective (p28). She says lack of public space and toilet facilities, as well as inaccessible public transport, are just a few ways in which the feminine is edited out of our shared places – a point of view to consider as we think about how we want to repopulate our community areas in the future.

Have a great month, and thank you, as always, for your passion and support.

"COVID-19 has left many asking whether we need to fundamentally reassess our current systems and processes"



EMISSIONS

Alternative fuels could save over 1,250 lives a year

Adopting low-emission fuels for vehicles and machinery now could save more than 1,250 lives in the UK every year, analysis by Environmental Industries Commission (EIC) suggests.

In a report, the EIC explains that alternative fuels such as liquid petroleum gas and hydrotreated vegetable oil could have a large and immediate impact on air pollution levels.

The World Health Organisation (WHO) estimates that as many as 64,000 people die prematurely in the UK every year due to poor air quality, which can cause coronary heart disease, strokes, lung cancer and severe asthma. The EIC said that around 10% of all air pollution comes from sectors where alternative fuels can be readily deployed, and with evidence suggesting that they can cut pollution by up to 30%, this could mean more than 1,250 lives saved a year.

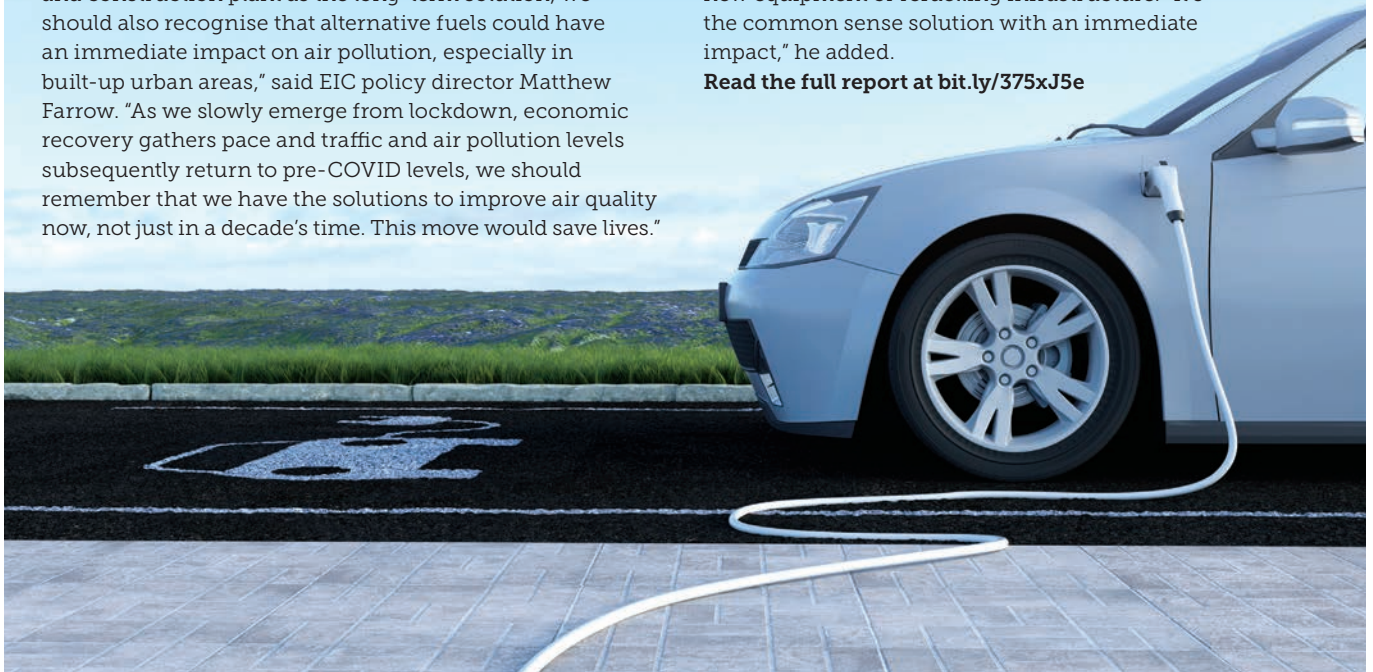
"While the government rightly looks to electric vehicles and construction plant as the long-term solution, we should also recognise that alternative fuels could have an immediate impact on air pollution, especially in built-up urban areas," said EIC policy director Matthew Farrow. "As we slowly emerge from lockdown, economic recovery gathers pace and traffic and air pollution levels subsequently return to pre-COVID levels, we should remember that we have the solutions to improve air quality now, not just in a decade's time. This move would save lives."

The report stresses that alternative fuels should be used as an interim measure on the road to full electrification, and would be particularly useful for construction equipment, back-up generators and specialist vehicles such as those used in refuse collection. It also points to a series of successful initiatives, such as grants for retrofitting vehicles and low-emission zones, as examples of measures that could be adopted across other high-polluting sectors.

This comes after separate research by Venson Automotive Solutions found that 38% of UK adults believe the government should introduce more clean-air zones and encourage the take-up of electric vehicles; this figure rises to 55% among 18 to 24-year-olds.

Jim Mills, chair of the EIC's air quality working group, said that the report's recommendations would reduce CO₂ emissions by 90% with no capital expenditure on new equipment or refuelling infrastructure. "It's the common sense solution with an immediate impact," he added.

Read the full report at bit.ly/375xJ5e





BUSINESS

Trust in sustainability reporting hits record high

Global Reporting Initiative (GRI) research in 27 markets has found that trust in how companies communicate sustainability performance has increased to a record high.

After surveying 1,000 individuals in each region, the GRI found that 51% agree that companies are honest about their social and environmental performance, up from 30% in 2003. The highest agreement was found in Indonesia (81%), Vietnam (80%) and Thailand (79%).

The US, Australia, Canada and EU member states are at the lower end, from 44% in the US to 31% in France. However, a number of these countries have seen increases. In comparison to a 2016 survey, levels of trust from respondents increased in Germany (by

16%), Spain (10%), Canada (8%), the US (5%) and the UK (3%).

"This goes hand-in-hand with growing expectations from consumers regarding more and better reporting," said Peter Paul van de Wijs, GRI chief external affairs officer. "At the same time, finding the featured EU member states at the low end of the rankings strongly supports the case for the thorough revision of the European Non-Financial Reporting Directive, initiated in early 2020 by the European Commission.

"Mandating the reporting of comprehensive, comparable and assured data – using globally accepted standards, such as provided by GRI – is needed if we want to maintain momentum and progress further."

INVESTMENT

Investor coalition unveils climate targets

A group of 30 investors with \$5trn in assets under management has agreed to a series of decarbonisation targets that will align their portfolios with the Paris Agreement during the next five years. The "transparent and unique" goals will force thousands of companies owned by members of the UN-convened Net-Zero Asset Owner Alliance to make deep emission cuts if they are to avoid divestment.

The investors have agreed to reduce their portfolio emissions by 6% to 29% by 2025, before transitioning to net-zero by 2050. Several investors will set

large reduction targets next year; those that have already made substantial progress in their journey to net-zero, or face geographic or policy constraints, will make lower cuts.

The alliance explained that engagement with investee companies is a core element in assuring that portfolios transition to net-zero and have an impact on the economy. "Alliance members start out by changing themselves and then reach out to various companies to work on the change of their businesses," said chair Günther Thallinger.

"There are profound changes and opportunities that will come from the net-zero economy, we see new business opportunities and strong wins for those who are ready to lead."



BUSINESSWATCH

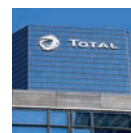


Tesco links £2.5bn loan to emissions

Tesco has established a £2.5bn revolving credit facility linking interest rates to progress against environmental targets during the next three years. The retailer will enjoy a lower interest rate loan margin if it achieves its goals for reducing emissions, sourcing renewable electricity, and cutting food waste.

"This financial instrument is a positive step in further integrating sustainability into all aspects of our business," said Tesco chief financial officer Alan Stewart.

▶ bit.ly/34R5J2C

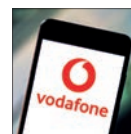


Total and Google develop 'Solar Mapper'

Total and Google Cloud have pooled their expertise to develop a tool that provides an accurate and rapid estimate of a home's solar energy potential. The 'Solar Mapper' uses artificial intelligence algorithms to provide better results than current tools, particularly improving the data extracted from satellite images and the estimation of solar potential.

"It will enable Total to faster deploy solar panels on the houses' roofs, in order to provide its customers with more affordable and more accessible solar energy," said Marie-Noëlle Séméria, Total's chief technology officer.

▶ bit.ly/3iWCHUI



Vodafone makes energy savings worth £10m

Vodafone has saved 100GWh of energy in three years, representing a financial saving of around £10m and enough electricity to power a town with a population of 65,000 people for a year. The savings were achieved by optimising heating and cooling systems in offices and managing air flow to keep technical sites cool in the most energy efficient way.

"We've achieved these staggering savings by doing the basics well and making energy reduction something we think about each and every day," said Scott Petty, chief technology officer for Vodafone UK.

▶ bit.ly/34ZRw3m

IMAGES: GETTY/SHUTTERSTOCK/GETTY

ENERGY

US oil majors 'way behind' Europeans in energy transition

US oil and gas majors are lagging well behind their European counterparts in adapting their business models for the worldwide energy transition to net-zero, Carbon Tracker has warned.

The financial think tank noted that European firms have made a string of transition announcements, such as cutting assumptions about the future oil price and setting ambitious climate targets, which is reflected in more conservative project portfolios. US companies lag behind on all three measures. ExxonMobil is among the least well-prepared companies, with 80% or more of its business-as-usual project portfolio becoming uncompetitive if climate change is limited to 1.6°C.

The analysis suggests that firms are betting on oil prices which are inconsistent with global warming targets, with 15 projects approved in 2019 worth US\$60bn that risk becoming

stranded assets in a low-carbon world. Italy's Eni and the UK's BP are among the companies best prepared for the energy transition, but up to 50% and 60% of their respective portfolios risk becoming stranded and losing value if they are developed.

Carbon Tracker said that COVID-19 has shown how a fall in demand leads to plunging prices and should spur companies to action. It highlighted that the CEOs of both BP and Shell have suggested that global oil demand may have peaked in 2019.

"Very few parts of fossil fuel producers' business models will be left unshaken by the energy transition," said Andrew Grant, head of climate, energy and industry research. "European leaders like Eni and BP are responding with an increasingly joined-up approach, but for Exxon and others, the only consistency is how completely they shy away from decarbonisation."



CRACK!

TRIAL

BOOM!

Sample an easy way to
navigate legislation,
and stop any cracks
appearing in your
management system

cedrec

legislation made simple

INCLUSIVITY

Boosting diversity within the profession

Three years ago, a Policy Exchange survey identified the environment and sustainability sector as the second-least diverse among 202 professions in the UK. While this statistic is often quoted, it has been seldom acted upon – until now.

Small pockets of best practice are starting to appear, such as the SOS-UK Kickstarter programme, but greater action is needed if we are to change the culture at the heart of this problem. We need large-scale systemic changes across the profession to improve its appeal and accessibility, and to ensure anyone can progress, regardless of their background.

IEMA has committed to delivering a programme of work to improve representation across the profession. We recognise that this work must be well planned and include short, medium and long-term goals with a consensus among all members and partners if we are going to achieve the wholesale change needed to reflect a truly global organisation.

In September, our first roundtable on diversity in the sustainability sector marked the beginning of this work. IEMA members, including people from black, white, Asian and minority backgrounds, joined with external critical friends from diverse communities to



outline the challenges and barriers faced by black, Asian and minority communities, and discuss solutions and ideas.

The recommendations generated by these discussions were then taken to a CEO roundtable, which IEMA convened during Black History Month. Representatives from across the sector discussed the challenges and barriers in their own organisations, and committed to a set of objectives for holding each other to account in future.

