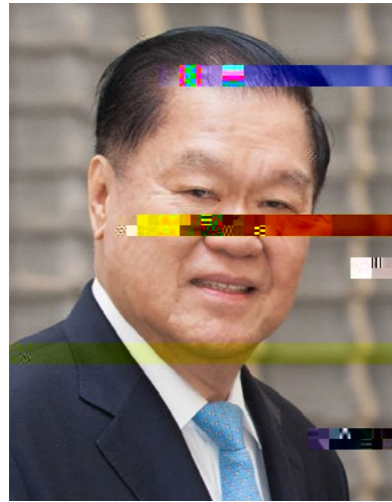






Message from Chairman



In 2019, we celebrated the 70th anniversary of the founding of the People's Republic of China. During those seven decades, China's industry has forged ahead at an unprecedented pace. The glorious course has witnessed the booming development of China's papermaking industry and APP China's impressive strides every step of the way. From introducing and gradually deepening the "Integration of Plantation-Pulp-Paper" industrial layout to establishing a model of clean production and green development, and to enabling transformation and upgrading through technological innovation, APP China has contributed to and accompanied China's transition from being an ancient paper manufacturer to a strong paper manufacturing power through concrete actions.

Nowadays, China's economic development is taking a historic turn from high speed to high quality. How to conquer challenges like oversupply, raw material shortages, and increasing regulatory scrutiny while ensuring high-quality development is a new issue that all companies in the papermaking industry have to learn to navigate. With full confidence and initiative, APP China thrives on pressure and steps up efforts in the three areas of intelligent manufacturing, environmental protection, and product innovation, endeavoring to join hands with the wider papermaking industry in China to boost high-quality development in the new era.

Embrace intelligent manufacturing to foster new drivers of high-quality development

Since Industry 4.0 was proposed in 2015, we have been systematically delving into intelligent manufacturing and continuously ramping up the construction of a technology-driven, intelligent industry chain to gain a first-mover advantage in the new round of technology-driven industrial revolution. We continue to automate the papermaking equipment and processes and strive for the realization of IT-based production data while improving the efficiency of large-scale production. Based on big data and other emerging technologies, we are gradually improving the company's information management capabilities and will eventually institute intelligent management throughout our entire business process. Moreover, we have started building intelligent industrial bases, fully integrating artificial intelligence, big data, 5G, and other cutting-edge technologies from the planning stage. We will join forces with companies of the upstream and downstream industry chain as well as our industry partners to quicken transformation and upgrading and boost industrial development in terms of both quality and speed.

Endorse environmental protection to provide the basis for high-quality development

We firmly believe that the rational use of the limited natural resources and the protection of the ecological environment on which human survival depends are the basis for achieving high-quality development. We respond promptly to the national call to reduce and ban plastic. Giving full play to our advantages as a modern papermaking company in terms of eco-friendly sourcing and technological leadership, we have developed a series of "zero plastic" degradable packaging solutions. We continue to increase the proportion of wood pulp procurement from certified forests and strongly advocate CFCC/PEFC forest certification labeling so that the concept of sustainable forest management reaches more consumers. At present, a growing collection of APP China products are joining the "labeling family". As regards clean production, we closely follow national and local environmental protection requirements, set strict environmental targets, and seek continuous improvements in our environmental protection practices and performance through measures like equipment renovation and process and technology optimization.

Innovate and upgrade products to guarantee sustained high-quality development

Relying on tremendous R&D strengths and forward-looking market deployment, we boldly innovate and gear up to build a beautiful, safe, and quality world of paper for people. Focusing on the real needs of the consumers and customers, we relentlessly explore products that are functional and innovative and continuously refine our product categories. Taking tissues as an example, we have continued to optimize our raw material composition and use ingredients that are safer for the human body in response to consumers' increasing concern for health and safety; meanwhile, we have used a number of patented technologies to produce products with moisturizing, anti-bacterial, and sanitizing effects to safeguard consumers' health.

In 2020, APP people have remained fully responsive and committed in the face of a raging epidemic, springing into action and demonstrating a deep sense of responsibility and duty at a critical time. We immediately donated RMB100 million and needed supplies to the Overseas Chinese Charity Foundation of China to aid in the epidemic control efforts. Meanwhile, we implemented strict epidemic prevention measures for reopening to ensure the health and safety of our employees; we managed to resume production against all odds and mobilized resources to ensure the smooth delivery of products to our customers; we provided care and assistance in ways that we could to the community residents and tenants of our commercial buildings who were affected by the epidemic, as well as overseas Chinese and Chinese students studying abroad. In this "smokeless war" against the epidemic, we have braved the hardships and forged ahead, working with our stakeholders to build a solid line of security.

The post-epidemic era presents both challenges and opportunities. APP China will continue to align efforts with its founding purposes and walk down the path of high-quality development with conviction. We will bravely embrace the new digital economy with our constantly open and innovative attitude, promote all-round digital transformation, and look forward to working with our stakeholders to make greater contributions to the sustainable development of the industry and wider society.

Chairman and President of Sinar Mas Group





About APP China

Company Profile

With operations dating back to 1938, Sinar Mas Group was officially founded by the prominent Indonesian Chinese Mr. Eka Tjipta Widjaja in 1962. The Group currently has hundreds of legal entities and owns seven main business pillars: Pulp & Paper, Financial Services, Agri-business & Food, Real Estate, Energy & Infrastructure, Telecommunications, and Healthcare.

As a core business sector of Sinar Mas, Asia Pulp & Paper (APP) was set up in 1972 and its line of business ranges from pulp, industrial paper, cultural paper, and tissues to various types of paper products. APP started investing in China in 1992. With the establishment of two seedling research centers, 17 forestry companies, 267,400 hectares of plantations, and seven major pulp & paper mills, APP China implements green-cycle development based on the concept of "Integration of

As of the end of 2019, APP China has

Products marketed in over **160** countries/regions across **6** continents

About **11.78** million tons of annual capacity

RMB **65.1** billion in annual sales revenue

RMB **191.4** billion in total assets

Organizational Chart

Ningbo Zhonghua was formed through joint investment by APP of Sinar Mas, China Strategic Holdings Limited from Hong Kong, Ningbo Duplex Board Factory, and China Paper and Pulp Import and Export Co., Ltd. and is the first mill invested in and set up by APP in China.

1992

Gold Huasheng Paper (Suzhou Industrial Park) Co., Ltd. was established, and has become one of the largest diversified cultural paper product providers in China and Asia.

1996

Gold Hongye Paper Group Co., Ltd. located in Suzhou started operation. Its Breeze™ Tissue (Qingfeng) has become a leading brand in China's tissue market. In the same year, APP China Headquarters was established in Shanghai.

1998

Hainan Jinhai Pulp & Paper, APP China's first pulp mill, was officially put into operation.

2005

2004

Ningbo Asia Pulp & Paper, equipped with one of the world's largest single-machine production capacities and most advanced industrial paperboard production lines, was put into operation.

2010

With an annual chemi-mechanical pulp (CMP) production of 300,000 tons, the first phase of Guangxi Jingui "Integration of Plantation-Pulp-Paper" project started operations, and its 600,000-ton papermaking production line had a grand opening.

APP announced the Sustainability Roadmap Vision 2020, placing natural resources conservation at the center of its business strategy.

2012

APP China announced plans to make full use of existing plant buildings for rooftop photovoltaic (PV) power generation with an overall capacity of over 200MW.

2014

APP China responded actively to the Belt and Road Initiative and signed a strategic agreement to build intelligent production and R&D bases by adopting Industry 4.0 and artificial intelligence.

2017

The high-grade tissue industrial base of Gold Hongye was officially launched and will be built into a world-leading paper base that is intelligent and environmentally friendly. In the same year, APP China Headquarters settled in the Shanghai Magnolia Square, opening a new era.

2019

1995

APP started plantations in China, embarking on a progressive journey of modernized papermaking.

1997

Gold East Paper was officially established and is today one of the world's largest coated paper mills in terms of single product capacity. In the same year, Yalong Paper Products (Kunshan) Co., Ltd. was officially put into production and is now one of the most important paper product fine-processing companies in China.

2013

APP published the Forest Conservation Policy (FCP), imposing a moratorium on all-natural forest clearance across its supply chain. For forests that are of high conservation value and high carbon stock, APP would take targeted protective measures based on assessment results.

2015

APP China moved its headquarters to Shanghai ARCH and in the same year became a global partner of the China Pavilion at the Milan Expo 2015.

2018

APP appeared at the first China International Import Expo with the concept of green-cycle "Integration of Plantation-Pulp-Paper".

2020

Standing united with Wuhan and the whole China, Sinar Mas Group donated RMB100 million and also RMB350,000 worth of Breeze™ hygienic cleansing wipes to the Overseas Chinese Charity Foundation of China to fight against COVID-19. It is thus the first overseas-Chinese-funded enterprise to respond to the call of the All-China Federation of Returned Overseas Chinese to make donations to the affected areas.



