

TRANSFORM

FOR ENVIRONMENT AND SUSTAINABILITY PROFESSIONALS

Environment
Economy
Society

Oct/Nov 2022
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Eyes on COP27

Spotlight on the challenges facing
the Middle East and North Africa

PLUS

Youth centred Jamie Agombar on teaching sustainability

Moral building The impact of development design on wellbeing

Regional role model North East England leads on decarbonisation

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Transforming the world
to sustainability



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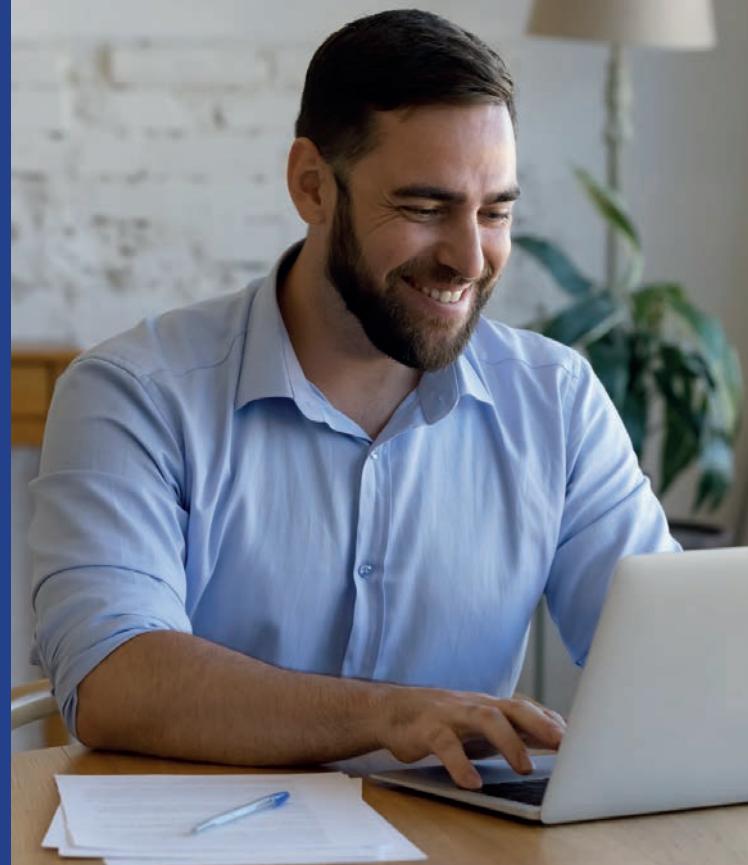


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bit.ly/Shaping_response

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SARAH MUKHERJEE MBE, CEO, IEMA

A sense of urgency

Hello and welcome to another edition of *Transform* magazine. It has been another period of severe weather across the world. Pakistan, where temperatures reached 54°C earlier this year, has been devastated by floods in recent weeks, with some estimates suggesting that a third of the country is under floodwater. Europe, the US and Australia have seen heatwaves, floods and, in some cases, both sequentially – underlining the need to take urgent international action on mitigating and adapting to climate change.

Tying in with the UN COP27 climate talks taking place in Egypt later this year, in this issue we have several articles on the Middle East and North Africa region, examining how it is considering and delivering sustainability. On page 18, Chris Seekings speaks to IEMA Fellows and other experts in the region about the challenges and opportunities that will come with the spotlight of COP27. On page 21, Huw Morris considers the effects of extreme weather on the Maghreb region, and the action needed to return it to sustainability.

One of the joys of being CEO of IEMA is the fabulous conversations I get to have with members. I have been given fascinating insights into the connections between design, planning, construction, health and the environment, and read with great interest Mark Cope's page 26 article on the links between these areas, and how a host of health and environmental benefits can follow if the design of a community is right. I am sure you will find it as interesting as I did.

As you know, IEMA has been working with members through our Diverse Sustainability Initiative to increase access to the profession for those from marginalised communities. One of the greatest supporters of this work is Jamie Agombar of Students Organising for Sustainability UK. He is a passionate advocate for better teaching and understanding of sustainability through education issues, and I'm delighted that he is sharing his thoughts with us on page 14.

As always, we welcome your thoughts and ideas for articles – please do get in touch if you would like to see something covered! Until next time, I hope you have a productive couple of months.

"One of the joys of being CEO of IEMA is the fabulous conversations I get to have with members"



IEMA Transforming the world to sustainability

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

IEMA
The Old School House, Dartford Road,
March, PE15 8AE
tel: +44 (0) 1522 540069
info@iema.net | www.iema.net

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

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

Sub-editor
Kate Bennett

Business development manager
Dywayne Ramsundar
tel: +44 (0)20 7880 7613
dywayne.ramsundar@redactive.co.uk

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

Senior designer
Gary Hill

Picture editor
Claire Echavarry

Subscriptions
subscriptions@iema-transform.net
The 2022 annual subscription rate is £142.

Production manager
Aystha Miah-Edwards

Printer
Warners Midlands PLC, Lincolnshire

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ROUNDUP

ENVIRONMENT &
SUSTAINABILITY
NEWS AND VIEWS

GLOBAL WARMING

G7 emissions set to undermine COP27

The emission reduction targets of G7 firms are aligned with 2.7°C of global warming, potentially undermining November's COP27 talks. That is according to a report from non-profit CDP, whose latest analysis shows that no G7 country has a corporate sector that is likely to decarbonise fast enough to meet the 1.5°C goal of the Paris Agreement.

Companies in Germany and Italy have the most ambitious emissions reduction targets in the G7, and are collectively aligned with 2.2°C of warming above pre-industrial levels. They are followed by firms in France, the UK and US, aligned with 2.3°C, 2.6°C and 2.8°C of warming respectively. Canada fares worst, with targets aligned with 3.1°C of warming. The analysis could undermine G7 countries' demands as they prepare for COP27.

The temperature ratings in the study reflect corporate ambition, including all emissions in company value chains rather than national climate policies or Nationally Determined Contributions.

European companies outperform North American and Asian peers across all industries, with around 80% of corporate emissions in Europe covered by a valid 2°C target or better. Its power generation sector is ahead of all sectors globally on 1.9°C of warming, compared to 2.1°C for North America and 3°C for Asia.

Overall, Europe's corporate sector improved from 2.7°C of warming in 2020 to 2.4°C in 2022, with an 85% rise in companies setting science-based targets during 2021. The high temperature ratings seen in North America are largely the result of companies lacking targets, rather than targets that lack ambition.

"High-impact companies, and their investors and lenders, must immediately set and honour targets with credible transition plans to allow us to meet this goal," said Laurent Babikian, global director for capital markets at CDP.



IMAGES: SHUTTERSTOCK/ISTOCK

ECOSYSTEMS

Amazon rainforest's time 'running out'

Around 26% of the Amazon rainforest has been hit by deforestation and high degradation, according to a report from Amazon Watch. Savannisation is already happening in its south-east – mainly in Brazil and Bolivia, responsible for 90% of its deforestation and degradation.

The report also reveals that 66% of the Amazon is subject to fixed or permanent pressure, and that the rainforest's restorative capacity is "running out". However, 80% can be preserved if urgent measures are taken.

The report calls on countries in the region to be granted "conditioned debt forgiveness" – describing debt as one of the causes of destruction. It also highlights the role of indigenous peoples – "an urgent solution to safeguard 80% of the Amazon," according to José Gregorio Díaz Mirabal, co-ordinator general at the Coordinator of Indigenous Organizations of the Amazon River Basin.



SOCIETY

Climate change worsening gender-based violence

Climate change is worsening gender-based violence and mental-health problems for vulnerable women in Malawi, a study by the Glasgow Caledonian University has found.

Surveying 213 women, the researchers found that 86% had seen their mental health and wellbeing affected by changes in weather. Mothers worried about disasters making it impossible to provide food for their children, leading to malnutrition and hunger – which would have an effect on education, health and development. Abuse was also a theme, with 24 women disclosing that they had been physically abused, and 44 saying that "husbands beat their wives" frequently.

It is hoped that these testimonies will help Malawi's decision-makers to identify, design and develop community-led climate adaptation solutions that minimise the risk to women's mental health.



NETWORKS

New Biodiversity and Natural Capital Member Network

This month, IEMA is launching a member network focusing on biodiversity and natural capital.

We depend on nature for our businesses and wellbeing, and yet biodiversity is declining more quickly than at any other time in human history.

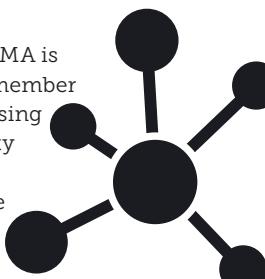
However, there is action underway. We've recently seen a crowd of government initiatives come into existence, such as the 25-Year Environment Plan, the Environment Act, the Nature Recovery Green Paper, biodiversity net gain and the Scotland Biodiversity Strategy. The Task Force for Nature-related Financial Disclosure produced its first draft this year, and it is expected that the UN will produce its new biodiversity targets in December.

IEMA has set up the Biodiversity and Natural Capital Network to help members stay up to date on national (and international) activities, create information-sharing platforms for and between members, and communicate the needs of IEMA members and their organisations to government.

What will the new network do?

The network will be led by Penny Borton, MIEMA CEnv, senior associate director and natural capital lead for Jacobs, and Faye Durkin, AIEMA, head of ecology and regional director for Ecus. They will be supported by a steering group of experts who work across sectors and organisation types.

The network's activities will include webinars, guidance, case studies, consultation workshops and more.



Who is it for?

It will be for members across all sectors who want to stay up to speed with trends, tools and obligations, and those who work in them. It will work with other IEMA networks, such as those on climate and environmental impact assessment.

How do I find out more?

The Biodiversity and Natural Capital Network is simple to join, and those who do will receive regular updates on network activities. You can sign up for regular information at bit.ly/BANC_signup, and the network email address is banc@iema.net

"This is a fantastic opportunity to network with other people who are knowledgeable on biodiversity and natural capital, and to help other members become better on this topic"
Sophie Mairesse, PIEMA, biodiversity net gain lead ecologist, Network Rail

"This is a great opportunity for IEMA members who want to be involved in changing the way we value our natural environment"
Jenny Merriman, MIEMA CEnv, technical director, WSP

"IEMA networks provide a safe space to discuss key issues with respected peers, with everyone leaving their badge at the door"
Rebecca McLean, MIEMA CEnv, technical director, environment and sustainability, Sweco



POLICY

ESOS changes

The Department for Business, Energy and Industrial Strategy recently consulted on proposals to strengthen and improve the Energy Savings Opportunity Scheme (ESOS), and has published its response and decisions. IEMA attended the consultation workshop and submitted a written response (bit.ly/Strengthener_ESOS). What are the implications?

A slight shift in direction

ESOS's core function has not changed significantly. The change is a reduced focus on pure costs and a strengthened link to net-zero and greenhouse gas emissions. A lead assessor will still work with qualifying organisations to help them understand their energy use and make energy-saving recommendations.

Turnover and balance criteria

There is no longer a need to convert between Euros and GBP, and the criteria are now set at a turnover above £44m and a balance sheet total above £38m. From Phase 4, the thresholds will align with those for Streamlined Energy and Carbon Reporting (SECR).

Sharing of reports

If the assessment is managed at parent company level for all subsidiaries, there



will be a requirement for the report to be shared with subsidiaries.

Timeframes

No immediate changes are envisaged, although the qualification date for Phase 4 onwards may be brought forward.

Compliance routes

Display Energy Certificates and Green Deal Assessments will no longer be compliance routes from Phase 4, and organisations that have not yet started Phase 3 are discouraged from using them. ISO 50001 will require consideration of net zero if used as a compliance route.

New templates

From Phase 3, there will be a requirement for commonly reported data, compliance information and recommendations to be standardised within a template. Phase 4 will introduce a checklist to confirm that the report has used an existing standard such as ISO 50002 or EN 16247.

Additional data

The *de minimis* exemption, which allows organisations to exclude small categories of energy use from assessment, will fall from 10% of total energy consumption to 5%, with the potential for an absolute threshold to be introduced.

Phase 4 will introduce changes to how organisations with multiple sites sample.

