



環境、社會及管治(ESG)報告 Environmental, Social and Governance (ESG) Report

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關於本報告



Message from the Board 董事會聲明

During the report period, the Board of Directors defined the management philosophy of "people first, refined management, problem-oriented, and real action-taking". These guidelines advocate lean management, respecting and developing people, and efficiency-fairness balance, which are similar to the values of ESG. 報告期內,董事會明確「以人為本、精細管理、問 題導向、真抓實幹」的管理理念,十六字方針所倡 導的精益化管理、尊重和發展人、兼顧效率與公 平的思想,與ESG的價值導向殊途同歸。 Lucid waters and lush mountains are invaluable assets. Determined to take the high quality path of eco-friendly and low-carbon development, Chenming Group has carried out the strategic layout of "pulp-paper integration" in four major regions in China, making continuous efforts to enhance environmental benefits and build a model of circular economy in the paper industry. The Company took the lead in the industry in passing the ISO 9001 quality system certification, ISO 14001 environmental protection system certification and FSC Chain of Custody certification. It also participated in the development of the group standard "Green Factory Evaluation Specification for Paper Industry" as the main drafting unit.

Chenming Group considers development as its top priority and talent as its most important resource. We attach great importance to building the talent pool by providing trainings and empowering the growth of talents. We care for all employees by providing various living and recreational facilities and establishing basketball, badminton, table tennis and other sports and cultural associations to create a comfortable living environment. We are committed to creating a good atmosphere of team-working, cooperation and development so as to constantly enhance the cohesion, sense of belonging and dedication of our people.

The 2022 Environmental, Social and Governance Report reviewed the changes in the business environment over the past year and conducted the first-ever stakeholder communication and opinion survey to further clarify stakeholders' expectations and demands, increase management efforts on issues of concern to stakeholders and drive the Company's overall ESG efforts to a higher level. The Company will continue to disclose relevant performance indicators and general disclosures in accordance with the requirements of the Stock Exchange, and communicate to the public the management approach, system and results of each important issue under the three ESG themes. 緣水青山就是金山銀山。晨鳴紙業堅定不移走生 態優先、綠色低碳的高質量發展道路,在國內四 大區域均進行了「漿紙一體化」的戰略佈局,為增 強環境效益、打造紙業循環經濟樣板不斷探索。 公司率先在全國同行業通過ISO 9001質量體系 認證、ISO 14001環保體系認證和FSC-COC國際 森林體系認證,並作為主要起草單位,參與完成 了《造紙行業綠色工廠評價規範》團體標準的制 定。

發展是第一要務,人才是第一資源。晨鳴紙業高 度重視人才隊伍建設,加大培訓力度,賦能人才 成長,關心關愛全體職工,配齊生活娛樂設施,打 造舒適的生活環境,成立籃球、羽毛球、乒乓球等 文體社團,營造團結協作、奮發趕超的良好氛圍, 不斷增強人才向心力、歸屬感和事業心。

2022年度環境、社會及管治報告回顧了過去一年 經營環境的變化,並首次開展持份者溝通與意見 調研,進一步明晰持份者的期望與訴求,對相關 方所關注的議題加大管理力度,推動公司整體 ESG工作更上一臺階。公司將繼續按照聯交所的 要求披露相關的績效指標和一般披露項信息,與 社會公眾溝通ESG三大主題下各個重要議題的 管理方針、體系及成效。

Company Profile 公司概況

Company Introduction 公司簡介

Shandong Chenming Paper Holdings Ltd is a modern large-scale integrated enterprise group mainly engaged in pulp and paper making, with its main business being the production and sale of machine made paper and board paper, paper making raw materials, paper making machinery, electricity and heat. Among them, the machine-made paper products amount to more than 200 varieties, falling into 7 series including culture paper, white cardboard, copperplate paper, lightweight coated paper, household paper, electrostatic copy paper, and thermal paper. It has built six production bases - Jilin Chenming, Shouguang Chenming, Wuhan Chenming, Huanggang Chenming, Jiangxi Chenming and Zhanjiang Chenming. With a scientific and reasonable industrial layout, the Company has formed a development pattern that runs north to south and radiates across the country.

山東晨鳴紙業集團股份有限公司是以制漿、造 紙為主的現代化大型綜合企業集團,主營業務 為機制紙及板紙和造紙原料、造紙機械、電力、 熱力的生產與銷售。其中,機制紙產品涵蓋5 大類7個系列200多個品種,包括文化紙、白卡 紙、銅版紙、輕塗紙、生活紙、靜電複印紙、熱敏 紙等系列產品。現已建成吉林晨鳴、壽光晨鳴、 武漢晨鳴、黃岡晨鳴、江西晨鳴、湛江晨鳴六大 生產基地。產業佈局科學合理,形成了縱貫南 北、輻射全國的發展格局。

Corporate Culture 企業文化

The Shandong business culture of "integrity, fairness and profiting in a righteous way" has had a significant and far-reaching impact on Chenming Group's business operation and management. Therefore, Chenming Group has formed a culture concept system with the core values of "integrity, mutual benefit and sharing" and the tenet of "learning, surpassing and leading", which has become the spiritual link and driving force for our sustainable and healthy development.



Company name: SHANDONG CHENMING PAPER HOLDINGS LIMITED 公司名稱:山東晨鳴紙業集團股份有限公司

Acronym: SCPH 公司外文名稱縮寫:SCPH Stock code: 000488.SZ; 200488.SZ; 1812. HK 股票代碼:000488.SZ;200488.SZ;1812.HK

Head office: Shouguang, Shandong, China 公司總部:中國山東省壽光市

「以德為本,以信為先,以義致利」的魯商文化, 對晨鳴紙業的企業經營和管理產生了重大而 深遠的影響。深受魯商文化的浸潤,晨鳴紙業 形成了以「誠信為本,共贏共享」為核心價值 觀、以「學習、超越、領先」為企業精神等內容的 企業文化理念體系,成為推動企業持續健康發 展的精神紐帶和原動力。

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Management guidelines 管理方針

People first, refined management, problem-oriented, and real action-taking

以人為本 精細管理 問題導向 真抓實幹

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Employment philosophy 用人理念

Eliminate those lagging behind, reject those mediocre, and stimulate those excellent 淘汰落後 拒絕平庸 激勵先進



Vision 企業願景

To build a 100-billion company and build a 100-year Chenming 打造千億企業 鑄就百年晨鳴

Development Milestones 發展歷程



1958

• Founded as Shouguang Paper General Factory in Shandong Province.

公司成立於1958年,前身 為山東省壽光造紙總廠。

牌交易。

2022年度環境、社會及管治(ESG)報告

2022

• Chenming Group ranking 22nd for its excellent overall strength and top 10 in the category of paper and board production on the latest list of the top 75 companies in the global paper industry published by the US Paper360 magazine.

美國Paper360雜誌公佈了最新的全球紙業75強名單,晨鳴紙業憑藉過硬的綜合實力位列第22,躋身紙和紙板產量全球前10強。

• Culture paper, copperplate paper and household paper of Chenming Group listed on the first 223 "Good Quality from Shandong" brands selected by Shandong Leading Group Office for High-Quality Province and Brand Strategy Promotion from the fields of manufacturing, consumer goods and agricultural products.

山東省質量強省及品牌戰略推進工作領導小組辦公室,從製造業、消費品、農產品領域遴選出的第一批223家「好品山東」品牌 正式公佈,晨鳴紙業主要產品文化紙、銅版紙、生活用紙入選該名單。

- Issued 79.6 million A shares under the Restricted Stock Incentive Program.
- 限制性股票激勵計畫,增發7,960萬A股。
- "Paper Industry Symposium on Green Manufacturing System" and "Green Factory Evaluation Specification for Paper Industry" Group Standard Launching Meeting held in Chenming Group.
- 「綠色製造體系造紙行業座談會」暨《造紙行業綠色工廠評價規範》團 體標準啟動會在晨鳴紙業舉行。

() 2021

• Jianxin Investment, Shandong Branch of Construction Bank of China and Chenming Group signed a strategic cooperation on debt-to-equity swap.

建信投資、建設銀行山東分行與晨鳴紙業簽署債轉股戰略合作。

• The "Key Technologies and Industrialization of Green Preparation and High-value Utilization of High-performance Wood Chemical Pulp" project completed by Chenming Group and other units won the 2020 National Science and Technology Progress Second Prize, the only award-winning project in the paper industry.

晨鳴紙業等單位完成的「高性能木材化學漿綠色製備與高值利用關鍵技 術及產業化」項目,榮獲「2020年度國家科學技術進步二等獎」,為造紙行 業唯一獲獎項目。



ESG Management ESG管理

Chenming Group has established a sound ESG management mechanism and promoted the integration of ESG concepts with corporate management and business development. While gaining economic benefits, we are taking up our social responsibilities and strengthening communication with stakeholders in order to enhance our overall sustainability.

晨鳴紙業建立健全ESG管理機制,推動ESG理 念與企業管理及業務發展的融合。在創造經濟 效益的同時,勇於擔負社會責任,並加強與持份 者的溝通,以全面提升企業可持續發展能力。

> Functions in head office: HR, Audit, Equipment Dynamics, Safety, etc. 總部職能部門:人力資源部、稽察部、設備動力部、安全部等

Management Strategy 管理策略

During the report period, Chenming Group further defined its governance structure with the Board of Directors as the highest decision-making body, the Strategy and Sustainability Committee as the supervisory and management body, and the ESG and Sustainability Strategy Working Group as the executive body, responsible for facilitating the day-to-day environmental, social and governance work.

報告期內,晨鳴紙業進一步明確了以董事會為 最高領導決策機構,戰略及可持續發展委員會 為監督、管理機構,ESG與可持續發展戰略工 作組為具體工作執行機構的管治架構,負責推 動企業環境、社會及公司治理日常工作。



Board of Directors: As the highest decision-making body of the Company, the Board of Directors is responsible for making decisions on major ESG development issues and setting long-term, medium-term and short-term directions. During the annual Board meeting, the Board reviews the Company's sustainability performance, adjusts its future ESG strategy and sets governance-related targets for the coming year, including management targets for emissions, resources, energy and water.

Strategy and Sustainability Committee: Formed by adding a sustainability function to the former Strategy Committee to support the leadership of the Board, its primary responsibility is to oversee and manage the ESG governance. The scope of responsibilities includes identifying key substantive issues, developing a system of senior management compensation in relation to sustainability performance, and overseeing the implementation of ESG-related targets set by the Board.

ESG and Sustainable Development Strategy Working Group: ESG working group is headed by the company's General Manager and its members include the heads of ESG issues such as safety, environmental protection and supply chain from the head office and all subsidiaries. As the executive body, it is specifically responsible for the implementation of the related policies formulated by the Strategy and Sustainability Committee, as well as cross-departmental communication, for example, planning the increased use of renewable energy and the establishing production lines that adopt energy and resource-saving technologies.



▲ ESG Management Structure of Chenming Group 晨鳴紙業ESG管理架構

董事會:董事會作為公司最高領導決策機構,負責對 企業ESG發展的重大事項進行決策以及制定長、中、 短期的發展方向,於每年董事會會議期間,審視公司 可持續發展績效表現,並調整未來ESG戰略以及制定 來年管治相關工作目標,包含排放、資源、能源和用水 的管理目標。

戰略及可持續發展委員會:由原有戰略委員會增加可 持續發展職能演變而來,為董事會的領導提供支援, 主要負責監督和管理企業ESG治理。職責範圍包含確 定重要實質性議題和制訂與可持續發展績效相關的 高級管理層薪酬制度,以及監督由董事會制定的ESG 相關目標的執行。

ESG與可持續發展戰略工作組:工作組的組長為公司 總經理,成員包括總部及各子公司分管安全、環保、供 應鏈等ESG 議題的負責人。作為執行機構,具體負責 推動實施戰略及可持續發展委員會制定的相關政策, 以及跨部門的溝通工作,例如,策劃增加可再生能源 的使用,建立採用節能、資源節約技術的生產線等。

Communication with Stakeholders 持份者溝通

Our Company has identified eight key stakeholder groups, including shareholders and investors, customers, employees and suppliers, and is strive for maintaining communication with representatives of these stakeholders to respond to their demands in a timely manner. 公司識別出股東與投資者、客戶、員工、供應商 等8個主要持份者群體,並與這些持份者代表 保持溝通,及時響應他們的訴求。

Main stakeholders 主要持份者	Expectations and demands 期望與訴求	Our responses 公司響應方式
COO Shareholders and investors 股東與投資者	Business results Return on investment Robust operation Open and transparent information 經營業績 投資回報 穩健經營 信息公開透明	Drive business development Hold annual results presentation Develop business strategies Disclose information in a timely manner Use a combination of on-site and online voting during general meetings 推動業務發展 召開年度業績說明會 制定經營策略 及時信息披露 採用現場與網絡投票相結合的方式召開股東大會
Customers 客戶	High quality and competitive products Excellent customer service 高質量、有競爭力的產品 優質客戶服務	Improve R&D and innovation Product quality management Improve the customer service system Customer satisfaction survey 提高研發與創新水平 產品質量管制 完善客戶服務體系 客戶滿意度調查
Employees 員工	Rights and interests protected Compensation and benefits Equal and diverse development opportunities A safe and comfortable working environment Vocational training 權益保障 薪酬與福利 平等多元的發展機會 安全、舒適的工作環境 職業相關培訓	Conclude employment contracts in accordance with the law Optimize the compensation system Improve the assessment and incentive mechanism Implement safety in production Strengthen individual vocational training 依法簽訂勞動合同 優化薪酬制度 完善考核激勵機制 落實安全生產 加強個人職業培訓