Achievements and Honors

Honors and Awards

Issuers

Honors and Awards

Issuers



Star Employees at APP

A company's success is inseparable from the hard work of all its employees. The power of role models can be seen everywhere at APP. Ordinary as their roles may be, a large group of APP people have made extraordinary achievements by upholding honesty, diligence, and novelty at work. Those shiny stars gather to form a splendid galaxy that illuminates APP's way ahead.

Living Positively with a Fighting Spirit

Wang Wei impresses everyone as an optimistic and upbeat person. However, an accident happened to him in November 2007 when he was handling a failure in the boiler ash system at work, costing him his right arm. Never weakened mentally by the physical loss, he rose to his feet again with a strong will.

In 2008, Wang Wei returned to the Heat & Power Division but turned down the "special treatment" offered by his superiors. He started as an Industrial Safety Officer and used his own experience as an example to raise his colleagues' awareness of safe working practices. After that, he gradually took on new roles as well, including Officer of the Total Productive Maintenance (TPM) Group and Hourly Worker Manager at the Heat & Power Division. As the manager, he takes the initiative to help supervise cleaning of the boilers. He is always seen offering help every time a boiler is closed down for maintenance, even late at night. In those two new roles, Wang Wei gets actively involved in tasks like environmental cleanup, safety hazard correction, labor protection supplies management, and employee support – no work is too trivial for him. The results have been impressive under his management, with zero work-related injuries recorded for over three consecutive years. "He's got our back and our full trust," said his colleagues.



As long as you stay, I will never leave your side.

Wang Wei
Heat & Power Division
Gold Huasheng

Living the Craftsmanship Spirit

Yan Guilin works at Gold East Paper's Maintenance Pulping Division of Maintenance Department and has been in the line of mechanical maintenance for 27 years. He is the owner of two utility model patents and has received an array of honors from the company such as Advanced Manufacturing Worker and Outstanding Employee of the Year. With a heightened focus on technical innovation, Yan Guilin has submitted a total of 60 rationalization suggestions. He has made notable contributions to the company in terms of energy conservation and consumption reduction and helped it win the High-Tech Enterprise Achievement Award for developing a new drive system for GCC (Ground Calcium Carbonate) grinding mills.

To his colleagues, Yan Guilin is a mentor and friend. As a humble and sincere person, he maintains smooth communication with his colleagues; as a skillful worker, he has helped the company solve one technical challenge after another. Every department has benefited from his services.

He lives the craftsmanship spirit of being professional, meticulous, and grounded. Apart from delivering solid work in technical research and innovation, he also makes a point of "teaching, helping, and guiding". He has formulated various rigorous equipment maintenance plans, actively conducts on-the-job training, and passes on his own technical experience to his colleagues to help train more accomplished craftsmen.



We should be driven by the craftsmanship spirit, stay committed to our work duties, and be responsible and also good at it so that we can be truly accountable for our own roles and deliver reliable work.

Yan Guilin
Maintenance Department
Gold East Paper

Nothing Is Too Small

Li Zhisheng is in charge of work related with the on-site devices and vehicles and TPM in the Packaging Team of the Organizing Department of Hainan Jinhai Pulp & Paper. Others may see those duties as too trivial to bear fruits, but Li Zhisheng has managed to shine through those small things by putting in relentless work.

There are a number of handheld scanning guns at the Organizing Department, which are very important single small devices. They are used for organizing information and closely tracking the paper products. Therefore, once they break down, the work efficiency would be undermined. By conducting online research, studying how the scanning gun is structured and designed to work, and taking apart the broken ones, Li Zhisheng managed to acquaint himself with all of its components. Now fully prepared, he started to purchase parts to take on the repair himself and fixed eight scanning guns in four months. More than that, he also shared his experience with other groups to pass on his repair skills.

Li Zhisheng's constant attention to detail has allowed him to make many improvements at the site. For instance, he attached reflective strips to the columns that the devices might bang into when carried in and out of the site; he made a rake that was light, practical, and easy to use to sweep sawdust from under the devices, which was a tough spot. It is roughly estimated that those small improvements can help reduce expenses by about RMB100,000 a year.



I will learn with modesty and continue to fulfill my duties conscientiously and to be a fighter who shines.

Li Zhisheng
Packaging Team of
Organizing Department
Hainan Jinhai Pulp & Paper

Taking the Lead in Promoting "Production-Marketing Integration"

As the mill manager, Yang Huizhan is always on the frontline of exploring "production-marketing integration". He actively drives the effective collaboration between production and marketing so that there is mutual understanding between the two and sales can constantly reach new heights.

When working at the Xianyang mill, Mr. Yang invited the marketing team to take a tour at the manufacturing site. Through consulting and product training sessions, he helped the frontline marketing team gain a better knowledge of the company's products and instilled in them a stronger sense of belonging and confidence in the company. Before the back-to-school sales campaign kicked off, he invited the business director to give mill staff a training session on marketing skills; he made a "100% pure base paper shelf" that allowed customers to try out the products; he also personally drove over 100 kilometers to bring company staff to the campus sales outlet in Xi'an to carry out sales activities. Thanks to a number of initiatives such as experience sharing and sales reward system, the sales campaign was a big success. During the peak hours on weekends and holidays, Mr. Yang would often be seen at sales events in major stores in Xi'an with his team, and the sales performance of the Northwest KA (Key Account) stores has thus been greatly improved.

Excellence Lies in Diligence and Thinking

Usually, Xu Zhaozhi does not give the impression of being a salesperson upon first meeting. He does not appear to be eloquent or diplomatic; rather, he is highly trusted and liked by the customers for his diligence, sincerity, and perseverance.

During product sampling, Xu Zhaozhi would often stay with the press operators through the night shifts at the customers' factories; by day he would be communicating with workers from production, technical, or other departments, which enables him to understand and solve the sampling problems in a timely manner. Whether it is pharmaceutical packaging, handbags, business cards or blister cards, every time he sees a good paper product, Xu Zhaozhi would tear it open to find out how and where it is made; every time he sees a product made from APP paper, he would make sure to introduce it to everyone. Small efforts like those have translated into an outstanding sales record for Xu Zhaozhi and won him the honor of Excellent Employee for three consecutive years.



Sustainability Strategy

Sustainability Roadmap: Vision 2020

APP announced the "Sustainability Roadmap: Vision 2020" in 2013, which set forth 19 targets to be achieved by 2020 in ten key impact areas. They include fiber sourcing, reforestation, conservation & biodiversity, human rights & indigenous people, community empowerment, climate change, emissions, water management, solid waste, and employee welfare. Sixteen targets had been achieved by the end of 2019, with targets concerning climate change project implementation, energy intensity reduction, and safety incidents still in progress.



Scan the QR code to learn about the detailed progress of 2020 targets

Sustainability Roadmap: Vision 2030

APP attaches great importance to the United Nations Sustainable Development Goals (SDGs) and actively leverages its own business to contribute to their implementation and achievement. Based on a comprehensive benchmarking against the SDGs, APP hopes to make further sustainability commitments and plans to expand the goals further under "Sustainability Roadmap: Vision 2030". Vision 2030 focuses on three main areas closely related to APP, namely production, forest, and people.

Target Area	Production	Forest	People
Overall Target	30% reduction in carbon footprint	Continuously improving the percentage of sustainable fiber sourcing	Improving the lives of millions
Specific Issues As regards every issue, APP sets specific goals for 2030. For more information, scan the QR code.	Low Carbon Product Innovate Products	Fiber Sourcing Forest Protection Integrated Fire Management	Sustainable Livelihood Workforce Management Business Ethics & Conduct

Bravely Fighting the Battle against the Epidemic

In January 2020, the sudden outbreak of a novel coronavirus disease (COVID-19) caught the whole society off guard. When disasters hit, help rolls in from all directions. Enterprises are a powerful force in the fight against the epidemic. During this special period, Sinar Mas Group lost no time in becoming part of the fight; the company has put in place comprehensive prevention measures to keep its employees and the communities safe; everyone has worked together to overcome difficulties and resume work and production, thus ensuring continuous supply of products. The epidemic will eventually pass, but we will go forward with a sense of responsibility and do our best to give back to society.

Mobilizing All Staff to Combat the Epidemic

After the outbreak of the epidemic, APP President Teguh Ganda Wijaya, who was then in Indonesia, paid close attention to its development. On January 26, Sinar Mas Group announced a donation of RMB100 million and also RMB350,000 worth of Breeze™ hygienic cleansing wipes to the Overseas Chinese Charity Foundation of China. It is thus the first overseas-Chinese-funded enterprise to respond to the call of the All-China Federation of Returned Overseas Chinese to make donations to the affected areas. Meanwhile, APP China management promptly set up an

emergency response team for leading epidemic prevention and control. APP China Headquarters joined hands with all its business units and mills and mobilized all the staff to be part of the national fight against the epidemic.

