

# TRANSFORM

FOR ENVIRONMENT AND SUSTAINABILITY PROFESSIONALS

Environment ●  
Economy ●  
Society ●

Apr/May 2021

[www.iema-transform.net](http://www.iema-transform.net)



The new business targets aiming to halt the loss of biodiversity

## ZERO IMPACT

### PLUS

**At a crossroads** Wanjira Mathai on the growth choices facing Africa

**Skill power** Training up the workforce for a green recovery

**Down the line** The importance of legacy thinking

IEMA

Transforming the world to sustainability



# Multi-Jurisdictional Legal Register Service

Take control of your Environment, Health and Safety Legal Compliance

See what Pegasus can do for your business

The Pegasus service delivers multilingual, multi-jurisdictional, customised legal registers to enable your on-going compliance with management standards, regulations and legislation.

 10,000 Documents

 8,000 Members

 50+ Analysts

 40+ Countries

## Talk to us

To discuss your requirements with a member of our team get in touch:

+44(0)20 3287 4646 | [info@pegasuslegalregister.com](mailto:info@pegasuslegalregister.com) | [www.PegasusLegalRegister.com](http://www.PegasusLegalRegister.com)

## Contents

# APR/MAY 2021

## Upfront

### 04 Comment

Nature and biodiversity have been a haven for many during lockdown, says Sarah Mukherjee – just one reason why it's important we preserve them

### 05 Industry news roundup

### 08 IEMA news

All the latest news and updates

## Regulars

### 10 Legal brief

Regulations, consultations and court news

## Connect

### 32 IEMA Futures

Aona Stuart examines the potential impacts – positive and negative – of electric highways

### 33 Quote unquote

### 34 Member profile

Yeliz Marshall, FIEMA, lead environmental engineer, Tata Steel Strip Products UK

### 35 Network and community news

IEMA Futures; Book Club; events

## Web exclusive

### Bold moves: How green marketing can help to deliver sustainability

John Grant on marketing's role in pushing forward momentum

[bit.ly/3vi2WMI](https://bit.ly/3vi2WMI)



12

16



## FEATURES

### 12 Interview: Wanjira Mathai

Africa is at a crossroads when it comes to the environment, the vice president and regional director for Africa at the World Resources Institute tells Chris Seekings

### 16 Biodiversity

Could science-based targets for nature help turn the tide in the biodiversity crisis? Catherine Early reports

### 19 Jobs and skills

Chris Seekings on how green jobs could drive the COVID-19 recovery – and the importance of upskilling workers

### 22 Policy

Roman Krznaric talks to Huw Morris about long-term thinking and leaving a better world for our descendants

### 24 Infrastructure

Is it possible to reduce the environmental impact of demolition work? Thomas Cleary, Greg Lewis and Daniel Brown discuss their efforts to do just that

### 28 Corporate social responsibility

David Burrows investigates whether the upswing in businesses taking on net-zero commitments is having any real impact

### 31 Journey to PIEMA

Funke Bolodeoku tells Sharon Maguire how and why she became a lawyer specialising in sustainability, and what her role entails

SARAH MUKHERJEE, CEO, IEMA

# Nature's green respite

**H**ello, and welcome to another edition of *Transform*. In the northern hemisphere, the days are beginning to get a little longer and warmer. Blossom is emerging on the trees, and recently, for the first time this year, I was woken by birdsong rather than the alarm clock. Many of us around the world have been in lockdown, with breaks only to buy essential products and for exercise, and we have come to value and love the trees in our area for the green respite they provide – even more than we did before. The mental and physical effects and benefits of walking in woodland are well known, but do we ever think about those who planted the trees that we now so enjoy? On page 22, Huw Morris finds out what it takes to think about the landscape we will leave to future generations, and how to be a good ancestor to the communities of the future.

We in the IEMA staff team have already begun our discussions about representation at the UN climate change conference, to be held in Glasgow at the end of this year. We have some really exciting ideas that we hope will come to fruition, so watch this space for further news! However, there is an equally important UN Conference on biodiversity taking place in Kunming, China, in May. On page 16, Catherine Early looks at how businesses are addressing the ecological emergency, as well as the climate change crisis.

One of the highlights of this job is getting to talk to brilliant and inspiring members and professionals who are working across the world for a better future. On page 31, Funke Bolodeoku tells us about her work in Nigeria, advising organisations on how they can be better custodians of the environment.

I hope you enjoy these and other absorbing articles in this edition of *Transform*. As always, please send us your thoughts and comments about what you like and what you think we could improve. We are always delighted to hear from you!

**"The benefits of walking in woodland are well known, but do we ever think about those who planted the trees we now so enjoy?"**



**IEMA** Transforming the world to sustainability

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**

Seija Tikkis McPhail

**Picture editor**

Claire Echavarry

**Subscriptions**

subscriptions@iema-transform.net  
The 2021 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

 **redactive**

© IEMA 2021  
This magazine aims to include a broad range of opinion and articles that do not necessarily reflect the views of IEMA; nor should such opinions be relied upon as statements of fact.

All rights reserved. No part of this publication may be reproduced, transmitted in any form or by any means, electronic, mechanical or otherwise, without the prior written consent of the publisher and editor.

ISSN 14727625



 **recycle**

  
The paper used to print *Transform* comes from sustainable sources. Visit [transform.iema.net/think-green](http://transform.iema.net/think-green).

# ROUNDUP

ENVIRONMENT &  
SUSTAINABILITY  
NEWS AND VIEWS

**G**lobal energy-related CO<sub>2</sub> emissions rebounded sharply at the end of 2020 following the largest annual decline since the Second World War, recent analysis has found.

The world's emissions fell by around 6% last year, after COVID-19 and national lockdowns caused the use of oil for road transport and aviation to plummet.

However, the latest figures from the International Energy Agency (IEA) reveal that emissions were 2% higher in December 2020 than they were in the same month a year earlier. This was driven by a pickup in economic activity – particularly in China, which was the only major economy to grow last year – as well as inadequate green energy policies, with many countries now emitting above pre-crisis levels.

China saw its emissions increase by 0.8% last year, while India began emitting above 2019 levels from September. US emissions fell by 10% during the course of 2020, although by December they were back to similar levels to those seen during the previous year.

IEA executive director Dr Fatih Birol said that governments must move quickly, with the right energy policies, to ensure that 2019 was the definitive peak in global emissions. "This year is pivotal for international climate action – and it began with high hopes – but these

## AIR POLLUTION

### Global CO<sub>2</sub> emissions rebound sharply

latest numbers are a sharp reminder of the immense challenge we face in rapidly transforming the global energy system," he said. "If current expectations for a global economic rebound this year are confirmed – and in the absence of major policy changes in the world's largest economies – global emissions are likely to increase in 2021."

The latest data also shows that emissions from the world's electricity sector dropped by 450m tonnes in 2020. However, the IEA said that these must fall by around 500m tonnes every year to limit global warming to 2°C above pre-industrial levels. Moreover, it warned that the last year's record increase in sales of electric vehicles is insufficient to offset the growth in emissions caused by the recent uptick in road traffic around the world.

Despite this, Fatih highlighted a number of initiatives that give us reasons to be optimistic about future emissions levels, including China's ambitious carbon-neutrality target and the US rejoining the Paris Agreement. "The EU is pushing ahead with its 'Green Deal' and sustainable recovery plans, India's stunning success with renewables could transform its energy future, and the UK is building global momentum toward stronger climate action at COP26 in November," he added.

View the IEA's figures at [bit.ly/2OC2bg1](http://bit.ly/2OC2bg1)



### ENERGY

# Net zero presents £350bn investment opportunity

The UK's energy sector could attract £350bn of private capital during the next three decades if it does more to develop attractive assets for investors, according to research by Lane Clark & Peacock (LCP).

The consultancy firm explained how insufficient investment is often put down to a lack of demand from investors, when the problem has in fact been due to a lack of supply of assets at the right risk/return levels. It said that the energy industry needs to move away from the assumption that equity assets are the only game in town for investors, given that bonds, for instance, are by far the largest holding of corporate defined benefit pension funds.

With greater deployment of technology and other assets, LCP estimates that the energy sector could attract £12bn of annual investment every year until 2050. However, a business-as-usual scenario would leave a funding gap of £100bn by 2030.



### TRAINING

## Vast upskilling needed to deliver climate ambition

A quarter of workers in the UK's construction, manufacturing and transportation sectors will require upskilling if the country is to deliver net-zero emissions, suggests a study by the Place-based Climate Action Network (PCAN). These workers are likely to see significant changes to their jobs, and will need different skills, but will be in high demand.

The researchers predict that 6.3m jobs will be affected either positively or negatively by the transition; however, the impact will be felt unevenly across the country. Moving to net-zero emissions could help tackle unemployment, but jobs could



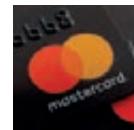
disappear unless workers are given necessary training.

In response, the PCAN has launched its Just Transition Jobs Tracker, which identifies the sector-by-sector job implications of net zero for more than 200 local authorities, enabling policymakers, businesses and trade unions, civil society and citizens to see how their areas could be impacted.

"The climate crisis presents both opportunities and challenges for the jobs market, and it is vital that we take proactive measures so that these changes help to tackle existing social inequalities, instead of worsening them," said Andrew Sudmant, PCAN associate from the University of Leeds.



## BUSINESSWATCH



### Mastercard issues \$600m sustainability bond

Mastercard has issued a \$600m sustainability bond for investors, and will use the proceeds to cut carbon, support environmental choices for customers and foster inclusive growth.

The 10-year bond will pay interest semi-annually at a fixed rate of 1.90%, and has been approved by Sustainalytics, which rates the sustainability of companies based on ESG performance.

CEO Michael Miebach said: "Our sustainability bond will support both social and green initiatives to drive inclusive and sustainable growth for our company and communities around the world."

bit.ly/3btWYzz



### Morrisons to source only from net-zero farms

Morrisons has said that it will become the only supermarket to be completely supplied by net-zero carbon British farms by 2030, five years ahead of the rest of the market. It expects that the first products to reach net-zero status will be eggs in 2022, followed by lamb, fruit, vegetables, pork and beef in the years to follow.

"It's years ahead of industry expectations – and an ambitious target – but it's our duty to do it," said chief executive David Potts.

bit.ly/3rvk7rf



### Volvo to be fully electric by 2030

Volvo has announced it will only sell electric cars by 2030, phasing out any vehicle with an internal combustion engine, including hybrids.

Its decision builds on the expectation that legislation – as well as the rapid expansion of accessible and high-quality charging infrastructure – will accelerate consumer acceptance of fully electric cars.

Chief executive Håkan Samuelsson said: "To remain successful, we need profitable growth. So instead of investing in a shrinking business, we choose to invest in the future – electric and online."

bit.ly/3lOs6dr

## EVENT

## BSI Net Zero Week webinar



**R**eaching net zero will require collaboration between business leaders, policymakers, SMEs, the financial sector and societal stakeholders. A webinar was held in January as part of the British Standards Institute (BSI) Net Zero Week, focusing on legislative drivers that are framing the UK government response to net zero, the tools and techniques organisations can use, and how to prioritise green investment.

BSI's head of sector for environment, social and governance, David Fatscher, observed that the pandemic had foreshadowed many scenarios that organisations will have to anticipate due to climate change. He noted it was critical to combine a robust approach to greenhouse gases with a resilient, adaptable business culture that can prepare companies for the impact of non-financial risks. Standards, he said, are enablers of the innovation, collaboration and acceleration needed.

Ben Kellard, director of strategic business at the Cambridge Institute for Sustainability Leadership, shared insights into how businesses were responding, and highlighted four steps: aligning business purpose, strategy and model to a net-zero future; setting evidence-based targets; integrating goals into operations and supply chains; and looking to collaborate.

