ISSUE 4 / FALL 2023

EUILDING A BETTER WORLD TOGETHER

THE POWER OF PARTNERSHIP

HOW SOFIDEL AND SUZANO ARE PROTECTING BIODIVERSITY IN THE AMAZON, SUPPORTING LOCAL COMMUNITIES, AND DEMONSTRATING THE VALUE OF COLLABORATION

FEATURING INSIGHT FROM:

- KPMG
- OXFAM
- UN GLOBAL COMPACT
- THE WOODLAND TRUST



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This edition of *Future* is packed full of case studies and insight on the topics of sustainability and environmental, social, and corporate governance (ESG). These are issues that Sofidel and its suppliers take incredibly seriously. In fact, they inform every aspect of how we operate. Within these pages there are some great examples of that, including an overview of how we have adopted Lean Production methods and practices into our tissue production process.

You can also hear from organizations such as WWF, KPMG Italy, United Nations Global Compact, and the Woodland Trust addressing how they are tackling sustainability and enabling a nature-positive future. Plus a story on an exciting partnership Sofidel has launched with its partner Suzano in the Amazon.

Enjoy the read. And here's to a bright Future.

ANDREA PIAZZOLLA CHIEF PURCHASING OFFICER, SOFIDEL GROUP

A NATURE-POSITIVE FUTURE

WWF LEADS CALLS FOR A NATURE-POSITIVE WORLD BY 2030

The earth's biodiversity is declining at an alarming rate, according to WWF's latest Living Planet Report. Marco Galaverni, program and ogsis director at WWF Italy, discusses the report findings and what we, as a society, can do to address them



Marco Galaverni is program and oasis director at WWF Italy



he global goal of net zero by 2050 is much discussed and broadly accepted, but WWF – the world's leading conservation organization, with which Sofidel has collaborated for 15 years - would like to draw attention to another goal: nature positive by 2030.

'Nature positive' means not just halting but reversing biodiversity loss. As WWF's Living Planet Report explains, biodiversity loss and climate change are not separate crises but two sides of the same coin. We cannot solve one and not the other

PLUMMETING WILDLIFE POPULATIONS

Outlining the scale of the problem are some startling headline figures. WWF's Living Planet Index, which tracks the health of nature over almost 50 years, shows that global wildlife populations have plummeted by an average of 69% between 1970 and 2018. The greatest regional decline was in Central and South America, with a staggering 94% decline in abundance, while freshwater species saw the and sea use, increased demand for energy – all greatest overall global decline, at 83%.

Galaverni, program and oasis director at WWF Italy. "It means that we're literally losing millions biodiversity on Earth."

aren't only terrible for their own sake; nature loss has ramifications that put every species at risk, including humans. Its effects will make it impossible to achieve the UN's Sustainable Development Goals – in particular good health, zero poverty, and food and water security.

"Biodiversity is the very basis of our own societies and economies," says Galaverni. "Think about the fertile soils that we need to produce our own food... think about fabrics. Most of the things we base our economies upon are based on nature, so we really have to care for it, unless we want to impede the sustainability of our societies."



SYSTEM-WIDE TRANSFORMATION

So what can be done? The main causes of biodiversity loss are pollution, changes in land also contributing to climate change or indeed "That's something incredible," says Marco caused by it. Hence the opportunity to tackle both at once. We must understand, says Galaverni, how "our choices about consumption and of individuals from very important species production will affect our future here on planet in a few decades... a significant portion of Earth." But if the necessary choices are going to be made on a large enough scale to have an As the report makes clear, these numbers impact, what is needed is "real transformative change in the whole system in which we produce and consume goods and natural resources."

The report details the many transformations that need to take place: the challenging of routine values and practices; decarbonization in all sectors; the mainstreaming of biodiversity impacts in trade policy; the move to an economy that values well-being – the list goes on.

It's a big challenge, and the solution proposed will require buy-in across the globe. Is Galaverni optimistic that it can succeed? "Absolutely," he says. "This is something exciting. And everyone – institutions, individuals, companies – can make a difference."



VIDEO Scan the QR code to watch the video-interview

"BIODIVERSITY IS THE VERY BASIS OF OUR OWN SOCIETIES AND ECONOMIES... MOST OF THE THINGS WE BASE OUR ECONOMIES **UPON ARE BASED ON NATURE. WE** HAVE TO CARE FOR IT, UNLESS WE WANT TO **IMPEDE THE** SUSTAINABILITY **OF OUR SOCIETIES"**

FURTHER DETAILS: Download the full report:

livingplanet.panda.org/

THE MULTI-**STAKEHOLDER APPROACH TO ESG REPORTING**

PierMario Barzaghi, partner and head of sustainability services for KPMG Italy, tells Future how ESG reporting, with an eye for the concerns of all stakeholders, is integral to good enterprise risk management

s KPMG's partner responsible for climate change and sustainability services in Italy, as well as a member of the Technical Expert Group for the elaboration of European non-financial reporting standards, PierMario Barzaghi is an expert in sustainability and integrated reporting. With new sustainability reporting standards set to be introduced in Europe and existing regulations extended, he discusses how ESG (Environmental, Social and Governance) reporting is responding to increased regulatory demands and growing consumer and public pressure.

What are the defining social, ethical and environmental factors impacting on the drafting of social reports and non-financial reporting currently?

PierMario Barzaghi: The main areas of focus on ESG issues and which are subject to reporting depend on many factors, in particular the sector of activity and the business model. At the moment there is a tendency to focus on environmental aspects, with climate change being the most topical issue, due to both the EU green taxonomy and the sensitivity of stakeholders. Driven by regulations coming from the EU, however, we will soon see a focus on

other environmental issues such as water use, waste, biodiversity, and reuse of raw materials.

Soon, the introduction of other European regulations such as CS3D [the Corporate Sustainability Due Diligence Directive], and the extension of the EU taxonomy to social aspects, will turn the spotlight on the corporate value chain, working conditions, wages, gender diversity, etc. Governance, although underestimated, is already addressed by listed companies thanks to codes of reference and regulations governing aspects such as anticorruption and gender diversity on boards.

What is driving those factors?

PierMario Barzaghi: In the end it took legislation in 2016 for sustainability issues to become a priority (Legislative Decree 254/16), albeit limited mainly to large, listed companies. Even now, the regulations applicable to the financial world (SFRD, EU taxonomy, climate risk EBA) are a decisive guiding factor, even if consumer and public pressure is becoming increasingly important. The real challenge now is to transform regulatory compliance into a corporate strategy integrated with business development plans.

How is ESG risk reporting evolving for the better? What have been the

biggest gearshifts in how reporting is evolving?

PierMario Barzaghi: The proper mapping of ESG risks and their integrated management with all corporate risks in an enterprise risk management process is crucial for the achievement of corporate economic and financial objectives. It is therefore necessary to reconsider business processes and to review internal responsibilities. Hence the need to extend internal competences on sustainability issues to all corporate functions, without exception. We are facing a revolution that must take into account the legitimate expectations of all stakeholders, opening up towards the concept of stakeholder capitalism.

How do you think the evolution of the guidelines of Global Reporting Initiative (GRI) and the definition of new guidelines at European level for the certification of sustainability reports are likely to be received by the corporate community?

PierMario Barzaghi: It is imperative that there is convergence between all existing standards, in particular GRI, EFRAG/ESRS [the European Financial Reporting Advisory Group/the European Sustainability Reporting Standards] and IFRS/ISSB [the International

Financial Reporting Standard/the International Sustainability Standards Board]. This is necessary to facilitate reporting and avoid interpretative confusion on the part of companies.

The EFRAG standards, which are still in consultation and will be published by June 2023, have aligned themselves in an important way with the other standards, distinguishing themselves by some peculiarities such as the double materiality and the extended reporting scope to the value chain.

Based on a multi-stakeholder approach, these standards aim to cover a broad spectrum of topics and, in order to facilitate the comparability of companies' sustainability reporting, require a significant amount of qualitative and quantitative information that is sometimes difficult to obtain. For this reason, criticism or, rather, concern on the part of companies was immediate.

How does an accurate and measurable sustainability statement give an organization a competitive advantage and reflect positively on them?

PierMario Barzaghi: Embarking on a path of sustainability by defining a clear strategy of sustainable development, [and] good risk management thanks to a governance attentive to ESG issues such as the identification

of decarbonization targets that are reported in transparent and reliable reporting, consolidates the relationship of trust with internal and external stakeholders, limiting reputational risks. It allows us to seize market opportunities, innovate with new products, and enhance the skills of human capital, which represent new competitive factors.

What does the future look like for ESG reporting? How will it continue to improve and, ultimately, help businesses?