The next steps in this work will be to widen consultation with the IEMA membership, create a sector-wide strategy for improving representation, and host further roundtables for accountability and direction.

If you would like to know more about the diversity programme, email Lisa Pool, membership marketing manager, on l.pool@iema.net



IMPACT ASSESSMENT

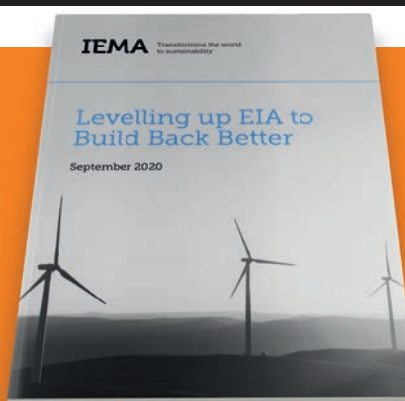
Planning and EIA reform

On 6 August the UK government released its Planning for the Future consultation and White Paper, aiming to overhaul the planning system with the most radical planning reforms since the end of the Second World War. Within the consultation, the government also announced that impact assessment, including strategic environmental assessment, sustainability appraisal and environmental impact assessment (EIA), would also be reformed subject to a separate consultation in the autumn of 2020.

Long-time readers of *Transform* and its predecessor

The Environmentalist will know that IEMA has been a fierce advocate of impact assessment reform and improvement during the past two decades, publishing the world's first proportionate EIA strategy in 2017. However, while we recognise that there are many areas of planning that need improvement, we are equally keen to ensure that any reforms represent an improvement to environmental and sustainability outcomes, rather than a regression.

On this basis, IEMA's Impact Assessment Network Steering



Group, coordinated by impact assessment policy lead Rufus Howard, submitted an early response to the Ministry of Housing, Communities and Local Government and Defra teams working on the planning and EIA reform, entitled *Levelling up EIA*

to Build Back Better. This was sent in advance of the upcoming EIA reform in order to provide constructive input to the government on the following questions: Why is EIA good? What does good practice deliver? Is EIA really the cause of unnecessary cost and delay? How can we achieve proportional EIA? What are the potential solutions to the themes of the August White Paper? Download your copy at bit.ly/34Hfikr

IEMA has also made a formal response to the consultation and is currently preparing a response to the EIA reform consultation.

To find out more or to take part in the consultation, contact ia@iema.net

STANDARDS

IEMA response to sustainable finance standard

Financial activities have a vital role to play in the transition to a sustainable global economy. Sustainable finance is developing rapidly to support business models that resolve the sustainability challenge, tackling poverty, inequality, climate change and environmental degradation, and aiming to grow prosperity. However, varying interpretations of what constitutes good practice causes confusion and erodes market confidence.

Formed in February 2019, the ISO Technical Committee (TC) 322 on Sustainable Finance looks to achieve standardisation in this field, in order to integrate sustainability considerations into the financing of economic activities. *ISO 32210: Framework for sustainable finance – Principles and guidance* forms part of the committee work that seeks to encourage innovative sustainable financial products and initiatives while providing guidance on sustainability principles, practices and terminology.

In November 2019, IEMA organised an introductory IEMA webinar on the aims of *ISO 32210*, led by standard convenor Hayden Morgan of Green Investment Group. Building on this, IEMA used its liaison status in ISO TC 322 to organise an October roundtable discussion that would review the committee draft of *ISO 32210* released this autumn.

The roundtable, held on 2 October 2020, brought together a wide range of IEMA experts working with the financial sector and associated professions such



as insurance. Its aim was to inform IEMA's response to the draft standard as part of this consultation process.

In its response, IEMA welcomed the draft standard, noting that it was a useful guidance document supporting the work set out in the British PAS 7340 – *Framework for embedding the principles of sustainable finance in financial services organizations*. Commenting on the issue of scope within the standard, IEMA called for greater clarity on the standard's intended audience and the need to include alignment with the

recommendations of the Task Force on Climate-related Financial Disclosures and the Paris Agreement. It noted that this would ensure companies can structure investment in accordance with sustainability policy.

IEMA also highlighted gaps in the document, including the lack of coverage of social issues. IEMA therefore called for the standard to reflect more content that would ensure social impacts are managed and social benefits are maximised. On the topic of definitions, IEMA noted the lack of sustainability definitions such as 'circular economy' or 'natural capital', which did not form part of the main body of the text. IEMA called on these definitions and those referenced in PAS 7340 to be included in the next version of the draft standard. Noting that the guidance standard should be the starting point for organisations on their journey towards sustainable finance, IEMA called for the principles to be kept short and concise, providing better clarity and working towards a common language on sustainable finance.

The draft of the standard will be made available to download at next public consultation phase. In the meantime, you can read more about the standard on p16 of this magazine, and a copy of the IEMA submission to ISO is available to read at bit.ly/3419Ius

VOLUNTEER

Impact Assessment Network Steering Group Recruitment

Are you an impact assessment professional looking to shape the profession and drive environmental change? IEMA's Impact Assessment Network Steering Group wants more members like you to join us. Each year we add new members to the steering group as former members step down after

serving a three-year term. We are looking for four new members to sit on the steering group from January 2021 to December 2023. **To join, send your CV and what you think you can bring to the group to ia@iema.net by Friday 20th November.**



NEW REGULATIONS

THE LATEST

■ LEGISLATION ■ GUIDANCE ■ CONSULTATION

**9 NOVEMBER 2020**

Climate change

The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020 updates the list of public bodies that must prepare reports on compliance with climate change duties. It also states that emission reduction targets should now be included in those reports.

cedr.ec/79s
**1 OCTOBER 2020**

Environmental protection

The Environmental Protection (Plastic Straws, Cotton Buds and Stirrers) (England) Regulations 2020 have begun to come into force and restrict the supply of single-use plastic straws, single-use plastic-stemmed cotton buds and plastic drinks stirrers.

cedr.ec/79u
**1 OCTOBER 2020**

Climate change

The Climate Change Agreements (Administration and Eligible Facilities) (Amendment) Regulations 2020 extend the scheme providing for a reduced rate of Climate Change Levy, under the Finance Act 2000, until 31 March 2025.

cedr.ec/7aa
**1 OCTOBER 2020**

Circular economy

The Waste (Circular Economy) (Amendment) Regulations 2020 implement the Circular Economy Package fully in England and Wales and partially in Scotland and Northern Ireland.

cedr.ec/7ab
**30 SEPTEMBER 2020**

Energy labelling

The government is running a consultation on updates to ecodesign and energy labelling requirements. This includes draft Ecodesign for Energy-Related Products and Energy Information Regulations 2021.

cedr.ec/79p
**1 SEPTEMBER 2020**

UKCA marking

Guidance has been published explaining how to use the UKCA marking at the end of the transition period with the EU on 1 January 2021. The UKCA is a new UK product marking that will replace CE marking for products placed on the market in England, Wales and Scotland.

cedr.ec/79q
**21 SEPTEMBER 2020**

Waste water

Regulatory Position Statement 235 allows you to treat or use waste water that contains concrete and silt without an environmental permit. The Environment Agency will not normally take enforcement action against you, providing you comply with its conditions.

cedr.ec/79t
**30 SEPTEMBER 2020**

Energy efficiency

The Department for Business, Energy and Industrial Strategy is consulting on policy proposals towards achieving improvements in the energy performance of privately rented homes to be Energy Performance Certificate Band C by 2030.

cedr.ec/79l
**14 SEPTEMBER 2020**

Waste

The Environment Agency is seeking views on guidance about measures for permitted facilities that take non-hazardous and inert waste for treatment or transfer.

cedr.ec/79x


➤ The director of an illegal waste company acquired more than £1m through his operations

Legal

INCOURT

IN COURT

Gloucester waste site director ordered to pay back more than £179,000

An illegal waste company director, Barry Connally, has been ordered to pay back over £179,000, obtained through proceeds of crime from his unlawful operations. Connally, 70, was the sole director of Rhino Recycling Limited, which operated a waste treatment facility on the QinetiQ Industrial Estate in Pershore, Worcestershire.

Between March 2013 and December 2015, he ran the facility without the necessary environmental permit. In June 2019 Connally was sentenced to 12 months' custody, suspended for 18 months, and ordered to complete 160 hours' unpaid work in the community.

During the hearing, the judge found that Connally prioritised profit and adopted an "arrogant approach to the regulatory regime". Following the sentencing, the Environment Agency went on to bring confiscation proceedings against Connally to recover the proceeds of crime. In passing a confiscation order, Worcester Crown Court heard that he used Rhino Recycling Limited's company persona to conceal his identity as the true actor in relation to the illegal waste operation.

It was found that between March 2013 and December 2015, Connally acquired more than £1m in criminal benefit from illegal waste operations. He was ordered

to pay back £179,373.36, as it was the sum total of all his assets available.

Connally also pleaded guilty to contempt of court for disposing of a portion of his assets between September 2019 and July 2020, contrary to court orders forbidding him from doing so. For this, he was sentenced to four months' imprisonment, suspended for 18 months.

Following the sentencing, a spokesperson for the Agency said: "This case shows that we're not just content to prosecute those who run illegal waste sites, we'll also come after them to get back the profits they made from their illegal activities and to recoup taxpayers' money spent on pursuing them."

CASE LAW

Waste appeal against confiscation orders allowed in part

An appeal was allowed in part in the case of *Environment Agency v Ryder*. The appeal involved the owners of a waste management site appealing against confiscation orders imposed following their convictions for waste-related environmental offences.

The appellants controlled companies that operated on a waste management site, on which the site tenant had an environmental permit to share and treat waste as a regulated facility. The site had its permit removed when it did not comply with a notice issued by the Environment Agency.

In addition, the company did not leave the site in an acceptable state, or remove all waste from the site. Some waste activities were ongoing on the site, even though the company

had gone into liquidation prior to removal of the permit and the lease had been lost.

The appellants pleaded guilty to one charge of breach of an enforcement notice and were convicted of three charges of depositing waste and operating a regulated facility without a permit. They were sentenced in the Crown Court.

The recorder found that the appellants had continued to operate the facility in their personal capacity as owners of the land after the permit had been revoked. The recorder decided that there had been a benefit from the criminal activity consisting of a pecuniary advantage, including an amount equal to the costs of the removal of the waste.

The appellants argued that the recorder should not have

included removal costs in the benefit amount as it did not result from the conduct they had been charged with.

It was held that the appellants had no permit at the time and thus had no right to store the contaminated waste on the site. They had allowed a waste operation to be carried out as owners and controllers of the site after their company was liquidated.

It was decided that under the wide definitions of "recovery" and "disposal" in the Environmental Permitting (England and Wales) Regulations SI 2010/675 and Directive 2008/98/EC on waste, the appellants were storing waste for recovery or disposal. The broad approach was also taken in relation to the words "as a result of or in

connection with" from the Proceeds of Crime Act 2002, a width which the court thought was "reinforced" throughout that Act.

The judge concluded that the appeal on the main issue had to be dismissed, and "the avoidance of the inevitable costs involved in disposing of the waste legally amounts, in my view, to the gaining of a pecuniary advantage and that benefit has accrued to the defendants through their criminal conduct."

One of the appellants also argued that some jointly owned property should not have been included in determining the available amount. This was allowed.



Seminal work

Author, environmental activist and food sovereignty advocate **Dr Vandana Shiva** talks to IEMA CEO Sarah Mukherjee

Based in Delhi, Vandana Shiva is a board member of the International Forum on Globalization, and founder of the Research Foundation for Science, Technology and Ecology. She has a PhD in the philosophy of physics and in 1991 founded Navdanya, a movement to protect the diversity and integrity of living resources, especially native seeds. Shiva has contributed globally to changing the practice of agriculture and food; *Time* has identified her as an environmental hero and *Forbes* called her one of the seven most powerful women on the globe.

