



山東晨鳴紙業集團股份有限公司

SHANDONG CHENMING PAPER HOLDINGS LIMITED*

(a joint stock company incorporated in the People's Republic of China with limited liability)

Stock Code: 1812



2019 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

* For identification purposes only

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Introduction

Shandong Chenming Paper Holdings Limited (the "Company") is a leading enterprise in China's papermaking industry, a top 10 in the world paper industry, and a top 500 Chinese enterprise. The Company is a large conglomerate mainly engaged in pulping and papermaking over more than 60 years arduous development since its inception in 1958. The Company currently has production bases in Shandong, Guangdong, Hubei, Jiangxi and Jilin. The Company built production bases and opened a new office in Shanghai.



Chairman's Statement



With the newly completed production bases in Huanggang, the Company currently has a total of approximately 996 hectares of land and over 30 advanced pulp and paper production lines to produce paper products, which are mainly divided into five categories: printing paper, packaging paper, office paper, industrial paper and household paper. We are positioned to provide mid-range and high-end products, including high-end offset paper, white paper board, light-weight coated paper, household paper, electrostatic copy paper, thermal paper and glassine paper. Our major products stand at the forefront of the Chinese market in terms of market share. With total assets of over RMB97.959 billion and an annual pulp and paper production capacity of over 11 million tonnes, the Company is a listed company with A shares, B shares, and H shares. It is among the top 100 listed companies in China and the top 10-star enterprises in China, and was rated as one of the 50 Most Competitive Blue-chip Companies in China. The Company has successively won over 200 accolades above the provincial level, including the Top 10 Light Industry Enterprises in China, 2019 Environmental Responsible Enterprises, the Eco-environmentally Friendly Enterprises in China. It

has maintained a leading industry position in China in terms of key economic performance indicators for over 20 consecutive years.

Even though China is the world largest manufacturer of paper and pulp, it is also the largest consumer of paper and pulp. Referring to the industry development and current status of Europe and America, the industry in China also remains profitable benefits. However, in one hand, shortage of raw material supply is a big obstacle for the industry in China generally. Thanks for the forward-thinking of the Company, the Company can self-sustain the raw material supply steadily, waving the problem of raw material shortage. On the other hand, the Company actively invests more resources on environment, retires outdated technology and equipment and also utilizes the advantages of stable raw materials supply to enhance capacity in the wake of tightening national environmental legislation, emission caps and waste management towards the industry. Ultimately, maintaining competitiveness of the Company.

The Company realises the importance of compliance, so that the Company arranged regular training to employees in production and environment department, requesting them strictly follow the law and regulations of emissions. Moreover, all operating sites are equipped with well-developed treatment facilities to handle emissions, also the emission are closely monitored by real-time monitoring system. Emissions data is cross-checked by the government as well. At the same time, the Company is commissioned with registered company to conduct inspections and publish all the data online.

Looking forward, the Company will continue to make steady progress and adhere to the overall strategy of green, low-carbon, circular and sustainable development. We will continue to follow the "Made in China 2025" initiative with a focus on scientific development and quality and efficiency improvement, and promote the integration of industry with intelligence development, so as to comprehensively improve our quality and efficiency, management level, technology prowess, happiness index and brand image. The Company will put into practice the spirit of Chenming and make every effort to improve its management level. With an aim to "build a RMB100 billion company with a history of 100 years", endlessly pursuit the Company's spirit of "Learning, Beyond, Ahead", so as to develop the Group into a garden-style, highly environmentally friendly and efficient conglomerate.

About this Report

Scope of Reporting

This report merely covers pulp and paper manufacturing business, and includes the environmental, social, and corporate governance performance of the Company and its seven operating sites as set out below.

- Shandong Chenming Paper Holdings Limited Shouguang Main Site (Shouguang Main Site)
- Jiangxi Chenming Paper Co. Ltd. ("Jiangxi Chenming Paper")
- Zhanjiang Chenming Pulp & Paper Co., Ltd. ("Zhanjiang Chenming Pulp & Paper")
- Jilin Chenming Paper Co., Ltd. ("Jilin Chenming Paper")
- Wuhan Chenming Hanyang Paper Holdings Co., Ltd. ("Wuhan Chenming Hanyang")
- Huanggang Chenming Pulp & Paper Co., Ltd. ("Huanggang Chenming Pulp & Paper")
- Shanghai Chenming Industry Co., Ltd. ("Shanghai Chenming Industry")

Remark: Shouguang Main site includes Shouguang Meilun Paper Co., Ltd.

Reporting Standards and Reporting Period

This report is prepared in accordance with the provisions of the Environmental, Social and Governance Reporting Guide set out in Appendix 27 to the Listing Rules as well as the review of the Environmental, Social and Governance Reporting Guide and related listing rules consultation conclusions. Unless otherwise stated, this environmental, social and governance report covers the Company's commitments and practices in environmental, social and corporate governance during the 12-month period from 1 January 2019 to 31 December 2019 (the reporting period) in a total of six pulp and paper operating sites and one office in Shanghai.

Reporting Principle:

The Company follows the reporting principle below to prepare the report:

- **Materiality** : The Company regularly refers to and aligns with local and international's standard. Also, communicating with various stakeholders on a timely manner to identify the material and most concerned sustainability issues of the Company. The sustainability issues will be incorporated into the Company developmental strategy under the Company's operational framework.
- **Quantitative** : The Company constantly quantifies and discloses environmental indicators and data over the time, and also explains the data collection methodology as well as review the performance, whenever possible. The Company is according to Appendix 2: Reporting guidance on Environmental KPIs, published by HKEx, to quantify KPIs in Part C "Subject Area A."
- **Balance** : The reporting objective of the Company is balance and equally disclose the progress of the most material sustainability issues as well as the challenges.
- **Consistency** : The Company follows "Environmental, Social and Governance Reporting Guide" to disclose ESG performance and make a meaningful comparison over the years.

Valuable Feedback

In order to improve its environmental, social and governance performance on a continuous basis, the Company welcomes stakeholders to put forward their valuable opinions to the Company.

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Communication with Stakeholders

The Company is eager to meet the demands and expectations of shareholders while developing its business, with a view to achieving balanced and satisfactory results. Of course, the Company understands that different stakeholders have different expectations of and demands from the Company. As such, in order to fully understand the stakeholders' concerns about the Company's business, environmental, social and corporate governance practices, the Company has identified external and internal stakeholders and via open and effective communication channels, to help identify major issues, so as to develop long-term development objectives. During the reporting period, the Company collected opinions on employment, legal compliance, supply chain management and product responsibility from employees, customers, suppliers and investors. The following tables are their opinion summary. Customers' feedbacks are outlined in the session headed "Customers' needs and expectations".