It is likely that use of half-hourly data will be linked to reporting requirements once it becomes readily available.

PUBLICATION

Impact Assessment Outlook Journal 14: ESG in International Markets

Embedding sustainability principles into business processes is becoming mainstream, but the term 'sustainability' is vulnerable to misuse. Regulation is moving financial sector participants towards transparency, integrity and disclosure – and with this comes the need for capacity and professional practice.

IEMA was therefore delighted to publish Volume 14 of the *Outlook Journal* in August, to inspire practitioners in the field of environmental, social and governance (ESG). This volume focuses on the evolution, challenges and innovation of ESG in

international markets, and has been produced by the Global Environmental and Social Assessment (GES) Steering Group.

Guest editor Claire Cummins has drawn together six articles, produced by GES group members, which provide insights into ESG's background and evolution, key concepts, trends, tools and practices. ESG can seem amorphous, but progress and standardisation are occurring at pace, as well as digital and technological innovation.

Download the journal at bit.ly/3d2EOEm



Audit reports will be required to provide commentary on data collection, monitoring, the setting of controls and staff training. This will be voluntary in Phase 3 and mandatory in Phase 4.

The work, skills and ongoing training and selection process for lead assessors will also be reviewed.

Focus on net zero

ESOS has a focus on energy saving measures that would also result in cost savings. However, an emphasis on short-term cost-saving can be at odds with longer term investment decisions that put organisations on a pathway to net zero. Therefore, there will be a requirement for recommendations to align with net-zero goals as far as possible. Recommendations will be presented alongside one another so that, overall, they prioritise long-term net-zero goals over short-term cost efficiencies.

Use of intensity ratios will be introduced from Phase 3 to line up with SECR; this can include kWh per m², unit output per miles travelled, and so on.

PAS 51215 is being reviewed to cover additional competencies for assessors to meet these new requirements.

More detailed recommendations

Future reports will contain more guidance

on audit recommendations. Not all lead assessors are qualified to make investment-grade recommendations, and this is an area for review.

Setting and delivering on targets

More weight will be put on delivering against targets and action plans set in the assessment report. Participants will have to provide annual progress updates as a voluntary requirement from Phase 3, and as a mandatory requirement from Phase 4. Assessments will have to include consideration of progress against targets.

Public disclosure of data

Some of the data to be reported will be subject to public disclosure. This is likely to include targets and action plans, and high-level audit data.

Widening the scope?

The consultation sought views on including more participants in the scheme, and it was noted that the cost burden needed to be balanced against potential savings. Further government engagement on any widening of scope will take place before changes are made.

Thanks to our ESOS trainer Chris Wilson for reviewing this article prior to publication.

S

The Line is literally that: a line stretching 170km across desert and mountains in an area the Saudi government has called Neom – a portmanteau of the ancient Greek 'neo' for new, and the first letter of *mustaqbal*, the Arabic word for 'future'. It will consist of mirrored skyscrapers stretching nearly 200km across desert and mountains, high-speed rail underground going faster than any high-speed rail in operation today, and untouched environment all around.

It sits within six hours' air travel of 40% of the world's population and has been designed so that all of life's essential services may be walked to within five minutes. The project's promotional material highlights its environmental credentials, including the fact that it will be powered by 100% renewable energy.

Its projected cost, ranging from US\$500bn-US\$1trn, is not just financial. The Line, which is being funded by Saudi government wealth funds, has faced criticism for its actual and potential impacts on people, the non-human biosphere and local geology. The BBC has reported that during the Saudi government's attempts to remove native Huwaitat people from their homeland to make way for the project, security forces killed at least one person involved in resisting the nomadic tribe's displacement.

ILLUSTRATION: PADDY MILLS/SYNERGYART; IMAGE © NEOM



TOM PASHBY: IEMA DIGITAL JOURNALIST

Tom Pashby discusses the potential environmental costs of radical urban designs

The scale of the structure and its radical design have led to several questions about its environmental impact. One critic, talking to *Dezeen*, said: "Building The Line would produce upwards of 1.8bn tonnes of embodied carbon dioxide, equivalent to more than four years of the UK's entire emissions," and that it would need this volume of materials for its sheer sides (two 170km-long, 500m-tall mirrored skyscrapers) to withstand the force of winds.

Other questions about The Line's environmental impact include: what happens to migratory animals or other animals that call Neom



home? How will the mirrors on either side of the skyscrapers affect temperatures and winds around the city? How will the size and shape of the structure affect cloud formation and rainfall on either side (a question also asked of other Saudi megaprojects)? How will resources such as water, sewage treatment and waste disposal be handled? Could its marketing, based on being within six hours' flight of 40% of the global population, lead to an overall increase in commercial aviation – itself a key driver of global heating?

One of the issues with assessing the environmental impact of The Line is the lack of transparency around the project, and the fact that it takes place within an autocratic country headed by a royal family (the House of Saud). The government's control over most, if not all, aspects of Saudi life means that it is difficult for environmental activists to operate, and those environmental professionals working in Saudi Arabia – including on the project itself – are unable to comment.

There is a significant level of uncertainty over whether the project will ever be completed, given cost overruns and volatility in the oil and gas market, which Saudi Arabia's sovereign wealth funds derive their value from. Some critics have raised questions about whether the city seen in the marketing material is even a physical possibility. The Line may never come to fruition, but nevertheless, the environment and sustainability profession should ask major questions about the environmental impacts of these megaprojects – and about what amounts to an acceptable level of transparency. ¹

"The environment and sustainability profession should ask questions about the impacts of these megaprojects"

Alphabet soup

Mohammed Mohamoud looks at how organisations are attempting to untangle the web of standards relating to sustainability disclosure

To limit global warming, nations, cities and organisations have set targets to reach net zero emissions. To reduce emissions, you first have to measure them – and, for credibility and auditability, report them.

Due to sustainability's wide scope, its vast number of sectors and stakeholders, and its distinct national contexts, sustainability reporting has become overly saturated and hard for non-experts to navigate. Fortunately, there is now a conscious effort to address this issue.

A complex landscape

Measuring emissions allows businesses to reduce them and engage with stakeholders on the issue, and enables businesses to be held accountable. However, while mentions of 'sustainability' and 'climate change' at C-suite level have increased during the past few decades, mentions of 'emissions' have decreased. There are several possible explanations for this, with one being the complexity and number of reporting standards, frameworks and benchmarks in existence.

Sustainability reporting covers all environmental, social and governance (ESG) metrics, and there is no shortage of possible frameworks, benchmarks or standards available to organisations that want to disclose and report emissions. They include the Streamlined Energy and Carbon Reporting policy and the Task Force on Climate-Related Financial Disclosures, both of which are currently only mandatory for larger businesses.

Alongside these are voluntary reporting frameworks such as the Global Reporting Initiative, the Sustainability

Accounting Standards Board, and the Climate Disclosure Standards Board (CDSB). Businesses are calling for a more standardised and internationally recognised framework.

Attempts to simplify

A single standard would provide clarity for organisations and stakeholders, enable better comparability, and give stakeholders a single approach to use. On the other hand, a single standard may have less flexibility to reflect unique industry requirements, could become too broad and thus provide opportunities for greenwashing, and, if highly rigorous, might be costly for smaller businesses to comply with.

There are two major standardisation efforts: the International Financial Reporting Standards Foundation's International Sustainability Standards Board (ISSB), and the EU's Corporate Sustainability Reporting Directive (CSRD). While they are similar, they are built on different principles.

The ISSB was formed at COP26 in 2021, and will benefit from the guidance and expertise of its sister organisation, the International Accounting Standards Board. It brings together other frameworks and standards, namely the Value Reporting Foundation and the CDSB, both of which have already consolidated other frameworks. This means that the ISSB will

cover much of the 'alphabet soup' of standards already in existence. It has recently concluded its consultation on the climate-focused part of the standards, which will include more comprehensive ESG and greenhouse gas metrics.

The CSRD is a key component of the European regulatory framework. It goes beyond the ISSB in its ambition to reflect 'double materiality', as well as in its scope. It is set to include as many as 50,000 SMEs, and mandates audits to improve reliability and maintain reporting completeness and consistency. Where the ISSB serves the investor, the CSRD's 'double materiality' considers not just the materiality of ESG risks for a company's operations, but also how the company's operations interact with and impact on the environment and ecosystem.

How will this translate?

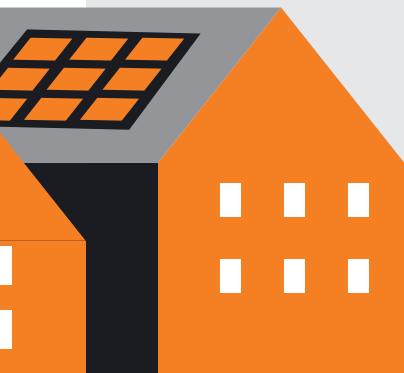
The UK has welcomed the ISSB standards and is set to develop its own attempt at covering double materiality under the Sustainability Disclosure Requirements. This will include the UK Green Taxonomy and help investors to make more sustainable choices with the help of labels and classifications that inform investors about a product or entity's sustainability.

Attempts to simplify and standardise sustainability disclosures are welcome. How they will unfold in a practical sense remains to be seen. 

MOHAMMED MOHAMOUD, AIEMA, is a sustainability consultant at CGI and an IEMA Futures Steering Group member.

THE IEMA STATE OF THE PROFESSION: SURVEY 2022

IEMA's annual member survey shows a profession diversifying



CLIMATE CHANGE AND NET ZERO

are the issues IEMA should focus on with regard to policy and regulation, said members

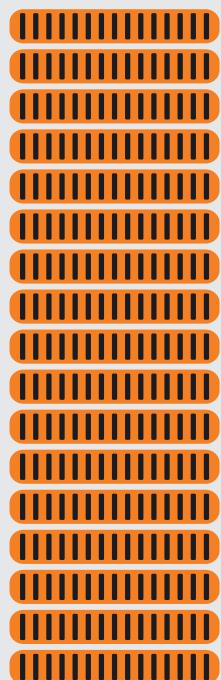


72%

of members received a pay rise – up from 67% in 2018 – but only 13% received a real pay rise, taking the cost of living into account

16%

of members aged between 21-30 are from ethnic minority backgrounds, falling to 15% of those aged 31-40, and 6% of members aged 41+



WAS THE AVERAGE FULL-TIME SALARY

£47,570

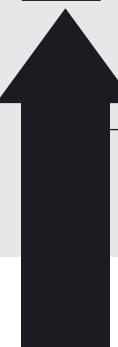
– UP 7% FROM £44,439 IN 2018

This is higher than the UK's mean full-time salary, which according to the Office for National Statistics is

£31,447



The highest salaries go to members in business and industry, with an average salary of £52,456 – up 10.5% from £47,404 in 2018



LOOK OUT FOR FURTHER DETAILS NEXT MONTH

HOW BETTER RECYCLING CAN HELP YOU CUT COSTS, AS WELL AS REDUCE WASTE



As one of Europe's leading parcel groups DPD delivers over 260 million parcels each year with a team of 15,000 people operating over 10,000 vehicles from 84 depot locations. Passionate advocates of corporate responsibility, DPD has implemented numerous sustainable working practices in recent years, including deploying over 2,000 low emissions vehicles across Europe. The team, however, wanted to do more to reach their aspiration of becoming "the greenest delivery service on the planet". Working in collaboration with Rubbermaid Commercial Products (RCP) and Lyreco – the international distributor of workplace products and services – using RCP's free online environmental audit tool, DPD were able to quickly highlight the environmental and business savings that could be made.



Together, the team identified the most troublesome sites in terms of recycling and waste, where lack of consistent compliance with DPD's best practice recycling procedure was causing an issue. Visits to these sites confirmed that switching to more effective recycling stations would have a big impact.

With a pilot scheme rapidly green-lit, and six tonnes of waste diverted from general waste disposal within the first months of Slim Jim® Recycling Stations being introduced to the pilot sites, proof of concept was clear.

The effective and space-efficient recycling systems – which feature easily identifiable colour-coded recycling prompts - were rolled out across 14 further facilities as part of a staged installation process which will see the remaining sites upgraded in the coming months.