Main stakeholders 主要持份者	Expectations and demands 期望與訴求	Our responses 公司響應方式 Build long-term relationships Establish a sound supply chain management system Conduct professional exchanges 建立長期合作關係 建立使全供應鏈管理體系 開展專業交流 Improve risk control measures and hidden danger management plans Pay taxes honestly Step up environmental efforts Design products with sustainability in mind Help to improve living standards 完善風險管控措施和隱患治理方案 誠信納稅 加大環保工作力度 將環保理念融入產品 助力改善民生		
Suppliers 供應商	Sustainable procurement Compliance and business ethics Promotion of industry development 可持續採購 合規與商業道德 推動產業發展			
E Government and regulatory bodies 政府及監管機構	Risk and compliance management Tax integrity Environmental protection Green products Job creation Stimulation for local economic development 風險與合規管理 誠信納稅 環境保護 綠色產品 創造就業崗位 帶動區域經濟發展			
View Partners 合作夥伴	Mutual benefit Business ethics and transparency Innovation and R&D Occupational health and safety 互利共贏 商業道德與透明度 創新與研發 職業健康與安全	Honour our commitment honestly Focus on business ethics Increase R&D and cooperation efforts Improve occupational health and safety management system 誠信履約 注重商業道德的建設 加大研發與合作力度 完善職業健康與安全管理制度		
E Communities 本地社區	Community development Public charity events Giving back to the community 社區發展 公益慈善活動 反饋社會	Charitable donations Public services Education foundation 慈善捐贈 社會公益活動 愛心教育基金會		
Constant of the end 	Public engagement Progress of the company's business Environmental and social responsibility 公眾參與 公司業務進展 承擔環境和社會責任	Open to public and media scrutiny Receive media interviews Update the company website 接受公眾與媒體監督 接待媒體採訪 更新公司官網		

Management Outcomes 管理成效

Highlights of the Company's environmental, social and governance outcomes during the report period:

報告期內,公司在環境、社會及管治方面的亮點成效。

Environmental aspect 员

• The Company has been actively laying out the "forest-pulp-paper integration", working towards its carbon neutrality goal. At present, the Company has more than **700,000** mu of reserve forests, of which some eligible woodlands have been used for carbon sink development.

積極佈局「林漿紙一體化」,為達成碳中和目標而努力。目前公司擁有70多 萬畝儲備林,其中部分符合條件林地已用於開展碳匯開發。

 Three products, namely poplar coated white cardboard, XINGZHILIAN tissue paper and XINGZHILIAN toilet paper, were awarded the national "Green Design Product".

公司自主研發的白楊塗布白卡紙、星之戀紙巾紙及星之戀衛生紙三大產品榮獲全國「綠色設計產品」。

 In order to ensure the emission requirements are met, the Company and its subsidiaries have invested more than RMB 8 billion in pollution control facilities in recent years, including alkali recovery system, mid-stage effluent treatment system, reclaimed water reuse system, white water recovery system, black liquor comprehensive utilization system, etc.

為確保排放達標,公司及子公司近年來投資80多億元建設了污染治理設施,包括城回收系統、中段水處理系統、中水回用系統、白水回收系統、黑液綜合利用系統等。



 The Company actively participates in the formulation of industry standards and contributes to the high-quality development of the papermaking industry. As of December 2022, it has cumulatively participated in the formulation of a number of national and local standards, including co-development of the group standard "Green Factory Evaluation Specification for Papermaking Industry" as the main drafting unit (assessed by the Green Manufacturing Committee of the China Industrial Cooperation Association).

公司積極參與行業標準制定,為造紙行 業的高質量發展建言獻策。截止2022年 12月,累積參與了多項國家和地方標準 的制定,其中包括作為主要起草單位參 與制定《造紙行業綠色工廠評價規範》團 體標準(由中國工業合作協會綠色製造 專業委員會組織評定)。 Since the outbreak of the COVID-19 pandemic in 2020, our Company has donated a total of over RMB 13 million to combat the epidemic, including the donation of 300 barrels of sodium hypochlorite disinfectant by Zhanjiang Chenming to the Mazhang District Government of Zhanjiang City for the disinfection of public areas.

自2020年新冠疫情發生以來,公司為抗擊疫情累計捐款捐物1,300多萬元,其中包含湛江晨鳴為湛江市麻章區政府捐贈300桶次氯酸鈉消毒液, 用於公共區域消毒工作。

Our Company has donated a total of RMB 500,000 to support the development of education in Shouguang, and donated RMB 300,000 in Shouguang City's "One Day Donation" campaign.

公司為支持壽光教育發展共捐款50萬元,並在壽光市「慈心一日捐」活動 中捐款30萬元。

 Our Company has implemented the "Caring Project" to build a "Happy Chenming". A long-term employee caring mechanism has been established to improve the employees' living and working environment.

公司實施「五心工程」,打造「幸福晨鳴」。建立職工關心關愛長效機制,通 過不斷改善軟硬體條件來改善職工生活、工作環境。

 Chenming Group's "Adhering to Green Development and Social Responsibility" case was selected as one of the outstanding CSR cases announced by the China Light Industry Enterprise Management Association.

晨鳴紙業「秉承綠色發展、勇擔社會責任」案例入選了中國輕工業企業管理協會公示的優秀企業社會責任案例。



Our Commitment to Environmental Protection 「晨」諾綠水青山

Chenming Group has clarified the new development concept that "lucid waters and lush mountains are invaluable assets". It adheres to the development idea of "green development, environmental protection first" and deems environmental protection as a "life project". Thus, we will take the road of green, clean and low-carbon development.

晨鳴紙業牢固樹立「綠水青山就是金山銀山」新發展理念,秉承「綠色發展,環 保先行」的發展思路,堅持把環保作為「生命工程」來抓,走綠色、清潔、低碳發 展之路。



Strengthen the Environmental Improvement System 夯實環境治理體系

The Company pursues the environmental protection management concept that "environmental protection is also the productivity, and when there is a conflict between production and environmental protection, priority should be given to environmental protection". In accordance with the "Environmental Protection Law of the People's Republic of China" and other relevant laws and regulations, the Company has formulated the "Environmental Protection Management Regulations", the "Emergency Response Plan for Environmental Emergencies" and other regulation systems, and its production bases have all passed the ISO 14001 environmental management system certification.

公司奉行「環境保護也是企業生產 力,當生產與環保發生矛盾時,優先 服從於環保」的環境保護管理理念, 依據《中華人民共和國環境保護法》 及其他相關法律法規要求,制定《環 境保護管理規定》《突發環境事件應 急預案》等制度,下屬生產基地均通 過ISO 14001環境管理體系認證。





Environmental Management Measures 環境管理措施

Conduct environmental risk & impact analysis 環境風險影響分析

The Company identifies the needs and expectations of internal and external environmental stakeholders, analyses environmental risks and opportunities, calculates a comprehensive risk index through the severity, likelihood and detectability of risk occurrence, and prioritizes risks according to the index and takes corresponding measures.

公司明確內外部環境相關方的需求和期 望,分析環境風險和機遇,通過風險發生 的嚴重性、可能性和可發現性,計算風險 綜合指數,並根據指數大小確定風險優先 順序,採取對應措施。

實施全員環保培訓

The Company formulated an environmental protection training plan at the beginning of the year and carried out training for all employees of the Environmental Protection Department in conjunction with environmental incidents that occurred, including training on environmental protection expertise, environmental management system training and environmental emergency training, to raise the employees' environmental awareness and prevent environmental risks.

公司於年初制定環保培訓計畫,結合發生 的環保事件,開展環保處全員培訓,包括 環保專業知識培訓、環境管理體系培訓、 環境應急培訓等,提高員工的環保意識, 防範環境風險。

Indicators (as of the end of Decer	mber 2022) 指標數據 (截至20)
Investment in odour control : RMB 120 million	Number of environmental training conducted:38 time
異味治理投入	開展環保培訓次數
12,000 萬元	38 次
Percent of employees covered by environmental training: 30%	Incidents and amounts of er to excessive or non-complia
環保培訓員工覆蓋比例	因污染物超標或違規排放而導
30%	0 萬元

Environmental protection training for all employees

Reinforcement of clean production results

深化清潔生產成效

The Company fully implements clean production, aims at "energy saving, consumption reduction, pollution reduction and efficiency improvement", and has set up a leading group of the Clean Production Audit Team to implement clean production audit and improve production efficiency and work environment.

公司全面推行清潔生產,以「節能、降耗、 减汙、增效」為目標,成立清潔生產審核小 組領導小組和工作小組,實施清潔生產審 核,提高生產效率,改善工作環境。

22年12月末)

Total number of participants in environmental training:5,700 Person-time

參與環保培訓的總人次

5,700人次

nvironmental penalties due ant emissions of pollutants:0

尊致的環保處罰事件與金額

Number of environmental emergencies:0

突發環境事件數量 **0**件

Be a Water-friendly Papermaking Company 用水友好型紙材企業

Water consumption occurs throughout the entire papermaking process. Based on the "Law of the People's Republic of China on Prevention and Control of Water Pollution" and other relevant laws and regulations, the Company has formulated and issued the "Regulations on the Management of Clean Water" and the "Sewage and Regulations on Strengthening Wastewater Control" to proactively cope with the pressure on water resources, effectively improve the intensive and economical use of water resources, and promote the sustainable use of water resources.

水資源耗用貫穿了造紙的全過程。公司依 據《中華人民共和國水污染防治法》等相關 法律法規,制定出臺《清水、污水管理規定》 《加強廢水管控的規定》文件,主動應對水 資源壓力,切實提高水資源集約節約利用 水平,推動水資源可持續利用。

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Water Resources Management Targets and Results 公司水資源管理目標與完成情況

Water resources management targets 水資源管理指標	Name of subsidiary 子公司名稱	Target for 2022 2022年目標	Actual result in 2022 2022年實際完成情況	Target for 2023 2023年目標
	Shouguang Chenming 壽光晨鳴	4,000	3,893	3,800
Water abstracted	Zhanjiang Chenming 湛江晨鳴	3,200	2,720	3,200
(Unit: 10,000 tons) 取水量	Jiangxi Chenming 江西晨鳴	9,797	6,115	9,796.5
(单位:万吨)	Huanggang Chenming 黃岡晨鳴	1,145	1,182	1,145
	Jilin Chenming 吉林晨鳴	588	402	652
	Shouguang Chenming 壽光晨鳴	4,000	3,893	3,800
Water consumed	Zhanjiang Chenming 湛江晨鳴	3,200	2,720	3,200
(Unit: 10,000 tons) 用水量	Jiangxi Chenming 江西晨鳴	900	802	598
(单位:万吨)	Huanggang Chenming 黃岡晨鳴	1,500	1,704	1,500
	Jilin Chenming 吉林晨鳴	588	402	588

Water resources management targets 水資源管理指標	Name of subsidiary 子公司名稱	Target for 2022 2022年目標	Actual result in 2022 2022年實際完成情況	Target for 2023 2023年目標
Chemical oxygen demand	Shouguang Chenming 壽光晨鳴	300	177	300
(COD) concentration in wastewater	Zhanjiang Chenming 湛江晨鳴	90	39	90
(Unit: mg/L) 污水COD(Chemical	Jiangxi Chenming 江西晨鳴	90	45	90
Oxygen Demand,化 學需氧量)排放濃度 (單位:mg/L)	Huanggang Chenming 黃岡晨鳴	150	15	150
	Jilin Chenming 吉林晨鳴	500	126	500
Suspended solids (SS) concentration in wastewater (Unit: mg/L) 污水SS (Suspended Solids, 固體懸浮物) 排放濃度 (單位:mg/L)	Shouguang Chenming 壽光晨鳴	94	66	70
	Zhanjiang Chenming 湛江晨鳴	30	19	30
	Jiangxi Chenming 江西晨鳴	30	23	27
	Huanggang Chenming 黃岡晨鳴	43	23	30
	Jilin Chenming 吉林晨鳴	300	37	300

and provide **19.04** million cubic meters of water/year for the Company's pulp and paper production.

公司的中水回用膜處理項目大幅降低COD排放量,當前公司COD排放量僅為國家COD許可年排放量限值的40%左右;有效降低污 水排放量,為公司制漿造紙生產提供用水量1,904萬立方米/年。

• The Company's wastewater treatment system can treat a total of nearly 10 million cubic meters of wastewater per year, reducing suspended solids by approximately 93% and purifying 80% ammonia and oxygen in water.

