Sustainability goes mainstream

James Cooper, Milling and Grain magazine regular correspondent, once again provides a insightful and hard-hitting review of the state of our global food production chain, consumer motivation and climate change all rolled into a myriad of questions about food and sustainability and what this means to businesses producing food products for consumers. Hard questions lead to positive and progressive responses from feed milling industry leaders

A re-invention of capitalism in the matrix of our anthropocene diet

by James Cooper, a Milling and Grain correspondent

You can tell a movement has entered the mainstream when it's lampooned in comic strips. There's a new character in Viz called 'Foodie Bollox' (can I say that here?) which I find hilarious and poignant in equal measure.

In the comic, a hipster cross-examines Mr Whippy's ice cream van about the sustainable and ethical credentials of his fayre, then after much deliberation and questioning our protagonist leaves an impatient angry queue with two black eyes and a soft scoop in a 99-cone with a flake. Before the first bite, a seagull swoops in to steal the lot.

One of my pet hates is virtue-signaling in the 'conscientious' consumer; food-fashionistas desperate to differentiate in a sea of cheap and mass-produced goods, with a performative need to feel superior about their consumption.

But maybe I'm just cynical and perhaps consumers really do think differently about their consumption habits today - after all, we'll have to live with the consequences tomorrow.

And the body of evidence is growing.

Greenland's icesheet has now passed the point of no return; visions of dying coral reefs, littered seas and emaciated polar bears are stark indicators that earth systems are struggling. Tired of government rhetoric about change, an entire generation has mobilised, galvanised even, not to only reduce our environmental impact, but to actually reverse climate change with all its devastating effects.

Sustainability is no longer just what we watch on TV, it's everything we do.

Living sustainably on the planet means more than just cutting down on fossil fuels and creating no-fishing zones, it may also mean changing agricultural practices and dietary habits learned over decades.

Diets have a huge impact on climate change and providing a growing global population with healthy diets from sustainable food systems is an immediate challenge. But while food systems have the potential to nurture human health and restore our environment, right now they are threatening both.

Much of the world's population is inadequately nourished and many environmental systems and processes are pushed beyond safe boundaries by food production.

Worse still, according to Stockholm University, although global food production of calories has kept pace with population growth, more than 820 million people have insufficient food and many more consume low-quality diets. These cause micronutrient deficiencies and contribute to a substantial rise in diet-related obesity and diet-related, non-communicable diseases, including coronary heart disease, stroke and diabetes.

Transforming the food system

Campaigners say a global transformation of the food system is urgently needed.

For decades, modern agriculture has relied on a model of pure financial capitalism; a linear system of farming a handful of crops, resulting in soil depletion and release of carbon into the atmosphere. By any measure of sustainability, it's not fit for purpose.

The statistics speak for themselves.

Half the world's GDP is dependent on nature, yet nature cannot sustain us any longer. A football field per second is cut out of the rainforest to make way for poor quality farmland. There are an estimated 60 harvests left using existing methods if we continue depleting the soil the way we have: deep tilling lifeless earth in the hope of bringing something fertile to the surface, then sowing vast monocultures, before adding a cocktail of fertilizer straight from the factory.

There are green shoots of hope, however.

While the pandemic has demonstrated in an obvious way that our existence on the planet is fragile and that food systems are vulnerable, equally apparent has been our ability to adapt rapidly to changing circumstances.

The UK learned how to bake bread and grow vegetables. Quite apart from souring fuel costs, my local mixed-arable farmer also experienced a four-fold increase in the cost of bagged NPK fertiliser in the last six months, so he's bought less, and his muck heap has become equivalently more valuable.

"We won't deep plough now, just tickle the surface," he explains. "We top-dress with muck and let the worms do the work, I've been out at night and there's millions of them," he exclaims with pride. And in this tiny example, soil biodiversity is being restored, almost inadvertently.

Consumer choice - unreliable in reversing climate change

In the developed world, we have the luxury of incredible food choice. We are empowered: climate change we believe can, perhaps, be halted or even reversed by changing our behaviour, in the choices we make every day. As I wander the supermarket aisles in my small provincial town I'm struck by the utter abundance of choice.

Some products are clearly not good for me or the planet - the white chocolate egg my 10-year-old son is coveting, with its 30 seconds worth of plastic toy contents, an obvious offender – but other options are far from clear.