Locally, APP China mills also played an active part, making donations of money and supplies to aid the respective regions in their efforts to control the epidemic. Hainan Jinhai Pulp & Paper donated 6 tons of disinfectant produced by the company itself to the Yangpu District Center for Disease Control and Prevention (CDC) to be used in local communities, public places, streets, and other places. Ningbo Asia and Ningbo Zhonghua cumulatively donated 3,000 masks to neighboring communities to give the grassroots community workers better protection. Chinese Communist Party (CCP) members from Guangxi Jingui Pulp & Paper all took the initiative to donate money to make their own contributions.

Warm Companionship During Epidemic

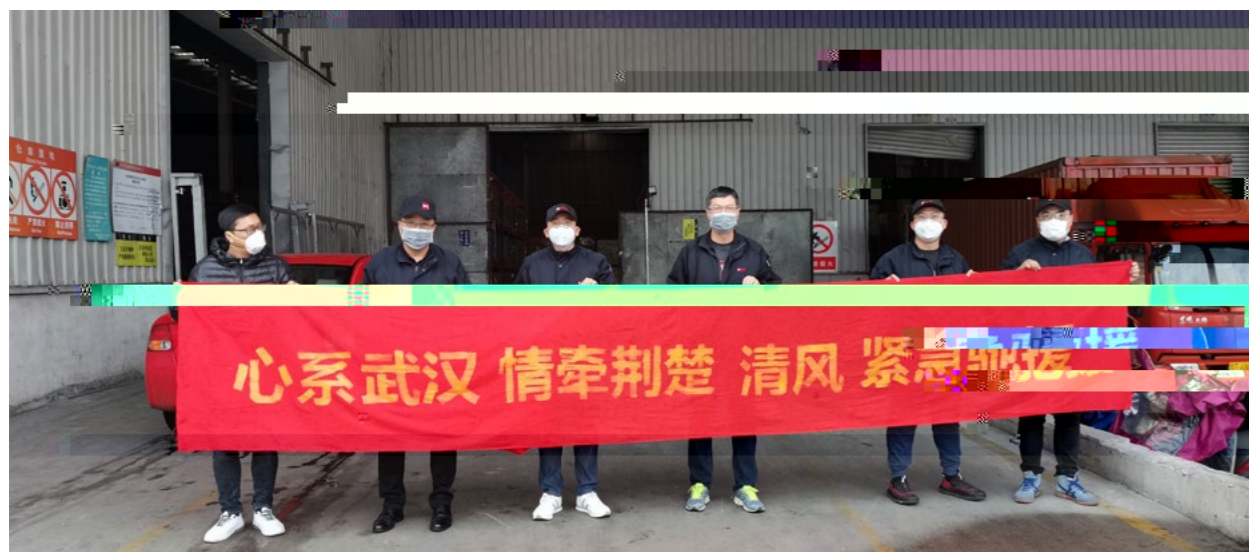
APP China puts its employees' safety and health first. As a responsible employer, we promptly developed comprehensive epidemic control measures for safe reopening after the outbreak to ensure a safe and healthy workplace for our employees.

We have drawn up detailed regulations and behavioral guidelines on employee return, employee commuting, temperature checking, office disinfection, meeting arrangements, meal arrangements, visitor control, and other matters and provided our employees with protective equipment such as masks and alcohol cotton as well as flexible work hours. Moreover, we publish daily epidemic briefings and work to keep our employees updated, equip them with a proper knowledge of the epidemic, and take care of their mental wellness. Ningbo Asia and Ningbo Zhonghua promptly responded to the call of the People's Government of Ningbo Municipality for giving returned employees free, rapid nucleic acid testing so that they felt safe back at work.

To guarantee sound customer service during this special period, APP China Paper Business Unit launched the "Little A Online Classroom". It allows customers to interact with the company in real time through means like video, voice and text messaging and to take customized courses focused on a variety of topics such as product introduction, technical communication, information sharing, and strategic thinking.

Shutdowns during the epidemic weighed on many industries. Some tenants in APP's two major commercial complexes in Shanghai, namely the Shanghai ARCH and the Shanghai Magnolia Plaza, were also affected. In response, we offered them a rent reduction and free protective supplies such as disinfectant cotton balls and disinfectant tissues to tide them over this difficult time.

With the epidemic's accelerated spread overseas, we are also paying close attention to the safety of overseas Chinese and Chinese students studying abroad. Of the RMB100 million donation we made, RMB10 million has been directed to the Overseas Chinese Charity Foundation of China in support of their efforts to work with local federations of overseas Chinese to give away health packages to those groups. The packages contain disposable masks and gloves and Chinese medicine (grains or capsules), among other infection control items.



Suzhou Gold Hongye urgently producing protective equipment needed for containing the epidemic ▲

Introduction: On the Great Cause of Papermaking Development in China

Throughout history, paper has been integral in the development and preservation of human civilization. To celebrate the 70th anniversary of the founding of the People's Republic of China, China Central Television (CCTV) released *The Story of Chinese Paper*. It is a documentary that captures the invention, popularization, and application of paper and the papermaking industry of the present day, portraying an epic picture that spans paper's past and present. As an important witness of and participant in the development of China's modern paper industry, APP China took part in the shooting, using as the setting its numerous affiliations such as Gold East Paper, Ningbo Asia, Suzhou Gold Hongye, Hainan Jinhai Pulp & Paper, and APP China Forestry. APP China has demonstrated the advanced manufacturing technologies and strong R&D capabilities of today's papermaking companies in China and the dedication of generations of papermakers who have worked hard to create a better life.

From bringing the "Integration of Plantation-Pulp-Paper" model to China in the 1990s to large-scale production following the 12th Five-Year Plan, and to the exploration of intelligent production and management, APP China continues to innovate and improve. By doing so, the company helps propel China's paper industry towards high-quality development and contributes to the preservation of China's paper civilization.



Pioneer of "Integration of Plantation-Pulp-Paper"

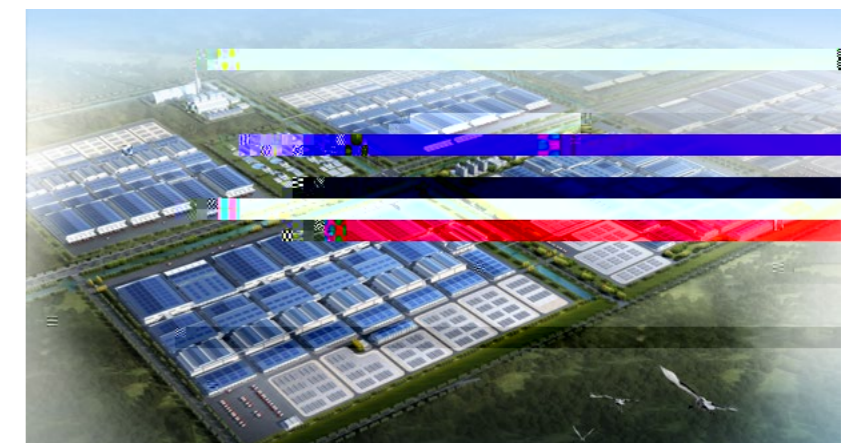
In 1992, APP entered China with the mission of "Implementing green cycle-based development, advancing papermaking civilization, and improving the quality of life". While the concept of "Integration of Plantation-Pulp-Paper" was still quite new in China, APP China was already making efforts to put this green, circular development model into practice. Since 1995, APP China has been growing plantations in Guangdong, Hainan,

Guangxi, Yunnan, and other provinces to

Doer Who Innovates and Pushes Boundaries

The year 2000 marks the beginning of a "golden decade" for China's paper industry, witnessing its rapid development and the near tripling of annual paper output. APP China continues to upgrade the industry chain and manages to make the "Integration of Plantation-Pulp-Paper" model truly excel by continuously improving its core strengths in production and management technology, product quality, customer service, etc. This has set a prime example of development with constantly improving quality and effect for modern papermaking companies in China.