Has COVID-19 given you cause to review your work?

No, it has deepened my evolution of thought and, in fact, converged the foundational principles. My early work began with the Chipko movement in

the Himalayas. The Chipko women knew exactly how natural forests and the oaks and the rhododendrons were connected to their water flow, to stabilising the mountains and to basic needs. There was no opposition between the needs of nature and their needs. They worked in harmony.

I wrote a book on this called *Soil Not Oil*. I wrote *Annam: A Manifesto on Food for Health* on how industrial or processed food, the same food system that's giving us climate change and greenhouse gas emissions, is also giving us the chronic disease epidemic.

When the pandemic hit, I went through all of my learning of the past. So much literature has recognised that invasions into the forests are at the root of a spurge of new pandemics, so when I go back and read my work from the 1980s, the basic principles are there – the diversity of knowledge, the diversity of economy and, of course, the law

of return, which I began thinking about in terms of organic farming but is really now the basis of my economic thinking.

Systems are being destroyed, species are being driven to extinction and the dial is not moving. Why?

First, it's not the case that nothing has changed. We put in place the UN Framework Convention on Climate Change. They actually started to put the limits in place, recognising that you have to conserve, and there can't be a destruction of, biodiversity. International, national and participatory movements grew, and biological diversity reached the villages.

This had an impact. Mike Moore, then director-general of the World Trade Organization (WTO), came to India and asked to meet me. He said: "I'm getting all these letters in Indian languages. Please, can you stop them?" I said, "Why

"Climate change and extinction are not two separate processes – they're just two separate expressions of the same process"

would I stop the letters? They're coming from autonomous village communities and you have a duty to reply. As the letters told you: 'Come and sit under the banyan tree in our village, which is how we settle disputes and conflicts. We are willing to listen to you.' We changed the WTO rules; I got exclusions on the patenting of life.

We need not just an environment programme but a global environmental institution. Deregulation right now is on fast forward. Look at Brexit, what is it but deregulation? Climate change and extinction are not two separate processes – they're just two separate expressions of the same process.

We are so clearly on the brink. I have written a new book called *Oneness vs 1%*. If we don't shift and find new democratic energies to be able to bring accountability to the 1%, we can be absolutely sure that the human species will become extinct.

Jeff Bezos has made US\$64bn since the lockdown began. I don't talk about greed as the economy, because economy is managing our home, the earth. When you're managing your profits and greed at any cost, you are basically just stealing.

The agricultural community might say we can feed people through methods such as gene editing, to increase the range of crops we can grow. What's your view?

I have more than a view on that, because I've spent literally the last 36 years researching this question. Chemical

IMAGES: ALAMY/SHUTTERSTOCK

Interview

agriculture was introduced into India in the 1960s. In effect, chemical industrial agriculture is, 'Honey, I Shrunk The Plants'. Then you go ahead and say, "Honey, I used glyphosate, I sprayed out everything – honey, I shrunk the ecosystem. Now, honey, I'm shrinking the planet in terms of the habitable space, ecological space for diverse species."

Starting the Navdanya movement and saving seeds, I built up a farm for conservation and teaching and research and it grows organically. In just one square foot of our farm – where we have no chemicals, we spray no Roundup – I found 12 edible plants that are growing wild, and they're nourishment.

We started measuring nutrition per acre, health per acre. We looked at biodiversity analysis, and interestingly, the more the breeding has happened, the more nourishment has gone out of plants. We can feed two times India's population if we conserve our biodiversity and stop using chemicals that exterminate biodiversity.

People don't connect the beginnings of 'science', or the 'masculine birth of time' as Francis Bacon called it, with the historical time of the enclosures of the commons in England, the colonisation of India and the Americas, slavery and the burning of witches – but it's one phenomena, of violent attempts to conquer for greed, power, control.

The world and its ecosystems and species are interrelated. To lack understanding of those relationships is to lack knowledge, to ignore the health of our body and our gut microbiome – we are fed with any stuff, with any GMO, with any chemical. This is the reason for chronic diseases. We cannot afford this ignorance.

Are we beginning to listen to those views, or is there still a very mechanistic view of the world?

Before the deregulation of commerce, things were far more level, far less polarised. It's not just the defeminisation of knowledge and science, it's the defeminisation of the economy, because

"I think that the three things that can't be taken away from you are your inner freedom and your conscience, your commitment to freedom, and your relationships of compassion"





26%

Food accounts for 26% of global GHG emissions



70%

70% of global freshwater withdrawals are used for agriculture



50%

Half of the world's habitable land is used for agriculture

Source: ourworldindata.org

this system doesn't count women's work as producing. GDP says that if you produce what you consume, you don't produce. The defeminisation of the economy has brought us to poverty, to hunger, to dispossession – it is behind the refugee crisis.

Independent scientists who were looking at the gut microbiome 10 years ago suddenly found, "Oh my God, this is where earth begins." Ayurveda said it 5,000 years ago, and in a way, the new sciences are confirming it. Grandmothers always said it – "you are what you eat, be careful". The grandmother's knowledge, ancient traditions like Ayurveda and the cutting edge, independent ecological sciences are starting to wake up to a feminisation of knowledge.

As a long-time campaigner, how do you fight against the concentration of wealth and power to fewer and fewer people?

We need the whole world. Patenting means you can prevent anyone else from using what is patented. The objective was to prevent farmers from having their own seed.

All the lessons of India's independence movement came back to me, the idea of self-rule and self-making – that's why Gandhi pulled out the spinning wheel and said, "We will not be dependent on manufacturing textiles." I said, "Okay, I'm doing the nonviolent farming, but now I will save seeds."

The tech economy doesn't make anything real that feeds us or nourishes the earth. I think the young people are catching on. Just yesterday, a young man who made a film on us said, "10 years ago, I came to your farm and you inspired me. That film shifted me and now I'm so happy. I'm growing my wheat and baking my bread, and nothing disturbs me because nothing can be taken away."

I think that is the freedom of today. What is in you that can't be taken away? I think that the three things that can't be taken away from you are your inner freedom and your conscience, your commitment to freedom, and your relationships of compassion.

Are you optimistic about society and sustainability in the next five to 10 years?

My PhD, on the philosophy of quantum theory, taught me potential. A very important lesson of quantum theory is uncertainty, because it's all about potential.

The chemical industry did not anticipate the consequences of using chemicals. That's what created the potential for organic farming. The industrial food system did not anticipate the killing of the gut microbiome. Now there's an awareness, and people are becoming conscious of healthy eating, and making different decisions than the mechanical imposition being forced on them.

I see with pain the harm being caused to the earth and people, but I look forward with hope to another world we could shape. 🌱

For more information on Navdanya – a network of seed keepers and organic producers spread across 16 states in India visit: www.navdanya.org

The views put forward in this article are personal to the interviewee and are not necessarily endorsed by IEMA or by Transform magazine.

"I don't talk about greed as the economy, because economy is managing our home, the earth. When you're managing your profits and greed at any cost, you are basically just stealing"

Sustainable investing meets the needs of the present without compromising the ability of future generations to meet their own needs.

And according to the World Economic Forum, we need a lot of it – it has determined that from this year we should be investing about US\$5.7trn annually in green infrastructure. When it comes to energy, the International Energy Agency estimates that we must invest at least US\$53trn during the next 15 years to stop irreversible climate change. Other organisations have calculated that even larger numbers are needed to avert major environmental, social and economic risks.

Where do international standards fit into this? “To avoid greenwashing,” says Hayden Morgan, convenor of the working group developing *ISO 32210 Framework for sustainable finance: Principles and guidance*.

“Harmonisation, trust, transparency and credibility,” says John Shideler, who

leads the ISO working group developing the *ISO 14030* series of standards for green bonds and loans. In other words, they are the tools that enable investors to make sound, sustainable investments.

There are other important related standards in development, too (see *Table 1*), such as those for disclosing the climate change risks of investments, and the environmental credentials of projects and programmes seeking finance – but *ISO 32210* and the *ISO 14030* series will play the central role. What are they, and what benefits will they bring?

ISO 32210 – the framework and guidance

ISO 32210 will be the leading standard from ISO/TC 322, ISO’s new sustainable finance Technical Committee.

Morgan, associate director at the Green Investment Group (GIG), is an IEMA Fellow with more than two decades of experience in this field, including several years with the GIG’s predecessor, the UK’s Green Investment Bank.

The standard will serve as the hub and guidance for sustainable finance. “*ISO 32210* has a wider scope than just environmental management – it covers all aspects of sustainability,” he describes. Crucially, *ISO 32210* is a framework standard. “It is aimed at supporting organisations across the globe to integrate sustainability principles into their activities.”

Rules and codes-of-practice in their various forms are hardly new to the financial sector. However, the situation has become confusing when it comes to sustainability. “There is a proliferation of principles, guides, protocols, pledges and regulations, causing opaque and different market definitions for sustainable finance and thus leading to variable and inconsistent market practice,” explains Morgan. “This also creates confusion among stakeholders and shareholders,

Raising the standard

Rick Gould speaks to **John Shideler** and **Hayden Morgan** about why we need ISO’s new sustainable investment standards, and what they will deliver

as well as a potential lack of trust in a nascent but fast-growing market.” In other words, a hesitance to invest.

ISO/TC 322 is distilling the best of the rules and guidance in order to bring harmonisation. “ISO 32210 will build on existing practice, standards, initiatives and knowledge, and aims to bring clarity and consistency for market participants,” says Morgan.

ISO 32210 will also complement existing initiatives, providing market continuity and confidence. And confidence among investors is crucial. “It increases additional capital to finance the transition and mitigate risk,” says Morgan, while the standard itself will provide the essential element of credibility. “ISO 32210 will also deter inadvertent greenwashing and a misrepresentation of sustainability credentials. It increases coherence, consolidates, harmonises, extends reach and applies global best practice.”

The types of factors which led to the development of ISO 32210 are also the motivation for creating standards for green bonds and debts. How did these particular standards develop?

“The ISO 14030 series will provide the clarity to determine both the eligibility and credibility of green bonds and loans”

Green bonds and loans

In 2007, the European Investment Bank launched the first environmentally targeted bond, aimed at investments combating climate change; the World Bank has labelled such investments ‘green bonds’. Since then, green bonds have boomed shown enormous potential. Last year, according to the Climate Bonds Initiative, issues of green bonds reached US\$257bn, up 51% from 2018, and the growth continues unabated.

Such growth is always accompanied by risks – particularly greenwashing in this case. At the same time, an assortment of proprietary standards, rules and guidance has emerged to support green bonds, including the Climate Bonds Standard,

Table 1: Developing standards for sustainable finance

| Standard | Title |
|-------------|--|
| ISO 32210 | Framework for sustainable finance: Principles and guidance |
| ISO 14030-1 | Environmental performance evaluation – Green-debt instruments – Part 1: Process for green bonds |
| ISO 14030-2 | Environmental performance evaluation – Green-debt instruments – Part 2: Process for green loans |
| ISO 14030-3 | Environmental performance evaluation – Green-debt instruments – Part 3: Taxonomy |
| ISO 14030-4 | Environmental performance evaluation – Green-debt instruments – Part 4: Verification |
| ISO 14100 | Guidance on environmental criteria for activities to support the development of green finance |
| ISO 14097 | Framework including principles and requirements for assessing and reporting investments and financing activities related to climate change |

the Green Bond Principles, guidelines of the People’s Bank of China and the Green Loan Principles. All were intended to boost the growth of green bonds and loans by providing structure.

