

DECADE OF DEFINING ACTION

SUSTAINABILITY REPORT 2021





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ABOUT THIS REPORT

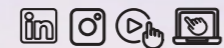
[GRI 2-2, 2-3, 2-5, 2-14, 3-1, 3-2]

Report cycle and scope

Welcome to Asia Pacific Rayon's (APR) third annual sustainability report. The report covers performance data and progress from January to December 2021 and includes historical data where relevant. The scope of this report covers the operations of our viscose staple fibre mill (APR) and our viscose rayon manufacturing facility (APY) in Pangkalan Kerinci, Riau, Indonesia.¹ Other than human resource figures, the data presented herein does not cover our Jakarta and Singapore offices. Where possible, we have sought to frame our performance within the context of the unique social and environmental conditions in Pangkalan Kerinci.

This report is complemented by the sustainability-related disclosures made public on the [Sustainability Dashboard](#) on our website and

our social media platforms. It has been prepared according to the Global Reporting Initiative Standards and references to the standards have been included throughout as [GRI XXX-XX]. The full GRI Content Index is available here. Performance data is also mapped against the European Union Best Available Techniques (EU BAT) Polymer BREF and Zero Discharge of Hazardous Chemicals Manmade Cellulosic Fibres (ZDHC MMCF) guidelines.



We have not sought third-party assurance for this report but will explore the possibility of incorporating an external audit in future reports based upon feedback from our stakeholders.

¹ While APY is a separate entity, it is managed by APR, and its activities are included within the scope of this report. Therefore, every mention of APR in this report includes our APY business.



STATEMENT FROM THE DIRECTOR

[GRI 2-22]



Basrie Kamba
APR Director

“

APR is proud to contribute to Indonesia's economic, environmental, and social well-being.

”

Dear Stakeholders,

I am pleased to present **Asia Pacific Rayon's (APR) 2021 Sustainability Report, Decade of Defining Action.** This report documents our efforts, achievements, and progress as we continue to create value for our stakeholders, drive innovation in sustainable fibre manufacturing, and transform the Indonesian textile industry as a producer of viscose staple fibre (VSF).

APR is still in its infancy, but we've accomplished so much in three years. Our tight integration with APRIL and our world-class R&D facility have enabled us to maintain complete control over our processes and operations and adopt a value chain approach to sustainability. We are also well-positioned to meet the increasing demand for sustainable VSF and are educating customers, suppliers, and end-users on the benefits of bio-based and biodegradable textiles. Like our friends, we have faced the challenges of the COVID-19 pandemic. However, our people and business adapted to the worldwide crisis and persevered.

During this time, APR continued working with our customers and partners in Indonesia and abroad to improve quality and efficiency and meet demand.

Launching our APR2030 vision

In November 2021, we launched our **Asia Pacific Rayon 2030 (APR2030), a ten-year strategy covering our priorities and targets for the next decade.** This ambitious initiative maps our plans to minimise our negative impacts and promote positive impacts. APR2030 is our strategy to establish APR as a leader in Indonesia's textile industry.

Two years into the decade, we have already made tremendous strides. We operate on 100% renewable energy, have met almost all EU BAT Polymer BREF criteria at our operations, increased our sulphur recovery rates to over 92%, and developed new ways of introducing recycled textile into the production process. APR2030 will ensure we can continue on this trajectory. A set of short-, medium- and long-term targets, it will translate our commitments into actions to address pressing needs. These include job creation, generating income for the country, fighting climate change, reducing our environmental impact and supporting circularity across value chains in alignment with the United Nations Sustainable Development Goals (SDGs) and industry-led roadmaps. We are proud of our progress so far, but taking this strategy forward will be the real test of our commitment to being a responsible and accountable business.

Promoting Indonesian Textiles

APR is proud to contribute to Indonesia's economic, environmental, and social well-being. In 2021, Indonesia's Minister of Tourism and Creative Economy, Sandiaga Uno, inaugurated Jakarta Fashion Hub (JFH), praising its contribution to Indonesia's creative economy. Trade Minister Muhammad Lutfi symbolically sent off a shipment of our viscose rayon products to show appreciation for APR's presence as a competitive company in Indonesia. Riau Governor Syamsuar has praised our initiative to establish a textile association in Riau province. These are just some examples of the country's leaders supporting our efforts.

Despite the challenges of the COVID-19 pandemic, Indonesia's government continues to make the country's textile industry a top priority. A stimulus on machinery and new duties on imported garments were rolled out in support of the country's targets to bring exports in line with our Asian counterparts. In 2021, the Indonesian government recognised APR as a leading contributor to export growth and rewarded us with the prestigious Primaniyarta Award for New Pioneering Exporter.

In 2021, APR marketing teams and the Jakarta Fashion Hub continued to actively promote viscose rayon to artisans, industry creatives, and apparel producers as a made-in-Indonesia solution that will meet and grow consumer demand. I am confident our teams will continue to harness shifts in consumer behaviour to bring APR products to the forefront.

Inclusive Prosperity, Boundless Creativity, and Innovation

APR is paving the way for a vibrant and sustainable textile hub – or centre of excellence – in Riau. **Our goal is to give the people of Riau a self-sustaining space and the tools to prosper** in a world that is increasingly online, entrepreneurial, and driven by innovation. We are collaborating with customers, suppliers, like-minded stakeholders, and industry players, including fashion designers, fashion schools, small and medium-sized enterprises (SMEs), and artisans. We

value partnerships with national and regional governments and have assumed leadership roles in industry associations to support industry transformation, such as *Rantai Tekstil Lestari, Asosiasi Pertekstilan Indonesia Riau (API-RIAU)* and the Indonesian Fiber and Filament Yarn Producers Association (APSyFI).

One of our goals is to bridge the old and the new. We see an opportunity to revive traditional batik and *kain*, or cloth, and bringing it into the 21st Century by creating bold new patterns that appeal to fashion-conscious youth. APR continues to spur innovation using traditional motifs through platforms such as JFH and campaigns such as Everything Indonesia. In 2022, we co-launched the *Melaya Merindu* campaign with Wiyasa TFA, introducing traditional motifs to young entrepreneurs selling their crafts online. Our programmes in Riau also provide professional and learning opportunities to align traditional craftsmanship with today's fashions. These initiatives include our *Rumah* batik and songket

weaving training programmes for women entrepreneurs, working closely with vocational schools to identify promising talent, and funding scholarships for students seeking careers in the fashion industry.

The Riau textile hub is the centrepiece of our APR2030 inclusive prosperity commitments. It is near and dear to my heart and will be APR's legacy in the region.

APR is proud to support local, regional, and national authorities, and partner with civil society organisations, and commercial stakeholders to promote prosperity through viscose staple fibre. We owe these tremendous accomplishments to our people: the men and women of APR who are the backbone of our success and remain our top priority. We will continue to engage with all partners – internal and external – to take action and pave the way for this next decade. partners – internal and external – to take action and pave the way for this next decade.





Jakarta Fashion hub official inauguration by Minister of Tourism and Creative Economy, Mr. Sandiaga Uno and RGE Managing Director Mr. Anderson Tanoto.



2021 HIGHLIGHTS

CERTIFICATION AND LABELS

 Obtained OK biodegradability Water label	 Obtained OK biodegradability Soil label
Test passed on biodegradability in marine certification, pending certificate	Obtained Halal certification for sulphuric acid and sodium sulphate

MEMBERSHIPS AND ASSOCIATIONS

 Became a member of the United Nations Global Compact (UNGC) in Jan 2021	 Became member of the Textile and Fashion Federation (TaFF)
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CONTRIBUTIONS TO INDONESIA'S TEXTILE AND FASHION INDUSTRY

Joined and are holding leading positions in various national and regional platforms, including rantai tekstil lestari, Api, Api Riau, Apsyfi and Kadin	Minister of Tourism and creative economy inaugurated Jakarta Fashion Hub (JFH)	7 New brands supported under JFH	30 Start-ups supported under JFH, 3x the number in 2020	5k JFH members, 2x the number in 2020
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RECOGNITION

 Received the Primaniyarta Award for pioneering new product exporter in Oct 2021	 Awarded Ecovadis Silver Medal in June 2021
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SOURCING

APY awarded PEFC™ chain of custody certification, which means yarn is now 100% traceable to plantation	Certified 100% PEFC™ DWP Sourced	100% of VSF traceable to plantation
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CLEAN MANUFACTURING

Operated on 100% renewable energy since 2020	New machine installed to clean and recycle 100% of reject fibre from VSF process	Improved sulphur recovery rate, reducing sulphur to air by 43% from 2019
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R&D

Developed new way of using recycled textile into production, pending patent

COMMUNITY DEVELOPMENT AND SUPPORT

Supported access to education for children, including awarding 20 scholarships	Continued COVID-19 related support	Trained 137 cadres and distributed >1,560 feeding packages to toddlers and expectant mothers
Conducted mass health check-ups at six villages	Supported training of 12 women in batik and 9 women in songket weaving since 2020. 5 Batik motifs have been patented.	Offered scholarships to 10 students to further studies in fashion design and mechanical engineering

Sponsored *Melayu Merindu*, an empowerment campaign promoting traditional melayu crafts and creating opportunities for local SMEs

EMPLOYEES







Over 700 people employed in Pangkalan Kerinci, 57% local to Riau province	Women make up 22% of management	All employees received COVID-19 vaccinations
88% reduction in accident rates compared to 2020	100% of employees covered by collective bargaining agreement	

TARGETS AND PROGRESS









This section summarises our 2021 progress against our commitments and targets.

In November 2021, APR launched APR2030, our strategy encompassing priorities and targets for the next ten years. Below is the list of targets under this strategy and their alignment with the UN Sustainable Development Goals (SDGs). Due to the unique supply chain integration of APR and APRIL, some of the APR2030 targets (climate, conservation, and community) build on APRIL's commitments. Our circularity commitments are also integrated with the efforts of the Royal Golden Eagle Group. We believe our combined resources and efforts will have a greater positive impact on the ground and will report on progress against these targets in our annual sustainability reports

APR2030 TARGETS AND PROGRESS

Pillar	Contributing to SDGs	Target	Target year	Status and progress as of December 2021
CLIMATE AND NATURE POSITIVE 	 	Halve product carbon intensity (against 2019 baseline) based on cradle-to-gate LCA approach	2030	On track Finalised life cycle assessment and GHG inventory. Began reporting on APR GHG emissions in CDP submissions and this sustainability report.
		Ensure 100% of energy supply comes from renewable sources	2030	Achieved
		Support the achievement of net-zero emissions from land use by APRIL	Year-on-year	On track
		Contribute to APRIL's conservation and wildlife habitat protection initiatives in Indonesia	Ongoing	Began developing a framework to support APRIL's biodiversity and conservation initiatives.
CLEAN MANUFACTURING 	 	>95% total sulphur recovery rate	2025	On track Installed a third CS2 recovery system line in Q4 2021. Achieved 92.9% recovery rate in 2021, up from 90.7% in 2020
		50% reduction in process water consumption intensity (2019 baseline)	2030	On track Achieved 25% reduction in process water consumption intensity
		80% reduction in solid waste to landfill (2019 baseline)	2030	On track
		Meet all criteria set out in the EU BAT Polymer BREF	2023	On track Achieved intensity levels in compliance with consumption, emission, and noise criteria of EU BAT Polymer BREF in 2021. We are now focused on meeting the remaining hazardous waste requirements.
		Meet ZDHC MMCF guidelines' 'aspirational levels'	2025	On track Met ZDHC aspirational levels for majority parameters in 2021. Working on meeting aspirational levels for, total sulphur to air, TSS, COD and sodium sulphate recovery rate.

APR2030 TARGETS AND PROGRESS

Pillar	Contributing to SDGs	Target	Target year	Status and progress as of December 2021
CIRCULARITY 	  	20% recycled textile composition in VSF	2030	Working on partnerships at APR and RGE levels
		Determine the feasibility of establishing Indonesia's first commercial-scale recycled textile facility	Ongoing	Commissioned a study on pre-consumer waste
		Determine the feasibility of establishing urban textile recycling centres in Singapore and Indonesia	Ongoing	
INCLUSIVE PROSPERITY 	  	In partnership with APRIL, eradicate extreme poverty within a 50km radius of our operations	Ongoing	In 2020/21, APRIL conducted a study to establish a baseline of community needs in the vicinity of our operations. APRIL and APR will collaborate on programmes in the targeted areas we identify. These include technical and vocational training, programmes to foster entrepreneurship capabilities and the enhancement of farming and agricultural skills
		Increase access to primary healthcare services for targeted villages within our operations	Ongoing	Supported access to healthcare for community members, including mothers and toddlers. APR will appoint a consultant to survey access to healthcare services and conduct a needs assessment in villages surrounding our operations. Moving forward, we will develop programmes to further improve access to these services.
		Expand programmes that promote traditional craftsmanship	Ongoing	Promoting women entrepreneurship through batik and songket weaving
		Create a regional textile hub	Ongoing	Nurturing the talent of young adults by providing scholarships, training, and internships
		Advance gender equality across the value chain	Ongoing	Supporting local SMEs to be part of the textile value chain Promoting gender equality at APR. Supporting women entrepreneurship programmes in Riau.

PROGRESS AND HIGHLIGHTS

PROGRESS AGAINST OTHER TARGETS

Target	Target year	Status as of December 2021, unless otherwise stated
Operations and certification		
Achieve 80% score on Higg Facility Environmental Module (FEM)	Revised from 2021 to 2022	In progress Conducted a verified assessment, achieving a 64% score. APR is working with the Sustainable Apparel Coalition to address identified gaps related to our integrated APR and APRIL facilities. Scored 87% on our Higg Facility Social Labour Module (FSLM) self-assessment and will seek verification after addressing the gaps identified in the FEM assessment.
Obtain STeP by OEKO-TEX® certification for APY	Revised from 2021 to 2022	In progress Due to COVID-19 travel restrictions, required onsite audits were not able to take place.
Supply chain		
New: Complete Scope 3 GHG inventory	2022	On track
Health and safety		
Achieve zero fatalities	Ongoing	Achieved



ABOUT US

[GRI 2-1, 2-6]

Our operations

PT Asia Pacific Rayon (APR) is a leading producer of viscose rayon, a natural and biodegradable textile made from wood-based fibre. We operate a 240,000-tonne capacity viscose staple fibre (VSF) mill in Pangkalan Kerinci, in the Riau province of Indonesia. We also operate Asia Pacific Yarn (APY), a 7,552-tonne capacity, state-of-the-art downstream yarn spinning facility next to our mill that sources VSF exclusively from APR. We sell high-quality VSF and yarn to yarn spinners, fabric makers, and garment

manufacturers in Indonesia and 13 other countries, including Turkey, Pakistan, Bangladesh, India, Sri Lanka, and Vietnam.

In addition to our manufacturing facilities, we manage a dedicated research and development (R&D) centre equipped with a pilot plant and world-class laboratories. The centre develops new products, tests new yarns and fabrics, and supports Indonesia's textile industry by enhancing APR's ability to produce high-quality VSF.

APR is a privately held company and a member of the Royal Golden Eagle (RGE) group of resource-based manufacturing companies. Our headquarters is in Jakarta, and we operate a sales and coordinating office in Singapore. We leverage the existing infrastructure and the many strengths of APRIL, and our integrated facilities and operations maximise resource efficiency and sustainable production.





About viscose

Viscose rayon is a type of man-made cellulosic fibre (MMCF), the second-largest cellulosic fibre group after cotton. Made from the natural wood cellulose of fast-growing trees like acacia and eucalyptus, it is preferred over other synthetic fabrics due to its natural and renewable properties. APR produces a diversified range of viscose

rayon through innovation and by responding to market demands. Our viscose is soft to the touch, lightweight, versatile, breathable, retains colour well, and is the ideal fabric for clothing designed for tropical climates. It can be woven or knitted into textiles that have many applications in the garment and home furnishing industries. Viscose has tremendous potential and can

serve as the fabric of choice in modest wear, which is increasingly popular in countries like Indonesia, the world's largest Muslim-majority nation and an important consumer market. The demand for non-woven viscose fibre is also increasing in the domestic and international markets to manufacture baby wipes, dry and wet wipes, beauty masks, and other hygiene products.

Properties of viscose

 Natural	 Renewable	 Biodegradable	 Comfortable
<p>Made from 100% wood cellulose, viscose rayon is a natural alternative to acrylic, polyester, nylon and other petroleum-based synthetic fabrics. The highly porous nature of cellulose fibre enables it to take dyes very well, resulting in rich and radiant colours without losing its natural lustre.</p>	<p>Our wood fibre supply is sourced from sustainably managed forest plantations in Indonesia comprising fast-growing tree species that excel at carbon sequestration and oxygen release. These trees are planted and harvested in five-year cycles, ensuring a constant supply of renewable raw material.</p>	<p>Consisting of natural plant-based polymers, viscose rayon is fully biodegradable and naturally decomposes in soil. In contrast, synthetic fibres do not biodegrade. At the end of their life, if they are not recycled, they are either burned or disposed of in landfills, where they will remain for centuries.</p>	<p>Soft and breathable as cotton and smooth as silk, viscose rayon drapes beautifully and provides comfort, breathability, and absorbency for various applications.</p>



ABOUT US

[GRI 2-1, 2-6]

Viscose applications



High-end knitted innerwear, dresses, and t-shirts.



