

# TRANSFORM

Environment ●  
Economy ●  
Society ●

FOR ENVIRONMENT AND SUSTAINABILITY PROFESSIONALS

April/May 2024  
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# Responsible actions

SARAH MUKHERJEE MBE, CEO, IEMA

**H**ello and welcome to another edition of *Transform*. I hope that you've had a good and productive few months so far. We certainly have some thought-provoking articles this edition to help you with your business planning for the rest of the year.

Milton Friedman's famous doctrine that businesses' first responsibility is to deliver shareholder value has been cited many times by environmental experts as one of the reasons why we face the multiple crises of climate and nature today. We talk to Andrew Winston, one of the world's foremost thinkers on management, who considers ESG, financial disclosures and why Milton Friedman might have been far less sympathetic to modern business models than you might think.

People in the UK are internationally renowned for talking about the weather. But in the past year or two, complaining about public transport has been added to the list of social conversation topics. So why does the UK lag behind Europe in take-up of public transport? As Huw Morris reports, linking housing density to public transportation might be the answer.

Finally, when you have finished your yoghurt, have you ever thought about if, how and where the pot can be recycled? Polypropylene, or PP, has been difficult to recycle for several reasons, but David Burrows explains how that may be changing.

That's it from me. As always, please do let us know if you have any comments or suggestions for future articles. You, our members, are involved in so many interesting projects and it's a joy to share them with a wider audience!

Have a great couple of months and speak soon.



## 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.

### IEMA

Fenland House, 15 B Hostmoor Avenue  
March, Cambridgeshire PE15 0AX  
tel: +44 (0) 1522 540069  
info@iema.net | www.iema.net

### Editor

Sharon Maguire  
s.maguire@iema.net

### Deputy editor

Chris Seekings  
c.seekings@iema.net

### Sub-editor

Caroline Taylor

### Group managing editor

Sian Campbell

### Group creative director

Matthew Ball

### Commercial partnerships manager

Oliver Smith, 020 3771 7242  
oliver.smith@thinkpublishing.co.uk

### Group commercial manager

Tony Hopkins, 020 3771 7251  
tony.hopkins@thinkpublishing.co.uk

### Commercial director

Michael Coulesey

### Production director

Justin Masters

### Client engagement director

Peter Woodman

### Executive director

John Innes

### Printer

Warners Midlands Plc



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"Andrew Winston, one of the world's foremost thinkers, considers ESG, financial disclosures and why Milton Friedman might have been far less sympathetic to modern business models than you might think"

### PUBLICATIONS

## New guidance for users of climate-related financial disclosures includes three key developments

BY CHLOË FIDDY

In 2020, IEMA and the Institute and Faculty of Actuaries (IFoA) jointly wrote and published *A User Guide to Climate-Related Financial Disclosures*. This has now been updated to include three key developments in the field.

First, the numbers of entities reporting climate-related financial disclosures has quadrupled. There are now more than 4,000 supporters of the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations, from over 100 countries and with a combined market capitalisation of \$27trn.

Second, the International Sustainability Standards Board (ISSB) has published two sustainability disclosure standards: IFRS S1 *General Requirements for Disclosure of Sustainability-Related Financial Information*, and IFRS S2 *Climate-Related Disclosures*. These incorporate and build on recommendations made in 2017 by the TCFD, and the TCFD has now effectively been 'rolled into' the International Financial Reporting Standards (IFRS) Foundation. Many jurisdictions around the world are expected to go on to endorse and incorporate these disclosures into requirements by way of domestic legislation or regulation.

Meanwhile, the EU has adopted European Sustainability Reporting Standards (ESRS). Thankfully, emerging reporting standards are converging on a common set of themes and requirements, with ESRS, ISSB and the Global Reporting Initiative having a high degree of interoperability. This minimises the need for near-duplicative reporting.

Third, the impacts of climate change are really beginning to hit home. Companies



are increasingly aware that they must mitigate their impacts on the environment while ensuring that their own operations and those of their selected supply chains are resilient to shifting weather patterns. As risks become reality and climate impacts hit the balance sheets, organisations are no longer waiting for regulation or consumer demand to force change. Many are proactively looking at their transition options, and reporting on current baselines is a non-negotiable starting point.

While plenty of guidance has been written for people preparing climate-related financial disclosures, very little was available to those who had to read, understand and use such reports. IEMA's climate specialists and IFoA's experts in financial risk management teamed up in 2020 and now again in 2024 to fill this gap, creating guidance on reading the disclosures with an informed and critical mindset, the ultimate goal being to make best practical use of them.

The new guidance explains how readers should approach the disclosures, including defining their objectives, interpreting the content and establishing

what any additional requirements might be. Disclosures are written to be all things to all people and it is up to individual stakeholders to decide what it is they need to understand, which will be framed by the decisions they will be making on the basis of the information given. Not all of the information will be of use to all of the readers.

Once the user has established what they need to draw from the report, attention can turn to understanding whether the reporting entity's strategy meets given requirements. This can be in terms of how it has identified risks and opportunities relating to climate change, how it is planning its transition and the consistency of the planned transition with the time horizons identified.

The metrics and targets used by an organisation provide an insight into what it considers important enough to measure and work towards, and for this the guidance paper sets out pointers on both the big picture and the detail for a range of indicators. Although greenhouse gas emissions are an important part of impact assessment, there are other climate-related sustainability issues to consider, such as water availability, human rights, biodiversity and the benefits provided to humans by ecosystem services.

Governance is an overarching consideration, encompassing strategy, risk management, and metrics and targets. The overall governance structure an organisation has in place for climate-related matters is key: without sound processes, any strategy will fall apart. **See [www.bit.ly/IEMA-IFoA-guide](http://www.bit.ly/IEMA-IFoA-guide) for the new edition of the guide**

PUBLICATIONS

# Paper outlines planning policy and legislation on nutrient neutrality

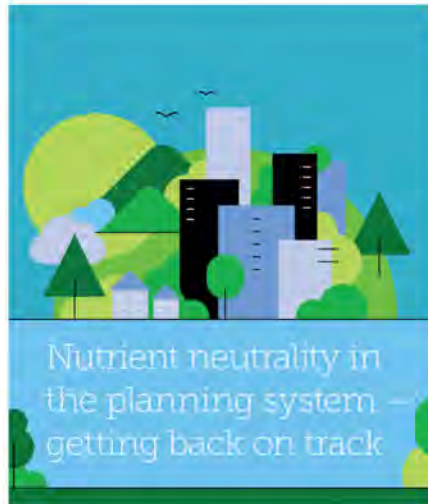
BY LESLEY WILSON

A hangover from EU legislation, requirements on the need for consideration of nutrient neutrality for developments on many protected sites in England were nearly removed from the planning system in 2023.

With this in mind, it seemed an appropriate time to take stock of nutrient neutrality requirements and reaffirm the important part that they play in the protection of nature. To this end, IEMA has produced a new paper, *Nutrient Neutrality in the Planning System – Getting Back on Track*.

Water courses are degraded, water quality problems are widespread, and sewage treatment plants seem to be at capacity. Underpinned by the Habitat Regulations, nutrient neutrality requires planning authorities to assess the environmental impact of planning applications on protected sites. Developments should only go ahead if they will not cause further pollution.

Developers have to demonstrate nutrient neutrality but it's worth noting



that they do not have to demonstrate any kind of net gain or improvements. Developments likely to be affected include residential developments, care homes, hotels and anything with overnight accommodation.

In September 2023, there was a period of uncertainty because of proposals to withdraw the Nutrient Mitigation Scheme

through an amendment to the Levelling-up and Regeneration Bill. There was much confusion around this time, partially because of mainstream press reporting that nutrient legislation was to blame for delays in residential planning applications, while the number of new homes affected was only a small proportion of the new homes needed.

Ultimately, the House of Lords rejected the amendment at the end of 2023 and the legislation achieved assent. In an announcement on 20 December 2023, the UK government confirmed that Natural England will continue to deliver the £30m Nutrient Mitigation Scheme.

IEMA's new paper aims to get readers up to speed on nutrient neutrality: the history of the requirement, what it is, why it's important, and the legislative and policy landscape. It is aimed at various professionals, including those working in development, local authorities, ecology and waste water, and all stakeholders who want to do the right thing.

**The paper is available to read at [www.bit.ly/NutrientNeutralityPlanning](http://www.bit.ly/NutrientNeutralityPlanning)**

STEERING GROUP

## Plans to set up new social sustainability member group

BY CHLOÉ FIDDY

During the course of 2023, IEMA carried out an extensive survey among members to gauge views on the strategic future of the organisation and to hear how we can continue to support people at all levels of membership with their biggest professional challenges.

It came out loud and clear that members would appreciate more guidance on social sustainability. To respond to this demand, we're in the process of setting up a dedicated member steering group that can cover topics as diverse as human rights; equality, diversity and inclusion; community impacts; employee wellbeing; and ethical practices.

An overarching theme will be the just transition. As with all the work that the policy team undertakes, we will be addressing skills shortages and looking to help close gaps in training and competencies.

The social sustainability group will be supported by a wider network of members. Once established, we will be calling on our members with an interest in the area to join the network and to support the steering group in developing a work programme.

The steering group will shoulder the core responsibility for putting together and delivering the work programme but will be looking to the wider network for suggestions and support.

**Further details on joining the network will be circulated in due course, but in the interim if you have ideas or questions for this group, please drop us a line at [policy@iema.net](mailto:policy@iema.net)**



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## NETWORKS

### Fellows steering group holds first meeting

IEMA's new Fellows network had its inaugural meeting in January. We are delighted to have established this steering group to support delivery of IEMA's Fellows' aspirations. Our thanks go to: Stephen Thomson, Adam Weller, Dr David Arku, Andrew Kluth, Allan Wickham, Rosemary Horry, Gareth Kane, Simon Cordingley, and Charles Haine. The network chair is Dr Lowellyne James, with Diana Lock as vice-chair.

A new webpage will be created to share updates and activities with all IEMA members. For any queries, please contact IEMA's relationship and networking manager, Eleanor Morris, at [e.morris@iema.net](mailto:e.morris@iema.net)



## CAREERS

### Spring fair educates students on green careers

By Rebecca Turner

At a School of Management careers event at Cranfield University, one of our IEMA-approved university partners, we spoke to students from a range of postgraduate courses, from supply chain to marketing and management.

Many were interested in moving into a sustainable role, and it was great to be able to showcase the Green Careers Hub to support them in their journey.

IEMA education engagement officer Kirsty Peck has also visited the universities of Bath, Keele and Greenwich. Face-to-face events help convey the full range of IEMA benefits to our student members.

In addition, we took part in a college event on solar skills in London in February. Both technical and academic routes into green jobs are available, and it's important to talk about the full breadth of opportunities in this space. We run our monthly careers webinars through the Green Careers Hub, so take a look at what is coming up and whether it could support you.



## PUBLICATIONS

### New guidance maps out journey to digital environmental assessment

BY RUFUS HOWARD

IEMA's Impact Assessment Network is delighted to have published *A Roadmap to Digital Environmental Assessment*. This new publication is a continuation of IEMA's call for greater adoption of digital techniques in our *Proportionate EIA Strategy (2017)* and builds on the recommendations in our *Primer for Embracing Innovation and Digital Working (2020)*.

During the past two decades, various stakeholders from the government, academia, industry, local authorities, regulators and the public have been united in calling for shorter and more accessible environmental assessment reports.

However, most of these stakeholders have also made it clear that they do not want to see a reduction in environmental protection. Therefore, the challenge over recent years has been how to achieve a proportionate level of assessment and reporting, without reducing the quality of assessment as a tool for environmental protection.