Some products flaunt their sustainable credentials with pride, but while there's a feel-good aspect to our food purchases; organic, local, eco-packaging, etc, it's also easy to feel overwhelmed by the plethora and seemingly endless supply of fine foods from across the world: Peas from Peru, cherries from Chile, prawns from Vietnam and sausage from Spain.

Each has a potential environmental legacy - cost or credit. But is this diverse Anthropocene diet part of the solution, or part of the problem? How regenerative were the agricultural practices; was wildlife displaced or threatened; are the workers nurtured or exploited? Picking fruit and vegetables is back breaking work and then there's the shipping to consider, never mind the resulting ocean of plastic.

So would shunning the Anthropocene first world food system, with all its flaws, even begin to address the fundamental problems? How can I possibly know which food items perform best for society, or the environment and which has the lowest carbon footprint?

Do you really know what your pork sausages ate? Is the local option always better for me and the planet? Locally grown tomatoes may feel like a good choice, for example, but that doesn't necessarily make them sustainable.

Grown out of season, under lights in heated greenhouses, with chemical fertilizer straight from a factory, earns them few environmental credentials. Better perhaps, to import a glut of produce from a country where it tastes and grows better, where heat and light is free, labour willing and able.

Even if consumers can be relied upon to make responsible choices, is it fair or reasonable to expect even the savviest consumer to take a moral inventory of every choice, let alone a time-starved single parent simply trying to feed and nourish their child on low wages.

When sustainability messages are emulsified with branding, marketing aims and profit margin - even when people try to make good choices and are well meaning - it doesn't necessarily translate into sustainable outcomes.

Supply chains can be long and convoluted, resources used in food production to hard to quantify. And with agriculture one of the single biggest emitters of CO_2 and human exploitation, it's a gauntlet which surely can't simply be left for the consumer to pick up in their daily choices. No, that responsibility must surely lie higher up the food chain.

Industry can do better

It's generally accepted by anyone with an appetite for the truth that the meat industry is one of the worst climate offenders with the biggest potential for gains.

Food production contributes over a third of global greenhouse gas emissions (according to New Scientist around 37 percent of GHG) and within that figure animal-based foods produce roughly twice the emissions of plant-based ones.

Animals eat a lot of crops. The greater proportion of world grain production goes towards animal feed (45 percent). But it's also true that the feed industry is inherently circular as it uses a large proportion of byproducts from primary industries - the FAO has reported that 86 percent of feed materials used in livestock production are non-human edible.

And while vegetarianism and veganism are on the rise, a recent UK YouGov poll suggests that meat still plays a huge role in British life. A good proportion of the public are embracing flexitarian diets in ever-increasing numbers but, we can also say with absolute certainty, worldwide aquaculture and meat production is only likely to rise.

Developing countries still have a voracious appetite for meat, especially chicken and pork where there's still not enough to go around.

So whichever way you view it, animal feed is a crucial target for transformation.

Agriculture has a vast untapped potential to reduce its environmental impact, but where's the incentive, when the market for most commodities is structured around competition on price?

According to the old capitalist model, the animal feed industry simply looks for a target nutritional profile and amino acids but, beyond due diligence in ensuring responsible sourcing, it hasn't really cared about fostering circular economies, enhancement of biodiversity, soil regeneration, or where in the world its constituent ingredients come from. If Brazilian rainforest soy is cheaper than Spanish waste-stream mealworms, then soy it is.

Historically, little account has been taken for a reliance on fossil-based fertilizer or controversial pesticides, or how successfully carbon is sequestered. But, certainly in Europe and the UK, that's rapidly evolving into a fully accountable model. Can agriculture really become truly regenerative, an insetter rather than just an offsetter?

Walking the talk

Can industry really 'walk the talk'? Many believe it can.

Socially conscious consumers, misguided or otherwise, have already shown they're inclined to vote with their wallets, encouraging businesses to reappraise their products and purpose, including their role as employers of diverse, engaged workforces – across all sectors companies with good sustainability credentials are also rapidly becoming a magnet for the best talent - and the global pandemic has also created significant additional momentum for grass roots change across industry.

So as global risks continue to build, business leaders are rallying behind bold and urgent transformation agendas and recommendations developed by organisations such as the Task Force on Climate-related Financial Disclosures (TCFD) and the World Business Council for Sustainable Development (WBCSD) where the complex sustainability issue is reduced into core challenges: the climate emergency, nature loss and mounting inequality.

The looming environmental catastrophe represents a huge opportunity to innovate, and leaders of industry are now thinking through radical transformation.

