helixtap

SECURING OUR FUTURE: THE JOURNEY TO SUSTAINABILITY

An analysis on the natural rubber industry

EXECUTIVE SUMMARY

Natural Rubber and Sustainability - the Journey has Begun

There is still a long way to go for the Natural Rubber industry to be considered sustainable across both environmental and labor standards. However, many consumers are now demanding sustainable products, and end-users in the rubber industry, such as Michelin and Bridgestone, are updating their procurement policies accordingly. There is also a corresponding rise in ESG-focused investment, not only due to the increased understanding of the social responsibilities of business, but also due to the inherent risks associated with non-sustainable practices. For example, BlackRock plans to cut companies deriving a quarter or more of revenue from thermal coal.

The industry is looking closely at these questions: Can a supply chain be free from deforestation risk? Can a supply chain be mapped back to the very first mile? Can data that goes back to the suppliers' suppliers be collected? And how can businesses in the rubber industry be supported to achieve net zero-carbon emission goals?

Key industry events:

- Unlike the palm oil sector, the rubber industry does not have an independent certification scheme. Hence, it relies on NPOs such as the Carbon Disclosure Project (CDP). Most of the rubber industry self-reports their environmental impact through the CDP, who then scores these reports for public records. This paper has found a general upward trend of CDP scores from 2018 onwards

- Rubber companies themselves can be assessed. The Zoological Society of London (ZSL) published their first ranking of 15 of the most significant rubber producers, processors and users in 2018. They reviewed a total of 120 indicators across ten broad categories and scored and accumulated them in a scoring system called the Sustainability Policy Transparency Toolkit (SPOTT). In its most recent industry assessment, the average SPOTT score was just 35%, suggesting there is significant room for improvement.

Tracing Supply Chains with Technology

New technologies in traceability are paving the way for a sustainable future across multiple industries. Full traceability is the ultimate goal, perhaps to the extent which allows shoppers to scan a barcode into their phone and find the exact source of a product and its constituent parts. Details could even include a picture of the farmer, the farm on which the produce was grown, and the ESG policies they adhered to.

As notable examples, Unilever has partnered with Big Data company Orbital Insight to create a geo-location technology that simultaneously tracks mobile data with satellite imagery. Helixtap Technologies is digitising the entire natural rubber supply chain, providing an independent, digital marketplace for a more efficient and transparent market.

CONTENTS

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Charles Spencer is a research analyst who covers the global commodities markets and Asian equities; he publishes on Smartkarma, an independent research platform. He previously worked as an Executive Director at Morgan Stanley for over 25 years in New York, London and Singapore. His recent work includes a series of insights focusing on Environmental; Social & Governance (ESG) standards and performance across Morgan Stanley's regional coverage.

INTRODUCTION

On the 4th of November 2016, the Paris Agreement was ratified by 195 countries, with the United States withdrawing from it exactly 3 years later under its Trump administration in 2019 and re-admitting in February 2021 after the election of Joe Biden. The Paris Agreement seeks to mitigate global warming by ensuring that global temperatures do not rise above 2°C per year through each country planning and reporting its emissions. The only non-signatory is the Holy See (Vatican City), however seven states signed but did not ratify the Agreement (Eritrea, Iran, Iraq, Libya, South Sudan, Turkey and Yemen).

Since 2016, the discourse on Corporate Social Responsibility (CSR) has predominantly shifted to new terminology - Environmental, Social and Corporate Governance (ESG) - the three tangible pillars that are interdependent in upholding the nebulous concept of "sustainability". Each of the pillars in and of themselves are entire fields of academic research, hence, this paper will explore sustainability in the rubber industry from the perspective of Corporate Governance, due to the inherently top-down flow of responsibility in the sector's hierarchy.

However, the industry still struggles to answer these key fundamental questions:

- Can a supply chain be free from deforestation risk?
- Can a supply chain be mapped back to the very first mile?
- Can data that goes back to the suppliers' suppliers be collected?

This report reviews the various ESG issues faced by the industry, as well as the recent procurement policy announcements issued by major natural rubber buyers. Finally, this report explores some of the new technology that will likely help pave the way for a more sustainable natural rubber future.

ESG RISKS & IMPACTS

In the last decade, industries like natural rubber have come under pressure to be more environmentally responsible and socially conscious. The pressure is mounting on all sides, including consumers, NGOs, politicians, and investors.