As the number and depth of the assessments has improved over time, the resulting length and complexity of reports has, arguably, become a barrier to stakeholder engagement. The growing consensus between planning and impact assessment professionals is that better use of digital tools and smarter use of data could make it easier

to share information, avoid inefficiencies such as duplication and facilitate more effective monitoring.

This document provides a roadmap to help IEMA's members on their journey towards digital environmental assessment, assisting organisations by using a digital maturity matrix to establish their current level of digital maturity, and to guide them towards appropriate next steps in their digital evolution.

Visit [www.bit.ly/digitalEIA](http://www.bit.ly/digitalEIA) to read the full report

### A roadmap to digital environmental assessment



IEMA Transforming the world of sustainability

## POLICY

# How local government can face the climate emergency challenge

BY CHLOË FIDDY

It's well recognised that the public sector has the opportunity to work towards a national net-zero landscape that goes well beyond improving on its own performance; it can also influence through procurement and can direct through policy. Local authorities have an additional and unique opportunity to influence behaviours via their proximity to local communities and in their role as local leaders.

In Scotland and Wales, specific legislation requires local authorities to prioritise projects that work towards net-zero emissions for their own operations and their local areas. In contrast, English and Northern Irish local authorities have no such duties. Nonetheless, most local councils are very ambitious on climate change mitigation, in great part because they're responding to the concerns of their voters.

The Climate Change Committee highlights the importance of local action in achieving net zero, but identifies gaps in powers, funding barriers, and a lack of capacity and skills as blockers. The Independent Review of Net Zero published in 2023 recommended the introduction of a statutory duty for local authorities to consider the UK's net-zero targets. However, government opted not to enact this, given the existing high level of local commitment.

The UK's decision not to sign up to the Coalition for High Ambition Multilevel Partnerships for Climate Action during COP28 further reinforced this approach of relying on voluntary measures.

Implementing a statutory duty for local authorities to address climate change would be a double-edged sword. It would provide the mandate to set firm policies, reducing a duplication of efforts and uneven progress. But it would also present huge financial challenges to already strained budgets. Without additional dedicated funding, many local authorities would struggle to meet a new



obligation and would be unlikely to welcome a new duty.

David Walton MIEMA CEnv, climate emergency programme manager at Suffolk County Council, says that a sustainable, long-term funding environment in particular would enable local authorities to collaborate more effectively to improve project delivery efficiency, rather than expending resource developing bids in competition with neighbours. The Blueprint Coalition Manifesto Asks includes similar calls: for place-based approaches, genuine central and local government partnerships, and reforms to funding scheme structures.

IEMA often campaigns for consistency of policy from central government, which would enable local councils to plan and build up project pipelines, with adequate supply chains staffed by people with the right skills to do the job. In this election year, IEMA is hopeful that all groups will take note of its policy asks document, *Addressing the Climate and Biodiversity Crises*, published just prior to the party conferences in 2023.

IEMA's webinars and papers are put together by topic specialists within its membership, and many of them are of use to local authority teams. 'Climate' and 'environment' are huge cross-cutting topics for local authorities, and it isn't a stretch to say that working on associated projects is an enormous task. In some respects, we're almost asking climate officers to reform the entire governance of their authorities. Recognising these

challenges, which include changing mindsets and setting groundbreaking policies, IEMA's papers aim to support decision-makers to confidently make the right choices. Recent papers include: *Practical Steps for Decarbonising Local Development Plans*, *Outlook Journal: Considering the Water Environment in Impact Assessment* and *Local Nature Recovery Strategies – A Pathway to Prosperity*. Alongside its policy advocacy, IEMA offers events and guidance papers that will support and develop local council climate and sustainability officers.

**A longer version of this article is at [www.bit.ly/climate-emergency-advice](http://www.bit.ly/climate-emergency-advice)**







# A POWERFUL VOICE

Ben Goodwin reflects on policy, practice and advocacy over the past year

In the impact slot in the previous edition of *Transform*, Lisa Pool, IEMA's head of marketing, reflected on some of the amazing numbers behind the Institute's performance during 2023. Figures for membership growth, attendance at webinars and training courses completed all revealed an upward trend for the year, which is incredible.

In keeping with the theme of reflecting on 2023, I have been asked to set out some of the achievements and progress that was made in the policy space.

A core aim of IEMA's policy team is to try to positively affect the policy development process and other big decisions that take place in, for example, the judicial system.

In relation to policy development, the work that we continue to be engaged in on green skills and jobs was cited in the government's Net Zero Growth Plan, which was published last March. Guidance documents prepared by our impact assessment group were also referred to in multiple legal proceedings relating to the environmental implications of airport expansion projects and road development schemes.

Last year, we also focused a great deal of effort on building our profile in the political sphere. This included running a series of roundtable sessions on key environmental and sustainability issues with parliamentarians from across the political spectrum. Members of the staff team also attended the Conservative and Labour Party conferences, where we were invited to speak on several roundtables and share the Institute's key policy asks.

The year culminated in IEMA hosting an event with members of the Labour Party's shadow climate change and energy team in Portcullis House. The purpose of the event was to give IEMA members the opportunity to hear more about Labour's long-term plans for delivering net zero and their wider strategy for greening the economy.

Our profile also grew in 2023, and continues to do so in 2024, through contributions to the work of other organisations that are active in the environmental and sustainability space. For example, we were asked to sit on the advisory group of Economist Impact's research into green skills and jobs.

**"We focused effort on building our profile in the political sphere"**

We collaborated with the British Chambers of Commerce on work focused on the green transition for businesses, and we have been invited to speak at events organised by bodies such as the All Party Parliamentary Group for the Environment.

We also hosted a joint parliamentary event with the Broadway Initiative at the Houses of Parliament in January, which again had a focus on businesses and their role in delivering the net-zero transition. Graham Stuart, minister for energy security and net zero, was the keynote speaker.

The plan for the rest of the year is to build on the good progress we have made to this point and to continue to ensure that the voice of the profession is heard in government and, importantly as a general election draws closer, in political circles.

**BEN GOODWIN** is director of policy and public affairs at IEMA



Energy and climate minister Graham Stuart, keynote speaker at a joint parliamentary event on net zero

# DOWN TO THE WIRE

**Tom Harris** examines the supply chain constraints facing the growing number of interconnector projects

**A**s 2024 began, Britain's latest high-voltage direct current (HVDC) interconnector was switched on by National Grid. A record-breaking 760km long, Viking Link connects the Bicker Fen substation in Lincolnshire with the Revsing substation in Southern Jutland, Denmark. The project is the sixth of its type for National Grid, raising its operational portfolio to 7.8GW (gigawatts) of the UK's now 9.8GW of interconnector capacity.

While Viking Link broke records with the length of its onshore and subsea transmission span, it is only the first of a further 16GW of interconnector connection capacity in the pipeline for completion by 2035. Since Britain became a net exporter of electricity for the first time in 44 years in 2022, National Grid has projected net power exports to increase to 64TWh (terawatt-hours) in 2030, and up to 104TWh by 2050.

## Watts the demand?

Interconnectors are high-voltage cables linking the grids of countries, regions and/or offshore assets, enabling electricity to be transmitted between them. They use HVDC technology rather than the more commonly used high-voltage alternating current (HVAC), which is used across Britain's overhead line pylon network. Although its components are more expensive, HVDC is highly efficient for conducting electricity over long distances, particularly underground or underwater. Electrical losses from DC transmission range between 2 and 3% in comparison with 5-10% by AC. Break-even distances to financially justify HVDC installation in terms of the cost benefit from reduced energy loss compared with an HVAC alternative are 50-95km for underground cables, and 24-50km for submarine cables, far smaller than the 600-800km required to break even when constructing HVDC overhead



Britain is a net exporter of electricity, with exports projected to increase to 64TWh in 2030

lines. However, HVDC transmission does require expensive converter stations at either end of a transmission span to switch electricity supply back to the conventional AC format.

As more countries seek to decarbonise their energy systems, there is a higher reliance on weather-dependent renewable energy generation to meet supply. Interconnectors allow for the importation of renewable energy from unaffected areas while managing the precise amount of power imported to aid grid stabilisation and management.

## A tangled supply chain

Growth in HVDC interconnectors has put significant strain on the supply chains required to construct the cabling and the converter stations needed at each end of a transmission line. The European market for HVDC cabling and converter stations is dominated by a small pool of suppliers, because of the complexity of manufacturing parts and the high barriers to entry. Converter stations are typically provided by Siemens, GE Grid Solutions or ABB, while cabling is contracted to either ABB, Prysmian PowerLink, Nexans or NKT. On top of the

backlog of component orders, the availability of specialist subsea cable installation vessels and support ships is also limited. The combination of these capacity constraints risks an increase to cable delivery lead times and programme costs for interconnectors in the pipeline and those requiring maintenance. This is all while the EU has set a minimum interconnection target of 15% by 2030.

National Grid has previously suggested the need to broaden the supply chain beyond traditional European manufacturers – its 720km North Sea Link interconnector was built by Japanese supplier Hitachi Energy. The developer, which is also behind the proposed 3,800km Xlinks interconnector linking Morocco to the UK, aims to construct purpose-built cable factories to meet the volume of cable required.

If the benefits of interconnectors to energy security and decarbonisation through the facilitation of renewable generation are to be realised, the HVDC supply chain must adapt or face ever-increasing costs and delay to programmes.

**TOM HARRIS** is a graduate EIA infrastructure consultant at Temple Group

# Towards an equitable future

DSI webinar explores Inclusion Survey results. **Caris Graham** reports

In February, the Diverse Sustainability Initiative (DSI) hosted a webinar for its partners and network members. Its focus was the Inclusion Survey distributed among members of the People of Colour (PoC) and LGBTQIA+ networks. The survey aimed to provide a platform for network members to express their opinions anonymously, ensuring open dialogue. While the survey yielded a small set of statistics, it underscored the significance of inclusion within the profession. Valuable feedback and suggestions emerged, essential for those committed to fostering a more inclusive and diverse space.

The webinar began by revisiting statistics from the 2022 IEMA State of the Profession Survey, highlighting key findings. From the 1,000+ IEMA members surveyed then, 54% of ethnic minority members faced numerous career development barriers, compared with 32% of their white counterparts. Noteworthy was the observation that only 44% of self-identified postgraduate students described themselves as white, indicating an increase in those from diverse backgrounds studying environmental/sustainability-related courses.

This was followed by commentary on data extracted from The RACE Report (Racial Action for the Climate Emergency) in 2022. The report had gathered insights from 142 organisations in the environment, sustainability and conservation sector, aiming to foster diversity and inclusion through transparent data. One notable statistic was that 66% of surveyed staff of Colour emphasised the importance of seeing role models from similar ethnic/racial backgrounds, contrasting with 23% of white respondents. This highlights the

**"Ensuring that feedback from network members is acted upon is paramount"**

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## Diverse Sustainability Initiative



significance of diversity within organisations and justifies the DSI's ongoing efforts to drive change and foster a diverse and inclusive profession.

The qualitative approach of the Inclusion Survey, which garnered responses from 28 network members, indicated an average rating of 3.21 out of 5 for inclusion within their work environments. While the sample size was limited, some responses rated workplace inclusion as low as 1 or 2 out of 5. Just over half of respondents (53%) felt that they were treated fairly without discrimination based on their ethnicity.

The poll also showed that organisations should encourage open conversations about race and ongoing global challenges. People of Colour want to see dedicated forums where they can engage in such discussions freely and address the issue of underrepresentation, to allow career advancement opportunities, particularly within leadership roles. The RACE Report stressed the stark reality of leadership demographics, with a mere 5% of senior leaders across 124 organisations identifying as People of Colour.

