[aggregate]
[innovate]
[sustain]

HALCYON
Our vision is to be the leader in the natural rubber industry in meeting the United Nation’s Sustainable Development Goals (SDGs) and we outline our efforts and achievements in this report working towards this vision. We also detail developments and initiatives moving into 2020 and beyond.

The report also contains our Environmental Social and Governance (ESG) material factors approved by the Board and describes our commitment to investing in technology and innovation in our continued quest to fulfill our sustainability vision of measuring our performance across the three pillars of People, Planet and Profit.

Please contact us at investor@halcyonagri.com for any questions or feedback.
Dear Shareholders,

Welcome to the 2019 Annual Report of Halcyon Agri Corporation Limited. Our theme this year is [aggregate], [innovate] and [sustain]. In selecting this narrative, we would like to showcase the journey that lies behind us, the present day challenges we face and the possible solutions that we are working on.

Looking beyond our sector, there are many new and exciting business models that have successfully created value for customers and producers alike. Our objective is the same: by leveraging our world-class asset base and our global reach, we aim to bring technology into the natural rubber sector with the aim to enhance sustainability. We all need better outcomes: Farmers require reasonable and less volatile prices, processors require incentives to modernise their factories, and consumers need product innovation and enhanced supply chain transparency. Modern technology holds the key to a multilateral solution, and Halcyon Agri is uniquely positioned to develop feasible solutions and drive their adoption in the sector.

My greetings and appreciation go to our workers and staff, to our customers and suppliers, to our bankers and investors. We are united in our support for Halcyon Agri. I hope you enjoy this year’s report.

Liu Hongsheng
Chairman of the Board of Directors
Dear Shareholders,

Building a natural rubber business requires a long-term view and steadfast financial commitment. Our original supply is field-lated, harvested from rubber trees, and the final use is a rubber product, be it a tyre, a glove, or a chew toy for your dog.

In between these end-points lies the lifecycle of natural rubber. Halcyon Agri has developed an integrated supply chain that covers all critical links: plantations, processing, warehouses, latex tanks and testing laboratories.

Our mission, however, is not simply to aggregate. Halcyon Agri has evolved from building a world-class asset base, to disrupting the way natural rubber is graded and priced. Technically for this concept is a ‘TSF’ which is a concept that is outdated - in today’s world, the quality of natural rubber is not exhaustively defined along six parameters. Our customers know this, and so do we. Besides much more granular technical parameters, producers of natural rubber must adhere to a broader responsibility framework: the basic principle must be to “do no harm”, and to sustain the individuals, the societies and the ecosystems that produce this quintessential ingredient to modern life.

"The basic principle must be to "do no harm", and to sustain the individuals, the societies and the ecosystems that produce this quintessential ingredient to modern life."

This in turn, would like to review three important topics: our asset base, our strategy to disrupt and innovate, and the geopolitical relevance of the sector as a whole.

Part 1. Our business model and the underlying asset base

In the 12 months ended 31st December 2019, Halcyon Agri’s operating businesses sold 1,279,201 metric tonnes ("mT"), and generated revenues of US$1.9 billion. Earnings before Interest, Tax, Depreciation and Amortisation ("EBITDA") of US$717 million, Operating Profits of US$383.3 million and a Net Loss attributable to the owners of the Company of US$1.6 million.

Halcyon Agri consists of two main operating businesses, Halcyon Rubber Company Pte Ltd ("HRC") and Corrie MacColl International Limited ("CMCI"), as well as the group’s Digital Suite of rubber-related investments and projects.

HRC houses our supply chain for tyre applications. This division operates five geographical manufacturing platforms that operate 36 factories: 19 in Indonesia, five in Thailand, two in Malaysia, two in Ivory Coast and eight in China. In 2019, HRC supplied the global rubber industry with 446,061 mT of natural rubber, which equates to a global market share of around 10%.

The business model here is to purchase raw material from smallholder farmers, process it to HevePro standard, and then merchandise to the global tyre industry. To turn a profit, this midstream business must generate sufficient processing margin in between smallholder raw material purchase plus processing costs and associated overheads, and the finished product.

HRC produced EBITDA of US$36.5 million, after adjusting for one-off items, and required US$20.1 million in interest costs to do so. A critical measure in assessing this business is the sum of these two factors, which I refer to as ‘core operating profit’, which stood at US$16.4 million for 2019. Working backwards, HRC generated US$17 per mT in core operating profit.

CMC caters to the global non-tire and specialty tyre market segments and operates a wide storefront covering in-house plantation rubber and concentrated latex as well as third party natural and synthetic rubber, again in both dry and liquid forms.

CMC consists of two units: CMC plantations ("CMCP"), which owns our vast plantation holdings in Cameroon (HeveCam and SudCam) and Malaysia (JFL), and CMC International ("CMCI"), the origination and fulfillment platform.

CMC typically carries the product all the way to the customers, providing a full suite of logistics and technical services. The business model is to buy and sell third party products with a profit, thus supporting the financial cost of developing our plantation assets. Once these are mature, our plantations will provide meaningful volumes of product in replacement of third party supplies, and will take the lead in profit generation for CMC.


CMCP produced 19,557 mT in FY2019, 40% of which was harvested as concentrated latex, and generated US$12.5 million in revenues. The current maturity profile of our plantations is still unfavourable. We harvest circa 13,500 hectares, mainly in HeveCam, out of a total planted area of circa 37,500 hectares globally. The necessary plantation infrastructure at JFL and SudCam has been almost fully developed, including a state-of-the-art facility at SudCam, whereas neither estate has commenced production to a meaningful degree. In 2019, due to the circumstances outlined above, CMCP produced a core operating loss of US$1.6 million, on an adjusted basis.

It is important to note that our basis of valuation for CMCP’s plantation assets has changed in 2019. Up until last year, we had to apply two diverging accounting treatments for our plantations in Malaysia and Cameroon. Due to the diverging nature of the latex timber markets in these two countries, the accounting formed the latter a “Biological Asset”, the latter a “Bearer Plant”. While terms do not sound terribly different, the implications are substantial: a Bearer Plant is valued at Historical Cost less Accumulated Depreciation and Accumulated Impairment, while a Biological Asset is carried at Fair Value less Cost to Sell, which is to be measured by an external valuer every year. In 2019, CMCP developed a business plan to merchandise the harvested timber from our old trees at HeveCam into sawn timber for the furniture and building materials industries. This benefits us in two ways: Firstly, the revenues of such timber are much higher than chipping the wood for biomass energy. Secondly, we are now able to harmonise the accounting treatment for our global plantation holdings under the common Biological Asset valuation framework. The net impact of this change for 2019 is an increase in carrying value for our Camerooniam plantations of US$53.3 million, which has been booked in our fourth-quarter income statement.

"The financial performance of an established plantation business is compelling, and there is no better time to grow into increased output from maturing trees than at the bottom of the price cycle."

“天然橡胶种植园在成熟后的财务业绩将令人瞩目。橡胶价格处于周期底部情况下是提升未来最有利的时机。”

Going forward, the economics of CMC will change. As the planted areas come on-stream, the output of CMCP will grow from current levels to 46,000 mT in 2025 and will plateau at 65,000 mT per annum from 2036 onwards. Once we past the cash flow breakeven point in 2021, the annual increase in output will drive down the unit costs of production. CMCP is a fixed cost producer of natural rubber and latex, and as the unit costs decrease, our profits per tonne increase. Factor in a cyclical recovery of rubber prices and the upside profit potential is virtually unlimited.

The following graphs show the development in EBIDTA at a blended price level of US$1,700, US$1,900, US$2,300 and US$3,100 per mT, as compared to 2019’s achieved sales price of circa US$1,500 per mT. As you can see, the financial performance of an established plantation business is compelling, and there is no better time to grow into increased output from maturing trees than at the bottom of the price cycle.

The natural rubber industry is more than 100 years old, and its market place has not adapted to modern circumstances. The pricing for this product is determined on futures markets in China, Tokyo and Singapore, which increasingly represent the views of macro and quant traders, and much less the domain-specific knowledge of informed natural rubber market sellers and buyers.

At the time of writing, global markets are subject to extreme pressure, brought about by the fear of the Covid-19 virus pandemic. Global financial and commodities markets have become excessively volatile, with daily movements of 5% or more. Natural rubber markets have long faced the same issue: their price cycle. The following graphs illustrate the effect on CMPI’s financials. Note: the data set out above are for illustration purposes only. It is important to note that the above analysis is based on historical numbers, and is not necessarily representative of future financial performance.

In natural rubber, this is particularly damaging, for two reasons:

1. There is no substitute for natural rubber; it is the non-substitutable natural ingredient in every tyre.
2. We rely on smallholder farmers to produce it, and their cost of production reflects their cost of living, of survival.

They do not act rationally according to the definition of Adam Smith: a subsistence farmer tends to produce more when prices are low, and less when prices are high: his daily income is price multiplied by volume. Low price, and he needs to produce more; high price and he can afford to work a little less. At current rubber futures market levels, smallholders cannot afford to continue producing, they are at risk. As they abandon this crop in search of something else to plant or do, the supply of rubber is in peril.Rubberwood has a substantial market value, and a tree, once cut down, takes seven years to be replaced.