PierMario Barzaghi: It will be important to flank the sustainability statement - which must, by law, be included in the consolidated financial statements – with ESG managerial reporting in order to monitor whether sustainability objectives have been met and, if necessary, to redirect actions. It is important to integrate the company's economic and financial objectives with sustainability objectives, which must be quantitative and detailed and linked to the company's activities. Think of the need to innovate new products that are more sustainable, new raw materials for reuse, greater energy efficiency, new logistics, new packaging. Ultimately, companies must think of sustainability not as a foreign body but as a core business, otherwise they could have serious problems with business continuity.



SPOTLIGHT

"THE PROPER MAPPING OF ESG RISKS AND THEIR INTEGRATED MANAGEMENT WITH ALL CORPORATE RISKS **IN AN ENTERPRISE** RISK MANAGEMENT **PROCESS IS CRUCIAL FOR THE** ACHIEVEMENT OF CORPORATE ECONOMIC AND FINANCIAL **OBJECTIVES**"



PierMario Barzaghi, partner and head of sustainability services at KPMG Italy

FURTHER DETAILS: For more information on EFRAG's work on sustainability reporting standards, visit efrag.org

WOOD, BIOMASS AND HOW TRANSPARENCY IN COLLABORATION CAN LEAD TO A GREENER FUTURE

Sapin's partnership with Sofidel places them as equal parts supplier and consultant in the bid to further boost biomass and the sustainable sourcing of raw materials

ighty oaks grow from little acorns', so the old adage goes. And now more than ever, organizations' global responsibility is to ensure that this cycle continues. For manufacturers such as Sofidel who are aiming to ensure they are driving sustainability as effectively as possible, this could also mean calling in the experts.

Enter Sapin. Since 1986, the Belgiumbased company Sapin ('sapin' = spruce) has been purchasing and supplying wood for paper mills, sawmills and pulp mills. The aim is to extract maximum value from the wood, taking the biggest pieces for sawlogs, then paper, panels, biomass and pellets. Minimal wastage and sourced responsibly.

"Wood is not a box, it's something in nature," says Fabrice Mergeai, managing director at Sapin. "Sometimes a windblow; sometimes there's a disease in the forest. We understand these factors and we work with foresters. We're a small-team company but we do a lot and we are active every day locally and all over Europe."

It may be small, but its roots stretch far and wide across Europe. The past decade has seen it brought under the umbrella of Sappi Group – a leading global provider of everyday materials made from woodfibre-based renewable resources – and its

n reach has expanded to Iberia, the UK, e Scandinavia and the Baltics.

FROM ROOT TO BRANCH

Since 2014, Sapin has been in active collaboration with Sofidel. Two companies with sustainability and sustainable development at the top of their respective agendas. And when working together, these values touch operations from top to bottom.

"Sustainability is nothing new for us – it has always been on our minds," explains Mergeai. "We are not there just as a supplier of goods, we are there firstly as a highly knowledgeable company to support businesses in their projects, to give advice, to make business plans for sourcing." And sourcing is, naturally, where it all begins. "Suppliers are even more of our focus than customers," Mergeai adds. "And we regulate everything."

Sapin was the first Belgian company to attain PEFCTM (Programme for the Endorsement of Forest Certification). It also holds DFC (Deforestation and Conversion Free) and CoC (Chain of Custody) certification – all with the goal of contributing to the sustainable and low-carbon future set out in the Paris Agreement on climate change (2015). Not to mention its involvement with the shareholders in 80 ongoing decarbonization projects across Europe and a continued quest to find new ways of reducing CO2 output. For example, a recent area of interest is research into the viability of using electric trucks for its road freight.

Highly regulated and with a broad scope, true change can only be attained through collaboration. Sapin's relationship with Sofidel acts as practically a mutual consultancy – a transfer of knowledge between supplier and manufacturer in how to better source raw materials in an effort to reduce the impact on natural capital and protect the planet.



Fabrice Mergeai, managing director, Sapin





Next on the roadmap for Sapin is to attain SBP (Sustainable Biomass Program) certification. The certification is not yet obligatory, but Sapin recognizes its increasing importance as biomass gains social, economic and political prominence.

CRITICAL BIOMASS

Biomass is a renewable energy source generated by burning wood and other organic matter. According to the U.S. Energy Information Administration (EIA), it was the largest source of total U.S. energy consumption until the mid-1880s, when the use of fossil fuels – coal, petroleum and natural gas – took over.

Now, as an ever-replenishing resource, it forms a vital cog in the move away from

those fossil fuels in line with Goal 7 of the United Nation (UN) Sustainable Development Goals (SDGs). And as the energy crisis struck in 2022, biomass became a hot-topic alternative energy solution among European manufacturers.

Sapin is heavily involved in supporting the production of biomass energy. For example, Sapin is the exclusive biomass supplier at Sofidel's Frouard tissue paper production plant outside Nancy, France.

But it's not a simple one-size-fits-all solution. "We've seen companies who just want to have a biomass boiler but they have no knowledge about wood, about forests," says Mergeai. "We bring this knowledge and information. If you want sustainability, you also have to source green."







Formed in 1986, Sapin was the first Belgian company to attain PEFC[™]

A GREENER FUTURE

For Sapin and Sofidel, collaboration for a cleaner, greener, more sustainable future in manufacturing is built on transparency. "The collaboration is quite unique, I think," says Mergeai. "Sapin is like a wood department within Sofidel, but external. We give advice to the French mill but also to the head office."

"It's really transparent – even financially transparent. That's how you build a long-term partnership," he adds. Regular discussions about the market, possible improvements, future ventures and related regulation have helped align the two companies' visions to reduce the environmental impact of manufacturing.

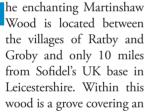
"For me, I've seen that Sofidel is really concerned with what's happening globally," concludes Mergeai. "You have companies with concerns and companies taking actions. Sofidel takes actions."

> FURTHER DETAILS: For more information on Sapin, scan the QR code



RESTORING AND PRESERVING BRITISH WOODLAND

In 2023 Sofidel and the Woodland Trust are celebrating 10 years of partnership; helping create, protect and restore precious woodland. Karl Mitchell of the Woodland Trust and Luca Lolli of Sofidel discuss the long-term virtues of this joint effort while exploring Martinshaw Wood which has been in the care of the Woodland Trust for 40 years



acre, dedicated to Sofidel as a thank you from the Woodland Trust. It is standing testament to their decade of support and provides a green space for local communities to enjoy. Since 1986, the Woodland Trust has focused on the regeneration of this 103-acre ancient woodland, which was referenced in The Domesday Book.

In the early 20th century, the indigenous trees in the forest were replaced with timber-producing conifers. Since 1986, when the Woodland Trust purchased the site, the conservation efforts have been focused on the commercial removal of regenerative conifers alongside the regrowth of native trees, thus naturally thinning the tree canopy and allowing flora and fauna to flourish on the ground below. "Restoring the forest here in Martinshaw is a gradual process. This is not just about tree planting," says site manager David Logan of the Woodland Trust. "The project will take another 40 years to finish, but these ancient woodlands are preserving our history."

Sofidel has contributed £1m of fund-

"RESTORING THE FOREST HERE IN MARTINSHAW **IS A GRADUAL PROCESS. THIS IS NOT JUST ABOUT TREE PLANTING**"

ing and aided the planting of a quarter of a million native trees across the UK during the past decade. In 10 years, the relationship has grown from Sofidel's support for the Woodland Trust's free tree packs for schools and community groups in 2013 through sales of its Nicky brand toilet tissue and kitchen towel; support for the MOREwoods scheme - which helps farmers and landowners integrate trees in their landscapes for the benefit of nature-positive farming; support for the Emergency Tree Fund - which delivers trees right to the heart of urban communities creating green spaces where they are most in need; to its 2023 commitment to champion the protection of UK woodland at a time of crisis for UK woods and trees.

Karl Mitchell, Woodland Trust Director of Fundraising says that, not only has the past 10 years of support from Sofidel been "really positive", but it has also been a "long-term cause" that has enabled the Woodland trust to "plan for the future."

The rewards from the partnership between Sofidel and the Woodland Trust are many. For Sofidel, the collaboration is not only helping them to attain their ESG targets, but also helping to preserve woodland across the UK. As Luca Lolli, Line of Business Director – Private label at Sofidel states: "We share the same values and goals as the Woodland Trust". For Lolli, "sustainability is mandatory," a statement backed up by Sofidel's commitment to champion the protection of UK woodland. The 10-year partnership with the Woodland Trust has formed just one integral part of





Martinshaw Wood is now home to 39 species of bird

Sofidel's journey to involve consumers and suppliers in ethical consumption.