When asked for suggestions to enhance racial or ethnic diversity and inclusion, network members offered the following:

- *'Publicly recognise racially driven conflicts that they know have an effect on their workforce; be more morally correct and less protective of public image.'*

- *'Have regular spaces to talk about issues related to race, so that it becomes a normalised part of work culture, rather than having separate slots allocated to talk about it every so often.'*

- *'Advertise posts without stringent educational requirements that may put people off applying. Value lived experience during recruitment rounds.'*

The LGBTQIA+ Inclusion Survey results presented a nuanced perspective. As a new network, it attracted fewer participants (16), yet the average inclusion rating stood at 4.13/5. Notably, only 50% felt comfortable being 'out' at work, suggesting that perceived inclusivity stems from individuals not expressing their 'full self' in the workplace.

Despite the limited response, valuable insights emerged, proposing actionable changes organisations can make to foster a sense of value and safety for LGBTQIA+ individuals within their workplace, including:

- *'Add pronouns to email signatures.'*
- *'Review parental leave policies to recognise same-sex couples.'*
- *'Ensure line managers are trained to suitably support LGBTQIA+ staff.'*

Making sure feedback from network members is heard and acted upon is paramount for the DSI. IEMA is committed to sharing this feedback and fostering a culture in which organisational leaders embrace and implement necessary action. If you're part of an organisation that is ready to drive meaningful change, consider joining the DSI. It's free to join, and we offer dedicated support on your journey towards equality, diversity and inclusion.

For further information, contact [info@diversesustainability.net](mailto:info@diversesustainability.net). If you identify as LGBTQIA+ or as a Person of Colour, we invite you to sign up to our networks.



**CARIS GRAHAM** (she/her) is Diverse Sustainability Initiative officer at IEMA [www.diversesustainability.net](http://www.diversesustainability.net)

# TRANSFORMING THE WORLD TO SUSTAINABILITY

IEMA presents a digital campaign to share knowledge and inspire action in sustainability



**F**ollowing stark warnings from the Intergovernmental Panel on Climate Change (IPCC) on the worst-case climate scenarios, and a series of unprecedented, extreme weather events, a spotlight shines on the world of business to urgently seize the opportunity to secure a sustainable future for all.

To inspire progress, IEMA has teamed up with Content With Purpose (CWP), a strategic content creator focused on communicating solutions to sustainable development.

The result is *Transforming the World to Sustainability*, a digital series that features a variety of short films, case studies and interviews, unveiling game-changing innovations in sustainability across decarbonisation, circularity, energy efficiency, research, training, green skills, sustainable finance and new technologies.

## Meet the experts

Industry experts featuring in the series include Jo Holden, head of sustainability at Grosvenor Rural Estates, and Dr Emma Keller, head of sustainability at Nestlé UK&I, who share their views on the hot topics affecting the sector.

One of the case studies explores the efforts made by the Ministry of Justice to embed sustainability across its estate. Kia Trainor, the ministry's head of sustainable operations, says: "Sustainability is an enabler of justice outcomes. As a significant major landowner, making up about 20% of government's carbon emissions, being able to demonstrate we can be a sustainability leader is important."

Reflecting on the role of SMEs in advancing sustainability, Paul Banton, managing director of creative production agency Ruddocks, says: "If all of us could do a little bit of something, what a huge difference we could make."

Elsewhere, Richard Carter, chair of IEMA, offers this warning: "If businesses aren't really taking seriously issues such as climate change and



CWP's Jay Carter-Coles, multimedia producer, and videographer Dominic Smith interview Professor Lorenzo Fioramonti, director of the Institute for Sustainability at the University of Surrey

biodiversity depletion, they're only going to be around for another couple of years."

Other organisations that feature in the series include Acclaro Advisory, AECOM, AtkinsRéalis, Climate-KIC, the Centre for Business in Society at Coventry University, Johnson Controls, Speedy Hire, RRC International, RSK Group and the University of Surrey.

Commenting on the series, Martin Baxter, deputy CEO at IEMA, says: "Sustainability must be prioritised in decision-making across industries, across organisations, and across

departments. We hope everyone gets behind this series and is truly inspired by fellow professionals. It's through learning from each other, collaborating and celebrating our successes that we can truly transform the world to sustainability."

## Sharing stories

Max Smith, founder and managing director of CWP, says: "It's been a great privilege to work with IEMA, a global leader in sustainability, on this project. Sustainability professionals across industries have opened their doors to us, sharing their stories in steering meaningful progress. They demonstrate what is achievable, and it's been a pleasure to enable their voices to be heard.

"We hope this series will serve to inspire the business community, and effect a positive shift through supply chains, employees, competitors, customers, society and, ultimately, for our world and generations to follow."

*Transforming the World to Sustainability* is for anyone working in sustainability or who is simply motivated to achieve a better environment and society for us all.

● The series is available to enjoy now at [transformingtheworldtosustainability.iema.net](https://transformingtheworldtosustainability.iema.net)



# Regulatory gaps between the EU and UK are beginning to appear, warns **Neil Howe** in this edition's environmental legislation round-up

**A**s parliament slows down in what looks set to be a general election year, the EU is leading the way on strengthening some key legislation, as we find out below.

## F-gas and ODS rules

Two new European regulations on fluorinated greenhouse gases (F-gases) and ozone-depleting substances (ODS) have come into force. Both F-gases and ODS have been regulated in the EU and subject to international controls for a number of years.

Both new regulations provide tighter controls and represent a significant step towards limiting global temperature rise in line with the Paris Agreement. The F-gas regulation in particular will contribute to reducing emissions by at least 55% by 2030 and making Europe climate-neutral by 2050. The regulations together could bring about a total reduction in the EU's greenhouse gas emissions of 490Mt (CO equivalent) by 2050.

[tinyurl.com/4bzvjr5](https://tinyurl.com/4bzvjr5)

## UK REACH work programme

The third annual UK work programme and rationale has been published, setting out how the Health and Safety Executive and the Environment Agency will meet the objectives and timescales set out in UK REACH. The programme explains how priorities for potential risk management of chemicals have been identified, based on a review of restriction proposals put

forward by stakeholders, and substances proposed for restriction by regulators, such as the European Chemicals Agency. A key priority in 2023-2024 is tackling per- and polyfluoroalkyl substances.

A regulatory gap is opening up between the UK and EU REACH systems. At the time of writing, the UK hadn't restricted or banned any new substances since Brexit, or added any new chemicals to the Candidate List, which identifies substances of very high concern and prioritises them for authorisation under REACH. By comparison, the EU has increased its Candidate List by over 30 substances, added five substances to its Authorisation List and adopted restrictions on a further eight.

[tinyurl.com/y9cwa6h3](https://tinyurl.com/y9cwa6h3)

## BNG law comes into force

Legislation on biodiversity net gain (BNG) is now in force. It establishes the system for BNG, which is a form of creating and improving natural habitats and ensures development has a measurably positive impact ('net gain') on biodiversity.

All major housing developments are required to deliver at least a 10% benefit for nature, expanding or improving natural habitat with the development. England is the first country in the world to make BNG a legal requirement after it was established in the Environment Act 2021, and implemented through amendments to the Town and Country Planning Act 1990.

[tinyurl.com/4af2349n](https://tinyurl.com/4af2349n)



## ON THE WATCHLIST

**Scotland is looking to restructure its environmental regulatory framework, among other notable consultations.**

### Integrated framework

SEPA is proposing incorporating its four main regulatory regimes into an integrated environmental authorisation framework. The framework is currently contained in the Environmental Authorisations (Scotland) Regulations 2018, and only applies to the regulation of radioactive substances. The aim is to extend this to include water, waste and industrial activities.

[tinyurl.com/38nh6u95](https://tinyurl.com/38nh6u95)

### Circular economy

The Scottish government has published a consultation on its circular economy and waste route map, setting out a strategic plan for delivering a system-wide vision of its circular economy up to 2030. It emphasises reducing waste, modernising recycling practices, decarbonising disposal methods and strengthening the circular economy through strategic oversight and collaboration.

[tinyurl.com/yzfmr86t](https://tinyurl.com/yzfmr86t)



### Air quality agreement

The European Commission has welcomed a provisional political agreement on the revised Ambient Air Quality Directive. Once adopted, the new law will set 2030 EU air quality standards aligned more closely with the WHO global air quality guidelines, which is an important step to better protect health and move forward on the path to zero pollution by 2050.

[tinyurl.com/2phzaxrb](https://tinyurl.com/2phzaxrb)

**NEIL HOWE PIEMA is head of writing at Barbour EHS**

## IN COURT

**Severn Trent Water has been fined £2,072,000 for allowing huge amounts of raw sewage to discharge into the River Trent from Strongford Wastewater**

**Treatment Works between November 2019 and February 2020.**

[tinyurl.com/s69e9m83](https://tinyurl.com/s69e9m83)

**Finally, in case law, in King Berebon v Shell Petroleum**

**Development Co of Nigeria, restoration claims for the residual clean-up of two oil spills in Nigeria have been granted.**

[tinyurl.com/bdzbpz6m](https://tinyurl.com/bdzbpz6m)

# 'WE KNOW BETTER NOW'

One of the world's most influential management thinkers, **Andrew Winston** sees many reasons for hope as pessimism looms large in sustainability. Huw Morris reports

**A**ndrew Winston had a case of "really bad timing" that set him on the path to becoming one of the world's top sustainable business thinkers. He had joined a dot.com three weeks before the industry crashed in 2000. A few months later, the company went bust while he was on honeymoon. "I turned to my newly betrothed and said, that for richer and poorer vow we took, how do you feel about poorer?"

While searching for regular business jobs, Winston discovered the then embryonic concept of sustainability, read everything about it, and studied for a master's degree in environmental management. One of the first people to go to Yale University to study the subject with an MBA already under his belt, he wrote *Green to Gold*, a book about the environmental challenges facing business and society, with professor Daniel C Esty.

## Give and take

This put him on the path to meeting Paul Polman, the former Unilever chief executive and global sustainability pioneer. Together they wrote the seminal book *Net Positive*. Its subtitle – *how courageous companies thrive by giving more than they take* – sums up *Net Positive*'s message. Winston and Polman debunk the economist Milton Friedman's theory that the sole purpose of business is to generate shareholder value. This may have lifted one billion people out of

poverty, but at huge cost to equality and the planet. Their working title was *Milton Friedman is Dead*.

"It's not the most subtle statement, because Friedman said the business of business is shareholder value, but there were some caveats, such as a company living by the rules," Winston says. "If he was around today, he might not be far off our view because the rules and the context have changed. The expectations of businesses from stakeholders are part of value creation – that's one of our main principles.

"The core brand behind this modern neoliberal view is that the purpose of business is just maximising profits. Back then, they believed that would maximise wellbeing on some level, and one of its key policy pathways is 'trickle down' – that if we just get out of the way of rich people, the world would be better off.

"It's failed in every place it's been tried. It's fundamentally flawed and doesn't recognise how systemic and connected everything is.

"We know better now. We know about climate change and that inequality has got drastically worse, in large part because of that philosophy. Part of our job is to tear it down as a core principle because we are undermining our existence."

Younger business executives are not convinced by Friedman, Winston says. But the fallout is everywhere. "Part of why there is so much volatility in the world is that Friedman's story is dying, and it's

causing disruption. It's an uncertain time for businesses and economies."

## Positive growth

So, what does a net-positive business look like? Winston and Polman argue it is a company that improves the wellbeing of everybody it touches throughout its value chains. Companies will profit and grow by solving the world's problems, not by adding or contributing to them.