Nick Blyth, IEMA policy and engagement lead, pointed to an IEMA

member survey that showed awareness of legislative requirements such as Streamlined Energy and Carbon Reporting, but also barriers to carbon transitions: competing priorities; lack of access to funds; and limitations on internal processes.

Another barrier is the task's scale and the complexity. Knowledge and skills are essential, Nick said: "Not only specific technical skills but also the internal skills and knowledge within the business to drive the transition: management systems, procurement and so on."

Amy Jenkins, deputy director of clean growth, green finance and behaviour change for net zero at the Department for Business, Energy and Industrial Strategy, said that the case for a green recovery had already been made: investing in low-carbon technologies and infrastructure will green future industries and jobs. She pointed to government strategies as evidence of its commitment – from the Energy White Paper to the Treasury's Net Zero Review. Finally, the Net Zero Strategy will set out the government's pathway to net-zero. She highlighted the UN Race to Zero campaign; the dedicated SME Climate Hub it provides; and the appointment of Andrew Griffith MP as UK's Net Zero Business Champion.

The webinar ended with Kate Levick, associate director of climate politics at E3G, stressing that financial regulators and companies' decisions will shape future operational decisions in the real economy. Finance, she said, is a critical element in building climate resilience into the economy and the financial system.

A roundtable discussion covered some of the questions sent in – from how sectors can collaborate to how SMEs can make themselves more investable.

BSI has published its *Net Zero Barometer Report*, which assesses where businesses are in the transition, the changes they're committed to and the barriers they face – find it at [bit.ly/3aKTm6](https://bit.ly/3aKTm6)

## TRAINING

## Government green jobs and skills strategy

During the past few months there has been a great deal of talk about the need for the UK's recovery from the COVID-19 pandemic to be powered by investment in sustainable projects and programmes across all parts of the economy. Few would argue with this approach, but making it a reality will be challenging. We must align the appropriate enabling policies, regulations and standards, along with the support of businesses and consumers. We will also need a workforce that can deliver projects and services in a sustainable way.

Green jobs and skills have recently been the subject of an Environmental Audit Committee inquiry, initiated to help the Committee understand the jobs, skills and training needed to ensure the UK can meet its long-term environmental and climate objectives (eg achieving net-zero greenhouse gas emissions by 2050).

IEMA provided both written and oral evidence to the inquiry, with the latter given by IEMA director of policy and external affairs Martin Baxter. The central theme of IEMA's evidence was the need for the government to put in place a comprehensive green jobs and skills strategy, tied directly to the delivery of the UK's long-term environmental and climate objectives.

The strategy will require several key ingredients to succeed, including commitments to make all jobs greener and to ensure all parts of society have access to emerging green jobs and skills as part of a just transition. More details on what IEMA believes should be included, plus footage of Martin giving evidence to the Committee, can be found at [bit.ly/2Mg82a7](https://bit.ly/2Mg82a7)



## PLANNING

# Impact assessment regime reform

The UK government published a paper on its proposed English planning reforms, *Planning for the Future*, on 6 August 2020, setting out its vision for the most radical reforms to England's planning system since the Second World War.

The stated aims included streamlining and modernising the planning process, improving design and sustainability outcomes, reforming developer contributions, and ensuring more land is available for development where needed. The consultation paper also included an outline of plans for reforming environmental impact assessment (EIA) and strategic environmental assessment (SEA).

IEMA, working with its Impact Assessment Network Steering Group and members, responded to the outline EIA proposals with a paper in September called *Levelling Up EIA to Build Back Better*, setting out key principles that any future reforms of EIA should take into account. IEMA followed up with a formal response to the Planning for the Future consultation and again provided focused recommendations, in particular on SEA and EIA. As a result of these submissions, IEMA was subsequently engaged by the UK government to provide further advice on the planning and impact assessment reforms.

While there is still a long way to go to ensure impact assessment reform is delivered in an effective way, IEMA is encouraged by the government's ongoing engagement. In this respect, IEMA will continue to offer advice to the government on its core disciplines of environmental management and assessment, in order to help shape the development of proposals that maximise the contribution of planning and impact assessment as we transform the world to sustainability.



## POLICY UPDATE

# Environment Bill

The government has announced a delay to the Environment Bill's passage through Parliament, due to COVID-19 restrictions and a bottleneck of legislation making its way onto the statute book. It is expected that the Bill will receive significant interest in the Lords, and the pause means it will carry over into the next parliamentary session, rather than being rushed through without proper scrutiny, or risking being dropped.

IEMA continues to engage with government officials on the underlying governance mechanisms in the Bill. We anticipate that the draft Policy Statement on Environmental Principles will be published shortly and will provide

opportunities for IEMA members to feed in thoughts to help shape our response.

Work is under way to develop the first set of legally binding long-term environmental targets in the areas of waste and resource efficiency, biodiversity, water and air quality. IEMA's Circular Economy Steering Group members met with the Defra officials who are developing a new national resource productivity target, and members of the group are supporting Defra's scenario modelling. We anticipate an autumn 2021 consultation on the suite of draft targets, and will keep members up to date and provide opportunities to feed into IEMA's response.



## NET ZERO

## COP26 – How to join the Race to Zero?

In the build-up to COP26, the UN Framework Convention on Climate Change (UNFCCC) Race to Zero campaign ([racetozero.unfccc.int](http://racetozero.unfccc.int)) is gaining real traction and mobilising commitments. Unlike other races, it can be joined at any stage. How is it going?

Race To Zero is a global campaign to rally climate leadership and support from businesses, cities, regions, investors and universities. It mobilises a coalition of leading net-zero initiatives, already making up more than 12% of the global economy. These 'real economy' actors join 120 countries in the largest ever alliance committed to achieving net-zero carbon emissions by 2050.

There are a number of options for joining. A company can join one of the Partner Initiatives (listed below). Large organisations using science-based targets may sign up to Business Ambition for 1.5°C ([bit.ly/3sCZFFF](https://bit.ly/3sCZFFF)), and smaller ones the SME Climate Hub ([smeclimatehub.org](https://smeclimatehub.org)). All the Partners require that their members fulfil Race to Zero meta-criteria ([bit.ly/3bQCPTS](https://bit.ly/3bQCPTS)).

- **Pledge:** Pledge at the head-of-organisation level to reach (net-)zero by mid-century at the latest, in line with global efforts to limit warming to 1.5°C.
- **Plan:** Explain what steps will be taken toward achieving net zero, especially in the short-to-medium-term. Set an interim target to achieve in the next decade, which reflects a fair share of the 50% global reduction in CO<sub>2</sub> by 2030 identified in the IPCC *Special Report on Global Warming of 1.5°C*.

- **Proceed:** Take immediate action toward achieving net zero, consistent with delivering interim targets.

- **Publish:** Commit to report progress at least annually, including via platforms that feed into the UNFCCC Global Climate Action Portal.

The Race can be joined through:

- **Businesses:** Business Ambition for 1.5°C, B Corporation, Business Declares, The Climate Pledge, SME Climate Hub, Exponential Roadmap Initiative, and Pledge to Net Zero.
- **Chambers of Commerce:** International Chamber of Commerce's Chambers Climate Coalition.
- **Cities:** Cities Race to Zero, ICLEI's Carbon Neutrality Framework.
- **Sectoral initiatives:** Health Care Without Harm, Fashion Industry Charter for Climate Action, Water UK, and International Wineries for Climate Action.
- **Investors:** UN-convened Net-Zero Asset Owner Alliance, Net Zero Asset Managers Initiative (pending approval).



- **Regions/States:** Under2Coalition.
- **Country-wide:** Japan Climate Initiative's Race to Zero Circle.
- **Universities:** Global Universities and Colleges for the Climate, Second Nature.

Pledge To Net Zero ([bit.ly/2OaI5JI](https://bit.ly/2OaI5JI)), an initiative tackling greenhouse gas emissions within the UK environmental services sector, has formally joined the main UNFCCC Race to Zero campaign. Around 80% of UK environmental consulting market is already part of Pledge To Net Zero, launched in late 2019 to convene fast climate action in the UK's environmental sector.

## STANDARDS

## New white paper on ISO 14090 and 14001

While many environmental management systems look to mitigate the impacts of climate change, a new white paper from the International Organization for Standardization will help users to also address the issues of adaptation.

This white paper shows how the standard *ISO 14090 Adaptation to climate change – Principles, requirements and guidelines* aligns with *ISO 14001 Environmental Management Systems*. A useful table shows where clauses in *ISO 14090* relate directly to the detail of *ISO 14001*.

The white paper was produced by a cross-disciplinary team, led by the UK's professor John Dora. Download it at [bit.ly/3uK1Zh4](https://bit.ly/3uK1Zh4)



# NEW REGULATIONS

THE LATEST

■ LEGISLATION ■ GUIDANCE ■ CONSULTATION



1 APRIL 2021

## Water pollution

The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021 introduce measures to address agricultural pollution. They focus on those farms where the environmental risk from poor manure management is greatest and are based on current good practice recommendations.

↗ [cedr.ec/7in](http://cedr.ec/7in)



29 JANUARY 2021

## Brexit

The UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021 gives powers to Scottish ministers to keep devolved law in Scotland aligned with European law in relation to environmental protection following the end of the Brexit transition period on 31 December 2020.

↗ [cedr.ec/7io](http://cedr.ec/7io)



31 MAY 2021

## Air pollution

The Low Emission Zones (Scotland) Regulations 2021 set out the creation and operation of a low emission zone (LEZ) scheme. They make provision for consultation before making, amending or revoking a LEZ; examination of LEZ proposals; approval of devices used in a LEZ; and keeping of accounts.

↗ [cedr.ec/7ip](http://cedr.ec/7ip)



1 APRIL 2021

## Landfill tax

New landfill tax rates for Wales and Scotland have been set for disposals after 1 April 2021. The standard rate is £96.70 and the lower rate is £3.10 per tonne. In Wales, the unauthorised disposals rate is £145.05 per tonne.

↗ [cedr.ec/7iq](http://cedr.ec/7iq)



1 MARCH 2021

## Energy labelling

A brand-new version of the EU energy label will be available in all shops and online retailers from 1 March 2021. They will initially apply to fridges and freezers, dishwashers, washing machines and television sets (and monitors), with light bulbs and lamps with fixed light sources following on 1 September.

↗ [cedr.ec/7iw](http://cedr.ec/7iw)



22 JANUARY 2021

## ESOS

Guidance on the Energy Savings Opportunity Scheme (ESOS), which helps operators find out if they qualify for the scheme and how to comply, has been updated. A definition of a large undertaking for the third ESOS compliance period has been added.

↗ [cedr.ec/7it](http://cedr.ec/7it)



27 JANUARY 2021

## Waste

A new Waste Management Plan has been published for England. Defra is required to produce a new plan every six years, and although it does not introduce any new policies or plans for England, its aim is to bring all current waste management policies together under one national plan.

↗ [cedr.ec/7is](http://cedr.ec/7is)



30 JANUARY 2021

## Planning

The government is proposing a number of changes to the National Planning Policy Framework, mostly relating to the policy on the quality of design of new developments. The proposals also include a number of environmental changes, including amendments related to flood-risk and climate change.

↗ [cedr.ec/7ir](http://cedr.ec/7ir)

# IN COURT

## IN COURT

### Corby career criminal jailed



A 68-year-old is in prison after repeated waste offences spanning the past decade. Stephen Lack, from Corby, was responsible for an illegal waste site that put human health and the environment at risk.