Since the late 1990s, Southeast Asia has grappled with an annual regional haze from illegal fires started to quickly and cheaply clear peatland for new palm oil plantations in Indonesia, specifically Sumatra and Kalimantan. Indonesia's worst haze in the last two decades was in 2015. Investigations by Singapore's National Environment Agency (NEA) traced the fires to four Indonesian companies and took legal action. Under Singapore's Transboundary Haze Pollution Act, the guilty entities can be fined up to $100,000 a day (capped at $2 million) for causing unhealthy haze.

As a result, the guilty companies now suffer from higher exposures to grievous - or even catastrophic - event risk, arising from operating with too little consideration of societal costs. Other recent examples include the Union Carbide gas leak in Bhopal, Vale's dam bursting in Brumadinho, Brazil, and BP's disastrous oil spill in the Gulf of Mexico. These events highlight the risk of ESG shortcomings which create long-term problems, that are at times catastrophic, for these companies.

REVENUE GROWTH

OPERATING MARGINS

REINVESTMENT POTENTIAL

RISKS		
Customers will buy less from companies who cannot comply with ESG commitments	Margins come under pressure due to the costs of ESG cleanup and compliance	Too little regard for ESG increases the risk of grievous or catastrophic events
IMPACT		
Loss of market share and reduced potential for revenue growth	Lower margins over time as past poor ESG practices prove unsustainable	Lenders become leery to lend and/or demand higher borrowing costs

OUTCOME

The value of the industry declines as ESG-negligent companies face reduced revenues and margins, and higher borrowing costs. As these companies increase exposure of their pre-existing vulnerabilities to negative event risks or crises, lenders may balk at lending to them, demanding higher interest rates. Investors will also shy away from investing in ESG-negligent companies, compounding their lack of funding.

SUSTAINABILITY ASSESSMENT - SPOTT

What has proven helpful in other industries, such as palm oil, is a robust checklist and scoring system which ranks industry players according to their ESG reporting and compliance standards. The assessments of the palm oil and timber industries by the Zoological Society of London (ZSL) have been a comprehensive and detailed ranking system. ZSL has recently published their analysis and rankings in the natural rubber sector; and is the first group to do so at the time of this report's publication.

In its recent study, the ZSL assessed, scored and ranked 15 of the most significant natural rubber producers, processors and users. They reviewed a total of 120 indicators across 10 broad categories for public disclosure of policies, operations and commitments to ESG best practice. For example, does a company publish a Sustainability Report and if so, does it include policies on deforestation, land clearing, and respect for human rights?

To gain points in the ranking, a company must make the required information publicly available on its website, annual and sustainability reports, presentations or other public documents; on the websites of its parent company and/or subsidiaries, or on specific third-party platforms. Points are scored and accumulated in a scoring system called the Sustainability Policy Transparency Toolkit (SPOTT), which can ultimately be ranked for each factor.

In its first and most recent rubber industry assessment (2019), the average SPOTT score was just 35%, suggesting that there is significant room for improvement. The ZSL points out that this initial scoring is not too dissimilar to other industries, such as palm oil and timber, when they first started. However, as calls for increased transparency rise from other stakeholders, industry players have shown that they can improve their sustainability practices over time.

ZSL highlights that it is important for downstream companies to not only focus on the sustainability of their own operations, but also support transparency across all their suppliers – including smallholder farmers. Interestingly, the assessment highlights that only four companies provided any information or evidence of how they are currently engaging or assessing smallholders. As such, the burden of best practice policy disclosure and compliance has fallen to the larger players in the rubber industry, as well as their customers and investors. Indeed, one of the challenges ZSL has with their rubber industry assessment is gathering information on the smallholder farmers who produce the bulk of the supply.

SPOTT NATURAL RUBBER RESULTS (NOV 2019)