Stakeholders	Communication channel	Stakeholders' opinions / concerned areas	The Company's responses
Employees	Monthly seminars, electronic news, meeting, survey	Improve the remuneration packages, working environment and offer more training.	1) a well-established training and learning program are set up to allow employees from different department to attend relevant training. Also, online learning is available to employees; 2) a talent selection scheme is offered to favour employees to work diligently and also retain outstanding performers with reward; and 3) irregular consult employees their opinions on catering, and accommodations so to make improvement accordingly.
Investors	Official websites, hotlines, annual general meeting, seminars	More communication channels can be offered to investors to listen their voices.	1) The Company will continuously establish and utilise more communication channels to connect with investors; 2) During the reporting period, some of the Company's investors went to the Company onsite. Also, the Company proactively invited investors to visit the paper and pulp productions when in the annual general meeting. 3) The Company arranged designated personnel to review websites, online platform and hotlines to answer the enquires of investors.



2019/20 Customers' Conference



2019 International Paper and Equipment Exhibition

Environmental Protection

The Company implements a policy for green, innovative and diversified development and strives to build a complete industrial chain to continuously improve its industrial competitiveness. Since its inception, the Company has always regarded environmentally friendly production as an important part of its business operations. In response to national environmental policies, the Company has invested substantial resources in environmental protection projects over the years to phase out low-efficiency, high-pollution equipment and enhance production processes. The Company has also introduced state-of-the-art papermaking equipment and technology to improve resource use and product quality, reduce pollution and protect the environment. During the year, the Company invested a total of RMB465 million to carry out more environmental renovation projects in various production bases as needed, including the construction of alkali collection system, middle water treatment system, greywater, freshwater as well as wastewater collection and treatment system. In addition, the Company achieved the goal of zero discharge of wastewater by introducing advanced sewage treatment equipment, and discharged pollutants in strict compliance with legal requirements and standards to ensure that the concentration and total amount of pollutants meet the relevant standards. In the future, the Company will keep a close eye on the national and global trends in sustainable development to keep up with the times, and invest in relevant environmental protection projects as needed to further improve environmental performance.

Low Carbon Production

The issues concerning carbon emissions and environmental pollution have received much attention in recent years. The Chinese government put into effect the Environmental Protection Law in 2015, which not only raises penalties and lowers emission caps, but also strengthens the supervision over carbon emissions of various industries and the control of pollutant emissions. The time-consuming pulping and papermaking processes involve the use of high-power production equipment, which consumes a lot of energy and emits large amounts of greenhouse gases. In view of this, the Company has built thermal power plants in the production bases in Shandong, Jilin, Wuhan, Jiangxi and Zhanjiang. These plants not only supply power and heat to production factories to reduce the power load of these factories, but also make good use of energy by recycling the waste heat generated by the plants themselves. For the new operating site in Huanggang Chenming Pulp & Paper which just commenced operation in the 4th quarter of the reporting period. The thermal power plant construction has just completed. During the reporting period, the power provided by the Company's thermal power plants accounted for approximately 73% of the Company's total power consumption. Nevertheless, the power supply to the production bases by the thermal power plants alone is not enough to meet the daily electricity demand, so the Company strives to explore more energy generation modes. For example, Shouguang Main Site used garbage incinerators and generator sets to generate electricity with heat generated by burning garbage, thereby providing more than 7.55 million kWh of electricity. Meanwhile, Huanggang Chenming Pulp & Paper has adopted various renewable energy (e.g. adopting ethanol, biomass biodiesel, and hydrogen) as fuel sources, to lower carbon emission.



Although the above approaches can supply power to the production bases, the Company is well aware that it cannot ignore the air pollution problems caused by the treatment towers and incinerators of the thermal power plants. As such, the Company has invested resources to upgrade dust removal and desulphurisation systems in order to meet the national ultra-low emission standards for sulphur dioxide and dust emissions. The fumes in boilers are sealed with hanging film and glass fibre

reinforced plastics and collected in biological deodorisation devices for central treatment, and are never disposed of at will. The Company has also added super ammonia diluters in the ammonia zone and carried out a renovation project for the combustion of ink residue at the thermal power plants, in hope of further reducing pollutant emissions.

To deal with the odour released during operation, the Company employs the biofilter-based biological deodorisation process. It works by pumping the odour with a centrifugal fan through the collection pipe to an integrated biofilter deodorising device for deodorisation treatment. Moreover, the Company films the aeration tank in the sewage treatment process, introduces waste gas into the odour treatment system, and removes odour through alkali washing and biological deodorisation. In addition, in order to improve indoor air quality, the Company has installed ventilation systems to enhance air circulation and clean the production areas on a regular basis.

However, these measures may become futile and ineffective if the hardware is left without an appropriate monitoring system. Accordingly, in terms of controlling emissions, the Company conducts regular spot checks on the emission concentration of exhaust pipes and appoints external agencies to conduct annual inspections of the treatment towers and incinerators of thermal power plants, so as to ensure that exhaust emissions meet national standards. The Company has also installed a real-time monitoring system at each production base. The system, which is connected with the environmental protection bureau, is designed to closely monitor pollutant emissions to ensure that the emission limits required by local laws and regulations are not breached. Government departments can directly access relevant emission data through the system. During the reporting period, the Company did not commit any other acts of excessive exhaust emissions or violation of environmental laws and regulations.

In addition to the use of high-performance, low-pollution equipment in the production process, the Company also implements energy conservation and emission reduction measures in day-to-day operations to enhance its energy conservation performance and improve environmental quality. For example, the Company has put up energy-saving reminders at the production bases to remind employees to turn off the lights and air conditioning before leaving and maintain the indoor air conditioning temperature between 24 and 26 °C. The Company also encourages employees to use public transport as much as possible and to give preference to video or teleconferencing over business trips, so as to reduce greenhouse gas and air pollutant emissions. In addition, the Company's production facilities have gradually been replaced, electric vehicles and Euro-5 vehicles are used to reduce fuel consumption, and traditional lighting systems have been phased out and replaced with energy-efficient T5 tubes or LED lights. The air conditioning and lighting systems in the Shanghai office are equipped with sensors to adjust the air volume and running time according to the season and temperature. During non-office hours and holidays, non-emergency elevators and escalators will be closed for energy conservation.