公司的汙水處理系統全年可處理污水總量近千萬立方米,使得固體懸浮物減少約93%,水體中氨和氧的淨化率達到80%。

Key performance 關鍵績效

• The Company's reclaimed water reuse membrane treatment project significantly reduces COD emissions (the Company's COD emissions is **0.4** times the current national COD annual emission cap), effectively reduces the quantity of wastewater,

	Strengthen the Protection and Utilization of Water Resources 加強水資源保護和利用	
onable	 The Company applies for water abstraction license according to the law, protects groundwater resources and makes full use of surface water resources, of which 94.6% of Shouguang Chenming's water are taken from surface water, the remaining 5.4% from the plant's own wells, and the rest of the subsidiaries take 100% of their water from surface water. 公司依法申領取水許可證,保護地下水資源,充分利用地表水資源,其中壽光晨鳴94.6%水資源取自地表水,剩餘 5.4%來源於建設廠區自備水井,其餘子公司實際取水量100%取自地表水。 	
action 取水	 The Company installs online flow meters at water abstraction sites, regularly tests water quality, fills in information on the water abstraction platform every quarter, and takes the initiative to build water treatment plants, water supply pump stations, spiral steel pipe pipelines, etc. to break through the "bottleneck" of water resources that may restrict the sustainable development of the Company. 公司在取水地安裝線上流量計,定期檢測水質,每季度填報取用水平台信息,主動建設水處理廠、供水泵站、螺旋鋼管 輸水管道等,解決制約公司可持續發展的水資源「瓶頸」。 	
ater	 The Company strictly controls the consumption of clean water, and implements the scientific plan of "multiple uses of water" to use water according to quality, quantity, process and technology. Air-floating white water clarifiers are equipped, and the treated clear filtrate and turbid filtrate of multi-disc filter can be used as a substitute of clean water for industrial production. 公司嚴格控制清水用量,實施了分質、分量、分工序、分工藝用水的「一水多用」科學方案,配備氣浮白水澄清器,處理 後的多圓盤過濾機清濾液和濁濾液可代替清水用於工業生產。 	
用水	 The Company actively carries out water-saving technical transformation, and has transformed the cleaning of papermaking machine spare parts into online cleaning, improving cleaning efficiency and saving 330,400 tons of clean water. 公司積極開展節水技術改造工作,將紙機備品的清洗改造為線上清洗,提高清洗效率,節約清水用量33.40萬噸。 	
	• The Company is equipped with an advanced white water recycling system, which implements secondary recycling of white water in the workshop. After recycling, the concentrated white water is used as broke dilution water and the super-clear white water is used for spraying on the net, etc. As a result, the fibre loss in the papermaking system is reduced and the recycling of 100% white water within the machine is realized.	
cling 利用	公司配備完善的白水回收系統,對車間白水實施二級循環,經循環後的濃白水用於損紙稀釋水、超清白水用於網部噴 淋等,減少造紙系統纖維流失,實現100%機內白水循環利用。	
	• For different water quality, the Company adopts step-by-step closed-loop circulation, where the higher-level water quality circulation system makes up water to the lower-level system in series, reasonably distributing the circulating water, maximizing the recycling of water resources, and reaching a 92% recycling rate.	
	公司針對不同水質,採取分系統逐級閉路循環,高一級水質循環系統向低一級系統串級補水,合理分配循環水,最大 限度循環利用水資源,循環利用率已達到92%。	

more need to analyse the causes and propose solutions on the same day.

公司規定水處理廠每天不定時取樣,監控各車間廢水排放指標,超出標準值10%及以上的排水單位需要當天分析原 因, 並提出解決措施。

公司出資建設9個汙水處理廠,日處理能力達到35萬立方米,通過「預處理-厭氧-好氧-深度處理」的汙水處理工藝,實 現100%廢水處理率。

Case study 案例

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推進中水回用工程,降低企業水資源依賴

Chenming Group has taken the initiative to assume responsibility for environmental improvement and help to build an ecological civilization. The rising cost of environmental protection has not affected the Company's determination of green development. A total of more than RMB 2.4 billion has been invested to build an economically reasonable and technically reliable deep treatment and reuse project for pulp and paper making wastewater. Mechanically accelerated clarifiers, sand filters, biological aerated filters (BAF) and membrane treatment workshops have been built.

晨鳴紙業主動承擔環境治理責任,助力生態文明建設。環保成本上升並未影響公司堅定綠色發展的決心,公司累計共投入24億餘 元,打造經濟上合理、技術上可靠的制漿造紙廢水深度處理回用工程,建設機加池、砂濾池、BAF生物濾池、膜處理車間等。

The Company also continues to develop innovative reclaimed water reuse technology to improve the efficiency of reclaimed water reuse. The Company has built reclaimed water reuse membrane treatment projects in Zhanjiang, Huanggang and Shouguang, using the world's most advanced "ultrafiltration membrane + reverse osmosis membrane" process to increase the reclaimed water reuse rate to more than 75%. Moreover, the quality of the reclaimed water reaches drinking water standards, saving 170,000 cubic meters of clean water per day. The Company has built the largest reclaimed water reuse project in China with a daily treatment capacity of 30,000 cubic meters and implemented a 60,000 cubic meter mid-stage effluent water technical upgrading project, which greatly reduces water pollution and effectively saves water resources.

公司持續研發創新中水回用技術,提高中水回用效率。公司已在湛江、黃岡、壽光配套建設中水回用膜處理項目,採用世界最先進的 「超濾膜+反滲透膜」工藝,將中水回用率提高到75%以上。回用水質達到飲用水標準,每天可節約清水17萬立方米。公司建成了全 國最大日處理能力3萬立方米的中水回用工程,實施了6萬立方米中段水淘汰更新技改項目,極大降低水污染程度,有效節約水資 源。

• The Company requires the water treatment plants to take samples from time to time every day to monitor the amount of wastewater discharged by each workshop, and those that exceed the standard value by 10% or

• The Company has built nine wastewater treatment plants, achieving a daily treatment capacity of 350,000 cubic meters. 100% wastewater treatment rate is realized through the wastewater treatment process of "pre-treatment - anaerobiosis - aerobiosis - deep treatment".

Promote the reclaimed water reuse project to reduce water dependence



▲ The reclaimed water reuse project built by the Company in normal operation 公司建設的中水回用工程正在正常運行

★ Case 案例 Case study

Explore recycling of black liquor to relieve ecological burden . 探索黑液資源化,減輕生態環境負擔

The Company took the lead in the industry to explore the black liquor recycling technology and built the largest alkali recovery project in the domestic papermaking industry and the earliest medium pressure steam genset using alkali furnace in China. The Company's alkali recovery project mainly includes four sections of evaporation, combustion, causticisation and lime recovery, processing 6,700 tons of black liquor solids per day and recovering 1,158.6 tons of alkali (in terms of Na,O) per day, with an alkali recovery rate of 99.8%. In order to reuses the waste heat of steam generated from the alkali recovery furnace, the Company has built a thermal power station with a 165 MW double-extraction condensing turbine genset and a 70 MW back pressure extraction turbine genset to realize cogeneration, supplying steam and power to the Company and saving 750,000 tons of standard coal equivalent annually.

公司在行業內率先探索黑液資源化技術,建成了國內造紙業最大城回收工程、國內最早利用城爐產生中壓蒸汽發電機組。公司的城 回收項目主要包括蒸發、燃燒、苛化、石灰回收四個工段,日處理黑液固形物6,700噸,日回收堿1,158.6噸(以Na,O計),城回收率高 達99.8%。公司對城回收爐產生的蒸汽進行餘熱再利用,建設熱電站,配置一台165兆瓦雙抽冷凝式汽輪發電機組和一台70兆瓦抽 汽背壓式汽輪發電機組,實現熱電聯產,為公司供汽和供電,年可節約標準煤75萬噸。



▲ The largest alkali recovery project in the domestic papermaking industry built by the Company 公司建成了國內造紙業最大城回收工程

Indicators (as of the end of December 2022) 指標數據(截至2

Water abstraction from municipal water supply:16,343,176 Cub 市政取水量

16,343,176立方米

Water abstraction from other sources 其他水源取水量

Shouguang Chenming 壽光晨鳴

From Mi River: 12,291,321 Cubic meters 彌河水

12,291,321立方米

From Qingnian Canal:

青年運河

27,202,574 Cubic meters

27.202.574立方米

From Yeyuan Rese 冶源水庫 10,728,7341

From Shuangwangcheng Reservoir:11,089,848 Cubic meters 雙王城水庫 11.089.848立方米

Zhanjiang Chenming 湛江晨鳴

Groundwater: 2,092,143 Cubic m

Jiangxi Chenm

Total amount of water consumed: 150,994,888 Cubic meters

總耗水量 150,994,888立方米

Ammonia and nitrogen

emissions: 104 Tons

氨氮排放量

104噸

Proportion of recycled/reused water to total amount of water consumed: 30% 循環用水/再利用水占總耗水量的比例 30%

廢水排放量 57,669,598 Total phosphorus

25 Tons 總磷 25噸

指標數據(截至2022年12月末)	
ly:16,343,176 Cubic meters	
From Yeyuan Reservoir:10,728,734 Cubic	
冶源水庫	
10,728,734 立方米	
Groundwater:	
2,092,143 Cubic meters	
地下水	
2,092,143 立方米	
Jiangxi Chenming 江西晨鳴	Huanggang Chenming 黃岡晨鳴
From Ganjiang River: 59,422,713 Cubic meters	From Yangtze River: 11,824,379 Cubic meters
贛江取水	長江取水
59,422,713 立方米	11,824,379 立方米
Water consumption intensity:	Recycled/reused water:
47.18 Cubic meters/RMB 10,000 revenue	32,906,143 Cubic meters
耗水密度	循環用水/再利用水量
47.18 立方米/萬元營收	32,906,143 立方米
Wastewater discharged:	COD emission:
57,669,598 Cubic meters	5,395 Tons
廢水排放量	COD (化學需氧量) 排放量
57,669,598 立方米	5,395 噸
Total phosphorus:	Total nitrogen:
25 Tons	465 Tons
總磷	總氮
25噸	465噸

Reduce Pollution and Waste Emissions 減少污染與廢棄物排放

Chenming Group strives to enhance the green innovation capability of pulping technology, cut down the generation of pollutants from the source, reduce or eliminate the harm of pollutants to human health and the environment, and continuously pursue the harmony among economic, social and environmental benefits.

晨鳴紙業著力提升制漿技術的綠色創新能 力,從源頭削減污染物的產生,減輕或消除 污染物對人體健康和環境的危害,不斷追 求經濟效益、社會效益和環保效益相統一。

Key performance 關鍵績效

• The Company's pulping workshop will take further measures to reduce the generation of green mud and waste mineral oil, and implement tiered utilization of lubricating oil to reduce pollutant emissions.

公司制漿車間將進一步採取措施,降低緣泥和廢礦物油的產生,對潤滑油實行梯次利用,減少污染排放量。

• As the end of the report period, the Company has invested a total of RMB 501 million to treat exhaust gases. The advanced technologies for desulfurization, denitrification and dust removal have been adopted and successfully reduced the smoke emissions from its own power plants to about half of the national emission standards.

截至報告期末,公司累計投入5.01億元治理廢氣,其中採用的先進脫硫、脫硝、除塵技術成功將自備電廠煙氣排放量降低至國家排 放標準的50%左右。

Pollution Prevention and Control 污染防治

Waste disposal 廢棄物處理

Hazardous wastes: The hazardous wastes generated by the Company include laboratory waste liquids, waste machine oil, waste packaging, etc. The Company sets up temporary storage of hazardous wastes and regularly invites bids to entrust third-party institutions with treatment qualifications to treat them, and declares the disposal plan and status on the hazardous solid waste platform.

危險廢棄物:公司的危險廢棄物包括化驗室廢液、廢機油、廢包裝物等。公司設置危廢暫存庫,定期招標委託具有處理資質的協力廠商機 構處理,並在危固廢平台上申報處置計畫及處置情況。

General wastes: The general wastes generated by the Company include sludge, white mud, lime slag, fly ash, bottom ash, production waste, etc. The Company sets up temporary storage of solid wastes, builds a solid waste management ledger, fully recycles and reuses valuable general wastes, and entrusts the sanitation group to treat the wastes that cannot be reused.

一般廢棄物:公司的一般廢棄物包括污泥、白泥、石灰渣、飛灰、底灰及生產垃圾等。公司建立固廢暫存場所,搭建固廢管理台帳,充分回收再 利用有價值的一般廢棄物,無法再次利用的委託環衛集團處理。

Exhaust gas treatment 廢氣處理

Desulfurization, denitrification and dust removal: The sources of exhaust gases from the Company include boilers in its own power plants, chemical pulping, alkali production and lime kiln exhaust gases. The Company adopts technologies such as "selective non-catalytic reduction" and "limestone-gypsum method" to denitrify and desulfurize the exhaust gases, and adopts advanced technology such as electrostatic and bag hybrid method to collect dust, which can reduce 4,600 tons of sulphur dioxide and 2,600 tons of nitrogen oxides annually.

脫硫脫硝除塵:公司廢氣來源包括自備電廠鍋爐、化學漿制堿、石灰窯廢氣。公司採用「選 擇性非催化還原法」和「石灰石-石膏法」等技術對廢氣進行脫硝脫硫,採用電、袋結合等先 進工藝除塵,年減排二氧化硫4,600噸,年減排氮氧化物2,600噸。

Fully enclosed coal silo: The Company has built a spherical enclosed coal silo with a capacity of 140,000 tons of coal for fully enclosed management of the coal yard of the thermal power plant, and imported spraying devices are installed at key parts, supported by automatic loading and unloading facilities, to effectively avoid atmospheric dust.

全封閉煤倉:公司建設了容量為14萬噸煤的球型封閉煤倉,全封閉管理熱電廠煤場,在關鍵 部位安裝進口噴霧裝置,配套自動裝卸、上料設施,有效避免大氣揚塵。

Treatment of odours from anaerobiosis: The Company adopts imported reversely hung membranes and glass fibre reinforced plastic to enclose and collect the odours generated during the wastewater treatment of the mid-stage effluent anaerobic system and discharge them into the biological deodorization facility. It also responsibly encloses and deodorizes the original primary sedimentation tanks, water collection wells, etc. to remove the impact of odours on the surrounding environment.