Add filter(s) | Disclosure types: Organisation Policy Practice | Show overview

Company	Rank	Total score	Change	Disclosure	Supply chain segments	Headquarters	Landbank	Market cap
Sampoerna Agro	1	72%	n/a		Producer	Indonesia	100.0 KHa	$298.6M
Halcyon Agri	2	69.6%	n/a		Producer, processor, trader	Singapore	111.6 KHa	$501.7M
Socfin	3	67%	n/a		Producer, processor	Luxembourg	387.9 KHa	$404.0M
Siat Group	4	57.2%	n/a		Producer, processor	Belgium	222.2 KHa	*Private co.*
Royal Lestari Utama	5	50%	n/a		Producer, processor	Indonesia	88.8 KHa	*Private co.*
Bridgestone	6	47.1%	n/a		Producer, processor, trader	Japan	48.2 KHa	$33,065.6M
▲ Vietnam Rubber Grou...	7	42.7%	n/a		Producer, processor, trader	Vietnam	408.0 KHa	$2,140.5M
Société Internationale de...	8	38.7%	n/a		Producer, processor, trader	France	60.4 KHa	$473.1M
Bakrie Sumatera	9	28.2%	n/a		Producer, processor	Indonesia	19.8 KHa	$16.1M
Kirana Megatara	10	21.5%	n/a		Producer, processor	Indonesia	2.9 KHa	$183.0M
Indofood Agri	11	13.1%	n/a		Producer, processor	Singapore	16.9 KHa	$331.9M
HAGL Group	12	12.1%	n/a		Producer, processor	Vietnam	44.5 KHa	*Private co.*
J.A. WATTIE Tbk.	13	11.3%	n/a		Producer, processor	Indonesia	39.3 KHa	$25.4M
FELCRA Berhad Malaysia	14	9%	n/a		Producer, processor	Malaysia	40.0 KHa	*Private co.*
Groupe Blattner Elwyn	15	0.9%	n/a		Producer, processor	Democratic Republic of the Congo	14.0 KHa	*Private co.*

Source: SPOTT[1]

ESG HIGH PRIORITY FOR GLOBAL INVESTORS

The Climate Action 100+ is a five-year, investor-led initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. It includes five partner organisations: Investor Group on Climate Change and its Asian counterpart, Ceres, Institutional Investors Group on Climate Change, and Principles for Responsible Investment. The 540 investors in the initiative have over US$ 52 trillion in assets under management (AUM). In just two years, 43% of the initiative's focus companies have set a net-zero carbon target. It is clear that asset managers now view sustainability as a key consideration when investing, but why?

Harvard Business Review (HBR) conducted an in-depth analysis in 2019[2] on why institutional investors are actively seeking sustainable investments. HBR highlighted a crucial detail that is often overlooked in ESG discussions, which often rely on virtue signaling – investment firms are too large to hedge against or diversify away from system-level risks, such as the global economy being jeopardized by unsustainable practices. For instance, BlackRock[3], the world's largest fund manager with US$7 trillion in assets, has taken a firm stance on climate change. Chief Executive, Larry Fink, wrote in his annual letter to chief executives that "[c]limate change is different. Even if only a fraction of the projected impacts is realised, this is a much more structural, long-term crisis. Companies, investors, and governments must prepare for a significant reallocation of capital." Thus, BlackRock plans to cut companies deriving a quarter or more of revenue from thermal coal. BlackRock has already invested $90 billion in sustainable assets and plans to increase it by tenfold to US$1 trillion within a decade.

Asset owners are also increasingly demanding sustainable investment options from their managers. Pension funds are particularly conservative as they are "forced to take a long-term view because they have long-term liabilities - … pay out retirements for the next 100 years." (HBR). The Government Pension Fund of Norway comprises of two distinct sovereign wealth funds; one of these funds - the Global fund - is the biggest in the world, managing roughly US$1 trillion and on average owning ~1.5% of every listed company in the world. This fund is managed by an arm of Norway's central bank, Norges Bank Investment Management, with a concerted interest in sustainable investing.

> We monitor our investments and assess sustainability issues as part of our risk management and our investment decisions. We encourage companies to move from words to numbers, so that we can evaluate their efforts and better understand financial risks and opportunities. To perform analyses of this kind, we need governance and sustainability data.

Source: Norges Bank Investment Management[4]

The fund is remarkably transparent in how it incorporates Responsible Investing in its investment strategy, which aims to identify long-term opportunities whilst reducing the fund's exposure to unacceptable risks. Thus, the fund utilises data, perhaps similar to that of the SPOTT assessment, for their own internal investment reviews and considerations.

NEW PROCUREMENT POLICIES – ESG GOALS

The Global Platform for Sustainable Natural Rubber (GPSNR) was formed in 2019 to bring together tyre makers and other rubber buyers with suppliers and NGOs, including the WWF. It seeks to drive the natural rubber industry towards sustainable sourcing by helping to develop tools for the implementation, monitoring and verification of sustainability commitments in the sector. The top three largest tyre manufacturers (Bridgestone, Michelin, Goodyear) are GPSNR members and have recently published procurement policies to mitigate sustainability risks in their supply chains.

Michelin was first to publish its natural rubber sourcing policy in 2016; it aimed to eliminate deforestation from its supply chain over time by increasing supply chain transparency. Michelin has since begun tracing its entire supply chain and advising its natural rubber suppliers to comply with its new policies or risk losing its business.

Subsequently, most major tyre manufacturers have followed their commitment to sourcing sustainable natural rubber. Additionally, several popular car manufacturers, such as General Motors and BMW, have also signalled their commitment to sustainable natural rubber.