(As at 31 December 2019)

Emissions	Unit	2019
Greenhouse gas emissions in total (Scope 1 and 2)	tonnes of carbon dioxide equivalent	35,514,751

Direct emissions (Scope 1) ¹	tonnes of carbon dioxide equivalent	34,206,531
Indirect emissions (Scope 2) ²	tonnes of carbon dioxide equivalent	1,308,220
Total greenhouse gas emissions (Scope 1 & 2) intensity	tonnes of carbon dioxide equivalent / production volume (tonne)	4.71
Nitrogen oxides (NOx) ³	kg	1,932
Sulphur oxides (SOx) ⁴	kg	41
Particulate matter ⁵	kg	139
Use of Resources		
Purchased electricity ⁶	kWh	1,355,086,722
Per capita purchased electricity	kWh	122,422
Diesel (mobile source) ⁷	litre	2,365,419
	kWh	20,215,662
Diesel (stationary source) ⁸	litre	2,871,459
	kWh	28,236,962
Steam	tonnes	12,636,420
Gasoline (mobile) ⁹	litre	193,673
	kWh	4,395,921
Natural gas	m ³	79,340,761
	kWh	109,996,228,092

¹ Including emissions from diesel vehicles and combustion of stationary natural gas, diesel; as well as acetylene consumption and renewable energy in Huanggang Chenming Pulp & Paper.

² Only including emissions from power purchased from power companies.

³ Calculated based on the total mileage of company gasoline and diesel vehicles in Wuhan, Shanghai, Shandong, Zhanjiang and Huanggang.

⁴ Calculated based on the total gasoline consumption of company gasoline and diesel vehicles in Wuhan, Shanghai, Shandong, Zhanjiang, Huanggang, and Jiangxi.

⁵ Calculated based on the total mileage of company gasoline and diesel vehicles in Wuhan, Shanghai, Shandong, Zhanjiang and Huanggang.

⁶ Only including power purchased from power companies and excluding power generated by the Company's production bases (e.g. thermal power plant, renewable energy).

⁷ Calculated based on the total gasoline consumption of company diesel vehicles in Zhanjiang, Huanggang, and Jiangxi.

⁸ Calculated based on the total diesel consumption of diesel boilers in Shandong, Jiangxi, Zhanjiang and Huanggang.

⁹ Calculated based on the total gasoline consumption of company vehicles in Shandong, Wuhan, Zhanjiang, Huanggang and Shanghai.

Acetylene	kWh	27,744
Total amount of coals used in thermal power plant	Tonnes	4,268,220
	kWh	34,703,758,988
Renewable Energy¹⁰		
Ethanol fuel consumption	kWh	319,011
Biomass fuel consumption	kWh	67,491
Biodiesel consumption	kWh	101,111
Hydrogen energy	kWh	713,477,875
Total energy consumption Intensity	kWh/production volume (tonne)	19,490

¹⁰ Renewable energy only refers to Huanggang Chenming Pulp & Paper, Wuhan Chenming Hanyang and Zhanjiang Chenming Pulp & Paper.

Waste Management

The Company is well aware that proper waste management measures can help reduce the load on landfills and incinerators while promoting the use of resources. The Company requires the wastes be stored in two categories, recyclable and non-recyclable, and actively searches for upgrading and recycling methods according to different fibre components in hope of recycling and reusing wastes as much as possible. For example, the waste paper collected, after being crushed, decoloured and pulped, is converted into recycled paper to reduce the felling of trees; sludge collected in the papermaking process, after removal of harmful substances and high-temperature treatment, is converted into organic fertiliser for use in farmland to provide nutrients for crops; grey powdered coal ash and cinder generated from high-temperature combustion at thermal power plants are processed and remade into building material such as cement, gypsum board and bricks. These measures not only make the best use of resources, but also bring economic benefits to the Company. The Company will continue to develop more recycling methods for waste paper to enable it to be widely recycled.



In addition, Shanghai Chenming Industry, which has just been put into operation, strictly abides by the Measures of Shanghai for Promoting Classification and Reduction of Domestic Waste and comprehensively promotes a system for classification of domestic waste by setting up containers to collect four types of waste, i.e. recyclables, hazardous waste, wet waste and dry waste. The collected waste will be handed over to the government's special sanitary department for disposal. Drinking fountains and hand dryers are also installed to reduce the use of disposable utensils and toilet paper. As there is recovery value in waste paper pulp and waste wood chips, Jiangxi Chenming Paper has always recycled such items as valuable by-products and thus registered them with the solid waste platform.

As for hazardous waste, the Company classifies the waste according to the National Catalogue of Hazardous Waste and has the waste collected and managed by different departments. The disposal procedures are carried out according to the Catalogue. There are a series of management procedures from storage, transfer, warehousing and selection of contractors. Hazardous waste will be temporarily stored in covered containers in suitable sites at the production bases and ultimately be transported and disposed of by qualified contractors, so as to ensure effective disposal of hazardous waste and avoid secondary environmental pollution. Meanwhile, the Company also attaches great importance to the qualifications of contractors and requires that to become a qualified contractor of the Company, a contractor handling hazardous waste must have a Hazardous Waste Disposal Permit and a Road Transport Permit issued by the competent government agencies and have experience in handling hazardous waste. During the reporting period, the Company did not record any other incidents related to waste disposal in violation of environmental laws and regulations.

Nevertheless, the Company still needs to reduce waste at source to reduce waste generation. The Company advocates electronic archiving and making good use of electronic communications such as email, WeChat and QQ to send documents, with a view to reducing paper consumption and the use of ink cartridges. Over the years, the Company has implemented many waste reduction measures to raise the awareness of waste reduction among employees and encourage them to reduce waste at source and live a green life. For example, we set up waste paper collection bins in the office; advocate double-sided printing and reuse of used paper for printing; reuse old file folders; and engage professional agencies to recycle printer ink cartridges. In addition, in order to avoid damage to the finished products in the transportation process, paper packaging materials are inevitably used

to wrap the finished products in advance, thus generating packaging waste. Each year, large amounts of packaging materials are consumed, which increases the load on landfills and incinerators. As such, the Company strives to reuse packaging materials and reduce disposal. The Company reuses the collected waste paper for paper production to reduce the input of raw materials. Set out below are the amount of waste disposed of and the amount of packaging materials consumed by the Company.

(As at 31 December 2019)

Waste	Unit	2019
Hazardous waste	tonnes	473
Intensity	Tonnes / production volume (tonne)	0.000063
Non-hazardous waste	tonnes	1,464,278
Intensity	Tonnes / production volume (tonne)	0.19
Packaging materials		
Plastic	tonnes	744
Paper	tonnes	90,198
Timber	tonnes	2,399,625
Total amount of packaging material used	Tonnes	2,490,567
Intensity	Tonnes / production volume (tonne)	0.33

Use of Water Resources



It is undeniable that the papermaking process consumes a large amount of water from the early pulping and papermaking processes to the later bleaching and dyeing processes. Water resources, on which everyone lives, are extremely precious and limited. In recent years, water shortage becomes increasingly severe. The United Nations' World Water Development Report published in 2018 pointed out that the world is threatened by water shortage in varying degrees and the situation will get worse in the next 20 to 30 years. This has driven the Company to make good use of water resources and make every effort to come up with good ideas to save water.

