

Getting ahead of 'eco-anxiety'

Climate change is a global issue and businesses around the world have a duty to their stakeholders to ensure they are committed to sustainability. Dina Patel explores how some organisations are currently leading the way to ensure a greener, healthier, and more durable planet, and the potential impact of a new ISO standard that has been developed to help organisations fight the effects of climate change

While some companies are demonstrating leadership in tackling climate change, not enough is being done to reduce carbon emissions, according to a report by environmental consultancy EcoAct. The report found that companies in the FTSE 100 are showing more commitment to tackling climate change, and this was reflected in the number of organisations setting science-based targets, using renewable energy and reporting climate-related risks. However, the progress is slow, and the report shows that the companies lagging behind remain disengaged in the transition to a low carbon economy.

All over the world, protests have been taking place, calling attention to the disastrous impact of climate change. A new term "eco-anxiety" has even been coined to describe the overwhelming powerlessness some people feel they experience when thinking about climate change. These protests show just how much pressure organisations will continue to face from external stakeholders to enforce sustainability in the workplace. Mark Carney, the Governor of the Bank of England, recently warned that companies and industries that are not moving towards zero-carbon emissions will be punished by investors and ultimately go bankrupt.

A standardised approach

The Paris Agreement is one of the ways businesses have been brought together to keep the global average temperature to well below 2°C (36.5F) by the end of the 21st century. The United Nations Sustainable Development Goals – 17 goals developed by the UN to encourage all countries to protect the planet – also includes a goal for countries to take urgent action to combat climate change and its impacts. To help organisations meet these targets, the International Organization for Standardization (ISO) has

developed ISO 14090:2019 Adaptation to climate change – Principles, requirements and guidelines, launched in June 2019. This is the first international standard created to prepare organisations for the impact of climate change.

This includes unexpected weather and temperature changes that can cause significant infrastructure damage or disruption to business. The message is clear – organisations need to identify and manage risks in order to respond to climate change.

QW speaks to John Dora, the co-Convener of the working group that developed ISO 14090:2019, to find out more.

QW: Why did ISO set up a working group to focus on climate change?

John Dora: There has been a lot of work on greenhouse gas management at ISO. But in recent years, we've been thinking it is time we did something to help people by creating guidelines to determine what good adaptation to climate change looks like. The standard doesn't provide all the answers, but it does provide a framework that enables organisations to consider policy, strategy, plans and activities that link back to the UN Sustainable Development Goals and the Paris Climate Agreement. Additionally, the standard brings a common language to adaptation, so whatever sector you're working in, everyone will be using the same terminology.

QW: What does the standard require from organisations?

JD: One of the important things that the standard requires is preplanning. This will assess the organisation's capacity to undertake adaptation. It looks at whether

the organisation is fit enough to do impact assessments at the right level of detail, and if it has the right decision-making governance in place. It reveals whether organisations are putting together a plan using the best data on weather and climate for the future. During this stage, users also learn about the level of knowledge among senior management and if they understand the importance of climate change.

Stage by stage, users take everything they've learned and use this when creating the adaptation plan. Once drafted, the next stage is determining how the organisation will deliver the plan and put together the ways for monitoring and evaluating its implementation. It is recommended that stakeholders are involved as early as possible.

QW: What will widespread adoption of these measures lead to?

JD: As a result of the consistent language, various sectors will be able to understand what good adaptation looks like and be able to create a plan more quickly than they would have without the standard. With this standard, organisations will be looking 10, 20, 50, 100 years into the future. Companies will see just how resilient they are to climate change and will be able to react accordingly. ■

Top tips for improving sustainability in an organisation

John Dora gives his three top tips for quality professionals looking to improve their organisation's sustainability activities.

1

Preplanning (or 'scoping') is a crucial first step. It requires you to assess the organisation's capacity to deliver adaptation, and that gives a broad look across the whole business. This initial stage of scoping also requires identifying barriers to adaptation and how they can be overcome.

2

Look at the standards that your organisation is currently using. For example, if your organisation is certified to ISO 14001:2015 Environmental Systems Management, then they are already required to look at environmental risks. Quality professionals can argue that assessing climate change risks form part of the response to this standard.