ESG PROCUREMENT GOALS: Bridgestone

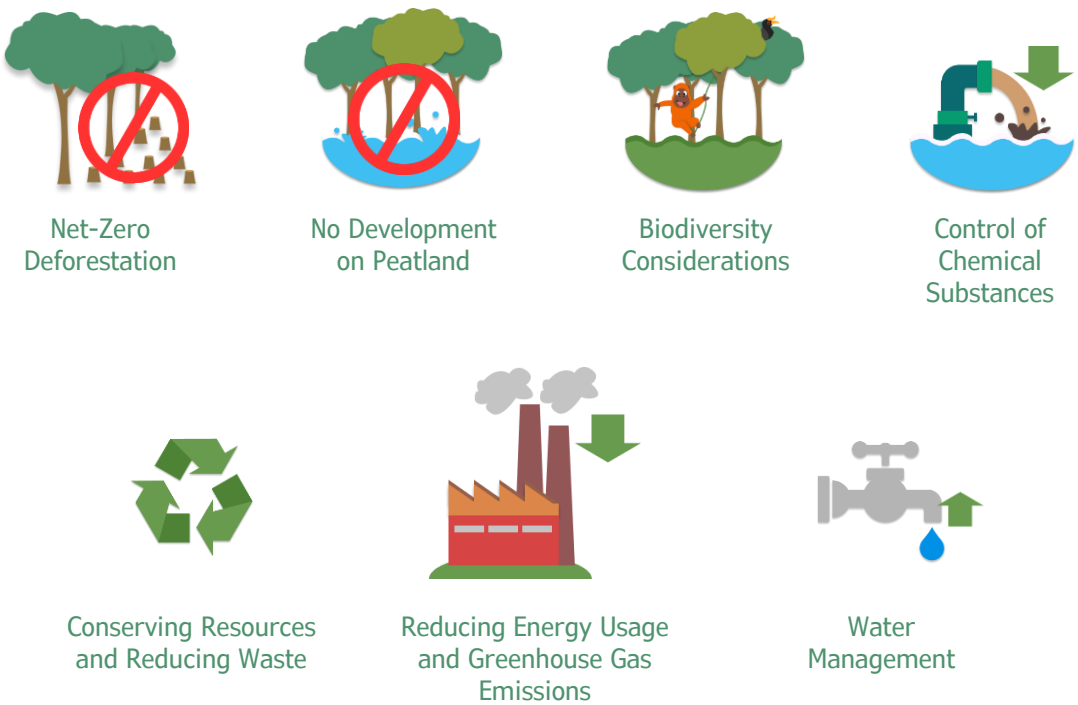
Bridgestone: the world's largest tyre manufacturer

Bridgestone introduced its Global Sustainable Procurement Policy in 2018 which aligned its goal of using 100% sustainable materials by 2050. It appears to be a comprehensive analysis that identifies and evaluates qualified suppliers, promotes best practices, and serves as a communication and improvement tool for the industry. Bridgestone plans to collaborate with suppliers to improve environmental stewardship practices, respect for human rights, support of fair labor practices, and increased transparency throughout its supply chain.

For example, Bridgestone will require its suppliers to comply with all applicable environmental and human rights laws and regulations in their country or region, as well as maintain management monitoring systems to minimize overall negative impacts to the environment and society.

Bridgestone considers the potential impacts that procurement operations may have on the environment, and what can be done to reduce them.

Bridgestone's Environmental Focus



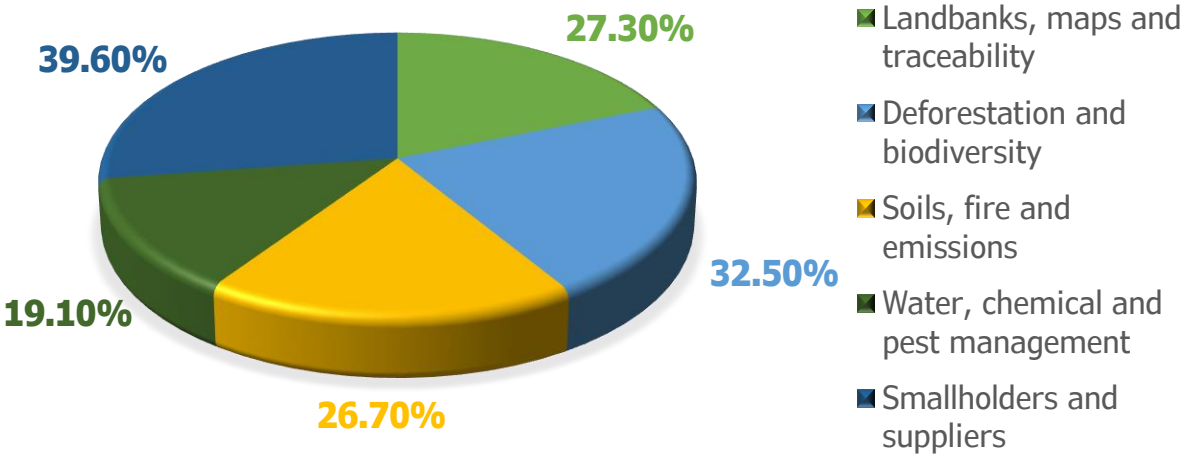
Source: Bridgestone[5]
Graphic: Helixtap Technologies