ON COMPLETION, 500 TONNES OF WASTE EVERY YEAR WILL BE DIVERTED TO THE CIRCULAR ECONOMY

27% COSTS SAVED BY NOT SENDING WASTE TO GENERAL WASTE DISPOSAL

INVESTMENT RECOUPED WITHIN A YEAR

One of Europe's biggest parcel groups has saved 27% with better recycling.

What can your business learn from DPD?



Within the first year, DPD had already boosted its recycling rate by 48% at six key sites. Every month, at each site it's installed, the recycling system diverts an average of 0.5 tonnes away from general waste disposal. On completion of the roll-out across all DPD sites, over 500 tonnes of waste every year will be diverted to the circular economy rather than going to general waste disposal.

"Introducing Slim Jim® Recycling Stations has made a tangible difference with residual waste reduced by a third on the sites where the bins have been installed and individual sites achieving recycling rates over 90% against our achieved business target of 70%. What's more, it's a move that makes clear financial sense. In addition to environmental savings, we're seeing 27% cost savings of not sending waste to general waste disposal, which means we will recoup our investment within a year."

Paul Herring, Waste and Recycling Manager for DPD Estates



FIND COST AND WASTE SAVINGS FOR YOUR BUSINESS

Take the free Love Recycling Audit to get indicative cost and waste savings for your business in just 90 seconds. Head to rubbermaid.eu/loverecyclingaudit

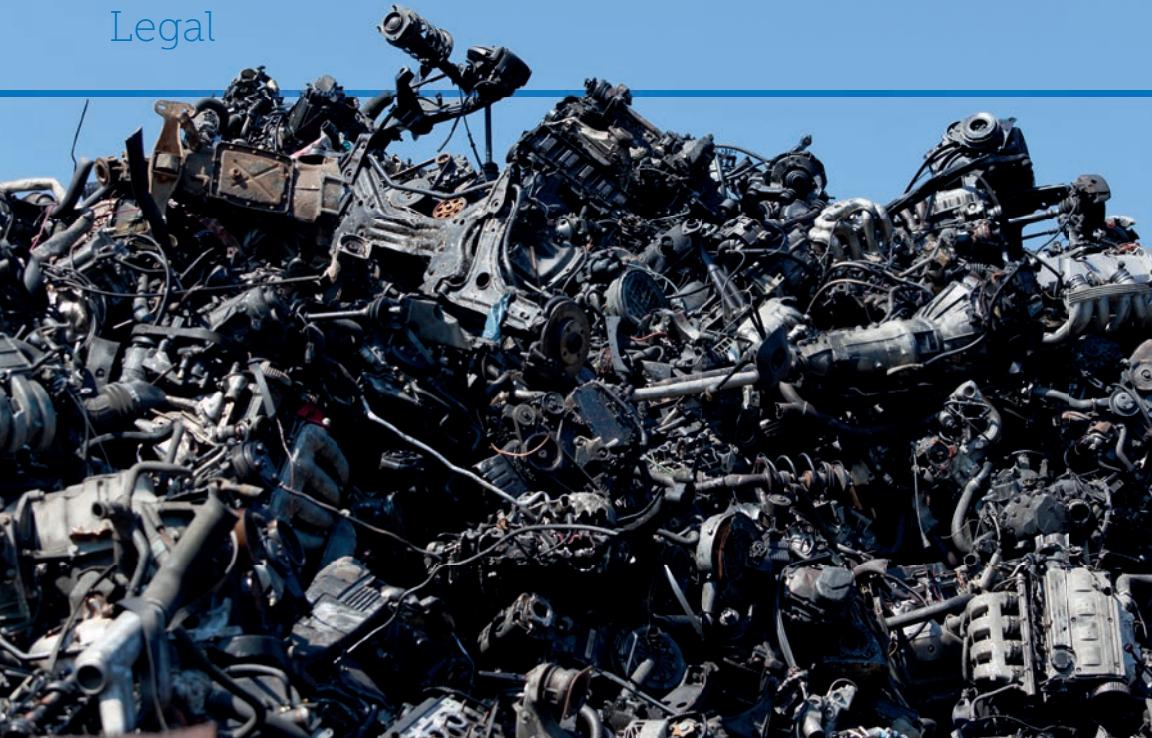


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CASE LAW

Judicial review of Net Zero strategy upheld in parts

In *R. (on the application of Friends of the Earth Ltd) v Secretary of State for the Business, Energy and Industrial Strategy*, the claimant applied for judicial review of the Secretary's decisions to approve proposals and policies prepared under the Climate Change Act 2008, and to publish the government's Net Zero Strategy to comply with his obligations.

The 2008 Act established a framework for the government to meet its net-zero target, and obliged the Secretary to ensure that the 2050 net UK carbon account was at least 100% lower than the 1990 baseline. He was also required to set an amount for the net UK carbon account for successive five-year periods, with a view to meeting the 2050 target.

The act additionally imposed a continuing duty on the Secretary to prepare proposals and policies that would allow carbon budgets to be met, and to lay before Parliament a report setting out proposals and policies for meeting current and future budgetary periods, up to and including that budget. The Secretary set six carbon budgets and, following the sixth, laid the Net Zero Strategy before Parliament as a report in October 2021.

The claimant argued that the Secretary was not entitled to conclude that the proposals and policies would enable the carbon budgets to be met, because their quantified effects were estimated to deliver only 95% of required reductions. However, the judge concluded that the

IN COURT

Norfolk man jailed and given CBO for illegal waste operation

AN Norfolk garage owner who repeatedly ignored Environment Agency warnings about storing end-of-life vehicles (ELVs) and parts has been jailed for six months.

Colin Barnes was ordered to pay costs of £5,000 and handed a Criminal Behaviour Order (CBO), which sets out a series of legally binding conditions that he must follow to avoid further punishment.

In November 2021, Barnes pleaded guilty to storing ELVs and parts at his premises without an environmental permit. He was given a suspended sentence of 16 weeks, on the condition that he did not commit any further offences. A remediation order was also issued, stating that he must clear the waste from his site by January 2022 or face immediate imprisonment.

Environment Agency officers inspected the site after the remediation order expired and found it had not been cleared; in fact, they uncovered more ELVs and parts, including gearboxes, suspension units and tyres. A CBO was then applied for, which means Barnes must surrender his waste carrier licence and cannot hold or apply for another; register a waste exemption with the Environment

Agency; or be involved in the operation of any business under any registered waste exemption. The CBO will remain in force for five years.

Lesley Robertson, leader of the Environment Agency's East Anglia Area Enforcement Team, said: "Despite the court imposing a suspended custodial sentence and order in November 2021 to remove waste from his site, Mr Barnes continued to store and treat waste illegally without an environmental permit.

"Mr Barnes operated at a commercial advantage, undermining legitimate business with little or no regard for the environment or residents. By imposing this prison sentence, CBO and £5,000 costs, the district judge demonstrated how seriously they viewed Mr Barnes' activities and behaviour."

"Mr Barnes operated at a commercial advantage, undermining legitimate business"

act "does not require the Secretary [...] to be satisfied that the quantifiable effects of his proposals and policies will enable the whole of the emissions reductions required by the carbon budgets to be met".

The claimants stated that omissions from the briefing provided to the Secretary meant he could not be satisfied that the proposals and policies would allow the sixth carbon budget to be met. This ground was upheld in part.

The claimant also argued that the Secretary had failed to include in the strategy the information required to discharge his reporting obligations. The statutory objective of transparency around how the targets were to be met required reports explaining and quantifying how the proposals and policies would meet them; the strategy failed to explain various matters relating to risks that could affect delivery of the targets. This ground was upheld in part.

The claimant also said that the Human Rights Act 1998 could be applied to give the 2008 Act the effect for which they pleaded, dependent on the proposition that Parliament should be assumed to have intended that the 2008 Act had to be interpreted as more, rather than less, conducive to the protection of rights set out by the European Court of Human Rights. This did not coincide with established principle and was rejected.

NEWREGULATIONS

THE LATEST ■ LEGISLATION ■ GUIDANCE ■ CONSULTATION



CONSULTATION

REACH

Defra has published a consultation on extending UK registration, evaluation, authorisation and restriction of chemicals (REACH) submission targets for transitional registrations. In December 2021, Defra committed to exploring alternative arrangements for UK REACH transitional registrations, to support chemical businesses while upholding health protection. Currently, there are deadlines for 2023, 2025 and 2027, depending on substance tonnage and hazard.

[cedr.ec/8i6](#)



CONSULTATION

ESOS

Last year, a consultation was launched on strengthening the Energy Savings Opportunity Scheme (ESOS). The government has now published its responses.

[cedr.ec/8i7](#)



LEGISLATION

Water quality

Decision (EU) 2022/1307 establishes a watch list of substances for EU-wide monitoring in water policy. The substances include those that may pose a significant risk to or via the aquatic environment, but for which data is insufficient to draw conclusions about the actual risk. Highly toxic substances that are used and discharged to the aquatic environment, and are not or rarely

monitored, should be considered for inclusion in the list.

[cedr.ec/8hz](#)



LEGISLATION

UK BAT

Defra has published a policy paper establishing a regulatory framework to replace European Best Available Techniques (BAT). BAT was developed and is applied across the EU in the form of BAT Conclusions (BATC), and continues to have effect in the UK through the EU (Withdrawal) Act 2018. However, the UK does not need to meet the EU BATC requirements developed after Brexit.

[cedr.ec/8ia](#)



GUIDANCE

WTEE

Guidance has been published on the standards and appropriate measures relevant to regulated facilities with an environmental permit to treat or transfer waste temperature exchange equipment (WTEE). It includes relevant requirements and emission limits from the waste treatment BAT reference document and BATC for the treatment of WTEE-containing volatile fluoro- and hydrocarbons.

[cedr.ec/8hz](#)



GUIDANCE

WEEE

Guidance has been produced on the standards and appropriate measures relevant to regulated

facilities with an environmental permit to treat or transfer waste electrical and electronic equipment (WEEE). It also applies to sites that treat or transfer materials derived from WEEE processing which require further treatment to comply with the WEEE Directive.

[cedr.ec/8i0](#)



GUIDANCE

Permitting

A Regulatory Position Statement (RPS) has been published on aerobically treating mixed municipal waste where the waste is produced, such as shopping centres, hospitals and universities. The Environment Agency will not normally take enforcement action if you do not have a permit for waste treatment, provided that you comply with the RPS conditions.

[cedr.ec/8i1](#)



GUIDANCE

Energy

The Electricity and Gas (Energy Company Obligation) Order 2022 establishes the Energy Company Obligation scheme that will run until 31 March 2026, with the aim of introducing measures to reduce the cost of heating homes. It places a home-heating cost reduction obligation on licensed gas and electricity suppliers that exceed domestic customer and gas or electricity supply thresholds. It will require such suppliers to promote the installation of energy efficiency and heating measures.

[cedr.ec/8i5](#)



Teaching aid

Jamie Agombar is on a mission to put sustainability at the heart of education; he tells Huw Morris why young people are agents of change

Jamie Agombar remembers a conversation he had about education with a delegate to the UN Earth Summit in Rio. "He told me they raised the importance of environmental education at a high-level discussion and somebody said the problem with investing in education is that by the time young people get into positions of authority it will be too late. That was back in 1990. Here we are in 2022 and we still haven't done anything substantive on education. Imagine where we'd be if we had."

It's a sobering point, and he is well placed to make it. He is the executive director of Students Organising for Sustainability UK (SOS-UK), a charity created in 2019 by the National Union of Students (NUS), where he was head of sustainability for 16 years. In that time, he built the organisation's sustainability presence from a single role to a department of 17.

Today it has 35 staff, and this is set to rise to 50. Agombar eschews being the face of SOS-UK, preferring to pay tribute to the charity's staff, volunteers and, most of all, the students they represent.



"SOS-UK is a bit like the Tour de France van that follows the riders. When they fall over, we put them back on the bike, we keep them topped up with snacks and water. We're the support crew behind the students."

The charity's mission is to "to break the cycle of well-educated people making bad decisions for the environment". Agombar cites the American activist and academic David Orr, who argues that "every June or July Mother Earth groans another sigh, as the most fortunate people who have had the best education prepare to be the most effective vandals of the planet". Another inspiration is UK environmentalist Jonathon Porritt, who believes "universities should be preparing young people for the work of the world, not just the world of work".