In January 2021, Northampton Crown Court sentenced Lack to 18 months immediate imprisonment after he pleaded guilty to breaching the Environmental Permitting (England and Wales) Regulations 2016 at a hearing in October 2020. Trading as Abbey Skips, Lack repeatedly stockpiled waste on a site in Fineshade without the necessary permits. Any business that handles, stores, treats or disposes of waste must hold the right Environment Agency permits to ensure precautions are taken to protect people and nature from harm.

The previous hearing in October 2020 heard how Lack repeatedly and

deliberately ignored Environment Agency advice and warnings that his actions were illegal and dangerous.

His activities risked contaminating nearby woods and farmland, caused odours and toxic smoke and could have attracted flies and other vermin. He also saved thousands of pounds by burning and burying his waste rather than disposing of it lawfully.

Lack did have a permit to run the waste site in 2009, but a year later was in court for illegally burning waste. Despite being ordered to pay thousands in fines and costs, he continued to offend. His permit was revoked in 2011 and he was ordered to clear the site.

When officers followed up in 2012, it appeared Lack was complying, but five years later the local community began to make complaints. Environment Agency officers found waste was again being stored and burnt on the site. They

warned him to stop the activities, which he ignored, and officers discovered he was also storing a further 1,000 tonnes of waste at a second site.

In 2019 Lack pleaded guilty to a number of charges and was handed a six-month sentence, suspended for two years, for "intentionally and flagrantly disregarding the law". However, he continued his activities, including illegal burning. He was arrested and released on bail, but warned he would be remanded if he was found to be involved in any waste activity.

In summer 2020 Lack breached bail conditions, and he was again arrested in September following further evidence of burning and burial of waste. The judge made an order requiring him to clean up the site within the next 12 months, and adjourned the consideration of a claim for more than £30,000 Environment Agency costs until March 2021.

## CASE LAW

### Application to quash wind farm decision accepted

In *Pearce v Secretary of State for Business, Energy and Industrial Strategy*, the claimant applied for an order quashing the Secretary's consent for the Vanguard wind farm.

The project was related to the Boreas wind farm, and it was proposed they share onshore infrastructure. The interested party applied for consent for Vanguard and submitted an environmental statement assessing the cumulative landscape and visual impacts of both projects. It concluded there were likely to be adverse environmental effects.

The interested party then applied for consent for Boreas.

When determining the Vanguard application, the Secretary decided information about the Boreas project was "limited" and should be considered during the Boreas application. The issue was whether the Secretary breached the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 by not considering the overall cumulative impacts of both projects when determining the Vanguard application.

Under the Regulations, a decision-maker could not grant consent without being satisfied they had sufficient information to evaluate and assess likely environmental effects. The

Secretary had breached the Regulations by failing to re-evaluate information on the cumulative impacts.

Where projects are linked, without any rational justification, cumulative impacts must be evaluated when granting consent in each case – even when little information about the second project is available. In this case, the Secretary's excuse that information was "limited" was illogical and irrational, and several features required the



cumulative impacts to be assessed as part of the Vanguard decision.

The reasons for postponing consideration of the cumulative impacts were inadequate.

Even if it had been acceptable to suspend consideration, the statement that information on Boreas was "limited" did not stop the requirement for the decision to be adequately reasoned.

The court found no justification to withhold relief sought by the claimant, and quashed consent.

**Wanjira Mathai** talks to Chris Seekings about the environmental choices facing some of the poorest nations on Earth

# A fork in the road



Africa has played a negligible role in the climate crisis, with developing nations least responsible for the record emissions and global warming that have brought disproportionate suffering to the world's poorest people. However, booming industrialisation – and the political choices that come with it – could turn Africa into a high emitter just as the West shuns fossil fuels. Wanjira Mathai, vice president and regional director for Africa at the World Resources Institute (WRI) and former chair of the Green Belt Movement (GBM), works to ensure that sustainable choices are made as the shadow of corruption continues to loom over the continent.

## Building a movement

Mathai's mother, Wangari Maathai – the first African woman to win a Nobel Peace Prize – gave her an interest in the environment.

"I saw and understood through her eyes what it means to be an environmentalist," Mathai says. "In the 70s, when she was a professor at the University of Nairobi, she saw that many women were unable to produce healthy food or access drinking water and cooking fuel. She organised them, which was the seed that started GBM."

It's impossible to do the GBM's story justice here, but the documentary

*Taking Root* provides an excellent summary, as does the children's book *Dr Wangari Maathai Plants a Forest*. Launched in 1977, the movement aims to mobilise communities in Kenya, particularly women, to protect their natural environment through planting trees. This helps the women generate income and restores their landscape sources of fodder and their main source of cooking fuel, while also helping to combat deforestation and soil erosion. "As a scientist, her mentality was predisposed to think about solutions, and she understood that environmental and ecosystem integrity is dependent upon a landscape that is not degraded," Mathai says of her mother.

This form of direct community empowerment has been replicated around the country and is responsible for planting more than 51m trees. "One of its greatest achievements has been the high levels of environmental consciousness of Kenyans today – we are some of the most environmentally aware people in the world," adds Mathai. "My mother taught us that we must take care of nature if we want it to take care of us, and how we can all be environmentalists, regardless of the sector we are in – whether we are journalists, lawyers, we all have a role to play in safeguarding nature. The genius behind the movement was in mobilising women into groups to plant trees as a symbol of their activism."

### Today's challenges

Looking at Africa in 2021, Mathai tells me that the biggest environmental challenges are related to climate change, and the delivery of urbanisation and industrialisation in a way that is green and climate resilient. "We are not a major emitter, but we could quickly become one with rapid urbanisation and industrialisation. If we transition into the wrong fuels and infrastructure, we could easily put ourselves on a trajectory towards high emissions."

IMAGES: GETTY



**"Africa is not a big emitter, but we could quickly become one with rapid urbanisation and industrialisation"**

Mathai spends much of her time trying to dissuade policymakers from following in the footsteps of developed countries, which have formed an unsustainable reliance on fossil fuels.

One WRI initiative aiming to promote sustainability and economic opportunity models the opportunities of sustainable development, to show how countries such as Ethiopia can grow their economies and also avoid pollution, build resilience and keep emissions low. "We have a very bullish industrialisation agenda in Africa, and

our energy use must be best for us in the long-run, but the temptation is that we go the cheaper route – and sometimes the route that is perceived to be cheaper is actually more costly," says Mathai. "Infrastructure is one of our biggest opportunities to build forward better from COVID-19, but that also risks being detrimental to the environment, high polluting, and failing to create valuable jobs."

Another area of the WRI's work focuses on development from a societal perspective. Africa has the world's youngest population, with an average age of just 19, and numerous surveys indicate that this generation is most concerned about the environment. "It is about creating valuable jobs, unlocking new opportunities – especially nature-based ones – and investing in young people," Mathai says. "Urbanisation is happening really fast in Africa, so how do we create opportunities for a more equal, inclusive growth, building infrastructure for people, not vehicles,

investing in pedestrian safety, non-motorised transportation such as bicycles, and more mass transit?"

## Lacking accountability

Despite the various organisations promoting sustainable development in Africa, money is often still used on the continent to win elections, consolidate power and further personal interests. Transparency International has ranked South Sudan and Somalia as the world's two most corrupt countries of the past decade, and although the African Union Convention on Preventing and Combatting Corruption has provisions to encourage transparency in campaign financing, implementation is weak.

"We have to get a handle on corruption in all its forms – it is bogging us down and holding us back," Mathai says. "That is particularly true around government transparency and accountability for public resources, but also private resources, so they are invested in building resilience."

This is a pillar of the WRI's work in Africa, institutional and economic transformation – focusing on the political economy and how to deliver change. "It is about understanding underlying power structures and the motivations of governments to do one thing or another, then engaging with the right people to inspire the change we want to see. Who benefits, and who do we need to work with?"

Although Africa is a diverse continent and corruption levels differ between countries, it is losing an estimated US\$50bn every year to illicit financial flows that could have been used to fund environmental initiatives and public services. And despite it being the second fastest-growing region on Earth, research by the World Bank suggests that 100 million more Africans live in extreme poverty today than in the 1990s.

"We are investing in engagement and communications, and trying to understand how change happens in a specific geography," Mathai explains. "We can only get as much change as our political economy will allow. Even if the



## If we expect the Global South to follow a low-emission agenda, the transfer of technology and finance is needed

science tells you one thing, if your political economy is two inches wide, you can only get two inches of change."

## An equitable future

In 2009, the world's most industrialised countries agreed to give developing nations US\$100bn of climate adaptation finance every year by 2020. This promise was not kept, despite the UN warning that climate change will contribute to decreases in Africa's food production, increased flooding, the spread of waterborne diseases and malaria, and changes in natural ecosystems and loss of biodiversity in the near future. Mathai points to the COP26 climate summit in Glasgow later this year as an opportunity for developed countries to up their ambitions and deliver on their promises.

"We need to invest in disaster risk preparedness, build infrastructure that accommodates the reality that we will have increases in flooding, and plan for resettlement of people who are living in areas that face a lot of the environmental damage that is coming down the pipeline," she says. "Inequality is on the rise, and most developing countries and small island states are not responsible for the emissions we are seeing and the impact being felt. We need more ambition from the developed world."

This inequality was laid bare in Oxfam research published last year, which revealed that the average Briton emitted more carbon dioxide in the first two weeks of 2020 than a citizen of Rwanda, Madagascar, Malawi, Ethiopia, Uganda, Guinea and Burkina Faso emit in a year. "Although the big emitters are in the North, it is the Global South that stands to be most impacted by climate change, so we have a huge agenda to build resilience in our communities, societies and countries, and invest significantly in adaptation strategies," Mathai says. "If we expect Africa and the Global South to follow a low-emission agenda, the transfer of technology and finance is needed – a really important partnership. As we've seen with COVID-19, we are a global community, and nobody can manage on their own."



## Environment MScs with a global reputation and extensive industry links

Our practical and industrially relevant MScs allow you to focus on your personal interests and career aspirations.

- Real-world case studies throughout the course enable you to make an immediate impact within the sector.
- Full and part-time MSc, and CPD study options available.
- The MSc of our Environmental Management for Business course is accredited by the Institution of Environmental Management and Assessment.

To find out more about our Environment courses visit:

E: [studyenvironment@cranfield.ac.uk](mailto:studyenvironment@cranfield.ac.uk)

T: +44 (0)1234 758082

[www.cranfield.ac.uk/environmentcampaign](http://www.cranfield.ac.uk/environmentcampaign)

Funding available for 2021

# 2021

## Legislation Update

## HOME show

Coming to you wherever you are

April 20<sup>th</sup>, 21<sup>st</sup> & 27<sup>th</sup>





# Nature's new allies

Business initiatives on climate change are now being repurposed to prevent the destruction of nature, reports **Catherine Early**

The nature crisis, biodiversity loss, the ecological emergency – whatever you want to call it, the issue has been rising up the agenda fast. More than half the world's GDP is reliant on nature, and while it is still playing catch-up to climate change in terms of exposure, the relationship between the nature and climate crises in terms of causes and solutions is putting biodiversity in the spotlight. Initiatives making climate change central to business planning have given us the experience necessary to do the same for nature.

The Science Based Targets initiative has worked with businesses since 2015 to help turn international climate change goals into achievable and proportional business targets. The organisations behind it – CDP, the UN Global Compact, the World Resources Institute and the World Wide Fund for Nature (WWF) – are working on science-based targets for nature.

The idea is that a company will set itself different targets for freshwater, biodiversity, land and oceans, which will depend on its sector and business specifics – but all companies will follow the same structure, which will aim to avoid nature loss and reduce the pressure on nature; restore and regenerate ecosystems and species; and transform underlying systems to address drivers of nature loss.