"Is the world better off because your business is in it? If you can answer that as fundamentally 'yes', you are close to a net-positive business. There is no company that is net positive yet. The system is not in place. You can't plug into a grid that is all renewables yet. It's a path and the level of ambition we need now."

He acknowledges that the list of companies that "get net positive at a deep level" is short. They are mostly privately held or owned by one person and "don't have to worry as much about stockholder pressure, which gives them some freedom". Some big public companies "are doing pieces of it really well". Nevertheless, carbon emissions are rising.

"We're still losing. The leading companies must do more than getting incrementally better. They need to lead the charge and make up for the laggards by demonstrating a better way.

"Pursuing a more aggressive net-positive path is better as those companies are going to thrive in the future. We're going to need to go fast, and the pressure

"Companies will profit and grow by solving the world's problems, not by adding or contributing to them"



Sustainability expert  
Andrew Winston

# Interview

is rising, driven by physics and increasing stakeholder demands.”

Nevertheless, there are some grounds for hope. Winston notes how technology companies are “just killing it on renewables” by helping build the industry and moving into carbon sequestration. The aluminium, steel and cement sectors are also working on scaling up low-carbon technologies.

“They are pushing the boundaries and doing things that are not economic yet. The knock on sustainability has always been that it costs more but, in reality, companies do things that save money.

“Cool stuff is going on in big problem areas, and that should give us some hope that there is real work at scale now.”

However, he does not think optimism or pessimism is “the right word for where I am at the moment”. He acknowledges that the reality of climate change on the ground is tough.

“It’s hard not to be pessimistic in the short run about extreme weather and the damage that is happening and coming. But on the optimistic front, we are moving towards a clean economy pretty quickly and we’ll manage carbon emissions over time.”

## Changing the conversation

Winston is most pessimistic about misinformation and the consequences for democracy, particularly in a year heralding a bitter US presidential election battle. Artificial intelligence has been used to create videos of Joe Biden “saying things he never said”, Winston warns. The *Financial Times* used the technology to fabricate an image of the president kissing his rival, Donald Trump.

“There is so much wrong with the conversation right now,” Winston says. “The misinformation around policy, politics and climate is vast and making it much harder for us to act.”

However, with momentum growing behind how businesses handle environmental, social and governance

“Cool stuff is going on in big problem areas, and that should give us hope that there is real work at scale now”

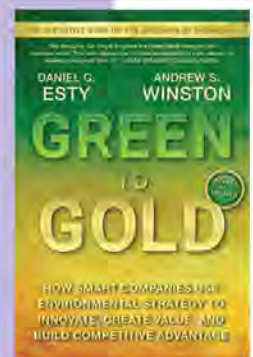
## Andrew Winston’s career at a glance

Andrew Winston’s early career included advising companies on corporate strategy while at Boston Consulting Group and management positions in strategy and marketing at Time Warner and Viacom/MTV. He has a BA in economics from Princeton, an MBA from Columbia, and a master’s degree in environmental management from Yale.

He is ranked third on the Thinkers50 list of the top management thinkers in the world. His books on strategy and sustainability – including *Green to Gold*, *The Big Pivot* and *Net Positive* – have sold more than a quarter of a million copies in 15 languages.

*Net Positive* suggests four critical paths businesses can take to thrive today and win in the future.

- Serve stakeholders, then shareholders
- Take full ownership of all company impacts
- Embrace deep partnerships, even with critics
- Tackle systemic challenges by rethinking advocacy and the relationship with governments.



(ESG) issues, as well as tougher regulation on financial disclosure, “there is no going back”, he says, pointing to the EU’s Corporate Sustainability Reporting Directive and similar legislation in California.

Much of Winston’s work focuses on mega-trends. Companies’ transparency and generational change are two examples. “Young people expect more transparency as they are on their devices all the time, but the regulatory pressure on companies to report, particularly on emissions, is growing and real.

“Companies are building the machinery to have enough people and resources to focus on this reporting. If you want something to be taken seriously – if it gets measured it gets managed – you need some kind of consistency.

“It’s anarchy right now; there are lots of ESG ratings firms asking different

questions, but we are moving toward harmonisation. I remind people that the three main financial sheets we learn in business school – the balance sheet, the income statement, the cash flow – took centuries to lock in and are still in flux, with constant debates about what is cash and what does ‘good will’ mean. There are debates about definitions all the time.”

## Patience is a virtue

Companies must therefore be patient, he argues. While some elements of sustainability are hard to measure, the estimates will improve over time.

“There are plenty of estimates in financial disclosure. It will get better, there will be more consistency and I have more hope that will work out than investors figuring out what they should be asking about ESG as they are not really clear how that all ties to a company as an investment.

“Sometimes anarchy is a good thing. It keeps things moving. Somehow, I think it will shake out.”

**HUW MORRIS is a freelance journalist**



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# ARE YOU BEING SERVED?

The UK's major cities lag well behind their European counterparts in terms of public transport use. Linking development to transport routes might be the answer, argues **Huw Morris**

**C**athie McCartan is a Sheffield business owner who relies on the bus to get to work. A visual impairment means she cannot drive but no services run during evening rush hours. This is forcing a dramatic change in her circumstances.

"There's a 16.45 and then a two-hour gap and the 18.45, so it's not there for the busy times," she says. "I haven't got the option to drive and I'm having to relocate my family home to get on the bus. And I only live two miles from a major city centre."

There is more to her predicament than the disastrous state of bus services outside London since deregulation in the 1980s, condemned by the Centre for Human Rights and Global Justice at New York University's School of Law as "a masterclass in how not to run an essential public service". Public transport use generally in the UK's major cities outside the capital is far behind that of its European counterparts.

Number-crunching by Centre for Cities, a think-tank dedicated to improving the

economies of the UK's urban areas, highlights the yawning gap. Before the Covid-19 pandemic, 16% of people used public transport to get to work in Manchester, 22% in Newcastle and 18% in Birmingham, compared with 33% in Lyon, 40% in Hamburg and 44% in Munich.

For Liverpool to match Leipzig, a German city of similar size, there would need to be 33,000 fewer workers commuting to work using a car or taxi, a reduction of 20%, the think-tank points out.

For the UK to bridge that gap, 936,000 extra workers will need to use a bus, train or tram – doubling the number of regular commuters.

Europe also performs better on commuting times. According to the European Commission, before Covid-19 61.3% of employees in the 27 EU countries travelled less than 30 minutes from home to work. In comparison, 26.3% travelled 30 minutes or more, but less than one hour, while 8.1% of workers had a commuting time of 60 minutes or more. Only 4.3% did not need to travel to get to their main place of work.



passengers a month and link key areas of growth and development to the city. This would in turn support local regeneration, boost economic growth and connect educational and cultural venues along the route.

Arthur knows that the scheme will involve tough decisions, but he says: "The choices we've made are our chance to show that Edinburgh is serious about the climate emergency."

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## Edinburgh's big question

City of Edinburgh Council's transport and environment convener Scott Arthur is tackling a big question with far-reaching consequences. Is the local authority doing enough to deliver a safer, more accessible, and environmentally friendly city for future generations?

"If we are to reach net zero for transport by 2030, we need to act 12 times faster than we have over recent decades," he says.

It's a formidable task but he is heartened by public engagement exercises, which show that residents want changes to the way people move around the city.

"Whether it's improving pavements to make it easier to get around on foot, expanding our cycle network for safer travel by bike or prioritising public transport, the appetite for cleaner transport is there," Arthur argues.

The council is accelerating plans to open up the heart of Edinburgh to make it "truly people-friendly". The Cowgate area will be closed to traffic in an experiment this summer.

The big ambition is to build a tram line between Granton and the BioQuarter and Edinburgh Royal Infirmary via the Western General and the city centre, which will go out for public consultation. The service would carry a million



In the UK, the average Londoner spends 80 minutes a day travelling to and from work, racking up around 27 hours a month of travel time, the worst in the country, according to the Office for National Statistics. Commuters in Cambridge, Chelmsford, Guildford, Luton and Huntingdon spend up to 19 hours a month.

### Encouraging public transport

So what can be done to close the gap? Many have set tough targets to increase journeys made by public transport. London is aiming to reach 80% of trips made using public or active travel by 2041, while Manchester wants to achieve 50% by 2040. Glasgow aims to reduce car vehicle kilometres by 30% by 2030. Edinburgh has set a goal of net zero for transport by 2030 (see panel, left).

Two factors govern how many people can easily access a public transport network, according to Centre for Cities external affairs manager Caitlin Rollison. One is the distance covered by the public transport network, but she argues that "the missing piece of the puzzle" is how many people live within its

## The Lille way to increase density

Lille Metropole links urban density to public transport through its Disque de Valorisation des Axes de Transport policy. The approach is applied in 500-metre zones to help identify potential sites for development around tram, metro and rapid bus stops.

An abandoned area around the suburban

station of Armentières was redeveloped as an intermodal transport hub, with commercial and residential space and active travel infrastructure, in 2006.

Density increased to 39 residents per hectare, compared with 18 in the wider Lille Metropolitan Area. These changes, accompanied by the launch of intermodal

ticketing and a daily fare cap, increased passenger numbers from 3,300 a day in 2005 to 5,000 a day by 2012.



catchment area, or "the density of residents around public transport stops".

Rollison points to Glasgow, a city with a geographically large public transport network and third behind London and Birmingham in terms of the distance that can be covered in 30 minutes from the city centre. The city's density – 17.7% of its residents live in areas with more than 6,000 residents per square kilometre – is lower than the UK urban average of 32.32%. However, despite an extensive public transport network, fewer people can access the centre than in cities with a smaller network but higher population density, such as Turin.

"Increasing the density around public transport stations, both existing and new, helps to maximise the number of people who can easily access the network," she adds.

"Passengers view time walking to stops, waiting or transferring as more onerous than riding a single mode of public transport; proximity to transport stops is a key factor in encouraging usage.

"The increased likelihood of congestion in higher density areas, caused by the greater volume of people to road space, also helps to make public transport the preferred mode of travel, particularly when effective public transport prioritisation measures such as bus lanes are in place."

So how can cities recognise the role of density? Centre for Cities has a five-point plan (see right). Within this, Rollison points to joining up transport and housing, citing Lille in France where a combination of policies has raised public transport passenger numbers by 1,700 a day within seven years (see above).

"Cities should focus on density as a catalyst for more efficient transport networks and a key factor in the success of other policies aimed at increasing ridership," says Rollison.

**HUW MORRIS is a freelance journalist**

## Catching up with Europe

Drawing on London and overseas cities with high levels of public transport use, Centre for Cities suggests a five-point policy plan.

- 1 **Develop the density of commercial property in city centres to concentrate jobs.**
- 2 **Improve residential density using local development orders to create new mid-rise developments near existing and new public transport stops.**
- 3 **Bring responsibilities for running a city's public transport services together under one body, similar to Transport for London.**
- 4 **Where commercial partnerships are not working, consider using new bus franchising powers created by recent and upcoming legislation in England and Scotland to improve services, including integrated ticketing and daily fare caps.**
- 5 **Provide cities with transport-related revenue-raising powers, such as congestion charging or workplace parking levies, that provide cross-subsidies to fund investment in transport networks and make public transport journeys more attractive than travelling by car.**

# HOW MUCH IS TOO MUCH?

While there is no silver bullet for tackling climate change and social injustice, there is one controversial solution: the abolition of the super-rich.

**Chris Seekings** explains more

**E**very year, Forbes publishes its latest 'rich list' celebrating the world's wealthiest billionaires. While some might roll their eyes at the seemingly endless riches accumulated by these individuals, others are filled with admiration, inspired by their innovation and ingenuity.