However, the numerous definitions for green bonds and loans, coupled with the absence of unifying standard rules and criteria, have hindered investment. This is why ISO aims

“We initially started by developing one standard,” says Shideler. “Then we realised we needed complementary standards for a taxonomy of eligible green-debt instruments, and another for verification. Part 1 of ISO 14030 initially covered both types of green-debt instruments, but we decided to split this into two to provide flexibility for the separate requirements of bonds and loans.” Additionally, because ISO 14030 is a certification standard, Part 4 for verification is needed.

What has the response been from the financial sector? “All of the major players are involved, such as the International Capital Market Association, the Loan Market Association and the Climate Bonds Initiative,” says Shideler. “We have been extremely fortunate to have good participation from the financial sector, including major banks, environmental NGOs such as the World Wildlife Fund and the European Environmental Citizens’ Organisation for Standardisation, and trade associations. This participation has been critical for Part 1 of ISO 14030 especially, and their participation has helped to produce standards that are consistent with the existing standards and principles.”

to provide harmonisation, structure, transparency and credibility through the ISO 14030 series.

“The ISO 14030 series will provide the clarity to determine both the eligibility and credibility of green bonds and loans, as well as a robust reporting mechanism for investors,” explains Shideler, who has worked in standardisation for climate-related fields for several decades and is president of change management organisation Futurepast. The ISO working group convened by Shideler – which includes another IEMA Fellow and colleague of Morgan, the GIG’s Adrian Barnes – has been developing the series since 2017, and its work is nearing completion. How has it evolved?

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

A call for consistency

The case of Boohoo has led to more cries for harmonisation of ESG standards and ratings – but is this realistic? **David Burrows** reports

Allegations that workers in the Boohoo supply chain were underpaid and subjected to poor factory conditions – including lax safety protocols relating to COVID-19 – were “not only well-founded” but “substantially true”, according to an independent review published last month. The issues were also “endemic”.

The findings will surprise few. Exploitation of this vulnerable workforce has, in many ways, been fast fashion’s open secret. That it happened to Boohoo was also predictable: campaigners, MPs and the media have all raised red flags before. However, the mud never stuck enough to distract consumers or investors. “The firm is paying only so much attention to how big companies are meant to behave,” said *The Economist* in 2019. “Boohoo’s facts are millions of young customers and runaway growth, a combo that seldom goes out of style.”

Boohoo has been making money, so why ask questions? After all, its ratings in relation to environmental, social and governance (ESG) criteria held up. Indeed, the company ended up in a number of sustainable funds. How? And what does this mean for the future of sustainable finance and investment?

Opinions, not facts

COVID-19 has created a surge of interest in sustainability risk disclosure, and the role of ESG criteria in financial markets continues to grow, with sustainable funds launching at “record pace” according to Fitch Ratings – one of the ‘big three’ credit rating agencies. Commentators have pawed over market data to show that companies with high ESG ratings are proving more resilient to the pandemic.

However, an ESG rating won’t always help us discern the heroes from the villains.

“It is easy to blame the providers,” says

Wolfgang Kuhn, director of financial sector strategy at ShareAction, a charity promoting responsible investment. “They give opinions, and when these turn out to be inaccurate, the blame usually falls on them.”

Like credit ratings, ESG ratings are opinions, not facts. However, the questions being answered are far trickier. While a credit rating focuses on the probability of default, ESG reaches across everything from climate change risks and workplace accidents to packaging footprints and board diversity. “We’re dealing with topics which can sometimes be difficult to quantify, and even more difficult to distil into a single number,” explains Carlota Esguevillas, a consultant at Simply Sustainable.

Data disclosure

Much also rests on the data – the quality of which is hotly debated. ESG ratings providers generally calculate scores using publicly available information, including company statements, annual reports, news stories and reports from NGOs. Any assessment can be hamstrung by a lack of disclosure.

Research by consultancy Ricardo found that half the FTSE 100 have not conducted any future climate scenarios to inform their risk register. Others have found gaps, too. “While we know that women are underrepresented in leadership positions, accounting for only 21% of board directors of the 2,000 most influential companies globally, we found that many companies in the apparel industry fail at disclosing quantitative and qualitative gender data to stakeholders,” says Dan Neale, social transformation lead at World Benchmarking Alliance.

While some metrics fail to materialise, others are difficult to quantify. Consultants are struggling with how to measure the ‘S’ of ESG, which has risen to prominence during the pandemic. Researchers at MIT Sloan and the University of Zurich found that ratings agencies don’t always agree on how to measure a company’s performance in relation to human rights. In their paper ‘Aggregate confusion: the divergence of ESG ratings’, they described how the scope of the ESG categories, measurement of them and how they are weighted



all differed between agencies. "The correlations between the ratings are on average 0.54, and range from 0.38 to 0.71. This means that the information that decision-makers receive from ESG rating agencies is relatively noisy."

Such ambiguity can leave investors and corporates with a headache. The former can't decipher the leaders and laggards, while the latter are given mixed messages about what's expected of them and the actions that will be most valued by the market. In April, an International Organisation of Securities Commissions (Iosco) report revealed there are three recurring themes during discussions with regulators and the industry (asset and fund managers, audit firms, credit rating agencies and so on): multiple and diverse sustainability frameworks and standards, including sustainability-related disclosure; lack of common definitions of sustainable activities; and greenwashing and other challenges to investor protection.

Alphabet soup

The pandemic, meanwhile, is helping fan the flames across a number of sectors. Think about what's happened at meat plants, with outbreaks of COVID-19 and site closures. "The working conditions are not suddenly bad," says Christy Spees, an expert in sustainable food systems with shareholder advocacy group As You Sow. "They've been bad for a long time."

Calls to harmonise the 'alphabet soup' of arbiters have gathered steam. "There is little consistency, transparency, rigour and scrutiny," says Simon Cole, founding partner at Reputation Dividend, which tracks 200 of the UK's largest listed companies. Measures not only differ markedly but sometimes "go in different directions", he adds. "One agency might show a company 'improving' while another has it 'declining'."

Iosco secretary-general Paul Andrews reportedly wants to standardise the ESG rules with a new set of guidelines that offers the same at-a-glance reference point but remains "granular enough to be meaningful". A taskforce will also probe greenwashing in asset management and examine the methodologies used by ratings agencies, according to the *Financial Times*. Is change in the air? "There is no globally accepted set of metrics for reporting on how a company delivers for society and our planet," PwC global chairman

Robert Moritz noted last month, in a blog about a new list of metrics developed by the big accounting firms and the World Economic Forum to address this gap. The wheel isn't being reinvented, though: the four pillars (governance, planet, people and prosperity) are underpinned by 21 core and 35 expanded metrics and disclosures, taken from existing standards and aligning with the UN Sustainable Development Goals.


Applying pressure

Investors have also begun to pile on the pressure. Some are demanding companies report using the Sustainability Accounting Standards Board (which focuses on the financial impacts of sustainability) and the Task Force on Climate-related Financial Disclosures (TCFD). Kuhn notes: "It rarely seems to occur to investors to tell the companies they own and control to give them what they need." The UK government is planning for all large asset owners and listed companies to provide disclosures in line with TCFD by 2022.

Pendragon Stuart, a consultant at Sancroft International, says TCFD will have a significant impact because it goes beyond the 'tick box' approach of some ESG ratings. "It speaks the language of risk mitigation and value creation," he explains. That it has oversight from the G20 adds weight. Others point to the EU non-financial reporting directive, which is being reviewed to improve disclosure

and reduce greenwashing.

However, those looking for a silver bullet in all this will be disappointed. "These initiatives aren't the answer to either the world's problems or an investor's dilemma when considering responsible investments," says Colin Curtis, founder of TBL Services, a consultancy. "We all want an easy life, and investors just want to make decisions without having to do a lot of background work," but "perhaps that aim just isn't achievable".

ShareAction's Kuhn suggests the excitement about ESG harmonisation is "understandable" but "misguided". A "realism" needs to develop that acknowledges that this can only go so far, he explains. "As for Boohoo: if you didn't see it coming, maybe you were asking the wrong questions." 

DAVID BURROWS is a freelance writer and researcher.

"The information that decision-makers receive from ESG rating agencies is relatively noisy"

Cycling around a city has always been perceived as more of a continental thing. It is easy to imagine, as a British person, a figure moving on two wheels along the side of an Amsterdam canal, or the banks of the Seine, or the front of the Reichstag.

Cycling as a mode of transport is very popular on the Continent (in the Netherlands, there are 23m bikes for 17 million people) – much more so than in the UK. Each year, *Wired* ranks the best 20 cities for cycling in the world; in its most recent list, only five (Montreal, Vancouver, Taipei, Tokyo and Bogota) of the 20 entrants are from outside Europe,

and the highest-placed of those comes in at 12. The UK does not feature at all.

Much of this comes down to two things: a social attitude more conducive to cycling, and government drives to embrace, encourage and build upon adoption of commuting by bicycle.

The inclusion of cycling has been baked into planning and developments for decades on the Continent – but the UK is trailing behind, says **Pete Carvill**

Cycling on the Continent

In Germany, the federal government is currently finalising the National Cycling Plan 3.0, which follows on from the National Cycling Plan 2020. Under the 2020 version, the government set out to promote and improve cycling through the building of infrastructure, evolving traffic regulations, and supporting non-investment pilot projects. While all we know of 3.0 at this date is that it intends to increase the share of trips done by bike within Germany, the federal government has already allotted €98m to the building of cycle tracks beside highways each year since 2015. Other projects include the 62-mile bike highway known as RS1 in North Rhine-Westphalia, which began to open in 2015 at a cost of US\$200m and will eventually connect 10 cities between Duisburg and Hamm.

The federal government in Germany currently provides €200m of funding each year to provide bicycle lanes and paths, with states, districts and municipalities responsible for their construction and maintenance. "But," according to *The Local*, "now there should be a big chunk more money: the government's climate protection programme will provide an additional €900m through the year 2023 to promote the founding of new infrastructure projects in the states and municipalities. This would mean that €1.45bn would be available at the federal level just for cycling by 2023."

France has been taking similar, confident steps. In 2018, then prime minister Edouard Philippe announced plans to increase the share of cycling as public transport



Ticket to ride





The Netherlands has not rested on its laurels, either. Between 2015 and 2018, Forbes reported that 400 miles of cycle highways had been built, in addition to the creation of 25,000 bike parking spaces

around the main train stations in Amsterdam, Heerlen and Rotterdam.

The money is there, too – as Forbes reported, “the Dutch government has announced plans to spend an extra €245m

on bicycle infrastructure. This is on top of €100m that State Infrastructure Secretary Sientje van Veldhoven pledged last year to improve bicycle parking and city-to-city cycleways. Her aim is to get an additional 200,000 Dutch people on bicycles.”



Dijon, Le Mans and St Etienne – were planning temporary cycleways amid the health crisis. And the city of Milan, Italy, told residents recently that 35km of city streets would be made more accessible to pedestrians and cyclists as part of post-lockdown planning.

This has all left the UK trailing. Cycling as a mode of transport has never taken off in the country in the same way it did on the Continent. Cyclists are often viewed with disdain by other road users and are thought of as being a clique that takes itself too seriously. Infrastructure within larger cities has often left a lot to be desired.

That said, there have been some encouraging signs. In 2008, Bristol was deemed to be the UK’s first ‘cycling city’, an award that came with an £11.4m grant to improve infrastructure. In 2018, it was announced that there were plans for a 10-year project, costing £1.5bn, to build 75 miles of segregated cycle lanes and 1,000 miles of route across Greater Manchester. The Department for Transport managed

from 3% to 9%. Other measures included Plan Vélo, which has a €350m budget to spend on building cycle networks across the country over seven years, beginning from this year; introducing cycling lessons in schools by 2022; and incentives and bonuses for civil servants and employees who cycle to work.