Though work on the framework for nature targets is at developmental stage, initial business guidance was launched last autumn ([bit.ly/37EXQzD](https://bit.ly/37EXQzD)). This sets out illustrative targets, such as zero deforestation, and targets on water withdrawal and consumption in line with the existing CEO Water Mandate ([bit.ly/37APBEy](https://bit.ly/37APBEy)).

Around 40 companies, industry coalitions and consultancies have signed up to the corporate engagement programme to road-test potential methods and tools. Some sectors are ahead of others when it

comes to awareness of the risk and of the dependencies between nature and business, according to Erin Billman, executive director of the Science Based Targets Network (SBTN). Though the network had assumed that much of the interest in science-based targets would come from companies that already had a science-based target for climate, this has proven to be the case for less than half of those currently engaged, she says.

"It's the food and agricultural, retail, apparel, mining and extractive companies that are involved – they see their impacts and dependencies on nature more directly, and therefore already have more awareness when they come to us."

### Immediate action

The network wants to build from the existing framework for science-based climate targets, rather than create a whole new approach. However, there are fundamental differences between climate change and nature depletion that will need to be taken into account – for example, impacts on nature are often dependent on location and season, and nature lacks the single unit of measurement that greenhouse gases provide for climate change.

While the SBTN is not expected to fully launch the nature targets till the end of 2022, elements are being launched on a rolling basis, explains Billman. These include pilot projects for freshwater, launched in February to road-test new methods for target setting to ensure they are as impactful, cost-effective and as easy to implement as possible.

"While a company can't set a science-based target for nature today, there's plenty of no-regrets actions that they can take – they should not be waiting, because the issue is urgent," Billman says.

Cosmetics company L'Oréal is a member of the corporate engagement programme; according to its environmental leadership director Rachel Barré, almost 70% of the raw ingredients in its products come from nature.

"Tackling nature as a science-based target is not something we can do alone – it requires collaboration, and innovation in new tools," she says. "So we decided to join the SBTN to co-create the methodology."

The firm has worked with the Biodiversity Consultancy to develop a land-use matrix for assessing the land use required along the value chain, including the nature of the activities located in each area and the sensitivity of ecosystems there. Its targets include a commitment that the total land occupancy involved in sourcing its ingredients will be no more in 2030 than it was in 2019, and that 100% of the bio-based ingredients for formulas and packaging materials will be traceable and from sustainable sources by 2030.

**"Tackling nature as a science-based target is not something we can do alone – it requires collaboration"**

The company is hoping to share its tool within the SBTN, Barré says. "This is exactly the intent of the working group – we can share with each other, adapt and upgrade the approach. I don't think one company has the solutions on nature alone."

### Natural disclosure

Separately, a Taskforce on Nature-related Financial Disclosures (TNFD) has been set up to mirror the work of the Taskforce on Climate-related Financial Disclosures (TCFD), following the same theory that data gaps are preventing financial institutions from assessing the nature-related risks of investments.

The initiative is being led by think tank Global Canopy, the UN Development Programme, the UN Environment Programme Finance Initiative and the WWF, which have set up an informal working group to devise a work plan and framework for the taskforce for when it launches in the second half of 2021.

More than 70 companies and financial institutions have so far joined the informal working group, including Rio Tinto, Rabobank, GlaxoSmithKline, Ernst and Young – as have the UK, French, and Peruvian governments, the World Economic Forum and the World Bank.

Chris Hart, senior sustainable finance associate at Global Canopy, says the TNFD had been established because the TCFD had not wanted to broaden its scope to include nature. "I think that was right because they're at a critical stage of uptake, and to confuse organisations by changing the scope of it now would do more harm than good."

The TNFD is working closely with the TCFD to align the processes as much as possible, Hart says. "The hope is that businesses and finance institutions that are setting themselves up



**"Resource companies have concerns around sticking their head above the parapet in terms of providing greater transparency"**

internally to report against the TCFD will be able to take a lot of that investment in people and time and apply it fairly easily to the TNFD," he says. "That's the objective, though we know that there will be wrinkles due to the increased complexity of natural capital-related risks."

Bas Rüter, director of sustainability at Rabobank and co-chair of one of the informal working group's workstreams, says the process is benefitting from the TCFD's previous work. "Financial institutions are willing to pick this up quickly, though I see a slightly slower uptake in the multinational companies, with the exception of the food sector," he says.

He defends businesses from criticisms that they are still not disclosing sufficiently on climate, such as a



recent review by Client Earth lawyers that found significant flaws in company reports ([bit.ly/37Cw06R](https://bit.ly/37Cw06R)).

"It took us 100 years to come up with accounting when it comes to securities and money," he points out.

"We are two or three years from the starting point on carbon dioxide – we've only just started. There are definitely laggards who try to avoid the whole topic until they are forced by legislation, but I see central banks moving very rapidly – so even if some financial institutions want to ignore it, soon they will no longer be able to."

Hart acknowledges some businesses' reluctance to disclose. "Resource companies in particular have concerns around sticking their head above the parapet in terms of providing greater transparency – they equate that to making themselves a target for not doing enough," he says.

"Companies in some instances don't feel they get any reward for providing greater disclosure. And that's a problem, because it doesn't speed up the move to a more transparent system. We have to find a way of rewarding companies to take the extra steps, particularly those that are trying to implement new sustainability measures."

Theresia Ott, head of environment at Rio Tinto and a member of the informal working group, hopes the TNFD will raise the profile of nature risks, just like the TCFD has for climate change. "Having the data in front of investors has really changed the conversation and pushed things forward much faster than if we were just having general conversations," she says.

The message of the TNFD needs to be simple in order to bring people on board, she adds. "Rather than focusing on all the different types of biodiversity and wondering whether to look at ecosystem processes or species, and getting stuck in the complexity of biological diversity, we should just focus on what companies need to be aware of, and how they should respond in order for us to be comfortable that biodiversity is being protected." 

#### **More info**

To find out more about getting involved in the TNFD, contact [c.chart@globalcanopy.org](mailto:c.chart@globalcanopy.org)

For the SBTN, contact [corporate-engagement@sciencebasedtargetsnetwork.org](mailto:corporate-engagement@sciencebasedtargetsnetwork.org)

**CATHERINE EARLY** is a freelance journalist.

# The great rebuild

**Chris Seekings** reports on the opportunities and challenges that 'green jobs' present for the UK as it looks to build back from the COVID-19 pandemic in a sustainable way

Last November, the Environmental Audit Committee (EAC) launched an inquiry into 'green jobs', and how they could provide a solution to the devastating unemployment that COVID-19 has caused in the UK. But what are green jobs? The term immediately conjures images of electricians installing solar panels, or technicians inspecting wind turbines. Their prevalence, however, extends far beyond emerging industries.

The International Labour Organization defines green jobs as "decent jobs in any economic sector which contribute to preserving, restoring and enhancing environmental quality". With the UK

having recently unveiled its 10-point plan for a 'green industrial revolution', they could be about to infiltrate almost every segment of the economy.

## Unmissable opportunity

The Office for Budget Responsibility forecasts that up to four million people could be left unemployed this year as a result of the COVID-19 crisis, up from 1.7 million in the final quarter of 2020. This has created a potentially dangerous scenario in which government decisions that aim to tackle unemployment could end up supporting the high-carbon jobs that have been traditional sources of growth. The Committee on Climate Change has said that green jobs could

support a reduction in unemployment and create "a significant economic multiplier effect".

Philip Dunne, chair of the EAC, says the UK's net-zero emissions target makes it all the more important for unemployment to be tackled via green jobs. "The opportunity to rebuild the economy, and provide greater stimulus to encourage green sectors, is crucial if we are to put nature into recovery and achieve net-zero carbon emissions by 2050," he says. "There is considerable potential in sectors around the country to address rising unemployment with the introduction of more green jobs."

However, those who are still in employment will also play a crucial role in ensuring the UK delivers on its net-zero goal, which is forecast to impact up to 10m existing jobs. Approximately 32.5 million people are employed in the UK today, 80% of whom are expected to still be working in 2030. "All jobs will have to become greener as the economy transitions to a low-carbon future if we are to tackle climate change – not just those in traditional environmental sectors," Dunne says.

## Including everyone

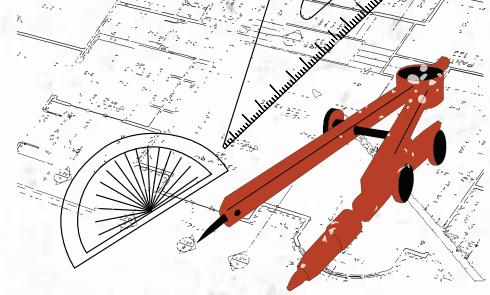
When giving oral evidence to the EAC's inquiry earlier this year, IEMA's director of policy and external affairs, Martin Baxter, explained that the success of sustainability professionals depends on the actions of organisations as a whole. "We have members in all parts of the economy, from



## Jobs and skills

finance to retail and across all of the public sector," he said. "Those individuals are helping to guide the response of their organisations to environmental challenges, but effectiveness is determined by the contributions that everybody else in the organisation makes. We see green jobs as, in part, full-time roles, but actually about everyone doing things in a greener way."

This is about driving energy and resource efficiency, sustainable procurement, eco-design, pollution control and environmental improvements across all organisations. Procurement, for example, should be seen through the lens of sustainability so that businesses are able to understand what labour practices should be, or specific material compositions, according to Baxter. "We have a very broad view of what we mean by green jobs, and there is a real opportunity to engage everyone in the world of work to



networks and partnerships, which will require considerable upskilling of workers.

"If you think of a new home, it needs to be net zero, it needs to be able to generate power, it needs to be incredibly energy efficient, it needs to use water

really scarcely, it needs to be able to charge an electric vehicle, it needs to be able to swap electricity between that vehicle and the home through smart technology, and it's going to have to be able to deliver biodiversity net gain," Baxter told the EAC.

"The question is: what are the changes that need to be made across the whole system to be able to deliver that in a really coherent way? I'm not sure we are certain where the skills gaps are, and when they will emerge."

**"I'm not sure we are certain where the skills gaps are, and when they will emerge"**

do things in a greener and more effective way. We need to build a future workforce that is environmentally and climate literate, but also has an aspiration to want to solve some of the big problems we face."

IEMA's written evidence to the EAC called for a dedicated 'Green Jobs and Skills Strategy' to help identify where skills gaps currently exist as the UK transitions to net-zero emissions, as this is still far from clear.

### Mind the gap

Green jobs won't just help deliver net-zero emissions; the long-awaited Environment Bill, which has been delayed for a third time, is expected to include a whole range of environmental ambitions. These include new biodiversity net gain requirements, and nature recovery

He is concerned that too many sectors have focused only on net zero, and not on wider environmental challenges. Food and drink companies, for example, need to think about how they manage land and natural capital, and what skills are needed to enhance them. "Or if we want to hit our per capita consumption targets for water, new homes are going to be part of the solution, and are going to have to play a role in helping the water companies achieve part of their targets, and it's the same with electricity and energy as well."



IEMA has also called on the EAC to push for a 'Green Jobs and Skills Commission' to provide clear oversight. "Expecting we can do this once and then sit around for the next five or 10 years, I don't think is going to cut it. We need to be constantly reviewing and understanding where the skills gaps are, what the timescale is to generate those skills, and we absolutely need something co-ordinated at a national level."

## Rethinking education

A recent survey by the Institution of Engineering and Technology (IET) found that just 7% of engineering companies in the UK with a sustainability strategy believe they have the skills needed to fulfil it, while 43% see university graduates as lacking the skills needed to work in their industry.

Josie Fraser, the deputy vice chancellor at the Open University and a skills and education panel member at the IET, said to the EAC last month: "Government policy has got to incentivise adult education and the full ecosystem of that, from localised community education providers to further education colleges and national providers of part-time education."