ESG PROCUREMENT GOALS: Bridgestone

Additionally, Bridgestone considers the potential impacts that procurement operations may have on human rights, and what can be done to reduce them, including: child labour; forced labour; land rights; labour and working conditions; as well as fair and equal treatment. Finally, Bridgestone considers the potential impacts that procurement operations may have on health and safety and disaster prevention.

Despite Bridgestone's detailed 38 page report, SPOTT gives the company a score of just 47.1% which suggests that it still has significant deficiencies in its reporting. We can drill-down into the SPOTT aggregate scoring by examining the scoring of each of the 10 sub-categories that make up the aggregate score to find that Bridgestone has the most significant reporting deficiencies in five of the ten categories, including:

Bridgestone's SPOTT Deficiencies



Source: SPOTT[6]
Chart: Helixtap Technologies

ESG PROCUREMENT GOALS: Top Glove

Top Glove (SGX: BVA): the world's largest manufacturer of rubber gloves

Top Glove offers another sustainability reporting case study. The company first began to publish a Sustainability Statement in 2017, whilst its latest statement appears in its 2019 Annual Report (pp 49-79). The statement document has not been scored by the ZSL yet, however this may change in their next SPOTT update. The statement identifies the company's sustainability policies, practices and procedures across four sub-categories, including:

Top Glove's Sustainability Policies

Economic: deliver sustainable economic performance and generate attractive returns on investment for our shareholders.

Environmental: be environmentally sensitive and strive to combat climate change as well as minimise carbon footprint.

Social: create long-term positive impact to both employees and the community through effective engagements.

Governance: deliver the highest standards of corporate governance and transparency

Source: Top Glove[7]
Graphic: Helixtap Technologies

ESG PROCUREMENT GOALS: NR Industry

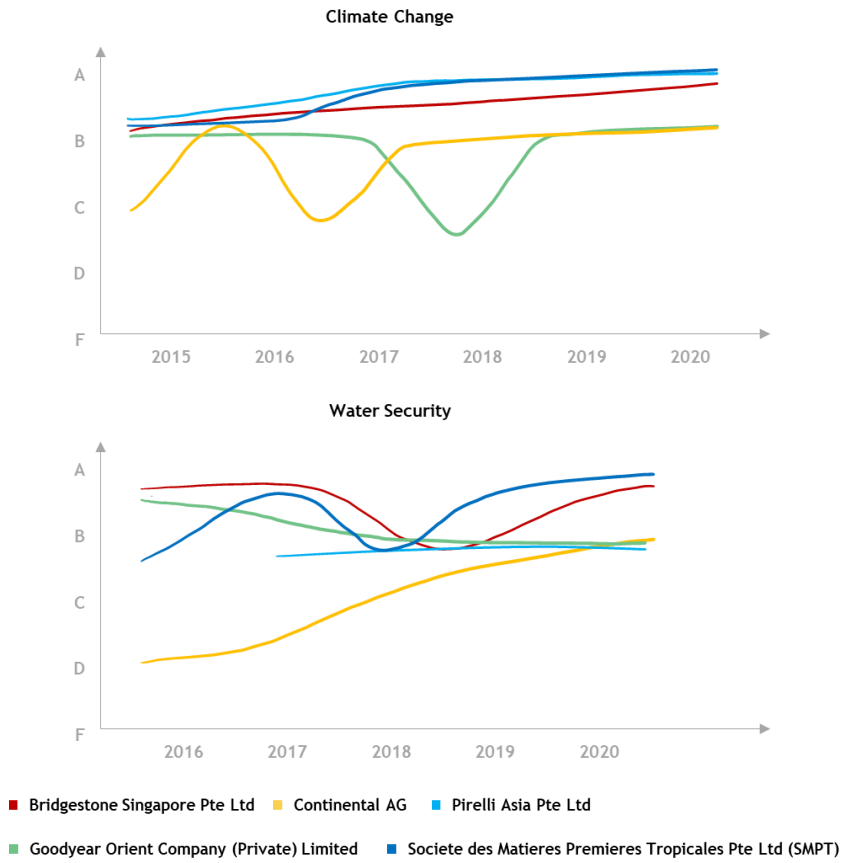
At one end of the natural rubber supply chain sits the smallholder farmers, who are generally highly fragmented with limited access to technology and financing facilities. Infrastructure is also generally underdeveloped and a complex supply chain with multiple intermediaries loosely connects the farmer with the customer. At the other end of the supply chain, customers are increasingly seeking traceability and sustainability solutions for the products they buy. The opportunity (or threat) of disruption tends to lie in the first and the last mile of the supply chain – at the source with smallholder farmers and at the market with customers.