3

If you're an organisation in design and construction, then think about making your own rules about resilience to future weather patterns. I've found that design standards for infrastructure can be out of date with regards to the weather criteria being used – many construction standards refer to historical climate and weather patterns, some from before 1990.

Food waste

According to WWF-UK, an estimated one-third of all the food produced in the world goes to waste. That's equal to about 1.3bn tons of fruits, vegetables, meat, dairy, seafood, and grains that never leave the farm, get lost or spoiled during distribution, or food thrown away in hotels, grocery stores, restaurants, schools or homes. This wastes the energy and water it takes to grow, harvest, transport and package it. Discarded food sent to landfills also produces methane when it rots – a greenhouse gas even more potent than carbon dioxide. WWF claims that, in the US alone, the production of lost or wasted food generates the equivalent of 37 million cars' worth of greenhouse gas emissions.

QW speaks to David Jackson, Marketing Director at food waste solution company Winnow, to find out how the company is helping chefs measure, monitor and cut waste in half using artificial intelligence (AI) technology. Winnow was founded in 2013, in London, with the aim of reducing food waste in commercial kitchens.

The company has set up its technology in hotels, restaurants, cruise ships, and other similar large environments, in over 40 countries and over 1,000 kitchens to help them run more profitable and sustainable operations.

The challenge Winnow wanted to solve, Jackson tells QW, was to eliminate global food waste by helping kitchens to be more efficient and use data to cut waste. Winnow does this by analysing the waste thrown into their bins, which are then placed on smart weighing technology. A camera and scale are used to identify the food that has been thrown away and its weight. Through a connected tablet, staff can quickly identify the type of food thrown away and at what stage. Cloud software also analyses the day's data.

Image: Winnow



"Our data shows that between five and 15 per cent of all the food that's purchased ends up being thrown away in the kitchen," Jackson says. "That's not because chefs are bad at their job. It's not that they don't practice quality and think about best practice. It's because we're asking our chefs to make quite complex forecasting decisions in terms of how much food to make. With imperfect information, a lot of food gets wasted."

The way Winnow helps to solve that problem and embed quality into a business is by providing better visibility of what is being thrown away. "We're providing a data-oriented approach for commercial kitchens. We're automating the process of capturing the information and this will fundamentally change the way kitchens work," Jackson adds. "We're hoping to save a billion dollars by 2025 in reduced food costs. And there is a huge environmental cost to wasting food."

As Winnow operates in kitchens around the globe, Jackson tells QW how the organisation remains sensitive to the countries it operates in. "Just putting the

technology in the kitchen doesn't drive the change you want to see. We need to engage with the kitchen team members to educate them about sustainability, or whichever angle we think will resonate the most with them. In Scandinavia, for example, people are very passionate already about sustainability issues and so we build on that. In India, there's a real kind of moral sense that wasting food is terrible considering how many in the country suffer from food poverty. We also equip the kitchen with champions – team members that will undergo extra training to use the technology and also lead and reinforce the new practices across the whole team."

As Jackson points out, AI is a massive buzzword and many businesses are looking for ways they can use data to drive efficiency. Successful implementation ultimately comes down to how the technology is applied, however. "Our vision for the future is not of robots running kitchens. It's of chefs that are creative, passionate and have a deep knowledge of the way their food is produced," Jackson concludes. ■



Biofuels

UK start-up company bio-bean is developing processes and products for the recycling of spent coffee grounds into solid biofuels. With the amount of coffee drunk in the world, this could have a significant impact.

QW speaks to Dianne Mitchell, Chief Engineering and Production Officer at bio-bean, to find out how the company is recycling coffee grounds to create coffee-derived biomass pellets, fire logs, natural flavourings, dye and pigments, and other innovations. Mitchell is responsible for the engineering, manufacturing, quality, environment, and health and safety departments.

QW: What does bio-bean do?

Dianne Mitchell: We take coffee grounds from retail outlets across the UK; we transform them into solid biofuels, and they generate a lot of heat when they're burned. We also produce natural flavouring products that go into the food and beverage industry from the residual compounds that we also extract from spent coffee grounds. As a company, we're continually looking to innovate or expand on the range of products that we produce from spent coffee grounds.

QW: How do you manage the health and safety environment and quality functions?