Inside the factory

"Our universities are almost employment factories, and generally the people who run society have not done a very good job," Agombar says. "They have run the planet into the ground and continue to do so for their personal or companies' financial gain. I genuinely believe the education system is the root cause of societal unsustainability. The



way we bring young people up is creating them to be part of the problem, not part of the solution."

He argues that the education system "teaches you to recite knowledge, not apply it; to compete with your peers, not collaborate with them. It teaches things that are deeply siloed, with young people telling us the climate is just for



Jamie Agombar: Off the beaten track

Jamie Agombar had wanted to be a nature reserve warden since childhood, but that changed when he was studying ecology at the University of East Anglia; environmental sciences professor Tim O'Riordan put him on what he calls "not a career path". "He told me 'don't go to an isolated patch of nature when it's all about people, business and politicians'."

It was his eureka moment. Agombar became involved in the student union as ethical and environmental officer while studying for a MRes at Lancaster University. After working for a wildlife trust in the Seychelles and for the RSPB, he joined the NUS, where he spent 16 years before the launch of SOS-UK.

"When I say I never had a career, I've never aspired to work for an organisation or hop between organisations. I just felt the work we're doing is transformational to those young people and making the next decision-makers much more likely to care about sustainability.

"I don't think I could make any more impact in another organisation."

He argues that today's global movers and shakers had the best education, "but that does not mean they are sustainable leaders". He cites UNESCO's statistic that less than 3% of the world's population go to university but 80% of the people that run society are graduates. "Is the education offered by universities the right one? Our answer is no."

SOS-UK's work

To counter this, SOS-UK has three themes. The first – leadership – focuses on competencies or, as Agombar says, "young people learning how to get around barriers that universities put in their way when they try to run their own sustainability projects". This emphasises critical thinking across disciplines, accompanied by good communication skills. "If enough young people leave with this, we'll get a good cohort each year who are likely to go on to make things happen."

A second theme is to "weave sustainability through every subject like a thread". Education is deeply siloed, he argues. "Many universities offer a sustainability module which gives you



geographers and scientists when it's going to affect every career and everyone's life". Key subjects, particularly economics, law, politics, engineering and education itself, "are misaligned with what we need to do to tackle the climate emergency and ecological crisis".

A big problem, he continues, is that universities are judged by league tables

on "how much you are going to earn, not by what you are going to do". He believes the education system reinforces society's obsessions with self-interest and prosperity rather than pluralist values. "You leave university with a debt of £60,000 so you need to get a decently paid job and then value things that are not complementary to living sustainably."

Interview

a few course credits, but that isn't what you need, or what students want either. Whether it's veterinary science, medicine or English, you should learn how sustainability is relevant to your career."

SOS-UK can claim some success with its Teach the Future initiative, a youth-led campaign for climate education. This helped to spur the Department for Education (DfE) to set up a climate sustainability unit and develop a dedicated strategy. Another initiative was Mock COP26, an international youth-led climate conference to show what would happen if young people were the decision-makers at last year's UN summit. Agombar notes that education "didn't get a look in" at previous COPs, but secured pledges from 23 governments, plus the Commonwealth, to improve climate education last year.

SOS-UK's third strand is inclusivity. It is heavily involved in work on racial diversity across the environment professions, and recently co-funded a study with the IEMA and the Natural Research Environment Council following up the Policy Exchange's 2017 study into the issue. Key findings from the latest research include the fact that just 4.81% of environment professionals identify as being black, Asian or from other minority ethnic groups, compared to 12.64% across all UK professions.

Racial diversity among higher education subjects that are closely related to the environment professions is also notably lower. Across all higher education subjects, those who identify as black, Asian, mixed or other minority ethnic account for 26% of students, but in the environment professions, this ranges from 14% in applied environmental sciences to 6% in biodiversity conservation.

"You can't have climate justice unless you've got racial justice. At the moment, sustainability is quite middle class and white in this and other western countries. How disability, race and class link in with environmentalists are all interconnected, because if people feel hard done by and



"The agency of young people has massive influence"

unfairly treated, they are not going to engage with an agenda.

"People have to feel they are equal partners and empowered if they are going to join this journey, and we'll need everyone to join if we're going to transform society to make it more sustainable."

Overhauling education

Agombar says that university principals, vice chancellors and headteachers generally support SOS-UK's agenda, but the education system does not help. Schools teach "an outdated curriculum, and sustainability is treated as something that comes in a couple of subjects," he says. "We would like to see sustainability liberated from geography and science and reapplied as a principle, like equality and diversity".

He adds: "One of our big bugbears with the new DfE strategy on sustainability is that it's not adequately resourcing teachers and schools. There's no more money to do a good job and it will just be added to the list of many things in a very full curriculum. If you do

a bad job on climate education it just makes things worse. If they think it's a massive problem and there isn't time to explore the solutions and empower them, it's just adding to their anxiety."

He says students, particularly in tertiary education, are in the unusual position of being both customer and product. This gives them leverage. SOS-UK's research reveals that how seriously a university takes environmental and global developmental issues influences 54% and 55% of students respectively in choosing where to study. This follows through into their careers – nearly two thirds cite a role that helps the environment as an important factor when applying for jobs.

"The agency of young people has massive influence in households and networks. If young people were taught about the climate emergency and what the solutions are, they will have a massive impact."

To reinforce his point, Agombar recently became a vegetarian at the behest of his daughter. "Young people can get adults to do something they wouldn't ordinarily do. That's the true power of education." 

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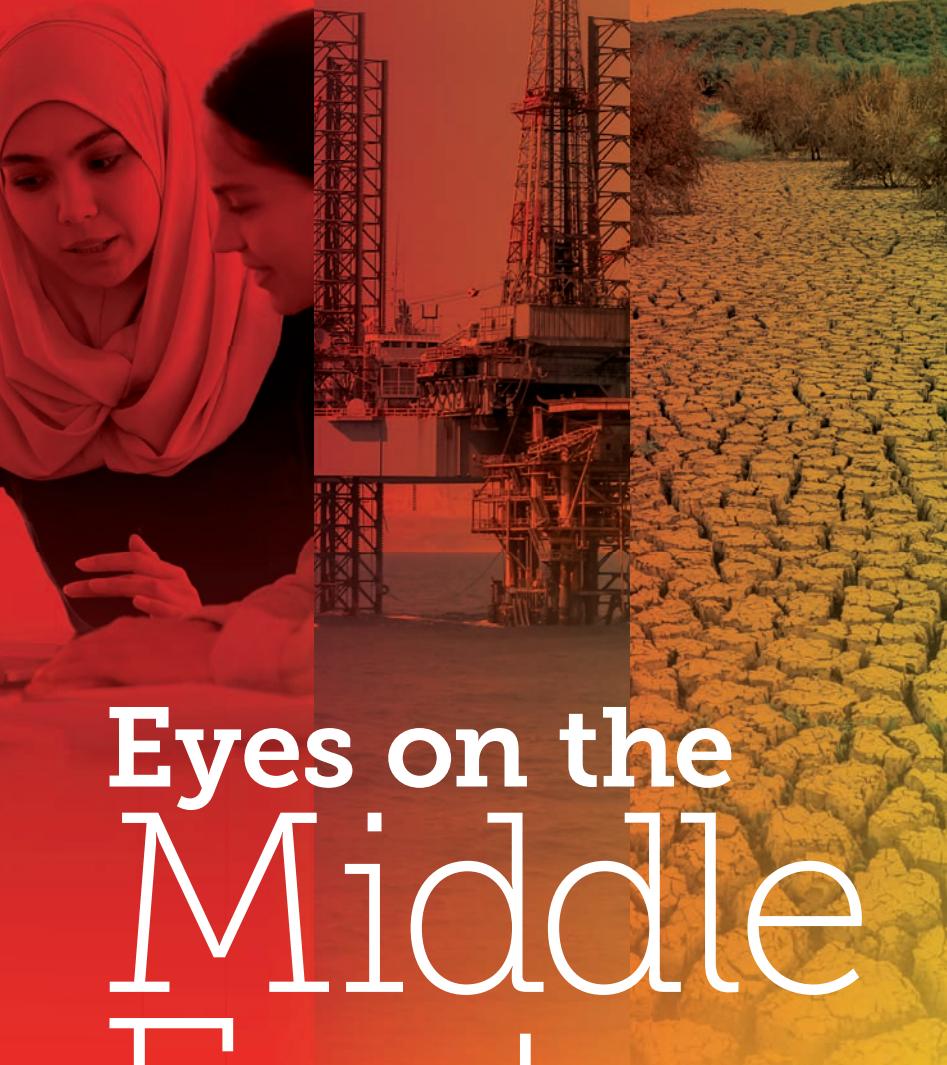


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Eyes on the Middle East

The MENA region faces a unique set of environmental challenges as it looks to support the global transition to sustainability, and can teach important lessons to the world at COP27. **Chris Seekings** reports



The eyes of the world will turn to the Middle East in November, as political leaders, NGOs, the global media and other various stakeholders descend on Egypt's Sharm El-Sheikh for the latest UN Climate Change Conference (COP27). Known for its sandy beaches, clear waters and coral reefs, the resort city will provide an idyllic backdrop for the negotiations – and a reminder of what's at stake.

"The pressure on the Egyptian government has increased due to hosting COP27, and everybody is on their toes," explains Professor Ali Hassan, an expert in environmental sciences at Ain Shams University in Cairo and an IEMA Fellow. "The government is taking serious steps around sustainability, but the economic pressures are high."

The story is similar for countries worldwide, still recovering from the COVID-19 pandemic and now also dealing with a cost-of-living crisis as energy prices skyrocket. Climate finance and adaptation are set to be at the top of the agenda at November's summit.

Although it is taking place in Africa, COP27 presents an opportunity for the Middle East and North Africa (MENA) to demonstrate its commitment to tackling climate change, and to share insights from one of the planet's hottest regions.

The awakening

While many countries in the region rely on fossil fuels, governments have come to accept the need for diversification amid the shift to renewables. Hassan, whose university was the first in the region to offer specialised environment and sustainability courses during the 1980s, says that "very few people" were talking or thinking about the environment back then.

"There has been a big increase in the number of students studying environmental sustainability, including applied sciences in agriculture, health, engineering and so forth," he says. "We've seen a great shift with the government's initiatives to expand green jobs and green skills, and my



"We need an increased realisation that there is a massive amount to be learned from the Middle East"

faculty has also been working with IEMA to develop internationally-recognised programmes."

Although fossil fuels will remain important to many MENA countries in the short term, there are numerous opportunities there for sustainability professionals who are looking to make an impact. Harry Sealy, environmental and sustainability manager at engineering firm Jacobs and an IEMA Fellow, has been living in Doha, Qatar, for more than 10 years.

"The Middle East continues to be a highly dynamic place to work as a sustainability professional, and there is an awakening of concepts that have fundamental importance," he explains. "Over the last decade, there has been a rapid growth in awareness of the need for environmental, social and governance across sectors, and while the oil and gas sector will continue for the foreseeable future, revenues can be invested in the testing and development of green technology. These can facilitate exploration of concepts not possible elsewhere, particularly in the context of extreme heat environments."

Lessons to be learnt

Temperatures in the Middle East have increased by 1.5°C during the past 100 years — a rise 50% higher the global average. Cities in Kuwait, Oman and Iraq topped the list of hottest cities across the world on 18 June this year, with temperatures ranging between 49°C and 50.4°C.

The region's inhabitants have had to deal with these sorts of conditions for generations, adopting a range of ingenious techniques to survive. With Europe registering record-breaking temperatures this year, countries in the West can learn much from MENA nations as they look to adapt and build resilience to climate change.

"As Europe faces unprecedented droughts and heatwaves, there is a wealth of experience to be learned from Middle East," explains Sealy. "Experience developed in water conservation, food production, air conditioning systems, and climate resilience in road building and design are becoming increasingly relevant."

"There are also ancient systems of land management, which people have forgotten because of modern agriculture, while disturbance of ecosystems is also acute in extreme desert environments due to the longer time taken for natural recovery."