Whatever your reaction, the implications always go something like this: the richest 1% own almost half of the world's wealth, while the poorest half of the population own less than 1%, and the divide is growing. This is regarded as an inevitable trend that will continue *ad infinitum*, with an Oxfam report this year predicting the world's first trillionaire within a decade – a prize that individuals such as Elon Musk and Jeff Bezos are no doubt eyeing with a razor-sharp focus.

However, there are many environmental, moral, economic and practical reasons for breaking this monotonous cycle of growing wealth inequality, and almost as many reasons why politicians dare not address them.

## An exclusive club

To fall within the wealthiest top 1% in the US, Forbes data shows that you would need a minimum net worth of \$10.4m – remember, this is the minimum amount, with the top 10 richest people (all men) worth between \$100bn and \$240bn. Although the threshold is lower in the UK, at around \$2.7m, only 685,500 Britons have passed this minimum limit, who together hold more wealth than 70% of the population, according to Oxfam.

The charity estimates that an annual wealth tax of up to 5% on the world's multimillionaires and billionaires could

raise \$1.7trn a year, enough to lift two billion people out of poverty, fully fund the shortfalls on existing humanitarian appeals, deliver a 10-year plan to end hunger, support poorer countries being ravaged by climate impacts, and deliver universal healthcare and social protection for everyone living in low- and lower middle-income countries.

"The more work I've done on the super-rich, the more I've felt that a lot of society's problems could be solved by achieving a more even balance of income and wealth, and that the associated economic risks are wildly exaggerated," explains Luke Hildyard, author and director

**"The richest 1% is responsible for more carbon emissions than the poorest 66%"**

of the High Pay Centre. "If anything, I think it's likely that greater equality would mean more economic growth; we'd have a bigger pie shared more equally and generally much higher living standards if wealth was more evenly distributed."

However, the strongest argument for narrowing the divide between the richest and poorest might be that we could all live within the boundaries of environmental sustainability.

## The carbon debt

The most comprehensive study of global climate inequality found last year that the richest 1% is responsible for more carbon

emissions than the poorest 66%, and accounted for 16% of all CO<sub>2</sub> emissions in 2019 – enough to cause more than a million excess heat-related deaths.

"Generally speaking, a person's affluence is the best predictor of how polluting their lifestyle will be," author Ingrid Robeyns explains in her new book, *Limitarianism: The Case Against Extreme Wealth*. "Rich people have larger homes, travel more, use less public transport and have investments in polluting industries. In the case of the super-rich, we are looking at huge mansions and second homes, multiple cars, private jets and capital accumulation from profits in industries that contribute to climate change."

Conversely, it is the poorest among the global population who are most affected by the effects of climate change and extreme weather as they struggle to recover from failed harvests, destroyed homes and health crises.

"There's a historical carbon debt, as around 80% of emissions came from today's advanced economies between 1850 and 2011," says Jayati Ghosh, professor of economics at the University of Massachusetts Amherst.

"But I don't think of it in terms of 'the West', because there is a lot of inequality within populations. There's a broader issue of lifestyle and aspirational tendencies that exist all over the world, where everyone is aspiring to a material existence that is simply not sustainable."

It could be argued that wealth inequality is in fact the root cause of the climate and environmental crises we face today, and that those interested in tackling these challenges have a moral imperative to help address this imbalance.



## Beyond taxation

In his latest book, *Enough: Why It's Time to Abolish the Super-Rich*, Hildyard proposes a series of tax reforms to narrow the divide. However, these are not necessarily the most effective measures that can be taken.

Rather than just focusing on redistribution of wealth, the book also outlines how 'pre-distribution' can play an equally significant role in preventing such abundance of riches

being accumulated by so few people in the first place.

This could be achieved via: corporate governance reforms to redirect returns from investors and towards workers; stronger trade unions to empower employees in pay negotiations; and compulsory worker ownership and profit-sharing mechanisms to channel corporate wealth to those who create it.

Hildyard tells me: "You could also have a maximum limit on what people are paid

at an organisation according to a ratio, rather than a fixed amount, so they can't be paid more than 10 times the lowest amount a colleague is paid, for example."

Others propose a more radical approach, with Robeyns suggesting that we should aim to create a society in which no one has more than €10m.

"This figure, whether in euros or dollars or pounds, roughly holds for most developed economies, though it is important to note that, more than the

# Social justice

specific amount, the method for calculating it is what matters," she says.

"There are – in most circumstances – very good reasons to set the limit at much less than the political threshold of 10 million. I contend that, for people who live in a society with a solid collective pension system, the ethical limit will be around one million pounds, dollars or euros per person."

Radically capping lifetime inheritances and gifts is also among her proposals, although this is a highly emotive topic, and would have to be done on a case-by-case basis to be morally justifiable.

## Survival of the richest

It is often said that billionaires will flee their home countries should greater restrictions on their wealth be introduced. Further investigation of this assertion suggests quite the opposite.

Studies have shown that migration levels among high earners are relatively low, largely because they are no longer searching for economic success. Indeed, analysis of the Forbes billionaire list found that around 84% still live in their country of birth, and of those who do live abroad, most had moved residence long before they became wealthy.

"People almost never move when they are at the advanced career stage – a time when they are most likely to face a millionaire tax," sociologist Cristobal Young writes in his book, *The Myth of Millionaire Tax Flight*.

"At the peak of their careers, people have family responsibilities – spouses and children who may be opposed to moving. They also have a lot of business and social contacts that make them prominent, well connected insiders where they live."

There are obvious exceptions to this – Sir Richard Branson moved to the British Virgin Islands after becoming a billionaire – but in general, higher taxes are unlikely to lead to a mass exodus of the super-rich. In fact, higher taxes would theoretically pay for the better parks, roads, bridges and other amenities that wealthy people enjoy.

In any case, there are mechanisms that could be put in place to prevent a race to the bottom and stop billionaires fleeing to tax havens.



## "Abolishing the super-rich doesn't have to be revolutionary or anti-capitalist"

Hildyard cites proposals for an 'exit tax' on billionaire emigrants, such as a capital gains tax which effectively treats them as if they have sold their assets at the point of emigration, thus removing the incentive to do so.

"It's also important to point out that the super-rich accumulating vastly disproportionate amounts of wealth and income is a common problem for countries all across the world," he says. "There's a case for all nations to come to an agreement on wealth in the same way they did with the Montreal Protocol or recent agreements on corporation tax."

## Unpopular opinion

As we enter the age of the trillionaire, it is worthwhile reflecting on why anyone would want to acquire such wealth in the first place. There is very little that a trillionaire could do that a billionaire or multimillionaire couldn't, and studies have shown that our happiness plateaus after a certain wealth threshold.

The answer could be simple: power. "Economic power gives you political power, and they use it to change policy, legislation and regulation," Ghosh says.

Might the reason why so few politicians speak out about restricting the wealth of the top 1% be that their hands are tied, and that the super-rich are in fact dictating policy from behind the scenes?

Rather than entertain conspiratorial thinking, the primary reason why politicians do not address the elephant in the room could be a far simpler one:

proposals to tackle wealth inequality are just not popular.

"I've been involved in focus groups with people on attitudes towards the super-rich, and I've seen a lot of polling on the topic, and there doesn't seem to be much public appetite for it," Hildyard says. "It needs to be emphasised that the levels of wealth being targeted would be way beyond ordinary people who have been reasonably successful. There aren't mainstream advocates of the argument that billionaires, bankers and CEOs don't create wealth, they extract it, and that living standards would be far higher if it was more evenly shared."

Rather than confront the compelling reasons for tackling wealth inequality, and explain them clearly to the public, it is far easier for short-sighted politicians to ignore them altogether.

"Abolishing the super-rich doesn't have to be revolutionary or anti-capitalist," Hildyard says. "Norway and Denmark are capitalist countries, but they're quite different to America. There are many distinct types of capitalism, and using the excess incomes and wealth of the super-rich to benefit society instead is a pragmatic, evidence-led conclusion to reach, regardless of political ideology."

As long as these misconceptions prevail in the minds of the public at large, we will continue to see the annual updates from Forbes on the burgeoning bank balances of the super-rich and the escalating wealth divide.

However, there can be a fairer, greener and more prosperous alternative for society and everyone in it, even if it seems a long way off. As Robeyns writes in her book: "Limitarianism doesn't come with a silver bullet or a single policy that would solve everything. It can best be understood as a regulative ideal – an outcome to strive for, but which is unlikely to be definitively achieved, given the way in which the world is currently organised."

"Acknowledging that eliminating poverty and ending discrimination are regulative ideals doesn't make them any less important – the same holds true for limiting individual wealth. Our aspiration should be to move closer to realising our ideals, drawing on the full range of measures available to us."

# PP progress

Around 20% of the plastic recycled is polypropylene, but the diversity of products it protects has prevented safe reprocessing back into food packaging. Until now. **David Burrows** reports

**W**hen you think of recycling plastic, what springs to mind? It's probably a bottle – one maybe protecting a fizzy drink (likely made of PET, polyethylene terephthalate) or milk (which is mostly HDPE, or high-density polyethylene). These polymers represent success stories of UK plastic recycling. Recycling rates could be higher, but there is the know-how, technology and infrastructure to collect, sort, clean and reprocess them back into 'new' bottles in a so-called 'closed loop' – replacing virgin plastic and reducing emissions with recycled polymers (rPET and rHDPE).

Now consider polypropylene (PP). In its rigid form, it's used for everything from yoghurt pots and meat trays to detergent containers and bottle caps (as it's easy to separate in a float/sink tank from materials such as PET). White PP is often the

material of choice for things like pot noodles, which require hot water to be added before eating them. PP is "tough, lightweight and does not mind heat", writes James Piper in *The Rubbish Book*. "It keeps products dry and fresh, which makes it an effective option for margarine tubs, yoghurt pots and plastic straws."

## PP in food packaging

It's not just found in supermarkets, either. Two-thirds (66%) of the global plastic footprint of McDonald's is PP, while at Starbucks it's 59%. That's 107,420 and 90,576 tonnes respectively. The figures, compiled as part of WWF's ReSource project, don't show how much of this is recycled content but it's likely to be very, very little – if anything.

Indeed, the current availability of recycled PP (rPP) for food-grade materials sits at "near zero", says a spokesperson for

Wrap, a charity that runs the UK Plastics Pact with fast-moving consumer goods (FMCG) companies and the plastic packaging supply chain. Research it has carried out shows that PP accounts for around 60% of the rigid plastics stream once PET and HDPE are stripped out. Only material that has been processed via chemical recycling (which comes with its own environmental and economic challenges) has been used in food or drink packaging to date.

In fact, there is very little food-grade post-consumer rPP available anywhere in the world, says Marcian Lee, an analyst with Lux Research in Singapore. "The main issue is that the recycling feedstock must be PP food packaging in the first place, which is a huge challenge to accurately identify," he adds.

Under EU legislation, plastic packaging for food can only be made from materials

## rPP environmental benefits

**35%**

lower CO<sub>2</sub> emissions than virgin PP production

**50%**

less water consumption required compared with virgin PP

**60%**

less in acidification versus virgin PP

**90%**

less in fossil fuel resource usage than virgin PP production

"Packaging made with the material has a 20% lower CO<sub>2</sub> impact than virgin PP"

SOURCE: BERRY, QUANTIS, 2023

on a 'positive list' of substances approved as safe. Which means the simplest way to ensure compliance is to exclude non-food packaging from the material fed into a recycling process. That's fine if it's milk bottles or soft drink containers you're after; they can be easily identified and separated at materials recovery facilities as part of the mechanical recycling process. But not if the target is PP packaging used for food.

Research last year by Eunomia for Plastics Recyclers Europe shows net demand for PP in the EU of 10.5Mt, 37% of which is used for rigid packaging. Around 1Mt is food-contact packaging, almost all of it from virgin polymers.