DM: We have an environmental management system, as well as the health and safety management system, that we continually develop and evolve to make sure that we're meeting best practice. We set out clear policies and procedures for engineering design, with sustainability at the heart of everything we do as a company.

We want to make a profit, but we want to also be around for the long term and we're committed to reducing the carbon emissions from our own processes. One of the ways we do that is through an independently verified carbon footprint assessment tool that we use internally.

QW: What did your journey to becoming certificated to ISO 14001:2015 Environmental Management involve?

DM: We started to think about this standard about two years ago. We had begun to grow as a company and we needed to improve our internal processes, and our environmental management system needed updating. We wanted to make sure that we had the most robust system based on a recognised standard. It made sense for us to look at ISO 14001, because we really wanted to enhance our environmental performance. The process to becoming certificated took around a year. We had to put new policies in place, in addition to processes, practices and new records. We also had to undergo external audits. The biggest challenge along this journey was raising awareness internally. We're a small team but we have big ambitions, and we needed to make sure we still gave

our teams the freedom to do what they do best while still adhering to the right policies and procedures. We had a lot of awareness training and ran external sessions for employees.

QW: What advice would you give to quality professionals working to improve sustainability in their business?

DM: Try to integrate systems as far as possible. There are existing synergies between quality and environmental management systems, for example. Rather than looking at them separately and starting from scratch, work with what you've got and what you already do. Train your staff across the business. Give them awareness training and bring them along on the journey as well, by informing them of what you're doing and why you're doing it. It really helps if everybody is engaged with the process. ■



Images: Bio-bean

Transport

Lisa Constable at Network Rail has a job title that probably wouldn't have existed a few years ago. She is the Weather Resilience and Climate Change Adaptation Strategy Manager and has the challenging task of making sure Network Rail is enhancing the UK's railway while considering the impact of climate change.

"There are many people around the business who have a role in managing the impact of weather and my job is to bring that all together from a strategic perspective," Constable says.

How will climate change affect the organisation? Constable says that more frequent and severe extreme weather has been projected and this will affect public transport. "We are significantly affected by weather every year. Weather impacts cost Network Rail around £100m each year due to delays and cancellations and the full cost including response, repairs and socio-economic impacts is probably closer to £300m."

Network Rail has created a strategy to help the organisation become more resilient. The Weather Resilience and Climate Change Adaptation (WRCCA) strategy aims to improve the organisation's understanding of the impacts of weather and climate change.

Constable's first task after joining in 2016 was to produce a strategy for how Network Rail will adapt to climate change. "Everybody who has a responsibility around weather was involved in this strategy," she says. The goal is to be able to get up and running as soon as possible after being affected by a change in weather and to build infrastructure that is resilient to the impact of climate change.

This is not an easy task by any means. Constable tells QW that Network Rail has been carrying out a lot of research to understand weather and climate change vulnerability and risk. This is supporting the development of strategies and action plans for different parts of the business.

Network Rail's routes are currently updating their 2014 weather and climate

change plans to reflect resilience priorities for the next five years. One way of embedding climate change into the organisation's current processes, Constable says, is to update all the railway design, operational and maintenance standards Network Rail is responsible for. Network Rail is also currently working on a gap analysis against ISO 14090.

"I would like to use it to help guide us in the right direction and help the rest of the business see why we're doing certain things," Constable says. "We're currently developing an integrated management system and we're aligned to ISO 14001 and ISO 55001, so we could easily incorporate ISO 14090 if that is the way the business decides to go."

One of the biggest challenges for Constable is understanding the full cost of weather. "A lot of money is lost due to delays and cancellations. But on top of this, you have costs due to the operational response, the repairs to the

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assets, ongoing maintenance, and the knock-on implications of a project team being taken off one project and moved to another one. Then you've also got the socio-economic impact of people not being able to get where they need to go while the railway is shut. This is not currently fully reflected in our business cases."

In addition to understanding the cost of weather, Constable is also hoping to better understand where the company should be investing in the future. She says: "My next challenge will be bringing all of this information together and communicating it to the business – and getting the business to understand that they can, and should, do something about climate change now. I think Extinction Rebellion and the significant change in public consciousness towards climate change is helping others to focus on environmental sustainability." ■