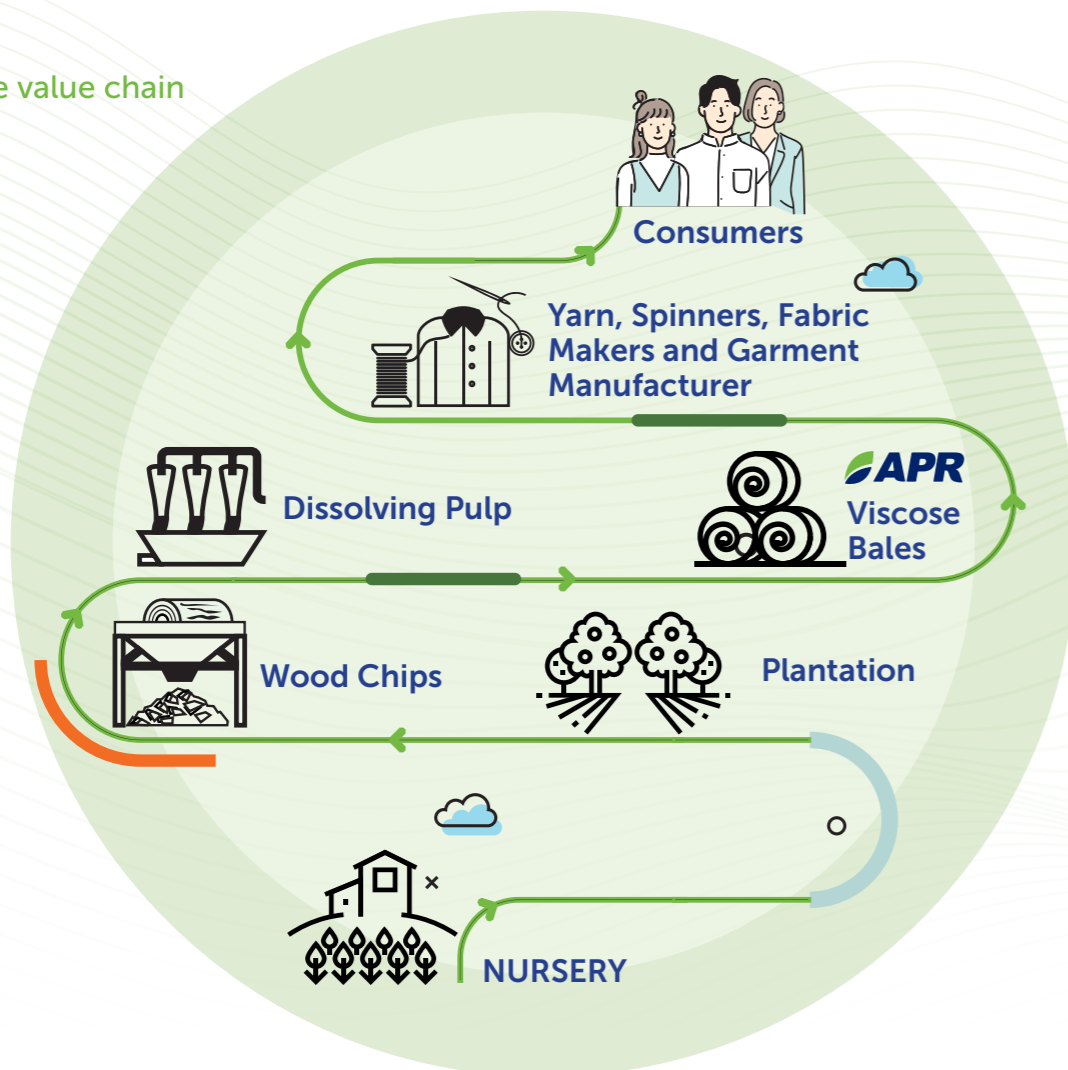
Dresses, denim, shirts, batik, and casual wear



High-end towels, bedding, tablecloths, napkins, and decorative fabrics.

[See About viscose](#)

Viscose value chain



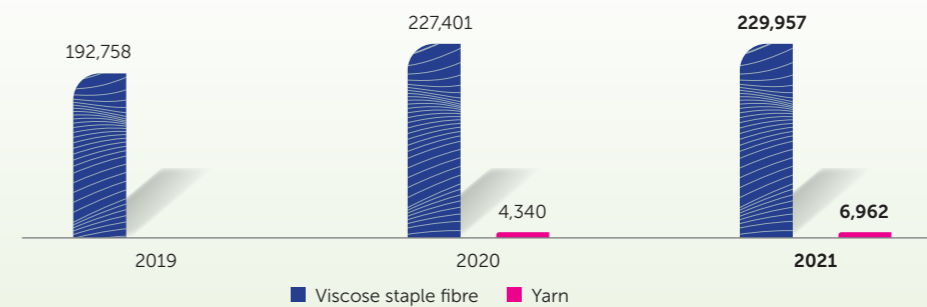
Improving productivity to meet growing global demand

Our VSF production remained steady in 2021: 44% of our VSF was sold to the Indonesian domestic market, while 56% was exported to international markets. The yarn facility we inaugurated in 2020 became fully operational in 2021, leading to a 60% increase in production from the previous year – from 4,430 tonnes to 6,962 tonnes. Currently, our yarn is produced primarily for export markets, accounting for 87% of our total sales.

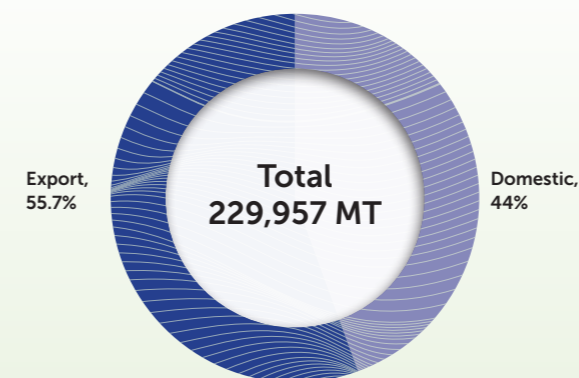
APR is committed to supporting the Indonesian government's national textile strategy encouraging export-oriented production. Our current capacity helps meet the country's demand for competitively priced raw materials, reducing reliance on imports. Consequently, over 50% of our production is shipped to international markets. In recognition of this achievement, **APR received the Indonesian government's Primaniyarta Award for Pioneering New Product Exporter in October 2021.**

- [APR mill expansion](#)
- [Strength of integration with APRIL](#)
- [Ministry of Trade Export Release 2021](#)
- [Primaniyarta Award](#)

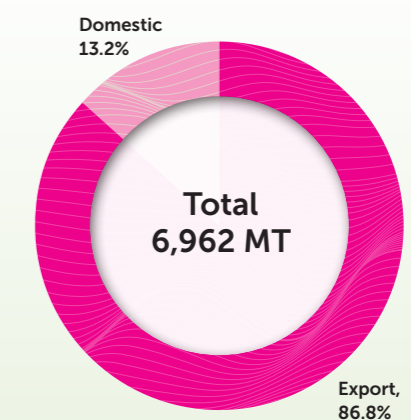
Production 2019–2021 (MT)



VSF sales by market 2021 (%)



Viscose yarn sales by market 2021 (%)



ABOUT US

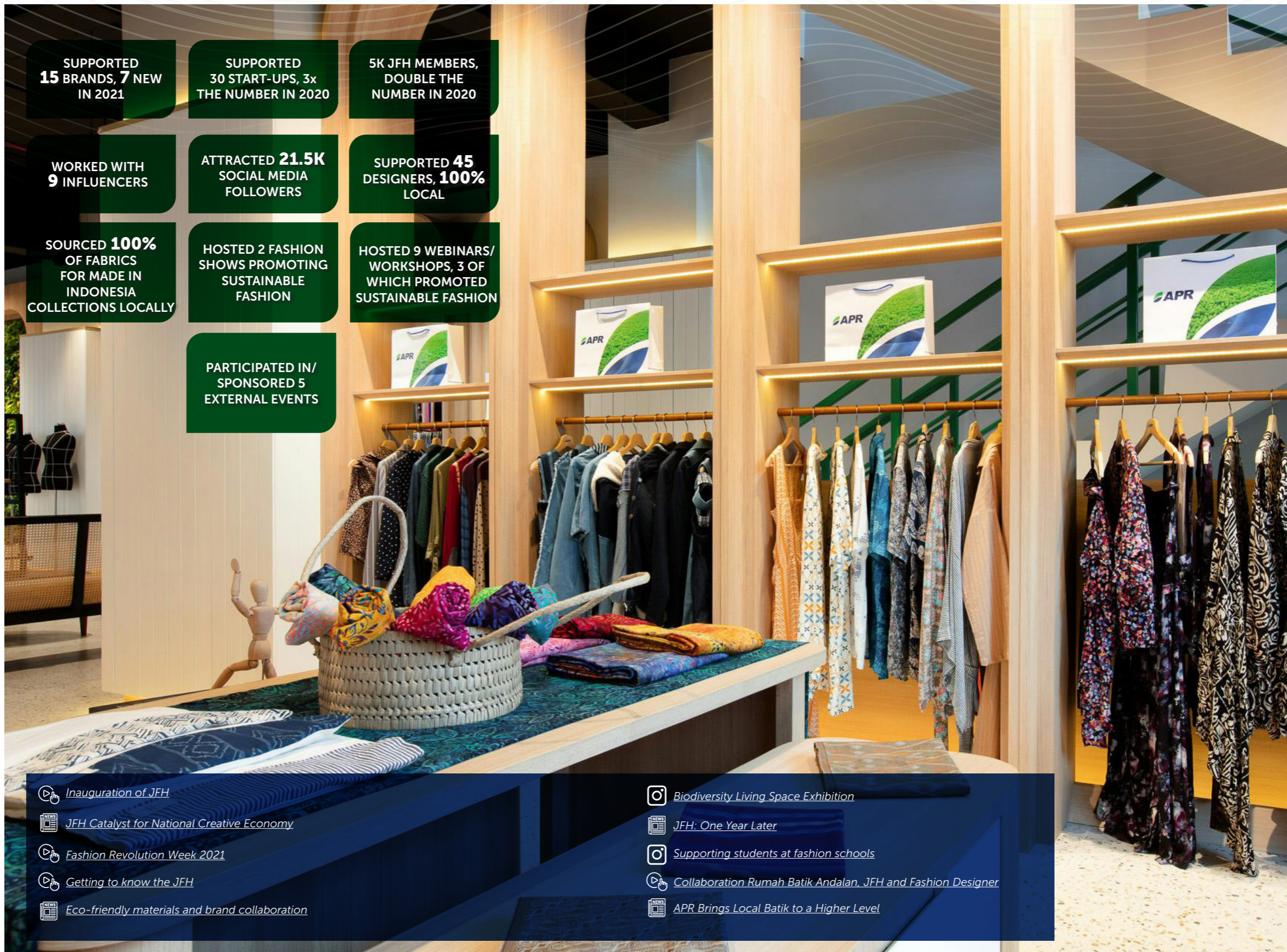
[GRI 2-1, 2-6]

Supporting local, sustainable fashion with JFH

In 2020, APR inaugurated the Jakarta Fashion Hub (JFH), a platform for brands, designers, influencers, photographers, and like-minded individuals interested in becoming part of the Indonesian fashion landscape.

JFH is a collaborative space that expands APR's outreach to the fashion community by introducing designers to different fabrics and fabric blends that use sustainable viscose. JFH's educational and collaborative initiatives help introduce the fashion and garment industries to applications of sustainable fabrics and fibres, including APR products.

A key component of JFH is supporting local production, local designers, and local crafts. JFH operates dedicated campaigns, including Everything Indonesia, to support government initiatives promoting domestic products. On 4 December 2021, Indonesia's Minister of Tourism and Creative Economy, Sandiaga Uno, inaugurated JFH, recognising that the Hub can help drive the uptake of Indonesian fabrics, fibre, and fashion here and abroad.



SUPPORTED 15 BRANDS, 7 NEW IN 2021	SUPPORTED 30 START-UPS, 3x THE NUMBER IN 2020	5K JFH MEMBERS, DOUBLE THE NUMBER IN 2020
WORKED WITH 9 INFLUENCERS	ATTRACTED 21.5K SOCIAL MEDIA FOLLOWERS	SUPPORTED 45 DESIGNERS, 100% LOCAL
SOURCED 100% OF FABRICS FOR MADE IN INDONESIA COLLECTIONS LOCALLY	HOSTED 2 FASHION SHOWS PROMOTING SUSTAINABLE FASHION	HOSTED 9 WEBINARS/WORKSHOPS, 3 OF WHICH PROMOTED SUSTAINABLE FASHION
PARTICIPATED IN/ SPONSORED 5 EXTERNAL EVENTS		

- [Inauguration of JFH](#)
- [Biodiversity Living Space Exhibition](#)
- [JFH Catalyst for National Creative Economy](#)
- [JFH: One Year Later](#)
- [Fashion Revolution Week 2021](#)
- [Supporting students at fashion schools](#)
- [Getting to know the JFH](#)
- [Collaboration Rumah Batik Andalan, JFH and Fashion Designer](#)
- [Eco-friendly materials and brand collaboration](#)
- [APR Brings Local Batik to a Higher Level](#)



APPROACH TO SUSTAINABILITY

[GRI 2-23, 2-24]

At a time of increasing demand for sustainable apparel from the fashion industry, APR is presented with a real opportunity to drive change in the sustainable production of viscose rayon. We have implemented policies and practices that guide our approach to responsible production while addressing the environmental and social challenges faced by the industry. The APR [Sustainability Policy](#) outlines our commitments towards responsible sourcing, the clean production of viscose fibre, and improving the living standards of the people and communities around us. It

reflects our spirit of continuous improvement in sustainability, transparency, and the efficiency of our operations.

APR is part of the Royal Golden Eagle (RGE) Group of companies. The RGE Group's Forestry, Fibre, Pulp and Paper Sustainability Framework² and 5C philosophy guide our commitments and business philosophy. Everything we do must be good for the Community, the Country, the Climate, and our Customers, and only then can it be good for the Company.



APR2030

In November 2021, we launched our ambitious Asia Pacific Rayon 2030 (APR2030) sustainability strategy, covering our priorities and targets for the next ten years. This strategy comprises four main commitments: becoming climate and nature positive, ensuring clean and closed-loop manufacturing, accelerating circularity, and promoting inclusive prosperity.

We developed this strategy to tackle some of the textile industry's most pressing social and environmental challenges, including deforestation, climate change, biodiversity impacts related to raw material sourcing, safe chemical use, and minimising waste in the value chain. Since commencing operations in 2019, we have implemented measures that add value to our business while responding to some of these global needs. These measures include decarbonising our value chain, sustainable sourcing and resource use, clean manufacturing, and inclusivity and equality. The APR2030 strategy goes further by prioritising and formalising our values into action. It represents the collective purpose of our management team and our operations, research and

development (R&D), and community teams on the ground. We set ambitious and relevant targets by ensuring ownership at every level of the organisation.

APR2030 was equally shaped by ongoing dialogue and consultation with key stakeholders and is aligned to key industry roadmaps belonging to the initiatives we are party to. These roadmaps include the Man-made Cellulosic Fibres (MMCF) 2030, the Zero Discharge of Hazardous Chemicals (ZDHC) Roadmap to Zero, and the Textile Exchange 2030 Climate+ Strategy. While APR2030 is our company approach to addressing global needs, we are working jointly with our peers to have a broader impact.

We monitor and measure progress at our operations against APR2030 targets regularly. We also meet with the 2030 Steering Committee every quarter to discuss progress against individual targets and share challenges and successes. This degree of governance is integral to meeting our commitments and embedding our ambitions in our corporate culture and business model.

Contributing to the SDGs

APR2030 has also identified the ten Sustainable Development Goals (SDGs) we believe are most relevant to our business. Based on an exercise carried out in 2019, we have mapped these SDGs to material issues and business activities throughout our value chain. These ten SDGs comprise:

- **Core goals:** the most relevant to APR's business



- **Catalytic goals:** which enable APR to have a positive, direct, and significant impact on surrounding communities

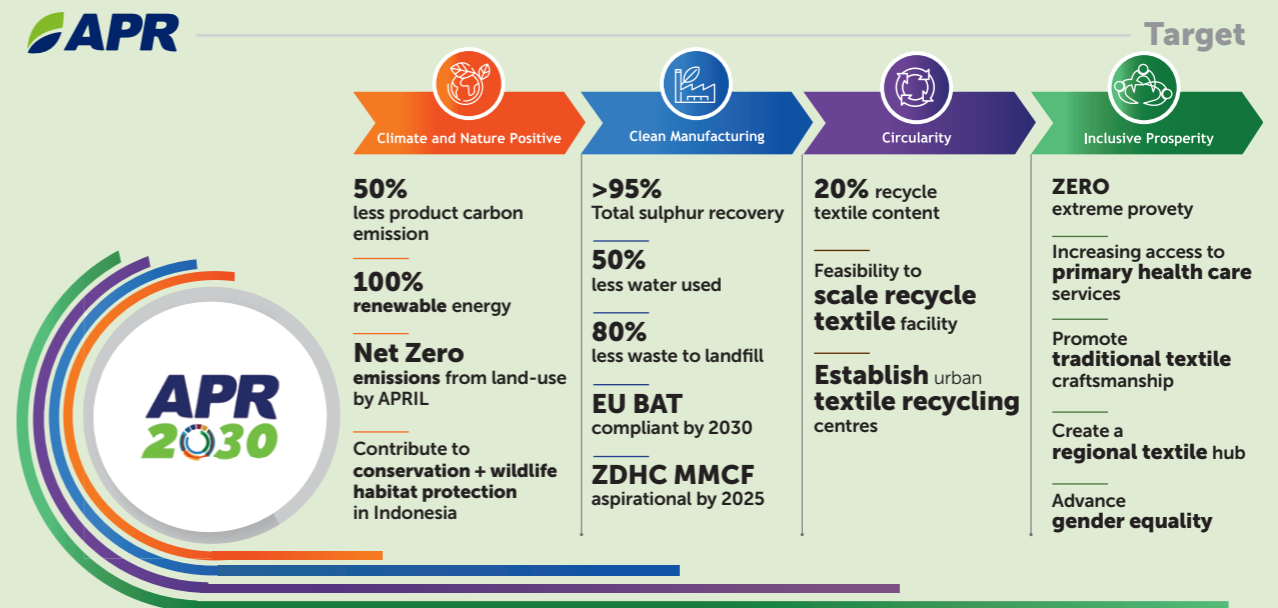


- **Contributed goals:** the goals to whose attainment APR directly or indirectly contributes



Throughout this publication, we report against the pillars and targets of APR2030 and relevant SDGs. For a complete list of targets, please see page 8.