Recycled post-consumer plastic from rigid packaging meets only 3% of Europe's demand for PP, according to Edward Kosior, CEO and founder of Nextek, which specialises in the recycling of plastic packaging. PP is one of the most prolific polymers, he wrote recently in an article for *Packaging Europe*, but there is no recycled PP authorised for use for direct food contact other than those originating from recycling schemes that

must use material from a closed loop system. That isn't good enough to meet new EU regulations.

PP tended to be the stuff that was left over at the end of the sorting belts, Kosior tells *Transform*. That isn't the case any more, with PP packaging ending up in a range of products, from cars to electronics, in a market currently worth a reported \$8.2bn, and forecast to hit \$13bn by 2029. But can rPP for food packaging take a slice of that pie?

There is certainly "optimism in the air", says Husam Taha, principal analyst (plastics sustainability) at energy consultancy Wood Mackenzie. Taha points to Berry, one of the largest plastics recyclers in Europe, as well as the work Nextek is doing in this space.

Berry, for example, has a new state-of-the-art plastic recycling facility in Leamington Spa. This started producing recycled PP for non-food giants such as L'Oréal and Beiersdorf last spring; it has the capacity to recycle nearly 40% of all the available sorted PP waste in the UK. Some 50,000 tonnes of UK kerbside-collected PP – or more than one billion individual packaging items – will wind through the plant every year.

"The next step is food applications," says Mark Roberts, circular value chain director at Berry. A 'letter of no objection' from the US Food and Drug Administration is in place so Berry can use post-consumer material for its patented recycling process (CleanStream) and then use the resulting material for food-grade packaging.

### Legal unease

What's happening in the UK and EU is less certain. In 2022, the European Commission introduced updated requirements for recycled plastic materials and articles intended to come into contact with food. There is a process to follow, and assessments to be done, to ensure these recycled plastics are safe. Getting this right is perhaps more important than ever, given the scrutiny on plastic recycling, the presence of chemicals in packaging and concerns over a toxic circular economy.

The likes of Berry and Nextek are fully supportive of a robust approach but there is frustration that regulators (the European Food Safety Authority and the



"There is a process to follow ... to ensure these recycled plastics are safe"

Food Standards Agency) are dragging their feet. Brexit and the integration of the EU changes into UK law is a spanner in the works too. "EFSA remains hesitant," explains Wood Mackenzie's Taha, and is "constantly requiring more results and more testing to prove the safety of the use of rPP back into food material."

The concern is that a two-tier system will be created as the US ploughs on while Europe is stuck in the mud – despite its progress and innovation in this space. "The biggest challenge in recycling PP is identifying the polymer in food packaging for recycling," says Lux Research's Lee. "There are some interesting developments in the use of AI-waste sorters (such as Recycleye's OMNI Project) and tracer technologies (such as NextLoop and





## Global plastics production by polymer



SOURCE: PLASTICS EUROPE

HolyGrail 2.0) for enabling the recycling of food-grade PP, which I think will play important roles in increasing PP recycling rates in the near future.”

Those hoping to produce rPP for food packaging are confident that they’ve done enough to secure approvals.

Berry uses deep learning sorting developed by Tomra, a technology provider, to remove contaminants in the PP stream (such as non-food bottles and flower pots). This helps achieve 95% purity, mainly pots, tubs and trays, before the next steps, which include identifying the food-grade PP, extrusion and decontamination and testing.

Nextek, which runs the NextLoopp project, supported by some FMCG brands

and companies within the PP supply chain, has developed a fluorescent tracking system, PolyPPrism, which uses luminescent materials applied to plastic packaging labels or sleeves. This allows a wide range of products to be uniquely separated from a mixed stream of packaging items. After that comes a new decontamination process. The results from trials are impressive.

Kosior says: “We’ve spent a lot of time [assessing] ... the food-grade stream ... and the non-food stream because [...] if you’re sorting food from non-food and you make a mistake, you need to know what that mistake might mean in terms of crossover contamination. And so we’ve characterised the types of contaminants

in the non-food stream and have that as the worst-case contamination in the food stream. That’s a critical understanding. No one’s ever done that before.”

The contamination levels in PP are reportedly in the order of 10x less than expected in HDPE milk bottles and 100x less than expected in PET. “We now have the technology and expertise at our fingertips to make a fundamental impact on improving plastic packaging’s circularity and, in so doing, reducing our CO2 footprint and our plastic pollution,” said Kosior recently.

### PPatience needed

Lee at Lux suggests more patience may be required from these pioneers of rPP for food packaging. He expects regulations around recycling content in packaging to become “increasingly strict” and, based on the recycling status quo, it will be a lot harder to meet these regulations in PP than PET. But, he says, “some of the developments offer some hope.”

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

UK rigid plastic packaging POM for 2021 (kt)									
Sector	HDPE	LDPE	PE	PET	PP	PS	PVC	Other	Grand total
Consumer rigids	283	15	25	523	209	21	5	17	1098
Non-consumer rigids	249	17	4	85	73	20	4	3	455
<b>Total</b>	<b>533</b>	<b>32</b>	<b>29</b>	<b>607</b>	<b>282</b>	<b>41</b>	<b>9</b>	<b>20</b>	<b>1554</b>

SOURCE: WRAP, VALPAK



# THE BIOPHILIC EFFECT

**Vanessa Champion** reveals how biophilic design can help you meet your environmental, social and governance goals

**W**hat do you think of when people say green economy? There may still be some who roll their eyes and talk about "tree hugging", but thankfully that 1970s sitcom mentality is getting rarer.

Knowing the impact of your business on the world is not only ethical, it is essential. In whatever way we operate, manage and build our businesses, we will have a direct impact on the world and those around us, now and in the future.

## Biophilic design

This is why for me, and thousands of others, biophilic design is key. In simple terms, if we implemented biophilic design in our interiors, exteriors, city planning, hospitals, workplaces, schools and homes, we would meet net-zero goals.

Biophilic design uses materials and methods that support the circular economy, reduce energy consumption and prompt more sustainable behaviour, while also supporting wellbeing and productivity.

So what is biophilic design? Biophilia refers to our innate tendency to seek connection with the natural world and life around us, and our interdependency

with nature. The term was coined by Erich Fromm and then embraced and moulded by sociobiologist E O Wilson, who studied ants and observed how the whole community was interdependent, how the termite mound had natural air flow, how the seasons affected behaviour, and so on. Being a scientist, Wilson realised this applied to humans too and he spent the rest of his life exploring this biological interdependence between us and the natural world.

When applied to design, biophilic principles aim to bring in as much direct connection with nature as possible, including natural light, better acoustics, natural materials, zones for safety and respite, and natural haptic experiences (such as gravel underfoot, or wooden door handles). That's before we even start looking at plants, which most people think biophilic design is exclusively about. Plants are natural air cleaners. And, as Nasa discovered, the soil also plays a major role in cleaning the air.

Environmental psychology research shows that having two big green leafy plants beside us when we are working helps us to focus and be more creative. It also reduces our cortisol and stress levels and ultimately cuts absenteeism and staff turnover, which is all

A natural  
playground



"Biophilic principles aim to bring in as much direct nature connection as possible"

good for the business's bottom line. It helps with ESG, BREEAM and WELL certification goals too.

### Keeping staff and pupils happy

Biophilic design helps to create environments and workplaces that people want to come to and are proud of. One such building is the De Verwondering primary school in the Netherlands, which was designed by Orga Architect and won last year's Stephen R Kellert Biophilic Design Award.

The building is made of wood, with plants growing up its sides. It has outdoor spaces for classrooms and indoor areas have large banks of windows looking out on to trees and nature. Passivhaus design principles allow for natural air flow, so there is no need for a heating, ventilation and air-conditioning system, which reduces energy costs. The school has natural insulation, which the children can see through a hole cut into the wall to encourage some understanding of sustainable building practice. There are also beautiful, planed tree logs holding up the interiors in some areas and images of nature dotted around the school. The furnishings are in soft, natural colours, and are not derived from fossil fuels.

In the Netherlands, there is a shortage of teachers, but there is a waiting list to work in this school.

### Sustainable Development Goals

It's 2024, and we have only six years left to meet the 2030 deadline for Sustainable Development Goals (SDGs) agreed by countries in 2015. So many things are interconnected, from food production to improving city street environments.

As in nature, there are vast networks of co-operation being forged across borders and industries, so much so that, for example, we have an improved understanding of how communities are implementing circular systems of water supply and waste, and how cities are managing flood risk and reducing the impact of excessive temperature increases by planting trees. And there are things we can all do to implement biophilic design (see right).

Biophilic design is key to helping unlock the ESG challenge. It sits prominently under the 'E' for environmental (net zero, carbon and energy reduction) and the 'S' for social (employee health and wellbeing initiatives, customers and society at large) and 'G' for governance (staff retention). And I haven't even mentioned the phenomenon that is 'awe'. What's not to like?

## Five biophilic design tips for your workplace

### 1 USE NATURAL LIGHT

Turn off lights and position your desk to make use of natural light. Have a look at your workplace – are the desks all facing the wall? We often talk about putting plants by the window rather than in the dark where they might die, but then we put our staff by the back wall or in an internal office and wonder why they are depressed and not performing.

What's good for the plants is also good for us. Shift those desks, lift those blinds and if you can plant some trees or bushes for people to look at (but more of that below), even better.

We also know that natural light sources can decrease energy usage for lighting by up to 75%.

### 2 PLANT SOMETHING OUTSIDE

Create a green space for your staff to hang out in during their lunch break or to take a breather. You can create a mini pocket park even in the smallest space. For instance, think hanging baskets, living walls, roof gardens, food gardens... There is so much inspiration. Green roofs and walls also act as natural insulators, reducing the heat island effect and providing additional thermal resistance.

Studies have shown that green roofs can improve insulation and cut energy demand by up to 10%. They also reduce stormwater runoff by up to 65%, decreasing strain on drainage systems. I'm



a big fan of green walls, which can help to reduce indoor temperature fluctuation, cut environmental footprint and improve energy efficiency.

### 3 CLEAN THE AIR

As mentioned previously, Nasa research shows that plants clean the air. We now know that the soil plants sit in also acts as a mini air-cleaning machine. So, buy some plants from your nearest garden centre or, even better, engage a local plant company to come in and maintain some plants in your office.

We know that the money spent on their maintenance more than pays off in terms of the productivity and creativity of your staff. Green spaces in offices lead to a 15% increase in productivity and a 6% increase in creativity (University of Exeter). It's a no-brainer.

### 4 USE NATURAL MATERIALS

I can't stress this one enough. We know from an environmental psychology point of view that seeing wood grain helps us study better, so replace those white

plastic table tops the supplier keeps showing you, and bring in some oak tables – they'll support your sustainability rating and will be good for the circular economy.

Natural materials also reduce the number of pollutants in the air (glues in plywood, fibres from plastics in polyesters, off-gassing fossil fuel-based varnishes). Remember that anything that is made from plastic also releases fibres into the air. Not nice.

### 5 REDUCE OFFICE NOISE

We can't see sound, but we know the impact noise has on us. Psychoacoustics is a science that shows how different noise levels affect our brains. Open-plan offices are mega culprits for unwanted noise. Not everyone wants to hear the sales team for eight hours a day, especially if you need to work on a spreadsheet or a report. Plants absorb and deflect sound and so banks of plants are ideal in helping reduce office noise.