In terms of sewage treatment, each production base of the Company has a sewage recycling system where all sewage must be treated and purified by processes including inclined sifting, primary sedimentation tank, oxygen aeration tank, secondary sedimentation tank and Fenton method before being discharged. Some purified water will even be reused for production. The sediments and sludge produced by the sedimentation tank will be drained and put back into the thermal power plant for burning treatment. This move can reduce approximately 93% of suspended solids (SS) and 80% of ammonia and nitrogen. In this way, more than 95.45 million m³ of sewage can be treated in a year. The Company also conducts regular testing of sewage to check the chemical oxygen demand (COD), biochemical oxygen demand (BOD), ammonia, nitrogen, SS, pH and other sewage indicators, in order to ensure that the sewage meets and is better than the discharge standards specified in the Discharge Standards for Water Pollutants in Pulping and Papermaking Industry (GB3544-2008) before being discharged. In order to monitor the Company's water consumption in real time, the relevant government department has installed an online monitoring system in each production base of the Company, so that the discharge data will be uploaded directly to the monitoring department. In addition, the production bases and the Shanghai office have set up systems for diversion of rain and sewage and reuse of rainwater to collect rainwater for use in greening, landscaping and waterscape fountain systems, thus making good use of resources.

Greywater recycling system can lower the water consumption further. As a result, Shouguang Main Site spent four hundred million in Shandong to build a system to handle greywater. The system currently is using osmosis and filtration technology to recycle greywater. The conversion rate can up to 75% or above. The standard of treated greywater is up to drinking water standard. The system is expected to provide additional 1,904 thousand of industrial water every year to Shouguang Main Site. The system has in operation since May 2019.



During the reporting period, the total water consumption of the Company's production bases amounted to 89,943,399 m³, representing a water consumption density of 8,126 m³ per capita. The water consumption intensity was 11.94 m³/production volume (tonne). As of the end of 2019, the suspended solids discharged from the wastewater discharge port of Jiangxi Chenming Paper exceeded the discharge concentration limit of 30 mg/L. As such, the production base promptly stopped the sewage discharge in the production area and implemented additional ten aeration facilities given the existing of 50 aeration facilities, so to dissolve oxygen and drop the COD

concentration by 60%; Other than that, the Company did not commit any other acts of excessive sewage discharge or violation of environmental laws and regulations.

Odour Management

The production of pulp inevitably entails chemicals, resulting in odour emissions. As a result, the Company installs odour treatment plants in each site. The odour will be collected centrally and pumped to the treatment plant so to remove the odour, and eventually discharged legally. The emission is, therefore, far behind the emission cap. The treatment technology is a bit different among operating sites, for example, biological deodorisation is adopted in Wuhan Chenming Hanyang; anaerobic and aerobic or even closed management to dissolve odour in Jiangxi Chenming Paper; deodorizers are adopted in emission sources in Huanggang Chenming Pulp & Paper.



For the odour emitted from the wastewater treatment plant of Shouguang Main Site, given that the aeration and sludge tank have already proceeded a closed management, the Company further invests RMB12 million to upgrade three sedimentation tanks as well as catchment wells of treatment plants as closed management in 2017. The project has completed and commenced into operation since March 2018. This new treatment plant is expected to treat 110,000 cubic meters of odour per hour. The emission is better than emission standards specified in the Smelly Odour Pollutants Emission Standard

(GB14554-93) and Air Pollutants Emission Standard (GB16297-1996).

Huanggang Chenming Pulp & Paper adopts different approaches to remove odour. 1) change scrubbers' position of pulp workshops from release to the air to absorb by alkali bath; 2) connect the exhaust of the workshops to DNCG washing tower and then pump to furnaces to burn; 3) adjust the pH values of the furnaces automatically and controlled by computer to keep the values above 8, so to avoid odour release; 4) place deodorant directly into the odour source; 5) adopt closed management to control odour; and 6) utilise technology to monitor odour release.

In addition, there are task forces formed in each operating site to patrol every odour source under supervision of senior management. Any abnormality will be investigated the causes and correct it accordingly. Meanwhile, each operating site will inspect more frequently and install an alarming system to ensure the release complies with regulations. As of the end of 2019, the odour emission from the wastewater discharge port of Jiangxi Chenming Paper exceeded the emission limit of 600 dimensionless quantity. As such, the production base implemented (1) closely monitored pH values of the alkali and maintained it in between 11 to 12; (2) closely monitored the activity of odour biological biofilters, so as to compliance. Other than that, the Company did not commit any other acts of excessive odour emissions or violation of environmental laws and regulations.

Green Supply Chain



In the next decade, we will face the challenges arising from two major global trends—climate change and green development, and suffer the impact of rising raw material prices and costs. Accordingly, the Company's overall strategy for future development is to adjust the industrial structure in due course, reduce costs on a large scale and develop into an environmentally friendly enterprise. As one of the key papermaking enterprises in China, the Company is actively developing the concept of circular development with "forestry-pulp-paper" integration, shouldering the responsibility of afforestation and solving the

problem of raw material wood supply. The Company is also committed to developing ecological papermaking and promoting the sustainable development of papermaking enterprises and the papermaking industry.

In an effort to honour its responsibility of forestation, the Company has built its own artificial forests with an area of 46,700 hectares in Guangdong, Hubei, Guangxi and other places, thereby providing the Company with a legal and sustainable source of timber. In addition, the Company established a forestry company in as early as 2005 to mainly undertake the construction of raw material forest bases for the Company's pulp and paper projects and to integrate seedling cultivation, forest production and timber development. Having built a number of large raw material forest bases in Zhanjiang, Yangjiang and Ganzhou, the forestry company serves as an important arm to achieve the Company's strategic vision of "developing a green papermaking conglomerate featuring forestry-pulp-paper integration and meeting international standards". Looking ahead, the Company will continue to increase the proportion of timber supplied from its own forests to its production bases on top of imported timber. It is hoped that in the near future, the Company can fully achieve the integration of forestry, pulp and paper.