However, the rubber industry still does not have an independent certification scheme, unlike the palm oil sector that has the Roundtable on Sustainable Palm Oil. Instead, the rubber industry relies on international independent standards organisations, mainly NGOs and NPOs, for their sustainability reporting. Several NGOs and NPOs emerged from public outrage and outcry over the horrific 1989 Exxon Valdez oil spill, such as Ceras and the Global Reporting Initiative (GRI). The GRI standards are comprehensive, with eight criteria for just the environmental impact assessment.

As the GRI was founded by the United Nations and other NGOs, it is more focused on national-level reporting. Conversely, the Carbon Disclosure Project (CDP), an NPO charity, is oriented towards company-level reporting. Most of the larger companies in the rubber industry self-report their environmental impact through the CDP, who then scores these reports for public records.

CDP Tyre Manufacturer Results (2015-2020)

The 5-year time series analysis below shows that despite dips in 2016 and 2018, there is a general trend towards higher grades for both climate change and water security in the tyre industry, particularly from 2018 onwards. This is a promising trajectory towards a sustainable future for a large segment of the NR industry with the tyre sector consuming 70% of the world's natural rubber.



Source: Carbon Disclosure Project
Graphs: Helixtap Technologies

It is important to recognise this data set is not reflective of the natural rubber industry as a whole because it is limited to downstream, large-sized tyre manufacturers who possess the necessary resources to collect, process, and report the relevant data. The highly fragmented smallholder farmers upstream lack the technology to report data to this extent. Thus, the question arises: how can these positive downstream trends be replicated upstream and also in other segments of the natural rubber industry, such as glove and shoe manufacturing?

The high barrier of entry to data collection and processing is an issue that cuts across most, if not all, industries and sectors with fairly complex supply chains. There is an undeniable, new demand for innovative, technology-driven solutions to meet new sustainability needs. Companies – new and old – are stepping up to the challenge…

TECHNOLOGY & SUSTAINABLE SUPPLY CHAINS: Unilever

Unilever (IDX: UNVR): British multinational consumer goods company

Unilever is working with Orbital Insight, a California-based Big Data company, to pilot test new geo-location technology which aims to make its palm oil supply chain more transparent. The technology uses the cell phone geo-location data to track the movement of palm oil through the supply chain. At the time of this report, the pilot is being tested in Indonesia with plans to roll out across Southeast Asian farms, refineries and processing plants.

Natural rubber, like palm oil and most commodities, has a significant first mile traceability challenge. Commingling of supply from other plantations, perhaps several times over, has made it exceedingly difficult to claim full traceability. Orbital's technology of simultaneously tracking anonymous mobile data with satellite imagery will allow for the monitoring of motorcycle and truck movement to follow the supply from its origin to the processing plant and warehouse. This solves the traceability challenge of the elusive 'first mile' in the supply chain.

Furthermore, this data could be combined with satellite imagery of past or recent deforestation to eliminate the risk of tainted supplies entering the supply chain. This would increase overall confidence that responsible procurement policies can be achieved .

TECHNOLOGY & SUSTAINABLE SUPPLY CHAINS: SAP

SAP SE (ETR: SAP): German multinational software corporation

SAP offers a wide range of products to meet business needs, from AI-enabled Enterprise Resource Planning (SAP S / 4HANA) to human capital management and financials. SAP boasts large corporations as customers, such as Zuellig Pharma and Singapore's Changi Airport.

SAP's supply chain management product, Ariba, is a platform for companies to collaborate with their suppliers and manufacturers. The Ariba platform is sophisticated, collecting live data comprehensively. However, it is also reliant on users having the ability to migrate their entire networks online. Additionally, a fee is necessary to join the system, making it closed and non-inclusive. This works well for isolated industries that do not have particularly long or complex supply chains, but this is not the case for the commodities industry.