APP China has established industrial bases in Jiangsu, Hainan, Guangxi, Zhejiang, and other places and continues to increase investment. In 2019, APP China launched the construction of a high-grade tissue industrial base in Rudong, Jiangsu Province. Combining technology-based manufacturing with circular economy, the base will adopt the world's best manufacturing technologies, equipment, and control systems and fully apply the principles of clean production as it strives for the goal of green development



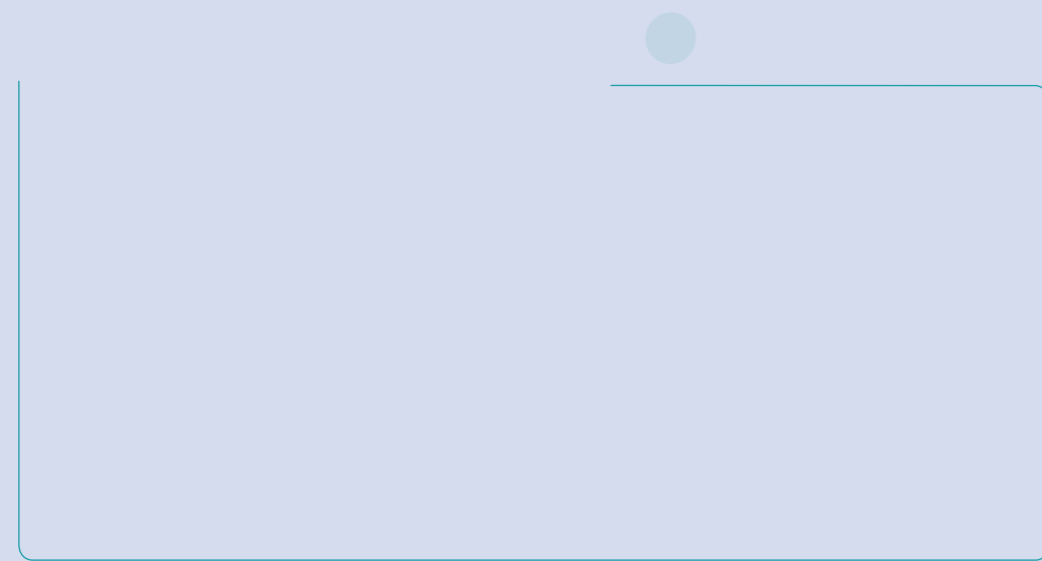
In recent years, China has been prioritizing the improvement of ecological conditions and green development while continuing to implement a new mode of development. Such development is driven by industrialization and information technology and embraces circular economy and a low-carbon and energy-efficient approach. As an important provider of basic raw materials in the national economy, the modern paper industry is also making a gradual transition to highlight the use of renewable resources, clean production, and pollution control. APP China has long been taking concrete actions to help build a beautiful China, including actively exploring models of resource conservation and recycling and continuing to strengthen the management of clean production.

Pursuing Circular Economy

Based on the principle of "reduce, reuse and recycle", the circular economy is designed to maximize resource efficiency and recycling. It is a fundamental shift away from the traditional way of economic development that is high-pollution and high-consumption. APP China embeds the concept of circular economy throughout its manufacturing process, thus effectively reducing its environmental footprint while operating at a lower cost and higher efficiency.

Separating the cellulose required for paper from the raw materials by cooking is an important step in the pulping process. This process

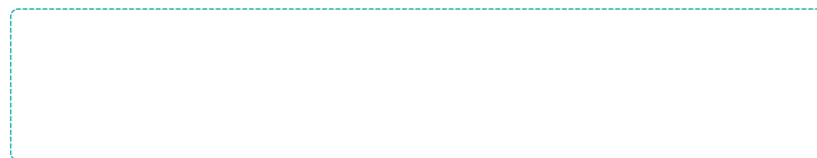
We have formulated the *Solid Waste Management Procedures*, defining the scientific classification and orderly disposal of major wastes such as coal ashes,



Water Resources Management

Water is the source of life and also an important resource for the pulp and paper industry chain. It is the responsibility of pulp and paper companies to save water and treat waste water properly. APP China pays close attention to the impact of water withdrawal, consumption, and drainage in the production process on the local water environment and surrounding communities and has established a sound water resources management system. All mills have in place a strict internal supervision mechanism and water resources management targets. They regularly track the implementation and continuously improve performance in related areas; they maintain active communication with the local governments, regulatory authorities, community residents, and other stakeholders and fully fulfill their obligation of information disclosure.

The mills continue to optimize their water use patterns and actively build water-saving mills to drive a sustained decline in the amount of fresh water consumed in production. In 2019, Guangxi Jingui Pulp & Paper, Hainan Jinhai Pulp & Paper, Ningbo Asia, and other mills undertook a water saving initiative aimed at reducing water consumption per unit of product. It included activities like identifying areas to improve in the production process, optimizing processes and technologies, conducting regular analyses of water saving effectiveness, and sharing hands-on experience with other mills. Through a



Hainan Jinhai Pulp & Paper has built separate waste water treatment plants for its pulp and paper projects. Its COD emissions in 2019, which stood at 0.22 kg per ton of paper produced and 1.15 kg per ton of pulp produced, were well below the national limit set in the *Discharge Standard of Water Pollutants for Pulp and Paper Industry* (GB3544-2008). In 2019, the company worked with its suppliers to develop new chemicals for waste water treatment, greatly improving its efficiency. The company also invited an external organization to perform ecological impact monitoring on the waters near the company's drainage outlets to gain an objective knowledge of the plants' impact on the surrounding waters and used the

In 2019, Ningbo Asia carried out sedimentation concentration treatment of waste water. The filtering would produce a sludge with a water content of 41.5% and a dry matter content of 15.4%.



Reducing Waste Gas Emissions

APP China continues to step up efforts to reduce air pollutant emissions to aid the nation's plan to protect the blue sky. As of the end of 2019, the four major mills, namely Guangxi Jingui Pulp & Paper, Ningbo Asia, Gold East Paper, and Hainan Jinhai Pulp & Paper, had all completed ultra-low emission retrofitting, which could reduce 197 tons of soot emissions, 227 tons of sulfur dioxide emissions, and 2,627 tons of nitrogen oxides every year. With the continued progress of the ultra-low emission retrofitting, the total air pollutant emissions from our mills within the reporting scope are decreasing each year. In 2019, the sulfur dioxide emissions dropped by 556.31 tons from 2018, representing a year-on-year decrease of 44.36%.



▲ d Hainan Jinhai Pulp & Paper invested over RMB150 million in 2019 f



Intelligence-Driven Industrial Upgrade

The *Made in China 2025* strategy contains the demand to "seek innovation-driven development and apply smart technologies". Strategic documents since 2018 like the government work reports have repeatedly emphasized the need to strengthen "construction of new infrastructures", notably artificial intelligence, industrial Internet, and the Internet of Things. Those national policies are clear signals that the cultivation of the digital economy has become a new driver of national economic growth. For traditional manufacturing industries such as the papermaking industry, intelligent manufacturing will become the leading force driving industrial transformation and upgrading.

APP China focuses on digital transformation as a key development strategy and works to promote the construction of Industry 4.0 and intelligent manufacturing with an open and innovative attitude. We are taking advantage of emerging technologies to expand our industrial territory and quicken the transition of the papermaking industry to "intelligent manufacturing".

Embracing the Intelligence Revolution

APP China thoroughly implements the *Made in China 2025* strategy and continuously advances to the goal of "intelligent equipment, digital management, and automated processes" by formulating and implementing the "Industry 4.0" roadmap. We take automation-oriented transformation as our current focus and make an all-out effort to promote the upgrading of papermaking equipment and processes; by virtue of big data technology

and scientific management, we manage to improve our information management capabilities and gradually foster the linking and integration of the various information systems for different parts of our operations.

Relying on a real-time database platform

In 2019, APP China invested tens of millions of *yuan* developing dozens of automation projects. Using high technologies such as big data, cloud computing, and the Internet of Things, we have managed to digitize information collection throughout the full lifecycle from raw materials to finished products and to



Automated papermaking workshop ▲

Digital Information End-to-End Tracking



The Radio Frequency Identification (RFID) technology stores product data in electronic tags and is a type of remote automatic identification technology. APP China applies the RFID technology in its entire production process (for example, base paper winding, rewinding, slitting, post-processing) and to its logistics and warehousing management (for example, delivery and inspection, warehousing, storage, inventory, transportation) to realize digitized quality control. The RFID technology has such advantages as fast information reading, contactless long-distance recognition, penetrable omnidirectional recognition, and high reliability. This makes it possible to comprehensively track and synchronize data of the production, warehousing, and logistics processes, thereby realizing full traceability of the digital information and more automated and efficient operations.

Creating an Intelligent Industry Eco-Chain

APP China integrates the intelligence strategy fully into its industrial development plan, making full use of cutting-edge technologies such as artificial intelligence, big data, and cloud computing to create an intelligent and green paper industry ecosystem and help boost the digital and intelligent transformation of China's paper industry.

APP China's first new intelligent manufacturing upgrading project, the Rudong High-Grade Tissue Industrial Base, was initiated in July 2019. With "Industry 4.0 + Artificial Intelligence" guiding its production, it takes advantage of new technologies such as big data and 5G to automate production and realize intelligent management and operations



Rudong High-Grade Tissue Industrial Base breaking ground ▲

Logistics Automation at New Base



At the new production base under construction, APP China has launched a logistics automation project, which will create an automated logistics model through the combined use of various technologies. From 2020 to 2021, we will focus on promoting the use of intelligent transport vehicles. Those vehicles are equipped with advanced technologies such as



Robust Products

Innovation is the soul that drives high-quality business development, and one important way of product innovation for the papermaking industry is to follow the global sustainability trend. In this era of challenges and rapid development, APP China aligns its actions with the needs of the market and social development and constantly injects innovation into developing industrial paper, cultural paper, and tissue products. At the same time, we seek extensive cooperation and engagement with the outside world and actively promote the implementation and wider application of best practices on issues such as "Paper for Plastic" and sustainable consumption.