CHIEF EXECUTIVE OFFICER’S REVIEW

HALCYON AGRI - 2019 CORPORATE REPORT
Underlying these fundamental problems are bigger picture issues, which have now brought non-governmental agencies into the world. Externalities remain unpriced in the smallholder model, as farmers technically do not pay for the land, and turn to their governments in times of trouble. This leads to uncontrolled deforestation when prices are high and to social distress when they are low.

Halcyon Agri is a pioneer in looking for solutions to these issues. To this end, we have formulated our Digital Suite, which consists of three main pillars:

HeveaConnect (“HC”)

A digital marketplace for natural rubber, which allows for bilateral negotiations and trades between producers and consumers for perfectly specified physical rubber. A joint venture between Halcyon Agri, DBS Bank Ltd and ITOCHU Corporation, HeveaConnect was successfully launched in 2019 and has clocked trades worth more than US$150 million to date.

“HeveaConnect天然橡胶电子交易市场能让天然橡胶生产商和消费者就指定标准的天然橡胶产品直接进行双边谈判和实物交易。”

Halcyon Data Centre (“HDC”)

Halcyon has engaged Siemens of Germany, a leading player in the Industry 4.0 realm, to develop a cloud-based data tool for TSR factories. Currently, on trial in Palembang, the HDC solution enables the streamlining of operations, optimisation of production efficiency, and represents a great leap forward towards production transparency and data transmission along the supply chain. The HDC system will be rolled out across our Indonesian processing factories in the course of 2020 and 2021.

HalcyonCoin

There are two plausible applications of distributed-ledger-technology (“DLT”) in the natural rubber business: monetising inventory, thus making it available to a broader investor universe, and capturing supply chain data, such as carbon sequestration or improvements in energy or effluent data.

Both cases serve as a way to mobilise additional funding and capture incremental value for the up- and midstream of the natural rubber industry. Halcyon Agri is developing the HalcyonCoin concept with leading players in the FinTech space and I am excited about the opportunities that lie ahead.

These digital tools will work together. HC will help to discover price premiums for rubber that meets increasingly higher sustainability criteria, HDC will help factories to continuously drive efficiency and improve their carbon footprint and HalcyonCoin will offer incremental value and liquidity to responsible producers and farmers.

Part III: The Belt and Road Initiative and geopolitical considerations

“中国推进‘一带一路’倡议的过程中，战略性的串联了原材料的重要原产地及其新兴消费市场。”

In last years’ message to shareholders, I laid out my views regarding the increasingly competitive relationship between the United States and China. While Phase One of the “Trade Deal” has since been signed, the developing Covid-19 crisis has not just caused a slowdown in globalisation but has brought it to a complete standstill. Social isolation, increased border security and an outright travel ban do not make for improving global relationships. The superpower blame game is just starting, and the United States and Germany are heading for presidential and parliamentary elections respectively, later this year. Never before has the world faced a crisis of this complexity: the Covid-19 attack is simultaneously challenging established social and behavioural norms, political systems and global financial markets. Personally, I fear that we might be witnessing the birth of a New World Order.

Let us not forget, however, that natural rubber is essential to the way we live. In a post Covid-19 world of social distancing, mass-rapid transport systems and other shared economy assets (vehicles, real estate and offices) represent a risk of contagion, and individual modes of transport might be a safer way to travel.

In a 2015 presentation, Bill Gates, the founder of Microsoft, warned of the dangers of a viral attack and compared threat levels of pathogens to those of missiles. His assessment at the time proved to be eerily prescient as to the events that are unfolding today. In responding to a viral threat, his suggestion is to mobilise the military capabilities of the major global powers, as they possess the most efficient logistical capabilities.

Be it trade-war, germ-war, or a combination of both: global supply chains need to be reassessed and probably rebuilt. The concept of Strategic Materials and Buffer Stocks will partially replace the notion of Just-In-Time global supplies.

In their pursuit of the Belt and Road Initiative (“BRI”), China is connecting critical origins of raw materials as well as emerging consumer markets in a strategic way. Being a BRI member country is the new version of being a “Most Favoured Nation” under the auspices of the World Trade Organisation. Connect, but keep separate; provide access, without systematically having to merge.

The natural rubber business has always been Chinese. The earliest Singapore-based rubber baron, Mr Tan Kah Kee, donated the bulk of his fortune to his erstwhile homeland, and most successful players in the natural rubber industry have maintained very close links to the Mainland. The Japanese invasion of Malaya in 1941 is manifest to our strategic ambition to safeguard access to important raw materials, including natural rubber. In 1950, the Korean peninsula suffered a continuation of war atrocities, effectively playing host to a proxy fight between competing superpowers for access to raw materials.

Tyres need natural rubber, and the world needs tyres. Military and strategic competition is bound to intensify, and China has a historical advantage in most origins of natural rubber. Over the last 20 years, mainland Chinese entities have successfully established majority ownership of many rubber companies, including Halcyon Agri, and have funded our industry through difficult times.

It is unlikely that any other nation can usurp China’s dominant position in the natural rubber market, but I do see a chance that the digital dimension holds the key to a functioning global rubber market, with due consideration of the ongoing viability of smallholder farmers, future-proof ecological agendas and balanced geopolitical interests.

In closing, I would like to extend my sincere appreciation to our many stakeholders, both internal and external. A special mention goes to the NGO community, and to the people of Cameroon, Indonesia, Malaysia, Thailand, China and Ivory Coast. You allow us to operate plantations and factories in your countries, you provide us with human and ecological resources, in order to deliver on our mission to develop a truly sustainable natural rubber industry.

I would also like to reiterate that Halcyon supports the United Nations Sustainable Development Goals (UNSDGs) in creating a lasting positive impact on society. As a signatory of the UN Global Compact (UNGC), we remain committed to upholding UNGC’s universal principles on human rights, labour, environment and anti-corruption for all our stakeholders.
Rubber Market Notes for 2019

2019 saw further consolidation in the natural rubber market. In Thailand, some of the larger processors cut back output volumes in the face of a temporary market dislocation driven by a since-bankrupted Chinese trader. In Indonesia, several old and outdated factories closed down for good due to lack of raw materials and difficulties in selling their product. In aggregate, global rubber production is currently estimated to have fallen by 250,000 mT, or slightly more than 1.5%.

Global demand for natural rubber is estimated to have remained constant in 2019, suggesting a reduction in global inventories of circa 100,000 mT.

Unsurprisingly, natural rubber prices, referenced by the 1st position of the SICOM TSR20 contract, appreciated by circa US$200/mT to close the year at US$1450/mT, an increase of 15%. This price increase took place amidst unfriendly macro conditions: the global automobile industry is in disarray, annual auto sales estimated to have contracted by 3%, which would mark the industry’s worst performance since the Global Financial Crisis. The Trade War took its toll on global flows and sentiment, as did Brexit and the increasingly uncertain outlook on the German economy.

Supply

All traditional rubber-growing areas currently face adverse conditions, to varying degrees. Indonesia has to deal with diseases that have affected many of its old trees, especially in Sumatra, Malaysia has labour issues and Thailand has to contend with disease in the South, drought in the North and provenance issues in the North East. Farmers have responded to the low price levels of the past four years by not replanting, and there has been very little new planting since 2013.

Non-traditional origins also have their lot to bear: not only are they off-limits to many Western consumers due to deforestation and land-grabbing allegations, but Vietnam, Cambodia and Laos all face unusually dry conditions due in part to the Indian Ocean Dipole and in part due to hydro-dam projects in China and Laos. Africa and South America, on the other hand, seem to be unaffected by disease, weather or provenance, but they account for less than 5% of global supply.

Demand

The global vehicle parc currently stands at 1.3 billion vehicles1, and has been growing at circa 4% annually. Recent estimates suggest that total vehicle production in 2019 was 92 million units, which suggests that 40 million vehicles were scrapped in 2019, or 3.2% of global vehicle parc.

Assuming that the average vehicle has five tyres (which represents a blend of passenger cars, light and heavy trucks and off-the-road vehicles), the automobile industry currently accounts for 500 million new tyres annually. The average tyre contains 3kg2 of natural rubber, which suggests that the tyres for the automobile industry represent 1.5 million mT in annual demand, which is 15% of 9.9 million mT that the global tyre industry is reported to have consumed in 20193. The conclusion is that the remaining 85% of demand is the replacement tyre business.

Working backwards, this shows that each existing vehicle represents 7kg of annual demand for natural rubber, suggesting that, on average, 4.5 tyres are replaced every two years. This may sound excessive for passenger cars driven in Singapore, but makes plausible sense when considering busses, trucks and taxis – and a global context of many more bad roads than good ones!

There are several key insights here:

1. Existing vehicles account for 85% of the annual tyre-industry demand for natural rubber, which makes “miles driven” rather than new car sales, the most important driver of natural rubber demand.
2. The global vehicle parc is currently growing at a CAGR of 4%, which means that by 2022, the replacement-tyre demand for natural rubber would have gone up by a staggering 1 million metric tonne.