The shift to renewables will take decades, and, at least in the short term, liquefied natural gas is

seen by many as the 'least bad' fossil fuel to use during the transition. "You can't just switch oil and gas off, because the alternative energy market isn't sufficiently developed to fill that gap," Sealy says. "Internationally, the transition to cleaner energies is dependent on sourcing reliable natural gas supplies, further exacerbated by current unfortunate geopolitical circumstances in Europe. So there's an energy security element, in which countries like Qatar will have a critical role to play."

However, extreme weather conditions, combined with social and political issues, also create a unique set of environmental challenges for MENA countries, and many are looking to developed nations for support.

Specific challenges

Water security, energy security, food security, land degradation and desertification are five of the main environmental challenges facing MENA countries. States in the western half of the region, from Morocco to Tunisia, through Algeria, Libya and Egypt, and then to Jordan and Syria, are under two additional stresses that are "checkmated by climate change", according to Hassan. "The first is economic stress, as many of these countries are not as rich as those in the Gulf, like Qatar and Saudi Arabia," he says. "The other one is governance, because not all countries have the same level of maturity in terms of democracy, community participation, and discussion of issues related to climate or other issues."

The COVID-19 pandemic and resulting economic downturns have caused many countries to put environmental initiatives on the back burner as they prioritise short-term financial gains. This is particularly true of the poorer MENA nations.

"When governments are faced with economic pressures, they put more weight on financial issues at the expense of the environment, nature conservation and other issues like that," Hassan continues. "Some countries have gone into environmental deregulation — for example, they had a ministry and downscaled to an agency. They have expelled environmental experts, and tend to bypass the need for environmental assessment or impact assessment to push development."

These pressures are exacerbated by rising populations — the region is experiencing the fastest growth in the world, and it is estimated that its population will have doubled to 724 million by 2050. Existing political and social issues don't make matters easier.



MENA spotlight



Speaking up

Although things are changing, the role of women in the Middle East has traditionally been to take care of family matters, such as raising children and preparing food. They are often left out of decision making when it comes to developing climate policies at the highest levels of government, despite frequently being those hardest hit by climate change impacts such as floods or heatwaves.

"Existing gender inequality in economic, social and political domains could multiply the effects of climate change that women experience, since gender inequality and gender-specific capacities for adaptation and resilience are intertwined," explains Masako Ueda, regional migration, environment and climate change specialist at the UN's International Organization for Migration. "Despite existing challenges, women in the MENA region are increasingly finding ways to reflect their concerns and voices in policies as politicians, academia, civil society leaders and youth activists."

One such person is H E Mariam bint Mohammed Almheiri, the UAE's Minister of Climate Change and Environment. "It is key that women help shape the response to climate change, as they bring a unique perspective and valuable skills to the table," she tells me.

"It's a great source of pride for me to be the first woman to hold this position. Our job as is to create an environment that unlocks women's potential through education, training and re-skilling."

In a region plagued by war and political instability, climate impacts make mass migration more likely, leading to more displaced people as climate refugees cross neighbouring borders. If they remain in MENA, more pressure will be placed on countries such as Lebanon and Jordan, for which refugees make up around 25% of the population. Again, the effects here are most likely to be felt by women.

"Livelihood loss due to climate change could lead to the migration of men from rural to urban areas, leaving women to deal with climate change impacts such as water scarcity and finding alternative sources of



"Governments faced with economic pressures put more weight on financial issues, at the expense of the environment"

immediate income," Ueda continues. "On the other hand, the household needs for adapting to climate change impacts can create new opportunities for women's empowerment and leadership. However, it is imperative to continue advocating for the involvement of women in the decision-making process at all levels."

Great expectations

Many of the politically fraught issues discussed at last year's COP26 summit are set to rear their head again in November as negotiators look to secure their own interests. Egyptian officials have already made their priorities clear. Speaking in Glasgow last year, the country's minister of environment, Dr Yasmine Fouad, said: "We hope to make progress in priority areas such as climate financing, adaptation, and loss and damage, to keep pace with the progress that the world hopes to achieve in mitigation and carbon neutrality efforts."

Alongside pledging more ambitious Nationally Determined Contributions, developed countries' commitment to mobilise US\$100bn a year to support developing countries on climate action is set to be a key issue. Professor Hassan knows that this will be difficult due to the economic climate. "We understand these pressures, which is why developed countries' support for MENA and Africa is not just about money, it is also about assisting in science, technology, policy, strategy and regulation," he says. "Sometimes leaders from developed countries have the idea that developing countries just need money, but it should be about clear mechanisms, transparency and disclosure of climate finance."

The outcomes he would like to see from this year's summit include more active roles for NGOs, more space for democracy and community participation, science-based strategies and high-priority climate-change risk setting, as well as lessons for new national climate finance models. Ueda wants greater recognition of the human mobility that is linked to climate change. "We would also like to see increasing support for climate change adaptation action, measures and resources to avert and minimise displacement, when and where possible, and to strengthen people's resilience," she adds. "Furthermore, we would like to see strengthened support for the countries and people most vulnerable to climate change impacts, with specific attention to gender-specific needs for building adaptation and resilience capacities."

For Sealy, COP27 is a unique opportunity for reciprocal co-operation and respect between the MENA region and the West. "Discussions and closer collaboration between non-Middle Eastern and Middle Eastern entities, to fast-track the upscaling of technologies that the world needs, are key. We need an increased realisation within non-desert countries and nations that there is a massive amount to be learned from the Middle East." ①

To many, it's the worst drought in 30 years. Others put the figure at 40. All agree that a potential catastrophe is unfolding.

In July, Morocco's Ministry of Equipment and Water declared a water emergency. Rainfall is 64% below the average this year, further depleting the country's reservoirs, which have been pummelled by years of dry weather. They are, on average, less than a third full, in comparison to 48.5% full a year ago. The Al Massira reservoir in the key agricultural region of Doukkala holds just 6.7% of its capacity.

Groundwater reserves in some areas are almost empty. Droughts now occur every two years, instead of every decade, as was the case until the 1990s. Morocco's National Office for Electricity and Drinking Water concedes that it has

problems supplying drinking water to 54 cities and centres.

The situation is potentially catastrophic. Morocco's water-intensive agriculture sector is the country's biggest employer, accounting for 17% of output last year, and the latest drought will clobber state revenues and finances. In response, authorities have brought in tougher rules on water use, banning the washing of streets, public places and machinery with drinking water, and prohibiting illicit drawing of water from boreholes, wells and springs.

Morocco's plight is a harbinger of what is coming to North Africa, an often-overlooked region but now an increasing area of focus for researchers. They argue that the effects of climate change are already materialising in the Maghreb – the collective term for Algeria, Libya, Mauritania, Morocco and Tunisia, and home to more than 100 million people.

Climate change hotspot

According to the World Bank, higher temperatures and reduced rainfall are increasing droughts and posing a colossal threat in the short-to-medium term. It points to computer modelling

from the Intergovernmental Panel on Climate Change, which shows that an estimated additional 80 million to 100 million people will be exposed to water stress by 2025 across the wider Middle East and North Africa (MENA).

Recent CASCADES research, which investigates how the risks of climate change to countries beyond Europe might 'cascade' into the continent, put the Maghreb under the microscope. The region is now seen as a climate change hotspot – particularly Morocco. Its climate is expected to become even hotter and drier during the next century.

The study, carried out by the European Centre for Development Policy Management (ECDPM) – a Maastricht-based think tank that specialises in linking inclusive and sustainable development policies in Europe and Africa – reveals increasingly high levels of water stress. This is intensifying security risks in the region, chiefly natural resource decline, inequality and incoherent policy.

Higher temperatures are escalating not only energy demand for cooling, but also pressure on agricultural production and productivity – generally, across MENA, a 1%

North Africa is a hotspot for climate change, and the challenges run deep. **Huw Morris** reports on a severely water-stressed region

Dry states

MENA spotlight

temperature rise in winter leads to a 1.12% fall in agricultural production.

The threatened collapse in rural livelihoods is predicted to propel further migration, often to urban areas. North Africa is already Africa's most urbanised region, according to the OECD. In the Maghreb, 68% of the population live in towns and cities. A growing and increasingly urban population will put considerable pressure on demand for housing, cooling and food security, as well as jobs and government services, according to the ECDPM.

"We are already seeing significant water availability challenges, with communities shut off from freshwater taps for several hours during the day," says Sophie Desmidt, head of peace security and resilience at ECDPM. "That has an impact on livelihoods, particularly for small-scale farmers in a region that is working hard to tackle poverty and push for human development. It also has health implications, especially for elderly people, children and young mothers. Food security will be an immediate challenge."

The outlook for renewables

Tensions over water – whether for drinking, irrigation, tourism or industrial activities such as mining phosphates or cooling solar plants – have provoked 'thirst protests' across Algeria, Morocco and Tunisia. In

response, Morocco is planning to build three dams around Marrakech, as well as wastewater treatment plants, desalination facilities and a US\$3.6bn 'water route' to transfer supplies from the north to the south. Tunisia is also looking at dam construction.

However, the outlook for renewable energy is particularly fraught, despite significant investment and the region's huge potential for solar and wind energy. Domestic consumption of renewable energy across the Maghreb is low compared to energy demand. According to the ECDPM, around 11% and 12% respectively of total energy consumption comes from renewable energy in Tunisia and Morocco respectively. In Algeria, which depends heavily on hydrocarbon exports, that figure is less than 1%.

The latter country faces a particular problem: ECDPM research alludes to a slow rate of reform towards non-hydrocarbon energy production and exports due to "powerful interests" and "special interest groups" that benefit from gas and oil revenues. The energy sector has also seen its fair share of scandals, with the Algerian government and intelligence services embroiled in a power struggle for control of state-owned energy company Sonatrach.

Although the Maghreb's governments

are trying to invest in the transition to green energy, the ECDPM warns of "considerable incoherences and contradictions" in policies that further deplete scarce water resources. Governments are also exporting green energy to Europe instead of responding to growing domestic need.

A further point is the absence of regional co-operation on climate change, or indeed any broader political challenges. ECDPM research describes the spirit of relations in North Africa as "one of competition rather than co-operation" – particularly when it comes to Morocco and Algeria.

"All the governments have tried to develop policies and strategies that respond to climate change and water management, but they have to juggle a lot of other issues at the same time," says Desmidt. "The countries have very different positions in their energy market share and export and imports, and different positions on renewable energy and desalination."

A challenging political landscape

In Tunisia, managing a democratic transition is inevitably hampering a "forceful approach" to climate change, she adds. Algeria's political situation, meanwhile, is perennially volatile: despite the end of President Abdelaziz Bouteflika's 20-year rule in 2019, reforms have been painfully slow in the

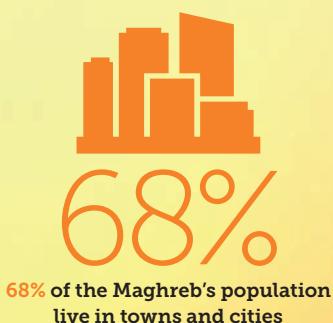
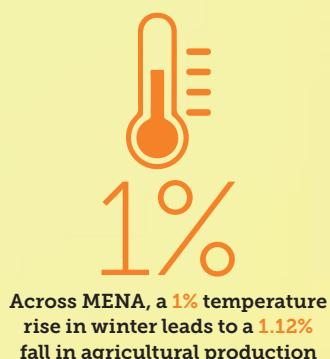
face of the ruling political and business elite's close ties to the gas industry. Morocco has developed expertise in innovative technologies, with public-private partnerships investing heavily in desalination, but heavily centralised decision-making casts doubts on whether the profits from renewable energy plants will trickle down to local authorities and communities.

"What is challenging for all three countries is that they have complex governance situations," says Desmidt. "There are things they can do in the shorter term, but developing a long-term strategy to these challenges is quite difficult."

The challenges are extremely complex, particularly in terms of deciding who will use the water that is desalinated. Will it go to rural households and small-scale gatherings, or will it mostly go to tourism and export-orientated agriculture? These are inclusive governance discussions and decisions that happen on a daily basis."