THE BIODIVERSITY BI-PRODUCT

Another major beneficiary has been the local wildlife - and the local community who get to admire it. For example, thanks to the restoration undertaken by the Woodland Trust, Martinshaw Wood is now home to 39 species of bird, 270 species of moth and a variety of other creatures including a host of rare and interesting insects: bees, butterflies, hoverflies, and damselflies. This biodiversity is a bi-product of the progress made to replace conifers with indigenous trees, shifting focus from the economic to the environmental. Mitchell says that "Sofidel's continued





SUCCESS STORIES





Left: Karl Mitchell of the Woodland Trust and Luca Lolli of Sofidel

commitment" means his team "can focus on protecting our most vulnerable woodland and improving tree equity - meaning keeping woods open and free to access and ensuring that everyone has access to nature-rich green space which can be reached within 10 minutes of where they live, whether on foot or by wheelchair". He emphasises how the benefit of protecting woodland is a "way of helping mitigate the nature crisis, the climate crisis, and the recent health crisis, Covid-19, by safeguarding these habitats. By providing free access to people, you're helping society in terms of our physical and mental well-being. And then the woodland itself is the most biodiverse, terrestrial habitat we have in the country as well. It's crucial that we value these green lungs of the planet, because they are so rich for nature, and for us."

Sofidel too have directly given back to the local community: more than 450 employees of 30 nationalities across all ages are employed in its Leicester business (including offices and two production sites in Rothley and Hamilton) and additionally it provides work placements to those carrying out vocational T-Levels training in local sixth form colleges.

However, the good work is never done. Britain is only 13% 'wooded' compared to the European average of 37%. In



the Woodland Trust's report Trees and Woods at the Heart of Nature Recovery in England, published in June 2023, it was revealed that only 7% of Britain's woodland is in good ecological condition, while woodland birds and butterflies are in steep decline.

All the more reason then, that partnerships such as those between Sofidel and the Woodland Trust are proving to be so crucial. Sofidel has confirmed its "continued commitment to protect UK woodland for the benefit of people and wildlife donating a percentage of sales from its Nicky products to the Woodland Trust."

The past 10 years have proven how organisations can collaborate for the good of the planet with the grove at Martinshaw Wood a symbol of the growing part-

"WE ARE PROUD OF WHAT WE HAVE ACHIEVED IN 10 YEARS WORKING **TOGETHER WITH THE WOODLAND** TRUST"

nership. "We are proud of what we have achieved in 10 years working together with the Woodland Trust," says Lolli. "We are delighted to see how the Woodland Trust protects and restores its woodlands across the UK for the benefit of climate, nature and local communities and are proud of Sofidel's part in supporting their important work."

FURTHER DETAILS:

13%

To learn more about Sofidel's partnership with the Woodland Trust, scan the QR code



Smart Paper

Celebrating 10 years of partnership



Together we have planted over 250,000 trees. Let's continue to create, protect and restore more trees within the UK.







*Nicky is a Sofidel Group brand

TOGETHER WE PLANT THE FUTURE

Solving the problems of one of the world's most important and threatened ecosystems is no easy fix. At a roundtable from Milan, Italy, with appearances from São Paulo and the Amazonian rainforest in Brazil, Sofidel announced an exciting partnership with one of its suppliers Suzano – Together we plant the future. The program has two aims: to help protect biodiversity in the Amazon region and support local communities – also demonstrating the value of collaboration across the supply chain

eading tissue paper producer Sofidel and Suzano, the world's largest producer of hardwood pulp, have joined forces on a three-year pilot project to promote the ecological conservation and

restoration alongside supporting socioeconomic development in the Amazon region in Brazil.

At a roundtable in Milan Italy, to launch the partnership, Andrea Piazzolla, chief purchasing officer at Sofidel said, "Today a company committed to building a sustainable future and create value for all its stakeholders must ensure that its suppliers share the same vision and way of operating. We are pleased to partner with Suzano, one of our biggest suppliers, to make a difference. They share our values, so it was natural to join forces to tackle both social and environmental issues in one of the poorest regions in Brazil."

Speaking at the launch he said the project was one of the most beautiful things he had done in his life, both professionally and personally as it is related to people -1,400 families will be supported

"THEY SHARE OUR VALUES, SO IT WAS NATURAL TO JOIN FORCES TO TACKLE BOTH SOCIAL AND ENVIRONMENTAL ISSUES IN ONE OF THE POOREST REGIONS IN BRAZIL"

by this project. "We had been looking for a common project for some time," he continued. "Suzano proposed the project to us in the Brazilian states of Maranhão and Pará."

The project will fund the creation of a biodiversity corridor in a 2,210 sq km area of high ecological value rainforest, across the border between these states. This will be achieved through a combination of natural habitat restoration and sustainable agroforestry systems – tree planting combined with agriculture on the same piece of land.

Paulo Jose de Souza Chaer Borges, Suzano's managing director EMEA, added: "Businesses can change the word for the better, but we can't do it alone. If we work together, we can magnify our impact. This is why we are excited to partner with one of our biggest customers, Sofidel, to accelerate the promising early



Andrea Piazolla, chief purchasing officer, Sofidel





Above: Paul Jose de Souza Chaer Borges, managing director EMEA, Suzano Right: A map showing the project's location in the Amazon basin







"BUSINESSES CAN CHANGE THE WORLD FOR THE BETTER, BUT WE CAN'T DO IT ALONE. IF WE WORK TOGETHER, WE CAN MAGNIFY OUR IMPACT"



Eric Sawyer, president of the deliberative council, IABS

impact that we have seen in our social and environmental sustainability programs.

A BOLD PROJECT

Sofidel and Suzano have called on the experience of the Brazilian Institute for Development and Sustainability (IABS) to help implement this project in the field. At the launch, its representative Eric Sawyer, president of the deliberative council of IABS, expressed the institute's honor at being included in "this bold project".

"IABS has been involved in projects in favor of local development on a more

"IF WE WANT TO PROTECT THE AMAZON FOREST, MOST OF OUR WORK NEEDS TO BE AIMED AT THE YOUNG PEOPLE. WE NEED TO CREATE OPPORTUNITIES FOR THEM"

equitable basis for 20 years," Sawyer said. "Finding solutions is not simple and we are excited to contribute our experience of creating a significant social and environmental benefit in one of the most threatened areas of forest in Brazil. Rural exodus is one of the main problems. Young people leave for the urban centers to earn money. If we want to protect the Amazon forest, most of our work needs to be aimed at the young people. We need to create opportunities for them."

As part of this project, in fact, structured social initiatives will help lift local communities living alongside the rainforest out of poverty – at the same time as improving their food security and nutritional quality – by scaling sustainable business models, including the cultivation and commercialization of Brazilian native plant species such as açaí berries







Above: Emanuela Evangelista, president, Amazônia Onlus

and babassu coconuts, and increasing agricultural productivity.

SPECIFIC, SUSTAINABLE, AND TAILOR-MADE ACTIONS

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CREDIT:

Emanuela Evangelista a conservation biologist and environmental activist also spoke at the launch. A member of the Species Survival Commission (SSC) of the International Union for Conservation of Nature (IUCN), Evangelista is also president of Amazônia Onlus, an Italian non-profit active to defend the forest and the people of the Amazon, and a trustee of Amazon Charitable Trust. She has lived in a remote area of Amazonia for 20 years. The nearest town, Manaus, is 400km away. She reminded attendees to the roundtable that 47 million people live in this region, so "it is not empty". These inhabitants, she said, are the first defenders of the forest and urban migration leaves the forest defenseless.

"We must have a more sustainable management of the productive areas of the forest. We also have to combat poverty. This is what the Amazon basin needs to protect its future – very specific, tailormade actions and the involvement of every sector of industry. The beauty of the project is it puts together many different players. Government, private companies and local populations are involved. Together is the key word," she said.

"Sofidel inspires Suzano," adds Borges. "I was very impressed since the beginning when I saw the company's consistent approach to sustainability. This project is going to set the stage for bigger projects and doing the right thing on solving the issues in the Amazon region."

Piazzolla concurred: "This is a first step. There are plenty of problems [in the region] but we have to start somewhere," he said. ■

> FURTHER DETAILS: For more information visit: suzano.com.br/en sofidel.com

iabs.org.br/ amazoniabr.org/

BLAZING TRAILS FOR GENDER EQUALITY

Joy Burnford is author of the bestselling book Don't Fix Women: The Practical Path to Gender Equality at Work and founder and CEO of Encompass Equality. She tells Future that true gender parity is not only the moral thing to do, it offers genuine competitive advantage to businesses

> hen it's suggested to loy Burnford, author the bestseller Don't Fix Women: The Practical Path to Gender Equality at Work and founder and CEO of Encompass Equality, that she is something of a blazer of trails for her tireless support of equality and diversity in employment, her first response is to laugh. "I love being called a trailblazer. It's amazing," she chuckles. But the sad truth is the trail still has a long way to go before women receive equality in the workplace, globally. "We're still 151 years away from gender parity, according to the World Economic Forum," she says quoting the WEF's 2022 Gender Gap Report estimate. "Although it was 268 years in the previous year, so we are making strides. But [equality won't be achieved] in mine or my children's lifetime. It's still a long way off. It's still very much a man's world."