In particular, the natural rubber supply chain has usually about six points from the farmer to the consumer (end user). Hence, a closed system is restrictive for the rubber industry as participants require access to large amounts of choice; be it aggregator, processor, and so on, to determine which route is most efficient, in terms of time, cost or even carbon emissions.

Ecosystems - inherently open and inclusive - are essential to streamline any commodity's value chain as buyers need the **freedom to choose** who they conduct business with, without being restricted to their own immediate networks.

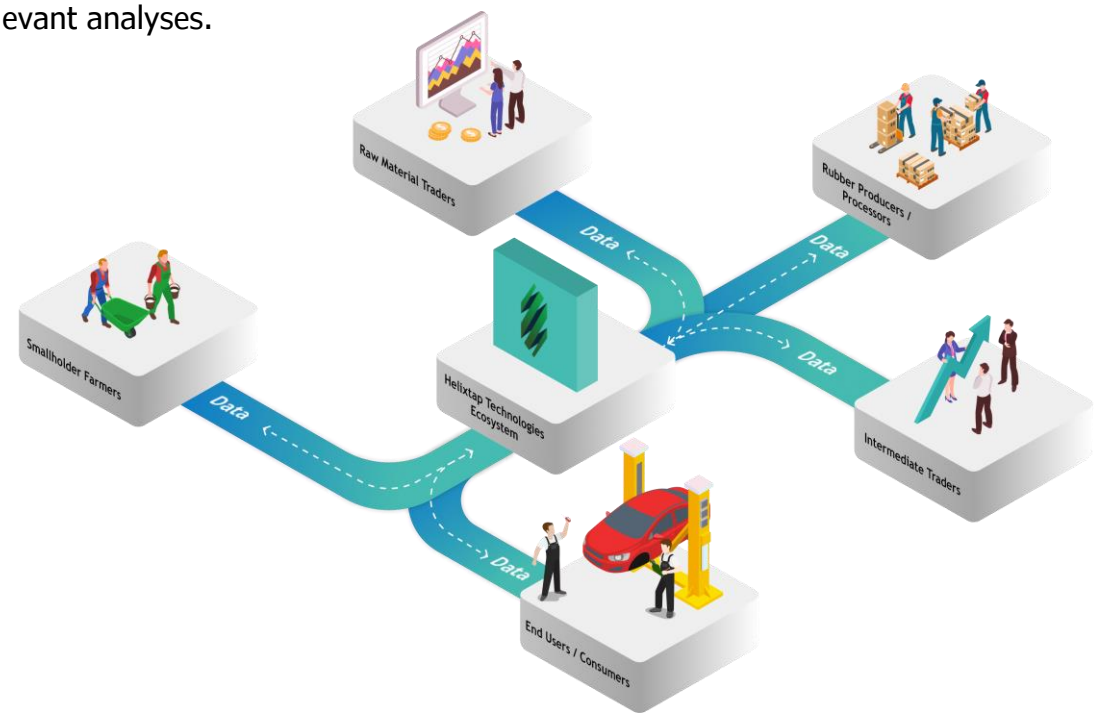
TECHNOLOGY & SUSTAINABLE SUPPLY CHAINS: HELIXTAP TECHNOLOGIES

Helixtap Technologies: independent digital ecosystem for the rubber industry

Helixtap Technologies is actively digitising the entire supply chain. Open and inclusive, it seeks to connect every point of the rubber value chain, which includes 6 million smallholder farmers, who supply 85% of the world's demand[8]. Connecting these fragmented upstream and downstream participants requires digitising the supply chain, a practice recommended by the GRI. Thus, an accessible, robust ecosystem like Helixtap Technologies, is necessary to trace multiple points on the natural rubber supply chain to assess its sustainability.

Given the intricate nature of any commodities value chain, reaching net zero carbon emissions (the ultimate goal) has proven to be a lengthy process. Different groups, each with their own vested interests, are encouraging this end goal. Governments are offering desirable tax deductions to sustainability initiatives to lower their country's carbon footprint. Thus, global investment firms, like Blackstone Group[9], are investing in big data and analytics companies related to ESG.

However, according to Refinitiv[10], validating sustainability requires the analyses of data that is rich, complex, and highly contextual. This must be done with in-depth and nuanced knowledge of a particular sector or industry. Hence, specific methodologies are being developed by companies to process data to produce relevant analyses.