APR2030 Targets



[Launch of APR2030](#) |
 [APR Unveils Ambitious 2030 Sustainability Agenda](#) |
 [A Decade for Definitive Action](#)

APPROACH TO SUSTAINABILITY

[GRI 2-23, 2-24]

Advancing sustainability in partnership with APRIL

APRIL has operated in Pangkalan Kerinci since the 1990s. Sharing our facilities with APRIL allows us to leverage joint infrastructure and existing strengths to meet our integrated sustainability commitments. This unique model enables us to:

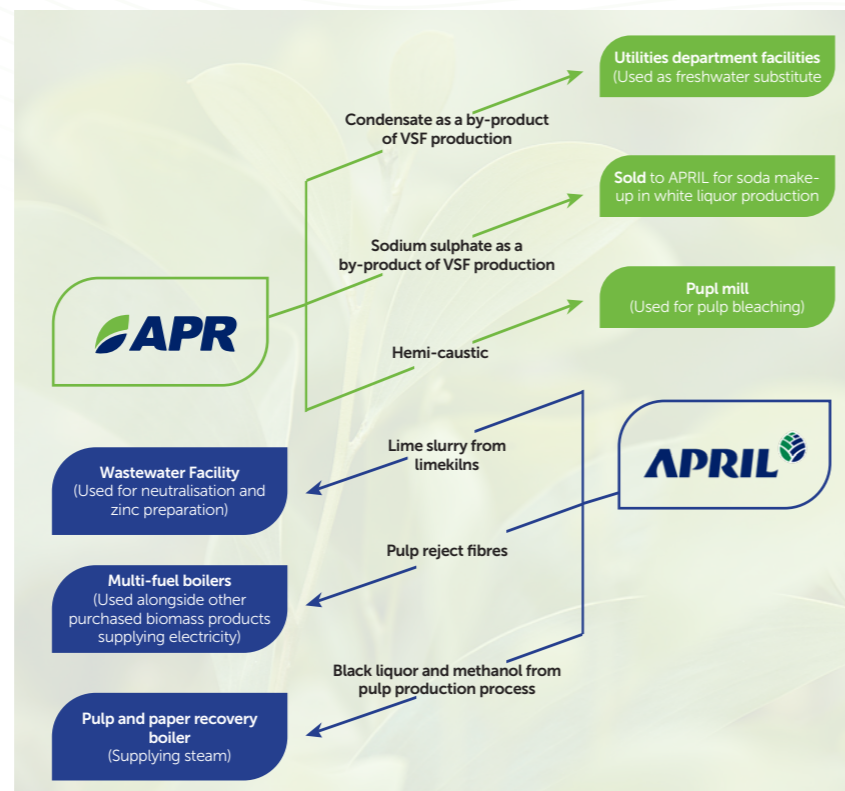
1. Support APRIL's conservation, restoration, and biodiversity protection efforts (see [Support for biodiversity protection](#))
2. Work together to improve process efficiency at our facilities to reduce our combined environmental footprint (see [Understanding our carbon footprint](#))
3. Combine our community programmes to increase their impact and ensure inclusivity (see [Our community](#))

Adopting a value chain approach

Of necessity, some APR2030 initiatives build on APRIL's sustainability efforts due to our close collaboration. As a result, certain commitments adopt a value chain approach, starting at the resource

extraction stage and ending at the disposal stage, instead of gate-to-gate, which covers a partial process limited to our own operations.

We firmly believe that the value chain approach is the key to real, meaningful impact.



Governance and responsible business practices

[GRI 2-9, 2-12, 2-16, 2-24, 3-3]

With guidance from the RGE Executive Management Board, the APR leadership team is responsible for the direction and strategy of APR's business. Sustainability is fully integrated into APR's business strategy and is supported by our executives. The leadership team oversees operational, health and safety performance, environmental compliance, community development, stakeholder engagement and certification. Our Head of Sustainability is responsible for developing and monitoring APR's sustainability policy and strategy. The Operations Manager directs our operations and oversees the implementation of our APR2030 strategy.

APR leadership team

- **Basrie Kamba**, APR Director
- **Saleel Nayak**, Director, Operations
- **Djarot Handoko**, Head of External Affairs
- **Susan Slabbert**, Head of Sustainability
- **Tapan Sannigrahi**, VP, Product and Business Development
- **Sachin Malik**, Global Head of Sales

We comply with the RGE Global Code of Conduct, which guides and upholds our ethical and professional business conduct rules and compliance with applicable legal requirements. Employees can report any breach of the Code through their reporting

manager or human resources representative as the first point of contact. A confidential internal audit hotline is also made available for any reporting of misconduct or whistleblowing purposes. All reported breaches are treated promptly and fairly, in compliance with our legal obligations, and appropriate penalties or disciplinary actions are taken as the case may warrant. Any critical grievances raised are reported to the APR senior management team.

All APR suppliers must adhere to our Code of Procurement Ethics, which details our values, principles, and commitments consistent with RGE's Sustainability Framework and APR's Sustainability Policy. Our procurement department conducts due diligence of suppliers' commitments against these criteria and then reports to management.

[Company core values refresher](#)

Grievance mechanism

[GRI 2-25, 2-26]

Our grievance procedure ensures a comprehensive feedback mechanism through which external and internal stakeholders report alleged APR policy breaches, concerns, and complaints. It is accessible on our website. The APR Grievance Committee manages and oversees each grievance and processes all

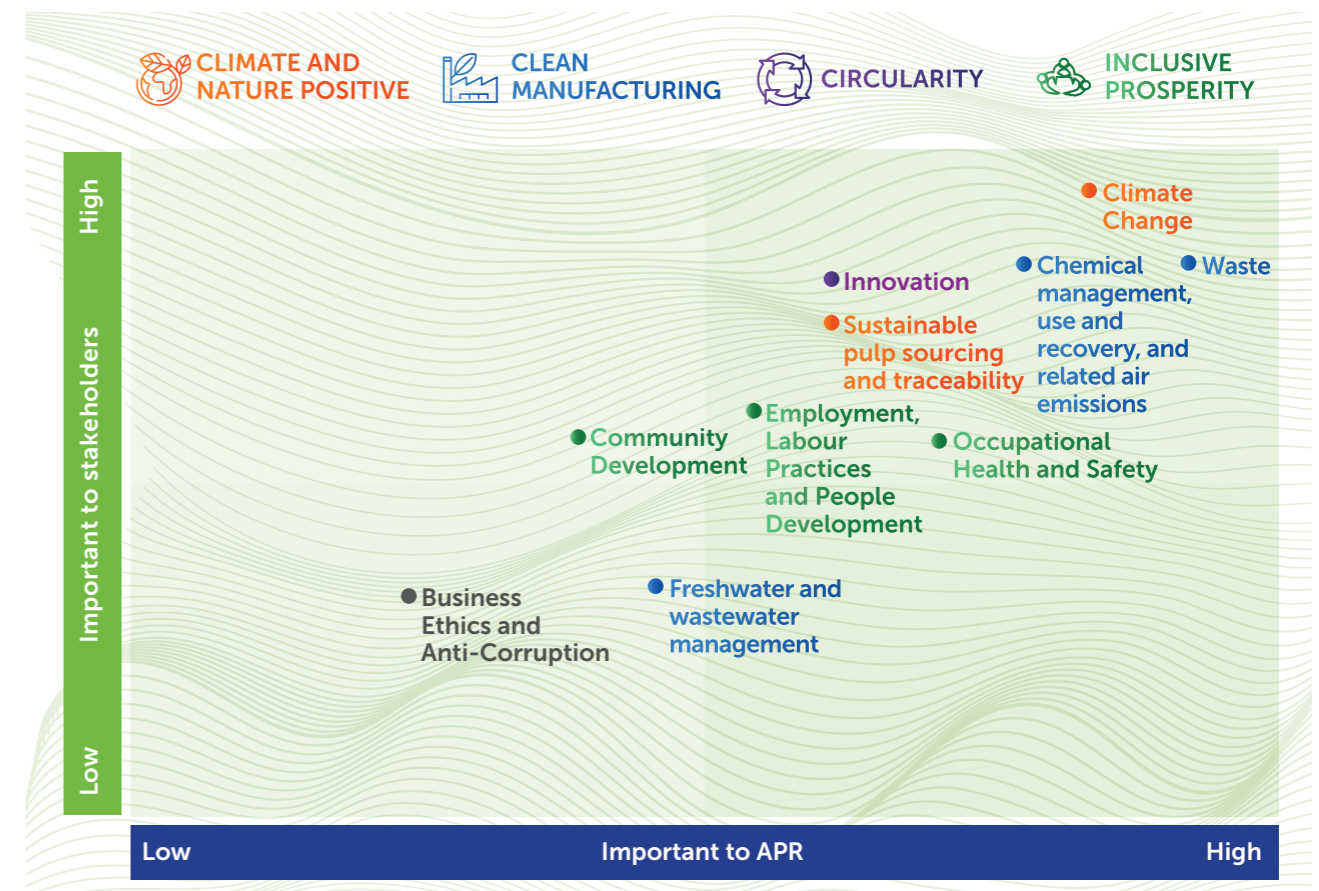
feedback in a fair, transparent, and accountable manner, arriving at a mutual agreement between the parties involved. There were no grievances raised in 2021.

[APR Grievance Procedure](#)

Materiality

In 2019, we conducted a comprehensive assessment of our material sustainability topics. We identified the economic, environmental, and social issues most relevant to our stakeholders and upon which APR has the most significant impact. In 2021, we carried out a desktop prioritisation exercise, weighing the importance of each material topic for both our operations and

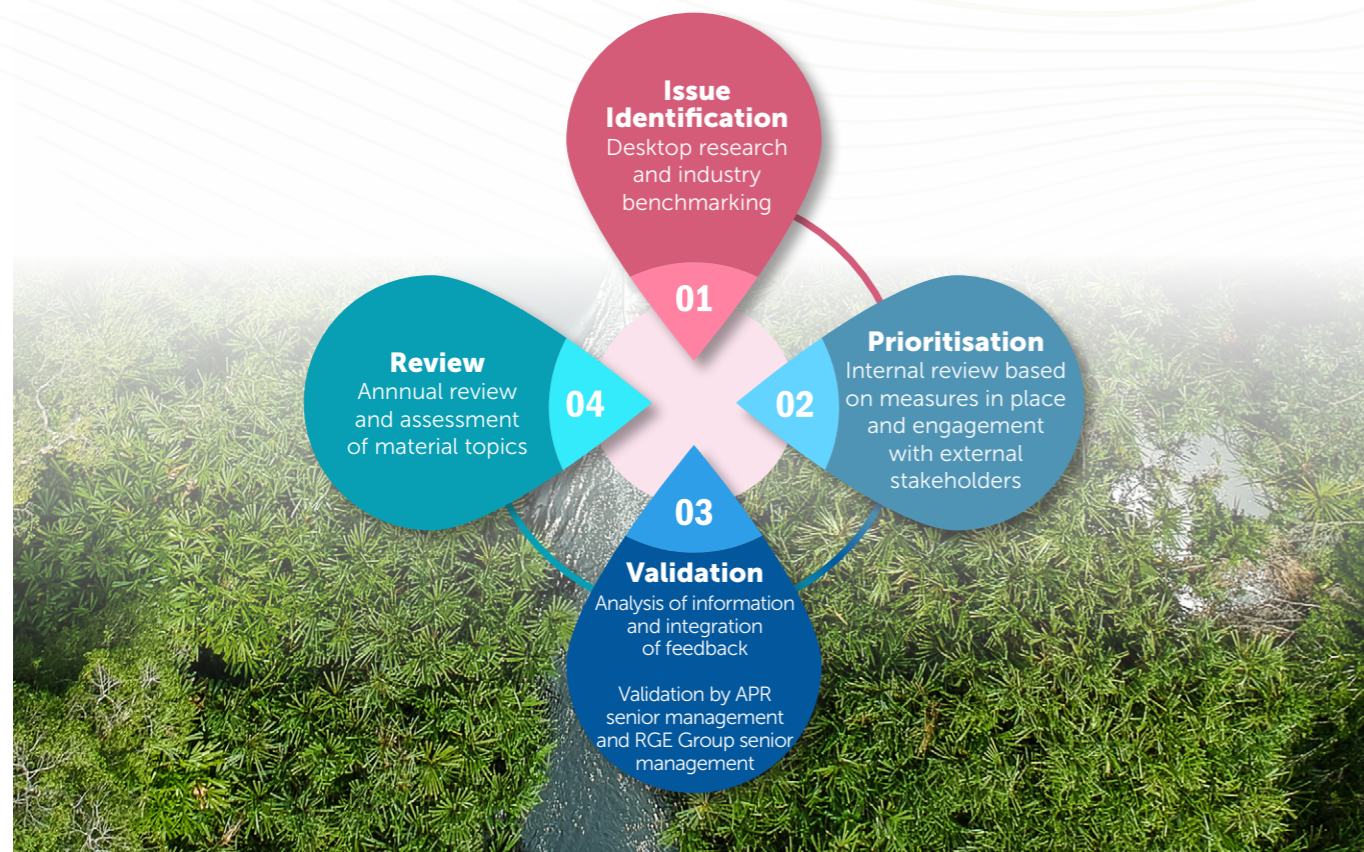
external stakeholders based on current measures, strategies, and engagements. We also benchmarked these key topics against those of regional and international peers. There have been no changes to the list of issues and material topics or their boundaries since the previous report.



APPROACH TO SUSTAINABILITY

[GRI 2-23, 2-24]

2021 APR materiality assessment: approach and topics



Stakeholder engagement

[GRI 2-28, 2-29]

Open and constructive stakeholder engagement is integral to driving sustainability in our business and key to making an impact in line with our decade-long commitments. We identify our key stakeholders according to their influence on and relevance to APR and our impact on them. Our engagement approach varies from informal to formal, and we evaluate all material issues to determine their potential impact on stakeholders and APR.

In 2021, APR became a United Nations Global Compact (UNGC) signatory, confirming our intention to uphold the UNGC's ten universal principles on human rights, labour, the environment, and anti-corruption. We are also a member of the Textile and Fashion Federation (TaFF), a non-profit association based in Singapore and focused on bolstering the fashion industry while promoting sustainability and environmentally friendly business practices.

[Stakeholder engagement table](#)

[List of memberships](#)

2021 Canopy Hot Button score

Every year, Canopy³ publishes its Hot Button Ranking and Report, a fibre sourcing analysis tool which acts as a guide for CanopyStyle brands. APR's sustainability performance is included in these annual assessments. In 2021, we scored 9.5 out of 35 buttons, which is a 4.5-button increase from 2020. This ranking resulted from APR's operational improvements, primarily in the areas of chemicals and innovation, resulting from continuous and increased efforts in conservation, innovation through new alternative fibres, traceability, transparency, and chemical management. Specifically, Canopy recognises our showing leadership by establishing an automated pilot plant, investing in R&D, increasing transparency through our Follow Our Fibre platform to identify and eliminate risks within the supply chain, and engaging with our primary suppliers to advance conservation efforts in the Leuser Ecosystem.

Our limitations to scoring higher is mainly due to what Canopy considers risks in our fibre supply chain. Canopy considers the whole of Sumatera, Indonesia where we source our plantation fibre as "ancient and endangered forest". Our suppliers on the other hand are guided by industry tools such as the high conservation value and high carbon stock assessment. We are engaging with our suppliers and Canopy to resolve these issues and improve our ranking.

³ Canopy is an international environmental not-for-profit organisation that works with companies to make fibre supply chains more sustainable and protect the world's remaining Ancient and Endangered Forests.

Leadership in the industry

To make an impact in the next decade, we are working closely with the following industry associations and government agencies to introduce and promote policies, schemes, and best practices from other countries that can benefit producers like APR. **In 2020 and 2021, APR joined the following national and regional industry platforms, assuming strategic leadership roles:**

- Rantai Tekstil Lestari** – an association of textile manufacturers, government agencies, national and international fashion brands, and local NGOs working to advance a sustainable ecosystem along Indonesia's textile value chain. APR's Director will serve as the first Chairman from 2021 to 2025.
- Asosiasi Pertekstilan Indonesia (API)** – a textile industry association of brands and academics that promotes issues such as local textile production and consumption, Muslim fashion, and locally-sourced textile for uniforms. APR's Director is Head of the Fibre and Filament Committee until 2025.

- API-RIAU** – the Riau chapter of the textile industry association that collaborates with local artisans to promote local and traditional textile products. API-RIAU will focus on defining a strategic plan for textile industry development in Riau. APR's Director is serving as Chairman from 2021 to 2026.



- Indonesian Fiber and Filament Yarn Producers Association (APSyFI)** – an association of fibre manufacturers in Indonesia. APR's Director sits on the Board as an advisor.



- Indonesia Chambers of Commerce and Industry (KADIN)** – an association of business organisations in Indonesia that promotes trade and investment. APR's Director is the Committee Head of PSLB3, the National Waste Management Committee, until 2026. The Committee defines and implements partnerships for the national waste management programme and acts as an intermediary between industry players and small-scale waste collectors.



Programmes participated in 2021

MUSLIM FASHION FESTIVAL (MUFFEST) AT KOTA KASABLANKA, JAKARTA 18–28 MAR 2021	INDO-INTERTEX (VIRTUAL EXHIBITION) 29 MAR–2 APR 2021	HANNOVER MESSE (VIRTUAL TRADE SHOW) 12–16 APR 2021
INAFASHION, AN OFFLINE TEXTILE CENTRE AT SMESCO FOR 3 MONTHS	WORLD EXPO DUBAI OCTOBER 2021	EMBRACING JAKARTA MUSLIM FASHION WEEK NOVEMBER 2021
PRESENTING APR INDUSTRY 4.0 AT PIDI CENTRE TO WELCOME THE G20 SHERPA DELEGATION		

APPROACH TO SUSTAINABILITY

[GRI 2-23, 2-24]



Basrie Kamba,
Director

Importance of collaboration

Indonesia's textile exports have remained unchanged for almost ten years. But consumer behaviour is changing worldwide, and the sustainable fashion market is growing. Indonesia is faced with the opportunity to respond to these markets. We are home to talented designers, skilled labourers, and abundant raw material. We have the resources to meet increasing demand and are incredibly cost-effective. APR's expansion plans can support the transformation of Indonesia into a leading viscose fibre player, locally, regionally, and internationally.

However, we cannot boost local demand and consumption of viscose overnight. Nor can APR act alone. The key to creating change is collaborating with and supporting Indonesian government efforts to build infrastructure and a regulatory framework for sustainable production and markets. Supply and demand will follow.

For these reasons, we must collaborate with government entities, textile industry associations and other industries to develop Indonesia's textile sector and sustainable resources. We want to support local production and markets by promoting viscose as a vital commodity that can transform Indonesia into the world's Muslim fashion hub. Our hope is by being a part of leading initiatives and collaborations, APR can support the transformation of Indonesia's textile industry.

About: Basrie Kamba is APR's Director. He sits on multiple national and regional industry association boards and committees.