The reason for that slow rate of change is that the world of business was "designed by men, for men," says Burnford. "This

isn't anybody's fault. We were just not set up to cater for some of the differences with more women in the workplace." In the UK for example, only seven women are CEOs of FTSE 100 companies, she cites. "In The Gender Bias, Dr Sabrina Cohen-Hatton talks about bias still being everywhere. Out of 100 firefighters, only seven are women. For every 100 engineers, only 14 are women. And for every 100 pilots, less than five are women. So, there's still a massive way to go to get to parity. And yet there's so much data about the competitive advantage for those businesses that get it right. It's not the moral thing to do. It's good financially for organizations, because you get diversity of thought."

And the business advantages are clear. According to McKinsey, true gender equality everywhere would raise global GDP by up to a staggering \$28 trillion "if women participate in the economy identically to men, and three times higher profit margins in companies with a quarter of women on their executive committees," says Burnford. Even seemingly minor elements such



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Joy Burnford,

Encompass Equality

CEO of

"I DO SEE PROGRESS. THERE ARE STILL SOME PEOPLE WHO SAY, 'HAVEN'T WE DONE DIVERSITY YET? WE'VE KIND OF TICKED THAT BOX.' NO, WE HAVEN'T. BUT MANY ORGANIZATIONS ARE TRYING TO DO MORE ABOUT IT"

as how uniforms have been designed for years by manufacturing companies – with men only in mind – can make a massive difference to how women feel valued in the workplace, says Burnford. "I was chatting to John Pettigrew, CEO of National Grid, when I was writing my book and he was talking about how his company's engineers have to climb up poles. The uniforms were all designed with men's bodies in mind. Women are already disadvantaged, because that's just the way things were. Now you've got to unpick all that."

Is the message finally cutting through? "I do see progress," says Burnford. "There are still some people who say, 'Haven't we done diversity yet? We've kind of ticked that box.' No, we haven't. But many organizations are trying to do more about it. The FTSE Women Leaders Review tracks the number of women on boards and in leadership positions in the UK. They started that review in 2011, when there was 12% of women on boards, and there's been a sea-change in the gender balance of British boards on the FTSE 100 since: it's now at 40%. They achieved that target three years early."

CONQUERING THE MOUNTAIN

An even bigger challenge though says Burnford is addressing "the level below" executive boards. "My work is, is around the pipeline of women getting into those senior positions. What I see happening is that there's a clear mountain. You get women and men joining their careers in equal numbers. Then you get halfway up the mountain, when the obstacles start piling on. For women, there's a perfect storm of challenges and they drop off the mountain. The key is about retention. What can organizations do to retain women and make sure they're creating a workplace that's suitable for everybody."

There are advances being made to conquer the challenging ascent towards gender parity though, says Burnford. "There are some things that are fantastic for gender equality, such as job sharing. For women coming back to work after maternity leave, rather than doing a part-time job, they can work for, say, three days a week, leaving two days off to focus on their kids. Some organizations are saying, 'Well, that's all very well and good, but it won't work for us.' Yet, we know it works for medical consultants, dealing with life and death situations. Sometimes, we just need to throw the rulebook up."

A situation such as the Covid-19 pandemic demonstrated, says Burnford, that flexibility in working at home was perfectly possible. "It took the pandemic to mandate it to make those things happen. Why wait for another pandemic: let's just be open to change and redesign jobs. Most companies I speak to now have hybrid-working as a norm. There seems to be a massive swell of people saying, 'We want to work in a different way now'. That's a massive shift."

The pandemic also brought with it more empathetic leadership and greater insight into our colleagues' health and well-being, says Burnford. "Companies who are really doing well in this area have leaders who are empathetic and understand people. "THERE'S A CLEAR MOUNTAIN. YOU GET WOMEN AND MEN JOINING THEIR CAREERS IN EQUAL NUMBERS. THEN YOU GET HALFWAY UP THE MOUNTAIN, WHEN THE OBSTACLES START PILING ON. FOR WOMEN, THERE'S A PERFECT STORM OF CHALLENGES AND THEY DROP OFF THE MOUNTAIN. THE KEY IS ABOUT RETENTION"

EMBRACING THE FOUR MS

Burnford categorizes three types of challenges women continue to face in the workplace. Firstly, hormonal challenges, which she calls the four M's of 'monthlies' (or menstruation) 'miscarriage', 'maternity', and 'menopause'. Next is - typically - having to bear the primary responsibility of childcare and elder care for ageing parents, while not neglecting self-care. The third is simply the challenge of 'confidence', a loss of which can often come as a result of some of the other factors. "It could be that you've got menopausal symptoms, and you're having brain fog, and you then lose your confidence because you can't speak up in a meeting, for example. Some women don't have any of these obstacles, and often men can be affected by some of these things, but it's generally women that take the lion's share of that."

To continue the mountaineering metaphor, Denise Wilson, chief executive of the FTSE Women Leaders Review, who wrote the foreword to Burnford's book, talks about women walking up the mountain



with a rucksack on their back. Women have to walk up the mountain alongside their male colleagues, but the rucksack on their back has the rocks of these responsibilities in it. For Burnford, it's "about how you can then take away some of these rocks while they're going up that mountain."

Factors that can help in this instance include the three cultural frameworks of flexibility, ally-ship, and coaching and support. "These things will really help with removing some of these rocks without having to set specific initiatives up to deal with that," says Burnford. "Take menopause, for example: if you have flexible working, somebody can work at home if they've had a bad night's sleep without making a big deal of it. If somebody's had a miscarriage, they may not want to talk about it, but to know support is there, or that they can take a special leave [of absence] is a big thing. An organization needs to have a coaching culture: great at asking questions and great at listening. If you have those two fundamental things, then you're way down the line in terms of understanding people individual needs.

CONFIDENT OF CHANGE

Having started her career in PA Consulting Group Management Consulting before working for the trade body Management Consultancies Association, Burnford co-founded Source Global Research in 2007 before starting Encompass Equality, initially called My Confidence Matters, in 2017. She was compelled to help women find more confidence to speak up at work, she says. She wrote 70+ articles for Forbes on the topic, interviewing "some amazing women" in the process, but she quickly realized that, while many women could be exceptionally confident, if an organization was not set up to embrace and support this, those women would "still end up leaving, because you need the system to be right. You need to get rid of those biases."

Burnford renamed her company Encompass Equality, realizing the work she was doing was about much more than just confidence: it was helping organizations with practical solutions to advancing gender equality and focusing specifically on retention of women. "We run coaching and leadership develop-



Joy Burnford's bestseller, Don't Fix Women ment programs, ally-ship workshops, and one-to-one and group coaching.

So, is she positive for a future where worldwide gender equality is no longer so extraordinarily out of step? "I really hope so. I've got two children. I hope their future has no barriers. By making small changes, we can create little ripples that will then make some big waves happen. But here are some massive societal things at play here that need to change. In the West, we are making progress, but there are places around the world that are just so far away from making the change happen. But we've got to start somewhere. And the younger generation are much more open to this."

With that generation, and the extraordinary work of Burnford and her team, those trails will continue to be blazed, for the better of all. ■

> FURTHER DETAILS: For more information visit encompassequality.com

'LEAN AND GREEN': SOFIDEL'S GENETIC CODE FOR PRODUCTION

How 'less is more' is simplifying the production process, boosting sustainability and encouraging fully transferable best practice across the tissue paper manufacturing industry and beyond

ith internationalization now an established part of many manufacturers' strategic thinking, defining and implementing a corporate philosophy and experience for production is a must. Enter, Lean Production. It's a concept familiar to many but utilized by fewer – a simple-sounding case of 'reducing waste to the point of eliminating it, aiming at total quality'. The industrial philosophy is inspired by the 'Toyota Production System' and aims to rethink company space, minimize waste and inefficiencies and even eliminate them.

"Year after year, plant after plant, we have built our pillars and adopted – as well as adapted – the Lean Production method and practices in our tissue production process," says Massimiliano Vannucchi, chief operating officer at Sofidel, the multinational producer of tissue paper for hygienic and domestic use. "The challenge was to

structure and optimize the way we were already working with the goal of boosting the cultural growth of all company personnel."

LESS IS MORE

Hand in hand with Lean Production is the idea of 'less is more' – or rather, doing more with less. Doing more in terms of processes, products, services and values to create less in terms of negative social and environmental impact.

For global organizations such as the Sofidel Group, the stakes of wholesale change in production are high. "We have worked hard on this in seventeen plants across nine countries and 130 converting lines," continues Vannucchi.