Within Paris, mayor Anne Hidalgo has promised that all streets will be cycle-friendly by 2024, the plan for which included the elimination of 72% of on-street car parking spaces. However, it seems to have stuttered somewhat. As *Transport Environment* wrote in January, “Hidalgo initially promised a doubling of the existing 700km of lanes to 1,400km by March 2020; she has since revised that down to a total of 1,000km, and just under 40% had been built by the end of 2019.”

The countries with perhaps the tightest societal bonds to cycling are Denmark and the Netherlands. The former’s capital, Copenhagen, has a 350km network of cycle paths, allied with a traffic light system favouring cyclists that helps 62% of its residents commute to work on two wheels. This drive (or ride) has even spawned the local verb ‘Copenhagenise’, which describes the turning of cities into bike-friendly places. This push has been replicated across the country during the past eight years. In 2012, there were 17km of cycle superhighways; that figure now stands at 167km, with plans for 680km by 2030 and more than 750km by 2045.

“UK cyclists are often viewed with disdain by other road users and are thought of as being a clique that takes itself too seriously”

On your bike

The coronavirus epidemic has given buoyancy to the advancement of cycling across Europe. It appears that well-founded fears about travelling on public transport pushed many commuters to cycle to work, abandoning trains and buses – in April, broadcaster Deutsche Welle reported that there had been 40% less traffic on Berlin streets since the lockdown. And it seems that governments are happy to oblige. In Paris, it was reported a few months ago that the Ile-de-France region would be putting €300m into building temporary and permanent cycle lanes, the first of which were slated for completion by May. It was also announced that 116 towns and cities – including Lyon,

to get in on the act in 2017 with an announcement that is intended to double cycling from its 2013 level by 2025, plans publicised in its Cycling and Walking Investment Strategy.

All of this should have been coming to a head in the UK with the announcement from the government in May, communicated through its *Gear Change* report, of £2bn of new funding for walking and cycling. It is an admirable and ambitious number, but *Gear Change* is vague and lacks detail, fine or otherwise. The smart decision, until something concrete appears, would be to make your own plans to get onto two wheels. 🚲

PETE CARVILL is a freelance journalist.

Getting ships into shape

Simon Bullock
assesses the possible decarbonisation of the shipping industry



Our prospects on climate change seem to get both better and worse with every passing year. The impacts get worse:

Australian and Californian wildfires, disintegrating ice sheets, flooding, drought. However, in some areas, we are starting to see real progress after decades of inaction. Wind and solar are now the cheapest power sources worldwide, and coal power is almost completely off the grid in the UK – unthinkable just 10 years ago.

Nevertheless, we need much more rapid action, and in every sector: the IPCC's *Global Warming of 1.5°C* report states that we should be aiming for global zero CO₂ emissions by 2050. That might be doable for electricity, but for some other sectors, such as shipping, it will be a challenge.

Shipping is pivotal to the world's economy – it transports more than 80% of the world's goods by volume. It's also a big polluter: if it were a country, it would be the sixth biggest CO₂ emitter, between Japan and Germany. Getting shipping to zero-emissions is therefore a big deal.

Existing ships

A lot of the current debate in shipping is over how to get to zero-carbon ships. The global Getting to Zero Coalition is working on how to ensure such ships are operating on our oceans by 2030. There are many options for low or very low-carbon propulsion systems, such as hydrogen, ammonia, batteries, methanol and even wind. All have their difficulties, and different parts of the sector will likely use different systems. Ports and fuelling infrastructures will also need to change.

While a zero-emission target date helps focus attention on the need for these new technologies, it's not the end date that matters from a climate perspective. CO₂ stays in the atmosphere and warms the planet for hundreds of years; it is the amount of cumulative emissions up to the point of zero emissions that determines the level of warming.

How much carbon will the sector emit before the zero-emission target date? To answer this, we need to turn our attention to existing ships. One difficulty is that ships are so long-lived compared with cars or TVs or lightbulbs – each ship is in use for, on average, 27 years. That means that the existing global fleet of around 90,000 ships will keep churning out pollution for many years to come.

Researchers from the Tyndall Centre at the University of Manchester published a new paper on this challenge, 'Shipping and the Paris climate agreement: a focus on committed emissions' (bit.ly/30TQMfd), this summer. First, they calculated how much carbon dioxide the shipping sector can emit before it exceeds its fair share of the Paris 1.5°C temperature limit. Then they calculated the 'committed emissions' from the future operations of today's



ships. The findings are bad news for the climate: without action focusing on the ships operating today, the existing fleet on its own will take up more than the entire carbon budget for shipping.

So, while zero-carbon propulsion systems for new ships are important, it is not the only part of the answer – there has to be a focus on cutting emissions from existing ships as well. The University of Manchester team investigated multiple measures. For example, cutting speeds saves a lot of fuel. There are multiple operational efficiencies that could be utilised, such as fitting sails like Flettner rotors, or using paints that reduce drag. Blending zero-carbon biofuels into the fuel is an option if other sustainability concerns can be overcome. Ships could plug into electricity grids when in port, rather than using their auxiliary engines. Hybrid engines could be retrofitted in the coming decade, and whole ships retrofitted to use zero-carbon fuels such as ammonia as these fuels become available from 2030.

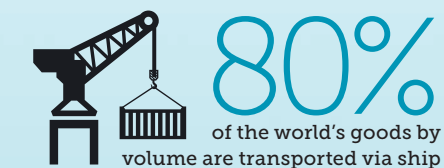
The good news is that if all of these options are taken up, and quickly, it is still possible for shipping to stay within a 1.5°C-compatible carbon budget – so the research has a message of both urgency and hope. Solutions exist, but there is not a lot of time. Any delay in action makes the challenge harder in the future. The research illustrates that there must be a focus on existing ships, not just on developing zero-carbon fuels for new ships in 10 years' time.

Stepping up

Will this happen? Shipping is a global sector, and its environmental governance is handled primarily at the global level by the International Maritime Organisation (IMO). In recent years the IMO has set a greenhouse gas target to cut emissions by 50% by 2050 compared to 2008. This is far stronger than the targets set in aviation, but it is not sufficient – zero emissions of CO₂ by 2040 would be Paris-compatible – and there are not


yet adequate policies to meet this target.

Moreover, the IMO's recent Fourth Greenhouse Gas Study showed worrying signs that emissions are rising. The IMO plans to have stronger policies on both existing and new ships by 2023, but the pace of policy development is glacially slow, and progress on critical issues such as carbon pricing has stalled – international marine fuel, like aviation kerosene, continues to be exempt from all taxation. The IMO can enact policies – this year saw global regulation to limit sulphur dioxide pollution – but it seems prudent to assume at the moment that it will not act with sufficient speed on climate.



This means that national and regional governments, and the shipping sector itself, will need to step up. The EU is leading the way – its frustration with the speed of IMO talks led it to vote for shipping to become part of the EU Emissions Trading Scheme (EUETS). This is a welcome move from a climate perspective, but the EUETS is also not aligned with Paris 1.5°C.

Decarbonising shipping is complex. It needs multiple solutions at multiple levels, which will require multiple actors and multiple policies. There is a clear role not just for international and regional entities such as the IMO and the EU, or big shipping companies such as Maersk and Carnival, but also national governments. Last year the UK published its Clean Maritime Plan – a world-first document, with high ambition. But this high-level plan now needs stronger policies to make turn its ambition into a reality.

There's a strong case for the government's spending review this autumn to include a major infrastructure fund for shipping and port decarbonisation. One mechanism could be the provision of grants for ports to provide 'shore-power' for ships to plug into while at berth; this would also help cut local air pollution in urban areas. Along with battery storage, renewable power generation and the electrification of cranes, gantries and trucks, shore-power is one element of a future 'smart port' electricity strategy. There are similar opportunities for the development of hydrogen and ammonia infrastructures, using increasingly abundant and cheap North Sea offshore renewables. And the North Sea and English Channel short-sea passenger and freight routes are the perfect test-bed for deployment of hybrid and then fully electric ships, as battery costs continue to plummet. However, progress on all of these will require UK government policy and leadership. 

SIMON BULLOCK is a PhD researcher at the Tyndall Centre for Climate Change Research, University of Manchester.



Fast track to the future

The Rail Social Value Working Group explains the key role rail infrastructure can play as the UK 'builds back better' from COVID-19

COVID-19 has highlighted how essential rail infrastructure is for the UK. While rail services have looked very different to business as usual, with passenger usage dropping by as much as 96% according to government statistics, the network has kept essential services going. Freight services have kept supermarkets stocked and passenger services have enabled key workers to get to work. Our role in this pandemic has brought the industry even closer together, and we are now asking how we can best serve the UK not just through the pandemic, but beyond.

Improving air quality

During the pandemic we have seen dramatic changes in the way people travel, with traffic reducing by up to 23% and the use of bicycles more than tripling on some days. The noise reduction and air quality improvements have reminded us of the impact our travel behaviours can have on our health and wellbeing. This presents an opportunity to attract more passengers to rail. We will also need to build and maintain strong relationships with stakeholders in other low-carbon forms of travel, to co-create transport hubs that can contribute to a healthier society.

With decarbonisation and air quality strategies in place, the industry has a mandate to act in a coordinated way and make rail an even cleaner and greener way to travel – and it is embracing the changes required to meet the UK's net-zero carbon target. We

know that a great deal will be achieved by continuing to electrify key passenger and freight lines. Excitingly, we have already shown through working with the Riding Sunbeams social enterprise that locally and renewably generated electricity can be provided to the third rail network in England's South East. In 2019, Riding Sunbeams' pilot demonstrated that a 30kW solar scheme could directly connect and provide power to the rail traction system. The triple bottom line approach taken by Riding Sunbeams delivers subsidy-free, low-carbon energy that also brings social value and the ability for local communities to invest in the decarbonisation of their railways.

Through the South East Local Enterprise Partnership, Riding Sunbeams has been given access to the government's Build Back Fund in order to expand and build the first MW-sized solar farm in collaboration with Network Rail. The project will comprise up to 3.5MW of panels across 16 acres, which will generate power for about 880 homes and provide annual CO₂ savings equivalent to 1,880 tonnes each year. Once this solar farm is running and has passed industry standards, it is forecast that 10-15% of the third rail network could be powered this way. This shows that rail can not only decarbonise – it can also play a key role in the renewable energy revolution, which will be essential to decarbonising the UK's electricity and energy supplies and making regional energy networks resilient through capacity building.

The fact that these projects are community-led and co-owned brings multiple additional social sustainability benefits, including diversified energy supply chains, green job creation and a reduction in fuel poverty. The MW farm is predicted to create 40 green jobs throughout its 25-year life span, from development and construction to operation and maintenance. It is through cross-sector partnerships with local enterprises and communities



“Rail can not only decarbonise – it can also play a key role in the renewable energy revolution”

that we can engage with and bring benefits to more people.

Reducing social disparity

The UK government has indicated that it will invest in infrastructure, including rail, to boost recovery from the pandemic. It is vital that public money is spent in a way that delivers the maximum benefit to the most people. At the same time, the government wants to reduce the UK's prosperity gap. The development of the Common Social Impact Framework for Rail (a social value framework developed by Network Rail and the Rail Safety and Standards Board for use by the rail industry), with monetised benefits for social impacts of investment decisions, could change the way we look at the businesses case for transport investment.

To build back better and 'level up', we need to measure and set goals in the railway industry for:

- Supporting local businesses, enterprises and supply chain partners
- Working with charity partners and support groups to provide support to vulnerable people
- Promoting wellbeing and mental health
- Creating a diverse workforce and inclusive workplace and travel experience for all.