厭氧氣味處理:公司採用進口反吊膜、玻璃鋼等,封閉收集中段水厭氧系統廢水處理過程中產生的臭氣,排入生物除臭設施,並負責任 地對原有初沉池、集水井等地進行封閉除臭,去除氣味對周圍環境的影響。

Indicators (as o	f the end of Decemb	oer 2022) 指標數據	(截至20
NOx emissions: 3,162 Tons	SOx emissions: 238 Tons	PM emissions: 90 Tons	Non- emis
氮氧化物排放量 3,162 噸	硫氧化物排放量 238噸	顆粒物排放量 90 噸	無害 961
Hazardous waste emissions: 436.933 Tons	intensity:	waste emissions s/RMB 10,000 reven	ue
有害廢棄物排放量 436.933噸	有害廢棄物 0.0001		





▲ Desulfurization, Denitrification and Dust Removal 脫硫脫硝除應



▲ Fully Enclosed Coal Silo 全封閉煤倉

)22年12月末)

-hazardous waste ssions:961,841.06 Tons

廢棄物排放量 1,841.06噸

Non-hazardous waste emissions intensity:0.30 Tons/RMB 10,000 revenue

無害廢棄物排放密度 0.30 喃/萬元營收

Total product packaging materials : 2.370 Tons

產品包裝材料總量

2,370噸

Intensity of total product packaging materials:0.0007 Tons/RMB 10,000 revenue

產品包裝材料總量密度

0.0007 噸/萬元營收

Enhance Resource Recycling and Utilization 加強資源再生與利用

Adhering to the principle of reduction, reuse and recycling, the Company implements the forest-pulp-paper integration, explores new ways of comprehensive utilization of resources and new modes of industrial recycling development, and has built an "ecological chain" of three circular economies, "resources-products-renewable resources". It also continuously improves the utilization rate of resources through technological innovation and management innovation in all aspects of production and operation to create a green, clean and low-carbon production system and promotes the development of the Company's green circular economy.

公司始終秉承減量化、再利用、再循環的原 則,實施林漿紙一體化,探索資源綜合利用 新途徑、產業循環發展新模式,構築了「資 源-產品-再生資源」三大循環經濟「生態 鏈」,在生產、經營各個環節中通過技術創 新和管理創新不斷提高資源利用率,打造 綠色、清潔、低碳型生產體系,推動公司綠 色循環經濟發展。

Key performance 關鍵績效

• In 2022, the Company harvested an area of **13,000** mu raw material eucalyptus forest with a yield of 8 tons per mu; in 2023, the company plans to harvest an area of **15,000** mu with a yield of **8** tons per mu; and in around 2035, the Company plans to gradually harvest **380,000** mu of wetland pine woodland with an expected yield of **10** tons per mu. This will effectively guarantee the Company's raw material supply and help fill the industry's raw material gap in the long term.

2022年,公司原料林採伐桉樹面積1.3萬畝,畝產8噸;2023年,公司計畫採伐面積1.5萬畝,畝產8噸;2035年左右,公司計畫將逐步 對38萬畝濕地松林地進行採伐,預計產量10噸/畝,有效保障公司原料供應安全,長期有助於填補行業原料缺口。

 The Company has a total of 435,000 mu of woodlands eligible for carbon-sink forestry development, amounting to an annual average carbon sink of approximately 152,400 tons of CO.e.

公司符合林業碳匯開發的林地面積共有43.5萬畝,合計年均碳匯量約為15.24萬噸CO.e。

"Forest-paper-regenerated fibre" circular chain 「林-紙-再生纖維」循環鏈

From "tree" to "paper", the Company has steadfastly taken the road of "forest-pulp-paper integration" development, taking the initiative to assume the responsibility of reforestation, providing an important guarantee for the safety of raw materials for papermaking, forming a new industrial pattern of "papermaking and forest complementing each other", and promoting the sustainable development of the Company.

從「一棵樹」到「一張紙」,公司堅定不移走「林漿紙一體化」發展道路,將林、漿、 紙三個環節相結合,主動擔負起造林責任,為造紙原料安全提供重要保障,形成 了「以林養紙、以紙促林、林紙結合」的產業新格局,推進公司可持續發展。



Forest-pulp-paper Integration 「林漿紙一體化」

The Company set up a forestry company in 2005 and invested to build more than 700,000 mu of raw material forest bases in Guangdong, Hubei, Jiangxi and other subsidiary locations, integrating seedling cultivation, forestation and timber development. A management mechanism of forestation at all levels has been established to plant trees in a scientific way. Multiple measures have been taken to cultivate high-yield forestry, improve forest coverage, alleviate soil erosion and ecological environment deterioration, and drive the ecological and industrialized development of local forestry in order to promote common prosperity for local residents.

公司于2005年組建林業公司,在廣東、湖北、江西等子公司所在地投入、 建設原料林基地70多萬畝,集苗木培育、營林生產和木材開發於一體。公 司逐步建立健全各級營林管理機制,植樹造林、科學營林,多措並舉培育 高產林業,提高森林覆蓋率,緩解水土流失和生態環境惡化問題,同時促 進當地林業生態化、產業化發展,帶動當地居民共同富裕。

Facing the severe situation that over 80% of China's wood pulp is imported, the Company's raw material forest is the guarantee of the machine-made paper capacity and self-made wood pulp capacity. The Company owns three large-scale pulp mills in Zhanjiang, Huanggang and Shouguang, whilst there are only five large-scale pulp mills throughout China. With a self-made pulp output of 430 tons and an industry-leading self-sufficiency rate of wood pulp, the Company has realized the near balance between pulp and paper production capacity, becoming one of the papermakers with wood pulp self-sufficiency in China and leading the development direction of the industry.



面臨我國木漿對外依存度超過80%的嚴峻 形勢,公司原料林是機制紙產能、自製木漿 產能的保障。公司擁有湛江、黃岡、壽光三大 漿廠,佔據國內五大漿廠中的半壁江山。公 司自製漿產量達430噸,木漿自給率保持行 業領先,實現了制漿與造紙產能基本平衡, 成為全國木漿自產自足的造紙企業之一,引 領了行業發展方向。



▲ Chenming Group's employees checking the growth of raw material forest in the field 晨鳴員工正在實地查看原料林長勢



Current status of woodlands 林地現狀

Key performance 關鍵績效

- Woodland area: 736,800 mu (on Certificate of Forest and Woodland Tenure Right) 林地面積 73.68萬畝(林權證面積)
- Percent of woodland area certified as sustainable:96% 經可持續認證的林地面積占比 96%
- Amount invested in woodland management: RMB 1.650 Million 林地管理投入金額 165,000萬元
- Carbon emissions absorbed by reserve forests:146.88 Tons of CO2 equivalent 儲備林吸收的碳排放 146.88噸二氧化碳當量

"Coal-electricity-building materials" circular chain 「煤-電-建材」循環鏈

The Company makes comprehensive use of the wastes generated by the high temperature combustion of thermal power plants. Grey powdered coal ash and cinders are used to make cement, gypsum board and other building materials, which are then supplied to cement plants and new-type building materials plants, turning waste into treasure, coordinating economic and social development and ecological environmental protection, and promoting sustainable development.

公司綜合利用熱電廠高溫燃燒後所產生的廢棄物,將灰色粉末狀的煤灰及煤渣 製成水泥、石膏板等建築材料,供給水泥廠和新型建材廠,變廢為寶,統籌經濟 社會發展與生態環境保護,促進可持續發展。



"Papermaking waste-fertilizer making and power generation" circular chain 「造紙廢棄物-制肥、發電」循環鏈

The Company turns the process "wastes" generated in each step of the production into effective resources by treating sludge, biogas, industrial wastes and other wastes from the papermaking process through advanced technological means, and using them for crop fertilization or biogas power generation, thus optimizing and upgrading the energy structure and strengthening ecological and environmental management.

公司將生產各個環節中產生的過程「廢物」均轉化為有效資源,通過先進技術科 技手段處理生產過程中的造紙污泥、沼氣、工業垃圾等廢棄物,用於農作物肥料 或沼氣發電過程,優化升級能源結構,加強生態環境治理。

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「造紙廢棄物-制肥、發電」循環鏈

Sludge from papermaking 造紙污泥

Biogas 沼氣

The sludge is used to raise earthworms to produce vermicompost, a high-value bio-organic fertilizer; after harmless treatment of the sludge, it can be used to produce special compound fertilizers suitable for different crops, helping improve agricultural quality and efficiency.

公司利用污泥養殖蚯蚓,生產高價值 的蚯蚓糞生物有機肥;將造紙污泥無 害化處理後,生產適合於不同農作物 的專用複合肥,助力農業提質增效。

The biogas generated during the anaerobic treatment of mid-stage effluent is recycled and used for desulfurization and power generation. The maximum daily power generation capacity can reach 50,000 kWh, while the hydrogen sulphide concentration is significantly reduced from 20,000 ppm to 100 ppm.

公司將中段水厭氧處理過程中產生的 沼氣回收再利用,沼氣用於脫硫發電, 日最高發電量達到50,000千瓦時,同 時硫化氫濃度由20,000ppm大幅降 低到100ppm。

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"Papermaking waste-fertilizer making and power generation" circular chain

Industrial wastes 工業垃圾

The Company invested more than RMB 300 million to build a 65 MW biomass gasifier and a circulating fluidized bed incinerator with a treatment efficiency of 130 tons/hour, and a 12 MW single-extraction condensing steam turbine genset is equipped to digest industrial residues and supply heat and power to promote energy transformation.

公司投資3億多元建設65兆瓦生物質 氣化爐,和處理效率為130噸/小時的 循環硫化床垃圾焚燒爐,並配套12兆 瓦單抽凝汽式汽輪發電機組,消化工 業廢渣並供熱發電,推動能源轉型。



Keep an Eye on Climate Change Trends 關注氣候變化趨勢

In order to actively responds to the "carbon dioxide peaking and carbon neutrality" goals, the Company has established a special energy-saving management organization and set up full-time energy statistics management positions to promote energy saving and emission reduction covering all aspects, all employees and all processes. We are committed to building a green, clean, low-carbon production system, and adding new momentum to our green development.

公司積極響應「雙碳」政策,成立專門的節 能管理機構,設置專職能源統計管理崗位, 推動實施全面、全員、全過程的節能減排工 作,打造綠色、清潔、低碳型生產體系,增添 綠色發展新動能。

CERTIFICATE E 能源管理体系认证证书 证书编号: COM2 放证明 山东晨鸣纸业集团股份有限公司 此一社会信用代码: 813780006131899860 公司: 1.8.8.8.8.8.8.5.6.0.8.185.8 (其他秘乐共同有成的称一管理体系符合 GB/T 23331-2020/ISO 50001:2018 RB/T 118-2014 履差的双圈 轻涂纸、绸版纸、白卡纸、股版纸、生活纸、种电复印 低的生产所涉及纳旅游管理活动 我王的各场行成以信范围无例? 四部外的合理 第三部件 A DA O A FRI 生教目期: 2022年43月22日 作教期期: 2025年43月23日 Thurs. R - IQNet -**沙图科艾队证集团**

▲ The Company's Energy Management System Certificate 公司已取得能源管理體系認證

Emission reduction plan 减排計畫

• The Company plans to reduce its energy consumption by 1% in FY2023 by regulating its energy operation mode.

Key performance 關鍵績效

公司計畫通過調節能源運行模式,將2023年度的能源消耗量降低1%。

• The Company plans to compare and analyse the consumption of coal and electricity on a **daily** basis, gradually transition to coal with higher calorific value to reduce the consumption of coal, conduct photovoltaic power generation projects, and increase the amount of purchased electricity.

公司計畫每天對比分析煤炭、電力等能源消耗量,逐步採購熱值較高的 煤種,降低煤炭消耗量,建設光伏發電項目,加大外購電力。



performance and clearing.

缺情況,及時調度,確保完成履約清繳工作。

Management of Carbon Emissions 碳排放管理 Top layer 頂層設計 The Safety and Environment Department is responsible for managing carbon emission performance, preparing a plant-wide carbon performance program, forecasting annual carbon emissions and allowances according to annual power generation and heat supply plans, and scheduling carbon allowance surplus and shortage in a timely manner to ensure completion of 公司由安環部負責碳排放履約管理,編制全廠碳履約方案,根據年度發電、供熱計書,預測全年碳排放量及配額情況,並針對碳配額盈 Internal management 內部管理 The Company measures the carbon content of incoming coal samples every month to ensure accurate accounting of the carbon content per unit calorific value; sets up carbon emission management specialist positions, responsible for daily carbon resource management; implements carbon emission trading, buys and sells allowances during trading hours to 公司每月實測入爐煤取樣的碳元素含量,保障熱值含碳量核算準確;設置碳排放管理專員崗位,負責日常碳資源管理;實施碳排放交 External assistance 外部協助 The Company seeks a third-party professional carbon management agency to assist the Company in managing its carbon assets, collating carbon emission data, and accounting for carbon emissions and carbon verification, etc. An effective 公司與合作的協力廠商專業碳管理機構對接,協助公司進行碳資產管理工作、整理碳排放資料、核算碳排放量及碳核查工作等,並根據

ensure timely completion of performance.

易,在交易時間內買賣配額,保障按時完成履約。

emission reduction plan has been formulated based on greenhouse gas emissions.

溫室氣體排放情況制定了有效的減排計畫。



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Energy Management Measures 能源管理措施

Analysis of energy consumption 能耗分析

Based on the output of different products, the comparative analysis of the energy consumption of coal, electricity and heat is conducted regularly for each process of the whole plant, and compares it with the industrial energy consumption indicators to identify the causes of energy consumption and strictly control the energy consumption of each process.

公司依據不同產品產量,定期對全廠各 工序的煤、電、熱等能源消耗量實施對比 分析,並與同行業能耗指標進行對比,探 究耗能原因,嚴格控制各工序能耗。

Equipment replacement 设备更换

To replace old growth drivers with new ones, high energy-consuming equipment is replaced with variable-frequency energy-saving motors with high efficiency to reduce coal consumption for power generation and heating and increase the power supply and heat supply under the same conditions.

公司嚴格落實新舊動能轉換,淘汰高耗 能設備,更換高效變頻節能電機,降低發 電煤耗、供熱煤耗,增加同等條件下的供 電量和供熱量。

Control of energy consumption 能耗控制

By lowering the fan frequency, the drying efficiency of the papermaking machine dryer section at zero position is improved to save the power consumption; and by adjusting the lip plate flow, retention rate and line pressure, the post-press moisture is reduced to save the steam consumption at the dryer section.