"Paper for Plastic" Starting a New Trend

Disposable plastic products are difficult to degrade and heavily used and have a low recycling rate. According to United Nations statistics, at least 8 million tons of plastic waste enter the ocean every year, and this number is still rising. In response to this increasingly severe pollution problem, the Chinese government has issued a number of policies and rules in recent years, clearly stating that bans and restrictions on the production, sales, and use of certain plastic products will come into force in a number of regions and fields first by the end of 2020. "Paper for Plastic" will become an inevitable trend in food

packaging, takeaway catering packaging, and other fields.

As an expert provider of paper packaging solutions, APP China strives to be a pioneer in the "Paper for Plastic" initiative and actively promotes the R&D and production of plastic product alternatives. We continue to deepen innovation in "zero plastic" food packaging products and step up the promotion of the degradable and recyclable Foopak food cardboard products for the Chinese market. Meanwhile, companies such as Gold Huasheng and Ningbo Asia have developed a series of

high-quality products such as "zero plastic" coated food cardboard, "zero plastic" oilproof food cardboard, and drinking straw base paper. In the future, we will foster more innovations in the field of medical packaging, plastic laminate alternatives, paper trash bags, etc., doing our part at the industry source to facilitate a broader transition to a green and low-carbon lifestyle.

"Zero Plastic" Product Promotion Taken a Step Forward



Diversified "Paper for Plastic" Solutions



Drinking straw base paper

Made of virgin wood pulp, recyclable and degradable; QS certified, food-grade; suitable for making paper straws, airline cups, paper bag cups, and other products.

Forest Certification Labeling for Products

Forests are the largest and most expansive and biodiverse ecosystems on land and play an irreplaceable role in conserving water and soil, sequestering carbon and producing oxygen, and maintaining global ecological balance. Forests also provide ample resources for human production and living and are a true treasure house of resources.

APP China is fully aware that only by respecting and protecting forest ecology can we ensure the long-term and sustainable use of forest resources and truly turn "lucid waters and lush mountains" into "invaluable assets". For years, we have

246,735 hectares of plantations are CFCC/PEFC-FM-certified

92.27% of plantations are CFCC/PEFC-FM-certified

16 affiliated entities have obtained CFCC/PEFC-CoC certification

Note: For more detailed information, please refer to the Sustainability Management section.

Normalization of Product Labeling

Forest certification has been widely recognized by the international community and governments as an effective tool for promoting sustainable forest management and market access for forest products. China Forest Certification Council (CFCC) and the Programme for the Endorsement of Forest Certification (PEFC), a leading international forest certification system, reached mutual recognition in 2014. It gives China's sustainable forestry products an "international passport" while setting stricter requirements for the management of certified paper products in terms of

"traceable product information, reliable eco-friendly production, and sustainable raw materials".

Under the guidance of the Science and Technology Development Center of State Forestry and Grassland Administration, APP China has continued to promote the labeling of certified forest products in recent years and is the first in the industry to carry the CFCC/PEFC label on its products. In 2019, our Touchcare functional tissue under the well-known brand Breeze™ and some products under

the high-grade tissue brand EMPORIA also started to carry the joint label, further expanding APP China product series with forest certification labeling. The CFCC/PEFC joint certification and labeling will be normalized for an array of products under EMPORIA and VIRJOY in 2020.

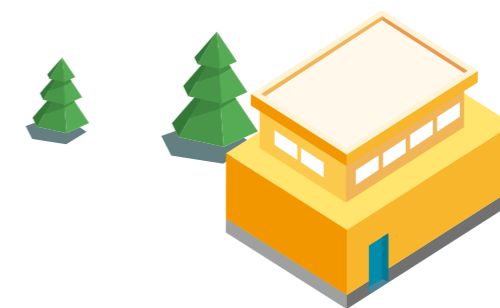
Increasing Awareness of Sustainable Consumption

While continuing the efforts to advance product labeling, APP China is also actively popularizing sustainability ideas represented by forest certification to the society by undertaking publicity and advocacy initiatives. With strong support of the Science and Technology Development Center of State Forestry and Grassland Administration, a series of CFCC/PEFC philanthropic campaigns jointly sponsored by Nanjing Forestry University and APP China was held on campuses and in communities and city areas of Nanjing in November 2019. We showcased the company's products with the CFCC/PEFC label and held a lecture at Nanjing Forestry University on forest certification. We mainly introduced relevant practices at APP China and called on the public to pay attention to the conservation and sustainable development of forests.



EMPORIA tissue products carrying the forest certification label ▲

Lecture on forest certification



Injecting Innovation in Products

APP China continues to step up R&D investment and technological innovation and manages to meet the increasingly diversified paper needs by constantly optimizing and enriching its product series. In terms of industrial paper and cultural paper, we have developed a wide range of high-bulk products in line with the lightweight trend of applied paper; we

constantly adjust product formulas and production technologies and processes and strive for excellence in product performance. In terms of tissues, we have launched a series of Healthy Family products, which can effectively meet people's requirements for a healthy and hygienic life.

Meeting New Demands For Health

The general trend of consumption upgrading and classification has created a higher demand for the functionality and personalization of paper in our daily life. Based on an in-depth analysis of the needs of contemporary consumers, Suzhou Gold Hongye has launched a series of functional wipes for different situations, including glass cleansing wipes, dish wipes, cooling wipes, and stain remover wipes. For people with sensitive skin, the company has developed a moisturizing facial tissue. Infused with moisturizing factors and vitamin E, the tissue effectively locks in moisture and offers a moisturizing and smooth soft touch. For baby skin, the company has developed a series of special products for mothers and babies using a number of patented technologies, such as moisturizing dry towels for babies, baby cotton tissues, and addictive-free hand and mouth wipes for babies.

In 2019, the company continued to deepen R&D and launched an array of antibacterial products, such as antibacterial cream paper products and 75% alcohol wipes (dish wipes), which adequately meet people's sanitizing and cleaning needs in

daily life. The outbreak of the epidemic has driven home the harm of bacteria and other microorganisms and led to increased recognition for sanitizing and antibacterial products.

With a relentless commitment to innovation, Suzhou Gold Hongye obtained 22 patents in 2019, of which 20 were invention patents, ushering it to China's top 500 enterprises in terms of patents.



Moisturing dry towels for babies ▲



Dish wipes ▲



Dry & wet dual-use wipes ▲

Pursuing Excellence in Fine Cultural Paper

Coated paper is commonly used in printed products such as book covers and commercial advertisements. As people's taste improves, the traditional coated paper can no longer meet many customers' new requirements for paper products as they go after elegant paper color, embossed feel, high color reproduction quality, etc. Gold Huasheng has developed the "Art Paper" product series using optimized product formulas. This type of product offers a natural hue and excellent color reproduction and is suitable for a variety of printing processes. In addition to ordinary paper -1.467 Td[[color reproduction](#)]

Thermal Paper Leading to Eco-Friendly Weight Reduction

Sustainable Forest Management

"Scientific, ecological, and legal forestry" is the fundamental forest management approach that APP China adopts. On the basis of the