While the growth rate may slow down in the current macroeconomic and geopolitical context, the trend towards electrification is likely to enhance the demand for natural rubber.

The growth in absolute number of vehicles may slow down, but incentives will drive vehicle scrap rates and their replacement with electric vehicles. Each vehicle uses 20kg in its year of manufacture, and only 7kg for each year thereafter.

If global demand for natural rubber stagnated in 2019, then this is because tyre makers and traders reduced inventories. Reported stockpiles in China are down and the Thai government has all but disposed of its strategic stockpile. Latest filings by listed tyre makers show an increase in finished goods inventories (due to the slowdown in OEM sales) and a decrease in raw material stocks as well, the latter probably caused by the former.

1Based on latest available data from International Organisation of Motor Vehicle Manufacturers
2Based on surveys by BOUNCE
3Reported by International Rubber Study Group
In 2019, we took a significant step by purchasing Sinochem’s rubber plantation. The year 2018 saw us cementing our position as the world’s leading latex and specialised rubber distributor and latex plantation. The year 2016, we took a significant step by purchasing Sinochem’s rubber plantation. The year 2018 saw us cementing our position as the world’s leading latex and specialised rubber distributor.

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Malaysia Rubber Company Group ("HRC")

Innovative over a series of acquisitions and minority buy-outs, we own and manage 19 TSR factories with a combined installed capacity of 56,000 mT per annum. The cornerstone of our Indonesian platform is formed by the former subsidiaries of the Hevea Group Company (HGC) Singapore, which we acquired in 2014. The carrying value of these assets on our balance sheet is US$252.1 million, along with goodwill on the acquisition of US$105.3 million, which implies a valuation of US$26.8 million per installed mT of annual output. It is noteworthy that these operations are not included in the acquisition of the Malaysian rubber glove industry, as all the figures are non-operating revenues. The total output of our Malaysian factories is US$26.8 million, which works out to be US$97 per mT of installed production.

Beside our operating assets, we also own investment properties such as stockpiles, commercial buildings and residential real estate across Indonesia with a market value of US$34.5 million as at 31 December 2019.

It is fair to state that the Indonesian factory portfolio is unique in both scale and reach. Structured into four regional management centres, our investments is a reflection of the size and scale of our HRC processing business.

Thailand

Teck Bee Hang Co., Ltd. is one of the oldest natural rubber companies in Thailand. Established by Teck Bee Hang in 1948, this unique company has a long history with a strong presence in the southern provinces. In addition to these factories, Teck Bee Hang is a pioneer in the production of synthetic rubber and is one of the largest rubber processors in the world. The company has a combined installed capacity of US$16.8 million, which works out to be US$224 per mT of installed capacity.

Malaysia

HRC owns three TSR factories with a combined installed capacity of 235,000 mT per annum. This combined base of the Malaysian factories is US$252.1 million, which equates to US$1,080 per mT of installed capacity. We acquired, which owns a total of 16,000 hectares of 9-year-vegetated agricultural land in 2016 and have since almost fully developed this land. Fomented on a successful crop planting business with 6,300 hectares planted with natural rubber, and 1,160 hectares planted with partially naturalized oil palms.

We will start tapping the rubber acreage in 2020, and expect the asset to reach at least 6,400 mT of natural rubber and 38,000 mT of fresh fruit bunch annually. This 2019 onwards of a justified, estimated value for the plantation and biological assets.

Europe

Acquired from 2014, the PRC factory assets are incorporated into China and operates as a small factory in the city. The sales and marketing team of Corti-Maccellino Europe are experienced at rubber fair, a long-time member of the Hevea Group Europe. The core of the new European platform is the former Kalle Industrievon der Anlagen, which is a leading European partner of CMC’s rubber processing and biological assets. Corti-Maccellino’s rubber business has an annual production capacity of 56,000 mT.

China

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Corti-Maccellino Group ("CMC")

Europe

Corti-Maccellino limited, the holding company for the CMC Group, is incorporated in London and operates as a small factory in the city. The sales and marketing team of Corti-Maccellino Europe are experienced at rubber fair, a long-time member of the Hevea Group Europe. The core of the new European platform is the former Kalle Industrievon der Anlagen, which is a leading European partner of CMC’s rubber processing and biological assets. Corti-Maccellino’s rubber business has an annual production capacity of 56,000 mT.
Where Does Your Source of Mobility Come From?
Essentially, it comes from the tyres that allow your current mode of transport to take you from A to B. As you sit behind the wheel of your car driving your children to school, or in the back of a taxi that takes you to the airport (where you board a plane that would be grounded if not for its tyres), did you ever wonder what material makes up a significant percentage of those tyres? The answer is unequivocally NATURAL RUBBER.

So where is this critical raw material produced? Only from countries bordering the equator, with Thailand and Indonesia being the largest producers. Over 90% of Indonesian raw material is produced by 2.4 million farmers with an average smallholding of about 1.5 hectares. Each rubber tree produces approximately 2.5 kg of rubber per annum so imagine how many millions of trees are needed to guarantee a daily basis. The farmer sells his cup lumps to our factories at a price determined by a commodity futures market, over which neither we nor the farmer has control.

Given the prevailing low prices, his income is now significantly below the Indonesian government’s gazetted minimum wage for employees. A typical benchmark for Indonesian cost of living is the cost of a kilo of rice. Historically one kilo of rubber would have purchased two kilos of rice. Today the reverse is the case where two kilos of rubber are needed to purchase one kilo of rice.

Natural rubber’s place in a global context
In 2017, the European Union commission added natural rubber to its list of Critical Raw Materials, the vast majority for which, including natural rubber, the EU is dependent on imports from non-EU countries. Natural rubber is simply an irreplaceable component of tyres. Different applications require different grades, but natural rubber cannot be replaced. The demand for natural rubber in passenger tyres is determined by global vehicle density as well as by total mileage driven. Global vehicle density and utilisation are largely determined by GDP growth.

It should be abundantly clear to vehicle owners et al. that without the existence of these smallholder farmers, the mobility that they take for granted in everyday life would be severely compromised. As well, the very livelihood and existence of smallholders are in peril by the current low return for their labours and product. The only way to keep the world moving is to enforce the sustainable supply of natural rubber, which primarily includes ensuring that the smallholders are properly compensated.

Consumers (e.g. vehicle owners) are demanding more sustainable products and in turn, automobile and tyre manufacturers are demanding full transparency and sustainability in respect of supply chains. But without a fair price reflective of the efforts and investment required to produce this critical and irreplaceable product, there will be no, in the true sense of the word, sustainability.
WHERE DOES OUR RUBBER GO?

As the world’s leading rubber franchise, we have full control over the entire value chain: how rubber is grown, sourced, produced and distributed. Halcyon’s factories are located in most rubber-producer countries, and we are the owner of the world’s largest commercial plantations. Combined with the ability to leverage our extensive network of warehouses, terminals, laboratories and sales points across the world, this allows us to distribute a wide range of natural rubber grades, latex and specialty rubber for the tyre and non-tyre industries. Our top three delivery destinations are China, EMEA and USA. Our sales are mainly to the tyre industry.

Origins of our rubber

China is the world’s single largest consumer of natural rubber. The bulk of our sales are to the automotive industry, with 26% of our China deliveries sold directly to domestic joint ventures of international tyre majors. The other significant segment of our Chinese rubber sales is to the rubber compounding and textile industries.

Delivery destinations of our cargo

The EMEA region (Europe including UK, Middle East and Africa), with its mature automotive industry, accounts for 20% of the Group’s total deliveries. Our top EMEA customers are based in the main regional automotive hubs of Germany, Turkey and Finland, accounting for 13%, 12% and 9% of our offtake in EMEA.

While our volumes for consumer goods in the EU are lower, these typically represent high-margin businesses and typical products that fall in this category include:

- Adhesives and tape
- Footwear
- Vibration control for building and non-building structures
- Medical supplies such as gloves and catheters

The tyre majors in the US are our anchor customers and the top five customers in the US account for 60% of our tyre sales in the US.

The US consumer business purchased our concentrated latex products and are used in dipping products such as balloons and condoms. The thriving medical industry in the US also use our product in catheters, gloves and medical tubing. Additionally, our dry rubber also goes into the production of everyday products such as:

- Adhesives and tape
- Beddings – latex mattresses
- Footwear

We have a significant infrastructure segment, where our trading business in the US also acts as a supply chain partner to our customers, sourcing for synthetic rubber used to produce bitumen emulsion necessary in the construction of roads.

Industries using our product in China

Industries using our product in EMEA

Industries using our product in USA
In our last report, we described how technology is necessary to reverse rubber’s declining fortunes. Technology is needed to tackle unsustainable pricing and create a sustainable supply chain where all stakeholders of the value chain will benefit.

Halcyon is spearheading the digital evolution of rubber with various initiatives.

- The incorporation of HeveaConnect as a digital marketplace to trade rubber from our TÜV SÜD audited and HeveaPRO certified factories marks the first step in our digital disruption of the natural rubber industry. We are working to further integrate traceability and agronomical data to expand the sustainable certification options to HeveaTRACE and HeveaGROW.
- With 38 production facilities in major rubber growing areas, we have collaborated with Siemens and launched an ambitious digitisation programme to build the next generation of our data centre.
- In Indonesia – which supplies 21% of the world’s natural rubber – we have also embarked on a digital programme to connect directly with smallholders to facilitate transportation from farm to factory, and to provide better pricing visibility to smallholders, thus improving their livelihoods.