It may be that we are already starting to see evidence of real change. Anyone looking at the current sustainability space will notice that a lot of attention is focused on what has become known as 'system transformation'.

This is rooted in the idea that the capitalist system we've been working with for decades is not just defunct, obsolete but worse - fatal. Financial metrics alone are clearly not going to get us to net-zero, but perhaps more than anything, leaders of industry are beginning to view climate as a significant financial risk, affecting shareholder confidence, market value and crucially, access to cash.

A new metrics of capitalism

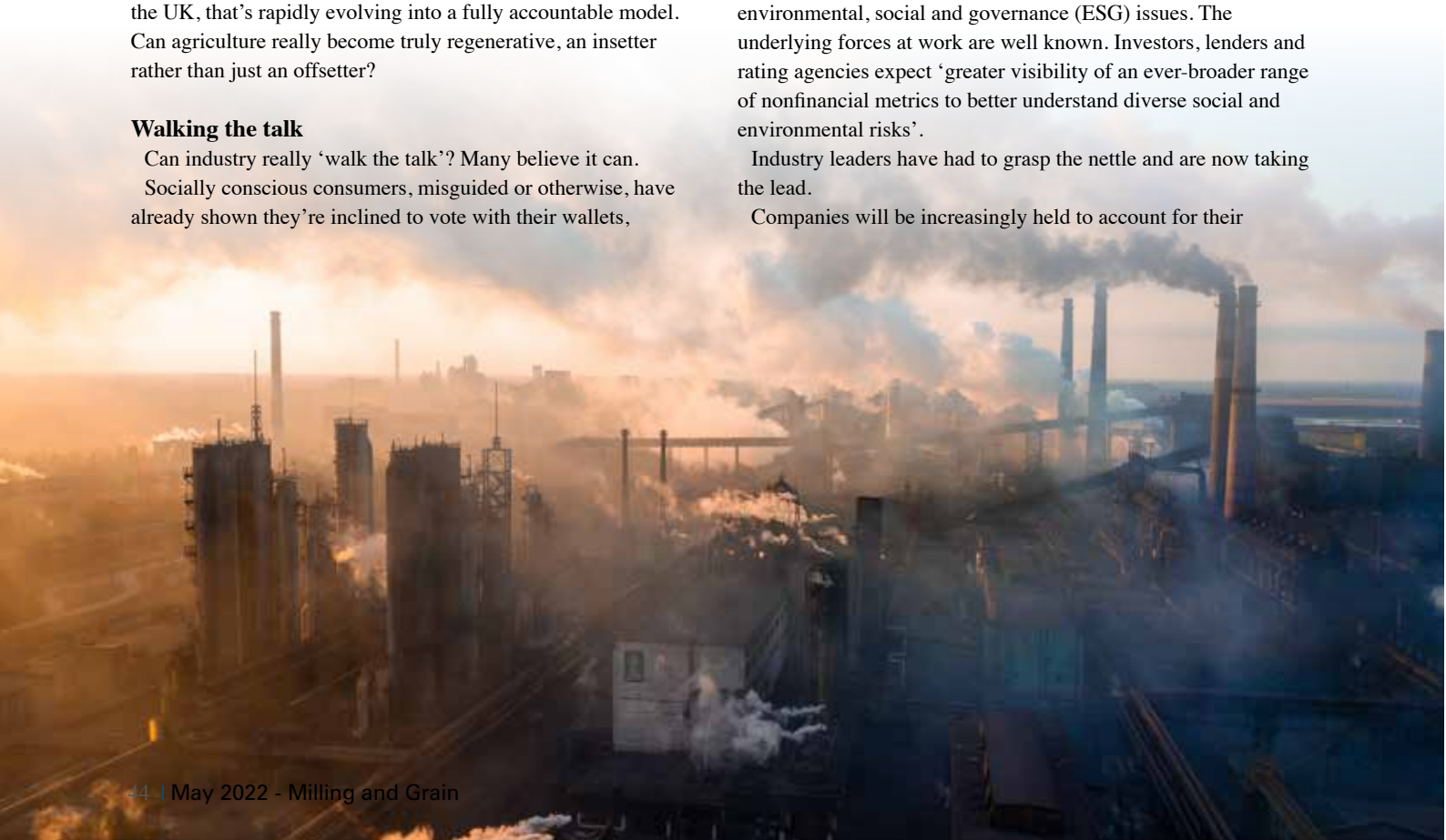
Governments' ambitious, top-down commitments to limit carbon emissions are increasingly backed by new regulations and new taxes. More—much more—can be expected, says PWC, one of the big four international accounting firms.