公司適當降低風機頻率,提高紙機烘乾 部零位乾燥效率,節約電耗;通過調整唇 板流量、留著率及線壓力等措施,降低出 壓榨水份,減少烘乾部蒸汽用量。





The Company vigorously develops clean energy and energy recycling projects, develops and utilizes renewable energy, and contributes to energy conservation and emission reduction. Among them, Zhanjiang Chenming has built a 24 MW rooftop photovoltaic system and leased 1,200 mu of fish ponds to build a 100 MW photovoltaic system, achieving an annual reduction of carbon emissions of about 68,000 tons and a combined annual revenue of about RMB 37 million generated from preferential electricity tariff and carbon emission targets.

公司大力發展清潔能源和能源循環利用項目,開發利用可再生能源,助力節能減排。其中,湛 江晨鳴屋頂光伏建設規模達24兆瓦,並租用1,200畝魚塘建設100兆瓦光伏,實現年減少碳排 放指標約6.8萬噸,電價優惠和碳排放指標價值綜合年收益約3,700萬元。



Daily energy saving 日常節能



The daily energy-saving management is enhanced by formulating management systems for energy-consuming equipment such as air conditioners, power switches, plant lighting and winter heating and tracking the energy consumption.

公司加強日常節能管理,針對空調溫度、 電源開關、廠區照明、冬季採暖等耗能設 備制定管理制度,跟蹤落實能耗情況。

Indicators (as of the end of December 2022) 指標數據(截至2022年12月末)

(Greenhouse gas emissions* 溫室氣體排放*)

Total greenhouse gas emissions: 6,492,710.15 Tons of CO, equivalent 溫室氣體排放總量 6,492,710.15 噸二氧化碳當量

Scope 1 greenhouse gas emissions: 4,486,204.37 Tons of CO, equivalent 範圍一溫室氣體排放量 4,486,204.37 噸二氧化碳當量

Greenhouse gas emissions intensity: 2.23 Tons of CO, equivalent/RMB 10,000 revenue 溫室氣體排放密度 2.23 噸二氧化碳當量/萬元營收

Scope 2 greenhouse gas emissions: 2,006,505.78 Tons of CO, equivalent 範圍二溫室氣體排放量 2,006,505.78 噸二氧化碳當量



Self-made energy: 5,546,534.80 MWh

*Note:The calculation refers to the Greenhouse Gas Protocol. 注:參考溫室氣體盤查協議書。

(Energy consumption 能源消耗

Natural gas use: (Purchased) electricity use: 744,200.90 MWh 天然氣使用量 744,200.90兆瓦時

(外購)電力使用量 3,518,333.832兆瓦時

Acetylene:

0 MWh

0兆瓦時

乙炔

Kerosene use: 0 MWh 煤油使用量 0兆瓦時

3,518,333.832 MWh

Diesel usage: 23,815.61 MWh 柴油使用量 23,815.61兆瓦時

Liquefied petroleum gas:

1.796 MWh

液化石油氣

1.796兆瓦時

Gasoline use: 62,140.86 MWh 汽油使用量

62,140.86兆瓦時

Total energy consumption: 15,331,063.002 MWh 能源消耗總量 15,331,063.002兆瓦時 Energy consumption 4.79 MWh/RMB 10,0 能源消耗密度 4.79兆瓦時/萬元

Characteristical t	\frown	
Steam generated: 3,267,380.00 MWh	(\tilde{O})	Self-generated power: 1,602,864.8 MWh
生成蒸汽		自行發電
3,267,380.00 兆瓦時		1,602,864.8兆瓦時
Biodiesel:	()	Liquid Biofuels (black liquor):
48,153.00 MWh	0	5,387,884.00 MWh
生物柴油		液體生物燃料(黑液)
48,153.00兆瓦時		5,387,884.00兆瓦時
nergy consumption intensity:		Percent of renewable energy use:
.79 MWh/RMB 10,000 revenue		35.46%
·源消耗密度		可再生能源使用占比
1.79兆瓦時/萬元營收		35.46%

Our Commitment
to Quality02「晨」心智造佳品

Adhering to the philosophy of "innovation is our cornerstone, quality is our life, pragmatism is our purpose, and efficiency is our goal", Chenming Group is committed to improving product innovation by increasing investment in research and development and building an innovation platform, continuously optimizing product quality, practicing responsible procurement, and providing a quality experience for customers.

秉承「創新是根本、質量是生命、務實是宗旨、效益是目標」的理念,晨鳴紙業致力 於通過加大研發投入和搭建創新平台來提高產品創新能力,不斷優化產品質量 踐行負責任採購,為客戶提供優質體驗。



Make Greater Efforts in Innovation and R&D 鞏固創新研發基本面

Technological innovation is the only way for an enterprise to maintain its long-term competitiveness. Based on the ecological closed loop of innovation and R&D and the industry-university-research cooperation platform, Chenming Group conducts technological innovation and product development, uses the "forest-pulp-paper integration" as an entry point to promote the integration of industrial chains and the coordinated development of the regional economy, and actively responds to the Belt and Road initiative.

技術創新是企業保持長久競爭力的必由之 路,晨鳴紙業以創新研發生態閉環和產學研 合作平台為基礎,進行技術創新和產品研 發,以「林漿紙一體化」為切入點,推動產業 鏈融合和區域經濟協調發展,積極響應「--帶一路」倡議。

Create an Ecological Closed Loop of Innovation and R&D 打造創新研發生態閉環

■ The innovation and R&D system 創新研發體系

A number of technological innovation management systems have been formulated, including the "Management System for New Product Development", the "Incentives for New Product Development" and the "Management System for Implementing New Technology", and a "Group-subsidiary-plant" three-tier R&D system has been formed.

公司制定《新產品開發管理制度》《新產品開發獎勵實施辦法》《新技術應用管理制度》等在內的多項技術創新管理制度,建立由「集團、子公司 和工廠」構成的三級研發體系。

모모

The Three-tier R&D System 三級研發機構

確認研發項目



First-tier R&D unit: technology centre of the Group 一級研發機構:集團技術中心

- To set up the strategic objectives of the Group's technology development and quality management 負責集團技術研發和質量管制戰略 目標制定
- To confirm R&D projects against the benchmark and competing factories in terms of technology and quality 負責與標杆、競廠技術質量情況對標
- To review, approve, organize and coordinate product development and application
- 負責審核、批准、組織、協調產品研發 及應用





- 對標找差距、補短板

- - 具體實施



[▲] Structure of the Three-tier R&D System 三級研發機構架構圖

Continuous investment in innovation and R&D 持續創新研發投入

With innovation as the core in our development, the Company has built a group-level R&D platform to provide continuous support for technology development and product innovation.

公司堅持創新在企業發展中的核心地位,統籌建設集團研發平台,為技術研發和產品創新提供源源不斷的支援。



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Continuously Increase the Investment in R&D 持續加大研發投入力度

Funding 資金

During the report period, the Company invested RMB 1,290,280,000 in R&D, taking up 3.75% of the operating revenue. 報告期內公司研發投入為129,028萬元,研發投入占營業收入的比例為4.03%。

Equipment 設備

By investing more than RMB 39 billion to introduce the most advanced papermaking equipment, the Company has built the largest thermal paper production line in China, the world-class high-grade culture paper production line, the household paper production line with the largest single-machine capacity in the world and the copperplate paper production line with the widest paper width, the fastest speed and the most advanced equipment. We have introduced more than 140 sets of pulp and paper research and experimental instruments and equipment, and more than 200 sets of internationally advanced testing instruments such as roughness meters, which can fully conduct wet-end laboratory tests and product quality tests, providing visual data guidance for product development, trial production and quality improvement.

公司先後投資390多億引進最先進的造紙設備,建成國內最大的熱敏紙生產線、國際一流的高檔文化紙生產線、世界上單機產 能最大的生活紙生產線和紙幅最寬、車速最快、裝備水平最高的銅版紙生產線。累計引進制漿造紙研究實驗儀器和設備140多 台,粗糙度儀等國際先進的檢測儀器200多台,可全面進行濕部化驗和產品質量檢測,為產品開發試產和質量改進提供視覺化 資料引導。

Platform 平台

The Company has R&D platforms both at national and provincial level. The national R&D platform consists of in-house technology centre, post-doctoral research workstation and CNAS-certified laboratory, and the provincial R&D platform consists of Shandong Province Pulp and Paper Engineering Laboratory and Guangdong Province Pulp and Paper Manufacturing Engineering Technology Research Centre.

公司擁有國家級和省級兩類研發平台,國家級研發平台包括企業技術中心、博士後科研工作站和CNAS實驗室,省級研發平台 包括山東省制漿造紙工程實驗室和廣東省漿紙製造工程技術研究中心。

People 人才

The Company has formed a three-level talent pool consisting of 22 senior experts and PhDs in the expert committee, 6 PhDs introduced successively by the post-doctoral workstation, and 1,370 regular R&D staff.

公司內部形成三個層次的人才梯隊,分別是專家委員會中的22名高級專家和博士、以博士後工作站為橋樑先後引進的6名博 士和規模達到1,370人的常規科研開發人員。



▲ The copperplate paper production line with the widest paper width, the fastest speed and the most advanced equipment 紙幅最寬、車速最快、裝備水平最高的銅版紙生產線

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Talents at three levels 三層次人才梯隊

Senior experts and PhDs (22): An expert committee has been set up to invite experts in the industry to carry out technical exchange and sharing and technical guidance.

高級專家和博士22人

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成立專家委員會,邀請業內專家開展技術交流和技術指導。

and recycled fibre pulping.

博士6人

等方面開展前瞻性研究。

R&D staff (1,370): Based on scientific research projects, technical research groups are formed to carry out technical research in the fields of chemical pulp, high-yield mechanical pulp, high-grade coated paper, high-grade culture paper, etc.

科研開發人員1,370人

以科研項目為依託,組成技術攻關小組,針對化學漿、高得率機械漿、高檔塗布紙、高檔文化紙等領 域開展技術攻關。

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▲ The world-class high-grade culture paper production line 國際一流的高檔文化紙生產線

PhDs (6): Six PhDs have been introduced successively as technological R&D leaders to conduct forward-looking research mainly on wet-end chemistry, high-yield clean pulping,

先後引進6名博士作為技術研發帶頭人,主要圍繞造紙濕部化學、高得率清潔制漿、再生纖維制漿

Case study ▲ Case 案例

Experts promote forward-looking research and development . 專家智慧推動前瞻研發

Ji Xingxiang, Professor of Department of Light Industry, Qilu University of Technology, specially-invited expert of Shandong Chenming Paper Holdings Ltd, Industry Leader of Traditional Industry Innovation Category in Weifang 2017.

吉興香,齊魯工業大學輕工學部教授,山東晨鳴紙業集團股份有限公司特 脾專家,2017年度傳統產業創新類 首都產業領軍人才。

Main honours: recognized as the National High-Level Talents Special Support Plan leading talent in technology innovation, awarded one National Science and Technology Progress Award and granted two national invention patents, and guided and trained a large number of professional technicians.



主要榮譽:獲批國家萬人計畫科技創新領軍人才、獲得國家科技進步獎1 項、獲得國家發明專利授權2項,指導並培養大批專業技術人員。

▲ Professor Ji Xingxiang conducts research 吉興香教授開展科研活動

Project achievements: Led the "Key Technologies and Industrialization of Green Preparation and High-value Utilization of High-performance Wood Chemical Pulp" project which won the National Science and Technology Progress Second Prize, granted two invention patents, namely "A Wood Chip Pre-treatment Process for Poplar-based Chemi-mechanical Pulping and its Application" and "A Bleaching Process for Poplar-based Biological Chemi-mechanical Pulping".

項目成果:主持「高性能木材化學漿綠色製備與高值利用關鍵技術及產業化」項目獲國家科技進步二等獎,獲得「一種楊木化學機械 法制漿的木片預處理工藝及其應用」和「一種楊木生物化機漿漂白工藝」兩項發明專利授權。



A rigorous innovation and R&D process 嚴謹的創新研發流程

A rigorous and well-developed innovation and R&D process is established to embed accountability into each step and process and feeding back results of each process in sheets, track and manage the whole process "from market research to sample collection and testing, benefit measurement, development plan formulation, trial production and test printing, and mass production". At the same time, the PDCA cycle has been introduced as a management means to optimize the R&D process.

公司建立嚴謹完善的創新研發流程,實現分步驟流程落實到責任部門及各流程結果反饋到表單的工作機制,達成對「市場調研、搜集樣品及檢 測分析、效益測算、開發方案制定、試產和試印、批量生產」全流程的跟蹤和管理,同時引入PDCA循環管理手段優化研發流程。

Achievements of innovation and R&D 創新研發成果

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Technological Innovation Achievements

Rich product lines 產品結構豐富

Continuous technological innovation and product development that cater to customer needs have made the Company's product lines increasingly rich, the products have covered 5 categories and 7 series of more than 200 varieties , providing the largest and most complete range of products in the industry. During the report period, new products were developed and produced, including carbonless body paper, beige cardboard for books, cardboard for liquid food packaging and body paper for gold and silver cardboards. The Company will continue to enrich the product lines.

貼近客戶需求的持續技術創新和產品研發活動使得公司產品線日益豐富,目前產品涵蓋5大類7個系列200多個品種,已成為行業內產 品品種最多和最齊全的企業。報告期內積極開發生產無碳原紙、米黃書卡、液包紙、金銀卡原紙等新產品,持續豐富產品結構。

National recognition 國家級認可

The poplar coated white cardboard, XINGZHILIAN tissue paper and XINGZHILIAN toilet paper developed by the Company were awarded the "Green Design Product" by the Ministry of Industry and Information Technology.