Building community

We have seen a strong volunteering and community movement during this crisis. From NHS responders to foodbank collections and befriending schemes, communities have come together. The rail workforce, including many key workers themselves, have been going the extra mile to support the NHS and their local communities. Stations have been decorated in rainbows and rail landmarks lit blue

on Thursday evenings, while staff have collected and distributed food parcels, produced and donated thousands of items of PPE for frontline workers, and even helped build and equip Nightingale hospitals. This demonstrates the power of an engaged workforce and a grassroots movement, as well as the ability to react positively in a crisis.

Rail can help maintain and accelerate these movements by:

- Enabling initiatives such as rail confidence schemes, sustainable travel awareness, and partnerships (eg with schools, colleges, local groups, authorities and businesses) that enable joined-up working to promote and boost access to sustainable mobility across the network
- Reaching out to local authorities and transport partners to discuss how improvements to walking and cycling routes and facilities, and local bus and community transport services, can be connected with rail in order to support integrated, sustainable journeys
- Taking every opportunity to make rail a positive experience for all, especially those with physical or more hidden disabilities, so that more people can and want to travel by rail
- Engaging with the street community via the industry's Routes out of Homelessness initiative, in order to help and support people to build their lives back better.

Keep sharing

This is not a comprehensive list of how rail can contribute: we face many uncertainties, so ongoing dialogue and innovation is key. Get in touch at sustainabledevelopment@rspb.co.uk 📧

THE RAIL SOCIAL VALUE WORKING GROUP is a Rail Safety and Standards Board-hosted industry group.

See you in **court**

Climate change litigation is on the rise globally and in the UK – **Huw Morris** reports

Ask any environmental lawyer about climate change litigation and the conversation quickly turns to Urgenda.

An environmental foundation of that name in the Netherlands, together with 900 citizens, challenged the Dutch government to do more to prevent climate change. The district court of the Hague ordered the state to limit greenhouse gas emissions to 25% below 1990 levels by 2020, ruling that the government's pledge to reduce them by 17% was not enough to meet the state's fair contribution to the UN's goal of slashing global temperatures. The state, it concluded, has a duty to take mitigation measures due to the "severity of the consequences of climate change".

This was the first decision by any court in the world to order a state to limit greenhouse gas emissions for reasons other than statutory mandates. Last December, the Dutch Supreme Court upheld the ruling.

Calls for action

"Urgenda has put climate change litigation at the forefront," says Rowan Smith, a solicitor at Leigh Day who specialises in judicial review claims with a focus on the environment and human rights. "A lot of lawyers have taken inspiration from that."

Leigh Day is spearheading a case on behalf of environmental campaigner Georgia Elliott-Smith, who is challenging the government's decision to exclude municipal waste incinerators from the UK Emissions Trading Scheme, which will replace its EU counterpart after Brexit. Elliott-Smith argues that the exclusion of waste incinerators from the scheme is "nonsense", especially as the 48 currently operating in the UK emit 6.6m tonnes of CO₂ per year – more than Manchester and Birmingham put together. "Their exclusion greatly impedes the UK's efforts to achieve net-zero carbon, especially since dozens

more are currently under construction or awaiting planning consent," she adds. "Incineration does not pay for the burden that its pollution places on society, and there is currently no requirement for operators to reduce carbon emissions."

The challenge covers the government's decision to roll forward carbon emission allowances to future years, and to set a cap on allowable emissions above the level of 'business as usual' emissions. Two fundamental aspects of the UK's commitments under the Paris Agreement are central to the claim: to seek to limit global temperature increases to 1.5°C above pre-industrial levels, and to reach peak global emissions and start to reduce them 'as soon as possible'. Both commitments require substantial cuts in emissions in the short and medium term. By concentrating only on achieving net-zero by 2050, the claimant alleges the government has failed to lawfully take account of those aims.

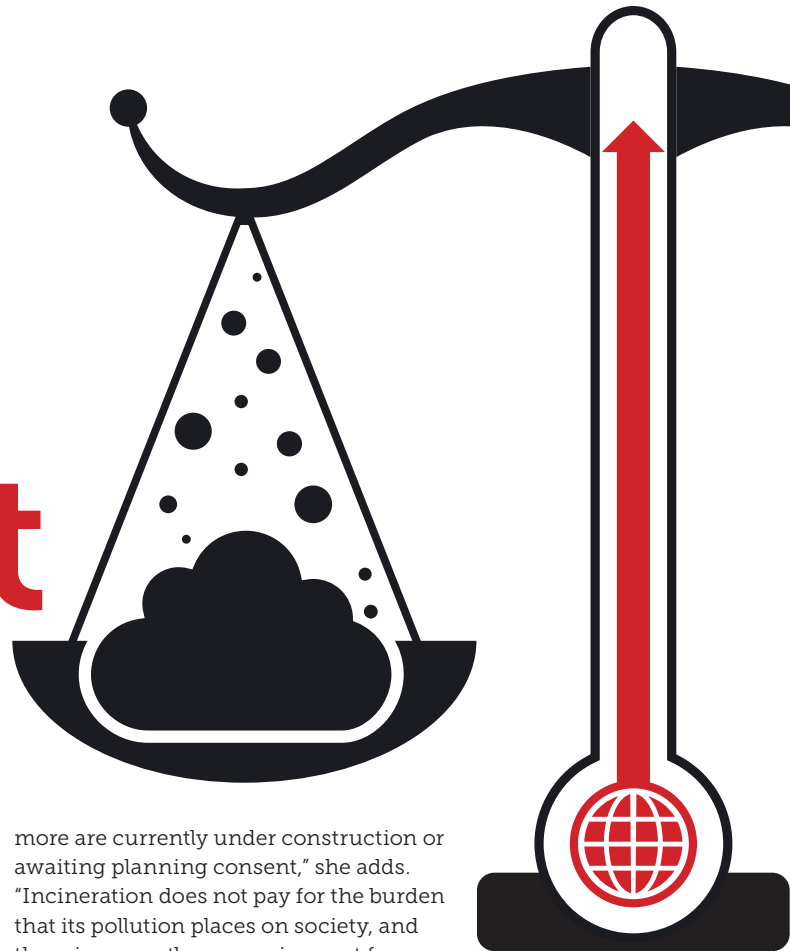
"The Intergovernmental Panel on Climate Change has made clear on numerous occasions that the Paris Agreement requires substantial emissions reductions to be made in the short term," says Smith. "Since the Paris Agreement of 2015, there has been a ramping up of climate change litigation in the UK because it requires more ambitious and rapid action than just the net-zero target. We need deep cuts in carbon in the very short term to meet the target by 2050. The fear among campaigners is that the government will leave making tough decisions until it's too late."

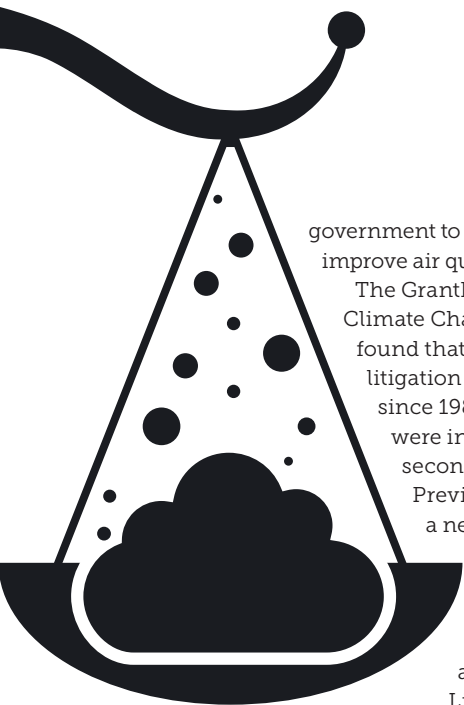


"This government could potentially rewrite the book to its own benefit"

A gathering storm

Climate change litigation is on the rise globally, and particularly in the UK. Some observers point to the achievements of ClientEarth, the environmental law charity with offices in London, Brussels, Warsaw, Berlin and Beijing, which has won three High Court rulings ordering the UK





government to produce stronger plans to improve air quality.

The Grantham Institute of Research on Climate Change and the Environment found that 1,587 climate change litigation cases have been brought since 1986. Around three-quarters were in the US; Australia had the second most and the UK is third.

Previously a tactic used by NGOs, a new wave of claimants, comprising activists, shareholders, investors, cities and states, are using litigation to influence policy and corporate behaviour.


Litigation covers two strands

– adaptation and mitigation on the

one hand, and legal action to force through legal, policy and social change on the other. What's driving them? Observers point to the growing awareness of climate change as the most serious issue facing humanity, with legal action a convenient way to tackle the issues. International treaties are also interpreted and adjudicated by courts to make them effective. Cases are usually pursued in the public law sphere when private law challenge against a corporate organisation will do nothing to solve the problem in the long term.

What about in future? The government's transport decarbonisation policy, decisions on nuclear energy and the debate over airport expansion are widely seen as potential battlegrounds. In particular, all eyes are on the forthcoming Supreme Court ruling on Heathrow; the government's go-ahead for a third runway was previously ruled unlawful by the Court of Appeal, as it failed to take into the UK's obligations under the Paris Agreement into account. "That judgment will influence how things will go in the future," says Smith.

One potential cloud on the horizon is the UK government's move in August to commission an independent panel to consider reforms to judicial reviews. The panel will consider whether judicial review has encroached too far into the work of the executive branch of government. Some observers argue the panel is looking at whether the role of judges has expanded too far, pointing to last year's challenge by campaigner Gina Miller over whether the prime minister's prorogation of parliament was lawful, which was backed by the Supreme Court.

Smith says there is a danger that the panel will codify the grounds of legal challenges, which will only help the government and those defending judicial reviews. "This government could potentially rewrite the book to its own benefit by changing procedures of judicial review," he adds. "They call it streamlining, but that's code for making it harder for claimants." 

HUW MORRIS is a freelance journalist.



CLIMATE CHANGE LITIGATION AROUND THE WORLD

The latest global trends in climate change litigation show emerging differences in actions, according to the Grantham Research Institute on Climate Change and the Environment. Using data compiled by Columbia University's Sabin Center for Climate Change Law, the institute says that, of the 1,587 cases brought between 1986 and the end of May 2020, 1,213 were in the US, with 374 cases in 36 other countries and eight regional or international jurisdictions.

Outside the US, the majority of cases have been brought in Australia (98 cases), the UK (62) and EU bodies and courts (57). More than 80% of non-US cases were brought against governments, typically by corporations or individuals, confirming trends in the type of plaintiff and defendant. Climate change was at the centre of the legal argument in 41% of cases, and was a peripheral issue in 59%.

In cases outside the US, 58% had outcomes favourable to climate change action, 33% had unfavourable outcomes, and 9% had no discernible likely impact on climate policy.

The Urgenda case is having an influence on strategies, with human rights arguments increasingly used. According to the institute's assistant professorial research fellow Joana Setzer, since Urgenda got under way in 2015, individuals and communities around the

world have launched proceedings seeking to achieve similar rulings. There are ongoing legal proceedings in Ireland, France, Belgium, Sweden, Switzerland, Germany, the US, Canada, Peru and South Korea.

Setzer says a new wave of climate change lawsuits have been filed against major fossil fuel companies – the so-called 'carbon majors'. This new wave of litigation is spurred by developments in climate science and research – particularly efforts by Climate Accountability Institute co-director Richard Heede to quantify the historical emissions of these companies, as well as advancements in climate attribution research.

"Various strategies are being used in lawsuits against the carbon majors, ranging from claims of nuisance to fraud and disclosure-related lawsuits, particularly in the US," Setzer adds. "Litigants are also using strategies such as taking claims of deceptive 'greenwashing' marketing campaigns by carbon major companies to courts or to non-judicial bodies."