Societal pressure has eclipsed that from governments and the third sector.

According to a recent PWC press release, there's a mixture of anxiety and enthusiasm in today's boardrooms about environmental, social and governance (ESG) issues. The underlying forces at work are well known. Investors, lenders and rating agencies expect 'greater visibility of an ever-broader range of nonfinancial metrics to better understand diverse social and environmental risks'.

Industry leaders have had to grasp the nettle and are now taking the lead.

Companies will be increasingly held to account for their



sustainability credentials, the natural and social capital elements and the impact their business has on nature and society.

Those that fail to embrace these new metrics will find it increasingly hard to gain access to capital and shareholder confidence. Organisations should seriously be asking themselves - what ESG metrics have we established?

Stick and carrot

"Capitalism is not simply about financial capital anymore, that's not a sustainable trajectory," says Peter Bakker, President and CEO of the WBCSD and a globally renowned leader and influencer for sustainability.

"We need to rethink capitalism. To move beyond business-as-usual into the accelerated transformations necessary, business leaders must adopt three mindset shifts: reinventing capitalism that rewards true value creation; focusing on building long-term resilience and taking a regenerative approach beyond doing no harm."

WBSCD is a CEO-led organisation of over 200 leading companies pressing a slick agenda - brazenly entitled, 'Vision 2050: Time to Transform'.

It maps how systems transform and lays out a new framework to guide business action in the decade ahead. At the heart of this framework are nine transformation pathways – actionable routes for companies to take – covering the key areas of business activity that are essential to society, including food.

Companies need to get on board fast or sink.

"The change in the way we talk and think about the capitalist system is happening faster than I imagined possible," says Peter Bakker.

The automotive sector is a prime example: We all know that the internal combustion engines are obsolete - Audi has undertaken to be all-electric by 2026, Volvo by 2030. It's a massive shift.

Encouragingly this isn't a doom and gloom story, says Mr Bakker in a recent interview with Buhler's CTO, Ian Roberts, but instead one of huge business opportunity.

Sustainability is no longer about philanthropy or tree-hugging, "although we'll need that passion too," he maintains, but about how we incorporate it into our core economic thinking, he adds.

Motivating the feed industry

Senior leaders have a critical role to play in driving this new agenda for transformation. In the food and feed industry, for the moment, ESG is still very market driven.

However, the tide is turning. Just published (February 5, 2022) is the European Commission's proposal for a Directive on Sustainable Corporate Governance - a legislative framework on environmental and human rights due diligence for companies - bringing into sharp focus long-term sustainable value creation rather than short-term benefits.

"The traditional approach is that pressure comes from the downstream part of the value chain to take care of certain matters related to environmental and social sustainability, often triggered by public concerns.

"At EU level the change in mentality at policy maker level is clear however," explains Asbjørn Børsting, President of The European Feed Manufacturers' Federation (FEFAC).

Businesses in the sector need to consider their ESG's.

"We can increasingly expect minimum performance levels related to environmental and social sustainability to be built into legislation, for example, and due diligence requirements included in laws related to 'sustainable corporate governance," he adds.

It will, he insists, undoubtedly foster a level playing field and the need for representative associations to provide the tools and guidelines for feed companies to satisfy the requirements. The EU track on sustainable finance (EU Taxonomy) rolled out further this year will also lay down so-called 'do no significant harm' clauses for livestock production in order to be eligible for sustainable finance.

"A topic like deforestation-free soy sourcing has been part of the commercial domain all these years, but the legislators clearly want to set a legal bar that stops the possibility for 'deforestation-related soy' to enter the market at all."

FEFAC and its members initiated a constructive approach to the interpretation of 'sustainable feed production' with the publication of the FEFAC Feed Sustainability Charter 2030, released in September 2020 - with an annual progress report. The Feed Sustainability Charter includes five ambitions where animal feed manufacturing can contribute to more sustainable livestock and aquaculture production.

All combined, these ambitions provide a platform for FEFAC member associations and individual feed companies to "set aspiration levels and proactively set the agenda on what matters in sustainable feed production," he explains,

"Although admittedly this is difficult to define, and trade-offs always exist," he concedes.

Purpose above profit

For European feed producers it means looking at everything we do and asking the question: How can we do better?

"The feed industry's been working proactively on many elements of the challenges and opportunities associated

with sustainability for a number of years", says Nick Major, who leads on sustainability at ForFarmers, a Dutch PLC producing around 10 million tonnes of animal feed annually for markets in The Netherlands, Germany, Belgium, Poland and the UK.