Sofidel's approach was to define and create a challenging and ambitious new corporate asset – the Sofidel Manufacturing System (SMS). The program connected all parts of the operation with the involvement and contribution of everyone – from the







"THE METHODS OF THE SMS AIM TO ATTACK ANY FORM OF WASTE, LOSSES AND **INEFFICIENCIES AND SEARCH FOR ACTIVITIES** THAT CREATE VALUE, CONSOLIDATING **COMPLIANCE WITH DEFINED STANDARDS** AND REINFORCING THE CULTURE OF CONTINUOUS **IMPROVEMENT THROUGH CONSTANT** TRAINING, EVERY DAY, **IN EVERY PLANT**"

individual plant operator to maintenance technicians and production experts, to the company's management to lay out the new objectives and standards.

"The methods of the SMS aim to attack any form of waste, losses and inefficiencies and search for activities that create value, consolidating compliance with defined standards and reinforcing the culture of continuous improvement through constant training, every day, in every plant," says Francesco Sebastiani, Sofidel converting operating coordination director.

In other words, businesses looking to progress towards best practices in sustainability require an ever-evolving approach and feed-in from all links in the chain.

CONTINUOUS IMPROVEMENT AND AN ATTACK ON WASTE

For organizations of any size, a complete cultural reset is likely to be out of the question. Instead, Lean Production builds on the idea of *kaizen*, the Japanese word meaning 'change for the better' – bringing in incremental changes to a system that boost productivity and eliminate waste.

Each business has its own challenges in terms of defining the areas on which to focus. But rather than the overwhelming task of overseeing an entire organization, the key lies in identifying small wins in individual operations.

Tools such as Basic Cleaning and Inspection (BC&I) and the 5S methodology of organizing your workspace (Sort, Straighten, Shine, Standardize, Sustain) are there to provide the backbone for any changes. Meanwhile for manufacturing, techniques such as Autonomous Maintenance (AM) for the prevention of micro-stoppages linked to the failure to maintain the ideal working conditions of machinery - and Professional Maintenance (PM), which aims to reduce breakdown losses to zero by identifying the causes that generate them and removing them at their root, as well as regular Flash Meetings between production and maintenance staff can hone in on potential issues such as losses or wastage before they happen.

For Sofidel, all this and more has been included and distributed in 25 how-to manuals, created across 10 years, for the implementation of the various methods,





Top: Massimiliano Vannucchi. Bottom: Francesco Sebastiani



and has been translated in six languages for use in their European plants. This includes over 300 production active methods and more than 2,000 people trained. Moreover, this valuable information has further been summarized in three guidebooks, tailored to plant operators, supervisors and managers, to spread Sofidel's production philosophy to all people involved in operations.

As Sebastiani puts it, "to make our production genetic code easily accessible and usable to all. A way of making the Sofidel Manufacturing System even more of a living part of our company. An instrument capable of creating value and distinctiveness. An extra guarantee for everyone to give their contribution to building a positive future."

Collaboration within the company may require some external help too. At Sofidel, they've brought in the expertise of Bonfiglioli Consulting – an international business consulting company with a specific focus on operations. With their assistance, says Vannucchi, "we have been able to add a brick each time in creating our Sofidel Manufacturing System. This is how the Sofidel Manufacturing System was born and has evolved, characterized by identical activities, indicators and reference standards in every plant of the Group."

"We wanted to introduce new tools for analyzing and attacking losses, while at the same time trying to enhance the enormous experience and knowledge of our plant operators, technicians and production experts. The challenge was to structure and optimize the way we were already working – sometimes even encountering some resistance to change – spread company knowledge more effectively than in the past, to make it common to all Group sites, and ensure that it is shared over time," adds Vannucchi.

The drive for greater sustainability in operations is one that touches every industry and every sector. For manufacturing on any scale, that focus is not only limited to more familiar issues such as carbon emissions or supply chain – areas of efficiency and waste reduction also play a vital part.

In a progressive, socially conscious organization, the values of Lean Production are a vital tool for this evolution to continue and accelerate.

After all, less is more.

"WE WANTED TO INTRODUCE NEW TOOLS FOR ANALYZING AND ATTACKING LOSSES, WHILE AT THE SAME TIME TRYING TO ENHANCE THE ENORMOUS EXPERIENCE AND KNOWLEDGE OF OUR PLANT OPERATORS, TECHNICIANS AND PRODUCTION EXPERTS"

> FURTHER DETAILS: For more information, visit sofidel.com

GENDER EQUITY, POVERTY AND CLIMATE JUSTICE – OXFAM'S MISSION TO FIGHT AGAINST INEQUALITIES Women, girls and LGBTQI+ people have their own voices, competencies, and dreams. Nevertheless, they face major barriers to getting those voices heard and gaining access to fundamental rights. **Areta Sobieraj** of Oxfam Italy reminds governments, policymakers, communities and the corporate sector of the importance of listening to the unheard voices

recent talk by Areta Sobieraj, global citizenship education lead at Oxfam Italy, outlined the action her organization is taking to ensure that marginalized voices are heard when it comes to making policy to tackle inequality, poverty, and climate change.

"Promoting transformative changes that allow poverty and inequality to be eradicated in the long term is the founding element of Oxfam's mission," Sobieraj said. Both communities and individuals who experience poverty, injustice and exclusion are at the heart of Oxfam's work, which is also paying particular attention to the most vulnerable groups and creating spaces for their participation in the definition of policies and programs at a local level.

Increasing the focus on the commitment to the community and its local dimension is, in Oxfam's view, also one of the ways to contribute to the effective achievement of the UN's Sustainable Development Goals. "Being treated equally and enjoying the same rights, no matter your sex or gender, is a fundament human right," said Sobieraj. "However, according to last year's World Economic Forum, it will take another 132 years to close the global gender gap." The European Institute for Gender Equality's (EIGA) latest gender parity index paints a similar disheartening picture with only a 0.6 score increase a year. Results have shown that specific groups of people, who tend to be more vulnerable during times of crisis, are most at risk where intersectional gendered inequalities intensify the issue.

"As crises are compounding women's workforce achievements are suffering, as is gender parity," said Sobieraj. "This means that on top of being mistreated because of your gender, you are also discriminated against because of your ethnicity, sexual orientation, race, disability, income, and occupation for example. As a result we now have an even wider gender and racial gap. And, women and girls are the most exposed to the effects of the climate crisis."

SUFFERING THE CONSEQUENCES

Despite bearing very little responsibility for contributing to climate-damaging emissions, women in rural communities in the so-called Global South suffered the greatest consequences. For example, while central America emits only 0.5% of greenhouse gases, women living in Guatemala, Honduras, Nicaragua and El Salvador are increasingly affected by poverty, hunger, and social violence. All these have worsened in recent years, also due to climate change.

"Women's livelihoods are highly vulnerable to the effects of climate change, which is driving many women below the poverty line and worsening food insecurity," Sobieraj reminded us. "In 2020 it was estimated by the World Food Program in America that almost 60% of the people suffering from hunger were women and girls. And since then, the gender gap has only increased."

It is one of Oxfam's core principles that there cannot be economic, climate, environmental and social justice without gender and generational justice. "If policies do not have a gender approach, programs will risk ignoring the root causes of inequality and unwittingly exasperate existing inequalities," said Sobieraj. "Worldwide women make up the majority of those living in poverty. For this reason, improvements in legislation and policies to protect their equal rights are fundamental to ensure a structural change in society and the full protection from violence and discrimination.

The takeaway is that transforming gender and power relations, patriarchal norms – and values that underpin them – through education and campaigning is critical to challenging inequalities. ■



FURTHER DETAILS: For more information, visit oxfam.org

CEO STUDY SOUNDS THE ALARM: **BUSINESSES NEED SUPPORT TO** GET THE GLOBAL SUSTAINABILITY **AGENDA BACK ON TRACK**

CEOs are calling on governments around the world to do more to facilitate progress towards global sustainability goals, according to the latest report by the United Nations Global Compact and Accenture. Future analyzes its key takeaways

or today's CEO, improving their company's sustainability is an intrinsic part of the job. But many business leaders, particularly those of small and medium-sized enterprises (SMEs), say they need help from governments and other companies to implement their sustainability goals.

Launched at the World Economic Forum in January, the 12th United Nations Global Compact-Accenture CEO Study is based on the insights of 2,600 business leaders from 18 industries and 128 countries. The vast majority of them (98%) agree that it is their role to make their business more sustainable, reflecting significant growth in consensus since the 2013 survey, when 83% of CEOs agreed they were accountable for their business's sustainability performance.

The CEO's role has become more outward looking, not focused solely on the performance of the company but also on the way in which it interacts with the environment and the communities it impacts.