Environmental Protection Example of Huanggang Chenming Pulp & Paper

In response to the tightening environmental policies, the Company strives to update and introduce new technologies to reduce the impact of its business on the environment. Therefore, the newly completed pulping production line in Huanggang has introduced the environmentally friendly ozone-based and chlorine-free bleaching process with low-solids continuous cooking from Valmet and Andritz which possess internationally advanced technologies. This is a highly automated process with low energy consumption and low water consumption. The biogas, wood chips and bark produced in the process will be sent into the alkali furnace for combustion and into the biomass gasifier for generation of methane to replace heavy oil as fuel for combustion in lime kilns. The white mud produced by alkali recovery causticisation is fully recycled and reused after calcination in a lime kiln. All solid wastes are comprehensively used without any discharge of solid wastes, thus achieving efficient use and recycling of resources.

Caring for Employees

Employees are the assets of the Company and serve as the driving force to create value for the Company. The Company not only strictly abides by the national regulations and requirements on employment, but also strives to build a harmonious, safe and healthy work environment for employees. During the reporting period, no major violations of labour-related laws occurred or were found in the Company.

Employment Policy

The Company adheres to the philosophy of discovering able people and putting them at suitable posts and strives to build professional and efficient teams for the Company according to its long-term development objectives. The Company hires and promotes employees in strict compliance with national laws, and set qualifications and requirements for different posts according to business needs. We also have standard recruitment procedures, and the personnel department takes charge of all recruitment work to achieve the principle of fair and open recruitment. All job applicants and employees enjoy equal opportunities for employment and promotion. Employment will only be based on the education background, experience and capabilities of job applicants and the job requirements, regardless of nationality, ethnicity, race, gender, religious belief and cultural background. All employees are subject to annual appraisal for the assessment of their performance, whereby the high-performing, high-potential employees will be promoted. Promotion will be based on the results of the annual appraisal and conditional on the performance and capabilities of employees. The Company also conducts annual reviews of the compensation system and employee benefits in a drive to provide competitive compensation packages and retain talents. As at 31 December 2019, the reporting scope of the Company had a total of 11,069 employees. Detailed breakdown of the team structure is shown below:

(As at 31 December 2019)			Turnover rate per total workforce	Trained employees		Training hours (hours)	
Total number of Employees		Population	Percentage	Total (number)	Total employee trained per total employee (%)	Total	Average employee training hours per total employee
By gender	Male	8,366	11.65	8,366	75.58	280,186	25
	Female	2,703	3.39	2,703	24.42	87,284	7.88
By employee category	Senior management	126	NA	126	1.14	4,685	0.42
	Middle management	685	NA	685	6.19	25,019	2.26
	Supervisor	340	NA	340	3.07	6,279	0.57
	General staff	9,918	NA	9,918	89.60	331,523	30

(As at 31 December 2019)			Turnover rate per total workforce
Total number of Employees		Population	Percentage
By employment category	Full-time	10,646	NA
	contract	2	NA
	Casual	21	NA
	Apprentice and trainee	400	NA
By geographical region	Shouguang Main Site	5,232	1.63
	Jilin Chenming Paper	661	0.76
	Jiangxi Chenming Paper	1,036	1.87
	Wuhan Chenming Hanyang	450	0.81
	Zhanjiang Chenming Pulp & Paper	2,891	8.80
	Huanggang Chenming Pulp & Paper	773	1.13
	Shanghai Chenming Industry	26	0.05
By age group	18-24 years old	2,290	5.11
	25-34 years old	4,624	6.36
	35-44 years old	2,788	2.32
	45-54 years old	1,210	1.05
	55-64 years old	157	0.20
	65 years old or above	0	0

In addition, the Company makes contributions to the five major social insurance schemes and housing provident fund for its employees in accordance with national regulations. These schemes refer to pension insurance, medical insurance, unemployment insurance, work injury insurance and maternity insurance. Employees are also entitled to statutory holidays and personal and family-related holidays such as marriage leave, honeymoon leave, maternity leave and breastfeeding leave. The bonuses, allowances, subsidies and benefits of employees are distributed in accordance with relevant requirements of the state and the Company. The Company values the opinions of employees and has set up communication channels including bulletin boards, monthly meetings and emails to collect employees' opinions on the environmental, social and governance affairs, in an effort to promote communication with employees, follow up their concerns and make improvements. The Company has also established trade unions in the hope of better understanding employees' demands and opinions. In addition, in order to promote work-life balance, we often hold various social activities and sports events within the Company, such as Spring Festival Gala, Public Speaking Contest, choir competition, tug-of-war competition, basketball competitions, cross trail runs, and fun sports and etc., to enrich the life of employees. Furthermore, the Company distributes festive food to employees in traditional festivals to celebrate the festivals together.



Spring Festival Gala 2020



Employees participated in various sports events

Occupational Health and Safety

Putting safety first is the operating principle of the Company. It is our responsibility to ensure that employees work in a safe environment. As such, the Company has set up a safety committee to be responsible for coordinating, directing and supervising the implementation of safety, fire protection and labour protection work. The Company requires its production bases to implement the 5S methodology and clearly divide the areas for placement of hazardous chemicals and raw materials for production with clear and lucid signs and labels, so as to prevent the leakage and reaction of chemicals due to misuse or human errors. In the bleaching process, the Company has installed level gauges and an alarm system to prevent the escape of acidic corrosive chemicals. The Company has also installed a ventilation system and regularly cleans the production areas to maintain good air quality.

Each production base of the Company has a safety department to implement occupational safety measures in accordance with the guidelines of the safety committee. The safety department also has close communication with the safety committee, regularly inspects the work environment and supervises the implementation of safety work to ensure the safe operation of the Company. Moreover, the safety department will identify risky work procedures, develop safety guidelines and provide employees with appropriate personal protective equipment (PPE) and tools. For example, for employees



working at sewage treatment ponds, the Company not only sets up fences around sewage treatment ponds, but also have them equipped with lifebuoys and life jackets. Emergency relief supplies are also available in the sewage treatment workshops. All employees are provided with gloves, safety helmets, protective goggles, dust masks and protective gowns, with a view to protecting their occupational safety and health. The Company provides physical examination for each employee. In case of abnormal health status, the Company will make appropriate work arrangements as needed. Employees are also protected by the insurance purchased by the Company for them.

In addition, each production base conducts routine safety inspections and detection of occupational hazards (if applicable) on a regular basis, and the inspection and detection results will be submitted to the safety committee. Where safety hazards are found, the safety committee and the production base will take immediate rectification actions, and work out feasible preventive measures together to prevent possible accidents. In the event of a fire, the heads of production departments must report it to the Company according to the established management mechanism, and thoroughly investigate the cause of the incident to prevent similar incidents from happening again.