TOWARDS POSITIVE IMPACT FOR CLIMATE AND NATURE

Climate change is the defining global challenge of the 21st century. Economies, ecosystems and communities today are already experiencing the impacts of climate-related risks. Following scientific warnings⁴ and the government' of Indonesia's pledge to reduce emissions by 29% (unconditional)

and up to 41% (conditional) by 2030,⁵ we recognise the critical role we have to play in understanding their climate-related risks and adopting mitigation measures.

APR's approach is to optimise efficiencies and reduce our environmental footprint while

supporting our primary supplier APRIL's efforts to reduce its emissions and implement biodiversity initiatives. Our APR2030 sustainability agenda outlines science-based solutions to achieve our goals.



HALVE PRODUCT CARBON INTENSITY (AGAINST 2019 BASELINE) BASED ON CRADLE-TO-GATE LCA APPROACH BY 2030

ENSURE 100% OF ENERGY SUPPLY COMES FROM RENEWABLE SOURCES

SUPPORT THE ACHIEVEMENT OF NET-ZERO EMISSIONS FROM APRIL'S LAND USE BY 2030

CONTRIBUTE TO APRIL'S CONSERVATION AND WILDLIFE HABITAT PROTECTION INITIATIVES IN INDONESIA

CORE GOAL:



CONTRIBUTED GOAL:



Understanding our carbon footprint

[GRI 3-3, 305-1, 305-2, 305-4, 305-5]

APR is committed to supporting industry pledges that address the global climate crisis by aiming to achieve net-zero emissions. These pledges include the Man-made Cellulosic Fibres (MMCF) 2030 Vision, the Textile Exchange 2030 Climate+ Strategy, and the United Nations Framework Convention on Climate Change (UNFCCC) Fashion Industry Charter for Climate Action.

As part of our APR2030 strategy, we have committed to halving product carbon intensity reduction by 2030 based on a life cycle approach (LCA) using 2019 as our baseline. Ours is not just an APR gate-to-gate commitment but a cradle-to-gate approach incorporating

our entire value chain. **In 2021 we concluded our LCA study, which was then peer-reviewed by life cycle specialists. The assessment mapped out the emissions from resource extraction to disposal. It provides a comprehensive breakdown of our value chain by facility and department and pinpoints our primary and most intense hotspots, including energy and chemical consumption.**

This study concluded that APR would need to develop effective and focused reduction strategies to eliminate 36% of our total emission intensity to achieve the 50% cradle-to-gate target. Our operations have already adopted energy efficiency,

renewable energy sources, reuse and recycling in our production processes, and sustainable sourcing. Given the state-of-the-art practices, processes, and technologies already embedded in our business, the challenge is identifying ways to reduce APR's emissions against current baselines. We will undertake LCA studies periodically to track our progress.

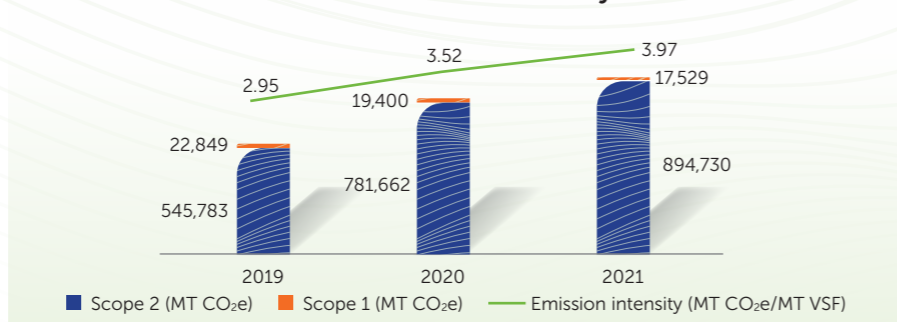
⁴ In 2021, the Intergovernmental Panel on Climate Change (IPCC) published its Sixth Assessment Report, referred to as "Code Red for Humanity" by the United Nations. United Nations 'IPCC report: 'Code red' for human driven global heating, warns UN chief' 9 August 2021.
⁵ Updated Nationally Determined Contribution, Republic of Indonesia 2021. Available at: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Indonesia%20First/Updated%20NDC%20Indonesia%202021%20-%20corrected%20version.pdf> [Last accessed 22 Mar 2022]

TOWARDS POSITIVE IMPACT FOR CLIMATE AND NATURE

We calculate our greenhouse gas (GHG) emissions using the GHG Protocol, the most widely adopted greenhouse gas accounting standard. This tool measures our direct emissions (Scope 1) from sources owned by APR, including fuel combustion at our chemical plant and vehicle emissions. It also measures our indirect emissions (Scope 2) associated with purchased electricity, steam, heat, and cooling.

In 2021, our emissions totalled 912,259 tonnes of carbon dioxide equivalent (MT CO₂e), 60.4% more than 2019. This also means our overall intensity increased from 2.95 in 2019 to 3.97 in 2021, or 34.5% more. This is due to a rise in consumption of purchased steam and electrical energy as we are gradually transitioning to greater production capacity in 2022 – from our current 240,000 MT VSF per year to 300,000 MT per year. We expect our GHG emissions intensity to stabilise when this is operating at its targeted capacity.

APR net GHG emissions and intensity 2019–2021



Note:
 1. Scope 2 data has been restated and 2019 data has been added since we first reported GHG figures.
 2. We purchase our energy from PT Riau Prima Energi (RPE) that generates electricity and steam from a mixture of renewable and non-renewable sources. Since 2020 we had put in place an agreement with PT RTE to allow us to offset and attribute all our energy needs to the renewable portion of the generation mix based on a mass-balance approach. The entirety of our Scope 2 emissions is therefore generated from the combustion of biomass boilers and is biogenic in nature.

We will continue reporting our carbon footprint and are committed to remaining transparent on our risks. In 2020, APR took part in the CDP (formerly the Carbon Disclosure Project) assessment on Climate Change, a global disclosure system for investors. It was a starting point towards understanding CDP requirements and showing our willingness to be transparent on

climate-related issues. We will strengthen reporting to the CDP and other relevant climate-risk reporting frameworks year on year.

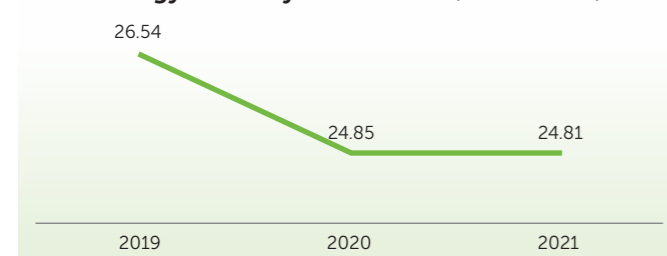
In 2022 we intend to progress on establishing our Scope 3 GHG inventory for a comprehensive overview of all emissions at our operations.

100% renewable energy [GRI 3-3, 302-3]

APR has a robust energy monitoring and measuring system that tracks every department's electrical and steam consumption, which is reviewed annually against planned reduction goals based on the EU BAT Polymer BREF standard. Since commencing operations, we have strived to optimise our energy processes and reduce our energy intensity, which was 6% lower in 2021 than in our first year of operation.

APR has used 100% renewable energy to power VSF production since 2020. We purchase this energy from PT Riau Prima Energi (RPE), which operates multi-fuel and chemical recovery boilers that can supply more than 100% of our energy needs. We calculate our total energy needs using a mass balance approach based on the energy required to produce one tonne of VSF.

Energy intensity 2019–2021 (GJ/MT VSF)



Commissioning new solar panels on old landfill surface

In 2021, RPE installed a solar panel system at our shared complex. This one-megawatt (MW) facility feeds electricity into APR and APRIL's integrated energy network and is the first such facility at our complex. Notably, RPE secured a permit to install these panels over an old landfill surface at our operations, a first in Indonesia. Using non-arable landfill surfaces to generate renewable energy is another positive indicator of sustainable development.

Developing our decarbonisation strategy

Our decarbonisation strategy solidifies our action to combat climate change. We are identifying opportunities to reduce our energy requirements and also to increase the share of renewable sources in our energy balance. We plan to purchase and install a turbine at our facility that captures surplus high-pressure steam formed during our VSF production process, potentially generating up to six megawatt-hours (MWh) of electricity recycled into this process. We currently send this steam back to PT RPE, losing substantial energy. However, a 2021 feasibility study concluded that installing a turbine to generate electricity directly feeding APR operations would be more energy efficient and hope to see results in the near future.

Sustainable sourcing [GRI 2-6, 3-3, 204-1, 308-1, 414-1]

To produce VSF, we source our raw material – dissolving wood pulp (DWP) – from five key suppliers: four direct suppliers and one trader. In 2021, we sourced a total of 233,456 tonnes of dissolving wood pulp to produce our viscose staple fibre, **93% of which was sourced locally** from two Indonesian pulp suppliers: APRIL and PT Toba Pulp Lestari. The remaining 7% originated in Canada, the United States and Europe.

Buying from sustainable sources is critical to upholding our sustainable viscose brand. **In 2021, we exclusively sourced from Programme for the Endorsement of Forest Certification (PEFC™) certified sources.** All suppliers comply with our sustainability policy and Code of Procurement Ethics (COPE) commitments and submit to risk assessments and due diligence against these requirements. If we identify non-compliance, we work with suppliers to address and rectify any issues through clear, time-

bound corrective action plans to bring them into compliance.

APRIL continued to engage with the Forest Stewardship Council (FSC)® to end its disassociation in 2021, and details of this engagement are available on the FSC® website. While APR does not currently hold FSC chain of custody certification, we will continue to monitor APRIL's progress to see if this will be possible in the near future.

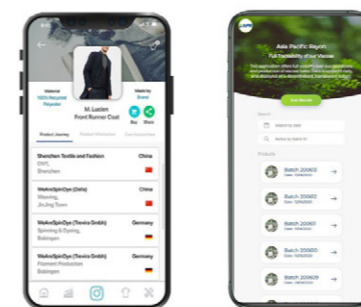
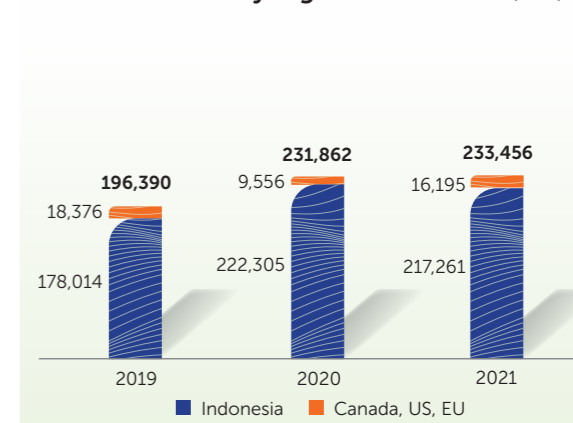
APR's pulp sourcing policy

APR is committed to sourcing sustainable dissolving wood pulp. Consequently, the DWP we source must come from suppliers:

- Whose DWP is 100% certified to recognised certification standards such as PEFC™ or FSC®
- That manage plantation forests under global sustainable forest management standards
- That respect and uphold legal and traditional rights of indigenous communities and workers
- That implement programmes promote continuous improvement in the reduction of greenhouse gas emissions in dissolving wood pulp mills.

See our [Sustainability Policy](#) for more.

DWP sourced by region 2019–2021 (MT)

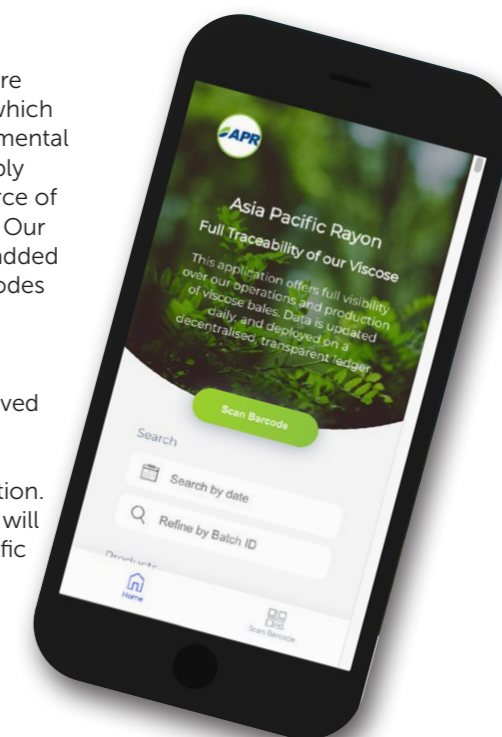


Follow our Fibre

APR has achieved complete visibility over our fibre supply chain and has developed a customised tracking platform called **Follow Our Fibre** using blockchain technology.

This platform ensures 100% traceability of APR's viscose fibre from nursery to viscose bale, which enables us to monitor environmental and social risks within our supply chain. Users can track the source of their material using the Follow Our Fibre application. In 2021, we added the capacity to scan bale barcodes on top of the current QR code functionality.

In 2021, Asia Pacific Yarn achieved PEFC™ Chain of Custody certification, and now 100% of APY yarn is traceable to plantation. The Follow Our Fibre platform will include and track our Asia Pacific Yarn products by 2022.



TOWARDS POSITIVE IMPACT FOR CLIMATE AND NATURE

Support for biodiversity protection [GRI 3-3, 304-1]

While we do not operate in the vicinity of any protected areas, APR is committed to supporting our suppliers in restoring natural landscapes as part of our decade-long strategy. Through collaboration, we can reduce our carbon footprint and positively impact climate and nature.

In 2014, APRIL announced its 1-for-1 commitment with plans to conserve

natural forest areas that are equal in size to APRIL's forestry plantation areas. The company has met 80% of this commitment to conserve, restore, or protect one hectare of land for every plantation hectare used on APRIL's concessions. This land includes Restorasi Ekosistem Riau (RER), a peat conservation forest with more than 150,000 hectares of intact forest in the

Kampar Peninsula in Riau. RER alone is home to 823 animal and plant species.

To support APRIL's efforts, we intend to contribute in-kind resources and financial support to these programmes.

 [Examples of RER initiatives](#)

CLIMATE

Daily monitoring of water and rainfall across Kampar peninsula and Padang island to assess Risk and likelihood of fire.

Restoration of drained peatlands by closing canals using hand-built dams. Rer has successfully closed 27 canal systems over 5 years, impacting almost 9,000 ha of peatlands.

 [Read more](#)

Restoration of tree cover with natural seedlings, over 60 native tree species kept at nurseries.

BIODIVERSITY

Forest restoration using regeneration techniques and an adaptive management approach to attain a richer species pool in the landscape.

[Read more](#)



Conducting camera trap surveys to assess range of species present in RER. This will help understand rer's potential to support breeding populations and improving biodiversity.

[Read more](#)



A female sumatran tiger that was found injured at a community plantation was released back into the wild after 9 months of rehabilitation in 2020.

COMMUNITY

Working with local farmers and youth groups on no-burning agricultural demonstration plots. These will help communities to increase yields within their areas by intercropping betel nut, rubber, and pineapple.

[Read more](#)



Working with village members to improve self-sufficiency and livelihoods. This includes supporting local fishermen and women with instruction on better floating net cages that protect catches from predators. In October 2021, this training was delivered to 29 Participants, 20 of whom were women.

[Read more](#)



Established an eco-research camp that serves as a tropical peatland research hub for Indonesian and international scientists, academics, and other stakeholders.

Partnering with local honey harvesters to support market access. This involves purchasing, marketing and selling madu hutan riau and returning profits back to the community in the form of projects and infrastructure.

[Read more](#)



CLEAN MANUFACTURING

Clean manufacturing is critical to our operating licence. We adopt material efficiency and circularity approaches where possible and invest in technologies that minimise environmental impact while yielding incremental improvements. Because APR's facilities are still new, we began production before developing APR2030 and realised that we have to make some structural changes to meet some of these commitments. To optimise our operations, we have embedded these changes into the designs of our expansion plans.

APR 2030

>95% SULPHUR RECOVERY RATE BY 2025

50% REDUCTION IN PROCESS WATER CONSUMPTION INTENSITY BY 2030 (2019 BASELINE)

80% REDUCTION IN SOLID WASTE TO LANDFILL BY 2030 (2019 BASELINE)

MEET ALL CRITERIA SET OUT IN THE EU BAT POLYMER BREF BY 2023

MEET ZDHC MMCF GUIDELINES' ASPIRATIONAL LEVELS' BY 2025

CORE GOALS:



Continuously improving against leading standards

Our clean manufacturing strategy is informed by European Union Best Available Techniques (EU BAT) Polymer BREF and Zero Discharge of Hazardous Chemicals Manmade Cellulosic Fibres (ZDHC MMCF) guidelines. EU BAT is recognised as the most effective global industry benchmark for preventing and controlling industrial pollution. ZDHC is a multi-stakeholder collaboration of global brands, chemical suppliers, manufacturers, and other organisations committed to reducing the MMCF industry's chemical footprint through the ZDHC Roadmap to Zero.

Owing to our preparations during the planning and design phase of our mill, APR has complied with these standards from day one. As of 2021, we are in compliance with all but one EU BAT Polymer BREF criteria on hazardous waste, where we are faced with challenges due to regulatory classifications of waste. We are also in line with all ZDHC parameters on consumption and all foundational parameters for emissions and recovery rates. We are now focused on continuous improvement to meet all progressive and eventually all aspirational ZDHC levels, which will bring APR to the rung of top-rated companies.

APR 2021 performance against EU BAT Polymer BREF and ZDHC MMCF guidelines

Consumption per tonne VSF	Unit	2021	EU BAT range	ZDHC		
Energy	GJ	24.81	20–30			
Process water	m ³	37.48	35–70			
Pulp	tonne	1.015	1.035–1.065			1.010–1.065
CS ₂	kg	70.17	80–100			80–100
H ₂ SO ₄	tonne	0.68	0.6–1.0			0.65–1.03
NaOH	tonne	0.55	0.4–0.6			0.45–0.6
Zn	kg	2.31	2–10			2–10
Spin finish	kg	4.24	3–5			3–5.3
NaOCl	kg	46.43	0–50			0–70
Emission per tonne VSF	Unit	2021	EU BAT range	ZDHC		
S to air	kg	17.51	12–20	F(35)	P(20)	A(12)
SO ₄ ²⁻ to water	kg	165.55	200–300			
Zn to water	g	44.07	10–50	F(150)	P(60)	A(18)
Chemical oxygen demand	g	3,628.59	3,000–5,000	F(7,200)	P(6,000)	A(3,600)
Total suspended solids	mg/L	33.7		F(50)	P(15)	A(5)
Hazardous waste	kg	74.08	0.2–2			
Noise at the fence	dB(A)	65.78	55–70			
Recovery rates	Unit	2021	EU BAT range	ZDHC		
Sulphur	%	92.9		F(85%)	P(92%),	A(95%)
Sulphate	%	58.6		F(50%)	P(60%)	A(70%)

Notes:

- Green cells are targets we have met, while yellow cells are on track.
- For some parameters, ZDHC stipulates Foundational (F), Progressive (P), and Aspirational (A) levels.