Forest Management Certification

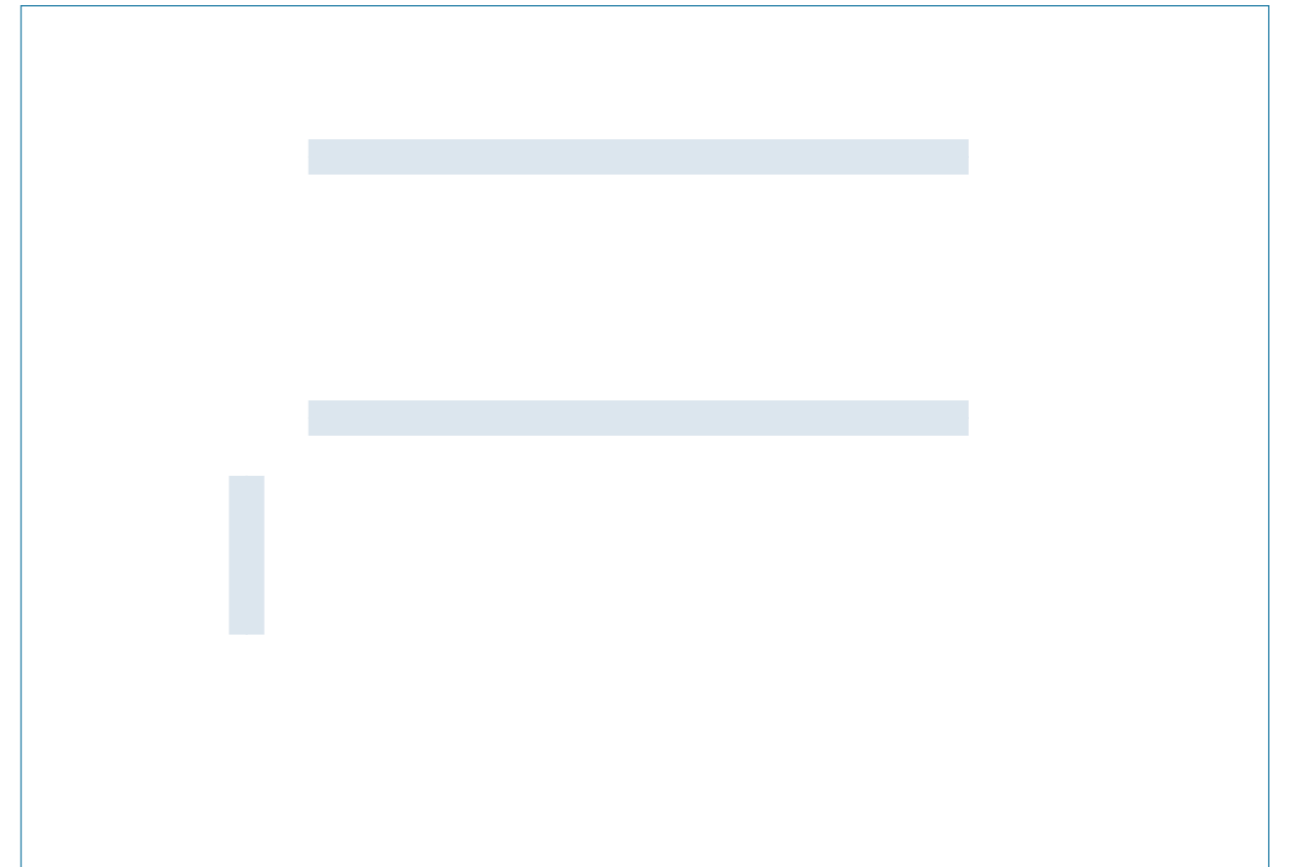
APP China Forestry carries out CFCC/PEFC-FM certification every year and continues to use the audits and evaluations to inform better management, thus laying a solid foundation for realizing sustainable forestry.

In 2019, a third-party forest certification agency undertook the annual CFCC/PEFC-FM audit on APP China Forestry's business units (BU) in Guangxi, Guangdong, and Hainan and a renewal audit on Lancang and Wenshan forest areas in Yunnan. In accordance with the *Forest Certification in China – Forest Management* (GB/T28951-2012), Chinese laws and regulations, international conventions, and company rules and regulations, the audit team conducted a strict document audit and site audit from the environmental, social, and economic perspectives respectively. During the site audit, the audit team looked at a range of issues based on scientific sampling such as the forestry management procedures of different companies and forestry farms, as

Forestland Carbon Inventory

High Conservation Value Management

High Conservation Value (HCV) forests refer to forest areas with one or more regulationspogulad.outd-1.1.461-20e



Ecological Impact Monitoring

Attention to and protection of biodiversity remains the focus of APP China during forestland management. APP China Forestry has drawn up a series of management measures, including the *Buffer Zone Management Measures*, the *Guidelines for Eco-Friendly Operations*, the *Provisions on Wildlife Protection*, etc., to guide the recording, monitoring, and protection of wild animals and plants during forestry activities. Consistent with relevant national lists and protection requirements of rare, threatened, and endangered species, the forest areas have compiled albums and wallcharts of wild animals and plants that need to be protected so that foresters can learn about and recognize them. Each small class at the forestry farms undertakes a biodiversity survey at least once a year, where they locate animals and plants by using GPS, take photos to keep records, and summarize and analyze the survey and monitoring data. All of those contribute to the establishment of a biodiversity database that enables a closer tracking of those animals and plants. During the 2019 biodiversity survey, the protected plant *Alsophila spinulosa* was discovered in both our Hainan BU and Lancang Sub-BU. The survey team has marked and recorded the protected plants and will continue to monitor them in the future.



The protected plant *Alsophila spinulosa* in Wusha Forestry Farm of Hainan BU ▲

Forest Safety Risk Management

Forest fires not only severely damage the ecosystem but also cause great loss of life and property for human society. Preventing forest fires is a top priority of APP China Forestry's work in forest resources management and protection. The company has established a forest fire prevention command, delineated forest fire risk zones, and formed a fire prevention squad. It has also built an artificial patrol monitoring network, information monitoring network, and prediction and forecasting system. Those systems, in conjunction with local forest fire prevention command and meteorological department, has enabled forest fire monitoring and forecasting in key fire prevention areas using satellite monitoring and other high-tech means. During high-risk fire seasons, the company implements a 24-hour duty system and a daily reporting system to keep abreast of changes in forest fire risks and take prompt control.

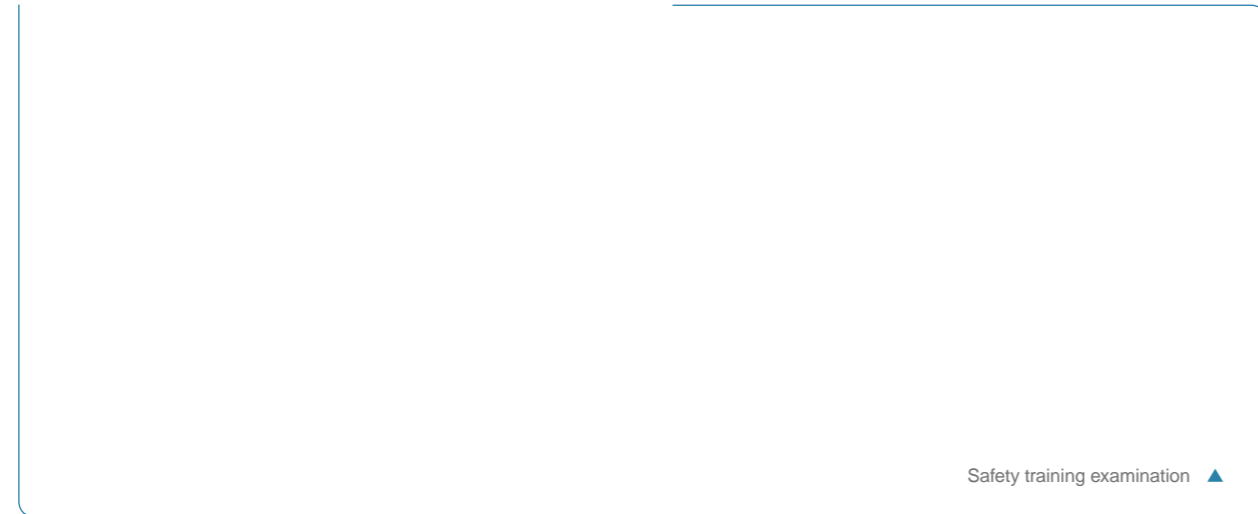
Employees in the forest areas assume the important responsibility of guarding the safety of the forests. In order to enhance the employees' awareness of fire safety and equip them with better fire-fighting skills and emergency response abilities, APP China Forestry organizes multiple fire drills and competitions every year to ensure timely and effective response in the event of a fire. It has also hired a large

Safety Training

In 2019, we created the APP-SHE Case Study Repository based on the APP Corporate University Online Learning Management Platform. SHE accidents that had happened over the years were collected by the respective mills and uploaded to the online platform, available to all users. The mills would organize case study sessions regularly to draw lessons from past accidents and keep them from happening again.

We provide safety and health training for all employees and contractors, which covers contents like work safety knowledge, firefighting knowledge, and first-aid knowledge and skills; we invite health professionals to give lectures on the prevention of occupational diseases; we organize various safety drills and knowledge competitions to improve our employees' safety skills and awareness. In 2019, APP China mills conducted 267

safety drills in total. Guangxi Jingui Pulp & Paper held more than 200 training sessions on topics such as safety hazard removal, safe use of machinery, and general knowledge of workshop environment safety, involving 13,519 person-times of participants.



Practicing Sustainable Procurement

APP China incorporates sustainability throughout the procurement decision-making and management processes. It gives full consideration to the social and environmental criteria when evaluating and selecting suppliers and continuously pushes for improvements in the suppliers' performance in fulfilling their responsibilities.

In January 2019, we officially launched our Supplier Management Platform. It has brought online processes like supplier registration, certification, and due diligence and risk assessment and is another step forward in the construction of an integrated procurement control system that is efficient, transparent, compliant, and consistent.

In terms of supplier risk assessment and approval, we audit the suppliers' business qualifications and assess their financial risks while also requiring related information in areas like technology and quality management as well as health, safety, and environmental protection. Based on the suppliers' overall performance in those aspects, we form a risk assessment. We have added social responsibility related clauses to the contract and sign a *CSR Statement and Commitment Form* with our suppliers. This requires them to make commitments in respect of compliance with business ethics, respect for human rights, environment protection, positive impact on the community, etc. Meanwhile, we have created a supplier blacklist system to urge our suppliers to continuously improve their management and practices in fulfilling their responsibilities.