The government is investing £2.5bn in a National Skills Fund for adult training, but a student who already has a higher education qualification and is starting an undergraduate programme may not be eligible for funding of tuition fees under the Equivalent or Lower Qualification policy. "Removing barriers to people in high-carbon industries who will need to retrain is very important," Fraser added.

A separate YouGov survey of primary and secondary education teachers in 2019 found that just 18% had received adequate training to educate students on climate change, while 70% agreed that the UK's

education legislation needs radical change. IEMA provides numerous resources, tools and techniques for its members to undertake continuous professional development, and Baxter believes there is a huge job to be done embedding environmental issues into teaching and learning.

"It's about how we integrate this into how we teach physics and other subject areas, weaving it through education right from primary school," he says. "Having elements about how you do jobs in a net-zero way, or how to consider health and safety, should also be a straightforward obligation for all apprenticeships."

## Breaking down barriers

Diversity and inclusion is another problem for the sustainability profession, with much of the public perceiving the sector as being made up of white, middle-class individuals with degrees. In 2017, the think tank Policy Exchange found that the environmental profession was the second-least diverse profession in the UK. Various organisations have taken action to change their culture, but progress is slow.

IEMA has carried out work with the National Union of Students and the Equality Trust to shine a light on this, and has recently launched its Diverse Sustainability Initiative ([bit.ly/38Fw5HG](https://bit.ly/38Fw5HG)), which looks at how to embed a more inclusive approach into professional qualifications.

Baxter believes people from different backgrounds must be part of the solution, and that the profession must challenge practices that discriminate: "People also need to recognise this is a profession to aspire to, is durable, well paid, exciting, interesting and has standing. There is a big concern about



the environmental crisis, but we don't want to frighten people – we want to show that they are part of the solution."

Massive investment in both public and private sectors, breaking down barriers to entry, reforming training and education systems, and clear oversight will be key to delivering the green jobs that could give the UK an advantage over its competitors once the dust settles on the pandemic – and research and development will be key, too.

"We have clusters of low-carbon innovators around the country, but there is a very real risk that jobs in these areas could move abroad if their sectors are not properly supported in the UK," Dunne explains. "All jobs will have to become greener, and even those in fossil fuel-intensive industries, such

**"Removing barriers to people in high-carbon industries who will need to retrain is very important"**

as oil and gas, could transform to decommissioning rigs or offshore wind installations, in both of which existing oil and gas workers have relevant skills. All of this will need our education sector to become fully equipped to provide a workforce with the knowledge and skills required for the future – universities, colleges, business and government will need to collaborate on retraining and upskilling to meet these challenges and adapt to a changing economy."

**J**onas Salk, the virologist who led the team behind the first successful polio vaccine, asked 'Are we being good ancestors?' in 1977. Nearly 40 years later it inspired the philosopher Roman Krznaric to rethink the challenges confronting humans. His latest book, *The Good Ancestor: How to Think Long Term in a Short-Term World*, asks how we can be good ancestors.

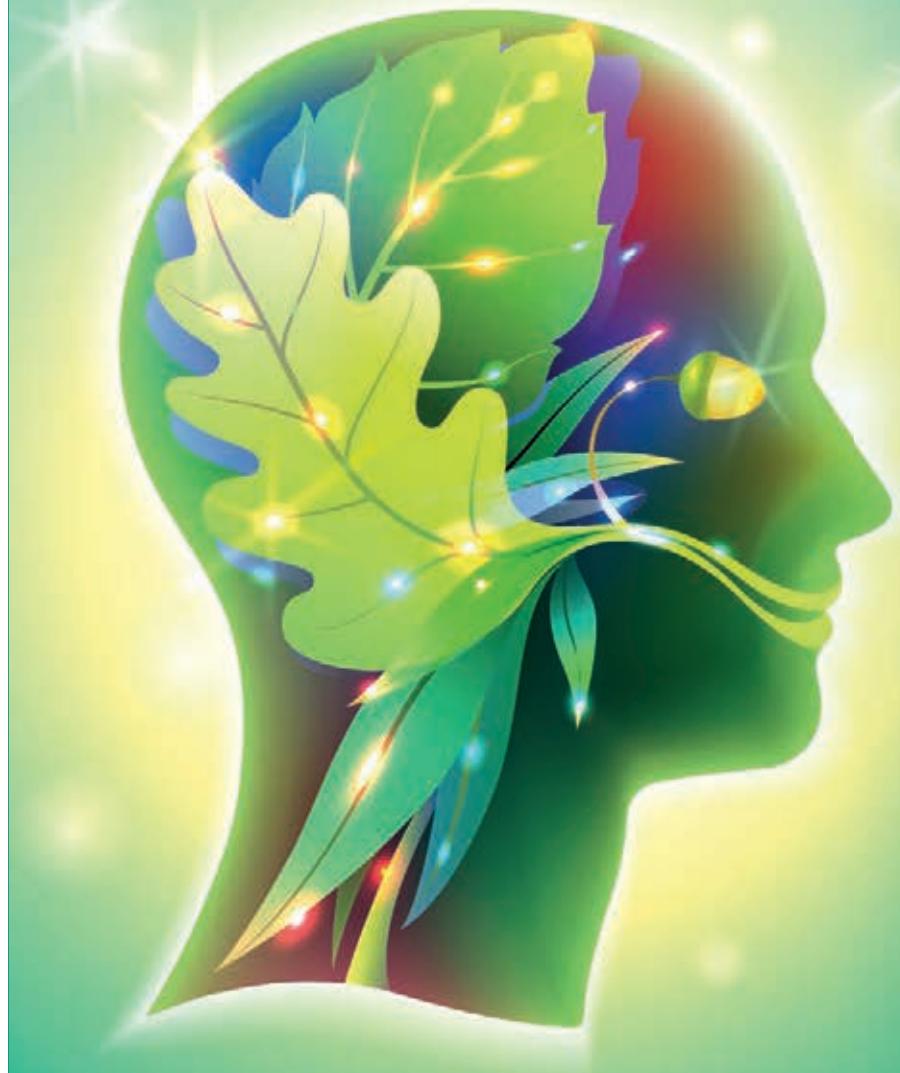
"Salk's question crystallised a creeping dismay I had from looking at newspapers and websites for years and seeing so many people complain about short-termism and saying we need more long-term thinking," he says. "But no one was really saying, 'what is long-term thinking?'. Out of this, 'are we being good ancestors?' is the question we need to answer."

## Marshmallow, acorn

Krznaric argues that humankind has "clearly inherited extraordinary legacies from our common ancestors" – citing the agricultural revolution, medical discoveries and cities. However, there have also been destructive legacies. Slavery, colonialism and racism have led to inequalities. Economies are addicted to fossil fuels and endless growth, threatening the planet's future.

Krznaric puts some figures on the scale of intergenerational injustice. "The 7.7 billion people alive today are just a tiny fraction of the estimated 100 billion people who have lived and died during the past 50,000 years. Both are vastly outnumbered by the nearly seven trillion people who will be born in the next 50,000 years."

This means recognising two kinds of thinking: short-term versus long-term – as Krznaric puts it, 'marshmallow brain' versus 'acorn brain'. Marshmallow brain, named after the Stanford University experiment that tested children's ability to delay gratification, means "we talk about ourselves in the short-term. We are always clicking the 'buy now' button and swiping on our phones". Acorn brain is the capacity to think beyond here and now.



# The good ancestor

**Roman Krznaric** talks to Huw Morris about his latest book – a clarion call for long-term thinking to save the future

# "Many cultures have a story of growing trees you will never see in your lifetime"

Much of Krznaric's thinking is inspired by indigenous attitudes towards stewardship, especially the Native American seventh generation principle – that today's decisions should be sustainable in seven generations. "Many cultures have a story of planting seeds in the ground or growing trees you will never see in your lifetime. Anyone interested in sustainability has probably heard of a proverb along those lines, but it's part of our neuroanatomy."

Krznaric proposes six strategies for cultivating long-term thinking (see 'Six ways to think long term'). Some will mean rethinking relationships with death, family and community, he argues, while others focus on collective plans stretching centuries ahead. All focus on humankind's interdependence with nature.

## Legacy mindset

His favourite strategy is the legacy mindset. He relates that 6% of people in the UK make a charitable bequest in their will, but this doubles to 12% if you simply ask them to leave such a bequest. Ask if they are passionate about a cause and it jumps to 17%. "These nudges aren't how we transform societies or economies, but they are part of a story we need to tell ourselves about our capacity to think longer than we are told we can."

Krznaric is the father of 12-year-old twins who could be living into their nineties at the turn of the next century, and this is partly what motivates him. "I don't want them looking out at a world on fire," he says. When he talked to people in power, he says, "the place of connection was the

legacies they are going to leave. I say to them, imagine your grandchildren could easily be alive in the 22nd century. Your children, if they are young, will live most of their lives after 2050. What kind of world are you leaving for them? If you care about their lives then you have to care about all life, because your daughter, who might be alive in 2100, will be part of a web of human relationships but also a web of the living world – the air she breathes, the water she drinks.

"The legacy mindset is personal. It provides a bridge from something very abstract to 'how do we create a sustainable world?'. Most of us need to feel it if we're to keep up the energy of transforming things, whether inside a company or a government department, or as a community activist or direct-action rebel."

He is a fan of Future Design, a Japanese citizens assembly that gathers residents to discuss plans for their areas. Half of the group look at plans from the perspective of today's residents, and the other half from the perspective of residents in 2060, wearing ceremonial robes to help their imaginations. The future group invariably advocates far more transformative and radical plans. Japan's Ministry of Finance, numerous towns and cities, and corporates such as Fujitsu use the technique for sustainability planning.

"Whether they are discussing climate change or responding to a pandemic, automation or artificial intelligence, people come up with much more radical plans when they are dressed up in

robes," says Krznaric. "It's bringing these voices into the room that aren't normally there. What's crucial is changing decision-making processes to embrace the long term. You can have all the Sustainable Development Goals in the world, but if your decision-making is still caught in short-term cycles such as the next election or the next headline, you are not going to get very far."

## Time rebels

Krznaric's book offers many examples of "time rebels". On behalf of 21 young people, campaign group Our Children's Trust has filed a landmark case against the US government for the legal right to a safe climate and atmosphere for current and future generations. The Svalbard Global Seed Vault looks even further ahead, housing millions of seeds in a rock bunker in the Arctic Circle that is designed to last 1,000 years. Krznaric also points to the biomimicry designer Janine Benyus, who suggests we learn from nature's 3.8bn years of evolution.

"How is it that other species have learned to survive and thrive for 10,000 generations and more? It's by taking care of the place that would take care of their offspring, by living within the ecosystem in which they're embedded, by knowing not to foul the nest, which is what humans have been doing." [①](#)

*The Good Ancestor: How to think long-term in a short-term world* is published by Penguin, £10.99.

**HUW MORRIS** is a freelance journalist.

## SIX WAYS TO THINK LONG TERM

### ● Deep time humility:

Looking beyond our lifetimes, recognising that our personal stories will barely register in the annals of cosmological time.

● Legacy mindset: Will people of the future remember us well?

● Intergenerational justice: What are our obligations to

future generations?

### ● Cathedral thinking:

Otherwise known as the art of planning into the distant future, Krznaric says this "may be one of the greatest skills of our species and the clearest practical expression of our acorn brains".

### ● Holistic forecasting:

Forecasting decades and

centuries ahead, focusing on the big picture rather than narrow institutional and corporate interests.

### ● Transcendent goal:

Inspired by the ancient Greek concept of *telos*, an ultimate goal or purpose that acts as a compass for thoughts and actions into the distant future.