CLEAN MANUFACTURING



Susan Slabbert,
Head of Sustainability

APR's vision of becoming a world-class VSF facility

Our commitments to EU BAT Polymer BREF and ZDHC MMCF shape the day-to-day operations at our mill and underlie our efforts to become a world-class VSF facility. Every member of the APR team, from mill workers to senior managers, embodies these principles in everything we do. Our senior executives, including APR's President/Director and Chief Operating Officer, are taking strides to eliminate gaps and have set ambitious targets that inform and inspire the activities of employees at every level of the company.

APR2030 is the North Star steering our company to new heights. It documents ambitious sustainability targets we are confident we can achieve based on the strength of our team. We have done our homework and know exactly where we stand on sustainability compared to the industry and our peers. We take pride in knowing that future leaders, who are skilled at bringing solutions to the table, will emerge from our team to tackle the challenge of climate change.

I am honoured to be part of a passionate team with a strong leadership structure. I am especially pleased that our senior managers place tremendous importance on training young employees and local women to become the company's future leaders.

About: Susan oversees sustainability at APR. She acts as a liaison between the corporate and operations teams and translates the company's sustainability strategy and policy into concrete procedures that inform day-to-day activities at the mill level.



Saleel Rajaram Nayak,
Head of Operations

What sets APR apart from the rest

In my 20 years of running operations in the viscose industry, I have never encountered a company like APR.

APR runs immense production lines that output more than 400 tonnes of material per day each. While I have dealt with similar technologies and issues at other facilities, mastering the sheer scale of APR's operations has required a steep learning curve. Our facility has one of the largest production capacities in the industry, requiring us to assume greater responsibility for the environment and people's well-being and livelihoods.

A number of things give APR a competitive edge and set us apart.

Firstly, APR runs an integrated facility with APRIL, resulting in increased efficiency, reduced wastage, and economies of scale. Our spinning plant, Asia Pacific Yarn, further differentiates our operations. We have ready partner companies who offer joint solutions and mutual support to help meet our challenges. With APRIL serving as a supplier and APY acting as a link to our customers, we maintain a continuous dialogue, with feedback flowing in both directions.

Secondly, APR's attention to quality is unparalleled in the industry. We only use the best technology and implement the most effective processes at our facility. Our focus on excellence has been rewarded with positive customer feedback, which spurs us to greater heights.

Lastly, our sustainability performance is excellent for an operation in its early stages. When you compare APR's performance to our peers on key metrics in the EU BAT standard, we already match or exceed established companies in areas such as sulphur recovery, sulphur emissions, and water consumption. With APR2030, we are on track to becoming more sustainable. The key to our success is our management's commitment to sustainability and, more importantly, concrete action on the ground.

Since our inception, APR has made great strides in sustainability, production quality, and output. But there is always room for improvement. We need to keep learning and adapting to meet our APR2030 targets, differentiate our company from our competitors, and become the preferred choice of consumers

About: Saleel joined APR in October 2021. He has 20 years of experience in the viscose industry, having worked for multinational companies across Indonesia, China, and India.



CLEAN MANUFACTURING

Chemical management and recovery

[GRI 3-3, 303-4, 305-7]

APR is committed to using best practices in chemical management. We comply with various chemical management standards, including the ZDHC Manufacturing Restricted Substances List (MRSL) v2.0. We have implemented measures to eliminate the intentional use and discharge of hazardous and restricted substances across our value chain.

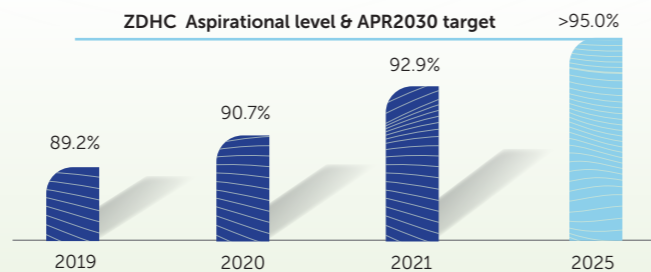
Total sulphur recovery

We operate state-of-the-art recovery systems that recover and reuse sulphur generated by our production processes. We do this to minimise its harmful impact on people and the environment when it is released into the air.

In 2021, we achieved a total sulphur recovery rate of 92.9%, up from 90.7% in 2020, reflecting that our third chemical recovery line installed in 2021 significantly boosted our

total sulphur recovery rate. While 92.9% falls just short of our published 93% target, we are still on track to achieve a rate of more than 95% by 2025, in line with ZDHC aspirational levels.

Total sulphur recovery rate 2019–2021 (%)



Minimising sulphur emissions to air

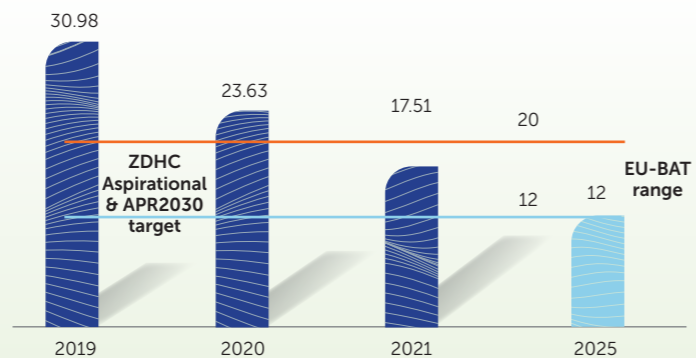
[GRI 3-3, 305-7]

Improving our sulphur recovery rates means reducing sulphur emissions released into the atmosphere. Our continuous online monitoring system tracks emission levels against domestic and international air quality guidelines, including MMCF responsible fibre production and World Health Organization (WHO) guidelines.

In 2021, our total sulphur emission intensity was 17.51 kilograms per tonne of viscose staple fibre (kg/MT VSF). This figure represents a significant year-on-year improvement against 2019 levels, with a 7.35 kg/MT VSF reduction in 2020 and an additional 6.12 kg/MT VSF reduction in 2021 – or a 43.5% reduction over the last two years, a direct result of our improved total sulphur recovery rates in this time.

In 2021, we met EU BAT Polymer BREF levels of 12–20 kg/MT VSF for sulphur emission intensity. Our next target is meeting ZDHC aspirational levels of 12 kg/MT VSF by 2025.

Sulphur emission intensity 2020–2021 (kg/MT VSF)



Sulphate recovery

We evaporate and recover sodium sulphate (a by-product of the viscose production process) into salt. The recovered salt is then sold to various local and international industries.

In 2021, our sodium sulphate recovery rate was 58.6%. By 2025, our target is a 70% recovery rate in line with ZDHC aspirational levels. APR will focus on improving efficiency and increasing evaporation rates and capacity as part of new development.

43.5% reduction in sulphur emission intensity over the last two years

Optimising water use and safeguarding water quality

[GRI 3-3, 303-1, 303-2, 303-5]

Minimising our impacts on water is a critical component of our sustainable VSF production strategy. APR has implemented water management plans that monitor consumption and wastewater quality and treatment to mitigate the effects of our water use.

APR purchases processed water from PT Riau Prima Energi (RPE), which is licensed to source water from the Kampar River. Our production departments have implemented water use reduction plans and strive to reduce our dependency on purchased water by recycling and reusing as much water as possible during the manufacturing process. We process water to mix specific liquid solutions employed in different parts of our production process. After conducting multiple studies, APR concluded we could recirculate and reuse some of the process water several times, reducing our need for freshwater take-up. Recycling process water this way yields environmental benefits of an estimated two cubic metres of water per tonne of viscose staple fibre (m³/MT VSF) in the long term.

Through these concerted efforts, our process water consumption intensity fell to 37.48 m³/MT VSF in 2021, a significant reduction of 25% compared to 2019. We continue to find ways to improve our process efficiency and optimisation and are targeting a 50% reduction by 2030.

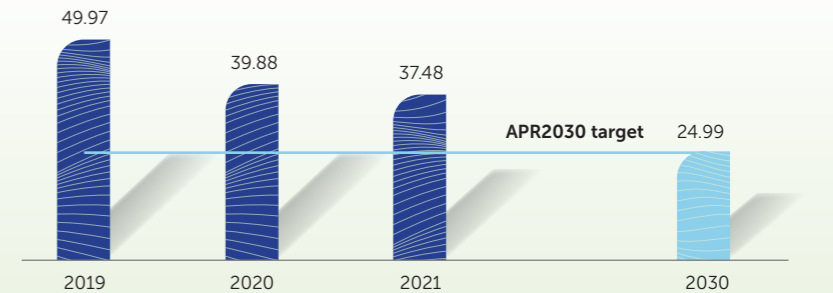
Our mill is equipped with an effective wastewater treatment system that results in zero discharge of hazardous substances as defined by industry guidelines and standards that include ZDHC and SteP by OEKO-TEX® certification. All wastewater collected at our treatment facility undergoes primary and secondary treatment before the water is discharged into the Kampar River. We collect and analyse wastewater samples from multiple strategic sampling points within our facility twice a day and sample upstream and

downstream discharge points in the Kampar River for a monthly evaluation of any direct impact on the river system. Our data is available publicly through the [ZDHC Wastewater Gateway](#), a global web-based platform for sharing verified wastewater testing results.

All wastewater discharge quality readings met or surpassed EU BAT Polymer BREF and ZDHC Foundational levels in 2021. We aim to achieve ZDHC aspirational levels for zinc-to-water, chemical oxygen demand and total suspended solids by 2025.

[See Continuously improving against leading standards for an overview of wastewater levels against standards](#)

Process water consumption intensity 2019–2021 (m³/MT VSF)



Waste management

[GRI 3-3, 306-1, 306-2, 306-3, 306-4, 306-5]

APR's operations produce hazardous and non-hazardous waste, which we manage using the 3R principles of reduce, reuse, and recycle. Industrial waste is classified as hazardous and handled, disposed of, or sold as per regulatory requirements. Non-hazardous waste is sent to a registered third-party handler to be sorted and disposed of appropriately. We actively seek feasible alternative waste management options within our facilities to reduce our dependency on landfills for waste disposal. A waste recycling programme is also being implemented, reintroducing

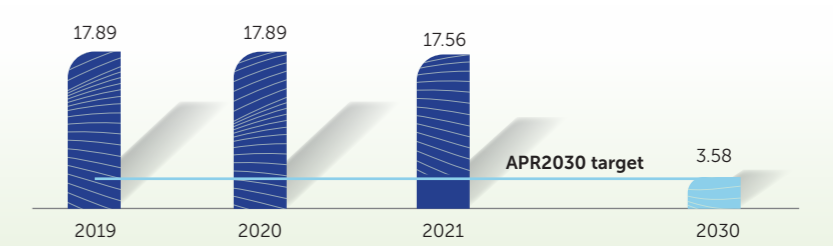
certain types of waste into the manufacturing process instead of sending it to landfills.

Solid waste

In 2021, we generated 18.16 million kilograms (kg) of waste and sold 597,970 kilograms (kg) to registered waste handlers who reuse, recycle, or recover it for energy. The remaining

17.56 million kilograms, or 96.7% of this waste, was sent to landfills. We recognise that reaching our APR2030 target of an 80% reduction in solid waste to landfills is ambitious. While we have always followed the philosophy of 'reduce', we need to do more to meet this target. We continue to explore a combination of solutions to reduce and reuse the waste we generate.

Solid waste directed to landfill 2019–2021 (million kg)



CLEAN MANUFACTURING

Hazardous waste

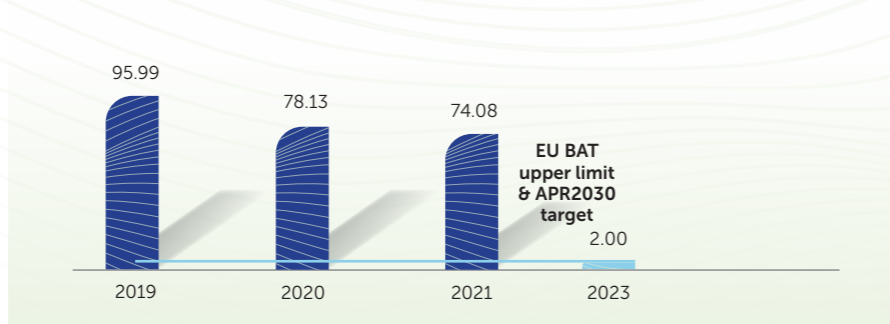
One of the challenges we face in meeting EU BAT Polymer BREF standards is our hazardous waste levels. APR produces five types of hazardous waste covered by EU BAT Polymer BREF: primary waste treatment sludge, secondary waste treatment sludge, spilt alkali-cellulose, viscose solids, and non-saleable reject fibre (TOW). However, the legal classification of hazardous waste varies from country to country, and there are significant differences between Indonesian and European standards.

Our total hazardous waste intensity was 74.08 kilograms per tonne of VSF (kg/MT VSF). While this was a 22.8% decrease from our 2019 baseline, we have some way to go to meet minimum EU BAT Polymer BREF levels of 2 kg/MT VSF.

APR recognises we must implement a robust waste reduction strategy to comply with EU BAT Polymer BREF hazardous waste limits by 2023. We have examined the root causes that make our waste hazardous and are analysing the results to understand its chemical properties, impact, and level of toxicity. With this information, we are engaging with the Indonesian government to explore circularity options and share knowledge on EU BAT Polymer BREF standards. We will also engage with experts from pulp and paper consulting groups in collaboration with viscose industry players to address the material challenges we face in meeting our waste reduction targets.

Our previous report included a stepwise target of a 45% reduction in hazardous waste by 2021 against 2019 levels. We did not achieve this target for the reasons mentioned above and will be focusing on our 2023 target moving forward.

Hazardous waste intensity 2019–2021 (kg/MT VSF)



Examples of waste reduction initiatives

- Implementing a filter maintenance schedule to retrieve usable alkali cellulose for recycling
- Using a sheet to recapture alkali cellulose on the conveyor belt, reduce spillage, and reintroduce it into the process
- Piloting a zinc recovery project to reduce and reuse zinc from our waste pipes, for example as fertiliser at pulp and paper plantations or by recycling it into our processes

Redirecting reject fibre to market instead of landfill

Our viscose-staple-fibre processing facility generates small quantities of reject fibre (tow) before the washing process. Comprising bits of fibre that fail quality checks and do not meet quality standards, it is rejected and removed before treatment and drying. About 0.2% of our annual VSF production ends up as reject fibre.

This fibre can only be recycled and sold if washed. However, manual cleaning is too time-consuming, and too much reject fibre ends up in landfills. Recognising this bottleneck as an opportunity, APR mechanised the process and invested in an industrial-sized washing machine, two centrifuges, and a hot water line to wash and dry up to two tonnes of reject fibre a day. This new facility became fully operational at the end of 2021 and will recycle 100% of the saleable reject fibre we produce, significantly reducing solid waste sent to landfills.

ACCELERATING CIRCULARITY

[GRI 3-3, 306-2]

Fibre and yarn producers like APR play a vital role in minimising waste and promoting circularity. However, most textile industry efforts are limited to reducing the impact of existing linear production systems. We recognise the need to look beyond the boundaries of our operations and invest in systemic solutions to drive the industry away from the take-make-dispose business model and champion circularity across the value chain.

Increasing the uptake of recycled fibres in production can play a vital role in reducing greenhouse gas (GHG) emissions, preventing biodiversity loss, halting negative impacts on soil health, and reducing water consumption. However, uptake is still low. In 2020, less than 1% of manmade cellulosic fibres (MMCF) production used recycled fibres,⁶ and the industry must invest in more R&D to identify commercially available sources.

As part of our APR2030 strategy, we are committed to using recycled textile (such as pre- and post-consumer cotton and cotton-rich textile waste) as part of our raw material. We have set an ambitious target of using fibre made with 20% recycled textile in our production processes. To achieve this goal, we will employ innovative solutions to collect, sort, and recycle textile waste and engineer infrastructure that recoups material at the product's end of life and recycles it into the production process. The key to this is working with strategic partners to achieve common goals.



20% RECYCLED TEXTILE COMPOSITION IN VSF PRODUCTION BY 2030

DETERMINE FEASIBILITY OF ESTABLISHING INDONESIA'S FIRST COMMERCIAL-SCALE RECYCLED TEXTILE FACILITY

DETERMINE FEASIBILITY OF ESTABLISHING URBAN TEXTILE RECYCLING CENTRES IN SINGAPORE AND INDONESIA

CORE GOAL:



CATALYTIC GOAL:



CONTRIBUTED GOAL:



RGE paving the way on recycled textiles

In 2019 the Royal Golden Eagle (RGE) Group committed to investing USD200 million over the next ten years into next-generation textile fibre innovation and technology. Funded initiatives include research into the economics and logistics of recycled textiles, engagement with the textile design community to inspire creativity, and partnerships with innovators to advance technology solutions at scale. In 2021, RGE formed several new partnerships, including a five-year textile recycling research collaboration with Nanyang Technological University and a three-year

strategic partnership with the Textile and Fashion Federation (TaFF) in Singapore. Among other goals, this latter partnership seeks to advance research and innovation in circular economy approaches to fashion waste in Asia.

A focus on R&D

APR operates a fully-automated pilot plant at our Kerinci viscose research and development (R&D) facility and employs a world-class team of dedicated experts who drive our innovation efforts. **In 2021, our R&D team developed a new way of introducing recycled textile into the production process resulting in a raw material equivalent to the wood pulp used to make high-quality viscose. Our recycling**

process is an industry first and is subject to a patent review, which we hope to complete in 2022.

Supported by R&D teams, APRIL has also set a 2030 target to use 20% recycled textile in their pulp production for VSF. APRIL has submitted a patent application for a treatment that converts textile waste into feedstock for pulp sold to VSF producers. This new technology also supports APR's recycled textile commitment because we use APRIL's DWP in our production processes.