The governments of the Maghreb could continue following a business-as-usual model, or they could go for transformative climate policies – "but we won't see a move in that direction any time soon", predicts Desmidt. "They are managing the best they can, but I don't see anything super-transformative coming out of that region for the moment."

HUW MORRIS is a freelance journalist.



Climate change: The threat to sanitation

Ask Ruhil Iyer about the reality of climate change on the ground, and one of many stories stands out.

A research officer at the Institute of Development Studies's (IDS) Sanitation Learning Hub, Iyer was compiling a report last year on how climate change is devastating toilets, water supplies, waste systems and treatment facilities. A sanitation and hygiene practitioner working in the Sahel region – the vast area separating the Sahara to the north from the tropical savannahs to the south – told an anecdote that sums up the crisis.

"At community level, most of the infrastructure is built through local materials and many times not adapted to resist flooding and heavy rainfalls, so the facilities are destroyed or they collapse," the local practitioner said. "This is a big issue for us. As a result, behaviour change is affected."

"We have schools in many rural areas where, when there's no water or when flooding causing facilities to collapse, the kids go back to open defecation. Infrastructure is also buried under sand during a sandstorm."

The IDS study reveals a plethora of other dangers. Heavy rainfalls flood septic tanks, while dry spells cause water shortages for flushing toilets or washing hands. Longer-term impacts from rising sea levels and coastal erosion will put huge strain on sanitation for displaced people.

"Climate change impacts do not affect everyone in the same way," says Iyer. "Vulnerability varies across age, social mobility, social capital, location, gender and even just the distance between you and your toilet. We've had instances of toilets getting submerged under sandstorms, of floods damaging toilets, and this causes a lot of problems for people with mobility issues and who need to access toilets in places where floods are rampant and frequent."

The task ahead

H E Dr Yasmine Fouad talks to Chris Seekings about the unique environmental challenges facing Egypt and the MENA region ahead of COP27



With more than 18 years' experience working in government, UN organisations, NGOs and universities, H E Dr Yasmine Fouad is a leading authority on environmental issues in the Middle East and North Africa (MENA). As Egypt's Minister of Environment, she is also one of few female politicians who are actively shaping environmental policy in the region. She explains how this year's COP27 summit in the Egyptian city of Sharm El-Sheikh presents a unique opportunity for the Arab world to help tackle the environmental challenges facing the world.

What are some of the biggest challenges facing Egypt and the MENA region more broadly?

One of the main environmental challenges is water scarcity due to climate change impacts. It is also getting harder to access water due to our growing populations, so the region is keen to find different solutions, such as water desalination. Egypt reuses its water four times for every cycle so that we can make the best out of it.

Another challenge is the need for a climate finance strategy – we're talking about not only the public finance that's part of the Paris Agreement commitments, but also how we can escalate and leverage private sector investment into different environmental efforts in the MENA region. However, we see these challenges as an opportunity; we are thinking about the kinds of technologies we can use to maximise water use and food production, and how can we engage the younger generations. We are joining forces with other countries in the region because our common challenges give us an opportunity to better manage our natural resources.

How has the COVID-19 pandemic impacted Egypt's environmental initiatives?

Like other countries, Egypt was hit hard by the pandemic. However, we saw it as an opportunity to change the way we do business. 'Building back better' is not just a nice phrase – it means actions on the ground and transformation at government level. In November 2020, in the middle of the pandemic, the Cabinet of Ministers, headed by the prime minister, took the bold decision to adopt environmental sustainability criteria



33%

Instead of announcing a 20% reduction in greenhouse gas emissions from the electric sector, Egypt announced a 33% cut.



"Amid the pandemic, Egypt adopted sustainability criteria for greening our national budget"

for greening our national budget. We had no vaccination and nothing was clear, but we took the decision for our national budget to be 100% covered by these criteria by 2030. In 2021 the target was 15%, and now we have achieved 30%. If you're not abiding by the criteria, you will not be able to attain funding. We also issued green bonds because there was such an appetite from the private sector, and raised US\$750m. The beauty of our green bonds is that, instead of funding easy projects like renewables because they are profitable, we selected projects like transport and treated wastewater, because these areas are some of the most challenging.

Looking at the MENA region more broadly, do you think many countries may struggle with the green transition due to their historical reliance on fossil fuels?

There is an assumption that there is a direct contradiction between fossil fuel and renewable energy. I believe, on the contrary, that most sources of energy would work within a complementary equation and provide a just transition for the MENA region. But we also need to be committed to the Paris Agreement, with exact figures and targets in our Nationally Determined Contributions (NDCs).

Have countries in MENA region made progress on updating their NDCs?

Despite the economic and energy problems we are facing, Egypt has still been able to be bold and ambitious with its NDCs. Instead of announcing a 20% reduction in greenhouse gas emissions from the electric sector, we announced a 33% cut. We announced a 65% reduction for oil and gas, and 7% for the transport sector. As the host of COP27, we need to show and lead by example. Some other countries have submitted their updated NDCs and are also working on environmental initiatives, such as food system initiatives relating to agriculture and technology in the UAE, initiatives to go further on water use in Morocco, and the expansion of renewable energy in other areas, even where there is political instability.

Why do you think it is so important that women are involved in developing climate policies?

In the MENA region, women take responsibility for the family. When we have a flood or heatwave, the women bear the consequences of delivering children to school, doing the cooking, arranging the house and so on. It is so important that women are involved in policymaking, and Egypt has two relevant initiatives for COP27. One is the Gender and Adaptation Initiative, which will be

announced for the conference and will explore how women can be more resilient to climate change, participate in raising awareness, and do more in the fight against it. The second thing is a thematic day dedicated to gender, which will gather female leaders in NGOs to hear about successful projects they have been involved in and discuss how they can be replicated and upscaled. We will hear from African women in rural areas and women from developing small island states, which have been suffering a lot. For them, fighting climate change is their 'survival plan'.

Are the Egyptian people generally on board with the environmental movement?

Yes. With COP27, Egypt is making a huge leap in the way we feature the issue in our society. We have announced a National Climate Dialogue with the country's 27 governorates, aiming to raise awareness at local level with different segments of society, religious groups, women workers, young people and university students. We have also launched our first National Climate Campaign, 'Return Nature to its Nature'. This has involved ads on different TV channels and on social media, raising awareness about the impact of climate change. If you want societies to change, you have to link the challenge to what is happening in people's daily lives. We believe every action really matters. We cannot say it's only the government, it's only the private sector – all of us, collectively, will make a difference. And that's what we would like to show in Sharm El-Sheikh.

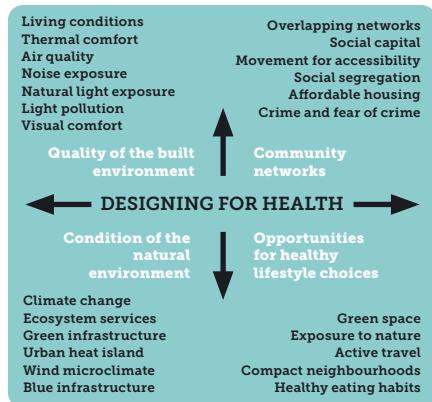
What are the big key outcomes that you'd like to see from the summit?

With COP27 taking place in Egypt and COP28 in the UAE, this is a unique opportunity for the MENA region. I want to see operationalisation of the Santiago Network for loss and damage, and follow-up on the progress made on the global goal on adaptation work programme. I also want to see more updated NDCs from developed and developing countries becoming a reality. Progress on global adaptation and climate finance goals should be discussed intensively, and it is important to give guidance on that process – doubling the adaptation finance, ensuring it is guarded, and streamlining the process within different financial mechanisms. It's important to balance mitigation and adaptation with quantitative and qualitative targets that are backed up by science. If you're not going green, you're not providing the decent life you would like for your people and for future generations.

Sustainability

There is plenty of evidence that the design of a new development shapes the conditions in the built environment which are necessary for sustaining health and wellbeing. Unfavourable social, environmental and economic conditions lead to behavioural risks and disease patterns at the population scale that account for around half of all variation in health outcomes.

Figure 1: Key considerations when designing new development for better health outcomes.



Quality of the built environment

The link between health and the quality of the built environment is clear. Shelter is a basic requirement for sustaining life, but poor-quality buildings can create health problems of their own. The risk of developing a respiratory condition is higher in cold, damp accommodation, and is greatly reduced in buildings that are warm and energy efficient.

Indoor air quality issues can also exacerbate chronic health problems such as asthma and chronic obstructive pulmonary disease. Indoor pollutant sources include cooking, heating and smoking, but most indoor air quality issues originate in outdoor air pollution, which becomes concentrated inside. Road traffic emissions and tyre wear are the main causes of poor air quality in urban areas. Ventilation design in

buildings can help to control the accumulation of these pollutants, and also mitigates overheating.

Other sources of pollution also have an impact. The effects of noise pollution are often described in terms of annoyance, but excessive noise can harm both mental and physical health, causing anxiety, high blood pressure and changes in social behaviour. Noise disturbance is most common in poorly insulated high-density accommodation. Road, rail and air transportation, and mechanical plants such as construction equipment and air conditioning units, are also sources of noise. In contrast, natural soundscapes such as flowing water, breaking waves, rustling trees and singing birds have a positive impact.

Exposure to natural daylight and sunlight also has mental health and wellbeing benefits, which are mainly

associated with entrainment of the body's circadian rhythm. Moderate levels of sunlight also provide a source of vitamin D, which protects against a range of diseases, and is most easily be obtained during short periods of outdoor exposure.

Community networks

Overlapping networks within a community reinforce a sense of belonging that supports mental wellbeing. Within community networks, social capital refers to facilities that enable people to mutually co-operate, such as local schools, shops, pubs, indoor social spaces and outdoor green spaces. Walking to a community facility greatly increases the chance that a person will meet other members, providing an opportunity for social contact.

Where factors reduce the likelihood of people choosing to walk, there are fewer

Building for health

Development design has a significant collective influence on population-level health and wellbeing, explains **Mark Cope**





social interactions. For example, streets with higher levels of traffic have a greater sense of insecurity and lower levels of social interaction. Community severance is also a problem if high volumes of road traffic pass through a neighbourhood with inadequate crossing provision, resulting in real and perceived safety issues. Pedestrian and cyclist accessibility is improved by limiting vehicle speeds to below 25 miles per hour and providing traffic calming measures such as roundabouts and speed humps.

Social segregation occurs when inequalities exacerbate health inequalities – for example, where income deprivation influences the accessibility of local services such as shops, amenities and cash machines. Similarly, where housing is limited or in high demand, house prices can become disproportionately high in relation to income, resulting in the exclusion of those on low incomes. Health inequalities are exacerbated when the income-deprived have difficulty finding affordable housing in locations that are suitable for their needs.

Opportunities for healthy lifestyle choices

Access to safe and well-maintained green spaces boosts physical activity, mental wellbeing, social interactions and

community cohesion. It provides relief from stress, and reduces blood pressure and cholesterol levels. In built environments, when located close to people's homes or workplaces, green space has a positive influence on activity levels, providing the best opportunity for walking or cycling.

'Active travel' refers to journeys taken on foot or by bicycle that are necessary for practical purposes, such as travelling to school or work. It is associated with numerous health benefits, as it involves physical activity and provides greater opportunities for social interactions. However, walking journeys have declined with the growth of habitual car use, and more sedentary lifestyles are associated with weight gain and increased health risks in the general population.

Distance is the strongest predictor of active travel. Compact neighbourhoods with higher density and connectivity, and a diverse range of land uses, are generally more conducive to active travel. Perceived safety risk is another barrier to active travel, and provision of cycle paths and street lighting increases the number of walking and cycling trips undertaken.

Poor diet is another factor associated with weight gain with associated health risks, although weight gain is largely a factor of a sedentary lifestyle. For example, access to shops locally can encourage exercise via active travel, and opportunities for food production locally, such as growing fruit and vegetables, can encourage exercise outdoors and improved attitudes towards diet.

Significant self-production of food is dependent on the availability of open space, which is often limited in built-up areas. High-density housing and housing with small gardens are not conducive to this. Allotments, community gardens or orchards and local collectives provide opportunities for local food production, as well as community interaction, social networking and better mental wellbeing.