We have established a due diligence mechanism for timber source legitimacy, implementing a series of procedures and measures such as information collection, risk assessment, and risk mitigation to ensure the compliance and traceability of the sources of our raw materials. In addition, when entering into contracts with our suppliers, we require an undertaking from them that the raw materials they provide are free from disputed sources. In 2019, we increased the proportion of internationally certified wood pulp procured to 19.8%.

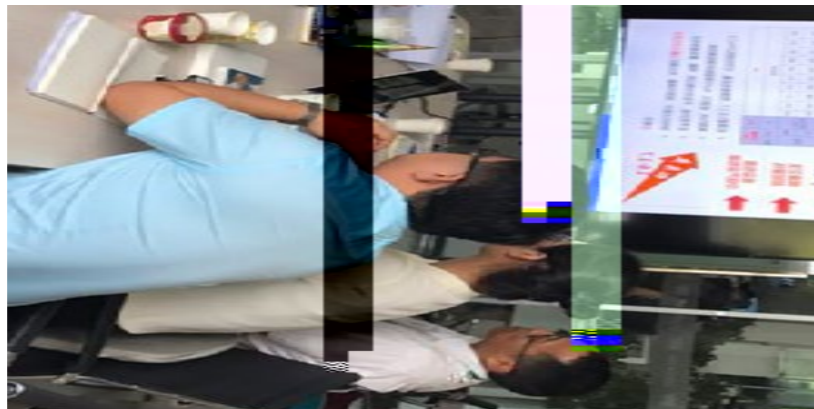
As regards raw material acceptance, we have laid out strict criteria in accordance with national and industry standards and the company's product quality requirements. For nonconforming products, we would promptly report back to suppliers and urge revisions. Hainan Gold Hongye has developed criteria for the acceptance and finding of raw materials. It also holds meetings with the suppliers from time to time, working together to continuously improve the quality of the raw materials. Gold East Paper regularly updates its raw material acceptance criteria and has created a blind sample system, a duty separation system, and a job rotation system to ensure the fairness and prudence of raw material inspection.



Delivering Quality Service

so as to create more value for our customers.

We launched the "Little A Classroom" in 2018, which is a customer interaction program. The program includes features like information sharing, product introduction, technical communication, strategic thinking, and more. Over a year into its launch, the classroom has become a platform for the company to communicate with the customers at zero distance regarding cultural paper and industrial paper. In 2019, we brought the "Little A Classroom" to provinces like Guangxi, Jiangsu, Guangdong, and Hunan, where we engaged our customers in discussions on topics such as trends in the paper and packaging industries, product development, customer complaint risk and management, and printing technologies. As of the end of



"Little A Classroom" lecturing ▲

Cultivating Excellent Managers



In 2019, Suzhou Gold Hongye carried out diversified training for different departments. The company entered middle and senior executives in general management courses on the LMS online platform, which covered contents in team management, efficient negotiation, time management, stress management, emotional intelligence management, and so on. For HR supervisors of the production and marketing departments, the company offered a training session on Change Management and guided

Group discussion at the leadership training camp for production supervisors ▲

Employee Communication and Care

APP China respects and safeguards the legitimate rights and interests of its employees, listens to their opinions and voices through multiple channels, and responds to their needs in a timely manner. The company treats employees with consideration and works to foster a stronger work-life balance among its employees.

Listening to Employees

In 2019, following the example set by the Economic Commission in China, the APP China Headquarters communication team launched the "C-time" communication initiative under the leadership of the Group Culture Development division. Taking such leisurely forms as afternoon tea, tea party, and coffee time, the initiative was designed to be a bridge between company management and frontline employees, where they spent time together and the employees voiced their needs, problems, and concerns. As of the end of 2019, the Economic Commission in China and the APP China Headquarters communication team had organized "C-time" on a number of occasions for the three major sales teams of industrial paper, cultural paper, and tissues. A total of 93 sales problems were solved during those sessions, and they made the frontline employees truly feel supported and valued by the Group.



C-time special communication meeting for industrial paper sales team ▲

What is C-time?

- C-time = Culture time
- C-time = Communication time
- C-time = Coffee time



Caring for Employees

We care about our employees' physical and mental wellbeing and the happiness of their families. We organize a series of activities such as team building, mass birthday parties, sports competitions, and employee family days to make our employees and their families feel the care from the company.



Facilitating Development of Vocational Education

APP China launched the "Dream Plan" project in 2018. The project works with professional colleges and universities to provide academically outstanding students in remote areas with all the tuition and accommodation fees and part of the living and transportation expenses needed while they are in school and offer them

the "Dream Plan" had jointica



Outreach training of "Dream Plan" Guangxi APP Class ▲

Sustainability Management

Integrity and Compliance

Continuing to Intensify Integrity and Compliance Management

Integrity and compliance are the cornerstones of APP China's corporate culture. We hold up the ethical principles of "integrity and commitment" in everything that we do. We developed the APP China Integrity Management Framework in 2018 in accordance with the ISO 37001 Anti-Bribery Management Systems. We use the framework as the guidance as we provide anti-corruption training for employees at all levels, perform risk assessment and due diligence on our projects and business partners, implement corrective measures against non-compliance risks, and follow up the improvement actions of relevant business departments. The framework was formally implemented across the Group in 2019, with a priority on incorporating integrity and compliance throughout every level of our business activities to lay the groundwork for the full implementation of the framework.

We have a dedicated email and telephone number for reporting violations. In 2019, we unified the emails and telephone numbers of our business units and mills for reporting to optimize the report handling procedure. Both internal and external personnel of the Group can file a report by email (GRW@app.com.cn) or telephone (021-22839763). The contents of the report include but are not limited to corruption, malpractice, theft, forgery, commercial bribery, and conflict of interest. All cases verified and confirmed

Building a Culture of Integrity

The establishment of an honest and compliant business requires the concerted efforts of all the employees. APP China has formulated codes of conduct and policies, such as the *Provisions on the Prohibition of Accepting Gifts and Hospitality*, to drive all employees to uphold integrity, self-discipline, and honesty in their professional life. We have instituted a reward and punishment system, where individuals or units responsible for any non-compliance issues are publicly criticized and receive a financial penalty.

We have carried out a series of educational activities on compliance advocacy to foster a culture of compliance. In 2019, we compiled malpractice cases into our training materials and communicated them to employees through morning classes, special training, group discussions, short promotional videos, etc. to raise their awareness of compliance.

From November to December 2019, we held the Group-wide "Sunshine Integrity Month" event themed "Integrity and Commitment". The activities took such varied forms as themed training, core values promotion, case study, short video, and online knowledge contest and were designed to enhance employees' awareness of risk prevention and integrity. A total of 1,397 employees participated in the monthly integrity training, and the online competitions involved 61.1% (20 employees) of the total workforce (1915 employees).

Sustainability Certificates

CFCC/PEFC-FM Certification* at APP China

CFCC/PEFC-CoC Certification* at APP China










2019 Sustainability Management System Certification at APP China

Stakeholder Engagement

...ing on an array of internal information communication, and interviews, ...holder

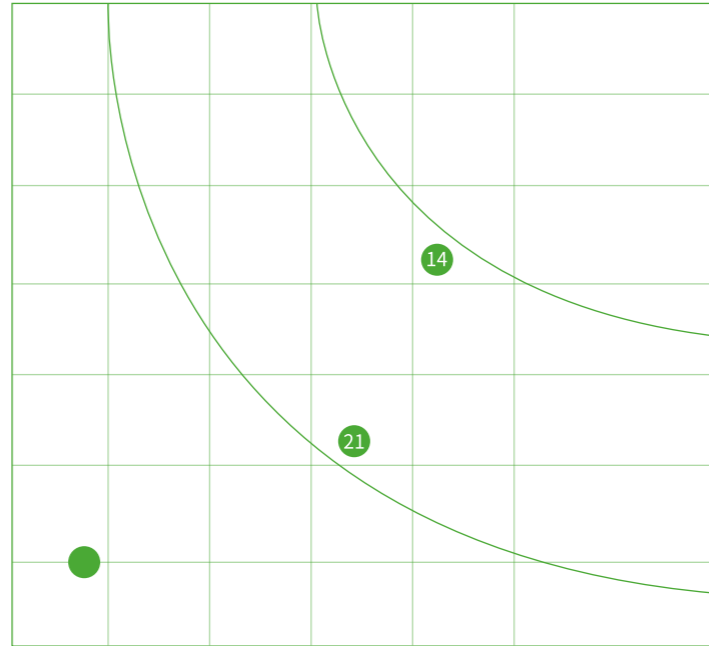
through multiple channels. They manage to respond promptly to stakeholder expectations and concerns and continuously improve their management ... in this process.