A digital marketplace for sustainable, traceable rubber

2019 was a watershed year for us with the launch of the HeveaConnect platform. The platform aims to promote greater price transparency in the natural rubber market, and to move away from reference-based price fixing, which remains opaque and unrepresentative of sustainable pricing requirements. The biggest losers under the current pricing mechanism are the six million subsistence smallholders who are now affected by crippling costs, bad weather and diseases.

Since its launch in April 2019, the platform has at time of writing handled in excess of 100,000 mT of spot cargo deals and efforts are underway to increase adoption and add other tradable instruments (such as Long Term Contracts). The coming launch of the HeveaConnect Mobile application will also allow users to negotiate and confirm sales terms on the go. There are on-going trials to introduce automated production data capturing to reduce input error, using Internet of Things (IoT) technology.

Proactive engagement and collaboration with stakeholders and key NGOs have resulted in initiatives to drive improvement in the livelihood of smallholders. Together with their input, we are setting governance guidelines and frameworks to shape the future of the industry.

We are currently expanding our offerings to allow for the tracking of sustainable practices in rubber plantations and smallholder rubber plots (HeveaGROW) and traceability requirements in the sourcing of natural rubber (HeveaTRACE). This would allow all participants along the supply chain to trace the source of each batch of natural rubber, and reflecting the true value of supply and demand where farmers and producers are compensated fairly.

Harnessing data to optimise factory operations

Through continuing investment in technology and innovation, Halcyon aims to provide greater value to our customers over the long term. With 38 processing facilities across different regions, there is a need to centrally collect real-time data across our factories. This allows us to gain meaningful insights into our operations, optimise our processes and reduce operational costs and risk.

We collaborated with Siemens to build the next generation Halcyon Data Centre (HDC 2.0) which is currently being piloted in one of our Indonesian factories. The platform is a cloud-based IoT operating system connecting key factory infrastructure with the digital world. Managers can spot real-time information and quickly work to resolve any issues that occur during processing, and use the data to share best practices. IoT devices will be deployed to capture operational ESG data for process optimisation and external accountability.

We expect to launch HDC 2.0 in the second quarter of 2020. We are also working on another IoT project with Siemens to capture environmental data such as water and energy consumption, and working environment conditions. This will enable us to optimise our consumption of natural resources, automate data collection, and also improve workplace health and safety.

Connecting to smallholders to improve transparency

We have embarked on a digitisation programme to develop a mobile application for smallholders to gain visibility on offer prices of procurement stations around them. The app would enable us to offer them better pricing as we buy in larger volumes, reducing our reliance on intermediaries for raw materials and enhance our outreach to the smallholders.

This model also enables easy and quick deployment of resources across our production facilities, for example moving raw material from one factory to the next in order to meet production volume requirements and customer needs.

Other benefits include optimising our raw material procurement, better factory utilisation and enabling standardisation of best practices, allowing for more efficient resource allocation while keeping costs down.

Increasing capacity at our factory in Kalimantan

In 2019, we made a large investment in our PT Bumi Jaya (KBR) processing facility in Indonesia, with the intention to increase our production output from 2,000 to 3,000 mT per month before ultimately reaching a monthly capacity of 5,000 mT. We also invested in new equipment for the wet and dry lines and in the hanging sheds.

As Kalimantan is a relatively low cost region for raw materials, we hope to be able to offer more products from this factory to our customers.

Smallholders from areas around our factory would also benefit as we will be able to offer them better pricing as we buy in larger volumes, reducing our reliance on intermediaries for raw materials and enhance our outreach to the smallholders.
In our 2018 Corporate Report, we introduced our version of an improved future for the natural rubber industry: the return of the agro-industrial plantation with an updated framework of social inclusion and environmental conservation.

We have invested significantly in these plantations so that we can develop an eco-system that would in many ways resemble a social enterprise, where thousands of people and their dependents are invested economically and socially. From the smallholders we buy our raw materials from, to our employees and their dependents, and to the villagers living in the communities surrounding our plantation. This social enterprise produces a globally unique product for profit, for all stakeholders, not just our shareholders.

Our product is marketed globally through a network of specialist sales teams across North America, Europe, Southeast Asia and China. Similar to the pricing structure of chemicals and pharmaceuticals, the rubber sold through Corrie MacColl is adapted to each customer’s needs and actual demand, and reflects its true operational and production cost.

Corrie MacColl also supports our customers with a full logistical suite of distribution assets, including access to a technical advisory team and laboratories across the world.

Water wheel and ram pump at our JFL plantation in Malaysia

Utilising the steep slopes and streams at our plantation located in Tlu Nengjin in Malaysia, we built a waterwheel to capture water and generate electricity for irrigation at our oil palm plantation. The waterwheel generates 3-5 kW of electricity in water and generate electricity for irrigation at our oil palm plantation.

Expansion of client capabilities with new equipment and a 1,200 sq. ft lab

Following a $1 million investment, Momentum Technologies Laboratories (MTL) expanded its offerings with new equipment and a 1,200 sq. ft. testing lab. The Ohio-based natural rubber and latex facility now spans 7,500 sq. ft.

The third-party testing laboratory is ASLAB/ISO 17025 certified, and tests more than 90 different ASTM methods. The expansion has allowed MTL to offer construction product testing, including polymer-modified asphalt, roofing materials and coatings and below-grade coatings. The new equipment in the laboratory include a new rubber process analysis, a Wallace plastometer, Mooney viscometer, a tensile machine, compounding mixer and a mill.

The expansion allows MTL to find new methods of integrating natural rubber and latex into the paving and roofing materials industry, advancing on their accreditation to perform Miami-Dade County and Energy Star testing for roofing materials. This investment will also see greater supply chain efficiency for the global teams.

There are plans to grow MTL further globally, with plans underway for sites in The Netherlands and Cameroon.

Our plantation yields

The plantation business is a long-term investment, as each planted rubber tree requires an average of six years to mature before we can start tapping to yield the first drop of latex. The profits will start to accrue as the plantation ramps up its production, weighing down unit cost, mostly fixed in nature. The time horizon of investment in rubber trees is illustrated based on CMCP’s plantations in Cameroon.

As noted in Figure 1, the expected plantation yield from our Cameroon plantation in FY20 is approximately 18,000 mT upon plantation maturity of 42%. Following the progressive maturity of our rubber trees, the yields start to ramp up and are expected to double in five years. Subsequently, as the plantation progresses into peak production upon full maturity by FY34, the yields will start to plateau at approximately 65,000 mT per annum.

A rubber tree has an expected life cycle of 25-30 years upon the commencement of tapping, and upon the end of its economic useful life, it is harvested for conversion into timber and a new tree will then take its place. This represents the emergence of immature areas in FY39 again, as the earlier cohorts of trees have reached the age of 30 years and the replanted trees will have no returns for the next six to seven years.

The all-in cash operating cost consists of plantation costs, processing costs, selling and distribution costs as well as general and administration costs. A decreasing unit cost leads to an increase in profit at a stable price environment.

In terms of financial return, please refer to Figure 3 for an illustration on the evolution of unit costs at different maturity profiles. In the initial period, the unit costs are relatively high at US$1,800, mainly due to the plantation areas that have recently turned mature but does not yield sufficient latex and revenue, by extension, to cover the fixed operating costs.

As the plantation mature, the cost absorption starts to improve following a ramp-up of yield, representing the declining costs of the plantation, which eventually stabilises at US$1,250 at full maturity.

Applying the price of US$1,700 per mT, representing the blended average historical prices for past five years, across a 20-year horizon, the plantation is expected to break even in 2021, as the ramp-up of yield generates sufficient revenue beyond breakeven period at estimated 26,000 mT. At the unit cost stabilises, the incremental yield generates better profit to the Group.

The profits of plantation business are most sensitive to market prices given that they maintain full control over its cost structure. A US$100 swing in price will affect the EBITDA by approximately 25%.

There are plans to grow MTL further globally, with plans underway for sites in The Netherlands and Cameroon.

![Illustration of expected EBITDA over the next 20 years](image-url)

Please note the data set out above are for illustration purposes only. It is important to note that the above analysis is based on historical numbers, and is not necessarily representative of future financial performance.
Redefining The Industry to Develop a Higher Quality and Sustainable Product

The HeveaPRO industry standards were developed in 2015 and are designed to be a product level management system to ensure the sustainability of natural rubber. The standards further ensure consistently high-quality products and efficient operations of crumb rubber processing facilities. They have been peer-reviewed by third party certification bodies and leading tyre majors.

Quality: the standards incorporate the 12 core principles of the Global Platform for Natural Rubber (GPSNR) and supplier codes of conduct of tyre companies and have been referenced to leading international management systems adopting both a process and system-based approach.

EHS: stringent EHS standards mean that factory workers can carry out their daily operations in a safe and healthy environment, increasing their productivity and reducing lost time. The standards also mitigate environmental impact and reduce the carbon footprint.