自主研發的白楊塗布白卡紙、星之戀紙巾紙和星之戀衛生紙三大產品被工業和信息化部評為「綠色設計產品」。

Patent protection 專利保護

The invention patents obtained by the Company mainly relate to new pulping and papermaking processes, papermaking chemicals, energy saving and environmental protection, the utility model patents mainly relate to new papermaking equipment and high-end process equipment transformation, and the design patents mainly relate to the household paper.

公司獲得的發明專利主要圍繞制漿造紙新工藝、造紙化學品和節能環保等方面,實用新型專利主要涉及造紙新設備和高端工藝設備 改造,外觀設計專利主要圍繞生活紙。

High-tech companies 高新技術企業

During the report period, the Company and its subsidiaries Zhanjiang Chenming, Shouguang Meilun, Jiangxi Chenming, Jilin Chenming, Huanggang Chenming and Wuhan Chenming were named as high-tech companies, and were also included in the list of leading companies in science and technology in Shandong Province. 報告期內公司及旗下湛江晨鳴、壽光美倫、江西晨鳴、吉林晨鳴、黃岡晨鳴、武漢晨鳴均被評為高新技術企業,同時被納入山東省科技 領軍企業名單。

Provincial innovation awards 省級創新獎勵

The "high bulk book paper" and "high whiteness thermal cash register paper" won the 2022 Shandong Province Technology Innovation Award outstanding new products, and the technology development of ultra-high bulk copperplate paper for children's picture books was listed as new technology, new achievement and new model promoted at the provincial level.

「高松厚度簿本紙」「高白熱敏收銀紙」獲得2022年山東省技術創新獎優秀新產品,「超高松兒童畫冊專用銅版紙技術開發」被列為省級 重點推廣的新技術、新成果和新模式。

技術創新成果



Build an Industry-university-research Cooperation Platform 搭建產學研合作平台

Based on the post-doctoral workstation and the industry-university-research cooperation program, Chenming Group has built a systematic innovation cooperation platform to reserve high-quality talents and enhance its R&D strength.

晨鳴紙業以博士後工作站為載體,依託產學 研合作項目,構建系統化的創新合作平台, 儲備優質人才提升研發實力。

The post-doctoral workstation 博士後工作站

Six PhDs have been introduced to the post-doctoral workstation to carry out forward-looking research and actively participate in academic seminars to exchange scientific research results, which greatly enhances the independent innovation ability of the Company.

公司以博士後工作站為龍頭,先後引進6名博士進站開展前瞻性研究,積極參 加學術研討會交流科研成果,極大提升企業的自主創新能力。

博士后科研工作站 WORKING STATION FOR POSTDOCTORAL SCIENTIFIC RESEARCH APPROVED BY MINISTRY OF PERSONNEL P. R. CHINA

山东晨鸣纸业集团股份有限公司

▲ The Post-doctoral Workstation 博士後工作站



The industry-university-research cooperation program 產學研合作項目

> 木质素高效分离

Based on scientific research programs, the Company cooperates with Nanjing Forestry University, Qingdao University of Science & Technology, Tianjin University of Science & Technology, Nanjing Institute of Forestry and Chemistry and other universities and research institutes to develop high value-added pulp and paper products. At the same time, we have established the "Collaborative Innovation Centre for Cleaner Production and Refining of Light Industry Bio-based Products" with Qilu University of Technology, Shandong University and Shandong Papermaking Industry Research and Design Institute to maximize their comparative advantages and accelerate the transformation of scientific research results.

公司以科研項目為依託,和南京林業大學、青島科技大學、天津科技大學、南京林化所等院校及科研機構開展項目合作開發高附加值漿紙產 品,和齊魯工業大學、山東大學、山東省造紙工業研究設計院等聯合創立「輕工生物基產品清潔生產與煉製協同創新中心」,最大化利用合作雙 方的比較優勢加速科研成果的落地轉化。



 Postdoctoral fellow attending an academic forum 博士後參與學術論壇

Take Responsibility for the Industry 勇擔行業責任

Chenming Group takes "revitalizing the national papermaking industry" as its responsibility, and unswervingly takes the road of "invigorating and serving China through industry", actively participates in the formulation of industry standards, and promotes the high-quality development of the paper industry.

晨鳴紙業以「振興民族造紙工業」為己任,堅 定不移地走「實業興邦、產業報國」之路,積 極參與行業標準制定,助力造紙行業高質量 轉型。

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Participate in the formulation of industry standards 參加行業標準制定

The Company actively participates in the formulation of industry standards and contributes to the high-quality development of the papermaking industry. As of December 2022, the Company has participated in the formulation of a number of national and local standards, including "Newspaper", "Coated White Cardboard" and "Coated Art Printing Paper (Copperplate Paper)". It also participated in the drafting of the national standard for "Lightweight Printing Paper" during the report period.

公司積極投身行業標準制定,為造紙行業的高質量發展建言獻策。截止2022年12月,公司累計參與包括《新聞板》《塗布白板紙》《塗布美術印刷紙 (銅版紙)》等在內的多項國家和地方標準的制定,報告期內參與起草《輕型印刷紙》國家標準。

During the report period, the group standard "Green Factory Evaluation Specification for Papermaking Industry" formulated by Chenming Group as the main drafting unit was officially announced, which played a significant role in promoting the standardization of green factories in China's papermaking industry.

報告期內,晨鳴紙業作為主要起草單位制定的《造紙行業綠色工廠評價規範》團體標準正式公佈,對我國造紙行業綠色工廠的規範建設起到重 大推動作用。

Forest-pulp-paper」 integration 「林漿紙一體化」發展

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Centring on the road of "forest-pulp-paper integration", the Company has laid out its production bases in core target markets. So far, six production bases have been built in Shandong, Guangdong, Hubei, Jiangxi and Jilin, creating jobs for more than 20,000 local people, driving the synergistic development of the upstream and downstream industrial chains, optimizing the Company's industrial layout and promoting the coordinated development of the regional economy.

圍繞「林漿紙一體化」發展道路,公司將生產基地佈局在核心目標市場,目前在山東、廣東、湖北、江西、吉林等地建有6個生產基地,有效解決 當地2萬多人的就業問題,帶動上下游產業鏈協同發展,優化公司產業佈局的同時推動區域經濟協調發展。

I Actively responds to the Belt and Road initiative 積極響應「一帶一路」

With a global sales network, more than 30 branches have been set up in the United States, Germany, the Middle East and other countries and regions, selling products to more than 50 countries and regions in Asia, Europe, Africa and America. Our active response to the "Go Global" strategy has deepened the communication and cooperation between the Company and the countries along the "Belt and Road", allowing Chenming Group to enhance its international influence and contribute to transforming from "Made in China" to "Created in China".

公司已經逐步建立起立足本土輻射全球的銷售網絡,在美國、德國、中東等國家和地區建立30餘個分支機構,產品銷往亞洲、歐洲、非洲、美洲 等50多個國家和地區。積極「走出去」的戰略深化了公司和「一帶一路」沿線國家的交流和合作,提升國際影響力的同時,也為「中國製造和中 國創造世界名片的打造」貢獻晨鳴力量。

Guarantee Product Quality 捍衛產品質量生命線

Adhering to the quality policy of "understanding customer needs, implementing quality standards, doing it right once, and ensuring customer satisfaction", Chenming Group makes unremitting efforts to improve product quality and service quality.

Product Quality Management System 產品質量管制體系

Product quality management policies 產品質量管制制度

The "Quality Management System", the "Quality Assessment Management Measures", the "Group Management Policy for Production Supervision and Scheduling", the "Regulations on Assessment and Management of Finished Paper First Grade Rate of Subsidiaries" and other systems have been formulated to regulate the quality management during the production process.

公司制定《質量管制制度》《質量考核管理辦法》《集團生產監督與調度管理制度》《子公司成紙一等品率考核管理規定》等制度,規範生產過程中的質量流程管理。

晨鳴紙業堅持「理解客戶需求、貫徹質量標 準、做到一次就好、力保客戶滿意」的質量方 針,鍥而不捨改善產品質量,精益求精提高 服務品質。

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Product quality management measures 產品質量管制措施

Raw material warehousing 原材料入库

A three-level joint review mechanism for suppliers and the "Material Acceptance Management Measures" are established to ensure the quality of raw materials.

建立供應商三級聯合審議機制,制定《物資驗收管理辦法》確保原材料質量。

● Define the direction of R&D 確定研發方向

Technology R&D expert committee, experts in the industry and the in-house researchers will conduct technical evaluation to determine the goal of new product development in conjunction with the current status of product R&D and ensure the feasibility of product R&D design.

技術研發專家委員會、行業內專家和公司科研人員會進行技術評估,結合產品研發現狀確定新產品開發目標,確保產品研發設計的可行性。

- R&D process 研發過程

During the R&D process, six indicators needs to be paid close attention to and controlled: new product output rate, number of new product developed, new product development cycle, R&D investment to sales revenue ratio, benefits from preferred auxiliary raw materials and cumulative number of patents granted.

研發過程中需要關注並控制新產品產值率、新產品開發數量、新產品開發週期、研發投入占銷售收入比率、優選輔原料增效和累計授權專利數量六項指標。

- Production 產品生產

Laboratory trials and pilot production before mass production.

批量生產前進行實驗室小試和上機試產。

The Group monitors all running parameters of the papermaking machine in real time to ensure the implementation of standard parameters.

集團對紙機運行的所有參數進行即時監督,確保執行標準參數。

Refine the operation management by identifying the differences in production process and improving them through operation analysis meeting, centralized scheduling, whole-process control, professional team analysis and supervision.

精細化運營管理,通過經營分析會、集中調度、全程序控制、專業小組分析與督辦的方式找出生產過程中的差異並改進提升。

Tour inspection of the inspection team and on-site guidance of the expert team ensure stable production. 巡查小組巡迴檢查和專家小組現場指導確保穩定生產。

Quality inspection and monitoring 質量檢測和監控 ·

Online product sampling: The plants send the main products produced by each production line to the Quality Control Section of the Technical Centre for inspection every Friday, and the Quality Control Section of the Technical Centre also conducts monthly inspection of paper samples.

線上產品抽檢:工廠每週五將各生產線生產的主要產品寄送到技術中心品管科進行檢測,技術中心品管科也會對紙樣進行月度抽檢。

Sampling of products in warehouses: The Quality Control Section of the Technical Centre conducts sampling of products in the plant warehouses from time to time.

入庫產品抽檢:技術中心品管科不定期對工廠入庫產品抽查檢測。

Quality analysis meeting: Every month, the Sales Department will debrief on customer feedback on the product quality, and the technical and quality departments will make suggestions for product quality improvement.

Excellence Customer Service 卓越客戶服務

Upholding the marketing concept of "Integrity, Mutual Benefit and Better Future for All", the Company provides "face-to-face, point-to-point, professional" customer service solutions. Through building the customer service system and optimizing the customer service process, we strive to improve customer satisfaction.



質量分析會議:每月銷售部門會綜合客戶對產品質量的情況做出彙報,技術和質量部門提出產品質量改善建議。

公司秉持「誠信雙贏,共創未來」的營銷理 念,提供「全方位、面對面、點對點、專業化」 的客戶服務方案。通過客戶服務體系搭建和 客戶服務流程優化等措施,竭力提升客戶滿 意度。

Customer service system 客戶服務體系







Customer service management system 客戶服務管理制度

The "Customer Complaint Management System", the "Marketing Information Management System", the "Account File Management System" and other systems have been developed. The Company also carries out marketing and advertising in strict accordance with laws and regulations, complies with confidentiality regulations, and raises the awareness of confidentiality of sales and marketing information.

制定《客訴處理制度》《營銷信息管理制度》《銷售客戶檔案管理制度》等制度,嚴格按照法律法規開展營銷 及廣告宣傳,遵守保密規定,強化銷售和市場訊息保密意識。

Three-level scheduling mechanism 三級調度機制

The data such as shipment and repayment are retrieved on a daily basis at three levels - branch, management area and sales company - to ensure that each level keeps track of the progress of tasks in real time.

分公司、管理區、銷售公司三個層級每日逐級調取發貨、回款等資料,確保各層級即時掌握任務進度。

Four-level visit mechanism 四級走訪機制

First-level visit: The visit team is composed of marketing director, Quality Department, Technical Centre and production staff, and visits Class A users once a year.

一級走訪:由營銷總監、質量部門、技術中心及生產人員組成走訪組,針對A類用戶每年拜訪一次。

Second-level visit: Led by the marketing director or deputy director, the marketing company departments visit important users once a quarter.

二級走訪:營銷總監或副總監帶領,組織營銷公司各部門每季拜訪重要用戶一次。

Third-level visit: the general manager of the product company leads the branch managers to visit the general users once a month.

三級走訪:產品公司總經理帶領各分公司經理參與,每月拜訪一般用戶一次。

Fourth-level visit: the management district general manager or branch chief representative leads the business managers to visit the user groups in the district once or twice a month. 四級走訪:管理區區總或分公司首席代表帶領,組織業務經理參與,每月常規拜訪轄區的用戶群一至兩次。



不合規的產品。

Respond to customer complaints in a timely manner and solve customer problems

 The relevant salesman checks the situation on site within the specified time and form a preliminary solution (arrive within 3 hours if in the city where the after-sales service is located, 24 hours in gener-

業務經辦人在規定時間內到現場查看,形成初步處理方案(售後服務所在城市3小時到位,一般地區24

 Hierarchical problem solving: minor problems/obvious appearance quality problems should be solved on the spot; for problems that are difficult to define the responsibility, samples should be sent to the relevant subsidiary for testing and a solution be provided within five working days; and major problems or problems where the customer has not finished using and

分級問題處理:輕微問題/明顯外觀質量問題當場予以解決;難以界定責任的問題需要將樣品寄往子公 司檢測,五個工作日內給予解決;重大問題或客戶未使用完畢不能確定損失的問題處理時間不超過-

• If there is any problem with the Company's products, the salesman will conduct on-site inspection, send the defected paper sample, certificate of conformity and feedback card of quality problems to the quality inspection department of the Company, which will report the test results to the after-sale management section of the marketing department within 2 days. The non-compliant products will be recalled if any of the test results is abnormal.