**DR VANESSA CHAMPION** is the editor and founder of *Journal of Biophilic Design*

# Unleashing business

**Alex Veitch** from the British Chambers of Commerce and IEMA's **Ben Goodwin** discuss with Chris Seekings how to unlock the potential of UK businesses

**I**n January, the British Chambers of Commerce (BCC) published a report outlining a series of ambitious proposals to turbocharge the UK's transition to net-zero emissions.

Specifically, the *Building Sustainable Futures for UK Businesses* report explains how to unlock the next wave of new, highly paid green jobs, and deliver billions of pounds of investment.

It is the first of five policy documents being published by the BCC as part of its 'Future of Economy' project, and the recommendations could be a gamechanger for meeting the country's long-term environmental targets.

I sat down with Alex Veitch, director of policy and insights at the organisation, and Ben Goodwin, director of policy and public affairs at IEMA – who fed into the development of the report – to discuss some of the proposals.

**Why did you decide to publish this report on sustainability first in your series of upcoming policy documents?**

**Veitch:** Politics has entered the climate discussion in a way that it hasn't for quite some time, and we wanted to make a statement on the importance of sticking to convictions, and trying to take the political heat out of the agenda. We are multisectoral, so we get feedback on just about every topic related to environment from businesses of any size and sector.

**What are the main challenges for businesses looking to be sustainable?**

**Veitch:** Most businesses want to do the right thing and make green changes, but we see a lot of confusion. Among SMEs, a

lot of terminology doesn't land well. One of the most interesting things that we find with the largest businesses is the challenge of very detailed non-financial reporting requirements, and having to get good-quality environmental data from huge supply chains. I think we're on the cusp of a very significant private sector-led increase in environmental monitoring and action. At the same time, we have mixed messages coming out of government, and businesses are having to second-guess what their policies are going to be in the green space.

**How damaging has mixed messaging been from a business perspective?**

**Veitch:** With delaying the ban on diesel vehicles, for example, some car manufacturers were furious because they had really invested and geared up to meet the sales ban. Others were saying, 'okay, this gives us more time to convert literally all of our production to be electric'. We've also had the negative rhetoric on heat pumps from newspapers, which really hurt, and not just for the manufacturers, but all the intermediaries who actually do the sales. Companies feel like they are trying to push water up a hill. The danger is that a lot of high-quality products end up not being made in the UK.

**Goodwin:** There is a wider issue about how these things are communicated, and how the benefits of these technologies are explained to the general public. With heat pumps, people pick up a newspaper and it might say they cost a lot and they're not very effective. The same can be said for the way in which the potential costs and benefits of electric vehicles have, at times,



Alex Veitch

been portrayed rather negatively. There's a big role for government, businesses and professional bodies to work with the media to debunk myths about the green transition and to ensure that the public can access the evidence that enables informed consumer choices to be made.

**On the public's perception of the transition, polling has found that just 27% of young people have heard of a 'green job', and that 95% envisage them as exclusive to people who have gone to university. How important is it to change that public perception?**

**Goodwin:** It's massive. IEMA did similar research with YouGov a while back and we found that 56% of British adults had never heard of the term 'green job', and 64% didn't understand or hadn't heard of the term 'green skills'. So, if you look at it from a general population point of view, the scale of the challenge extends well beyond the younger demographic. If we're really serious about transitioning the economy to a more sustainable footing, we absolutely need more sustainability professionals, but we also have to recognise that all jobs across the economy are going to need to become a bit greener.

**How can we improve the pipeline of young workers entering the green economy?**

**Veitch:** As the whole economy goes green, the qualifications, career routes and apprenticeship standards also have to go greener to meet the needs. One of the projects that the BCC's working on is the local skills improvement plan, and that is about joining up the needs of employees in a particular place with schools and further education, and working on strategies to help young people find skills and jobs where they are. There is going to be a massive need for green jobs, and so we're pushing for government to support these kinds of initiatives in the future, whoever wins the election.

**The BCC report calls for a new public body to oversee delivery of core climate policies. Why is that important, and could it help tackle the confusion that many businesses are feeling?**

**Veitch:** We need an independent public body that lives beyond the life of parliamentary cycles to monitor, scrutinise and cajole climate policy to make sure it gets delivered with a multi-year delivery plan. This should be similar to the Vaccine Taskforce we had during the pandemic, which involved a massive dispersed network of thousands of people helping research the jobs and transporting them. That's the scale that we need, and we must try to energise sectors and bring communities to deliver it at pace. We've got the Climate Change Committee (CCC) – which needs more resources – that can recommend and scrutinise, and does a good job, but it's not set up to do what we are talking about.

**How stretched are the CCC's resources?**

**Veitch:** I'm on the CCC's Advisory Group on Business, and when I was with them the other week, they only had around 60 people – which is a lot more than they had a year ago. If we think about what the CCC is trying to do, which is to monitor, analyse, and then make recommendations on every single part of our climate change strategy, 60 people is not enough.

**Goodwin:** Chris Stark is leaving soon, which is a shame because he is very impressive, and the organisation is recruiting a new CEO. That appointment is very important because the CCC is so crucial. Lord Deben has also stepped down, so it seems there's a real period of change going on there, but hopefully it won't detract from the vital role that the CCC has and needs to continue to play.

**The report also calls for a robust green industrial strategy. What should that look like?**

**Veitch:** The green industrial strategy should combine general incentives to invest, such as full expensing, with specific measures to help green industry grow and compete globally. Cross-cutting measures include linking the UK and EU emissions trading systems (ETS), implementing the UK carbon border adjustment mechanism (CBAM), launching the green taxonomy, and applying the learnings from the success of Contracts for Difference to other sectors beyond wind energy. There should also be sector interventions where the UK

can be a world leader, including carbon capture and storage, and sustainable aviation fuel. Finally, the strategy should also include measures to boost domestic production in key technologies, such as batteries and solar panels.

**The BCC helps British businesses build relationships internationally. How does different climate policy across countries present trade barriers?**

**Veitch:** Going green is now becoming part of trade, with companies having to measure the carbon footprint of their products to trade, which could be transformative. However, carbon leakage occurs when emissions move between countries with different climate policies, which is why we are calling for the launch of the UK CBAM. This could also be good for our exports in a carbon-constrained world if foreign companies choose to import low-carbon products from us.

**Is there a danger that businesses spend too much time waiting for government policy, and forget to focus on what they can do now?**

**Goodwin:** There's nothing to stop businesses being more ambitious and extending beyond what is set down in policy. Yes, we do need the long-term policy and regulatory frameworks to drive certain behaviours, and it is a shame that there seems to be this political polarisation creeping in, but businesses can still be more ambitious of their own accord.

**Veitch:** That's 100% right, and businesses need to be innovative. Making the first truly eco-friendly coffee cup is the holy grail; as Martha Lane Fox says, 'the first trillionaire will be in the green space', and I really hope she's right, but we do need the regulation to be the tide that lifts all boats.

**Visit IEMA's Green Careers Hub for information on green skills and career pathways: [www.green-careershub.com](http://www.green-careershub.com)**

**Download the BCC report at [bit.ly/BCC\\_innovation\\_report](http://bit.ly/BCC_innovation_report)**



Ben Goodwin

# IS THE SEA BIG ENOUGH?

**David Barber** assesses the environmental challenges facing new subsea cable projects

**T**he energy transition will rely heavily on further development of subsea cable infrastructure, focused on power export cables to connect wind farms to land, interconnector cables between the UK and neighbouring countries and multipurpose cables meeting both requirements.

However, the sea is not an infinite resource that can easily accommodate new infrastructure projects. It has a well-established commercial shipping industry, fishing interests, dredging zones, an extensive network of wind farms, power cables, telecommunications cables and oil and gas pipelines, as well as natural obstacles and limitations resulting from seabed morphology, metocean conditions and sensitive, protected ecosystems and cultural heritage.

Much of the present energy infrastructure was developed without long-term planning for the widespread development that is now foreseen. The space for new projects is restricted and subject to increasing competition. Constraints on subsea power cables are exacerbated in the nearshore, where the density of other marine uses intensifies and where protected sites for nature conservation are concentrated in estuarine and inter-tidal environments.

It is increasingly difficult to find a cable route that avoids detrimental effects on every receptor. The cumulative impacts of the expanding web of energy infrastructure on existing marine users and environmental resources means that a point will come when an important new project will be the straw that breaks the camel's back. Consequently, navigating new developments through environmental impact assessments, public consultations and consenting procedures takes more time. Increasing complexity also means

there is a very foreseeable risk of legal challenges to marine licences in the future.

There is no substitute for open, constructive stakeholder engagement as the foundation for securing acceptance of new projects in a crowded space.

Because of their statutory responsibilities, pre-existing licensed rights or specific interests in the maritime space, there are five key stakeholders for new subsea cable projects:

- Navigation and port authorities
- The fishing industry
- Third-party asset owners
- Nature conservation authorities
- Marine licensing authorities.

The views of other interested parties, such as coastal communities, non-governmental organisations and leisure users, also need to be considered in public consultations and consenting procedures.

## Engaging with stakeholders

The principal challenge for project promoters is to proactively engage and share information at an early stage – despite a common first response that the project should either not happen or be delivered elsewhere – and continue the engagement to seek an amicable outcome or compromise. The latter requires the project promoter to be flexible and ready to adjust aspects of the project design, cable routing and implementation to take account of local issues, even though this could incur additional costs, delays or technical constraints.

Another challenge is that the preferred resolutions or mitigation measures of each of these stakeholders may conflict with each other, so that it is impossible to

## Subsea power cables in UK waters in 2023

### INTERCONNECTORS AND OFFSHORE GRID:

11

operational

7

under construction

10

proposed

### OFFSHORE WINDFARM EXPORT CABLE SYSTEMS:

42

operational

8

under construction

45

proposed

satisfy everybody. Almost all nearshore areas have multiple pre-existing marine users, so cable routing cannot avoid all sensitive zones and technical solutions may not resolve every stakeholder's concerns.

## Reducing the footprint

Spatial constraints are a key driver for project promoters to reduce the seabed footprint of new cable systems through scheme design, focused on power rating, multipurpose uses and combining projects.

First, project promoters are seeking to minimise the number of new cable systems by selecting the optimum power rating, which is achieved by using the highest possible voltage. Dutch/German utility company TenneT is leading the way, with proposals for 14 new North Sea offshore wind farms, each of which will use a pair of 525kV export cables with a nominal 2GW power rating. This is a major step up from most previous projects, whose export cables operate up to 320kV and 1GW, as the same power transfer using a 320kV solution would require four cables

SOURCE: CROWN ESTATE PROJECT LISTINGS (JUNE 2023), NATIONAL GRID INTERCONNECTORS REGISTER



Improved cooperation and coordination by all interested parties will be essential. Engaging and building trust with relevant stakeholders about individual projects will remain critical for project promoters.

The subsea cable industry as a whole also needs strategic collaboration about new infrastructure requirements, technological advances and limitations, and how to coordinate new and existing projects. In particular, project promoters, financial investors, insurers and cable-lay contractors need to jointly reconsider how cables can be planned and safely laid closer together, with appropriate management and allocation of technical and financial risks. Industry-standard templates for proximity and crossing agreements need to be developed, together with a Europe-wide database of subsea assets and their registered owners.

## Licence considerations

Project promoters will also have to work with the Marine Management Organisation and statutory consultees on how to balance the interests of all marine stakeholders and different residual impacts to support the determination of marine licences and underpinning statutory consultations. One aspect needing particular consideration is the use of licence conditions that seek to resolve conflicts or uncertainties by requiring future micro-surveys, studies and/or detailed design information. Conditions that 'kick the can down the road' result in double jeopardy and delay risk for project promoters – from the need for pre-approvals prior to construction, with the potential for unanticipated side-effects on other stakeholders if the project has to be modified to additional pressure on the limited resources of authorities and/or statutory consultees to reassess new information.