Supply chain security: ensures that finished goods and final products are delivered in a secured manner to the customer’s doorstep. Benefits include reduced inspections & fines, fast flow of security-compliant cargo at national borders, priority business resumption and front-of-line privilege for inspection of containers.

Social responsibility: addresses community needs and ensures they are empowered to share grievances.

Addressing the UN SDGs and Sustainability Policy Requirements

The standards have 1,227 audit checklist points and cover:

- 260 points that address 15 of the 17 United Nations Sustainable Development Goals (SDGs)
- Social Responsibility and Supply Chain Security addresses 25 common features found in tyre majors’ sustainable procurement policies and practices
- 84 audit points supporting GPSNR’s desire to define sustainable natural rubber for the industry

The standards mitigate ESG-related supply chain risks and create greater transparency within the natural rubber supply chain. They also address upstream issues of smallholders livelihood enhancement and community engagement.

"Considering the current social requirement of the United Nations SDGs, evaluating the sustainability of processing factories are essential to the natural rubber industry."

- Mr. Yajima Hisashi, President Director, PT. Aneka Bumi Pratama (A member of ITOCHU Group)

Please note the data set out above are for illustration purposes only. It is important to note that the above analysis is based on historical numbers, and is not necessarily representative of future financial performance.
Driving Impact and Continual Process Improvement

Quality control
The standards focus on three pillars of the quality system to achieve sustainable quality: (1) defect prevention (FMEA, Control Plan, SPC & Prioritised Reduction Plan), (2) early detection (Final QC, Product Audit) and (3) recovery (8D Problem Solving Approach). These pillars ensure continual improvement in process and product quality performance.

The implementation of these standards has resulted in a reduction in internal product nonconformity rates and cases of quality complaints and rejection. These have in turn resulted in better customer-supplier relationships.

Environment, health and safety
The standards aim to reduce occupational injuries, occupational disease incidences, lost day rates, absenteeism, minimise negative environmental impacts and improve overall factory productivity. They ensure continual and progressive improvement in environmental, health and safety performance. Since the implementation of the standards, there have been reduced injury lost day rates leading to improved operational efficiency. Workplace fatalities remain at zero. Factories have also been able to reduce total overtime man-hours and has led to increased productivity and reduced manpower costs.

The standards have reduced water-use and increased water-recycling rates resulting in increased process efficiency: year-on-year reduction in GHG Scope 1 & Scope 2 (purchased electricity) emissions and emissions intensity have been recorded. The standards have also seen processing facilities significantly scaling up the use of biomass as a renewable energy source in their reduction and concurrently reducing and phasing out of the use of coal. Processing facilities are being pushed towards decarbonising their energy portfolio and transit from non-renewables to renewables.

Data-driven improvement and innovation
Data-driven process change and improvement. The Halcyon Data Centre captures and stores measurable and verifiable processing data. The Halcyon Data Centre is a decentralised database for individual factories with standardised data collection modules. These stand-alone modules cover each stage of the rubber production process and allow processing facilities to opt-in or opt-out according to their needs. This gives factories increased access to production information and allow them to implement data-driven improvement within processes as well as increase the overall quality of data recorded in crumb rubber processing facilities.

The digitalisation of the HeveaPRO Factory Traceability System
The Halcyon Data Centre remains the most robust system that captures and stores modularised information on crumb rubber facility processing parameters. To complement that, the HeveaPRO QR Code Factory Traceability System was implemented to provide customised pallet information. Found on the pallet itself, it allows a customer to download the product test report by scanning the QR code and entering a unique access code. Besides test reports and processing parameters, the QR code can also provide information relating to raw material composition and sourcing origins which forms a key aspect of product traceability and transparency - a key sustainability requirement of all tyre majors.

By harnessing IoT technology, the HeveaPRO Factory Traceability System includes real-time collection of processing data. IoT sensors will collect information on key processing and environmental parameters which improves data accuracy and reduces the risk of human error.

Collecting Real-time Manufacturing Data using IoT sensors for Sustainable Manufacturing
- Washing/size reduction: pH, turbidity, electricity usage, water consumption, contamination level
- Drying: Temperature, humidity, dwell time, outputs
- Baling: Weight, quantity, surface contamination, metal contamination, light intensity, hand tools control
- Laboratory: Plasticity, mooney viscosity, dirt, VM, ash, nitrogen, dry rubber content (DRC)

HeveaPRO further promotes data transparency. Buyers of HeveaPRO rubber enjoy peace of mind knowing that processes and data in the factory have been audited by a third party and the production data is readily available for verification. With the most mature standards in the industry, HeveaPRO has built a foundation for harmonised standards. It provides a hands-on approach to guiding processors to implement standards for consistent and positive results. The Halcyon Data Centre allows for the aggregation of robust data to prove the sustainability credentials of HeveaPRO rubber.

Key business developments
- Creation of the world's leading tyre majors supply platform - In view of the recent development in the natural rubber market, as well as the anticipated convergence in the quality and sustainability requirements at the consumers' end, we have combined our tyre majors processing and supply assets (previously placed under Sinochem International Natural Rubber Overseas (SINRIO) Group and Halcyon Rubber Company (HRC) Group respectively) into a singular global platform under the now enlarged HRC Group.
- Sustainable and responsible monetisation of harvested old trees - Sustainable usage of all parts of Corrie MacColl's assets in Cameroon, maintained under well-developed sustainable practices, the plantations have approximately two million trees due for replanting over the next four years. Realising the opportunity in the sustainable plantation-sourced rubberwood in USA, Europe and China, which now no longer permit the importation of non-certified tropical hardwoods, the Group will process harvested rubber trees as part of a replanting programme into rough sawn tropical lumber for global furniture and construction industries.
- Digital disruption initiatives gaining market traction - HeveaConnect has commenced trading in April 2019 with circa 80,000 mT (with a total contract value of US$120 million) being traded through the platform in FY2019.
- Future-proofing production process - Continuous investment in technology and digitalisation of production processes, in which we have allocated US$0.5 million for the development of Halcyon Data Centre 2.0, and trial implementation of Internet of Things (IoT) technology in our Indonessa factories.

Selected key financial statistics

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales volume</td>
<td>1,279,201</td>
<td>1,432,335</td>
<td>1,227,027</td>
</tr>
<tr>
<td>Revenue</td>
<td>US$m</td>
<td>1,907.7</td>
<td>2,141.0</td>
</tr>
<tr>
<td>EBITDA</td>
<td>US$m</td>
<td>71.7</td>
<td>36.2</td>
</tr>
<tr>
<td>Core operating profit1</td>
<td>US$m</td>
<td>47.2</td>
<td>22.6</td>
</tr>
<tr>
<td>Operating profit</td>
<td>US$m</td>
<td>38.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Return on assets1</td>
<td>%</td>
<td>3.7</td>
<td>2.0</td>
</tr>
<tr>
<td>Return on equity2</td>
<td>%</td>
<td>12.2</td>
<td>6.2</td>
</tr>
<tr>
<td>Return on capital employed2</td>
<td>%</td>
<td>6.3</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Notes:
1. Core operating profit = EBITDA less working capital interest
2. Return on assets = EBITDA divided by total assets
3. Return on equity = EBITDA divided by total equity (excluding perpetual securities)
4. Return on capital employed (ROCE) = EBITDA divided by (term debt plus total equity (including perpetual securities of US$148.7 million))
2019 presented highly challenging market conditions for Halcyon, with the confluence of weakened demand, tight supply and low prices, causing the sales volume to contract by 10.7% from 1,432,335 mT in FY2018 to 1,279,201 mT in FY2019.

The reduction in volume directly resulted in FY2019 revenue of US$1,907.7 million, to be 10.9% lower than US$2,141.0 million recorded in the preceding financial year. The Group’s average selling prices have remained stable (US$1,495 in FY2018; US$1,491 in FY2019), compared to a slight elevation of average SICOM prices from US$1,365 per mT in FY2018 to US$1,406 per mT in FY2019, with the latter mostly buoyed by the price rally in Q4 2019 amid market realisation of supply shortage.

Despite the slight increase in average selling prices, the prevailing price levels are considered to be under constant suppression, and it is reflected in the unit gross profit that remain compressed (US$83 in FY2018; US$84 in FY2019).

Operating profits of the Group have increased from US$4.5 million in FY2018 to US$38.3 million in FY2019, in contrast to the movement in gross profit. This is mainly contributed by the recognition of fair value gain on biological assets of US$52.7 million arising from the reclassification of our Cameroonian rubber plantations from bearer plant. The improvement in unit margins is reflected in the effective capturing of sales premium, which is further catalysed the commercialisation of our harvested rubber trees, have caused the trees to be accounted for as biological assets.

The gain was set off by lower contribution margins from the distribution business, as the extended period of wintering in Thailand and Vietnam have caused a spike in latex input costs, and to remain elevated for the rest of the year. This is further aggravated by an overall slowdown in regional markets caused by uncertainty surrounding Brexit as well as the US-China trade war that lingered throughout the year, resulting in our customers to be more cautious in their procurement.