 In HS2 Enabling Works Contract-South, the Costain-Skanska Joint Venture (CSJv) team and its supply chain have placed the environment front and centre of decision-making in order to push development in key areas around selection of equipment, material re-use and protection screen designs.

The location of the demolition work involved in the London leg of HS2 Phase One made it imperative for the team to reduce the impact of associated noise, vibration and air quality on the local community. The Euston Approaches Demolitions team identified several ways it could reduce the impact of activities through the full integration of environmental specialists and constraints at the pre-planning stage, informing procurement, selection criterion and overall sequencing and methodology.

### Material re-use

A key challenge from the demolition work was how CSJv would manage the volume of waste being produced. This was particularly difficult due to the congested road networks surrounding CSJv's sites, based primarily around Euston Station in the London Borough of Camden. One of the first demolition projects was a former warehouse and a university architecture building. Working with the air quality specialist and the environment team, a procurement selection criterion was devised to reward those who submitted a proposal in which demolition arisings would be retained on site and crushed into usable 6F2 (engineered fill material). Despite being constrained on all sides, with very little room for manoeuvre, the supplier John F Hunt delivered a top-down solution that crushed more than 70% of the material on the footprint.

This is now practice across the contract, and through a workshop on

designing out waste we developed a strategy of crushing demolition arisings into aggregates for re-use on site under the WRAP Quality Protocol. This was used to create temporary vehicle access ramps, crane mats and haul roads, as well as being deployed as backfill to structures and platforms in order to facilitate the main works civils contract.

This approach has resulted in 175,000 tonnes of demolition arisings being crushed. This has saved more than 1,500 tonnes of CO<sub>2</sub> equivalent (CO<sub>2</sub>e), compared to waste removal and subsequent importing of recycled aggregate, and taken away the need for waste removal and subsequent material delivery, saving nearly £5m. The strategy saved 39,000 vehicle movements associated with waste removal and material delivery, significantly reducing impacts on local roads and air quality.

The team's co-operation with HS2 and the Environment Agency allowed multiple work package areas to be treated

**Thomas Cleary, Greg Lewis** and **Daniel Brown** share how the Costain-Skanska Joint Venture team is applying an environmental approach to HS2 demolition work around Euston Station

# Demolishing preconceptions



**"The location of the work has made it imperative for the team to reduce noise, vibration and air quality impacts"**

as a 'single site', facilitating the transfer, storage and re-use of recovered materials. This enabled further collaboration with Skanska's IP Central Euston works and the SCS Main Works contract on adjacent sites.

### Equipment selection and demolition screens

A large element of demolition is the equipment used to protect the surrounding environment. Traditionally, in an urban environment, a top-down demolition method would be used, with scaffold encapsulation to provide protection from debris. This involves lifting smaller machines (depending on the strength of the building) onto the roof and demolishing the building using percussive techniques (such as breakers), all behind a scaffold screen.

To minimise the noise and vibration of demolition, the CSJv team at Regent's Park Estate pushed to reduce the use of scaffolding as a screen where possible. This meant larger machines could be used for demolition without fear of causing uncontrolled collapse. The team designed a bespoke curtain that could be hung from a crane and follow the path of demolition as it progressed. The curtain was developed with a built-in water supply to nozzles in the beam at the top, providing dust suppression.

The use of the heavier high-reach excavator allowed for a pulveriser attachment that was large enough to

crush the concrete, rather than a breaker attachment. A top-down method would have required demolition with breakers, as the capacity of the floor slabs limits the size of the machines that can be placed on them. When modelling the predicted noise levels for the two methods, we found noise levels when using pulverising attachments to be 12dB less at 10m away than noise levels when using breaking attachments.

The lessons learnt are being transferred to the next works package, where the high reach excavator will be used again. This time there is a greater constraint on the works in the form of the railway approaches into Euston Station. The team has worked hard to ensure a long reach excavator can be used, to maintain the reduction of noise and vibration. Demolition with the high-reach cannot be done with a full scaffold wrap, but we needed a more predictable screening system than the 'curtain'.

A shipping container screen has been designed for the power signal box demolition work, and is to be used in tandem with the demolition curtain (see above right). The fully enclosed container



screen design gives Network Rail the confidence that passage of trains will not be affected, and gives CSJv and HS2 a more sustainable approach. <sup>T</sup>

**THOMAS CLEARY** is project manager, CSJv.

**GREG LEWIS** is senior environmental adviser, CSJv.

**DANIEL BROWN** is site agent, CSJv.

**Table 1:** Comparison of different waste management scenarios – CO<sub>2</sub>e footprint of each scenario and the subsequent CO<sub>2</sub>e savings of crushing compared to each scenario.

Scenario	Footprint of each scenario (tCO <sub>2</sub> e)	Net tCO <sub>2</sub> e savings
Crushing of materials on site ( <b>baseline</b> )	421.12	N/A
Separate waste collections and material deliveries + imports of virgin materials ( <b>worst-case scenario</b> )	<b>2,404.54</b>	<b>1,983.42</b>
Separate waste collections and material deliveries + production of recycled materials	1,662.47	1,241.35
Combined material deliveries and waste collection + imports of virgin materials	1,935.82	1,514.70
Combined material deliveries and waste collection + production of recycled materials	1,193.75	772.63

# Driving the shift

**Tanya Neech** shares how Scania is embedding sustainability within its business

With more than 50,000 employees in over 100 countries, Scania is the leading supplier of trucks, buses, coaches and power solutions. In the UK, we directly employ more than 1,500 people. With depots from Inverness in Scotland to Redruth in Cornwall, our geographical coverage of 80-plus specialist sales and service points ensure we're close to customers.

Supporting and developing our employees, driving customer profitability and leading the charge in sustainability sit at the heart of how we operate, with our ambition to be the employer and transport supplier of choice as well as the leading provider of sustainable transport solutions. This means fully integrating sustainability into the business and working with others to tackle impacts, transform our industry and create lasting value.

During 2020, Scania's committed Science Based Target was approved. Our target has been set in line with our

2020-2025 strategy and is considered ambitious, but is required if we want to drive the shift. We are the only heavy automotive manufacturer to make this commitment and have it approved

## Defining sustainability

Scania's approach to sustainable transport focuses on three pillars:

- **Energy efficiency**
- **Renewable fuels and electrification**
- **Smart and safe transport**

The second part of our journey is responsible business. We recognise that we have reached a 'make or break moment' where we can no longer claim a leadership position if we don't put evidence behind our ambition.

## Strategy 2020-2025

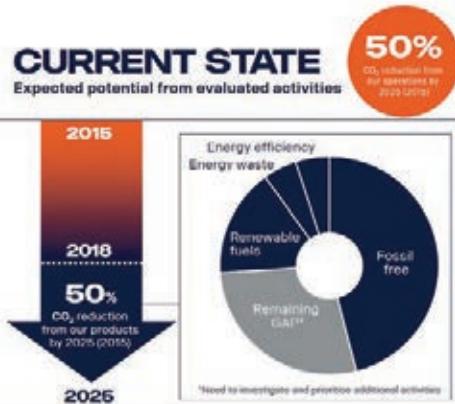
Driving the shift is not something we can do on our own. It is dependent on working with partners across our entire ecosystem, from our customers to technology specialists, government decision-makers and others. For Scania, this approach is the key to developing a truly sustainable transport system.

We lead in technological development, harnessing emerging technologies and shortening their time to market. At the same time, we drive customer adoption of sustainable solutions that are available now. Finally, we will partner with key stakeholders to pilot, refine and scale the shared solutions needed to support the transport system of the future.

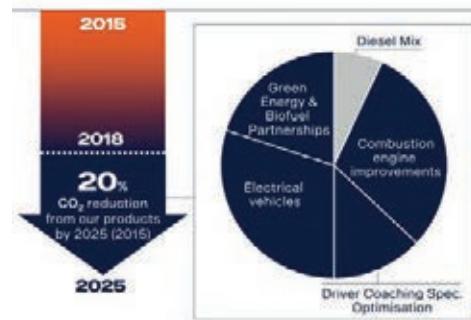


DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

▲ Scania has signed up to an approved Science Based Target – go to [bit.ly/38hEWyQ](https://bit.ly/38hEWyQ) to read more



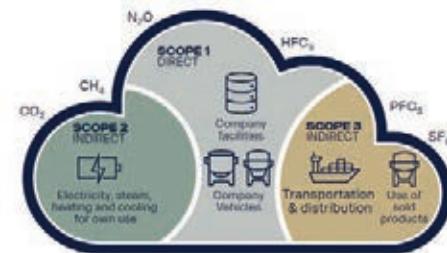
## OUR WAY OF REACHING THE TARGET





◀ Scania's new battery electric truck launched in September 2020

▼ Scania is committed to cutting its scope 1, 2 and 3 emissions



predictable applications. They will gradually overtake Scania's industry-leading fossil and biofuel powered solutions in most transport applications.

We have already launched a fully electric truck, as well as a plug-in hybrid truck. In a few years, Scania plans to introduce long-distance electric trucks that will be able to carry 40 tonnes for 4.5 hours, and fast charge during a driver's compulsory 45-minute rest.

By 2025, Scania expects that electrified vehicles will account for around 10% of our total vehicle sales volumes in Europe, and by 2030, 50% of our total vehicle sales volumes are expected to be electrified.

**Committed to more electric products:** Scania's science-based targets will see us halve CO<sub>2</sub> emissions from operations by 2025, and reduce emissions from customers' vehicles by 20% during the same period. Our focus is on well-to-wheel – more stringent than many of the legislative regulations coming up, which centre on tank-to-wheel.

The company commits to launch at least one new electric product application in the bus and truck segment every year. Societal investments in solid infrastructure for battery electric vehicles remain a priority. ↗

**TANYA NEECH, AIEMA** is UK Sustainability Officer at Scania.

## Our people

In 2016, sustainability officer Tanya Neech, AIEMA, joined the UK business to create awareness of Scania's sustainable transport solutions. Her initial focus was biomethane for transport and the benefits created by production of local fuel from waste feedstocks. Between 2016 and 2020, Scania introduced more than 300 biomethane buses and 150 biomethane trucks to market.

Scania has a number of sustainability professionals across the global business. In 2021 the UK business will be upskilling its workforce, and will look to train a number of managers and sustainability champions using the IEMA framework.

## Our new electric truck range

### Scania's commitment to battery electric vehicles:

Scania's aim is to be the leader in the shift towards a sustainable transport system. Battery electric vehicles will be the main tool to drive this shift and to enable decarbonised transport solutions with better transport economy to customers.

The rapid development of electric solutions for heavy duty vehicles includes the fast advancement of battery technology in respect of energy storage capacity per kg. Charging time, charging cycles and economics per kg are improving rapidly. This means these solutions will become more cost effective, primarily in repetitive and

## THE PATHWAYS STUDY

### Achieving fossil-free commercial transport by 2050

Achieving a fossil-free commercial transport system in the timeframe of the Paris Agreement target

is not only possible, but also financially attractive from a societal perspective. This is the key conclusion of The Pathways Study initiated by Scania.

The Pathways Study was

published in May 2018 and has guided us, informing our strategy and approach to the Science Based Targets we have set.

Download the white paper here: [bit.ly/38i9eBE](https://bit.ly/38i9eBE)



**SCANIA**



# All talk, no action?

More and more businesses are setting net-zero targets – but how many of them are credible?

**David Burrows** reports

**B**usinesses are making net-zero commitments at a furious pace. A recent study by Data-Driven EnviroLab and the NewClimate Institute showed that there was a threefold increase in the number of businesses setting net-zero goals between the end of 2019 and September 2020, rising from 500 to 1,541. Similarly, the number of regional governments with net-zero goals climbed from 11 to 101 in 2020, and city-wide net-zero commitments have risen eightfold, from 100 to 823.