如果公司產品有任何問題,業務員會進行現場視察,將存在質量的紙樣、合格證及質量問題反饋卡寄 送至公司質檢部門,質檢科在2日內把檢測結果反饋至營銷部售後管理科,若檢測結果有異常會召回

■ Improve customer satisfaction 提高客戶滿意度

Customer satisfaction survey is conducted every year in strict accordance with the "Customer Satisfaction Survey Procedures" to analyse the reasons for any change in customer satisfaction and report them to the Group President, the marketing director, the technical centre and the quality inspection department of each subsidiary. All departments will work together to continuously improve customer satisfaction.

公司每年嚴格按照《顧客滿意度調查程序》開展客戶滿意度調研,分析滿意度變化原因並報送集團總裁、營銷總監、技術中心和子公司質檢部 門,各部門協同配合持續提高客戶滿意度。

			Ke	у ре	rformance	關鍵績效
Cu	istomer Service (as of the end of Decembe	r 202	2) 客戶服務(截至2022年	■12月末	E)	
•	Number of products recalled for affecting safety and health of the human body:0	•	Customer satisfaction questionnaires sent out: 394	•		mer satisfaction recovered:354
	因影響人體安全與健康理由回收的產品數量 〇 件		發放客戶滿意度調查問卷 394件		有效回收客戶滿 354份	意度調查問卷
•	Customer satisfaction rate: 85.71%	•	Rate of customer complaints	solved:	99.2%	
	客戶滿意率 85.71 %		客戶投訴處理率 99.2%			

Performances of Product Quality Management 產品質量管制成效

■ Key technical indicators reach the national superior quality standard 關鍵技術指標達到國家優等品標準

The comprehensive product quality management system and strict product quality management process have greatly improved the product quality. The key indicators of the main products such as culture paper, copperplate paper and white cardboard have reached the national superior quality standard, and the key technical indicators remain at the leading level in the industry.

完善的產品質量管制制度和嚴謹的產品質量管制流程極大提高了產品質量,文化紙、銅版紙和白卡紙等主要產品的關鍵指標達到國家優等品 標準,關鍵技術指標保持業內領先水平。



Category 類型	Technical Indicator 技術指標	Unit 單位	National Superior Quality Standard 國家優等品標準	Company Standard 企業執行標準	Year 2022 2022年	Year 2021 2021年
Culture paper	Smoothness 平滑度	S	≥30	≥40	46/42	45/42
(high-grade offset paper) 文化紙	Longitudinal tensile strength 縱向抗張指數	Km/m	≥45.0	≥45.0	69.6	68.4
(高檔雙膠紙)	Printing surface strength 印刷表面強度	m/s	≥1.50	≥2.00	2.44/2.44	2.39/2.39
Copperplate paper (two-side copper- plate paper) 銅版紙 (雙面銅版紙)	Brightness 亮度	%	≪93.0	≪93.0	92.2/92.6	92.7/92.9
	Glossiness 光澤度	%	≥60	≥65	63/65	69/66
	Printing surface roughness 印刷表面粗糙度	μm	≤1.20	≤1.20	0.62/0.95	0.58/0.76
White cardboard (one-side coated white cardboard) 白卡紙 (單面塗布白卡紙)	Glossiness 光澤度	%	≥40	≥45	48	46
	Printing surface roughness 印刷表面粗糙度	μm	≤2.20	≤1.00	0.90	0.72
	Internal bond strength 內結合強度	J/m³	≥120	≥130	136	134

Comparative Analysis of Key Technical Indicators 關鍵技術指標對比分析

■ Quality system certification 通過質量體系認證

The Company took the lead in the industry in passing the ISO 9001 quality management system certification, ISO 14001 environmental management system certification and FSC Chain of Custody certification.

公司在全國同行業中率先通過ISO 9001質量管理體系認證、ISO 14001環境管理體系認證和FSC-COC國際森林體系認證。





Practice Responsible Sourcing 踐行負責任採購

Chenming Group is committed to building a long-term and stable team of suppliers and forming a strategic partnership to realize mutual benefit and harmonious development.

Management of Environmental and Social Risks along Supply Chain 供應鏈環境與社會風險管理

The Company attaches great importance to the stability of the supply chain. An "in stock, at port and in transit" hierarchical management system for raw materials is used to set different storage/transportation quantities to ensure the normal production and operation activities with minimum capital. The Company has reached a long-term strategic relationship with most of our suppliers who will adjust the supply quantity and supply method according to our production plan to ensure the stable supply of raw materials.

In specific time nodes such as holidays, flood season, rainy season and natural disasters, the Company will remind suppliers to develop early warning and emergency mechanism for guaranteeing raw material transportation.



晨鳴紙業致力於打造長期穩定的供應商隊 伍,形成互利共贏、和諧發展的戰略合作夥 伴關係。

公司高度重視供應鏈的穩定性,對於原材料 採取「在庫、在港、在途」分級管理制度,設置 不同的儲存/運輸量,佔用最少的資金保證 生產經營活動有序開展。公司和大部分的供 應商已經達成長期戰略合作關係,供應商會 根據晨鳴紙業的生產計畫調整供應量和供 應方式,保證原材料的穩定供應。

在節假日、汛期雨季和自然災害等特殊時間 節點,公司會主動提醒供應商提前制定原材 料運輸保障的預警和應急機制。

Sustainable Supply Chain 可持續供應鏈

The Company will verify the green sustainability certification during supplier selection. For example, FSC certification is required for wood pulp products to strengthen the management of green supply chain certification from the source. In addition, the production bases in Shandong, Jilin, Wuhan, Jiangxi and Zhanjiang have all obtained FSC certification.

公司在供應商入圍考核時會考查其綠色可 持續方面的資質認證,比如木漿產品需要提 供FSC認證,從源頭上加強綠色供應鏈的認 證管理。公司在山東、吉林、武漢、江西和湛 江的生產基地均已獲得FSC認證。



Sourcing

尋源

Acceptance

准入

Assessment

考核

Supply Chain Management Process 供應鏈管理流程

High quality suppliers are sought through various channels. At present, our important partners include Valmet, VOITH, Andritz, SEW and other world-class papermaking equipment manufacturing companies, as well as MetsaFibre, Midway and other world famous pulp and wood chip production companies.

通過多種渠道尋找優質供應商,目前Valmet、VOITH、Andritz、SEW等世界一流造紙裝備製造公司,MetsaFibre、 Midway等世界著名紙漿木片生產公司已經成為公司的重要合作夥伴。

Establish a three-level joint review mechanism of "the front-line supply chain staff analyse the relevant information and initiate an application; the main business supervisor is responsible for investigation and review; and the leader in charge is responsible for approval", conduct supplier assessment from the source.

建立「供應鏈一級員工分析情報發起申請、主營業務主管調研審核、分管領導審批」的三級聯合審議機制,從源頭做好供應商考核。

Suppliers are assessed in four dimensions: quality (30%), price (30%), financial support (20%) and lead time (20%) to classify them into grade A (above 80 scores), grade B (60-80 scores) and grade C (below 60 scores). Those with the lowest scores will be rejected and the "80/20 supplier rule" is adopted to form a benign internal competition mechanism. Differentiated relationships are established with suppliers by developing important suppliers and core suppliers from general suppliers through mutual optimization and honing. Strategic alliance is established with the core suppliers.

從品質(30%)、價格(30%)、資金支持(20%)和貨期(20%)四個維度對供應商進行考核,將供應商分為A級(80分以上)、B級(60-80分)和C級(60分以下),採取末尾淘汰制,遵從供應商「80/20」規則,形成良性的供應商內部競爭機制。 與供應商建立差異化關係,通過雙方的優化和磨合從一般供應商中發展出重要供應商和核心供應商,與核心供應商 建立戰略聯盟。



*Note: The Company adjusted the statistical caliber of data to cover the number of suppliers cooperated in FY2022 (based on formal contracts), while the data coverage in FY2021 was the cumulative number of suppliers cooperated. This adjustment of the statistical caliber is the main reason for the decrease in the number of suppliers in the report period.

*注:公司調整了資料統計口徑,涵蓋2022年度合作的供應商數量(以正式合同為准),而2021年度資料覆蓋範圍為累積合作供應商數量。此次統計口徑調整為報告期內供應商數量減少的主要原因。



Our Commitment to Corporate Social Responsibility 「晨」擔社會責任

Employees and communities are the foundation for a company to grow. From the very beginning, Chenming Group has deemed "benefiting employees" as an important mission, and has been rooted in the community, actively participating in community construction, and devoting itself to the common development of employees, the community and the Company to build a better society together.

員工與社區是企業的根基和土壤。晨鳴紙業從創立之初,就將「造福員工」作為公司的重要使命,並紮根于社區,積極投身社區建設,致力於員工、社區和企業共同發展,共建美好社會。



Build a New Harmonious Employee-employer Paradigm together 共建和諧人企新範式

Chenming Group respects and protects the legitimate rights and interests of its employees and is committed to creating an equal, respectful, healthy and safe working environment.

晨鳴紙業尊重並保障員工的合法權益,營造 平等、尊重、健康、安全的工作環境。



Protection of Basic Rights and Interests 基本權益保障

The Company strictly abides by the "Labour Law of the People's Republic of China", the "Labour Contract Law of the People's Republic of China", the "Labour Union Law of the People's Republic of China" and other laws and regulations regarding labour rights, and has formulated the "Labour Contract Management System", the "Compensation Management System", the "Recruitment Management System" and other rules and regulations. We strictly implement the provisions of maternity and nursing leave for female employees to protect the rights and interests of female employees. We strictly prohibit forced labour, child labour and other illegal acts. We hold public recruitment without setting conditions such as race, gender and religion. We attach importance to democratic management, hold monthly democratic seminars, set up feedback mailbox and WeChat feedback platform to listen to the voices of employees.

公司嚴格遵守《中華人民共和國勞動法》《中 華人民共和國勞動合同法》《中華人民共和 國勞動工會法》等勞動權益相關法律法規要 求,制定了《勞動合同管理制度》《薪酬管理 制度》《招聘管理制度》等規章制度;嚴格落 實女性員工孕產期、哺乳期休假規定,保障 女性員工權益;嚴厲禁止強制性勞動、雇傭 童工等非法行為;並向社會公開招聘,不設 置種族、性別、宗教信仰等條件。公司重視民 主管理,每月召開民主座談會,設立意見反 饋信箱和微信反饋平台,聆聽員工心聲。



Employee turnover rate (By gender) 員工流失率 (按性別)		Employee turnove (By age) 員工流失率(按年		Employee turnover rate (By geography) 員工流失率(按地區)		
Turnover rate of male employees 男性員工流失率	0.8%	30 and below 30 歲及以下員工流失率	0.5%	Turnover rate of employees working in mainland China 1% 在中國大陸工作的員工流失率		
Turnover rate of female		31 to 50 31 歲至50 歲員工流失率	0.4%	Turnover rate of employees working in Hong Kong, Macau,		
employees 女性員工流失率	0.2%	51 and above 51 歲及以上員工流失率	0.02%	Taiwan and overseas在港澳臺及 海外地區工作的員工流失率		



員工總數

Regional Employment Support 區域性就業幫扶





The disabled 殘疾人員幫扶

Take the initiative to contact the government to help the ex-convicts reintegrate into the society. **11–12** people have been employed so far.

主動聯繫政府,幫助改過自新人員重新融入社會,目前已吸納11-12人。

Respond to the policy call for the placement of people with disabilities. **20** people have been employed so far.

響應政策號召,進行殘疾人安置,目 前已安置20人。



▲ Democratic Life Meeting in the Plant 工廠民主生活會



▲ Support employees during difficult times 慰問困難員工

Compensation and Benefits 薪酬與福利

A market-oriented, differentiated and fair compensation system has been built to give full play to the incentive-oriented role of compensation; and a long-term employee assistance program, has been established to provide comprehensive and diversified benefits for employees, create a harmonious, mutually trusted and inclusive working atmosphere, and share the fruits of development with employees. 公司制定市場化、差異化、公平化的薪酬體 系,充分發揮薪酬的激勵導向作用;建立職 工關心關愛長效機制,為員工提供全方位多 元化的福利,營造和諧、互信、包容的工作氛 圍,與員工共享發展成果。



▲ Staff Basketball Match 職工籃球比賽





▲ Long-distance race held in fall 舉辦秋季長跑

Caring Project 五心工程



≣@

"Living conditions" 「住得安心」

 The Company has invested funds to improve the conditions of staff dormitories and built high-standard staff apartment buildings equipped with air conditioner, heater, private balconies and bathrooms. There is also a staff activity centre.

公司投入資金改善員工宿舍條件,建設高標準的職工公寓 樓,宿舍住宿環境優越,帶有空調、暖氣、獨立陽臺和衛生間, 並建有員工活動中心。

"Working benefits"「幹著舒心」

• All employees are covered by social security, entitled to "five social insurances and one housing fund" and RMB 2,000 per year for holidays.

公司員工的社會保險覆蓋率100%,員工均可享受「五險一 金」,每年享受節假日2,000元的福利。

• Free meals, quarterly benefits, summer package and other benefits.