Operating profit have improved from previous year, mainly driven by the recognition of fair value gain on biological assets relating to our Cameroonian plantations as aforementioned.

The efficiency of deployment of our resources in funding our operations have seen the relevant metrics, return on assets, return on equity and return on capital employed to record year-on-year improvements.

The segment covers the key administrative and support functions for the Group. Operating loss increased from US$12.0 million in FY2018 to US$15.2 million in FY2019, mainly due to the absence of the one-off forex gain in FY2018 of US$6.6 million, that arose following the liquidation of a dormant subsidiary. Excluding the one-off gain in FY2018, the reduction in corporate costs represents the Group’s effort in seeking efficiency in the midst of a challenging operating environment.

Net financing costs increased by 63.4% from US$21.3 million to US$34.8 million, mainly due to the redemption of US$150 million perpetual securities in April 2019 with proceeds from loans and borrowings, further compounded by the higher effective interest rates.

The efficiency of deployment of our resources in funding our operations have seen the relevant metrics, return on assets, return on equity and return on capital employed to record year-on-year improvements.

HRC Group

Segmental operating profits, adjusted for the management fee, have also improved as compared to the previous year, owing to the benefits from its recalibration of sales strategy, allowing effective capturing of sales premium, which is reflected in the improvement in unit margins. This was set off by the lower sales volume, caused by overall market slowdown as well as raw material scarcity induced by the outbreak of tree diseases.
Financial position
The Group’s net assets have decreased from US$735.9 million in December 2018 to US$589.0 million in December 2019 mainly due to the redemption of US$150 million perpetual securities in April 2019, set off by the foreign currency translation gains following the strengthening of the local currency against US Dollars.

The Group continues to maintain a stable funding base, where financing tenors are matched, cash balances are unencumbered and fixed assets are sustainably financed.

The table below summarises the management’s assessment of the Group’s capital structure:

<table>
<thead>
<tr>
<th>(US$ million)</th>
<th>Balance at 31 Dec 19</th>
<th>Balance at 31 Dec 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital employed¹</td>
<td>595.0</td>
<td>542.1</td>
</tr>
<tr>
<td>Working capital loans</td>
<td>572.6</td>
<td>520.5</td>
</tr>
<tr>
<td>% Efficiency of Working Capital Funding</td>
<td>96.2%</td>
<td>96.0%</td>
</tr>
<tr>
<td>Operational long term assets²</td>
<td>1,017.4</td>
<td>936.2</td>
</tr>
<tr>
<td>Term debts</td>
<td>551.1</td>
<td>391.6</td>
</tr>
<tr>
<td>% Fixed Asset Gearing</td>
<td>54.2%</td>
<td>41.8%</td>
</tr>
<tr>
<td>Cash and cash equivalents²</td>
<td>55.6</td>
<td>122.9</td>
</tr>
<tr>
<td>Non-core assets²</td>
<td>44.7</td>
<td>46.8</td>
</tr>
<tr>
<td>Total equity (excluding Perpetual Securities)</td>
<td>589.0</td>
<td>587.2</td>
</tr>
<tr>
<td>Perpetual Securities</td>
<td>148.7</td>
<td></td>
</tr>
<tr>
<td>Total equity (including Perpetual Securities)</td>
<td>589.0</td>
<td>735.9</td>
</tr>
<tr>
<td>Gearing⁶</td>
<td>0.94 times</td>
<td>0.92 times</td>
</tr>
<tr>
<td>Net asset value (NAV) per share⁶</td>
<td>US$0.37</td>
<td>US$0.37</td>
</tr>
</tbody>
</table>

Notes:
1. Working capital employed for the Group is defined as the sum of operational trade and other receivables, inventories, net derivative assets, pledged deposits, trade and other payables, net current liabilities, net derivative liabilities, and non-current liabilities. Non-current liabilities are main accounts payable, long-term bank borrowings, and long-term trade and other payables.
2. Operational long term assets of the Group are mainly related to the financing of working capital turn, which the cash conversion cycle typically takes a lead in which the cash conversion cycle typically takes a lead of about 90 days.
3. Non-core assets mainly made up of investment properties.
4. Non-core assets mainly made up of investment properties.
5. Gearing = (Term debts plus perpetual securities) divide total equity (excluding perpetual securities).
6. NAV per share = Total equity (excluding perpetual securities) divide total shares outstanding (1,300,011,491 shares).

Working capital funding efficiency continues to maintain at 96% levels, in line with the management’s strategy to have its working capital assets (which are mostly liquid) to be fully funded by working capital loans.

Fixed asset gearing increased from 41.8% in December 2018 to 54.2% in December 2019, mainly due to the redemption of the perpetual securities, which are equity in nature, being financed partially by term debts, and the remaining through the existing cash balances.
This was set off by the increase in asset base due to continuous investment into immature upkeep across our plantation platform.

Cash flows

<table>
<thead>
<tr>
<th>(US$ in millions)</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating cash flow before working capital changes</td>
<td>15.3</td>
<td>33.3</td>
</tr>
<tr>
<td>Changes in working capital</td>
<td>(30.0)</td>
<td>(37.6)</td>
</tr>
<tr>
<td>Payments of taxes and working capital loan interests</td>
<td>(30.9)</td>
<td>(22.6)</td>
</tr>
<tr>
<td>Net cash flow from operating activities</td>
<td>(21.6)</td>
<td>(32.8)</td>
</tr>
<tr>
<td>Net cash flow from investing activities</td>
<td>(65.5)</td>
<td>(292.1)</td>
</tr>
<tr>
<td>Net cash flow from financing activities</td>
<td>38.7</td>
<td>228.4</td>
</tr>
<tr>
<td>Net changes in cash and cash equivalents</td>
<td>(58.4)</td>
<td>(25.7)</td>
</tr>
</tbody>
</table>

Operating cash flows

Operating cash flows before working capital changes decreased from US$33.3 million in FY2018 to US$15.3 million in FY2019, in line with the decline in sales volume as aforementioned. In spite of that, net cash used in operating activities improved from US$83.9 million in FY2018 to US$41.6 million in FY2019, due to the partial release of net working capital invested in previous years upon the acquisition of new businesses.

Investing cash flows

Net cash used in investing activities has come down significantly, from US$201.2 million in FY2018 to US$65.5 million in FY2019. This is largely due to the substantial completion of the asset buy and build programme in the previous year, where the Group has acquired Corrie MacColl and the five Indonesian rubber factories.

In addition, the capital expenditures have reduced from US$78.7 million in FY2018 to US$68.2 million in FY2019, mainly driven by the Group’s ongoing efforts in reviewing the efficiency of its immature upkeep costs, as well as the cost benefits following the Group’s announcement of cessation in new planting at the end of FY2018. The annual cost for immature upkeep will reduce progressively along with the maturing of the plantations.

Financing cash flows

Net cash generated from financing activities has reduced from US$228.4 million in FY2018 to US$37.7 million in the current year, as the Group inherited a lower debt base from FY2017, where the proceeds from the perpetual securities issuance as well as the disposal of Siat S.A., a former associate, have been used to pare down working capital loans. In FY2018, the Group redeployed the proceeds from working capital facilities to finance the working capital investments of the newly acquired businesses. In FY2019, as the perpetual securities have been refinanced by term debts, the remaining cash inflows are mainly the drawdowns to fund net working capital.

Capital structure management

Our treasury management
Treasury management is carried out by the business units, and coordinated by Group treasury function, in accordance with established policies and guidelines. Policies and guidelines have been regularly updated to take into account changes in the operating environment. Working capital requirements and capital expenditures are funded by a mix of short-term and long-term loans.

We closely monitor relevant emerging regulations which may potentially impact the way that we obtain our finances or introduce any operating constraints. We are kept updated of the latest development in debt markets and to arrange new financing as opportunities arise. Our consistent approach has helped us in building a strong working relationship with the banks.

Cash and cash equivalents, as well as undrawn committed facilities, are available for drawdown at short notice.

Our capital management

In managing our capital structure, we try to find the right balance between shareholders’ funds and external borrowings in order to maximise shareholders return.

In achieving the optimal capital structure, we may either renew and refinance existing borrowings, obtain new borrowings, or deleverage by way of rights issue, capital raise at subsidiaries level, as well as opportunistic disposal of non-core assets.

Having access to flexible and cost-effective financing allows us to quickly respond to opportunities. In our view, the Group has adequate sources of financing to meet our business requirement in the foreseeable future. We also use a combination of short-term and long-term debts in financing our operations, depending on the cash flow profile of the prevailing investments. Most of our drawdowns are in US dollars, being the underlying currency of natural rubber trades.
Risk is intrinsic to our business and risk management is imperative to business sustainability. The Group proactively manages risks and embeds the risk management process into the Group’s planning, decision-making process as well as its day-to-day operations. Our risk registers are reviewed continuously to ensure any necessary risk treatments are addressed and updated.

The risk registers are presented to the company’s Audit Committee, highlighting significant risks, measures taken by the management and residual risk exposures that have an impact on the Group. Our risk management policy is enhanced on an ongoing basis to match the expanded scale and scope of our business.