A woman with dark hair, wearing a black and white vertically striped shirt, is shown from the chest up. She is looking upwards and to the right with a slight smile. The background is a blurred night city street with lights from buildings and traffic. The title 'Room of our own' is overlaid in large white text on the right side of the image.

Room of our own

Author **Leslie Kern**
speaks to Kathryn
Manning about
creating women-
friendly cities

Can a city be sexist in its very structure? Is the equality of urban space something we can create to align with a fairer, more diverse society?

Urban streets can often feel threatening rather than inclusive. In her book *Feminist City: Claiming space in a man-made world*, Leslie Kern exposes the social inequalities built into our cities, homes and neighbourhoods. How does she think we can transform our public spaces into more socially and environmentally sustainable places?

How would you describe your role?

I'm a professor of geography and environment, and I direct the women's and gender studies programme at a small liberal arts university.

How did you discover feminist geography?

In a post-graduate class called 'Race, space and citizenship'. I had never thought about how spaces have raced, classed and gendered identities. I had never seen spaces as having an active role in shaping social relations. Once I had that perspective, I was hooked.

When did you become aware of the barriers to women in the way cities are designed?

My first awareness was around safety issues – for example, the ways that women have to take extra precautions and monitor their movements. This was certainly part of my own experience of city life as a young woman. When I participated in events such as the Take Back the Night marches, I learned that women had to persistently pressure cities, planners and police forces to take their safety needs seriously. Even basic features such as better lighting, emergency call boxes and transit safety programmes had to be retroactively designed into cities, and were met with a lot of resistance and even ridicule.

You lived in London as a new mother – can you give examples of the inequalities in the built environment?

When I had my daughter, the gendered barriers to full participation in city life were suddenly very physically present to me. Public transit was my first site of awakening: as an able-bodied, healthy person, accessing transit had always been seamless and simple. When I was pregnant and then travelling about with an infant, every bus or Tube trip was a major expedition. Much of the system was physically inaccessible, and it was clear to me from the often-unhelpful operators and snide passengers that I was 'out of place' and taking up space that I was no longer entitled to. Other issues included a lack of accessible public bathrooms, overcrowded public spaces and a general lack of thought given to human care work.

Why do we need cities that take all genders and sexual orientations into account?

If the pandemic has shown us anything, it's how important the invisible, underpaid and even stigmatised work of care, cleaning and feeding is, and what the barriers to that work are. It's not that only women do this work, but historically women have been the most responsible for it, inside and outside of the home. If we don't acknowledge this, we find ourselves scrambling as a society to figure out how to close the gaps when a crisis comes along. I think the pandemic has also illustrated how much social planning relies on the notion of the traditional heterosexual nuclear family with traditional gender roles – the assumption that someone will be able to care for children who are out of school and daycare, and that this somehow won't have enormous effects on the entire economy. There's still an outdated sexism and heterosexism that

"Mixed-use neighbourhoods with a tight proximity of social services, great public transit and affordable housing could really improve women's lives"

misses the reality that most people don't live their lives in ways that fit into these neat, but outdated, boxes.

How can urban spaces be improved for women?

Some cities, such as Paris, have been talking about the idea of the '15-minute city'. This mirrors long-standing feminist visions of the city where spaces of care, work, school, leisure and consumption are not physically separated into distinct zones with the need to commute between them. Mixed-use neighbourhoods with a tight proximity of social services, great public transit and affordable housing could really improve women's lives.

How does the environmental side of your work inform your ideals?

Environmental problems in cities – such as pollution from industry, cars, diesel buses and trucks – has gendered, classed and raced impacts. Low-income minority communities are more likely to be near sources of pollution. Children have higher rates of asthma and other respiratory issues, and women remain their primary caregivers. It's their livelihoods that suffer as they juggle the needs of sick children with precarious housing and

Infrastructure

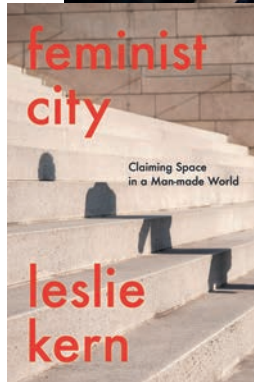
employment. There's a need to take an environmental justice approach to planning in the 'feminist city' to ensure some communities don't continue to be overburdened with environmental harms.

Are suburban areas more inclusive than urban ones?

Historically, no. The suburbs were explicitly designed to be exclusive: white, middle class refuges from the diversity and disorder of the city. They re-imposed a strict gender order: stay-at-home wife, breadwinner husband. Their design made it difficult for women to take up paid work and juggle their unpaid domestic responsibilities at home. In recent decades, as urban areas have become more expensive due to gentrification, lower income and racial minority households are being pushed out to the suburbs. Unfortunately, most suburbs don't have the benefits of urban life: you have to have a car, things are spread far apart, there are fewer social services and worse connections to places of employment.

How can ethnic minorities be supported in the built environment?

We must reduce the harms caused by over-policing, police violence and over-incarceration, and direct public resources into services, developments and projects that would actually tackle the problems we've decided the criminal justice system can solve. I mean affordable housing, childcare, a living wage, affordable transportation, education, healthcare, sustainability and any other social services and spaces needed. Imagine if, as sustainability professionals, you had access to the kind of funding police services do. What amazing projects could you complete?



Can you give examples of inclusive urban spaces?

The trend has been toward more exclusive spaces: corporate-controlled, surveilled, less diverse, more expensive. Where I look for inspiration is grassroots actions, spaces and sites of protest where people are creating different ways of relating, consuming, caring and living. I encourage people to find these spaces in their own cities: it might be a co-housing project, community garden, refugee welcome centre, public toilet initiative, protest camp, co-op store or mutual aid society. They are there, but not likely to be found on a list of 'top 10 things to see and do'.

How can technology provide equality of space?

Women's anti-violence organisations have been experimenting with different

digital options that allow women to track and report harassment on city streets or on public transit. Domestic violence shelters are also rolling out apps that are disguised as something neutral, such as a step tracker, so that women can install them on their phones, which are often monitored by abusers. The apps can link women to services or hotlines in a discreet way. Obviously access to internet infrastructure is an urgent question, so planners should also be thinking about the virtual world as a necessary 'space' for public interaction.

What would you like sustainability professionals to learn from your book?

I would hope people can see equality and sustainability as interlocking goals which, when supported together, further each other's aims.

The environment is not in competition with equality. Rather, if we put questions of equality and sustainability together at the heart of our visions for the future, we can start to plan for and make real cities that are socially and environmentally sustainable in the face of the numerous challenges that we must tackle. 🍎

"I would hope people can see equality and sustainability as interlocking goals which, when supported together, further each other's aims"

LESLIE KERN is associate professor of geography and environment and director of women's and gender studies at Mount Allison University. Her book *Feminist City: Claiming space in a man-made world* is published by Verso.

The Packaging Diaries

Frozen food specialist Iceland grabbed headlines recently when its MD Richard Walker called for all supermarkets to publish their plastic packaging data. Iceland's own report placed plastic packaging into three categories: primary (food and non-packaging); secondary (shrink wrap etc); and tertiary (pallet wrap). It was then split into 'branded' and 'own label' products, and data was displayed in two metrics: tonnes and number of items.

For example, in the UK, Iceland used 9,206 tonnes (708,296,776 items) of plastic to package its own products last year. These are numbers the media loves: big ones that are on page two of a four-page document, and supplemented with a soundbite. "In the single year 2019 we generated more than 1.8bn items using primary plastic, and over 100m items of secondary and tertiary plastic," Walker wrote in an accompanying blog.

This is "terrifying", he said. So is Iceland's single-minded approach to the issue. There was no data on whether those items were recyclable, for example – but that wouldn't have played to this corporate's tune of 'plastic is bad, ergo anything else is good'. "It's ultimately shallow without the supporting detail," Simon Gandy, an associate director at Ricardo, told me. "And I'd like to know what they're using instead of plastic, and how they know it's not worse."

Determining what's worse or better is difficult. Researchers at the Cambridge Institute for Sustainability Leadership assessed different drinks packaging materials against metrics such as carbon emissions, water use and recycled content, concluding that "not one material came out clearly as having the lowest relative impact in the areas examined". How can brands expect to cut through with such nuance when the likes of Iceland are pushing simple and seductive messages around plastic elimination?

Companies have every right to choose the values important to them – "We won't be guided by the single-issue approach of carbon," Iceland's head of packaging told me last year – but that doesn't mean others will, or should, take the same approach. This is my other bugbear with Iceland: it embraces certain issues, then points the finger at those who don't sign up,

"I'D LIKE TO KNOW WHAT THEY'RE USING INSTEAD OF PLASTIC, AND HOW THEY KNOW IT'S NOT WORSE"

too. The same has happened with palm oil, which the retailer also banned. There are huge challenges in producing sustainable palm oil, but shunning it – for alternatives that could be worse on certain metrics – is no solution. On food waste reporting, mind you, Iceland has a point: supermarkets and foodservice firms should publish data.

They should on plastic, too – but it needs to be more detailed. Iceland has cut its plastic footprint from 13,000 tonnes to 9,206 tonnes. Some of the 3,794 tonnes that have gone will have been unnecessary, but how much? What is being used instead, and is it more readily recyclable?

That footprint should also be published alongside those for cardboard, compostables, glass and aluminium, as these materials require more scrutiny. Why there is a Plastics Pact rather than a Packaging Pact? Wrap, which leads the initiative, has argued that it was set up on "in recognition of not just the devastation of plastics in the environment, but also the particular challenges in achieving circularity (recycling) that plastic has relative to many other materials". This is true in some cases, but not all.

Wrap isn't anti-plastic, but it is feeding the idea that non-plastic is best (regulations focused on plastic in the UK and EU do the same). Some plastics have a poor recycling record, but Wrap's own data shows there are problems elsewhere, too. For example, almost as many aluminium cans end up in bin bags as in recycling bins (40,206 tonnes versus 58,403 tonnes). In October, the single-use plastic straw ban also came into force – but how many of the paper replacements will be recycled, or come from sustainably managed forests? 🌲

DAVID BURROWS is a researcher and freelance writer.



CONNECT

SOCIAL AND COMMUNITY NEWS FROM IEMA

The reading room

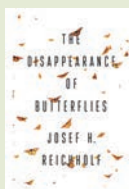
New books to be inspired by...



**The Harmony Debates:
Exploring a Practical
Philosophy for a
Sustainable Future**
Edited by **Nicholas Campion**

This anthology gathers together an interdisciplinary array of experts, academics and practitioners to explore what 'harmony' means and how we can use it.

One traditional view is that everything in the universe operates in a state of balance, while another assumes the interconnectedness of all things – an idea central to ecological thought. Such thoughts also lead to action and policy decisions: for example, how do we conduct business, educate children, protect the environment, resolve conflict and promote health and wellbeing in a world in which all things are fundamentally connected? This book provides a range of perspectives.



**The Disappearance
of Butterflies**
Josef H Reichholf

Eminent entomologist Josef H Reichholf brings a lifetime of scientific experience and expertise to bear on one of the great environmental catastrophes of our time. He takes us on a journey into the wonderful field of butterflies and moths, and immerses us in a world that we are in danger of losing forever.

Step by step, he explains the science behind this impending ecological disaster and shows how it is linked to pesticides, over-fertilisation and intensive farming practices. This book is a plea for biodiversity and the protection of these remarkable insects.

The READING ROOM would like to hear from IEMA's many industry professionals and luminaries about what you are reading and which books you highly recommend. What has informed your thinking? Get in contact at

features@iema-transform.com



KERRIE CRAIG

Environmental Consultant at Royal HaskoningDHV

Delighted to have received my IEMA Future Sustainability Leader Award in the post today! In a week of very positive news from the Prime Minister, intending every UK home to be powered with offshore wind energy by 2030, this added a spring to my step and further motivation to keep up the hard work with our clients to get these offshore windfarms consented and constructed!