⁶ Textile Exchange (2021) Preferred Fiber and Materials Market Report 2021, p62. Source: https://textileexchange.org/wp-content/uploads/2021/08/Textile-Exchange_Preferred-Fiber-and-Materials-Market-Report_2021.pdf [Accessed 19 April 2022]

ACCELERATING CIRCULARITY

[GRI 3-3, 306-2]



Rudine Antes,
Head of Research and Development

Scaling next-generation textile recycling solutions

The tight integration of APR's and APRIL's operations from plantation fibre to sustainable viscose fibre is a testament to our innovative spirit. Our Kerinci complex produces pulp, paper, viscose and yarn. To identify and operationalise opportunities and drive efficiencies across the board, we continuously invest substantial sums in R&D to improve yields at APRIL's plantations and optimise operations at our processing plants.

APR has set a target of using 20% recycled textiles in our operations by 2030. Our R&D team possesses the requisite expertise, so this target is well within our reach from a technological standpoint. Our team is focused on finding solutions to current barriers by rethinking and understanding the costs involved in sourcing, collecting, and separating raw materials, among other things.

These solutions are within reach, but we have to scale them across the value chain. To this end, our tight integration and cradle-to-gate oversight put us in a unique position to promote sustainability and circularity locally and internationally. Unlike our competitors, we can build the capacity to process and source recycled materials internally. We can then mainstream the use of recycled material by sharing our expertise with our entire value chain.

However, to truly advance the industry's sustainability targets and circularity vision, manufacturers cannot shoulder the burden alone. All industry players, including fashion brands and consumers, must collaborate to integrate circularity into the textile sector. We must jointly rethink manufacturing, marketing, and design decisions to improve the collection and sorting of recycled materials, leading to true circularity.

APR is exploring partnerships across the value chain and textile markets to learn from our peers, adapt our processes and work together towards our shared sustainability goals.

About: Rudine works with APRIL and APR's joint research and development (R&D) team.

Understanding pre-consumer waste for industry-level recycling

Every year more than 92 million tonnes of textile waste ends up in landfills and rivers⁷ when up to 95% can be recycled. Consumer demand for apparel will continue to rise,⁸ necessitating a global effort to implement plans to effectively recover and recycle this waste. The textile industry needs to develop the expertise required to engineer collection systems, returns logistics, and sorting infrastructure.

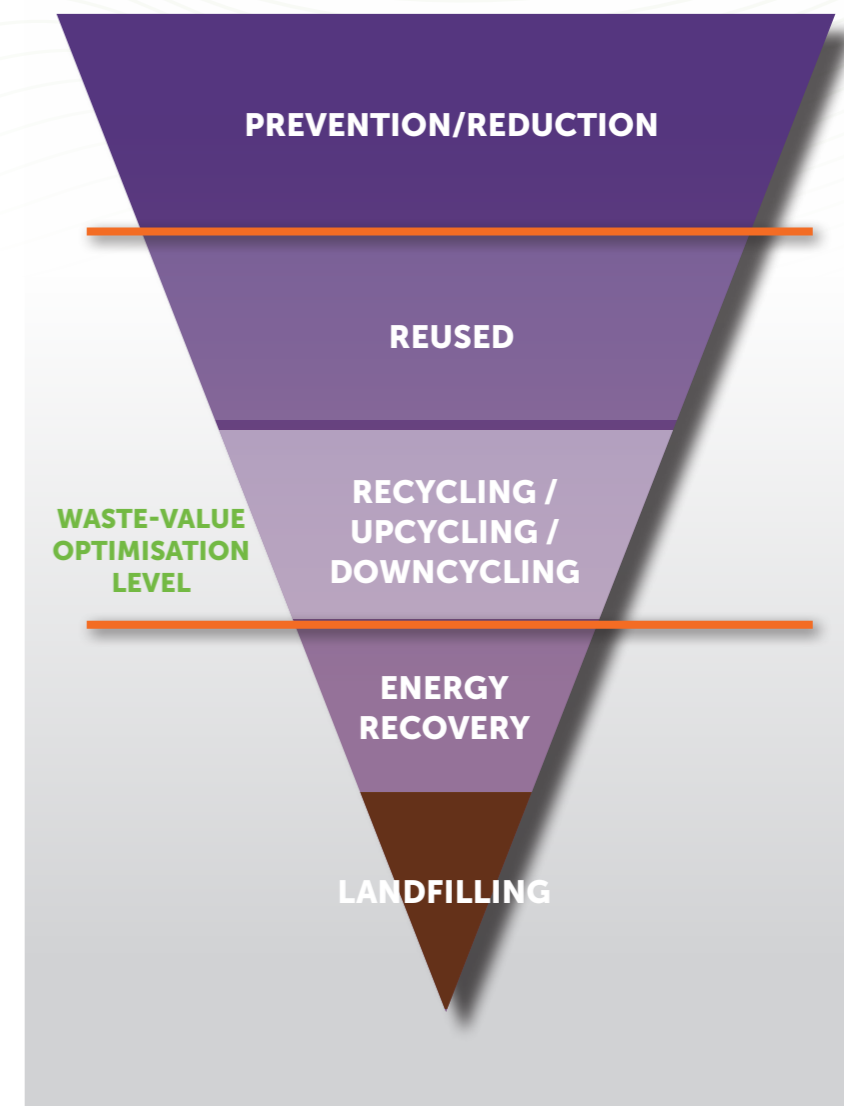
In 2021, APR commissioned a study by Closed Loop Fashion (an established hub for applied sustainability and

circular economy practices) and Reverse Resources (an online mapping and tracking platform of recyclable textile waste flows). It surveyed, studied, mapped and identified potential sources of pre-consumer textile waste supply from garment and textile factories in Indonesia, Bangladesh and Sri Lanka – three major textile and apparel producing countries. This report is a precursor to APR's plan to develop a roadmap and secure investments to create a stable supply line to feed a future recycling plant with an installed capacity of 12,000 tonnes per year. This facility will convert cotton and cotton-rich textile waste and viscose textile into new materials feedstock.

Researchers conducted appraisals and interviews at 106 factories, waste-handling facilities, and recycling plants in these three countries to understand their sources. The study assessed different types of recovered waste – including landfill converted to energy and waste repurposed into production – and identified the kind of waste best suited to source for future recycling efforts. The study further determined the availability of high-value waste, like 100% cotton, and low-value waste, including blended textiles like polycotton.

The study concluded that Sri Lanka is not an ideal source of recycled textiles due to the low volume of available waste material and local sanitary conditions and restrictions. The study, however, did find that Bangladesh and Indonesia are excellent sources of recyclable material. Together, the two countries produce 340 kilotonnes of 100% cotton a year and another 286 kilotonnes a year of polycotton. Bangladesh is home to a robust but informal textile scrap market, with large producers already separating and selling their waste. However, Indonesia lacks any such infrastructure and requires the development of proper waste segregation systems at factories, better local logistical infrastructure, and a pricing structure to support a local waste resale market. While Bangladesh is a producer of pure white cotton that is ideal for high-quality recycle, Indonesia is not a cotton-producing country.

Although we are not excluding other countries as potential sources of recycled textiles, our immediate focus is Indonesia. APR can learn from other countries to develop local frameworks supporting small businesses and improving livelihoods. Our next challenge is supporting and investing in infrastructure that will enable APR to process recycled textiles locally.



Inverted pyramid of waste management hierarchy

7 United Nation Environment Programme (UNEP) Why fast fashion needs to slow down (2018). Source: <https://www.unep.org/news-and-stories/blogpost/why-fast-fashion-needs-slow-down> [Accessed 18 February 2022]

8 UK Fashion Network, Global apparel, footwear consumption may rise by 63% in 2030. Source: <https://uk.fashionnetwork.com/news/Global-apparel-footwear-consumption-may-rise-by-63-in-2030,830700.html>. [Accessed 18 February 2022]



INCLUSIVE PROSPERITY

As a large employer and a major contributor to socio-economic development in Pangkalan Kerinci, we strive to positively impact the communities that surround us.

We work side-by-side with APRIL and combine our efforts to have a more meaningful impact on the ground. While APR and APRIL run separate community programmes under the same umbrella, APR's focus is on people and communities within a 10-kilometre radius of our Pelalawan and Siak Regency operations. **APR2030 identifies the focus areas of our community initiatives: eradicating poverty, increasing access to healthcare and promoting textile craftsmanship. We have also committed to advancing gender equality across the value chain**, promoting equality for upstream and downstream players at APR's operations and the communities we engage with.

APR and APRIL are jointly and individually embarking on initiatives that invest in improving livelihoods and self-sufficiency in the communities around our operations.

APR 2030

- IN PARTNERSHIP WITH APRIL, ERADICATE EXTREME POVERTY WITHIN A 50KM RADIUS OF OUR OPERATIONS
- INCREASE ACCESS TO PRIMARY HEALTHCARE SERVICES IN TARGETED VILLAGES WITHIN OUR OPERATIONS
- EXPAND PROGRAMMES THAT PROMOTE TRADITIONAL CRAFTSMANSHIP
- CREATE A REGIONAL TEXTILE HUB
- ADVANCE GENDER EQUALITY ACROSS THE VALUE CHAIN

CATALYTIC GOALS: 3 GOOD HEALTH AND WELL-BEING, 4 QUALITY EDUCATION

CONTRIBUTED GOAL: 2 DECENT WORK AND ECONOMIC GROWTH

Our community

[GRI 3-3, 203-1, 203-2, 413-1]

APR's approach to community development is based on the Royal Golden Eagle Group's 5Cs philosophy, wherein community comes first. Our programmes are rooted in the notion of inclusive prosperity, which means improving the livelihoods of all community members.

Addressing extreme poverty

We are working with APRIL to address extreme poverty within a 50-kilometre radius of our complex. In 2021, APRIL collaborated with Bina Swadaya to undertake a livelihood study in ten villages surrounding our mill. It identified the issues to be addressed and the resources required to design a pilot programme addressing extreme poverty. APRIL and APR will collaborate on specific poverty reduction programmes addressing the identified needs in these targeted areas.

We are also working to uplift the socio-economic status of women, owners of small- and medium-sized enterprises, and youth through our dedicated programmes for building a textile hub in Riau.

Continuing access to education

The pandemic significantly disrupted children's access to education. Recognising this, APR decided to support students and children by providing uniforms to encourage their return to classrooms once schools reopened. APR distributed 1,367 uniforms made of a viscose-cotton blend to students at two schools near our operations in Pangkalan Kerinci and Pelalawan Regency, Riau province. In April 2021, we held a colouring and drawing competition for students in four elementary schools around our operations to coincide with the annual Earth Day celebration.

As part of National Children's Day, we invited children from seven schools in our operational areas to a special webinar on COVID-19 safety. We hope that the webinar educated participating children and also increased their parents' awareness of the need to follow stipulated health protocols.

[Students Return to School, APR Donates 1,367 Viscose Uniforms](#)

[The face masks and shields cover the happy faces of the students at SDN 9 Pelalawan](#)

[It's National Children's Day today in Indonesia](#)

Distributing scholarships to 20 senior high school students

Education has the potential to uplift individuals and the communities in which they live and work. In 2021, we distributed scholarships to 15 deserving girls and five boys from villages in our operational area with excellent academic records at local high schools. The scholarships will allow these children to obtain an education that is often beyond their means. Eligibility criteria for these scholarships include children's and schools' proximity to our operations, academic grades, and family incomes.

Primary healthcare COVID-19 support

We are providing ongoing support to communities in the face of the COVID-19 pandemic. In August 2021, APR provided 145 oxygen concentrators to the provincial government of Riau to be used at 12 public hospitals across the province. APR also donated 500 tonnes of liquid oxygen in partnership with the Tanoto Foundation, and the Ministry of Health distributed it to hospitals in desperate need of supplies. PT Riau Andalan Pulp & Paper (RAPP) produced it specifically to meet the demand for medical oxygen.

APR also supported the vaccination of all APR employees in Pangkalan Kerinci and Jakarta through the Gotong Royong vaccination programme implemented by the Indonesian government. APR and RAPP were the first participating private sector companies in Riau province.

[APR donated 145 oxygen concentrators to the provincial government of Riau, Indonesia](#)

[APR employees getting vaccinated](#)

[Challenging Times that Make Us Grow](#)

[500 tonnes of oxygen to hospitals in Indonesia](#)

Improving healthcare services for expectant mothers and toddlers

We support Indonesian government programmes that reduce maternal, neonatal, and child mortality rates and prevent stunting,⁹ which causes growth impairment in toddlers (children under the age of five) due to chronic malnutrition and repeated infections. APR works with APRIL, community-based integrated health posts (posyandus), and members of local Family Welfare Programmes to improve access to general healthcare and provide year-round clinics to communities in the vicinity of our operations.

We back this vital work because studies have shown that teaching new mothers the importance of nutrition is an effective preventive health strategy that yields tremendous results. APR supports posyandus in several ways:

Helping to train *cadres* – the community volunteers who staff the *posyandus* – on strategies to reduce stunting

Sponsoring nutritional counselling and childcare training for expectant and young mothers

Supplying equipment and infant scales; assisting women during the birthing process

Setting up nutrition monitoring posts in Pangkalan Kerinci Kota and Pangkalan Kerinci Timur

Providing food packets and nutritional supplements for mothers and toddlers

To date, we have:

Trained **132** cadres from over 27 *posyandus*

Set up nutrition monitoring posts

Conducted Mass Health assessments in 6 Villages

Distributed supplementary feeding packages to over **1,560** malnourished toddlers and eight malnourished expectant mothers

⁹ 30.8% of Indonesian children under 5 years of age are affected by stunting, which is higher than the average for the Asia region (21.8%). Source: Global Nutrition Report [accessed 18 February 2022]

INCLUSIVE PROSPERITY



Widi Astanto,
Community Health Programme
Coordinator

Improving maternal and infant health

APR is proud to support *posyandu* clinics set up in the vicinity of APR's operating mill. These clinics deliver vital healthcare and nutritional services to mothers and toddlers and play an essential role in curbing malnutrition and reducing stunting.

Combatting stunting and malnutrition is a key APR focus area. As a private-sector operator, we support Indonesian government priorities to reduce stunting in toddlers in rural provinces in line with the national 14% reduction target from the 2014 baseline. It is also our duty as a responsible operator to support healthcare facilities that address health risks, including malnutrition and stunting.

In addition to providing on-the-ground support, APR is also part of Rembuk Stunting. This initiative brings together different levels of government and industry players in various sectors to discuss best practices in outreach and improving the health of Indonesian mothers and their children.

COVID-19 protocols have forced us to suspend many of our programmes. However, we continue to focus on priority initiatives like health checks and have adopted a hybrid online/in-person model for cadre training. We have also shifted the focus and funding of our CSR activities to programmes assisting those affected by COVID-19, including distributing free and low-cost sembako (community care) packages in villages surrounding our operations. We have adapted to the reality of the pandemic by embracing COVID protocols and following standard operating procedures that keep our workers, their families, and communities safe.

[Nutritious food distribution for pregnant and new mothers](#)

[National Midwife Day](#)

About: Widi coordinates the health and social culture programmes in communities surrounding APR operations.

Supporting community health and wellbeing

APR continues to support the community with nutritious food, especially pertinent during the time of the pandemic. This included providing Ramadhan goodies for 600 underprivileged children at a Siak Regency Islamic Centre event in partnership with PT RAPP, donating nutritious food for 3,000 toddlers and 100 pregnant women around our operational areas, and distributing staple food packages to residents and provided vitamins for mothers and toddlers.

APR also conducted mass health check-ups in six villages around our operations at Sering, Lalang Kabung, Simpang Perak Jaya, Pangkalan Kerinci Timur, Pangkalan Kerinci Kota, Pangkalan Kerinci Barat.



[Fighting stunting through giving \(Bahasa\)](#)

[Health of expectant and new mothers](#)

[Helping local communities](#)

New baseline study

As part of our social license to operate, we must safeguard the welfare of the communities that surround our operations. In 2022, APR is engaging with a consultant to survey the challenges community members face in receiving good healthcare services. This needs analysis will help identify shortcomings in facilities, infrastructure, and care provision that APR and APRIL can work to address.

Developing a vibrant textile hub in Riau

As demand increases for sustainable apparel from the fashion industry, APR has a real opportunity to drive change in Riau while contributing to the region's culture and prosperity. APR is developing a vibrant, thriving textile hub – or centre of excellence – that will be fully operational by 2030. This hub will focus on the following:

Supporting community initiatives	Establishing a hub for batik making and songket weaving led by women in the community	Supporting small businesses through development programmes and by integrating SMEs into our value chain
Providing access to new income sources for community members	Nurturing the talent of young adults by providing scholarships, training, and internships	Promoting women employees to leadership positions through training and capacity building

The key to developing this textile hub is working with partners and supporting dedicated associations to achieve this vision. Some of our partnerships include **Rantai Tekstil Lestari, Asosiasi Pertekstilan Indonesia Riau (APIRIAU) and Wiyasa TFA.**

[See Leadership in the industry for more about these associations](#)

Empowering women artisans and entrepreneurs

Sumatra Island is home to a hidden artisanal textile industry. Many local women are small-scale garment makers who craft fabrics and clothing for personal, religious, and community use. Using patterns and techniques passed down from generation to generation, these women create garments and textiles rooted in local culture and traditions but do not sell them commercially.

APR sees these traditional crafts as an opportunity to empower local women. We use our expertise to connect with women in these villages and empower them to become entrepreneurs through textile trade initiatives focused on the traditional crafts of batik and songket. These efforts reflect our APR2030 commitment to advancing gender equality, specifically by granting women access to the same opportunities, rights, and obligations as men in every sphere of life. Given

the opportunity and equipped with the necessary skills, women can realise their full potential and make significant contributions to their families and communities.

Rumah Batik, Pangkalan Kerinci

Although Indonesia is known for batik, the craft is not native to Pangkalan Kerinci. Batik is an ancient traditional practice employing dyes and a wax resist process to create intricate designs and vibrant colours on cotton, silk, and rayon fabrics. APRIL launched its Batik programme in 2015 by bringing in experts from Java to teach the craft to women in Riau communities. As these women embraced and mastered batik, the programme expanded and opened new markets for their wares.

When APR was established, we used our textile industry knowledge and expertise to expand APRIL's batik programme. We now offer four training modules that help local women develop their batik skills and

show them how to create unique designs that can be patented, thus increasing their market value. **Since 2020, 12 women have participated in two Rumah Batik training sessions, with five motifs patented by workshop participants.** Due to pandemic-related travel restrictions, the programme was on hold in 2021. However, it will resume in 2022.