In addition to having clear policies and a good work environment, appropriate occupational health and safety training also plays an important role in raising employees' safety awareness. Accordingly, the Company requires that all new employees must receive safety training and pass the safety examination. The safety departments often conduct occupational safety training on different topics to help employees safeguard the safety of themselves and others. Every day before work, each department will hold a briefing to remind employees of the work instructions.

During the reporting period, there were no other violation of any laws and regulations related to occupational health and safety.

Development and Training

The Company upholds the personnel management policy of "cultivating, introducing, deploying and retaining talents" and puts into practice the corporate spirit of "learning, transcending and leading". We regularly provide various types of training sessions for employees to enhance their personal capabilities and professional know-how. The Company prepares annual training plans for employees according to their needs, covering training in professional skills and management capabilities. The Company is keenly aware that learning new knowledge and skills will help employees enhance their competitiveness to cope with the fast-changing market environment. As such, the Company is willing to sponsor employees to take courses, acquire new knowledge, and master new technologies in the market. Employees who have completed their studies can share what they have learned with their colleagues during in-house training sessions of the Company, which will benefit both teaching and learning. After each training session, a questionnaire survey will be conducted to refine future training content and plans. Likewise, the Company also attaches great importance to the training of new employees in order to help them integrate into and adapt to the Company's culture. New employees are required to sign up for a mentoring scheme where senior employees will guide them as to the operations and responsibilities of their positions and the Company's culture. Employees can also review their own performance and express their career expectations in the annual appraisal, which serves as a good platform for employees and their superiors to discuss their future development directions and training needs and for superiors to promote capable personnel and assign them suitable positions. A detailed number of trained employees, training hours and corresponding percentage were recorded in the session headed "Employment Policy".

Looking forward, the Company strives to cooperate with professional training institutions to arrange high-quality training, also advocating innovative learning, utilizing online learning platform to deliver well-developed training by employee categories. There was also tailor-made training to specific teams, for example, technical know-how and business information training offered to frontline employees; team management and execution training offered to middle management; leadership training offered to top management. By doing so, talented teams of the Company can be built.



All employees attended training activities

In order to facilitate the long-term development of the Company and cultivate talents for the development of the industry, the Company carries out campus recruitment each year to provide internships and employment opportunities for the younger generation and offer appropriate training to outstanding students. During the training, experienced staff will help students accumulate work experience and select high-potential talents among them to provide career development opportunities, in the hope that they can showcase their strengths and lead the Company to open a new chapter someday.



Labour Standards

The Company strictly abides by national and local labour laws to ensure that all employees are treated fairly. The Company strictly prohibits the employment of child labour and opposes all forms of forced and compulsory labour. Once such case is found, the Company will issue warnings or even dismiss the personnel involved. In order to avoid the above situations, job applicants are required to bring their identity documents including identity card, graduation certificate, employment reference, military service certificate and medical examination report, or even a Certificate of No Criminal Record for the verification of their age, nationality and identity, so as to comply with the laws and regulations on recruitment. Where a child labour case is found, the Company will invite relevant agencies to assist in following up the case, in an effort to support physical and mental development of children. If necessary, the Company will also provide tuition and living assistance for the children involved so that they can enjoy their childhood and grow up without worries.

In addition, the Company is fully aware of the importance of work-life balance. Long working hours will reduce productivity and increase the risk of accidents. However, due to the business nature, some work processes require long operating time, and so it is inevitable that some employees need to work on shift or overtime. In view of this, all employees are entitled to have rest days and compensatory leave in accordance with national regulations, and the Company will not force employees to work overtime and will arrange sufficient time for rest for employees and lunch during working hours. Employees will also receive overtime allowances according to statutory requirements, and their overtime hours will not exceed the statutory limit. If needed, employees can file complaints with the Company through different channels. During the reporting period, the Company did not identify any cases of child labour and forced labour, nor did it receive any major complaints about labour practices.

Supplier Management

In the course of operations, the Company needs to cooperate with different suppliers and establish long-term and solid partnerships with them, which is beneficial for the Company to provide stable, long-term and reliable services. To this end, the procurement department is responsible for making all purchases of the Company through a standard tendering process. All procurement projects are subject to open tendering where suppliers are required to provide detailed quotations for comparison among more than two suppliers, with a view to preventing transfer of benefits and corruption. In addition, the Company has established supplier management and evaluation systems, which require that to become qualified suppliers of the Company, suppliers must meet the requirements and standards of the Company in terms of quality management, business philosophy, environmental management, occupational health and safety and service performance. The Company always prefer to select suppliers who share the same commitment we have with safety, responsibility and sustainability. During evaluation, the Company will randomly inspect the samples of suppliers' products and present them to the Company's pulp & paper testing centre approved by the state for inspection. If necessary, the Company will also require suppliers to produce relevant permits, certificates and test reports. Only after passing the inspection will a supplier be included in the list of qualified suppliers of the Company. The Company also conducts annual supplier evaluation exercises in accordance with its management measures. If needed, the Company will require the problematic suppliers to make corrections and perform relevant obligations based on the evaluation results. If the case is serious, the Company will consider terminating the cooperation with the supplier concerned and remove it from the supplier list. The number of active suppliers of the reporting scope of the Company by geographical region was as follows:

(As at 31 December 2019)	Number of suppliers
Mainland China	3,049
Hong Kong	7
Other	24

In addition to strict supplier quality management, the quality of suppliers' products is also closely related to the Company's service quality. The Company will carry out stringent quality control and conduct acceptance inspection of products in accordance with the laws, regulations and industry standards applicable to the procurement projects. Only up-to-standard products will be accepted and used by the Company. Our laboratories will also inspect the raw materials on a batch-by-batch basis and conduct statistical analysis on the inspection results to ensure that the products are qualified to be put on the market. All approval documents and acceptance inspection reports are properly kept in the internal system for future inspection and follow-up.

In order to further develop ecological papermaking, the Company's production bases in Shandong, Jilin, Wuhan and Jiangxi have obtained the Forest Stewardship Council (FSC) Chain of Custody (CoC) certification, an international recognition. The FSC CoC certification is to supervise and certify the chain of custody from raw material procurement and storage to production and sales in the papermaking industry, and to certify whether raw material wood in the Company's production bases comes from forests that have obtained FSC forest management certification. The certification is conducted annually by a third-party certification agency.

In addition, for the development of the production base in Shanghai, the Company will give priority to the products and services of local suppliers/contractors (such as property management companies and rental agencies). This will help reduce the Company's carbon footprint and promote local economic activities. In the tendering process, suppliers/contracts with excellent environmental

performance or products with environmental management system certification (e.g. ISO 14001 Environmental Management System and ISO 9001 Quality Management System) and/or environmental labels will be given extra credit/preference. The Company also specifies in tendering document, encouraging suppliers adopt products with ecolabel or environmentally friendly products.