Also a board member of FEFAC and AIC (Agricultural Industries Confederation), the UK's agri-supply body, he's clear about the big sustainability challenges and initiatives in the sector:

"The FEFAC Feed Sustainability Charter contains quantifiable feed sector actions at EU and national level, featuring animal nutrition solutions that can help increase the sustainability of livestock farming operations.

"They are aimed to provide measurable answers to growing market expectations, as well as to increased societal demands at EU and global level."

Annual Feed Sustainability Charter Progress Reports are also to be published to stakeholders, based on 'robust sector sustainability indicators', to measure how FEFAC members are implementing impactful, specific feed supply chain actions. But can companies really place purpose above profit?

"It can't be either purpose or profit, they are both part of the value companies deliver to their stakeholders," Major explains.

"A good example is the large number of initiatives to improve efficiency in manufacturing and logistics - these reduce emissions and costs - the same is true when we are advising customers how to improve their efficiency - this always strikes me as a win:win discussion. In some cases you can improve animal welfare, reduce emissions and increase profitability at the same time."

This is implicit in ForFarmers own sustainability approach: 'Going Circular', which focusses on three themes – feed resources; feed production and feed solutions.

But the whole ESG topic is still very much in the competitive domain and in this new age enlightenment, sustainability is a risk if not acted upon - so what risks is the feed industry sitting on?

Carbon is the big one, says Major.

"It is important to note that when you calculate the carbon footprint of one tonne of compound feed delivered to a farm, a very high proportion - it can be over 90 percent - of the impact comes from the feed materials we source." (Scope 3 emissions - the result of activities from assets not owned or controlled by the reporting organisation, but that which indirectly impacts in its value chain.)

"So, there is a real focus on the upstream supply chain.

"This also applies to issues such as deforestation, human rights and biodiversity. I'd anticipate increasing interest in the Social and Governance elements of ESG."

Along the road

Certainly, the feed industry is already a long way down the road in establishing its own common standards. There are now harmonised methodologies, definitions and datasets so that both B2B and B2C customers and consumers have confidence in the information they are provided on ESG issues.

For example, the industry has established the Global Feed Institute (GLFI), an initiative started by the European, American and international Feed Federations, which Major chairs, whose mission it is to publish a reference database of emissions for the most commonly used feed materials.

The not-for-profit GFLI, set to become the global reference used by everyone in the feed and food supply chain as well as policymakers, is also freely available in various formats for anyone to download.

Feed production - inherently circular

The feed industry is also inherently circular - it uses a large proportion of by-products from primary industries, but innovation remains crucial to increasing circularity.

There are exciting carbon capture technologies that may produce feed materials as a by-product; natural nutrition supplements and compounds, such as tannins and seaweed may well provide the means to reduce methane produced by ruminants and there are pilot schemes running which remove ammonia from livestock buildings.

Single-cell proteins and insect meals have a real chance of replacing soy when they are available at scale, while plant breeding is making sub-tropical soy crops viable at higher latitudes, with potential to reduce shipping and deforestation and where there is also increased demand because soy crops require less fertilizer than maize.

The organic market, which has grown by 5.2 percent this year is further acknowledgement that regenerative soil practices are increasingly seen as essential, rather than just nice to have.

"Innovation has always paved the way in an industry charged with the responsibility to feed an increasing population.

"The feed industry has been proactive in contributing to solving the big challenges. All but the ideologically opposed would agree that the livestock industry is part of the solution to climate change.

"All the routes to net-zero that I've seen include the role of carbon sequestration and much of that involves land that is farmed, often permanent grassland," says Major.

But vitally, the motivation seems to have finally arrived for clear-headed systemic change in the feed industry.

It certainly seems, at last, that societal need and business opportunity are coming together to transform the way companies craft their strategy, drive performance, to report ESG metrics to financial stakeholders, with a new agenda for the betterment of our fragile planet.

There's a lot riding on the ability of the feed industry to respond to the challenges posed by global warming and a need to operate sustainably, with no room for complacency, but there are genuine reasons to be optimistic about milling in our post-pandemic world.

While consumers may not always be best informed to choose the most sustainable products, they certainly know when to push industry to change. The overhaul has begun and one our industry will benefit from in many ways.

What's more, new sustainability metrics may just be the best thing that's happened to our diets in a generation - just don't expect food to get any cheaper.

Asbjorn Borsting

Nick Major