In 2019, we participated in a number of exchange activities, such as the Second CIIE, China Paper Industry Sustainability Forum, China Printing Industry Innovation Conference, and International Paper Technical Conference. We engaged in in-

Stakeholders	Top Concerns	Engagement Channels
Community representatives 	<ul style="list-style-type: none"> - Water management - Environmental compliance - Win-win cooperation - Business ethics 	<ul style="list-style-type: none"> - Daily visits - Community opinion processing and feedback - Community representatives' supervision and engagement
Customers and consumers 	<ul style="list-style-type: none"> - Business ethics - Product quality and safety - Sustainable forest management - Human rights - Occupational health and safety 	<ul style="list-style-type: none"> - Customer visits, store visits - Engagement meetings/activities - Industry conferences/events - Customer satisfaction surveys - Customer service hotline/mail - Company website - Sustainability reports - WeChat Official Account
Suppliers/contractors 	<ul style="list-style-type: none"> - Business ethics - Human rights - Customer service quality - Responsible supply chain - Environmental compliance - Air pollutant emissions 	<ul style="list-style-type: none"> - Supplier/Contractor meetings - Cooperative R&D mechanism - Supplier/Contractor training - Regular supervision and inspection - Email, phone, and other daily communication channels - Sustainability reports
Banks 	<ul style="list-style-type: none"> - Business ethics - Air pollutant emissions - Economic performance - Occupational health and safety - Employment - Sustainable forest management 	<ul style="list-style-type: none"> - Daily communication meetings - Cooperative agreement - Sustainability reports - Company website
Government agencies 	<ul style="list-style-type: none"> - Sustainable forest management - Biodiversity - Air pollutant emissions - Waste management - Water management - Energy conservation and emission reduction 	<ul style="list-style-type: none"> - Government communication meetings - Governmental inspection and supervision - Information disclosure and reporting - Regular visits - Awards and recognition - Sustainability reports - Company website
Industry associations 	<ul style="list-style-type: none"> - Product quality and safety - Win-win cooperation - Energy conservation - and - Economic - Res 	<ul style="list-style-type: none"> - Awards - Research and - Industry publications - Reports
Academic institutions 	<ul style="list-style-type: none"> - Product - R&D - Res - Environ - Water 	
NGOs 	<ul style="list-style-type: none"> - Occup - Emplo - develop - Waste - Energy - and em - Support 	
Media 	<ul style="list-style-type: none"> - Resour - Product - Air poll - R&D and - Sustaina - Energy c - and emis 	

Materiality Analysis

Drawing reference from the GRI Standards, the Global Compact Ten Principles, the latest national and industry policies, and key industry sustainability issues, we identified 22 issues closely related to the company's development. Compared to 2018, "resource effectiveness" is added to the material issues list, in response to the policy and industry trends of circular economy and "Paper for Plastic"; other than the merging of certain issues and refining the description, such as the inclusion of "responsible raw material sourcing" and "supplier social assessment" in "responsible supply chain" and the adjustment of "anti-corruption" to "business ethics", etc. No significant changes have taken place in issue boundaries. In 2019, we conducted online and offline surveys regarding the significance of the issues to stakeholders. A total of 1,554 valid questionnaires were collected. The issues have been arranged in order of materiality based on discussions with internal and external experts.



China is seeing an accelerating fusion between the real economy and digital economy and a prevailing trend for the manufacturing industry to be digitized, networked, and intelligent.

Employee composition by level

Indicator	Unit	2019	2018	2017
Percentage of senior-level managers	%	1	1	1
Percentage of middle-level manager	%	10	10	9
Percentage of line-level employees	%	89	89	90

Employee composition by gender

Indicator	Unit	2019	2018	2017
Percentage of female employees	%	25.97	27.38	27.44
Number of female employees in management	Number	573	560	528
Percentage of female employees in management	%	26.69	25.85	24.28

Employee composition by age

Indicator	Unit	2019	2018
Percentage of employees aged 30 and below	%	16.33	20.66
Percentage of employees aged between 31 and 50	%	79.27	75.79
Percentage of employees aged 51 and above	%	4.40	3.55

Employee training

Indicator	Unit	2019	2018	2017
Total training investment	RMB10,000	475.42	523.14	396.50
Total employee training time	Hours	762,701	717,135	762,557
Number of employees who participated in company-paid diploma programs	Number	35	78	96
Total investment in company-paid diploma programs for employees	RMB10,000	11.20	12.77	29.51
Average training time for senior-level managers	Hours	29.53	21.08	28.77
Average training time for middle-level managers	Hours	46.03	41.82	32.71
Average training time for line-level employees	Hours	39.79	35.43	34.39

Occupational health and safety*

Indicator	Unit	2019	2018	2017
Employee safety training time	Hours	333,033	294,354.45	206,759.50
Total investment in protective gears	RMB10,000	578.74	630.35	615.55
Lost hours per million working hours	Hours	854.70	830.61	1,090.55
Work-related injuries of employees**	Person-times	51	50	79
Number of work-related fatalities of employees	Number	0	1	1
Work-related injuries of contractors**	Person-times	3	—	—

*The 2019 data do not include those of APP China Forestry.
 **According to APP China's *Group Management Measures*, work-related injuries are determined based on assessments by the Labor Department.

Anti-corruption*

Indicator	Unit	2019
Number of governance agency members reached by anti-corruption policies and procedures	Number	13
Percentage of governance agency members reached by anti-corruption policies and procedures	%	100
Number of governance agency members receiving anti-corruption training	Number	13
Percentage of governance agency members receiving anti-corruption training	%	100
Number of senior-level managers receiving anti-corruption training	Number	188
Percentage of senior-level managers receiving anti-corruption training	%	100
Number of middle-level managers receiving anti-corruption training	Number	1,548
Percentage of middle-level managers receiving anti-corruption training	%	79.02
Number of line-level employees receiving anti-corruption training	Number	15,804
Percentage of line-level employees receiving anti-corruption training	%	94.28

*During supplier registration, APP China requests suppliers to sign an anti-corruption statement. The percentage of suppliers that APP China's anti-corruption policies have been communicated to is 100%.

Assurance Statement



Independent Verification Statement

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch (hereinafter referred to as "TÜV SÜD") has been engaged by Sinar Mas Paper (China) Investment Co., Ltd. (hereinafter referred to as "APP China" or "the Company") to perform an independent third-party verification on APP China Sustainability Report 2019 (hereinafter referred to as "the Report"). During this verification, TÜV SÜD's verification team strictly abided by the contract signed with APP China and provided verification regarding the Report in accordance with the provisions agreed by both parties and within the authorized scope stipulated in the contract.

This Independent Verification Statement is based on the data and information collected by APP China and provided to TÜV SÜD. The scope of verification is limited to the

TUV SUD Certification and Testing (China) Co., Ltd. Shanghai Branch
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Page 1 of 3
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 Web: <http://www.tuv-sud.cn>



- Preliminary investigation of the relevant information before the verification;
- Confirmation of the presence of the highly substantial issues and performance in the Report;
- On-the-spot review of all supporting documents, data and other information provided APP China; tracing and verification of key performance information;
- Interviews were carried out with the management of APP China, and with the employees who are engaged in collecting, organizing and reporting the disclosed information; and
- Other procedures deemed necessary by the verification team.

Verification Conclusions

Based on the verification, we believe that the reports prepared by APP China are reliable, consistent and substantive; the information disclosure is made in an objective, truthful, complete and clear way.

GRI Content Index

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About this Report

This is the 13th Sustainability Report issued by Sinar Mas Paper (China) Investment Co., Ltd. and the group of companies under its direct investment in China (herein referred to as APP China). The report is released in both Chinese and English. The English report is translated from the Chinese report. If there is any discrepancy between the two reports, the Chinese version shall prevail.

Reporting Boundary and Scope

The time span of this report is from January 1, 2019 to December 31, 2019. The chapter "Bravely Fighting the Battle against the Epidemic" contains events and actions that took place in 2020. Our last Sustainability Report was published in November 2019. Data in "Company Profile", "Economic Performance", "APP China sources of pulp procurement", and "Materials" relate to Sinar Mas Paper (China) Investment Co., Ltd. and the group of companies under its direct investment in China; cases and other data in the report are collected from APP China Headquarters, nine pulp & paper mills, and APP China Forestry Business Unit, unless otherwise stated.

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- © Gold East Paper (Jiangsu) Co., Ltd. (Gold East Paper)
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Reporting Frameworks

The report has been prepared in accordance with the core option of the GRI Standards (2018) issued by the Global Sustainability Standards Board (GSSB). Additionally, the report refers to the Global Compact Ten Principles and papermaking industry clean production and emissions standards.

Content and Indicator Selection

This report was prepared in accordance with the GRI principles of materiality, stakeholder inclusiveness, sustainability context, completeness, etc. At the preliminary stage, our work group conducted policy analysis, industry issues analysis, stakeholder surveys, and field visits to our headquarters and pulp & paper mills to collect the management approaches, specific practices and performance indicators on sustainability issues most relevant to APP China.

Report Assurance

APP China commissioned Technischer Überwachungs-Verein (TÜV) to assess the reliability, objectivity, and transparency of this report. Please refer to the Assurance Statement for further details.

Contact Us

We sincerely welcome readers' comments and suggestions regarding this report and our work. Readers can contact us by email: csr@app.com.cn.