Our long-term vision is to grow Rumah Batik into a centre of excellence for the traditional textile industry. We also hope to accelerate the programme and recruit exceptional trainees to remain as APR ambassadors and share their knowledge and experience with future candidates.

INCLUSIVE PROSPERITY

Songket weaving, Siak

Songket is a traditional craft native to Siak passed down from generation to generation of women in a family. Its intricate patterns are woven on a loom using dyed silk or cotton and golden or metallic thread. Monarchs have worn the fabric for centuries, and ordinary people have used it to fashion costumes for traditional dances and wedding apparel. Recognising the cultural and historical significance of Songket in Siak, APR launched a programme supporting its growth in the region. We train local women in this traditional technique and teach them how to bring their wares to new and broader markets. **In 2020, we started our programme with one woman, who has since trained nine more women to develop their craft.**

In 2021, we focused on improving the quality of the fabrics produced and advanced weaving techniques. We also trialled weaving traditional sarongs with full motifs incorporating yarn starching and blending.

Introducing rayon as an alternative fabric

APR found that most garment makers source their fibre outside Sumatra, primarily from Java. We saw this as an opportunity to make a difference by introducing local artisans and weavers to viscose blends as an alternative to the traditional fabrics used in songket and batik. Craftspeople are experimenting with this new fibre and discovering the benefits of this light, cool fabric that drapes well and provides day-long comfort.

Championing women in the industry

APR has made connecting women to the textile industry a priority. Our vision extends beyond our vibrant hub for batik and songket. That is why we provide market access and support to help women grow their businesses. **We started connecting women with APIRIAU, with 28 joining the organisation.** Once their membership is confirmed, these women can connect with mills and textile producers in Java and access that market.

 [Weaving business](#)

 [Women weavers](#)

 [Earning livelihoods from batik](#)

Nurturing the talent of young adults

A cornerstone of our vision for the textile hub is engaging youth and providing opportunities for young people to uplift themselves through the textile industry. We have partnered with a local vocational school in Pangkalan Kerinci to promote textile-related career opportunities for high school graduates. Students can major in textile industry subjects like engineering and fashion. The curriculum offers vocational training that leverages APR's expertise and includes learning activities for budding fashion designers by our Jakarta Fashion Hub (JFH).

We are also offering scholarships to deserving students who wish to attend the school and internship opportunities at APR and APY, with placements ranging from mill operations and human resources to fashion design at JFH. By opening doors for promising young adults, we are helping them establish careers in the textile industry, be it locally, at APR and APY, or elsewhere. **In 2021, APR awarded scholarships enabling**

ten deserving students to further their studies in fashion design and mechanical engineering.

Bringing SMEs into the value chain


To establish the hub as a thriving centre of excellence, we need to involve the community and small businesses in Pangkalan Kerinci, including mom-and-pop shops, start-ups, and SMEs connected to the textile industry. We are setting up infrastructure to share our technical expertise with small businesses, help them develop the appropriate skill sets, and show them how to adhere to the proper standards and regulations when selling their goods on the open market, including directly to APR. One way we support small businesses is by inviting them to events at our Riau complex to market their wares to interested buyers, including APR committees that source employee uniforms locally. We also partner with local businesses to help them source materials from other regions, including Java and Greater Bandung. Our long-term goal in supporting local SMEs is to aid their growth and help them expand into full-fledged factories in the next five to ten years.

Melayu Merindu

In 2021, we sponsored APIRIAU's launch of *Melayu Merindu*, an empowerment campaign promoting traditional Melayu crafts and creating opportunities for local SMEs to sell clothing online. Co-launched with the Wiyasa TFA, the programme is meant to elevate the prestige of Riau's traditional batik motifs and to spark the revival of the province's traditional *wastra* fashion industry.

 [Launch of Melayu Merindu](#)

 [Introducing Melayu Merindu](#)

 [Melayu Merindu UKM Empowerment Programme \(Bahasa\)](#)

Empowering women to achieve their full potential

Our songket and batik community development initiatives benefit the women who attend our workshops and their communities. A key focus of these workshops is providing tools, support, and facilities to help participants break the cycle of poverty. We also teach them how to increase their earning potential and gain financial independence. In addition to skill-sharing, participants learn basic marketing principles, how to use technology, and how to promote their work.

These women have made significant progress as artisans and entrepreneurs, and we see that the increased demand for their products is fuelling their drive to bring their crafts to market. Their improved entrepreneurial and crafts skills help build better lives for themselves and their families. For instance, some have even financed Umrah trips (pilgrimages to Mecca) with their earnings. Beyond this, our programmes are helping to boost these women's self-esteem. They can now comfortably initiate conversations to promote themselves and their products, where they may not have had the confidence to do so before. Our programmes have been well received, earning praise and positive feedback from women and community leaders since their start.

Meti Haryanti,
Community Development
Coordinator

One [success story](#) is a woman named Yati, a songket programme participant who is both a weaver and a teacher. She used her training to develop her knowledge transfer skills and has since trained eight other women to work with her as weavers. These weavers are now improving their weaving techniques using APR's natural viscose rayon yarn.

One of our remaining challenges is attracting younger women to our programmes, mainly because young people see textile artisanship as old-fashioned, labour-intensive, and not in line with modern practices. They are also hesitant to learn batik because the craft is not native to Riau. However, we are trying to counter these negative preconceptions, and we are constantly looking for innovative ways to change their mindset and engage young women. We are doing this by:

- Reaching out directly to encourage young women to try the craft of batik
- Engaging students enrolled in fashion design courses at vocational schools in Kerinci
- Offering internships at our facilities to interested young women
- Collaborating with JFH to empower young women by transferring modern knowledge and reducing gaps between industry practices and entrepreneurship
- Using technology to connect with young women.

APR continues to engage with and empower women in a mutually beneficial way. We are finding new ways to help them contribute to the textile industry while also seeking ways the industry can benefit them.

About: Meti oversees and manages APR's community development programmes, including the batik and songket programmes.



INCLUSIVE PROSPERITY



Djarot Handoko,
Head of External Affairs

APR's vision for a thriving textile hub

While the bulk of Indonesian modest fashion currently originates in West and Central Java, people have yet to realise that Riau is becoming an emerging producer and a region teeming with opportunity. Recognising this, we have set our sights on transforming Pangkalan Kerinci into a centre of excellence for businesses, communities, and people by 2030.

To embark on this transformation, we must work with the people behind micro-businesses and small businesses in the region. While there are many fledgling and full-fledged businesses in the local textile industry, we must pay particular attention to helping companies owned and operated by women and youth. These two groups play an essential role in building a thriving textile hub and will derive the most benefits from its activities. We are in the early stages of this journey and are mobilising community and industry support. We are also creating opportunities through programmes providing vocational training to youth, connecting small and mid-sized enterprises (SMEs) with textile markets, and building capacity that empowers women.

APR must continue to connect with all the players in our value chain, from the top-down and the ground-up. While building our centre of excellence, we will promote viscose rayon as the fabric of choice in Pangkalan Kerinci and across the textile industry. As knowledge and awareness grow, we hope to see increased consumer demand for rayon-based materials and fashions. This growth will have a ripple effect across the entire value chain, including rayon fibre and yarn producers, supplying mills, SMEs, and entrepreneurs. It will also create job opportunities for students who have received rayon and textile-related vocational training.

Of course, transforming the region into a textile hub has its share of challenges. It will take tremendous effort to double or triple sales of textiles from Pangkalan Kerinci. To achieve this goal and create a shared space of limitless potential and opportunity, we recognise the need to build appropriate infrastructure and ensure the community sees the potential benefits of our shared vision.

About: Djarot oversees government relations and community-based activities in Jakarta and Kerinci.

Our workforce

APR is committed to upholding the rights of our employees in line with the International Labour Organisation's Declaration on Fundamental Principles and Rights at Work.



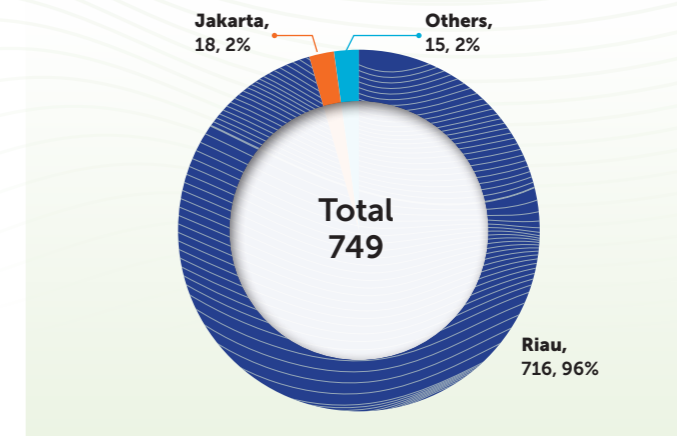
Overview of employees

[GRI 2-7, 2-8, 2-30, 3-3, 202-1, 401-2]

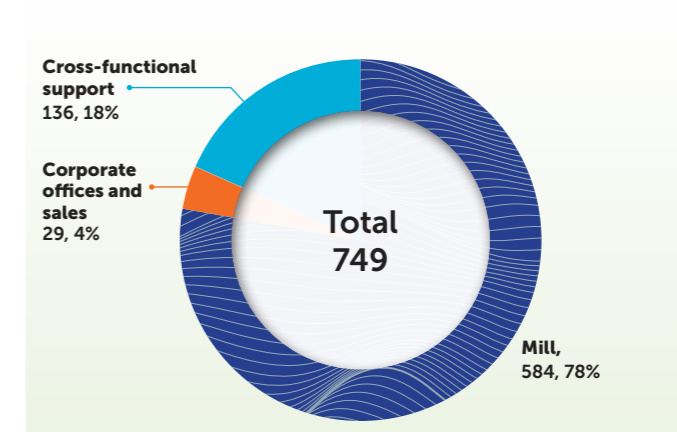
APR, including APY, employs **749 people across our operations and offices in Riau, Jakarta and Singapore**, about 57% of whom are local to Riau. The remainder comprises employees with diverse cultural and ethnic backgrounds from other regions and countries.

All employees are paid in line with provincial regulations and basic salaries for each employee category are paid equally, regardless of gender. Because we operate in a remote location and all employees are permanent hires, we provide our workers and their families with quality housing, recreational facilities, medical care, disability coverage, parental leave, and insurance. Our employees' children have access to schools that teach either Indonesia's national curriculum or the International Baccalaureate syllabus. A collective bargaining agreement covers 100% of our employees in Riau.

Employees by region 2021 (no, %)



Employees by category 2021 (no, %)



Employee development and retention

[GRI 3-3, 401-1]

APR believes in investing in our employees and recognises that our organisation's success depends upon recruiting, retaining, and developing a talented and highly motivated workforce. Technical training is mandatory for all workers at the mill level, regardless of gender. Every employee undergoes an annual performance review with their manager, during which their yearly development goals and targets are set.

We offer employees soft-skill, technical, and leadership training at the APRIL Learning Institute (ALI), teaching them relevant job skills to boost their work performance. In 2021, we inaugurated a new ALI building, complete with state-of-the-art equipment and classrooms. The ALI centre is now located outside our mill complex, making it easier for non-employees to access and use the facilities for government meetings, family movie nights, and other community events.

In 2021, we hired 106 new employees at APR, including 64 men and 42 women. Of the new hires, 89 were below the age of 30. Our turnover rates in 2021 were relatively low: less than 1% for employees under 30 and less than 2% for those between 30 and 50. These figures indicate that our workers are satisfied with APR as their employer.

[Talk talent: Aqa](#)

[New training centre building, Feb 2021](#)

INCLUSIVE PROSPERITY



Diversity and inclusion

[GRI 3-3, 405-1, 405-2]

Part of APR2030 is advancing gender equality across the value chain, and this must start at home. APR has a zero-tolerance policy on discrimination. We are committed to providing an inclusive and fair work environment and are dedicated to advancing gender parity and diversity. Our equal pay for equal labour policy extends to all employees regardless of gender, including our lowest-paid workers. We employ more men, mainly due to the manual labour required at our facilities, whereas women tend to occupy corporate, sales, and administrative positions. Women make up 22% of APR's workforce. In 2021, one woman joined the management team, totalling seven women out of 32 managers (21.8%). We are actively recruiting more women at every level of the company.



Health and safety

[GRI 3-3, 403-1, 403-4, 403-5, 403-8, 403-9]

APR upholds the highest workplace safety standards and continuously works to improve them in line with our zero-accident approach. Our Occupational Health and Safety (OSH) policy is our guiding document on minimising health and safety risks within our operations, which adhere to best practices and the OHSAS 18001 standard to ensure compliance with all statutory obligations.

APR is committed to building a positive OHS culture through employee awareness, education, and training. We also promote OHS responsibility amongst our business partners, suppliers, and contractors. The health and safety committee comprises employees who contribute to developing and reviewing APR's OSH management system.

APR conducts medical surveillance and periodic workplace monitoring on health and safety hazards and ensures all employees receive relevant health and safety training based on their work requirements and activities. We track all accidents and injuries in our OSH system. We also use an in-house Contractor Safety Management System (CSMS)


that guides our employees in effectively managing OHS risks associated with work performed by contractors.

We strive to operate a zero-accident workplace and continuously work to identify the root causes of accidents and minimise the likelihood of their recurrence. We also provide ongoing training to APR employees on correct equipment use and safe mill operations. **Our concerted efforts have led to positive results in 2021. The frequency of injuries occurring (or lost time injury frequency rate (LTIFR)) for employees and contractors dropped by 88%, from 6.09 in 2020 to 0.75 in 2021. We are proud of this significant achievement and**

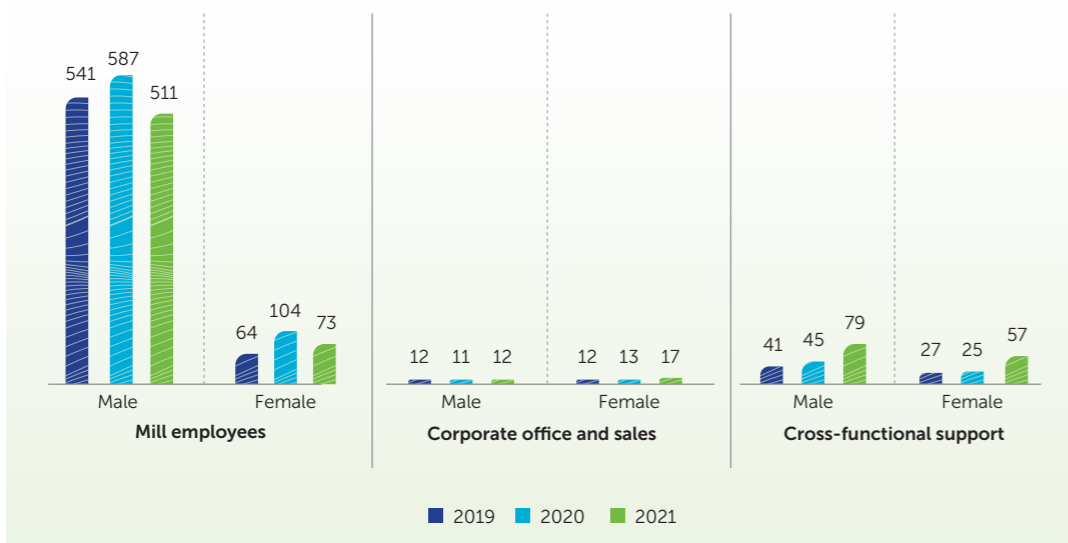
will continuously work to keep our accident rates low.

There were no workplace fatalities in 2021.

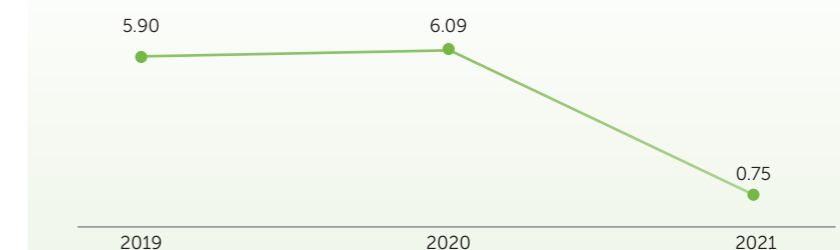
APR has continued to follow strict COVID-19 protocols for all employees, contractors, and vendors on-site as the pandemic continues. Our measures include temperature checks, mandatory face masks and social distancing. We regularly disinfect common areas and work areas and communicate on COVID-19 safety precautions on an ongoing basis. As of December 2021, 100% of our employees have been fully vaccinated.

 [APR's virtual run](#)

Employees by function and gender 2019–2021 (no,%)



Lost time injury frequency rate 2019–2021 per 1,000,000 working hours



Note: LTIFR measures productivity lost due to accidents (including fatalities) and is calculated as follows: number of lost-time injuries divided by total hours worked, multiplied by 1,000,000.