### Risk Management

<table>
<thead>
<tr>
<th>Risk</th>
<th>Cause</th>
<th>Impact</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price Risk</td>
<td>Fluctuations in the price of natural rubber and rubber products</td>
<td>Exposure to price volatility directly impacts the Group’s profitability</td>
<td>• Utilize different future markets and physical markets to mitigate</td>
</tr>
<tr>
<td>Credit and Counterparty Risk</td>
<td>Customer defaults and counterparty’s failure to meet contractual obligations</td>
<td>• Adverse market movements and change in supply and demand equation</td>
<td></td>
</tr>
<tr>
<td>Liquidity Risk</td>
<td>Insufficient liquidity to consistently meet obligations as well as to cater to changing business models</td>
<td>Longer lead time for working capital</td>
<td>• Manage liquidity by matching fund’s sources and uses</td>
</tr>
<tr>
<td>Interest Rate Risk</td>
<td>Fluctuation in interest rate for loans and borrowings</td>
<td>Interest rate hikes could increase the Group’s financing costs, which would negatively impact the Group’s results as well as liquidity</td>
<td>• Matching of cash availability with the repayment terms of facilities</td>
</tr>
<tr>
<td>Foreign Exchange Risk</td>
<td>Fluctuation in foreign rates</td>
<td>Inadequate hedging and unfavourable movements in exchange rates resulting in FX losses</td>
<td>• Monitor exchange rate movements on an ongoing basis</td>
</tr>
<tr>
<td>Biological Assets Risk</td>
<td>Unpredictable planting/replanting conditions (e.g. soil and weather conditions, plant diseases and pests)</td>
<td>Insufficient asset utilisation and low profit as the Group would have to procure from third party sources to make up for the suboptimal yield of existing trees</td>
<td>• In-house team of experienced plantation staff, supported by the services of qualified professionals as required for planting/replanting matters</td>
</tr>
<tr>
<td>Social and Political Risk</td>
<td>State changes in socio-economic and political climate</td>
<td>Improper management of such issues could tarnish the Group’s reputation</td>
<td>• Leverage the expertise and knowledge of local management and consultants to actively monitor the social and political risks</td>
</tr>
<tr>
<td>Legal and Compliance Risk</td>
<td>The Group operates in many different geographic locations with diverse cultures and local customs</td>
<td>Failure to comply with local laws and regulations may result in the Group being involved in litigations pertaining to claims and disputes</td>
<td>• Consult with internal and external legal advisors</td>
</tr>
</tbody>
</table>

Mr Alan Nisbet is a highly experienced accountant and serves as Lead Independent Director and Chairman of the Audit Committee. He joined the Board in 2013 and is also in the Remuneration, Nominating, as well as the Strategy and Investment Committees. His other current roles include:

- Principal at Kanni Advisory, a consultancy firm
- Independent Director and Chairman of the Audit Committee of Ascendas Property Trusts Pte Ltd (the trustee-manager of Ascendas India Trust)
- Independent Director, Chairman of the Remuneration Committee and member of the Audit and Risk Management Committee at KrisEnergy Limited
- Independent Director of Keppel REIT Management Limited (the manager of Keppel REIT)
- Independent Director and Chairman of the Audit Committee at Standard Chartered Bank (Singapore) Limited

Mr Nisbet was a member of the Institute of Singapore Chartered Accountants until his retirement. He graduated with a Diploma of Business Studies (Accounting) from the Caulfield Institute of Technology, Melbourne, Australia.

Mr Randolph Khoo is an Independent Director and Chairman of the Nominating Committee. He joined the Board in 2013 and is also a part of the Audit and Remuneration Committees.

He is currently the Deputy Managing Director for Dispute Resolution at Drew & Napier LLC and also heads the disputes practices of its China, India and International Trade Desks and Private Client Services Group. His other current roles include:

- Advocate and Solicitor of the Supreme Court Singapore, a Notary Public and a Commissioner for Oaths
- Panel Arbitrator, Singapore Institute of Arbitrators
- Panel Arbitrator, Shanghai Arbitration Commission, Shanghai International Economic and Trade Arbitration Commission and Shenzhen Court of International Arbitration
- Panel Arbitrator and the Malaysian Institute of Arbitrators
- Panel Arbitrator, Chinese Arbitration Association, Taipei
- Panel Arbitrator, Institute of Modern Arbitration of the Russian Federation
- Panel Arbitrator (Foreign National), Indian Council of Arbitration
- Fellow of arbitral institutes of Singapore, Malaysia, Hong Kong, the United Kingdom, India and New Zealand
- Member of the International Bar Association, Society of International Law (Singapore), Law Society of Singapore and the Singapore Academy of Law

Mr Khoo graduated with a Bachelor of Law from the National University of Singapore with various academic prizes.
Mr Liew Choon Wei is Independent Director and Chairman of the Remuneration Committee. He was appointed to the Board in 2014 and also sits on the Audit and Nominating Committees. He joined Ernst & Young LLP in Singapore in 1979 and was Audit Partner for its largest real estate, commodities, banking, media, hospitality and retail clients before retiring in 2013. His current roles include:

- Independent Director at Frasers Hospitality Asset Management Pte Ltd (manager of Frasers Hospitality Real Estate Investment Trust) and Frasers Hospitality Trust Management Pte Ltd (trustee-manager of Frasers Hospitality Business Trust), member of the Audit Committee, Remuneration Committee and Nominating Committee
- Independent Director; Chairman of the Nominating Committee and member of the Audit Committee and Remuneration Committee of F J Benjamin Holdings Ltd
- Independent Director at The Hour Glass Limited, Chairman of its Audit Committee and member of the Nominating and Remuneration Committee
- Fellow Chartered Accountant of the Institute of Singapore Chartered Accountants

Mr Simon Lam Chun Kai is Independent Director appointed to the Board in 2019. He brings many years of corporate experience, particularly in the petroleum and petrochemicals industries, and has served as:

- Chairman of Shell Companies in Singapore
- Chief Executive Officer at CNOOC and Shell Petrochemicals Company Limited
- Venture Director of Shell Eastern Petrochemical Complex
- Chief Executive Officer at Jurong Aromatics Corp, Singapore

He has previously sat on the boards of a number of government and industry bodies, including:

- Maritime and Port Authority of Singapore
- Science Centre Singapore
- International Chamber of Commerce
- Energy Market Authority of Singapore
- Hertie Group, Netherlands
- Royal Vopak, Netherlands
- Sinochem International Corporation Ltd

Mr Lam received his tertiary education at Adelaide University, South Australia, and is a Chartered Member of IChemE, United Kingdom.

Mr Jeremy Goon contributes his extensive experience in sustainability issues in his role as Independent Director. He was appointed to the Board in 2017. Mr Goon has management experience in edible oils processing operations, trading, brand management, marketing and sustainability and has held several senior positions in the Kuok Group of Companies since 2002. He also serves in various capacities in trade organisations such as the Malaysian Palm Oil Association, Malaysian Palm Oil Council and Tropical Forest Alliance 2020. His current roles include:

- Chief Sustainability Officer of Wilmar International Limited ("Wilmar") and Executive Director of Wilmar’s Plantation Operations, and also heads the Corporate and Investor Relations functions of Wilmar
- Director and General Manager of the FFM Berhad ("FFM") and also serves as Chairman/Director of FFM’s subsidiaries and associates

Mr Goon holds a Bachelor of Arts (Honours) in Management Science & Law from Keele University, United Kingdom.

Mr Liu Hongsheng brings decades of experience in business and human resources to his roles as Halcyon Agri’s Non-Executive Chairman and Chairman of the Strategy and Investment Committee. He joined the Board in 2017. He is currently Director and Chief Executive Officer of Sinochem International Corporation Ltd. His previous posts include:

- Vice President at Sinochem International Corporation Ltd
- Senior Vice President at Sinochem International Corporation Ltd, Chemicals Segment
- General Manager at Sinochem International Corporation Ltd, Logistics Business Division
- Deputy Head of Human Resources at China’s Ministry of Foreign Trade and Economic Cooperation
- First Secretary of the Economic and Commercial Counsellor’s Office at the Chinese Embassy in Thailand

Mr Liu holds a bachelor’s degree in Philosophy from Peking University and an executive master’s degree in Business Administration from Shanghai Maritime University.
Mr Robert Meyer is Halcyon Agri’s Chief Executive Officer. He also serves as Executive Director and sits on the Strategy and Investment Committee. He founded Halcyon Management Partners Pte Ltd, the precursor to Halcyon Investment Corporation Pte Ltd, in 2004. In 2010, Mr Meyer co-founded Halcyon Agri. As Chief Executive Officer, Mr Meyer is in charge of formulating and executing the business strategy of the Group, and of overseeing its day-to-day management.

Mr Meyer graduated with a Bachelor of Arts in Business Management from the European Business School, Schloss Reichartshausen. Prior to his business studies, Mr Meyer completed commercial banking apprenticeship with Dresdner Bank AG in Hamburg, Germany.