At the same time, sustainability is now seen as a business imperative - but also as an opportunity rather than a cost. Where previously there was a distinction, even a perceived conflict, between what was felt to be sustainable from a business perspective and what was environmentally sustainable, the lines between the two have become blurred.

As one CEO was quoted as saying of the drive to enable fossil-free living, "that's not a sustainability strategy; it's a business strategy that is sustainable."

But whereas agreement is widespread that businesses have an important role to play in helping the world meet the United Nations' Sustainable Development Goals (SDGs) by the target date of 2030, 87% of CEOs feel that current levels of instability limit their ability to do that. Today's leaders face "a complex, interlinked world of risks", ranging from geopolitical tensions and rising inflation to the pandemic and the climate crisis. These global challenges have exposed the fragility of globalized systems set up in very different times.

CEOs are overwhelmed by the sheer number of challenges they have to address. Unsurprisingly, perhaps, inflation and price volatility top the list, with only 2% of CEOs saying these were having no impact on their business.

The interconnected impacts of global challenges can be seen most clearly in supply chains, says the report. Globally, CEOs rated the increased cost of raw materials as the biggest impact on their business, followed by supply chain disruptions. Actions they are taking to build resilience in their supply chains including diversifying supply sources; embracing regionalization; and introducing redundancy or back-up capacity. A third of CEOs are also encouraging their suppliers to adopt sustainable behaviors, for example through the use of incentives.

Whereas all of these actions may once have been dismissed on the basis of cost, the disruption of the past few years has moved

GLOBAL RISKS AND CHALLENGES

TODAY'S LEADERS FACE "A COMPLEX, **INTERLINKED WORLD OF RISKS", RANGING FROM GEOPOLITICAL TENSIONS AND RISING INFLATION TO THE PANDEMIC AND THE CLIMATE CRISIS. THESE GLOBAL CHALLENGES HAVE EXPOSED THE FRAGILITY** OF GLOBALIZED SYSTEMS SET UP IN VERY DIFFERENT TIME

The study is based on the insights of 2,600 business leaders



98%

THE VAST MAJORITY OF BUSINESS LEADERS AGREE THAT IT IS THEIR ROLE TO MAKE THEIR BUSINESS MORE SUSTAINABLE

82%

A MAJORITY OF CEOS OF SMES FEEL THAT THEY NEED INCREASED **ACCESS TO FINANCIAL RESOURCES TO BUILD RESILIENCE**

85% OF BUSINESS LEADERS FEEL THEY NEED EDUCATIONAL RESOURCES **ON BUSINESS RESILIENCE**

47%

NEARLY HALF OF THE CEOS SAID BUILDING A RESPONSIBLE SUPPLY CHAIN WAS PART OF A SUSTAINABILITY STRATEGY

92%

A SIGNIFICANT MAJORITY OF CEOS STILL FEEL THAT THE WORLD WILL BE ABLE TO ACHIEVE THE **SDGS BY 2030**

18% VERY FEW OF THE LEADERS SURVEYED SAID BIODIVERSITY WAS A PRIORITY FOR THEM

the focus from a purely efficiency-led model to one that places greater emphasis on resilience and sustainability. Nearly half (47%) of the CEOs surveyed said that building a responsible supply chain was part of their sustainability strategy.

Rather than causing it to be sidelined, these global challenges - particularly climate change, the pandemic and the war in Ukraine - have pushed sustainability to the top of the CEO agenda. "It is not only a climate imperative, but also the foundation for security, growth and resilience," says the report.

SMALLER BUSINESSES AND **DEVELOPING COUNTRIES NEED** EXTRA HELP

However, many SME leaders said they did not have sufficient resources or support to prioritize their commitment to sustainability. "Large corporations have a responsibility to be the first movers to adopt cuttingedge technologies to make it scalable," said one. "They have the advantage in terms of knowledge and organizational capacity and will allow others to follow."

SMEs are also calling on governments to provide education and financing. A majority (82%) of CEOs of SMEs feel that they need increased access to financial resources to build resilience (compared with 72% of the largest companies), while 85% feel they need educational resources on business resilience (compared with 78%). Businesses of all sizes are concerned that net-zero commit-

ments made by governments, for example at the UN Climate Change Conferences, are not being followed up by action. To date, more than 70 countries have pledged to reach net zero emissions, but few have solidified nationally determined contributions that are ambitious enough to keep global warming to the target limit of 1.5°C above pre-industrial levels (according to the Paris Agreement, 2015).

CEOs are calling on policymakers to deliver on this promise and on the COP26 pledge (2021) to double investment in adaptation financing - funding to help safeguard developing countries against the impacts of climate change.

Businesses in the developing world are also more likely to lack access to finance to help them grow a resilient business, with 34% of CEOs considering the lack of financial resources a barrier, compared with just 18% of CEOs in developed countries.

DEMAND FOR A LEVEL PLAYING FIELD

An overriding theme is the need for a level playing field in which every company in every country can play its part in building a truly sustainable future. Policymakers can achieve this, say the CEOs, by establishing sustainability reporting frameworks, standards for transboundary movement, and a global carbon price, for example.

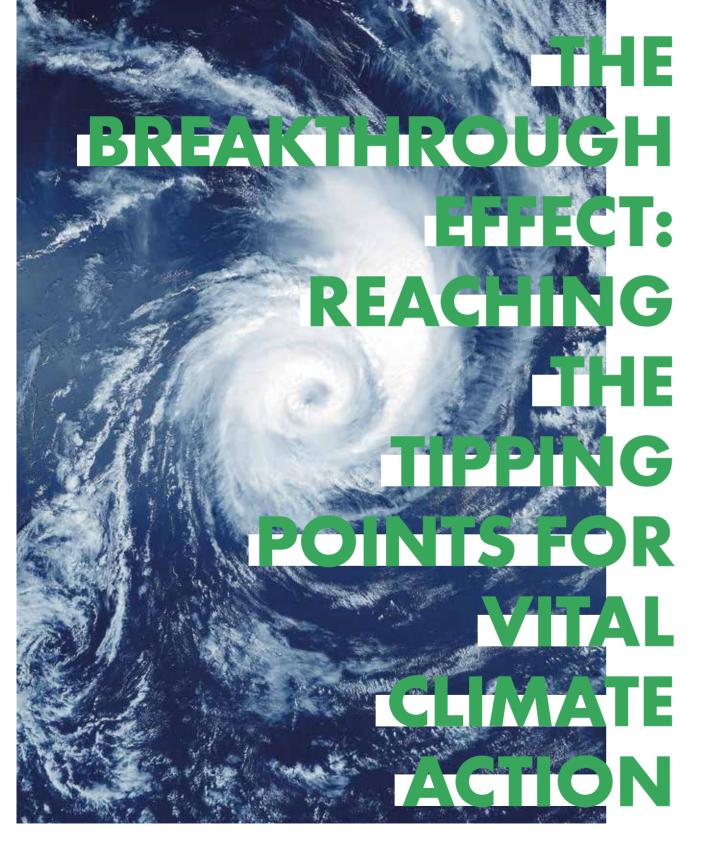
Governments are also being urged to develop a global biodiversity framework that sets ambitious targets to halt biodiver-

sity loss. Despite its importance, biodiversity continues to be overlooked on the CEO agenda. Only 18% of the leaders surveyed said it was a priority for them, making it the lowest ranked of all the sustainability challenges CEOs were addressing. This may be due to uncertainty around the business case for biodiversity, and how to measure its impacts - further government regulation is needed, says the report.

As with many of the building blocks of resilience, the key to making meaningful progress will be collaboration: between the public and private sectors, governing organizations and NGOs; even between competitors. Despite the many complex challenges and soaring levels of uncertainty, a significant majority (92%) of CEOs still feel that the world will be able to achieve the Sustainable Development Goals (SDGs) by 2030. This latest CEO Study makes clear that businesses across the world, and across all sectors, are ready to take the necessary action.



FURTHER DETAILS: Download the 12th United Nations Global Compact-Accenture CEO Study



A new report from Systemiq highlights just how close we are to heavyweight, global advances in the bid for decarbonization



he continuing quest for a Net Zero future in the climate emergency can often be seen as an overwhelming task. But a new report launched at the 2023 World Economic Forum Annual Meeting in Davos shines a light on three fundamental areas for action where major progress

towards a low-carbon future is well within our grasp. The Breakthrough Effect report, authored by the system change company Systemiq, lays out three 'super-leverage points' where low-carbon solutions can break into the mass market and push out the incumbent high-carbon option through affordability, attractiveness and accessibility.

The Breakthrough

Effect was launched at the

2023 World

Economic Forum

BACKGROUND

Systemiq is an advisory firm that aims to create good disruptions by working with corporates, governments and financial institutions to accelerate the transition to a Net Zero economy.