"Net zero is now the frame of reference for ambition on climate change," says Steve Smith, greenhouse gas removal lead at the University of Oxford. This is encouraging. "It's not long ago that large companies were proud to be publishing '10% reduction in CO<sub>2</sub> in 10 years' targets, which clearly wasn't enough," adds Nicola Stopps, CEO at consultancy Simply Sustainable.

A range of industries, from finance and insurance to retail and big oil, are shifting through the gears. Investors are predicting a 'tectonic shift' as capital is reallocated to sustainable assets. COP26 later this year is whipping up interest too, as is the concept of a 'green recovery' from the pandemic.

We are in an innovation cycle that's touching multiple systems – planet, economy, regulation. But do we need to take a step back? Is this profusion of net-zero targets outpacing guidance on best practice?

"We should be sorting the genuine from the greenwash," Smith and his colleague Tim Kruger wrote for *The Conversation*. "What the world needs now is pace runners to show how net zero should be done, and referees to call out the cheaters and laggards."

## Zero or hero?

There is currently no defined standard for setting a net-zero emissions target. The Science Based Target initiative (SBTi) is currently undertaking a public consultation exercise on its draft 'net zero standard criteria', so a standard may be on the horizon. In the meantime, large corporations are setting targets while the international standards movement runs to catch up, says Jamie Pitcairn, technical director (sustainability and circular economy) at consultancy Ricardo Energy & Environment.

A smorgasbord of plans, commitments and targets have been released under the 'net zero' banner. Some are excellent, says Alex Massie, principal consultant and climate emergency specialist at consultancy Eunomia. Others "so wilfully obscure the facts that they are arguably fraudulent".

Some firms boast a certain level of net-zero maturity, with a well-structured plan and narrative. Their initiatives span scope 1, 2 and 3 emissions, data is becoming richer, and the impacts on their business are better defined and prepared for. Some are even applying internal carbon pricing to their business and developing innovation funds to catalyse ideas.

That isn't the case everywhere. SBTi's corporate sector report 2020 acknowledges that businesses are

approaching the setting of net-zero targets "inconsistently, making it difficult to assess these targets' contribution to the global net-zero goal". According to Pitcairn, some plans give the "illusion of progress" when little is being done in the short-term.

There is a pressure, as the *Financial Times'* US editor-at-large Gillian Tett noted recently, to divide companies neatly into 'green' and 'brown' buckets – but at the moment, we are turning everyone to a 'lighter green' in a way that can be measured credibly. "Targets announced by companies like WSP, Cemex, Siemens, Scottish Power and Legal and General Investment Management (and others) are particularly important and credible because they come with a range of actions broken down over short-term, medium-term and long-term horizons," says Nick Molho, executive director at Aldersgate Group.

Many of those with 'genuine' plans are also clear about the actions they will take in the near term, and honest about some of the answers they don't yet have. The advance of technology will play a huge role in achieving net zero – from battery storage to hydrogen power to lab-grown meat and carbon capture and storage – but it isn't yet clear which technologies will work, or how effective they will be.

## Net zero is now the frame of reference for ambition on climate change"

mapping and forecasting is essential. Some businesses also lack the expertise required for this. Research by IEMA and the British Standards Institute this year found that seven out of 10 senior decision makers and sustainability professionals have made, or are considering making, a solid commitment to achieve the net-zero goal.

However, 64% were not confident that they fully understood the impact such a goal could have on their firm, while 82% said they required more guidance to achieve the target. Those with a keen understanding of the target are in the minority: just one in 10 are fully confident in their understanding of net zero and how it impacts their own organisation.

Terminology is also being thrown around: 'carbon positive', 'carbon negative', even 'pre-zero'. Pitcairn suspects this rebranding of the same targets is part of the "race to be best in class". SBTi's recent work to define terms such as 'net zero' and 'climate positive' is helpful. Just how many of the current wave of net zero commitments meet such a definition is moot.

# Corporate social responsibility



There has been a 200% increase in the number of businesses that have set net-zero goals



82% of senior decision makers say they require more guidance to achieve their net-zero target



Just 0.2% of Fortune 100 board directors have specific climate expertise

Some companies have already begun picking at holes in their competitors' plans, which admittedly sometimes run to little more than a press release. Smith's research across several hundred net-zero targets made by business, cities and governments, showed that a "significant fraction" are yet to publish a plan for achieving their target, or set out interim goals to demonstrate they are getting on with it.

The reliance on offsetting is also receiving a lot of attention. Even in the most optimistic scenarios, some carbon will need to be sucked from the air, and there has been an explosion of standards for nature-based solutions that will lead to carbon credits. However, a balance needs to be struck, and plans need to show this. Net-zero responses involve both cutting emissions and removing CO<sub>2</sub>, but the problems lie in the interaction between these two elements, noted professor Duncan McLaren, a research fellow at Lancaster University's Lancaster Environment Centre, in a blog for *Carbon Brief* in 2019. "If we pay more attention to removals, how might that affect releases?" he asked. The trick is to separate the two, rather than combine them in one net-zero goal. Pitcairn adds that it is important companies don't "jump" to offsetting without making great strides in reducing their emissions.

Another weakness is a failure to include scope 3 emissions – all indirect upstream and downstream emissions that occur in the reporting company's value chain. Tobias Parker, director at Anthesis, suggests there are difficult but exciting challenges to face as conversations also move from decarbonisation to de-consumption. Stuff, he says, is "the elephant in the room".

**"Some companies are taking net zero very seriously and communicating transparently, but most are not"**

## Credibility, clarity and CEOs

Reducing consumption is not normally good business practice, so it's critical that there is boardroom buy-in for net-zero plans. Increasing emissions and hoping they can be offset won't wash.

Board-level buy-in is one thing; 'climate competent' senior executives are another. Experts at New York University's Stern Center for Sustainable Business dug into the environment, social and governance credentials of 1,188 Fortune 100 board directors. Just 69 (6%) had relevant environment experience, and only three (0.2%) had specific climate expertise.

Poor net-zero plans are unlikely to be challenged by ignorant directors – but they have to learn fast. Most chief executives will have received a wake-up call from investors during the past few months. BlackRock, the world's largest asset manager, said in January that it will demand all companies demonstrate plans to reach net zero by 2050. How it will assess the plans, and against what metric, is unclear.

More clarity is needed if genuine plans are to be sifted from the greenwash. Reporting organisations that can make themselves look better through "sleight of hand" will do so, says Massie at Eunomia. "Some companies are taking net zero very seriously and communicating transparently, but most are not."

So, it's all a bit messy at the moment. In some ways there are similarities to the 'dotcom' era of 25 years ago; carnage at first, but then calm – and the world changed. Net zero is proving equally destructive and creative. "It holds huge promise, but threats, too," says Parker at Anthesis. "We have to embrace it all and keep our feet on the ground."

That's easier said than done. Commitments will snowball as November's climate talks in Glasgow approach. Firms will be lining up to make bigger, bolder statements, but will they be better? ↗

**DAVID BURROWS** is a freelance writer and researcher.



## Spotlight

# Spotlight: Journey to PIEMA

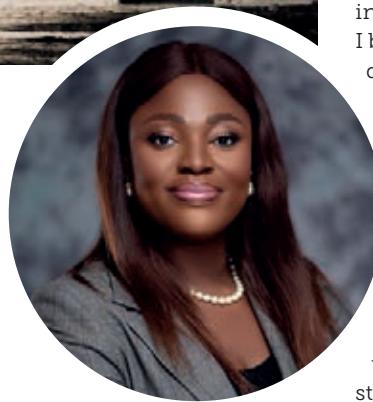
**Funke Bolodeoku** tells Sharon Maguire how and why she became a lawyer specialising in sustainability, and what her role entails

#### What came first – your interest in law or the environment?

My interest in law. I have always been an out-of-the-box thinker and it was apparent from early on that advocacy was going to be a part of my life.

#### Why did you become a lawyer specialising in sustainability?

I was recruited to work with a team of experts reviewing National Guidelines and drafting new ones for various environmental assessments in Nigeria. I was intrigued about how the environment is this canopy from which we draw our existence, and yet there is inadequate awareness about its management and protection. I started to home in, taking courses and gaining knowledge from training, personal research and on-the-job experience, and became capable of contributing in depth to matters relating to impact assessment, policy development and other aspects of environmental management.



#### What does your role involve?

I walk corporations through how they can be better environmental custodians. This includes advising them on the importance of incorporating environmental management and protection at the inception stage; advising on mitigation; developing legal and regulatory frameworks; reviewing environmental impact assessments and audit reports; developing environmental policies and management plans; reviewing ISO 14001 documentation; and engaging with stakeholders.

#### What are the biggest challenges?

A lack of appropriate policies and regulations, inadequate awareness of environmental protection, and human behaviour and conditioning.

#### What are the environmental talking points in Nigeria today?

Plastic pollution, improper waste management, water pollution, illegal

logging, heavy metals and air pollution are some of the challenges.

#### Are you seeing investment in areas that create green jobs?

Investments in clean energy, recycling and the circular economy are fast increasing; the percentage is low, but I believe there will be a bloom in this decade and beyond.

#### How are Nigerian businesses responding to initiatives?

There is a positive response. Businesses, particularly those with educated stakeholders or international funding and investors, take this seriously, and the issues are being given the attention they deserve. Some start-ups and entrepreneurs are doing good work on recycling, raising awareness on environmental protection and waste-to-wealth initiatives.

Regulatory requirements make it compulsory for businesses to respond positively. For major businesses, an environmental impact statement or certificate is a prerequisite for obtaining a licence to operate, so they have to conduct an environmental impact assessment. Periodic environmental audits are also compulsory.

Sustainability awareness, innovations and incentives have to be driven at the highest level. This will have a cascading effect, and result in more widespread inclusion and consideration for environmental sustainability.

#### What is the best part of your work?

Carrying out work that not only benefits my clients, but also has an effect on many people inhabiting the planet. It may seem a drop in the ocean in comparison to the intricacies of global environmental management and sustainability, but knowing my work contributes to change gives me joy.

**FUNKE BOLODEOKU** is a lawyer and environmental management practitioner based in Lagos, Nigeria.

# CONNECT

NETWORK AND COMMUNITY NEWS FROM IEMA



## A road to redemption?

**Aona Stuart** reports on electric highways and their potential environmental impacts

Railway overhead electric cables are installed across the UK as part of the electrification of the rail system. In 2020 the Centre for Sustainable Road Freight published a white paper titled *Decarbonising the UK's Long-Haul Road Freight at Minimum Economic Cost* ([bit.ly/3rYPlah](https://bit.ly/3rYPlah)), regarding the proposals for similar structures on UK highways – ‘electric highways’, or e-highways.

The proposals include an electric road system, which would encompass overhead electric cables to charge heavy goods vehicle (HGV) batteries, emissions capturing tunnels and barriers near residential areas, electric car-charging forecourts and a review of speed limits. They would be completed in three

phases, ending in the 2030s and covering 65% (13,808km) of HGV-km roads, as shown in *Figure 1*.