Mr Pascal Demierre is Halcyon Agri’s Executive Director and Chief Corporate Officer, a member of the Audit and Remuneration Committees. He co-founded Halcyon Agri and joined the Board in 2010. He is responsible for all corporate matters, including mergers & acquisitions, legal, corporate governance, corporate structuring, information technology, human resources and general administration. He also holds appointments in other organisations, including:

- Independent Director at The Hour Glass Limited
- Council member at Alliance Française, Singapore

Mr Demierre graduated with a Bachelor of Law (Upper Second) from King’s College London, in the United Kingdom. He also obtained a graduate diploma in Law from the National University of Singapore.

Mr Qin Jinke joined the Board in 2018 and is a Non-Executive Director. He has been with Sinochem International Corporation Ltd for nearly 20 years and is now its Chief Financial Officer. He joined Sinochem in 2001 and has held senior positions in its auditing, finance and accounting departments, including:

- Deputy Chief Financial Officer
- General Manager of the Finance Department
- Vice General Manager of the Finance Department
- General Manager of the Accounting and Tax Office
- Chief Financial Officer at Metallurgy and Energy Division
- Assistant General Manager of the Auditing Department

Mr Qin Jinke
Non-Executive Director

- Independent Director at The Hour Glass Limited
- Council member at Alliance Française, Singapore

Mr Wang Wei is a seasoned investor and investment analyst who was appointed to the Board in 2017 as a Non-Executive Director. He serves as Managing Director of the China-Africa Development Fund’s (CADFund) Infrastructure and Energy Investment Department. He is presently Director at HNA & CAD Fund Logistics, Nanjing Oriental (CM) Co. Ltd and Ansogli Power (Ghana) Ltd. His previous roles include:

- Consultant with APCO Worldwide LLC (Beijing)
- Consultant with KPMG Huazhen LLP

Mr Wang holds a master’s degree in International Relations, and a Bachelor of Arts in International Economics and Trade, from the China Foreign Affairs University. He is also an alumnus of Johns Hopkins University-Nanjing University, Center for Chinese and American Studies.
Mr. Jeremy Loh is the Chief Financial Officer at Halcyon Agri and is responsible for the Group's financial affairs, including corporate finance, treasury and capital management. He joined Halcyon Agri in 2016 as the Deputy Chief Financial Officer and brings with him almost 20 years of financial control and risk expertise to the Group. His work experiences include senior roles at international banks and auditing firms in Singapore, Thailand and Malaysia.

Mr Loh holds a bachelor’s degree in Accounting from Monash University Malaysia.

Mr. Andrew Trevatt is a co-founder of Halcyon Agri and has overseen the daily commercial affairs of the Group since 2018. He has more than 30 years of experience in the natural rubber industry, having worked in various rubber and commodity-related companies in the United Kingdom, The Netherlands, the United States of America and Singapore.

Mr Trevatt has now taken on the role of Chief Commercial Officer for the CMC Group and is responsible for implementing and managing its overall commercial and sales strategies.

Mr Eng Kiat Ng joined Halcyon Agri in 2013 as Chief Financial Officer. In addition to his CFO’s role, Mr Ng also oversaw the Group’s operations in China and Indonesia between 2017 and 2019. He was appointed Group Operating Officer in mid-2018 where he was overall responsible for the Group’s operations.

In late 2019, Mr Ng assumed the role of Managing Director for HRC Group and is responsible for the overall performance of Halcyon Agri’s global tyre-focused processing and distribution platform.

Mr Ng graduated from the Multimedia University in Malaysia in 2002 with a bachelor’s degree (Honours) in Accounting. He is also a member of the Association of Chartered Certified Accountants and the Institute of Singapore Chartered Accountants.

As we drive or are driven from our houses to our workplaces do we ever ask ourselves about the origin of the materials that are used to produce the tyres that give our cars, buses or taxis the mobility to arrive at our destination?

As we decorate our living rooms in preparation for our children’s birthday parties and wrap their birthday or Christmas presents do we ever ask ourselves the origin of the materials that are used to produce the balloons or the adhesive wrapping tape? The list goes on – surgical gloves to protect us from infection when we are being examined by doctors and nurses, simple things like elastic bands that we probably do not give a moment’s thought to but all of which form an invaluable and essentially irreplaceable part of our everyday lives.

The answer is, of course, NATURAL RUBBER.

There are of course many things that in this day and age would appear irreplaceable but I hazard to say that life without any of the aforementioned products is truly unimaginable.

But where does this incredible natural product start its humble life and how does its life’s journey begin? What journey does it undertake to become an integral and irreplaceable component of the countless and essential products, a fraction of which are highlighted above, and without which our lives would be immeasurably poorer?

As we chart this journey allow us to draw a brief parallel with our own journey through life.

Like all living organisms, both humans and natural rubber go through various stages of life until they become fully mature. Some of us grow up to become doctors, teachers, pilots and all manner of vocations. Similarly natural rubber plants after many years of nurturing and care become trees which in turn produce a raw material that ends its life as a component of tyres, surgical gloves, balloons, adhesives ……

So let’s describe the journey of natural rubber from beginning to its final destination as a finished product. We start with a tiny seed that is potted and after two months has grown into a small plant ready to take up residence in the ground. From there it is nurtured, fed and generally cared for, just as one would our own child and to develop that analogy further the journey that from a tiny seed to plant to tree to maturity ready to produce latex which in turn becomes raw material ready to be processed into a semi-finished product before finding its way to a factory for its final destination as a tyre, surgical glove or balloon is analogous with the life of a human being – from embryo to being born, to school, to university to becoming a useful and integral member of society as a doctor, nurse, paramedic ……

Can you imagine life without paramedics? But how does the paramedic get to an emergency to attend to a patient? - yes by ambulance and the ambulance’s mobility depends on tyres, which in turn depend on ……

Once the patient arrives at the hospital, the wheels on the trolley also have a natural rubber component and of course, the doctors and nurses attending to the patient be it in the ER or in the operating theatre will use a plethora of forms, gloves, tapes, masks all with an irreplaceable natural rubber component.

In the vast majority of applications, there is no material that one can use to substitute natural rubber, yes there is synthetic rubber and whilst it certainly is a component of a tyre, natural rubber represents approximately 20% to 35% respectively of the total of materials used in the production of passenger and truck tyres.

“In the vast majority of applications, there is no material that one can use to substitute natural rubber”.

The list is endless and too long to list in this summary but one final application that many of our lay readers may not have known about is the production of natural rubber damping bearings which are effective in providing protection to structures from the damaging effect of earthquakes.

So where is this summary leading to?

Much of what I have written is fairly obvious and known to most if not all of us but what, in all likelihood, is not known to the majority of consumers of all the products mentioned in this article?

What is it that is probably only known to the millions of farmers or smallholders whose livelihoods and whose family’s livelihoods depend on this irreplaceable item? To the processor of the rubber at the hundreds of rubber processing factories in Asia and Africa and to the manufacturers of the finished products?

I will tell you what it is! It is that while the price of natural rubber is to a degree determined by the laws of supply and demand, the actual pricing mechanism for rubber has little to do with the cost of producing latex, the first step in the value chain – i.e. the cost of producing the raw material for which the smallholder has made a six to seven year investment nurturing the small seed to grow into a mature adult that produces latex from which all of the aforementioned products are derived. You would be shocked, or at least you should be, to learn that the average income for a smallholder in Indonesia is significantly lower than the government’s gazetted minimum wage, a minimum wage by the way of the princely sum of USD 215 per month. A benchmark for income used to be one kilo of rubber would buy two kilos of rice – the staple diet of Indonesians. At today’s prices, prices that have prevailed more or less for the last three years, one needs approximately two kilos of rubber to buy one kilo of rice.
First, let’s talk about rubber itself. Rubber is a commodity that is traded on futures markets, such as the Tokyo Commodity Exchange (TOCOM) and the Shanghai Futures Exchange (SHFE). These markets allow speculators to buy and sell contracts for future delivery of the commodity, creating a speculative element.

Natural rubber, in particular, is used in many industries, from transportation to healthcare. The price of natural rubber is influenced by factors such as supply and demand, weather conditions, and economic conditions.

We are seeing an increasing number of reports about the negative impacts of rubber production on the environment, particularly in Indonesia, which is the world’s largest producer of natural rubber. This has led to a growing demand for sustainable rubber, which is produced in a way that minimizes its impact on the environment.

Sustainable rubber production is becoming increasingly important, not only for the environment but also for the long-term viability of the rubber industry. As consumers become more aware of the environmental impact of the products they use, there is a growing demand for sustainable products. This demand is driving change within the rubber industry, with many companies implementing sustainable practices and certification programs.

I believe that the future of the rubber industry lies in sustainability. We need to find a way to produce rubber in a way that is both profitable and environmentally responsible. This will require collaboration between all stakeholders in the rubber industry, from farmers to traders to manufacturers.

In the meantime, we need to be aware of the challenges facing rubber farmers. The decrease in rubber prices has had a significant impact on their livelihoods, and we need to support them in finding alternative ways to earn a living.

In conclusion, the future of rubber lies in sustainability. We need to find a way to produce rubber in a way that is both profitable and environmentally responsible. This will require collaboration between all stakeholders in the rubber industry, from farmers to traders to manufacturers. We need to support rubber farmers in finding alternative ways to earn a living.

Leonard Peter Silvio Beschizza