[#offshorewind](#) [#enhancingsocietytogether](#)
[#iemaawards2020](#)

QUOTE
UNQUOTE



Impressive to read [#IEMA](#)'s approach to responding to the [#ClimateEmergency](#). I am pleased to see the focus on what the science requires for a 1.5°C cap on warming as well as wider work to influence change [@iemanet](#) [@nblythiema](#) [@ANNA_LISAMILLS](#)



The October issue of [@IEMA_Transform](#) is out. Lots of interesting articles I'll be getting stuck into, along with three of my top book picks by [@mark_lynas](#) [@KateRaworth](#) and the late Gerald Durrell. [@MAREKBIDWELL](#)



Got my copy yesterday, packed with great articles on energy this month! Another excellent issue. [@BLUEDOTAUG](#)



Great to open up the October issue of *IEMA Transform* and read the excellent article by Dr Uchechukwu Okere on the crucial role of universities and education for sustainable development [@MHBROWN2020](#)



[@iemanet](#) Environment Bill webinar. [@RSBenwell](#) of [@WCL_News](#) calling for the government's biodiversity [#GreenTargets](#) to include 'landscape-wide' and 'marine-wide' wildlife improvement, not only targets for (relatively tiny) protected areas. [#UnlockNature](#) [@MAREKBIDWELL](#)

Great speaking as part of a panel today at [@iemanet](#)

Broadway Initiative [@AldersgateGrp](#) event on [#greentargets](#). This is an important subject as the [#EnvironmentBill](#) will establish an important framework for environmental improvements. [@SIGNENORB](#)



Planting seeds

Dorry Price of IEMA Futures examines the growing market for green investments



The 'green bond' market emerged more than a decade ago in an effort to put the global bond market to work in financing the transition to a greener economy. The World Bank launched its green bonds programme in 2007, and the European Investment Bank launched a Climate Awareness Bond programme the same year. Over time, green bonds have become an increasingly meaningful avenue for financial markets to support, and in many cases enable, environment-related projects, including renewable energy infrastructure, lower-emission public transportation and more sustainable waste management.

The expansion of the green bond market has tracked the rise of the sustainability agenda through initiatives such as the Paris Agreement and Sustainable Development Goals. According to the Climate Bonds Initiative, the aggregate green debt market stood at US\$257bn at the end of 2019 and is projected to reach US\$350bn by the end of 2020. This includes both green bonds and green private loans.

'Green' standards

A body of voluntary commitments has been developed to provide integrity to the green bond market. These seek to create accountability through target-setting and reporting, with the aim of avoiding greenwashing and fostering trust in the impact of investing in green bonds.

The United Nations Principles for Responsible Investment (UN PRI) has more than 3,000 signatories from institutions representing some US\$90trn of assets under management. It sets out principles for investment

decision-making and ownership practices relating to sustainable finance. The International Capital Market Association has also published Green Bond Principles (GBPs) covering selection criteria, the management of proceeds and outcome reporting in order to encourage best practices.

Given their voluntary nature, investors may find these commitments insufficient when evaluating whether an investment product will successfully address the environment-related issues on which it claims to focus. This is where certifications such as the Climate Bonds Standard (CBS) are proving valuable. The CBS requires a prospective bond issuer to appoint an approved third-party verifier to ensure the bond satisfies the standard. The standard uses criteria based on science-based targets to determine whether the relevant bond is consistent with a 2°C warming scenario. The hope is that market participants can adopt a consistent approach to marketing and comparing green bonds.

As these frameworks and certifications gain wider acceptance, it is likely that green investments will be more formally regulated in the future. The EU taxonomy regulation, which came into force in July 2020, is one of


the clearest efforts in this direction.

The regulation broadly aims to create a system for classifying economic activities based on specific environmental criteria (including technical screening), as well as to encourage more detailed environment-related disclosures to investors. If the regulation proves successful in practice, it might serve as a template for other countries wishing to formulate more legally binding sustainability requirements.

The impact of COVID-19

COVID-19 has called into question the resilience of the market for green investments. Will the fallout from this pandemic cause issuer supply or investor demand for these products to fall as economic recovery is prioritised above the sustainability agenda? The answer remains to be seen.

It is, however, encouraging that the health crisis wrought by COVID-19 has resulted in a new type of bond: the 'social bond'. Social bonds are intended to finance projects that place social sustainability at their heart. Should they find an enduring market, we can expect the emergence of standards designed to benchmark social sustainability that are informed by the standards already developed for green bonds.

We may, in time, discover that COVID-19 has shone a light on negative externalities of all descriptions. If it does, it could bring even greater relevance to ESG issues and ensure that green investments remain an important theme in financial markets during the uncertain period ahead. 

DORRY PRICE is a sustainability consultant at DNV GL and sits on the IEMA Futures Steering Committee.

"It is likely that green investments will become more formally regulated in the future"





Why did you become an environment/sustainability professional?

I have always had an interest in the environment but my first work role came about when I was asked to help write and implement Skanska UK's first ISO 14001 EMS in 2000. At the time I was a construction site manager working in the civil engineering sector.

What was your first job in this field?

As a member of a Skanska UK working group established to develop our first EMS and roll it out across the business before it was externally certified.

How did you get your first role?

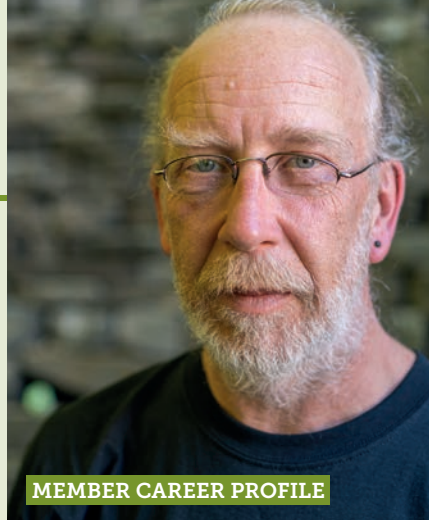
After assisting in writing the EMS, I implemented it within one part of Skanska UK's business and then became the full-time environment advisor.

What does your current role involve?

I am now head of environmental compliance. This involves overseeing the environmental documents on our management system, assisting with internal and external audits, data collection and reporting, and supporting and developing our environment team. I am also on IEMA's Circular Economy, Auditor, and Yorkshire and Humberside Region Steering Groups.

How has your role changed/progressed over the past few years?

I have held several roles, from being a project environment advisor to being



MEMBER CAREER PROFILE

Nigel Sagar

FIEMA CEnv

Head of environmental compliance, Skanska

environment manager for one of the business streams before moving to the Skanska UK central environment team.

What's the best part of your work?

Seeing my team grow and develop from five people in 2000 to more than 60 now. This enables us not just to look at environmental management and compliance but also to bring in green innovations that deliver tangible financial benefits.

What's the hardest part of your job?

Keeping up to date with technologies and not having enough time.

What was the last development event you attended?

I'm taking a leadership and management course, leading to a CMI qualification. The course is focused on the co-operative and community business sector, which I am involved in during my spare time – I am on a committee running a co-operative community pub, and advise other organisations as a development and support advisor.

What did you bring back to your job?

I have already gained a better appreciation of how to identify and quantify social impact and value – an area that I am keen to explore further.

What is/are the most important skill(s) for your job?

Being able to explain things in a way that is understood by my audience and

is meaningful to them, including the financial implications.

Where do you see the profession going?

Making better use of data we have to make informed decisions that really make a positive difference.

Where would you like to be in five years' time?

Living on a planet that has a sustainable long-term future.

What advice would you give to someone entering the profession?

Sometimes you have to take a chance – I came into the profession with little knowledge, but I am still working here 20 years later, really enjoying it.

How do you use the IEMA Skills Map?

Having not come into the profession with a qualification, I have used it to identify and close gaps in my knowledge. It links well with the personal development matrices Skanska uses during our annual reviews.

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

Reliable, detailed, curious.

What motivates you?

I still have time to make a difference.

What would be your personal motto?

Community is strength.

Greatest risk you have ever taken?

Taking a mortgage out to buy a narrowboat to live on. I lived on it for more than 10 years.

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

George Orwell. 📖





DATES FOR YOUR DIARY

iema.net/events

WEBINAR

Environment Bill Series: Environmental Principles

16 November 12pm-1pm

Eloise Scotford, professor of environmental law at University College London, and IEMA chief policy advisor Martin Baxter explain environmental principles and their impact in policymaking.

► Register at bit.ly/3k5xif2

PARTNER EVENT

Sustainable Innovation Forum

16-20 November 2pm-5pm

This virtual event is aligned with the trends and challenges we face, and is designed to build momentum ahead of COP26.

► Register at bit.ly/318KZSU

WEBINAR

Corporate sustainability – Deepening our understanding of organisations and purpose

18 November 10am-11am

Dr Victoria Hurth will set out a model for uniting a corporate organisation to drive wellbeing.

► Register at bit.ly/3j3azPr

WEBINAR

Environment Bill Series: Office for Environmental Protection... a new 'green watchdog'

26 November 12:30pm-1:30pm

Join this session to hear how the new Office for Environmental Protection might approach its role and contribute to environment improvements.

► bit.ly/2H83gJl

VIRTUAL CONFERENCE

Environmental impact assessment for infrastructure projects masterclass

2 December

This virtual masterclass will provide guidance on how to develop an EIA project. Experts will share knowledge and address challenges.

► Discounted tickets available to IEMA members at

www.iema.net/affinity-partnerships

Distanced learning

Marek Bidwell shares what he learned while teaching his first online course

1 Switch it up

In order to keep students engaged throughout, I transferred my interactive classroom style online using Q&As, chat-box quizzes, video clips and breakout rooms. 'Death by PowerPoint' is never acceptable. One powerful technique was switching off the presentation and going face-to-face. Students could see me as clearly on their screen as they could in a classroom, drawing them in.

2 Adapt your exercises

Clients are always surprised at how many bags I have, stuffed with exercises. I had to redesign these to function online. For my jigsaw exercise, I drew the cards on a PowerPoint slide, converted them into jpegs so they couldn't be edited, and shuffled. When students arrived in their breakout rooms, one opened the file and shared their screen, allowing learners to work together. Dropping into each breakout room, I could observe progress and help. When the students fed back to the group, they could share their screen.

3 Keep the energy high

I use flipcharts in the classroom even if I have slides illustrating the point – it is all about energy. I worried about not being able to do this online, so I bought a graphics tablet. I

annotated slides with the PowerPoint 'pen' function or inserted a blank slide and drew on that. I asked questions and wrote answers onto the slide or screen.

4 Chat-box quizzes

In a video blog, Gareth Kane suggested asking students a question and telling them to write the answer in the chat-box, without pressing 'enter'; when sufficient time has passed, say 'post'. All replies appeared at the same time, so groupthink was avoided and I could rapidly evaluate the level of knowledge in the room.

5 Sound quality

Sound is important – you can't subject learners to 'tin-can telephone'. It was only after the first day of projecting my voice that I realised I could turn up my microphone gain and speak at normal volume. Also, ensure you 'share computer sound' when playing a video.

6 Instant feedback

I asked students to leave their microphones on. Why? Instant feedback. Learning is not leaning back and taking a nap. I wanted to hear the 'ums', 'ahs' and 'eureka' moments.

7 Break the ice

Each morning I asked an ice-breaker question and went around the room, so we learnt about each other and discussions were opened up. I also gave students the chance to arrange a private discussion with me each morning to talk about any issue, from the nitrogen cycle to the weather.

Read the full version of this article at bit.ly/3lXnELN



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