Product Responsibility

The Company believes that superior raw materials, coupled with the Company's advanced production technology, can produce premium and environmentally friendly paper products for customers and maintain competitiveness. As of the end of 2019, the Company's production bases in Shandong, Jiangxi and Zhanjiang had obtained ISO 9001 quality management system certification and ISO 14001 environmental management system certification. Production bases that have not yet obtained such certification will also operate in accordance with the ISO requirements. The Company has also established a state-level corporate technology centre, a post-doctoral scientific research station, and a pulp & paper testing centre accredited by the China National Accreditation Service for Conformity Assessment (CNAS) to carry out new product research, development and testing. As of the end of 2019, among the Company's large product portfolio, a total of seven products had been rated as "National New Products" and more than 213 national patents, of which 18 were invention patents; 35 products had been granted 21 science and technology progress awards at or above the provincial level for filling domestic product gaps; and the Company had undertaken five state-level science and technology projects and 54 provincial-level technological innovation projects; In 2019, the Company has been awarded Outstanding Technological Innovations in Shandong as well as Outstanding innovation Second Class Honours in Shandong. Over the years, the Company has won numerous awards in the field of product research and development, in recognition of the Company's achievements in its unremitting efforts to provide quality and diversified products and services for customers.

Meanwhile, the Company also established a "sales information management SOP" and set up an information department, specified duties to handle, predict and analysis of product quality, customers satisfaction, competitors' information and etc., with the aim of updating departments about the latest market news by weekly and monthly.

Quality Control

Due to the complex production process of pulp and paper, the quality of finished products is susceptible to unstable factors. As such, each production base and its quality assurance department are jointly responsible for testing and monitoring product quality from product design to production process, so as to ensure that the quality of finished products can meet the relevant standards. The quality assurance department will develop testing methods and determine sampling quantities according to the contract signed with each customer and international standards. The production base will conduct spot checks of finished products in the production process using the testing methods determined by the quality assurance department to ensure product quality.

	Quality control method	Principle
1	Acceptance of raw materials	Acceptance criteria are set based on the characteristics of different raw materials. Raw materials that do not meet the quality requirements will be replaced.
2	Quality monitoring in the production process	Inspections are carried out in accordance with the Company's standards for various production steps to detect potential problems as early as possible. Random samples are taken from various production lines to the technical quality assurance department for testing of physical indicators, appearance quality, etc. on a weekly basis.
3	Quality analysis meeting	At the monthly meeting, the sales department will prepare a summary and report customers' feedback on product quality, and the quality and technology departments will make suggestions on product quality improvement, present quality analysis results, and put forward methods to improve product quality.

Where there are any problems with the Company's products, quality control and product recall procedures will be initiated. The relevant salesperson will arrive at the site to inspect the defective products and mail a sample of the products with the relevant certificate of quality and a quality problem feedback card to the quality inspection department of the Company. The quality inspection department will complete the testing of the sample within two days and present the testing results to the after-sales management department of the marketing division of the Company. If necessary, the Company will proceed in accordance with established procedures to recall the substandard products. The Company regularly conducts customer satisfaction surveys through the product information platform on the Company's official website to learn about the service quality of the Company, so as to seek improvements on a continuous basis. In doing so, we hope to attain a customer satisfaction rate of 90% or above. In addition, we also set up a customer service hotline and email for customers to express their opinions. During the reporting period, there were no major incidents in which the Company was fined or punished by government departments or subject to product recalls due to major quality problems or health and safety reasons.

Customers' needs and expectations

The Company realises customers' feedback can help us improve service quality, therefore, a "comprehensive, face-to-face, peer to peer , professionalism" strategy has been adopted in full to understand customers' needs and expectations. The strategy includes a customer visit standard operating procedure (SOP). Employees are divided by four categories and each category has their own visit combination and frequency. A visit report will be submitted for top management and quality department to follow up.

Primary Visit	Secondary Visit	Tertiary Visit	Senior Visit
Leading by the Company's leader of sale manager, employees of quality, technical supports and production department will visit Type A customers annually.	Leading by the Company's leader of sale manager or deputy sales managers, each sales and marketing department will visit key customers quarterly with the aim of exchanging the latest market news and also get to know their opinions.	Leading by the Company's product director, managers of each operating site will visit general customer monthly, to understand their opinions of product.	Leading by the Company's regional or site directors, the business manager will participate in visits every month to visit regional customers once to two times. In order to understand their opinions of product.

After-sales Services

The Company is committed to providing reliable and prompt after-sales services for customers. To this end, the Company has not only set up an after-sale department, but also established customer complaint handling procedures to handle every complaint in good faith without delay. The Company currently has 56 offices and nine service regions in China and has 34 employees are based overseas and to offer an after-sales service all over the world, The services reach out to Asia, Middle-East, America, Europe and etc. The Company's service personnel continuously communicate with customers and offer supports if applicable to gain trust of customers and build a long-term relationship.

The Company stipulates that once a customer complaint is received, the customer service team should investigate the complaint and reply to the customer on the same day, and the complaint handling cycle must not exceed seven days. Moreover, the Company has formulated after-sales service policies, covering return and exchange of goods and compensation, to protect the interests of the parties concerned, in the hope that good after-sales services can win the trust and support of customers for the Company. Moreover, services personnel always visit customers to get to know their needs and feedback. During the reporting period, the Company did not receive any complaints or compensation claims that seriously affected the operations of the Company.

Protection of Intellectual Property

The Company has great respect for intellectual property rights, and is keenly aware that the development of products and advancement of new production technologies are resource and time intensive, which have far-reaching implications for the uniqueness, competitiveness and profitability of the Company. As such, the Company proactively carries out technical cooperation with academic institutions, research institutes and international advanced enterprises, and applies for patents on proprietary products and technologies with commercial value. As of the end of 2019, the Company applied for 19 patents and cumulatively 26 applications were approved.