Helixtap Technologies - rubber specialists who have developed technology to drive innovation in the industry - understand how to process this data to address the pain points in the rubber field. Hence, they offer immediate sustainability solutions, such as carbon offsetting through investment in sustainable projects. Read more here.

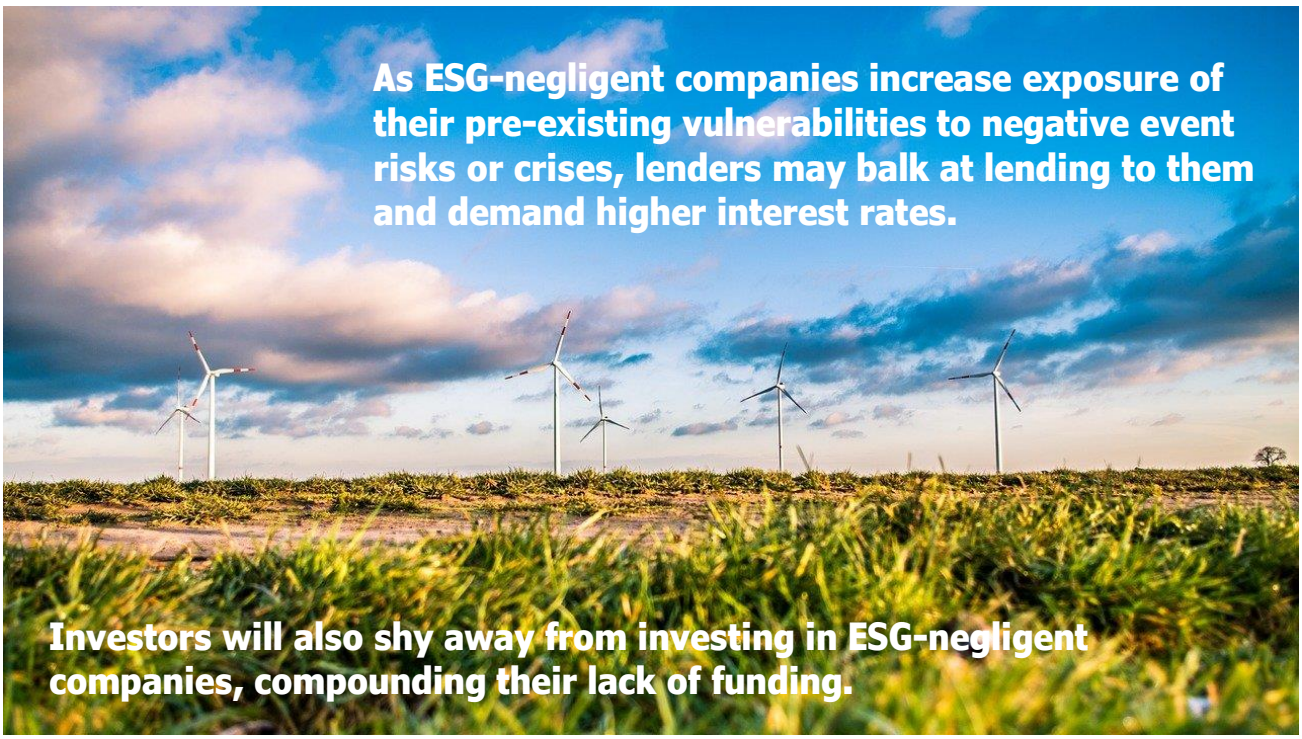
CONCLUSION

Sustainability is a journey, not a destination.

The 2016 Paris Agreement was an effective global starting point for (ratifying) countries to calibrate their own sustainability plans according to their respective biodiversity and industries. With the subsequent rise of ESG in climate change concerns, a global consensus has been reached that everybody has a role to play; from individuals to institutions. And there are palpable consequences to shirking this responsibility, as exemplified by BlackRock planning to cut companies deriving a quarter or more of revenue from thermal coal.

As ESG is a tangible, concrete dissection of the concept of "sustainability" into three distinct categories, it has been easier to operationalise than CSR. Thus, NGOs and NPOs have created comprehensive metrics to grade the sustainability of companies, particularly supply chains. In the rubber industry, major players like Bridgestone, Michelin and Top Glove have committed to sustainable procurement policies.

Though upper management has vouched for sustainable processes, the effects take time to permeate through complex supply chains. As such, SPOTT and CDP ratings in the rubber industry still have room for improvement. With growing external pressure and further convoluting global affairs, data collection and processing is becoming increasingly tedious. Hence, companies have stepped forward to provide innovative, technology-driven solutions, such as Orbital, SAP, and Helixtap Technologies.



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