The condition of the natural environment

Climate change is the greatest threat to global health, impacting disease patterns, food security, water pollution, sanitation and extreme weather – all of which will pose challenges if we are to maintain a healthy built environment. Furthermore, multiple climate and non-climate hazards sometimes coincide, exacerbating impacts; for example, heatwaves in cities exacerbate air pollution levels.

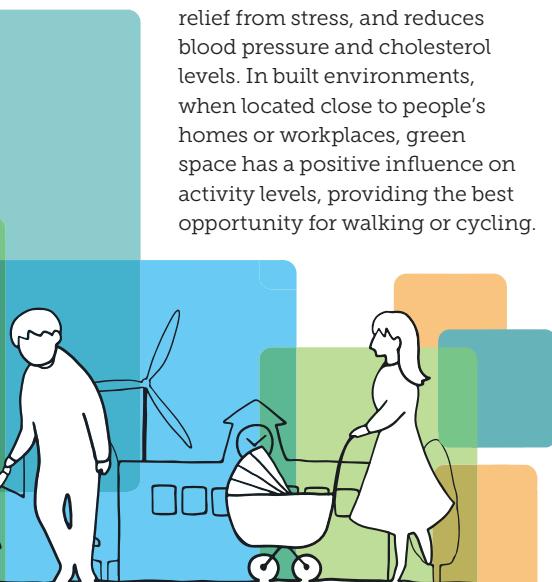
The Intergovernmental Panel on Climate Change has said that improving the resilience and healthiness of built environments should involve mitigating the causes of climate change. For example, an optimised urban form with higher density, pedestrian connectivity and a diverse range of land uses encourages active travel, cuts vehicle-related greenhouse gas emissions and reduces associated air quality impacts. However, the feasibility and effectiveness of climate change mitigation and adaptation in the built environment also requires co-ordination between physical, social and natural infrastructure.

Natural infrastructure or ecosystem services are the range of ecological resources, processes and sinks required to provide the balanced and stable conditions necessary for life on earth. They include provisioning services, such as food and water; regulating services, such as flood and disease control; cultural services, such as spiritual, recreational, and cultural benefits; and supporting or provisioning services, such as nutrient cycling. Use of ecosystem services must contribute to human health without destabilising the ecosystems upon which we rely. These services can be safeguarded in new development through the creation and management of green and blue infrastructure.

In-combination effects

Human health relies on a high-quality built environment, opportunities for community networks to develop and exist, individuals making healthy lifestyle choices, and the overriding condition of the natural environment. In isolation, individual design decisions on new developments have only a limited capacity to influence health. However, when considered collectively and in combination, such design measures are key to shaping better health outcomes at the population scale. ¹

MARK COPE, MIEMA CEnv, is an associate at Hoare Lea, specialising in environmental impact assessment.



Impact assessment

It is a daunting task to strike a balance between appropriate implementation of the environmental impact assessment (EIA) process at a procedural level through relevant regulations and guidelines, and its substantive elements in terms of ensuring that any proposed development is sustainable – particularly for a small island state.

With a population of 516,100, Malta has been subject to significant demographic and urban growth since its first recorded census in 1842. This, together with its small size (316 square kilometres) and high population density (the largest in the EU, at 1,320 people per square kilometre), poses unique challenges for its environmental assessment and decision-making processes.

Developing the EIA process

The first development proposal to be subject to environmental assessment in Malta was the construction of a new thermal power station in 1989. The corresponding application for building permission in the area was controversial as it was in a greenfield site, close to a fishing village. Consequently, the first legal requirements for EIA in Malta were introduced in 1991 with the Environment Protection Act, with supplementary procedural guidelines issued in 1994.

The first dedicated set of EIA Regulations was published in 2001 and took into account both the state of the islands' environment, and compliance with EU directives and regulations. Malta joined the EU in 2004, and the regulations were further amended in 2007 and 2017 – mostly reflecting the experience gained from previous years of implementation, and the new requirements arising from changes to the EU's EIA Directive.

The present regulations, published in 2017 and revised through minor amendments in 2020, sought to cater for the appropriate and correct transposition of international legal instruments, including the revised EIA Directive, the UN Convention on EIA in a Trans-boundary Context, and EU regulations on



Small-scale supervision

Charlene Smith outlines how the environmental impact assessment process is implemented in Malta

trans-European energy infrastructure. They also aim to streamline Malta's environmental and development consent procedures in order to reduce unnecessary administrative burdens.

The EIA Regulations are currently administered, implemented and

enforced by Malta's Environment and Resources Authority (ERA), which is designated as the competent authority for EIA in the country. The Planning Authority, on the other hand, is responsible for land-use planning and development permission.

The EIA process

The main steps are:

1. Submission of the Project Description Statement (PDS)

The PDS provides a concise description of the proposed development, including a description of the site and the development and its likely effects on the environment, together with any mitigation measures being considered.

2. Screening

The ERA determines whether a proposal qualifies for an EIA or otherwise, in accordance with criteria set out by the EIA Regulations. A project falling under Category I would require a mandatory EIA, while a project falling under Category II would require detailed screening. Following screening, the ERA has the following options:

- If a project falls under Category I, requesting the submission of an EIA
- If a project falls under Category II, requesting the submission of an EIA following detailed screening and identification of likely significant impacts on the environment
- If no likely significant impacts are identified during the screening process, screening a project out and thus not requesting an EIA
- The proposal does not fall within the scope of the EIA Regulations (in other words, it is below the thresholds stipulated by the same regulations and therefore does not require the submission of any studies).

3. Scoping

The ERA, in consultation with relevant stakeholders, EIA consultants and project proponents, identifies the environmental issues relevant to the proposal being assessed. This includes the preparation of tailor-made Terms of Reference for the EIA to be carried out by the consultants.

4. Preparation of the EIA Report

The environmental statement or EIA Report is prepared by a team of EIA consultants, and includes three main documents:

"Malta's small size and high population density pose challenges for its environmental assessment processes"

- A non-technical summary, presented in both the Maltese and English languages
- A co-ordinated assessment report
- The technical appendices, including the original baseline studies
- The content of the EIA Report needs to be in line with the requirements established in the EIA Regulations.

5. Submission and review of the EIA Report

Following the submission of the EIA Report to the ERA, the documentation is reviewed by the authority and made available to all required stakeholders (including government entities, local councils and environmental non-government organisations) and the public for comments.

6. Public hearing

For projects falling under Category I, or as the ERA deems appropriate, public hearings are carried out to provide effective public participation and an opportunity for stakeholders to air their views on the proposal and comment on the EIA. In this case, the EIA consultants deliver a presentation to the public, discussing the main findings of the EIA Report.

7. The ERA prepares the final assessment

The ERA prepares a report that provides an overview of the EIA process carried out in relation with a development proposal, together with a summary of the EIA's findings, the overall position of the authority and any mitigation measures identified over the course of the process. It is at this stage that the conditions to be part of the development permission are formulated, to be included if permission is granted. The overall position is then referred to the

ERA Board for a decision, and the proceedings are deliberated in public. Once agreed, the ERA's position on the proposal and its assessment of the EIA are referred to the Planning Authority.

8. Decision-making

The ERA report is considered in the compilation of the Development Permission Application Report before the approval or otherwise of development consent. The recommended position on the development proposal is then referred to the Planning Authority Board, which discusses and deliberates on whether to grant or refuse the development permission, in a session that is open to the public.

9. EIA follow-up

Following the approval of an application for development permission, the conditions set by the authority are followed up. This is carried out to ensure compliance with the mitigation measures identified through the EIA process and the assessment by the authority.

EIA in action

In 2020, the ERA carried out approximately 300 preliminary EIA screenings to determine potential EIA requirements, received 57 PDSs, carried out 42 detailed EIA screenings (41 of which did not qualify for further studies), requested an EIA for two cases, issued Terms of Reference for four cases, reviewed three EIA Reports, and concluded two final assessments. 

CHARLENE SMITH, PIEMA, is reading for a PhD in spatial planning and environmental assessment at the University of Malta, and has more than 15 years' professional experience in the environmental assessment field.

Northern light

Andrew Clark outlines the work being carried out to identify and boost decarbonisation opportunities in the North East of England



Regions and places will play a critical role in delivering decarbonisation while capturing opportunities to boost the economy and create more and better jobs. Place-based strategies that recognise local strengths, assets and infrastructure will unlock unique contributions towards net zero.

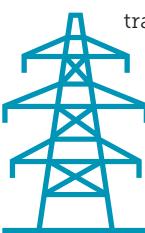
Technology and business model innovations are emerging all the time, and the impact of the transition may be rapid and profound for people and the economy. This means that one size will not fit all areas when it comes to

decarbonisation and clean growth. PwC's recent *Accelerating Net Zero Delivery* report, for example, found that place-based carbon reduction measures generate better environmental, economic and social outcomes than more agnostic approaches.

In 2019, the North East Local Enterprise Partnership (NELEP) established an Energy for Growth Strategy as part of the Department for Business, Energy and Industrial Strategy's local net-zero programme. Through this programme, NELEP represents the region

as part of the North East & Yorkshire Net Zero Hub, which was established in 2019 to provide local capacity, capability and funding to deliver net zero.

The strategy's vision is for the North East to become the lead UK region in delivering national energy and net-zero policy, while also driving transformational growth. It was developed by NELEP with input from cross-sector regional and national stakeholders, and is underpinned by analysis of regional data and evidence. Its core aim is to stimulate partnership working to identify,



Wind turbines being installed off the coast of Blyth, Northumberland

Testbed facilities at the Offshore Renewable Energy Centre in Blyth

prioritise and support activities, projects and initiatives. Its three workstreams are Regional Energy, Growth Sectors, and Innovation and Demonstration.

Regional Energy

VISION – “Accelerate the pace and scale of large-scale decarbonisation project delivery towards regional and national net zero.”

The North East has around £600m of regional energy projects in the pipeline that are poised to contribute to national energy and net-zero goals. These include district energy and heat networks, decarbonisation of public buildings, renewable energy, mine energy, community energy and domestic retrofit. NELEP is providing project-based support, influence and advocacy, and facilitating the sharing of best practice. Its Energy Accelerator programme, in partnership with the North of Tyne Combined Authority, Durham County Council, South Tyneside Council, Sunderland City Council and Gateshead Council, provides expert staff time and enabling funding for consultancy support, and is actively supporting £150m of projects through business case development. Most of these projects are heat networks, and NELEP is working with government to catalyse UK delivery of district energy schemes and supply chains.

It is also taking a lead on decarbonisation projects by establishing and leading the national Geothermal Energy Taskforce. This is a cross-sector national community of interest that is moving the geothermal energy sector forward, informed by the commissioning of white paper studies on mine and geothermal energy.



“The North East’s mining, engineering and shipbuilding heritage has left a culture closely identified with energy”

Growth Sectors

VISION – “Place the North East at the centre of industrialisation and international growth for key energy and net zero sectors.”

Energy and net-zero supply chain sectors present a transformational opportunity. The North East’s mining, engineering and shipbuilding heritage has left a culture closely identified with energy, as well as a skill and business base in technology and engineering, and several development sites in ideal locations.

The region played a critical role in the Industrial Revolution and is now creating thousands of jobs in clean growth

sectors. It is home to an advanced cluster for offshore energy and underwater market sectors, with expertise in robotics and subsea engineering and a wealth of infrastructure. Activity in the offshore wind sector accounts for around £1bn of turnover in the region and could support nearly 9,000 jobs and up to £180m in gross value added by 2025. It is an internationally recognised centre for research and development, including the Offshore Renewable Energy Catapult’s facilities in Blyth, and home to the operational base at Port of Tyne for what will be the world’s largest wind farm at Dogger Bank.

Business and industry

Gateshead District Heat Network, Tyne and Wear



"While place-based strategies have clear value, they must enable joint working at great scales"

The North East has also built an electric vehicle (EV) and battery cluster. It is home to the UK's first lithium-ion battery plant in Sunderland, a comprehensive electronics, machines and drives supply chain, and nearly £4bn of new investment, including a new Britishvolt gigafactory in Cambois, Northumberland; expansion of battery production capacity at Envision AESC in Sunderland; and battery EV production at Nissan Sunderland. Newcastle University hosts the first regional office of the Faraday Institute, and is leading the government's network of Driving the Electric Revolution centres.