STAKEHOLDER ENGAGEMENT

[GRI 2-29]

Stakeholder group	Key topics engaged on	Method of engagement	Frequency of engagement
Customers	Quality, service, price competitiveness, sustainability certifications	Sales team outreach, networking events (especially via the Jakarta Fashion Hub), collaboration on product innovation	Regular contact as part of sales management
NGOs	Sourcing risks, zero-harm production, circularity, conservation	Introductory meetings, regular dialogue with our supply partners, especially on controversial issues	As needed or during industry roundtable meetings
Employees	ALI leadership training, exchange programmes with Sateri	Social media engagement showcasing life in Kerinci	Regularly (mainly in Kerinci)
	Occupational health and safety (OHS)	Awareness, education, and training programmes to encourage OHS practices among employees	Regularly
Suppliers	Connections between conservation, sourcing and addressing NGO concerns	Regular dialogue	Regularly
Local communities in Kerinci and Riau	Community development engagement, dialogue on issues of community concern, job creation	Regular dialogue and community outreach programmes	Regularly
Industry associations	Member of Textile Exchange, ZDHC, MMCF 2030 Vision, Sustainable Apparel Coalition, Textile and Fashion Federation, Indonesia Fashion Chamber (IFC) (Riau Chapter), Wiyasa TFA and Walarmi (Natural Dye Association)	Regular dialogue, roundtable discussions, advisory group meetings, annual events	Regularly
	Strategic positions in IBCSD, Rantai Tekstil Lestari (RTL), Indonesia Chambers of Commerce and Industry (KADIN), Asosiasi Pertekstilan Indonesia (API), API Riau, Asosiasi Produsen Serat Sintetis dan Filamen Indonesia (APSyFI).		
Local and national governments	Investments to advance sustainable textiles and fabrics in Indonesia and Singapore, research and development	Regular dialogue	Regularly
Media	Press releases, annual media outreach	Media platforms	Annually or as needed
Industry peers	Industry-related topics, recycled waste and circularity	Industry platforms, one-to-one partnerships, collaborative research studies	Regularly

BASE DATA

Category/Indicator	Breakdown/measurement unit	FY2021	FY2020	FY2019
General disclosures [GRI 2-7, 2-8, 2-30]				
Number of countries exported	VSF	14	16	14
	Viscose yarn	14	15	n/a
Number of operations	Mill	1	1	1
Net sales	million USD	390.4	280.83	130
Capacity of production facility	VSF (MT/annum)	240,000	240,000	240,000
	Viscose yarn (MT/annum)	7,552	7,552	n/a
Total production	VSF (MT)	229,957	227,401	192,758
	Viscose yarn (MT)	6,962	4,340	n/a
Number of employees	Total	749	785	697
	Male	602	643	594
	Female	147	142	103
Permanent employees	Total	749	785	555
	Male	602	643	455
	Female	147	145	100
Temporary employees	Total	0	0	142
	Male	0	0	139
	Female	0	0	3
Employees covered by collective bargaining agreements	No.	749	785	555
Contractors	Total	438	272	272
Fines, non-compliances, monetary and non-monetary sanctions	No.	0	0	0
Employment, labour practices and people development [GRI 202-1, 401-1, 401-3, 404-1, 404-3, 405-1, 406-1]				
New employee hires and turnover				
New hires by age group	<30 years of age	89	81	108
	30-50 years of age	15	28	15
	> 50 year of age	2	5	2
Turnover by age group	<30 years of age	0.5%	6.1%	n/a
	30-50 years of age	1.9%	2.2%	n/a
	> 50 year of age	0.0%	0.0%	n/a
New hires by gender	Male	64	86	122
	Female	42	28	3
Turnover by gender	Male	0.6%	4.6%	n/a
	Female	0.5%	6.0%	n/a
Parental leave				
Employees entitled to parental leave	Male	304	266	n/a
	Female	32	29	n/a
Employees took parental leave	Male	36	24	n/a
	Female	1	10	n/a

BASE DATA

Category/Indicator	Breakdown/measurement unit	FY2021	FY2020	FY2019
Parental leave				
Employees returned to work after parental leave ended	Male	36	24	n/a
	Female	1	10	n/a
Employees still employed 12 months after their return to work from parental leave	Male	36	24	n/a
	Female	1	10	n/a
Diversity of employees				
Composition of mill employees	Male	511	587	508
	Female	73	104	97
	<30 years of age	402	473	416
	30-50 years of age	148	187	148
	> 50 year of age	33	31	41
	Based in Riau	584	691	605
	Based in Jakarta	0	0	0
	Singapore	0	0	0
	Male	12	11	12
	Female	17	13	12
Composition of corporate offices and sales employees	<30 years of age	0	3	n/a
	30-50 years of age	26	20	n/a
	> 50 year of age	3	1	n/a
	Riau	0	0	n/a
	Jakarta	14	18	n/a
	Singapore	15	6	n/a
	Male	79	45	41
Female	57	26	27	
Composition of cross functional support employees	<30 years of age	89	31	n/a
	30-50 years of age	41	37	n/a
	> 50 year of age	6	3	n/a
	Riau	132	62	n/a
	Jakarta	4	3	n/a
Singapore	0	6	n/a	
Basic salary and remuneration of women to men	Mill employees	1:1	1:1	1:1
	Corporate offices and sales employees	1:1	1:1	1:1
	cross functional support employees	1:1	1:1	1:1
Average employee training hours				
Mill employees	Male	8.79	4.01	n/a
	Female	5.97	1.95	n/a
Corporate offices and sales employees	Male	1.2	1.3	n/a
	Female	1.0	1.3	n/a
Cross functional support employees	Male	3.57	6.27	n/a
	Female	2.84	6.48	n/a

Category/Indicator	Breakdown/measurement unit	FY2021	FY2020	FY2019
Employees receiving regular performance and career development reviews				
Mill employees	Male	100%	100%	n/a
	Female	100%	100%	n/a
Corporate offices and sales employees	Male	100%	100%	n/a
	Female	100%	100%	n/a
Cross functional support employees	Male	100%	82%	n/a
	Female	100%	100%	n/a
Incidents of discrimination and corrective actions taken				
Reported incident	No.	0	0	0
Positive impact for climate and nature				
Energy and emissions <i>[GRI 302-3, 305-1, 305-2, 305-3, 305-7]</i>				
Energy				
Energy intensity	GJ/MT VSF	24.81	24.85	26.54
GHG emissions				
Scope 1 GHG emissions	MT CO ₂ e	17,529	19,400	22,849
Scope 2 GHG emissions	MT CO ₂ e	894,730	781,662	545,783
Total	MT CO ₂ e	912,259	801,063	568,631
GHG emissions intensity	MT CO ₂ e / MT VSF	3.97	3.52	2.95
Other significant air emissions				
Total sulphur emission intensity	kg/MT VSF	17.51	23.63	30.98
Sustainable pulp sourcing <i>[GRI 204-1]</i>				
DWP sourced	Total MT	233,456	231,861	196,390
	Indonesia	217,261	222,305	178,014
	Canada, U.S., E.U.	16,195	9,556	18,376
Total production of DWP/ VSF	MT DWP / MT VSF	1.0152	1.0196	1.0188
Traceability	VSF traceable to plantations	100%	100%	n/a
	VSF traceable to mills	100%	100%	n/a
	DWP from certified sources	100%	98.87%	n/a
Certification – PEFC™	DWP from controlled sources	0%	1.13%	n/a
	Screening of suppliers using environmental and social criteria			
New suppliers screened	No.	0	1	n/a
Total suppliers screened	No.	5	4	n/a
Suppliers identified as having significant actual and potential negative impacts on environment and social	No.	0	0	n/a

BASE DATA

Category/Indicator	Breakdown/measurement unit	FY2021	FY2020	FY2019
Clean manufacturing				
Freshwater and wastewater management <i>[GRI 303-3, 303-4, 303-5]</i>				
Water withdrawal	m ³	11,035,383	11,130,519	11,743,071
Water discharged to Kampar river	m ³	10,963,223	10,559,040	9,933,068
Water consumed ⁷	m ³	72,160	571,479	1,810,003
Quality of water discharged				
COD	g/MT/VSF	3,629	3,110	2,691
	mg/L	73.80	64.26	48.74
BOD	mg/L	14.10	13.47	15.2
TSS	mg/L	33.70	29.67	36.39
Zn to water	g/kg	0.044	0.0329	0.013
Sulphate to water	kg/MT VSF	165.55	188.1	165.87
Water consumption				
Process water consumption	m ³ /MT VSF	37.48	39.88	49.97
Cooling water consumption	m ³ /MT VSF	138.95	138.31	291.7
Chemical management				
Consumption				
Carbon Disulphide (CS ₂)	kg/MT VSF	70.17	73.76	73.95
Sulphuric acid (H ₂ SO ₄)	kg/MT VSF	0.68	0.69	0.69
Caustic Soda (NaOH)	kg/MT VSF	0.55	0.56	0.58
Zinc (Zn)	kg/MT VSF	2.31	2.54	2.91
Spin Finish	kg/MT VSF	4.24	5.06	5.75
Sodium hypochlorite (NaOCl)	kg/MT VSF	46.43	35.94	20.67
Recovery				
Carbon Disulphide (CS ₂) recovery	%	92.90%	90.66%	89.21%
Sulphate recovery	%	58.60%	54.81%	57.17%
Waste management <i>[GRI 306-3, 306-4, 306-5]</i>				
Total hazardous waste generated	kg	18,162,570	18,261,740	18,284,740
Diverted to registered waste handler	kg	597,970	373,960	396,960
Directed to landfill	kg	17,564,600	17,887,780	17,887,780
Hazardous waste intensity	kg/MT VSF	74.08	78.13	95.99

7 Water consumption is not directly measured but calculated by the difference between water withdrawn and water discharged.

Category/Indicator	Breakdown / measurement unit	FY2021	FY2020	FY2019
Occupational health and safety <i>[GRI 403-8, 403-9]</i>				
Workers covered by an OSH management system				
Employees and workers covered by OSH management system	No.	749	785	697
	%	100%	100%	100%
Workers covered by Contractor Safety Management System	No.	438	272	272
	%	100%	100%	100%
Work related injuries – Employees and workers OSH management system				
Fatalities	No.	0	1	0
Lost time injuries (Fatality & Loss Time Injury)	No.	1	9	4
Recordable injuries (First-aid cases)	No.	7	17	22
Total hours worked	No.	1,631,422	1,391,671	1,356,684
Total days lost due to work related injury	No.	20	6,071 ⁸	4
Work related injuries – Contractor safety management system				
Fatalities	No.	0	0	0
Lost time injuries (Fatality & Loss Time Injury)	No.	1	2	4
Recordable injuries (First-aid cases)	No.	9	3	8
Total hours worked	No.	1,025,339	564,365	n/a
Total days lost due to work related injury	No.	14	10	5
Overall APR Lost Time Injury Frequency Rate and Total Recordable Injury Rate				
LTIFR	per million hours worked	0.75	6.09	5.90
TRIFR	per million hours worked	6.78	16.25	28.01
Noise at the fence				
Noise monitoring level	dB(A)	65.78	61.75	n/a

8 One fatality is registered as 6,000 lost days, per national regulations.

GRI CONTENT INDEX

The Global Reporting Initiative (GRI) is a multi-stakeholder standard for sustainability reporting, providing guidance on determining report content and indicators. GRI is the most widely adopted global standard for sustainability reporting. It has been designed to enhance the global comparability and quality of information on environmental and social impacts, thereby enabling greater transparency and accountability of organisations. This report has been prepared in accordance with the GRI Universal Standards 2021. Our GRI Content Index references our 2021 Sustainability Report and the [APR website](#).

Statement of use	Asia Pacific Rayon has reported the information cited in this GRI content index for the period 1 January 2021 to 31 December 2021 with reference to the GRI Standards.
GRI 1 used	GRI 1: Foundation 2021

GRI STANDARD	DISCLOSURE	LOCATION
GRI 2: General Disclosures 2021	2-1 Organizational details	About us, p11–15
	2-2 Entities included in the organization's sustainability reporting	About this report, p2
	2-3 Reporting period, frequency and contact point	About this report, p2 Contact, p56
	2-4 Restatements of information	Stated throughout where relevant
	2-5 External assurance	About this report, p2
	2-6 Activities, value chain and other business relationships	About us, , p11–15 Sustainable sourcing, p25
	2-7 Employees	Overview of employees, p43 Base data, p47–51
	2-8 Workers who are not employees	Overview of employees, p43 Base data p47–51
	2-9 Governance structure and composition	Governance and responsible business practices, p18
	2-12 Role of the highest governance body in overseeing the management of impacts	Governance and responsible business practices, p18
	2-14 Role of the highest governance body in sustainability reporting	About this report, p2
	2-16 Communication of critical concerns	Governance and responsible business practices, p18
	2-22 Statement on sustainable development strategy	Statement from the Director, p4–5
	2-23 Policy commitments	Approach to sustainability p16–22 Sustainability Policy
	2-24 Embedding policy commitments	Approach to sustainability, p16–22 Governance and responsible business practice, p18
	2-25 Processes to remediate negative impacts	Grievance mechanism, p19 Grievance Process
	2-26 Mechanisms for seeking advice and raising concerns	Grievances, p19 Grievance Process
	2-28 Membership associations	Leadership in the industry, p21 Associations
	2-29 Approach to stakeholder engagement	Leadership in the industry, p21 Stakeholder engagement, p20
	2-30 Collective bargaining agreements	Overview of our employees, p43 Base data, p47–51

GRI STANDARD	DISCLOSURE	LOCATION
GRI 3: Material Topics 2021	3-1 Process to determine material topics	About this report, p2
	3-2 List of material topics	About this report, p2
	3-3 Management of material topics	Referenced throughout where relevant
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	Overview of employees, p43 Diversity and inclusion, p44 Base data, p47–51
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	Our community, p36–42
	203-2 Significant indirect economic impacts	Our community, p36–42
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	Sustainable sourcing, p25
GRI 205: Anti-corruption 2016	205-3 Confirmed incidents of corruption and actions taken	There were no reported incidents of corruption in 2021.
GRI 302: Energy 2016	302-3 Energy intensity	100% renewable energy, p24
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Optimising water use and safeguarding water quality, p31
	303-2 Management of water discharge-related impacts	Base data, p47–51
	303-3 Water withdrawal	Base data, p47–51
	303-4 Water discharge	Optimising water use and safeguarding water quality, p31 Base data, p47–51
	303-5 Water consumption	Optimising water use and safeguarding water quality, p31
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Support for biodiversity protection, p26
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Understanding our carbon footprint, p23–24 Base data, p47–51
	305-2 Energy indirect (Scope 2) GHG emissions	Understanding our carbon footprint, p23–24 Base data, p47–51
	305-4 GHG emissions intensity	Understanding our carbon footprint, p23–24 Base data, p47–51
	305-5 Reduction of GHG emissions	Understanding our carbon footprint, p23–24
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Minimising sulphur emissions to air, p30 Base data, p47–51



GRI CONTENT INDEX

GRI STANDARD	DISCLOSURE	LOCATION
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Waste management, p31–32
	306-2 Management of significant waste-related impacts	Waste management, p31–32 Accelerating circularity, p33–35
	306-3 Waste generated	Waste management, p31–32 Base data, p47–51
	306-4 Waste diverted from disposal	Waste management, p31–32 Base data, p47–51
	306-5 Waste directed to disposal	Waste management, p31–32 Base data, p47–51
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Sustainable sourcing, p25
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Employee development and retention, p43. Base data, p47–51
	401-3 Parental leave	Base data, p47–51
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Health and safety, p45
	403-4 Worker participation, consultation, and communication on occupational health and safety	Health and safety, p45
	403-5 Worker training on occupational health and safety	Health and safety, p45
	403-8 Workers covered by an occupational health and safety management system	Base data, p47–51
	403-9 Work-related injuries	Health and safety, p45 Base data, p47–51
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Base data, p47–51
	404-3 Percentage of employees receiving regular performance and career development reviews	Employee development and retention, p43 Base data, p47–51
405-1 Diversity of governance bodies and employees	405-1 Diversity of governance bodies and employees	Diversity and inclusion, p44 Base data, p47–51
	405-2 Ratio of basic salary and remuneration of women to men	Diversity and inclusion, p44 Base data, p47–51
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	There were no incidents or actions of discrimination in 2021.
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	Our community, p36–42
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	Sustainable sourcing, p25
Other topics not covered by the GRI Standards		
Innovation		Accelerating circularity, p33–35

GLOSSARY

Bale - A large bundle or package prepared for shipping, storage, or sale.

Blockchain - A retrospective, decentralised digital ledger consisting of records, called blocks, that cannot be altered and are used to record transactions across many computers.

Biodiversity - The diversity (number and variety of species) of plant and animal life within a region.

Carbon footprint - The sum of greenhouse gas emissions and greenhouse gas removals of a product system or an organisation, expressed as a carbon dioxide equivalent.

Cellulose - A component of all plants, approximately 40% of wood and the raw material for dissolving wood pulp production.

Chain of custody - Chronological paper trail documenting the flow of materials and raw materials through various stages of a process up to the final product.

Dissolving wood pulp (DWP) - Highly purified chemical pulp derived from wood intended primarily for conversion into chemical derivatives of cellulose and used mainly in the manufacturing of viscose staple fibre.

European Union Best Available Techniques (EU BAT) Polymer BREF - The technology approved by legislators and regulators for meeting input and output standards for a particular process.

Follow our Fibre - An APR platform which uses blockchain technology to track viscose bale to ensure sustainable sourcing throughout the supply chain.

Global Reporting Initiative (GRI) - A multi-stakeholder standard for sustainability reporting, providing guidance on determining report content and indicators.

Greenhouse gas (GHG) emissions Gases in the atmosphere that absorb and emit radiation within the thermal infrared range. The primary greenhouse gases in the Earth's atmosphere are water vapour, carbon dioxide, methane, nitrous oxide, and ozone.

Higg Index - A suite of tools that measures environmental and social impacts across the life cycle of apparel and footwear products.

High Conservation Value (HCV) - A concept originally developed by the Forest Stewardship Council (FSC) to standardise the definition and evaluation of a natural forest that should be set aside for conservation. Six HCVs have been identified, covering environmental and social aspects of a natural forest.

Life Cycle Assessment (LCA) - A systematic analysis of the environmental impact of products throughout their life cycle from cradle to gate, or cradle to grave.

Manmade cellulosic fibre (MMCF) - Materials made from cellulose-based fibres derived from plants, most commonly wood pulp.

Non-governmental organisation (NGO) - A term used in this report to refer to grassroots and campaigning organisations focused on environmental and social issues.

Posyandus - Community-based integrated health posts that support mothers and toddlers, staffed by community volunteers called cadres.

Small and medium-sized enterprise (SME) - Business whose revenues, assets, or number of employees fall below a certain threshold.

Stakeholder - Any group or individual that is affected by or can affect a company's operations.

Sustainability - A term expressing a long-term balance between social, economic, and environmental objectives. It is often linked to sustainable development, which is defined as development that meets the needs of current generations without compromising the needs of future generations.

Sustainable Development Goals (SDGs) - Developed by the United Nations and serving as a blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace, and justice.

Solid waste - Dry organic and inorganic waste materials.

The Forest Stewardship Council® (FSC) - An international non-profit forest management organisation.

The Program for the Endorsement of Forest Certification™ (PEFC) - Schemes An international non-profit organisation that promotes sustainable forest management through independent third-party certification.

Traceability - The ability to track sustainable palm oil along the entire supply chain.

United Nations Framework Convention on Climate Change (UNFCCC) - An international environmental treaty negotiated at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992.

Viscose staple fibre (VSF) - A natural fibre made from purified cellulose, primarily from DWP that can be twisted to form yarn.





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