The key challenge for project promoters is how to expedite the development of new subsea power cables to support our energy transition while respecting other marine users and utilising the finite available space as the current stream of offshore projects come to fruition and further infrastructure is needed in the future.

**DAVID BARBER MIEMA is responsible for the environment and permitting of a new electricity interconnector between the UK and France**

and increase the seabed requirements for the cable corridor by 50%.

A second solution is the development of multipurpose subsea cables to link offshore hubs to two (or more) countries as a hybrid scheme. Multiple offshore wind farms can connect to each hub and export power to either connected country, or it can operate as a stand-alone interconnector. This means that offshore wind farms do not need their own export cables to landfall in their home country or separate interconnectors to provide market access to neighbouring countries.

## Sharing cable corridors

Lastly, project promoters are considering how to lay new cable systems close to existing cables to form a shared infrastructure corridor and minimise overall space requirements. Historically, multiple cables laid next to each other tend to serve a single project, with a single owner, and be installed by the same contractor at the same time. This is very different from a series of new cable systems being installed beside each other by different project promoters, using different contractors, at different times. Allowing a second cable system to be installed next to a pre-existing cable is anathema to existing asset owners, as they receive no benefits yet risk accidental damage, unexploded ordnance

detonation, scouring of the seabed and interference with future cable repairs. Risks are amplified if anchored barges are used, which add the possibility of an anchor snagging the pre-existing asset. Hence, subsea cable systems are always likely to require a minimum separation of 100 to 200 metres, and potentially more if space is allocated for future cable repairs using omega bights.

**“The possible loss of two 2GW links ... would constitute 8% of the UK's peak demand”**

However, a new risk also emerges of an increase in the severity of catastrophic events if new subsea cables have increased power rating, serve a dual purpose and are laid in close proximity. An anchor drag from a large ship could theoretically render multiple cable systems inoperable. The possible loss of two 2GW links to offshore wind farms or interconnectors at the same time would constitute 8% of the UK's peak demand of 49GW (2022), representing a significant impact on electricity supply and with a likely repair time of several months.

Advertorial

# EDUCATION MEETS ACTION FOR THE PLANET

Transform your career and help save animals

At the heart of the Act Sustainably mission is a commitment to not just educate but also to enact positive change in the world. This is why we've chosen to partner with **Four Paws, an international charity leading the way in animal welfare and conservation.** Four Paws' dedication to rescuing animals in need, fighting against illegal wildlife trade, and advocating for animal rights worldwide mirrors our own values of compassion, sustainability, and action.

By enrolling in our **IEMA Certificate in Environmental Management training course**, you're doing more than advancing your career in environmental management. You're directly contributing to a vital cause. Act Sustainably pledges to donate at least 1% of the revenue from this course to Four Paws, ensuring that with every enrolment, we're supporting efforts to make the world a safer, kinder place for animals.

This course is designed to empower and educate professionals, equipping them with the knowledge and skills necessary to drive real environmental change.

Beyond the professional accreditation, it's an opportunity to be part of a larger movement. A movement that values education, action and partnership in

## ACT sustainably!

pursuit of a sustainable future for our planet and all its inhabitants.

Join us on this impactful journey. By choosing Act Sustainably for your environmental management training, you're not just investing in your future; you're contributing to the global effort to protect and respect our natural world and the animals that share it with us.

Let's make a difference together. Enhance your skills, advance your career, and support a cause that truly matters. Your journey towards making a significant impact starts here.

**At Act Sustainably, we're more than just a company. We're a community of passionate individuals committed to creating a sustainable future.**

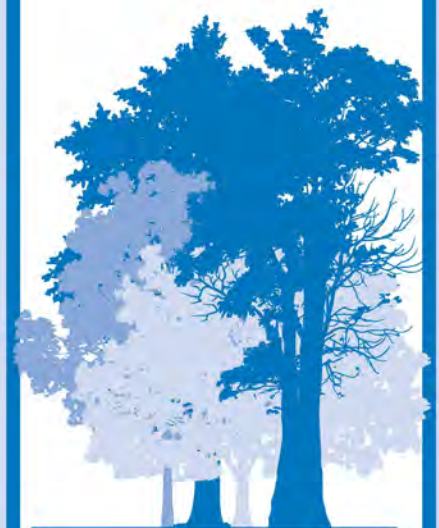
**If you're ready to join us on this journey, reach out to us via our website at [www.actsustainably.com](http://www.actsustainably.com) or email us at [connect@actsustainably.com](mailto:connect@actsustainably.com) We look forward to working with you to create a better world.**

**"Brilliant environmental management course with well-planned, thought-provoking resources and discussions. The tutor was knowledgeable, inclusive and provided detailed feedback rapidly"**

**CHRISTELLE MOISAN, MBKB GROUP**



We also walk the sustainability talk, as a proud member of 1% for the Planet. We've planted over 5,000 trees through our partnership with One Tree Planted and maintain a Kiva micro-loan portfolio, supporting 48 social impact organisations in 23 countries and counting.



To discuss your specific requirements, please scan this QR code to schedule a video appointment







## The reading room

Five of the latest books on the environment and sustainability

'Truly essential'  
MARGARET  
ATWOOD  
TED23

'I find it hard to  
express how much  
I love this book'  
RUTGER  
BREGMAN



### Not the End of the World

How We Can Be the First Generation to Build a Sustainable Planet

HANNAH RITCHIE

### Not the End of the World: How We Can Be the First Generation to Build a Sustainable Planet

Hannah Ritchie

Feeling anxious, powerless or confused about the future of our planet? This book is packed with the latest research, practical guidance and enlightening graphics that will make you rethink almost everything you've been told about the environment.

*Not the End of the World* gives you the tools to understand what works, what doesn't and what we urgently need to focus on so we can leave a sustainable planet for future generations. This book will transform how you see our biggest environmental issues and how we can solve them.

These problems are big. But they are solvable. We are not doomed.

### The Exhausted of the Earth: Politics in a Burning World

Ajay Singh Chaudhary

Climate change is not only about the exhaustion of the planet, it's also about the exhaustion of so many of us, our lives, our worlds,

even our minds. So, what is to be done?

*The Exhausted of the Earth* brings together the science and the politics of climate change. It shows how a new politics demands a struggle



between those attached to the power, wealth and security of 'business as usual', and those exhausted, in every sense of the word, by the status quo.

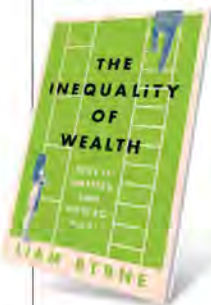
### The Inequality of Wealth: Why it Matters and How to Fix It

Liam Byrne

The super-rich have never had it so good. But millions of us can't afford a home, an education or a pension. And unless we change course soon, the future will be even worse. But things don't have to be like this.

This book draws on conversations and debates with former prime ministers, presidents and policymakers around the world, together with experts at the

OECD, World Bank and IMF, to argue that after 20 years of statistics and slogans it's time for solutions that aren't just radical but plausible and achievable as well.



### Weathering: How the Earth's Deep Wisdom Can Help Us Endure Life's Storms

Ruth Allen

Rocks and mountains have withstood aeons of life on our planet – gradually eroding, shifting, solidifying and weathering. We spend less time

on Earth, but humans are also weathering: evolving and changing as we're transformed by the shifting climates of our lives and experiences. So, what might these

ancient natural forms teach us about resilience and change?

This book takes us on a journey, showing how geology can offer us a new way of thinking about our own grief, change and boundaries.



### Climate Change and International History: Climate Diplomacy in the Global North and South since 1950

Ruth A Morgan

This book explores how climate science has been mobilised in the political sphere, paying particular attention to the expansion of climate diplomacy into the Global

South. The privileging of climate science and the emergence of climate scepticism are examined to consider how they have undermined efforts to remedy this planetary

problem. This book explains the origins of the debates, the response of political leaders attempting to address the threat, and the barriers we face in creating an international regime to resolve the climate crisis.



# Kimberley Lasi CEnv MIEMA

Senior consultant, EcoAct

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

Growing up on the west coast of Canada I took it for granted that everyone cared about preserving nature, but after completing my master's in operations and supply chain management and joining the workforce I realised that sustainability was not ubiquitous and I became determined to be part of bringing it to the forefront of business.

## What was your first job in this field?

Environment officer, Airbus UK.

## How did you get your first role?

I was on an operations management graduate scheme and was mentored by the environment manager. At the same time I was also upskilling on environmental subjects, including studying on the IEMA diploma course. An internal role came up and I had the right combination of operational and environmental knowledge for it so was able to make a sideways move.

## What does your current role involve?

I support organisations across a range of sectors on a variety of sustainability topics. I am particularly focused on climate risk and biodiversity but often work on projects in other technical areas, such as carbon accounting.

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

My role is constantly evolving. Most recently, I shifted to have a much greater focus on nature. With the release of the Taskforce on Nature-related Financial Disclosures (TNFD) and the growing awareness of planetary boundaries and ecosystem services, I have been able to apply my knowledge in this area. I've also taken on more management and mentoring responsibilities.

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

The people I work with. It is

Biologist and conservationist  
Rachel Carson



such a privilege to work with people that are so passionate about sustainability and delivering the best outcomes, not only for clients but for the planet and society.

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

Finding a balance. There is so much to do and things are changing quickly so it is important to stay on top of new developments as well as continue to deliver on day-to-day work.

## What was the last development event you attended?

Several TNFD-focused webinars as well as training in line management.

## What did you bring back to your job?

A lot of technical knowledge as well as the recognition that we are all still learning but it is better to start and do something than to wait for perfection.

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

While technical skills are important, I think the most critical is empathy. The ability to relate to people and understand their perspective and pain points is essential for consulting and is what allows me to develop solutions to meet client needs and deliver positive sustainability outcomes.

## Where do you see the profession going?

I see a much more holistic approach to sustainability developing, moving away from carbon tunnel vision to a systemic approach that embraces nature and social aspects and the interconnectedness of all the major issues we face.

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

Continuing to develop solutions for organisations to create a better world at all stages of their sustainability journey. I'm particularly passionate about supporting people joining the profession.

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

This is a profession about hearts and minds – we know the steps to take, it is bringing people along for the journey that takes you the furthest.

## How do you use the IEMA Skills Map?

I use it primarily to identify potential gaps and to plan my development.

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

Curious, tenacious, realist.

## What motivates you?

Learning. I love to explore new concepts. I am also deeply motivated to create a safe world for my son.

## What would be your personal motto?

In the words of Chip Heath: "Just look for a strong beginning and a strong ending and get moving."

## Greatest risk you have ever taken?

Career-wise, moving into sustainability.

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

The biologist and conservationist Rachel Carson.

**GET IN TOUCH**  
If you would like to contribute a member profile, contact:  
s.maguire@iema.net

## This is your next step towards a more sustainable future

To tackle climate change and the biodiversity crisis, green skills and green jobs need to be part of our everyday life. Through videos, stories and blogs, IEMA's Green Careers Hub educates, informs and inspires choices that help all jobs to be greener.

### VISIT THE GREEN CAREERS HUB TODAY

Sign up to receive regular development and content updates.



## Are you looking for your next career move?

The IEMA jobs board has over two hundred active roles available, in areas such as:

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- Planning
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# Transforming the World to Sustainability



SCAN ME

Transforming the World to Sustainability is a digital series focusing on the inspiring innovators across industries who are harnessing their green skills to protect the planet by challenging accepted strategies, implementing sustainable practices, and accelerating businesses to net zero.

Find out more about the series at [transformingtheworldtosustainability.iema.net](http://transformingtheworldtosustainability.iema.net)

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