In November 2021, Systemiq published The Paris Effect. The report argued that although emissions since the Paris Agreement had not reduced - in fact, often they had risen - the leading indicators of decarbonization solutions had in fact substantially improved. It found that between 2015 and 2020, solar and wind power, batteries, electric vehicles and sustainable aviation fuels had all become genuinely viable alternatives to fossil-based incumbents.

"With The Paris Effect," says Mark Meldrum, partner at Systemiq, "we said that there is a very feasible scenario where these solutions begin to beat the high-carbon solutions in the next 10 years across all the sectors."

THE DOMINO EFFECT

The Breakthrough Effect report goes one step deeper, asking what needs to happen to affect this change - and how close we are to achieving that. It also makes the case that change in one high-emission sector leads to change in another. A virtuous domino effect.

For example, as solar and wind gets cheaper, the investment case for electrifying







"THE BREAKTHROUGH **EFFECT REPORT LAYS OUT THREE 'SUPER-LEVERAGE POINTS'** WHERE LOW-**CARBON SOLUTIONS CAN BREAK INTO** THE MASS MARKET **AND PUSH OUT** THE INCUMBENT **HIGH-CARBON OPTION THROUGH** AFFORDABILITY, **ATTRACTIVENESS** AND ACCESSIBILITY"

Mark Meldrum, partner at Systemia





BREAKING THROUGH

a well

SOLAR AND WIND POWER, BATTERIES, ELECTRIC VEHICLES AND SUSTAINABLE AVIATION FUELS ARE NOW VIABLE ALTERNATIVES

FERTILIZER IS MADE USING NATURAL GAS, SIMPLY SWITCHING TO GREEN AMMONIA, REQUIRES NO CONVERSION OF EXISTING FERTILIZER PLANTS

INCREASED TAKE-UP OF ALTERNATIVE PROTEINS CAN RELIEVE A SIGNIFICANT AMOUNT OF PRESSURE ON LAND USE FOR BREEDING ANIMALS AND GROWING CROPS TO FEED ANIMALS, REDUCING DEFORESTATION improves. Batteries are used for flexibility in the power grid, but they're also used for electric vehicles.

As Meldrum puts it, "Where could a tipping point in one sector result in a scale up of adoption and cost reduction of these solutions in others?" The Breakthrough Effect highlights three 'super-leverage points' where action should be focused to 'trigger a cascade of tipping points to accelerate the Net Zero transition'.

SUPER-LEVERAGE POINT #1: ZERO-EMISSIONS VEHICLES

The use of electric vehicles is near its tipping point and scaling all the time. Can regulatory action encourage the use of electric cars to make that tipping point happen as quickly as possible?

The report calls for subsidies and zero-emission vehicle (ZEV) mandates to boost production, scale up battery manufacture and bring down battery costs even further. And evidence that these mandates work already exists. The International Council on Clean Transportation (ICCT) has found the requirement of manufacturers to ensure ZEVs account for rising proportions of their car sales to be 'highly effective' in California, China and the Canadian provinces of Quebec and British Columbia.

SUPER-LEVERAGE POINT #2: FERTILIZER PRODUCTION

"We had a hunch about this one and put the numbers together," says Meldrum. "But even we were surprised about how far fertilizer as a sector could take us." Fertilizer is made using ammonia, itself produced from natural gas. However, simply switching to green ammonia, produced from green hydrogen, requires no conversion of existing fertilizer manufacturing plants. Plus, its green premium – the additional cost of choosing a clean technology solution – is one of the smallest in the emerging hydrogen economy.

The tipping point is well within sight. As Meldrum puts it, "We only need to

cover 25% of the fertilizer sector to reach the tipping point. And once we reach that volume, it crashes the price of hydrogen electrolyzers" – increasing the cost viability of zero-emission solutions in other sectors such as steel production and shipping. As with super-leverage point #1, the report calls for mandates on green ammonia use to help drive change from the top.

SUPER-LEVERAGE POINT #3: FOOD AND LAND USE

The land use intensity of breeding animals and growing crops to feed animals is immense. But increased take-up of alternative proteins can relieve a significant amount of this pressure. The report states that if alternative proteins reach 20% market share, this would free up 7-15% of total land currently dedicated to agriculture and reduce carbon emissions from livestock farming.

And the freeing up of this land has positive implications on reducing deforestation too. "We know that deforestation decisions are based on many factors," says Meldrum, "and only one of which is needing more land to feed more people. But that is still part of it." Favoring alternative proteins in public procurement policies, the report argues, can help bring that food and land use tipping point ever closer.

WHAT NEXT?

The report opens with a stark message: "The world is heading towards a series of climatic tipping points that risk causing irreparable damage to our planetary life-support systems." But, it argues, flipping these negative tipping points into positives offers an opportunity to drastically cut global emissions.

"A lot of it is down to the decisions that our governments and corporates make," says Meldrum. "There are actions like the Inflation Reduction Act's clean hydrogen subsidy in the US, the REPowerEU plan, the European Green Deal. These types of policies with sufficient scale and finan-



"THE WORLD IS HEADING TOWARDS A SERIES OF CLIMATIC TIPPING POINTS THAT RISK CAUSING IRREPARABLE DAMAGE... FLIPPING THESE NEGATIVE TIPPING POINTS OFFERS AN OPPORTUNITY TO DRASTICALLY CUT GLOBAL EMISSIONS"

cial incentive give me confidence that we can trigger these tipping points and set off this cascade."

"For policymakers, we should be thinking about paying to create these tipping points and all the benefits of a more competitive low-carbon solution. For stewards of private capital, do we want to be putting money into fossil fuel infrastructure knowing that the sectors could shift very quickly once we reach those tipping points? "It's almost like climate acupuncture – we push a system here to create a wave of outcomes." ■

> FURTHER DETAILS: For more information visit systemiq.earth

PREVENTING THE FLOOD **OF PLASTIC** POLLUTION

Harriet Bosnell is CFO

of City to Sea, a pioneering campaign group that successfully demanded the UK ban of the most polluting singleuse plastic items. She talks to Future about the importance of taking positive action and create behaviorial change

ounded in 2015 by environmental campaigner Natalie Fee, City to Sea is a UK-based organization on a mission to stop plastic pollution. New CEO - or to use her preferred title, 'Sea-EO' - Harriet Bosnell here discusses how much damage plastic is doing to our planet, biodiversity and our own bodies, and why she is as interested in engaging with individuals as with "the levers of power: big business and government" in taking positive action to prevent the flood of plastic pollution.

City to Sea's mission is to prevent more than a million tonnes of plastic from being produced each year in the UK. Why is this such a vital undertaking?

Harriet Bosnell: Our mission is to prevent all plastic pollution at source. The reason it's so vital is because plastic is carbon, which is contributing to climate change significantly. Also, plastic has a huge impact on nature. There's 5.24 billion pieces of plastic in the oceans right now. Every year, more plastic gets produced, and does damage to our planet. Never has there been a more serious time for us to address the plastic pollution problem with organizations that continue to produce plastic.



"WE HAVE LOST 66% **OF BIODIVERSITY IN OUR OCEANS AS OF 2022, AND MICROPLASTICS ARE AFFECTING HUMAN AND ANIMAL HEALTH"**

What are the consequences if we don't address this and arrest this problem?

Harriet Bosnell: The IPCC Intergovernmental Panel for Climate Change (IPCC) warned that the planet will warm up to really unpalatable levels if we don't address it [on 20 March 2023, IPCC scientists issued a 'final warning' on the climate crisis, stressing the planet risks irrevocable damage that only drastic action can avert]. We will continue to harm nature and impact animals and biodiversity directly. We have lost 66% of biodiversity in our oceans as of 2022, and microplastics are affecting human and animal health. We know, through scientific research, that people are breathing in plastic - we 'eat' the equivalent of one credit card worth of plastic every week; microplastics are crossing the bloodstream barrier for women and babies as well. It's a super challenging time for the planet and never has it been more important to address plastic pollution.

City to Sea campaign aims to stop plastic pollution at source. Why is this the most proactive way to tackle this issue?

Harriet Bosnell: Only approximately 9% of plastic has ever been meaningfully recycled [in the UK]. The reason for that is economic; its cost. We can't recycle our way out of this issue. We're facing a flood of plastic every year. It's like mopping up a bathroom when the bath taps are still overflowing. We should only produce plastic when it's absolutely needed for things like medical equipment. Single-use plastic, such as cutlery, period products, cigarette butts and nappies are damaging our environment every year. They're for our convenience, but they're destroying the world we live in.

The organisation has been behind campaigns including Refill, Plastic Free Periods, and Cut the Cutlery, which saw some of the most polluting single-use plastics banned across the UK. Why did these campaigns prove to be successful, but equally, why is there still much work to be done?