### Potential benefits

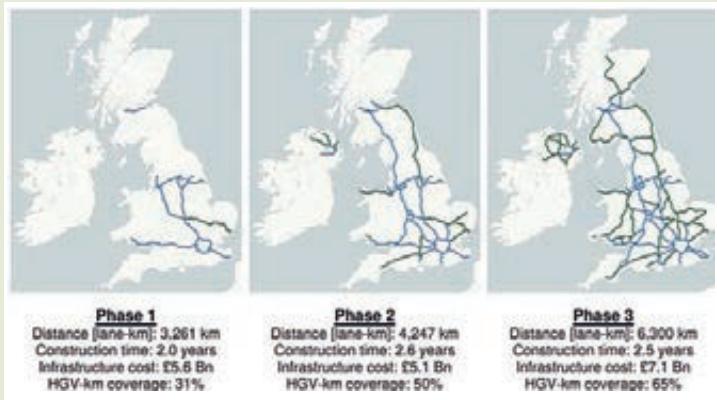
While metric tonnes CO<sub>2</sub> equivalent (MtCO<sub>2</sub>e) emissions reductions have occurred in the power and industry sectors, Climate Change Committee data ([bit.ly/2ZnEOEy](https://bit.ly/2ZnEOEy)) shows that the surface transport sector is the highest emitter of CO<sub>2</sub>e, at 117 MtCO<sub>2</sub>e per year.

“Completion of the e-highway proposal would lead to a reduction of approximately 13.4 MtCO<sub>2</sub>e per year”

Completion of the e-highway proposal would lead to a reduction of approximately 13.4 MtCO<sub>2</sub>e per year, while the increase of electric vehicles (EVs) due to the ban on the sale of new petrol and diesel cars post-2030 will save approximately 300 MtCO<sub>2</sub>e between 2030-2050, according to the government’s *10 Point Plan for a Green Industrial Revolution* ([bit.ly/3pnDBfS](https://bit.ly/3pnDBfS)). The EV MtCO<sub>2</sub>e savings are dependent on an attractive market choice.

Bloomberg’s *Electric Vehicle Outlook Report 2020* ([bit.ly/3preGrN](https://bit.ly/3preGrN)) predicts that there will be 54m global sales of EVs in 2040, compared to 2.1m in 2019. The e-highway proposal, in conjunction with an increase in EV use, would save between 434 MtCO<sub>2</sub>e and 568 MtCO<sub>2</sub>e by 2050, based upon e-highway proposal completion by 2030 and 2040 respectively. These savings would lead to a reduction in climate effects.

Emissions capturing tunnels and barriers near residential areas, electric road systems on 65% of HGV-km roads and an increase in use of EVs could help to improve air quality and reduce noise near residential areas. According to Ahanger et al.’s 2017 paper ‘Reduction of air pollution levels downwind of a road with an upwind noise barrier’, this would reduce concentrations of nitrogen



**Figure 1:** Three-phase roll-out illustration (motorways shown in blue and A-roads in green).

dioxide ( $\text{NO}_2$ ), concentrations of particulate matter (PM2.5 and PM10) and road noise emitted by vehicles near residential areas. A decrease in noise levels,  $\text{NO}_2$ , PM2.5 and PM10 near residential areas may also reduce the biodiversity impacts on surrounding fauna.

### Areas of concern

It is important to remember that while e-highways may have benefits in the long term, construction will cause climate effects in itself – for example  $\text{CO}_2\text{e}$  emissions from the carbon-heavy activities involved in producing and transporting materials (such as cement production, steel production and shipping). In addition, the vegetation clearance that would likely be required for car-charging forecourts could have an impact on the surrounding landscape, and the electric road systems for HGV-km roads may lead to visual impacts for passengers. This could be mitigated by constructing electric road systems on a single lane and planting emission capturing tunnel exteriors with vegetation, although these options have not been explored in any policy papers.

While it is true that a reduction in noise and pollution would benefit biodiversity in a broad sense, the

risks to bird and bat populations could actually increase, due to interference from the electric road system overhead power cables on HGV-km roads. The increased land take for car-charging forecourts also has to be factored in when it comes to calculating the effects on surrounding fauna – and in addition, the e-highway proposal may be exempt from the 10% Biodiversity Net Gain in the Environment Bill, as it would be a classed as a major infrastructure project and covered by the Planning Act 2008 (as amended). Furthermore, the success of e-highways in reducing climate impacts would primarily rest upon the capacity and decarbonisation of the electricity grid.

E-highways could help the UK to reach net zero by 2050 and reduce climate change impacts, but all of these issues would need to be properly addressed – and the environmental assessment system perhaps even split into regions, in order to ensure that all potential impacts, mitigations and assessments of the likely effects across the country can be accurately and comprehensively captured. <sup>T</sup>

**AONA STUART** is a graduate environmental consultant at WSP and a member of IEMA Futures.

## QUOTE UNQUOTE

A big thank you to everyone who came along to the **@iemanet** event in AKL last night. It was great to get together and talk about all things sustainability & environment. For those who are members, looks like **@IEMA\_Transform** has just landed in NZ letter boxes – enjoy the read! **@IEMA\_NZ**

Excellent **@iemanet** webinar today on Calculating Homeworking GHG Emissions. **@Eco\_Act** have helpfully published a white paper on methodology. In my view, it is essential to include this for a legitimate **#NetZero** claim. Expertly hosted by **@nblythiema** **@MAREKBIDWELL**



Good to hear the Chancellor announce £3k for each new apprentice hired between the 1st April to 30th September – the Environmental Practitioner Degree Apprenticeship is a great way to develop skills for a **#sustainablefuture** and unlocks £27k of apprenticeship levy funds **@iemanet** **@MBAXTERIEMA**



## Why did you become an environment/sustainability professional?

I studied engineering geology in my bachelor degree, following which I completed my master's in environmental geology. I chose to specialise in the environmental field as I wanted to tackle the environmental issues that have led to the environmental crises affecting the world. I thought, what better place to do that than by working in heavy industry?

## What was your first job in this field?

It was an industrial placement job with EDF's nuclear industry division.

## How did you get your first role?

Via a competitive bursary scheme, organised by Viridian Consulting, a partnership that innovates clean-up methods for the nuclear industry.



## What does your current role involve?

Working as a lead environmental engineer in the steel industry, leading a small team of environmental professionals to ensure compliance with environmental permit requirements, applying continuous improvements, and communicating with stakeholders in the areas of waste, landfill, water and effluent and greenhouse gas emissions. I have specific expertise in waste.

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

I held a number of roles in the environment department before becoming a lead environmental engineer.

## What's the best part of your work?

Integrated steelworks is considered to be one of the most challenging places for



CAREER PROFILE

# Yeliz Marshall

FIEMA

Lead environmental engineer,  
Tata Steel Strip Products UK

environmental work. Besides achieving compliance, we have ongoing continuous improvement projects, and also need to consider future legislation and targets for the industry. This is challenging, but when we achieve our goals the prizes could be huge.

## What's the hardest part of your job?

Improving environmental performance, as the plant was mostly built before any environmental regulations existed. It is a constant battle.

## What was the last development event you attended?

A leadership and management course.

## What did you bring back to your job?

How to support others to develop their skills.

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

Being patient and persistent, challenging wrong behaviours and mindsets, and persuading others.

## Where do you see the profession going?

Environmental protection is the most important



Visit [www.iema-transform.net](http://www.iema-transform.net)  
for more member profiles

challenge of our time, so environmental professionals have a great responsibility to challenge ourselves and others to do better – not only to protect our environment, but also to leave a sustainable world for future generations.

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

I would like to be an experienced regulator, as I have worked in the heavy industry for more than 10 years and I feel it is the right time for me to work as a regulator. I will shortly start working at Natural Resource Wales.

## What advice would you give to someone entering the profession?

The subject is vast and the profession is incredibly diverse; there are so many more opportunities than there can appear to be from the outside.

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

Passionate, positive and caring.



## What motivates you?

My personal goals, and leaving a better world for the future generations.

## What would be your personal motto?

One person can make a difference.

## Greatest risk you have ever taken?

Moving to the UK right after graduating from university.

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

Rachel Carson, to ask her how she stood strong against intense, vicious and sexist criticism she received from the chemical industry after she published one of the 20th century's most influential environmental books, *The Silent Spring* – while fighting a battle against cancer.

## The IEMA #BookClub is back!



Are you an environment and sustainability professional with an interest in books and science? Marek Bidwell is hosting the next IEMA Book Club with Mark Lynas, author of *Seeds of Science: Why we got it so wrong on GMOs*.

Defra is currently consulting on genetically modified organisms (GMOs) in the UK. The technique promises many benefits. However, many fear it is a ploy by corporations to put farmers in a lifetime of debt and dependency. For or against GM? Join the discussion

➤ Register at [bit.ly/3rD71IM](https://bit.ly/3rD71IM)

### RECENT RELEASES



**All We Can Save: Truth, courage, and solutions for the climate crisis**  
Edited by Ayana Elizabeth Johnson and Katharine K Wilkinson

Provocative and illuminating essays from women at the forefront of the climate movement who are harnessing truth, courage and solutions to lead humanity forward.



**The Economisation of Climate Change: How the G20, the OECD and the IMF address fossil fuel subsidies and climate finance**  
Jakob Skovgaard

This book explores how the G20, International Monetary Fund and the Organisation for Economic Co-operation and Development have addressed climate finance and fossil fuel subsidies, and the consequences of the economisation of climate change.



**National Climate Change Acts: The emergence, form and nature of national framework climate legislation**  
Edited by Thomas L Muinzer

This ground-breaking book collects contributions from leading climate and energy law scholars and provides the first major study of national climate change acts.



## DATES FOR YOUR DIARY

[iema.net/events](https://iema.net/events)

**30 MARCH**

### DIGITAL CONFERENCE

#### New Horizons: Building the Recovery

As the construction sector works towards becoming a net-zero carbon industry, the demand for more environmentally friendly processes and building products that enhance the sustainability of new buildings and infrastructure is increasing. Martin Baxter will present 'Making the transition to a low-carbon future'.

➤ Book now at [bit.ly/3v4Fty5](https://bit.ly/3v4Fty5)

**28 APRIL**

### DIGITAL CONFERENCE

#### Achieving Racial Equality in Leadership

20% DISCOUNT TO IEMA MEMBERS

Research continues to show diversity is good for culture, for performance and for business. Diversity, however, begins with transformational and visible leadership. IEMA CEO Sarah Mukherjee will be joining the panel discussion 'Conversations in Leadership: Executive-Level Race Allies and Champions'.

➤ Book now at [bit.ly/3ekozW4](https://bit.ly/3ekozW4)

**1 APRIL**

### WEBINAR

#### BS 8950 – Guide To Enhancing Social Value

Hosted by BSI, IEMA & SVUK. Join us for an overview of the findings and practical recommendations from industry experts on how to move beyond mere compliance with the Social Value Act. This webinar is intended to launch and introduce the standard.

➤ Book now at [bit.ly/3t22wla](https://bit.ly/3t22wla)

**18-20 MAY**

### CONFERENCE

#### Safety and Health Expo/Facilities Show

With a CPD-accredited seminar programme and thousands of solutions from hundreds of exhibitors, this conference offers you the opportunity to make connections across the entire health and safety industry.

➤ Go to [bit.ly/3rsRivM](https://bit.ly/3rsRivM) for more information

**Webinars:** The Value of Environmental Auditing – How to Sell Auditing to Senior Management | 29 March | [bit.ly/30tMyKv](https://bit.ly/30tMyKv) • How to: Stand out from the professional crowd – CV & Interviewing techniques | 8 April | [bit.ly/30wuZto](https://bit.ly/30wuZto) • Legal Update – Environmental Law | 13 April | [bit.ly/3kZKzHk](https://bit.ly/3kZKzHk)

If undelivered please return to:

IEMA  
City Office Park  
Tritton Road  
Lincoln  
LN6 7AS



Transforming the world  
to sustainability



# Impact Report 2020

During a year of unprecedented change, IEMA made strides for the membership, including involvement in policy decision making, taking action for diversity within the profession and helping members with their career journey through ongoing resources.

In our 2020 impact report, we review the progress achieved throughout the year and what the future looks like for IEMA and its members.

View the report here:  
[iema.net/about-us/impact-report](http://iema.net/about-us/impact-report)