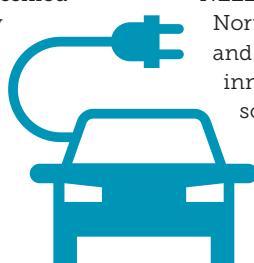
Another growth sector is low-carbon heat and heat networks. The Department for International Trade has classified the North East and Tees Valley as having a high potential for investment in the heat networks sector, which could create up to 35,000 UK jobs by 2050. The region's supply chain is well placed to support the sector's growth, which would benefit from

proximity to a project pipeline worth around £500m. The region is also a prime location for heat pump manufacturer investment.

NELEP is supporting stakeholders in these sectors through skills development, funding, targeting inward investment, business growth initiatives and business support, innovation initiatives, regional policy, influence and lobbying, and promotion.

Innovation and Demonstration

VISION – "Make the North East the go to place to develop and showcase new energy and net zero solutions that change the world."



NELEP's strategy identifies the North East as home to a unique and comprehensive asset base for innovating and demonstrating solutions to energy system challenges. This includes the decarbonisation of heat and power, and maximising lifecycle use of renewables. These assets provide research

and a testbed of physical facilities, used by international businesses, SMEs and policymakers.

The North East Energy Catalyst is a partnership that unites the these capabilities. Established and facilitated by NELEP, its partners include a mix of industry, utilities, public sector, universities, institutions and government bodies, collaborating with the shared objectives to: tackle major energy challenges; delivering on national policy; drive economic growth; and accelerate decarbonisation

The Catalyst is working on an ambitious and collaborative pipeline of projects; this has so far included launching SME energy innovation challenges, to provide expertise and funding to regional businesses bringing new energy products or services to market. It has also facilitated funding for new demonstrator facilities such as the Customer Energy Village at the InTEGReL site led by Northern Gas Networks, which will provide domestic test environments for low-carbon products and services.

The Catalyst has also established a wider partner network for the formation of project-based or thematic working groups and consortia with industry. These have led to successful funding bids such as in the Clean Maritime Demonstration Competition, where the Port of Tyne has led a project to develop a real-time digital platform to facilitate port decarbonisation.

Collaboration will be critical on the road to net zero, and while place-based strategies have value, they must enable joint working at great scales on shared challenges and opportunities. Please get in touch at andrew.clark@nelep.co.uk if you would like to explore opportunities to work together or hear more about what is happening in the North East. [•](#)

ANDREW CLARK, MIEMA CEnv, is energy lead at the North East Local Enterprise Partnership.



THE READING ROOM

The Fossilarchy

Tom Clark

This politically charged thriller from a longtime IEMA member taps into the emerging genre of climate fiction.

Wealthy Swiss businessman Wolfgang Dreiser hatches a drastic plot to save the world from climate meltdown, recruiting a crack team of retired Special Forces for a secret mission to Australia. A man vows revenge on the coal industry and takes on the mantle of Ned Coaly, anti-fossil outlaw; in doing so, he unleashes a dark past and a killer who is out to get him. A young woman forms a new group, the Climate Commandos, that takes direct action to the next level.

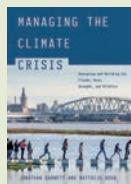
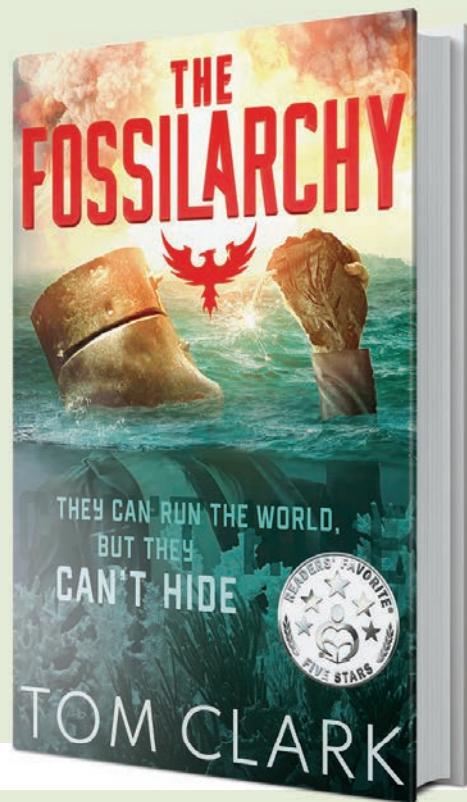
The fortunes of all three converge as they target a powerful and ruthless enemy – the fossil fuel industry and its political cronies, known as 'The Fossilarchy'. Its power must be broken if the world is to have a future.

About the author

Born in the UK, Tom Clark has been involved in environmental protection and campaigning since 1978 and has been a consultant to governments and companies on environment, sustainability and climate change since 1990. He has a degree in civil engineering, a masters degree in environmental technology, and professional qualifications in environmental and greenhouse gas management, and has been a member of IEMA for 27 years.

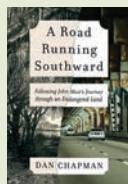
Clark has lived in Western Australia with his family since 1999, during which time he has observed Australian climate politics with amusement and horror. This, paired with the current global crisis, compelled him to write *The Fossilarchy*, aiming to relieve climate anxiety while conveying an urgent need for change in an entertaining way.

You can read a Q&A with the author at bit.ly/Fossilarchy_QA



Managing the Climate Crisis: Designing and Building for Floods, Heat, Drought, and Wildfire
Jonathan Barnett and Matthijs Bouw

A practical approach to addressing climate threats using constructed and nature-based design and engineering. The authors discuss adaptation and preventive measures, and illustrate their implementation for seven threats: flooding along coastlines, river flooding, flash floods from extreme rain events, drought, wildfire, long periods of high heat, and food shortage.



A Road Running Southward: Following John Muir's Journey through an Endangered Land
Dan Chapman

In 1867, the naturalist John Muir set out on foot to explore the American South, keeping a detailed journal of his adventures as he travelled from Kentucky to Florida; 150 years later, reporter Dan Chapman, distressed by sprawl-driven environmental ills in the region, recreated the journey to see for himself how nature has fared since Muir's time.



Hothouse Earth: An Inhabitant's Guide
Bill McGuire

Bill McGuire provides a post-COP26 perspective on the climate emergency, acknowledging that it is now practically impossible to keep this side of the 1.5°C climate change guardrail. We can no longer dodge the arrival of disastrous, all-pervasive climate breakdown that will come as a hammer blow to global society and economy. This is something we must all face up to, if only to spur genuine action – even at this late stage – to stop a harrowing future becoming a truly cataclysmic one.



If you would like to contribute
a member profile contact:
media@iema-transform.com

Why did you become an environment/sustainability professional?

To work towards making the world a safer place through tackling the climate and biodiversity crisis.

What was your first job in this field?

I worked for a specialist UK business, with the support of the University of Southampton, to come up with an innovative commercial solution for making contaminated sludge from harbour dredging safe for disposal.

How did you get your first role?

Through applying to become an associate in the government co-funded Knowledge Transfer Partnership, which funds business innovation.

What does your current role involve?

Working with businesses on meeting challenging sustainability and environmental, social and governance (ESG) requirements and turning them into business opportunities. This means creating strategies and **action plans** on climate action and net-zero, as well as broader ESG action on supply chain management and corporate sustainability reporting and disclosures.

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

Awareness and legislative requirements on sustainability issues have increased, with organisations increasingly seeking expertise on sustainable business growth. After almost two decades leading the sustainability function in large corporate environments, I started Prosperia Consulting to apply my expertise and experience to a broader segment of the market, helping organisations to develop impactful strategies.

What's the best part of your work?

Supporting businesses that are transitioning to more sustainable operations and becoming a force for good.



CAREER PROFILE

Dr Eva Gkenakou,

FIEMA CEnv

Founder, Prosperia Consulting

What's the hardest part of your job?

Despite the **red alert climate warning** that scientists are issuing, it is important to maintain clarity of mind.

What was the last development event you attended?

Green finance-related events are a current focus, as this is becoming a game-changer in facilitating the large green investments necessary to reach net-zero.

What did you bring back to your job?

Foresight. I can advise businesses on steps they need to take to continue to attract customers, investment and talent.

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

Empathy, for understanding each business's opportunities and barriers. Keeping up to date, to be able to pick the solution that will serve each business's specific needs. Effective communication, to be able to bring those solutions to life.



"I started my consultancy to apply my expertise to a broader segment of the market"

Where do you see the profession going?

Sustainability requirements and solutions will be constantly changing, so we will play a role in translating them into action.

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

Witnessing the positive change that society has made in tackling sustainability issues.

What advice would you give to someone entering the profession?

People entering our profession often do so out of a moral duty and enthusiasm to help their fellow humans. The ability to stay focused on that, despite everyday hurdles, will serve them well.

How do you use the IEMA Skills Map?

It can be useful in many different scenarios, for example helping set work-related goals.

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

Curious, effective and forward-thinking.

What motivates you?

Making a positive difference in the world.

What would be your personal motto?

Healthy planet, happy people, prosperous world.

Greatest risk you have ever taken?

Leaving the corporate world to start my own consultancy. It has been scary and exciting at the same time.

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

One of the founders of a global movement, such as a large religion, to witness their way of thinking – how did they inspire millions of people, bringing about sweeping changes? ↗





DATES FOR YOUR DIARY

iema.net/events

19–26 OCTOBER 2022

IEMA CONNECT 2022: The Global Environment and Sustainability Conference – REGISTER NOW!

Join us online for a week-long conference with more than 30 inspiring speakers from around the world.

The programme of events opens with an introduction from COP26 president Alok Sharma.

There will be the opportunity to:

- Watch and engage in webinars, workshops, roundtables and discussion groups
- Join expert-led upskilling sessions
- Broaden your network and connect with like-minded peers
- Engage with an international panel on the challenges we face

Topics covered include:

- Climate change
- Biodiversity
- Green skills and professional development
- Latest policy updates and insights
- COP15 and COP27 – what can we expect?

The diverse panel of speakers includes:

- Chibeze Ezekiel, co-ordinator at Strategic Youth Network for Development
- Sophie Howe, future generations commissioner for Wales
- Olivia Whitlam, head of sustainability at Siemens
- Dr Eric Twum, an environment, climate change and energy expert

● Registration is now open at www.iema.net/events/iema-connect

MONDAY 3 OCTOBER

DIGITAL EVENT

North West: Carbon Management and ISO 50001

Join IEMA North West for our next digital event! Within this webinar we will hear from speakers on the topic of Carbon Management and *ISO 50001* and the work they are currently doing. If you would like to hear more about some examples and how organisations are addressing the issues of reducing carbon emissions in the UK, then this event is for you. This digital event is for IEMA members based in the North West Region, but we welcome members from other Regions to join us.

● Register at bit.ly/NW_CarbonManage

TUESDAY 11 OCTOBER

WEBINAR

Alliance of Sustainable Building Products – Steel reuse in the construction sector

Find out more about the Delivering Innovative Steel Reuse Project, which is exploring the reuse of structural steel in construction. It will deliver new circular business models that can act as a blueprint for other companies interested in entering the reuse sector, ultimately to achieve a greater supply of reused steel into the marketplace.

● Register at bit.ly/ASBP_DISRUPT

THURSDAY 13 OCTOBER

WEBINAR

Interactions and cumulative effects in EIA

In this webinar we explore the practice of assessing cumulative effects and interactions within environmental impact assessment (EIA). It will be ideal for practitioners looking to improve their treatment of interactions and cumulative effects, and of wider interest to students, developers, local planners or stakeholders seeking to deepen their understanding of this complex area of impact assessment practice.

● Register at bit.ly/EIA_Inter_Cumul

Return address:
IEMA
The Old School House
Dartford Road
March
PE15 8AE



Global environment and sustainability conference

Wednesday 19th – Wednesday 26th October

This year we are delighted to be hosting our annual conference where we will shine a spotlight on our members around the world and the inspiring work being done to action change for a more sustainable future. Don't miss your chance to hear from inspiring speakers, join discussions and gain practical insights.

Secure your free place at our exclusive members only conference:



iema.net/events/iema-connect