Harriet Bosnell: We understand behaviorial change, and we work directly with the public, organizations and brands around create positive behaviorial change. We do a lot of lobbying and engage with the levers of power: big business and government. We believe in strategic change. So, we go after the most polluting single-use items that are hugely damaging to the environment.

But the plastic pollution challenge is also individual and global. We all need to change what we do every day and educate ourselves about the impacts. Changing our day-today behaviors is important and makes a difference.

Why were you excited to join City to Sea this year as its new 'Sea-EO'? Harriet Bosnell: I'm a keen swimmer – I can often be found swimming in the sea in Cornwall and in the rivers where I live in Bristol and Bath. It does take away from the enjoyment when you find yourself swimming alongside nappies and tampons. So, there was a personal interest that engaged me. I'd used City to Sea's amazing Refill app [participating UK cafes, bars, restaurants and other businesses can sign up to the app and put a sticker in their window – helping customers refill bottles with less waste] to refill my own water bottle and I started to connect my desire for enjoying clean rivers with the role City to Sea plays in telling people where they can access a good water source so that they don't need to buy bottled water. I'm super proud to work here.

Why does this cause mean so much to you?

Harriet Bosnell: In terms of overall well-being, anyone who's been out there in nature and spent time with a walk along a beach



City to Sea's new CEO – or to use her preferred title, 'Sea-EO' – Harriet Bosnell

or their local river, understands that there is a massive positive impact on well-being. I want to go to my local park and experience greenery without seeing overflowing bins full of plastic bottles, nappies. I want to be able to enjoy nature.

The role that enjoying a green or blue space plays with mental well-being is well documented. I worked in health and social care for some years and have myself benefited hugely from river and sea swimming and taking my kids into nature. To be able to do that is an absolute privilege, but one that we need to cherish, protect, safeguard and to campaign and fight for. Because otherwise, we are losing it. It's important we do everything that we can and take positive action ourselves to make those individual and global changes.



FURTHER DETAILS: City to Sea is

celebrating World Refill. Download its Refill app and join the 'Refill Revolution'

THE INFLATION REDUCTION ACT: RAMIFICATIONS

The United States' Inflation Reduction Act includes a historic attempt to address the climate crisis by investing in green technology and pledging to cut emissions by a third. *Future* investigates the investment opportunities

n August 2022, President Biden signed into US law the Inflation Reduction Act, hailing it as the most significant action Congress had ever taken on clean energy and climate change.

As well as provisions to reduce drug prices, it includes measures aimed at reducing the deficit by boosting IRS revenue and raising taxes on large corporations. But the main target in its sights is climate change. Its billions of dollars of funding for green energy projects are expected to lower energy costs over time, while incentives will make access to clean technologies more affordable.

Global media collaborative Covering Climate Now held a webinar in March 2023 exploring the Act's impact over the months since it passed into law. Host Mark Hertsgaard of Covering Climate Now explained how the Act took a "carrot, not stick" approach to encouraging investment. "The law authorizes an estimated \$369 billion worth of incentives," he said, "which its backers project could reduce US greenhouse gas emissions by roughly one third over the coming decade."

These incentives range from tax breaks for individuals buying electric cars, to grants and loans for organizations engaged in projects that will help the green energy transition, whether a company manufacturing solar panels or a community group looking to replace a school bus with an electric vehicle.

UPGRADING, REPURPOSING, OR REPLACING INFRASTRUCTURE

Jigar Shah is director of the US Department of Energy's Loan Programs Office, which has \$250bn of funding to allocate towards upgrading, repurposing, or replacing energy infrastructure. "Right now, we're processing 135 active applications, seeking about \$124 billion in loans," he said. "And because it's roughly 50/50 equity debt, that's \$250 billion of projects that have submitted paperwork." Many of these projects may have been a long time in the planning, but Creating renewables technologies also creates new jobs

"THE LAW AUTHORIZES AN ESTIMATED \$369 BILLION WORTH OF INCENTIVES, WHICH ITS BACKERS PROJECT COULD REDUCE GREENHOUSE GAS EMISSIONS BY ROUGHLY ONE THIRD OVER THE COMING DECADE" the Inflation Reduction Act provided a final push to make them viable. Long term, it could bring down the cost of nascent technologies, "[crossing] the bridge to bankability, to a really market-affirming place where you can start to save gigatons of carbon around the world."

Over the course of 10 years, the Act is looking at attracting a staggering \$23 trillion of private sector investment. "It's a big amount of money, but it's actually what we already spend," Shah said, on "[replacing] stuff that breaks." People will simply be replacing old tech with something less harmful to the planet.

In creating these new technologies, of course, companies will also be creating jobs. "Since the Act passed in August, we have seen almost 110,000 clean energy jobs created," said Lori Lodes, executive director and co-founder of non-profit Climate Power. "That's 126 clean energy projects in 34 states," she said, listing 49 new battery manufacturing sites, 22 plans to expand wind and solar manufacturing, and locations in states from Michigan to Texas. "These jobs are happening everywhere. It's really a nationwide clean energy plan that's creating new industries and 'made in America' supply chains in these critical areas."

In line with the president's Justice40 Initiative, a key part of the Act is that 40% of the benefits of these investments go to communities that have been marginalized, overburdened by pollution, and underserved by infrastructure and other basic services referred to as environmental justice communities. Peggy Shepard is co-founder and executive director of WE ACT for Environmental Justice, an organization that works to ensure the participation of such communities in environmental policy. Recently it launched Justice40rward to improve collaboration between officials, municipalities, and those who live in the communities Justice40 was designed to support.

"What we're finding is that most organizations and municipalities were not ready for this incredible opportunity," she said. "These are very small organizations. Many of them do not have a grant writer, have never applied for a federal grant, never applied for a state grant. And so suddenly they have the opportunity to apply for this money but may not have the infrastructure."

INCREASING COMPETITIVENESS

WE ACT is working to counter this by forging links between community groups and officials, spreading awareness of the Act, and encouraging the support of philanthropists.

Outside the US, critics of the Act have labelled it "protectionist". For example, its tax incentives of up to \$7,500 for individuals buying an electric car require the battery to have been manufactured or assembled in North America, and critical minerals within it recycled in North America or extracted or processed in a country that has a free trade agreement with the US. Already this has led to automaker VW pausing plans for a new battery plant in Germany, while Tesla has said it will focus battery production in the US rather than boosting production at its German 'gigafactory'. The EU's response has, in part, been the launch of its Critical Raw Materials Act, which sets targets for recycling, refining and extracting raw materials. As well as helping to increase competitiveness, the regulation is expected to help secure supply chains and reduce reliance on China.

Geopolitical tensions notwithstanding, many across the globe who care about the climate crisis may well welcome the sight of countries vying to outbid each other for climate-friendly technologies. And if the Inflation Reduction Act does allow the US – historically the world's largest polluter – to cut emissions by a third, then it would be a good thing for the world, not just Americans. Organizations like Climate Power and WE ACT will be watching every step of the way. ■



FURTHER DETAILS: For more information, visit the Covering Climate Now website



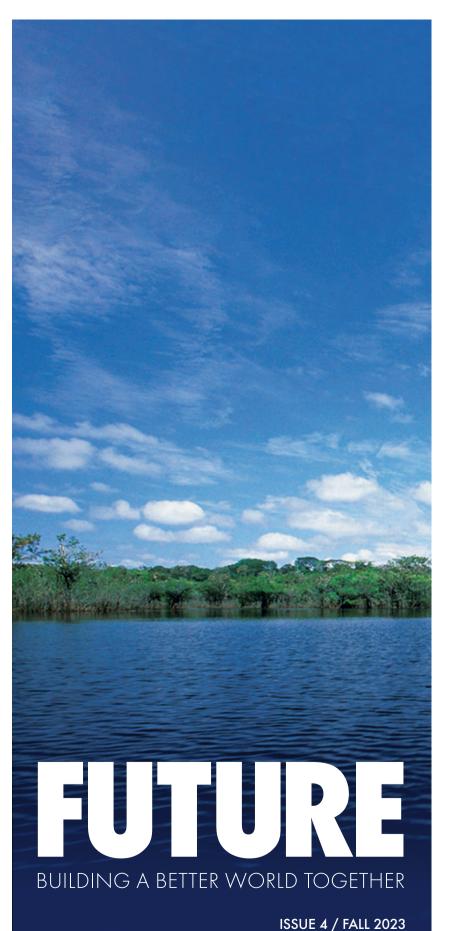
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Future magazine showcases stories that focus on best practice and improvements in social and environmental sustainability.

Produced for Sofidel by: Progressive Content, part of GlobalData Plc info@progressivecontent.com progressivecontent.com

> Front cover: © Sandro Santioli

Printed by: IdeaPrint – Lucca, Italy



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