Information Protection

Automated production is a major trend in the manufacturing industry. In recent years, there has been a digital revolution, under which the public is increasingly concerned about the protection of confidentiality and privacy of personal data. Although automated production and data management can help the Company improve its management standards, accelerate the upgrading and transformation of the Company, and improve efficiency and quality, any inadvertent data leakage will damage the Company's reputation and ruin the trust of customers. As computer systems are required for automated production and data management, the Company has formulated a system maintenance policy and strict rules governing the use of computers by employees to educate and regulate them in this regard. The rules stipulate that all confidential information and documents with personal data must be destroyed before being discarded. The Company also installs anti-virus software on all computers and online platforms and regularly updates the software to prevent virus infection. Moreover, the Company backs up and encrypts internal documents on a regular basis to prevent data leakage. In addition, the Company restricts employees' access to the personal data of customers and gives access rights to designated employees only. On the date of assumption of duty, each employee is required to sign and strictly abide by a confidentiality undertaking, pursuant to which they must not disclose any confidential and personal data of a customer to any external parties without the consent of the customer. Once such case is found, the employee concerned will be impartially handed over to the police for investigation without tolerance.

Anti-corruption

The integrity and good corporate governance of the Company are embodied in its brand image and performance. The Company always strictly complies with relevant laws and regulations and prohibits any acts of bribery, extortion, fraud and money laundering within the Company. An audit committee has been established in the governance structure to formulate, review and supervise business management policies and practices. An effective internal monitoring system has also been set up to constantly enhance internal management. In addition, the Company has formulated anti-corruption policies and rules for departments with a higher risk of conflict of interest, including sales, finance, procurement and audit departments, with an aim to deter corruption. The audit department of the Company conducts annual audits and visits each subsidiary for audit purposes. In addition, as some tendering projects involve huge financial benefits, all tendering documents are published on the Company's website while the identity of bidders is kept confidential, so as to enhance the transparency and fairness of the tendering process.

The Company operates with high ethical standards and professional integrity, and constantly reminds employees of relevant regulations to avoid conflict of interest. We also set out our code of conduct in the labour contract and the staff handbook, and formulate binding measures against illegal or unethical acts. Employees can also report suspected illegal or fraudulent activities. The legal department regularly offers law courses on anti-corruption for employees involved in corruption-prone work areas to raise their integrity awareness and reduce the occurrence of illegal activities. During the reporting period, there were 9,468 and 6 training hours offered respectively to employees and directors, so to refresh their memory on anti-corruption. Our measures for corporate governance and anti-corruption management are detailed on page 92 of the Company's 2019 Annual Report. During the reporting period, no cases of bribery, extortion, fraud or money laundering were found within the Company.

Community Engagement

While operating business, the Company does not forget to shoulder its corporate social responsibility. To this end, it strives to leverage its own advantages and resources to participate in community investment activities such as poverty alleviation, elderly care, education assistance and promotion of cultural education, in an effort to support the community and promote its healthy and sustainable development. Each subsidiary of the Company has set up a mutual aid foundation to support the employees and their families in need, in a drive to put into practice the spirit of solidarity and mutual assistance. The funds of the foundations are also used to host cultural activities after work and to provide financial relief for those affected by natural disasters.

Scope of community investment	
Shouguang Main Site	Hosting donation activities to support post-disaster reconstruction and helping disaster victims get their lives back on track
Jiangxi Chenming Paper	Setting up a staff mutual aid association and actively participating in local cultural and sports activities
Zhanjiang Chenming Pulp & Paper	Engaging in poverty alleviation and helping solve local employment problems by providing job opportunities
Jilin Chenming Paper	Engaging in poverty alleviation and giving priority to employing poor residents in surrounding villages and towns according to their actual needs
Wuhan Chenming Hanyang	Participating in local cultural and sports activities
Shanghai Chenming Industry	Participating in volunteer work on elderly care, promoting respect for the elderly and celebrating festivals with them
Huanggang Chenming Pulp & Paper	Engaging in poverty alleviation and cooperating with local government, enterprises to offer help to help the poor by providing job opportunities.

During the year, the Company hosted a fundraising event among employees in response to the floods in Shandong, which received strong support from frontline employees and the management. In the end, the Company donated RMB5 million and some supplies to assist in the disaster relief in Shandong. Zhanjiang Chenming Pulp & Paper also donated RMB3 million to help the poor by providing job opportunities. In addition, the Company was awarded the title of "Most Caring Charity Enterprise" for the eighth consecutive year. The Company will continue to make community investments to shoulder its social responsibility according to the development needs of its business and the community where it operates.



Frontline employees and the management showed strong support for the disaster relief fundraising event

Content Index of the Environmental, Social and Governance Reporting Guide

KPI	Content	Index
Environmental		
A1 Emissions		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Low Carbon Production
KPI A1.1	The types of emissions and respective emissions data.	Low Carbon Production
KPI A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Low Carbon Production
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility) .	Waste Management
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Waste Management
KPI A1.5	Description of emission target(s) set and steps taken to achieve them.	Partially disclosed in session headed “Low Carbon Production”
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	Partially disclosed in session headed “Waste Management”
A2 Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Low Carbon Production Use of Water Resources
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total and intensity (e.g. per unit of production volume, per facility).	Low Carbon Production
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Use of Water Resources
KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	Partially disclosed in session headed “Low Carbon Production”
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	Use of Water Resources
KPI A2.5	Total packaging material used for finished products and, if applicable, with reference to per unit produced.	Waste Management

KPI	Content	Index
A3 The Environment and Natural Resources		
General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	Odour Management
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Odour Management
A4 Climate Change		
General Disclose	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Green Supply Chain Environmental Protection Example
KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Green Supply Chain Environmental Protection Example

KPI	Content	Index
Social		
Employment and Labour Practices		
B1 Employment		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Employment Policy
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	Employment Policy
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Employment Policy
B2 Health and Safety		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Occupational Health and Safety
KPI B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting period.	Disclosure is not considered for the time being
KPI B2.2	Lost days due to work injury.	Disclosure is not considered for the time being
KPI B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	Occupational Health and Safety
B3 Development and Training		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Development and Training
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Development and Training
KPI B3.2	The average training hours completed per employee by gender and employee category.	Development and Training
B4 Labour Standards		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Labour Standards
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour.	Labour Standards
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	Labour Standards

KPI	Content	Index
Operating Practices		
B5 Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	Supplier Management
KPI B5.1	Number of suppliers by geographical region.	Supplier Management
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	Supplier Management
KPI B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Supplier Management
KPI B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Supplier Management
B6 Product Responsibility		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Product Responsibility
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	None
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	After-sales Services
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Protection of Intellectual Property
KPI B6.4	Description of quality assurance process and recall procedures.	Quality Control
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	Information Protection
B7 Anti-corruption		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Anti-corruption
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	None
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	Anti-corruption
KPI B7.3	Description of anti-corruption training provided to directors and staff.	Anti-corruption
B8 Community Investment		
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Community Engagement
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Community Engagement
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	Community Engagement



山東晨鳴紙業集團股份有限公司
SHANDONG CHENMING PAPER HOLDINGS LIMITED