提供免費崗位就餐、季度福利、夏送清涼等福利。

② "Supporting facilities" 「服務貼心」

• The Company has invested RMB 5 million to establish all-round supporting facilities (basketball court, badminton court, table tennis room, etc.). Moreover, various cultural and sports activities are held regularly to enrich the cultural and spiritual life of employees.

公司先後出資500萬,建立完善的休閒基礎設施(職工籃球 場、羽毛球場、乒乓球室等),定期開展豐富多彩的文體活動, 豐富員工文化精神生活。

• A mediation room is established to regulate employee conflicts and handle employee grievances. During the report period, the Company conducted one mediation service.

成立調解室,負責調節員工衝突、處理員工申述問題。報告期內,公司開展1次調解工作。



• The labour union celebrates employee birthdays with birthday cake and card.

工會為每位生日員工贈送生日蛋糕和賀卡。

 The Employee Mutual Help Foundation has been established to help employees whose families are in difficulties due to serious illnesses and accidents; sickness assistance is applied with the Municipal Federation of Trade Unions, hardship assistance is applied with the Municipal Charity Federation. Assistance funds are also applied, which have helped nearly two hundred people in recent years.

成立員工互助基金會,對因大病和意外事故造成家庭困難的 員工進行幫扶;積極向市總工會申請病困補助,向市慈善總 會申請困難員工救助,爭取幫扶基金資助,近年來先後幫扶 困難職工近兩百人次。

 Special care is given to female employees. Female workers working in shifts are entitled to more days of maternity leave; and administrative female employees have one hour of breastfeeding time, which can be used flexibly as they want.

關愛女性職工,公司針對倒班女性職工,增加產假天數;行政 女性員工擁有1小時哺乳時間,女性員工可靈活安排該段時 間。



"We' re family"「家企連心」

 The Company is committed to creating a "family" atmosphere and building a bridge between the Company and the employees. Since the outbreak of the COVID-19 pandemic, the Company has insisted on the policy of "no layoffs, no pay cuts and no unpaid wages" to ensure that everyone has a job, everyone has work to do and everyone creates benefits.

公司致力於營造「家」的氛圍,搭建企業「大家」和職工「小家」 連心橋。新冠疫情期間,公司堅持「不裁員、不降薪、不欠薪」 的政策,保證職工人人有崗位、人人有活幹、人人創效益。

Employee Health and Safety 員工健康與安全

Occupational health and safety has always been an important area for Chenming Group to fulfil its responsibility to its employees and the society.

職業健康安全始終是晨鳴紙業履行對員工 和社會責任的重要領域。

■ Safety Production 安全生產

Chenming Group has formulated the "Safety Management System" and the "Safety Production Responsibility System" in accordance with the "Work Safety Law of the People's Republic of China" to improve the safety production management system. A safety production assessment system has been established to make safety assessment an important indicator of performance assessment. Occupational health checks are also organized on a regular basis.

晨鳴紙業根據《中華人民共和國安全生產法》,制定了《安全管理制度》《安全生產責任 制》,完善安全生產管理體系;建立安全生產考核制度,把安全考核作為業績考核的重 要指標,定期開展職業健康體檢。

	K	(ey performance 關鍵績效
Safety Production (as of the end of December 2022) 安全生产 (截至2022年12月末)		
 Work-related deaths*:0 Work-related death rate 因工死亡人数* の人 の% 	injured at work:3	 Number of working days lost due to work-related injuries:265 Days 因工傷損失工作日數 265
 Rate of lost man-hours to 1 million man-hours:1.079 百萬工時損失工時率 1.079 	 Number of newly added persons with occupational diseases:0 新增患職業病的人員數量 〇人 	 Rate of injuries to 1 million man-hours:0.15% 百萬工時傷害率 0.15%
 Investment in safety production: RMB 22.96 Million 安全生產投入 2,296 萬元 	 Investment in occupational injury insurance:RMB 2.167 Million 公司購買職業傷害保險的投入金額 216.7 萬元 	 Annual health check coverage: 100% 員工年度體檢覆蓋率 100%

*Note: The number and rate of work-related deaths in the past three years are 0. *注:近三年因工死亡人數及比率均為0。

Performance highlight 亮點績效 The company passed GB/T 45001 Occupational Health 公司通過GB/T 45001職業健康 安全管理體系認證審核。



Safety Production Measures 安全生產舉措

Improve the safety management system 完善安全管理體系

29 production safety management regulations have been developed. Implement the 5S model, improve the safety responsibility system, and hold all employees accountable for production safety. 制定29項安全生產管理制度,推行5S管理模式(五常法則),完善安全責任體系,落實全員安全生產責任。

Identify risks and hidden dangers 識別風險排查隱患

The identified risk points are graded according to the risk (LEC) assessment method, and a total of 3,223 risk points have been identified. Identify and update the evaluation of risk sources every year, control the risks of production units in a graded manner, implement a safety hazard inspection plan, and regularly overhaul equipment to ensure the safety of equipment and power use in the operating area.

依照危險性(LEC)評估法,將辨別出的風險點進行級別劃分,共辨別風險點3.223個。每年識別、更新評價危險源,分級管控生產單位風 險,執行安全隱患排查計畫,定期檢修設備,確保作業區域內設備、用電安全。

• Improve the performance assessment system 健全績效考核制度

Rate the performance based on each plant's safety accidents, improvement plans, and implementation results, with 100 being the full mark and 80 the pass mark.

設置績效評分,根據各廠安全事故、整改計畫、實施結果進行評分,滿分100分,最低80分。

• Enhance the professional level of the workforce 提升隊伍專業化水平

Safety personnel shall obtain safety officer certificate and organize regular knowledge training to improve their leadership.

安全人員須取得安全員證書,定期組織知識培訓,提高管理水平。
Safety education 安全教育

Chenming Group is committed to preventing safety accidents by raising the safety awareness of its workforce.

晨鳴紙業致力於通過提高員工隊伍的安全意識,預防安全事故發生。

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Safety education Measures 安全教育舉措

Safety training and education 安全培訓教育

We compiled special teaching materials for safety training and successively conducted thematic training such as the "Safety Training for Overhaul Operations", the "Special Training for Cherishing Life" and the "Training for Operations in Limited Space". During the report period, 366 safety education and training sessions were organized for 58,653 person-time.

編制安全培訓專用教材,相繼進行《檢修作業安全培訓》《珍愛生命專題培訓》《有限空間作業培訓》等專題培訓。報告期內,全年組織安全教育 培訓366期,培訓58,653人/次。

Occupational safety awareness 職業安全宣傳

The "Production Safety Month" activities were held in 2022. Bulletin board, posters, WeChat, newsletters, banners and other forms were used to promote the "Production Safety Month" activities, aiming to create an atmosphere of production safety.

深入開展2022年「安全生產月」活動,通過宣傳欄、宣傳畫、微信、簡報、橫幅標語等不同形式進行「安全生產月」活動主題宣傳,營造安全生產 氛圍。

Safety emergency drills 安全應急演練

Organize emergency drills for scenarios such as mechanical injury, fall from height, fire fighting, hazardous chemical leakage, poisoning and asphyxiation in limited space, and dust-related explosion. During the report period, 296 emergency rescue plan drills were held in which 3,288 person-time participated.

組織機械傷害、高處墜落、消防、危險化學品洩露、有限空間中毒窒息、粉塵涉爆等場景的應急演練。報告期內,應急救援預案演練296次,參加 人數3,288人/次。



Safety training (as of the end of December 2022)

 Occupational health and safety training: 70 Sessions

職業健康安全培訓 70場次

員工參與職業健康安全培訓

8,277人次





▲ Safety Knowledge Contest 安全知識競賽

▲ Occupational Health and Safety Knowledge Contest 職業健康安全知識競賽





▲ First Aid Drill 安全急救演練



▲ Dust-related Explosion **Emergency Drill** 粉塵涉爆應急演練



▲ Emergency Drill for Hazardous Chemical (Chlorine Gas) Leak 危險化學品(氯氣)洩露應急演練

Be an Industry Leader 擦亮行業「黃埔」新招牌

Chenming Group pursues the talent management policy of "developing people, introducing people, empowering people and retaining people", insists on the employment policy of "appointing people on merit, and putting the right people in the right positions" and constantly innovates the employment mechanism to create an employee development system with Chenming Group's characteristics.

晨鳴紙業奉行「培養人、引進人、用好人、留 住人」的人才管理方針,堅持「任人唯賢,能 者上庸者下,將合適的人放在合適的崗位 上」的用人政策,不斷創新用人機制,打造出 具有晨鳴特色的員工發展體系。



Training and Development 培訓與發展

The Company has formulated the "Training Management System" and the "New Employee Development Management System" to provide pre-job training and on-the-job training for employees to improve their professional skills and business level and create a high-quality talent team.

公司制定了《培訓管理制度》《新員工培養管 理制度》,為員工提供崗前培訓、在職培訓, 提升員工專業技能和業務水平,打造高質量 人才梯隊。



Percent employees who have received training 100%

員工人均培訓時長96小時/年

員工接受培訓率100%

Per capita training hours **96** Annual average training hours





Promotion System 晉升機制

The Company provides four development paths for employees' career development, helping more employees to achieve their respective goals.

公司為員工職業生涯發展提供四條發展通 道,幫助更多員工實現各得其所。



Employee Testimonials 員工故事

Building on the strengths and carrying forward the spirit of Chenming Group 砥砺前行发扬晨鸣精神

I am Li Zhibo, and I joined the Chenming family 20 years ago. Our corporate spirit of "learning, surpassing and leading" has profoundly influenced me from the very beginning. I joined as a machine tool fitter. I knew that equipment operation required a solid foundation, so I rotated in various workshops of the First Plant and drew more than 1,200 drawings of equipment parts. With the platform opportunity provided by the Company and the unconquerable spirit, I learned CAD mechanical drawing and completed the upgrade from manual drawing to mechanical drawing. Since I started working here, thanks to the special training and innovation guidance provided by the Company, I have designed and improved more than ten devices such as press section pressurization, automatic oil spraying of Yankee dryer, pneumatic tensioning of forming net, etc., which were granted the national patents. According to my own strengths, I chose a suitable development and promotion route, and completed the career transformation from an "ordinary equipment worker" to a "chief technician".

我是李志波,20年前便加入晨鳴大家庭。公司「學習、超越、領先」的企業精神,從一開始就深刻地影響著我。作為機床鉗工出身的我, 深知設備操作需要扎實基礎,曾在一廠的各個車間裡輾轉,手工測繪出1,200多張設備零部件圖紙。憑藉公司提供的平台機會,以及 初生牛犢不服輸的闖勁,我學習了CAD機械製圖,完成從手工製圖向機械製圖的升級。工作以來,得益於公司的專項培訓與創新指 導,我設計改進的壓榨部加壓、揚克缸自動噴油、成型網氣動張緊等十多項裝置,榮獲國家技術新型專利。根據自身特長,我選擇了適 合自己的發展晉升通道,完成了從「普通設備工人」向「首席技師」的職業生涯蛻變。

I love my job and I have the confidence to do a better job and progress together with the Company! 我熱愛這份工作,並有信心把工作做得更好,與公司共同進步!



▲ Chief Technician: Li Zhibo 首席技師:李志波

Work with the Community to Develop Together 攜手社區群眾共發展

Rural Revitalization 鄉村振興

The Company upholds the concept of "bringing love to wherever the factory is built", and actively participates in public welfare and charity, giving back to the society and being a responsible enterprise. Over the years, the Company has helped the community by providing financial aids to the disabled, students and rural construction, and donated tens of millions of yuan to flood victims, earthquake victims, Shandong Red Cross Society, Shouguang Love Education Fund and Shouguang Charity Federation. During the report period, the Company supported the education development in Shouguang with a donation of RMB **500,000**, and contributed to the rural revitalization with a donation of RMB **300,000** for the "One Day Donation" held by Shouguang City.



▲ Shouguang Chenming awarded the title of "Outstanding Contribution Enterprise" for supporting education development in Shouguang City 壽光晨鳴榮獲壽光市支援教育發展「突出貢獻企業」稱號



▲ Chenming Group employees conducting World Environment Day campaign in the community 晨鳴員工在社區開展世界環境日宣傳活動



日捐」捐款30萬元。

公司秉持「工廠建到哪,就把愛心帶到哪」的

理念,積極投身公益慈善事業,反饋社會,做

有責任心的企業。多年來,公司深入社區開

展幫困助殘、愛心助學、農村建設,累計為抗

洪救災、地震災區、山東省紅十字會、壽光市

愛心教育基金、壽光市慈善總會捐款數千萬

元。報告期內,公司支持壽光教育發展,捐款

50萬元;助力鄉村振興,為壽光市「慈心一

▲ The Company visiting and caring for the elderly living alone in the community 公司走訪關懷社區獨居老人



Health Public Service 健康公益

The Company took an active role in fighting the COVID pandemic. Zhanjiang Chenming donated 300 barrels of sodium hypochlorite disinfectant to the government of Mazhang District, Zhanjiang City, for disinfection of public areas; since the outbreak of the COVID-19 pandemic in 2020, the Company has made donations worth more than RMB 13 million to combat the epidemic, helping to prevent and control the epidemic in the community.

公司共同戰「疫」勇擔當。湛江晨鳴為湛江市麻章區政府捐贈300桶次氯 酸鈉消毒液,用於公共區域消毒工作;自2020年新冠疫情發生以來,公 司累計為抗擊疫情捐款捐物1,300多萬元,助力社區疫情防控。

In order to ensure the seasonal clinical blood supply, the Company responded positively to the "Emergency Blood Bank" blood donation campaign launched by the community. During the report period, nearly 30 employees signed up for blood donation to make contribution on behalf of Chenming Group.

為保證季節性臨床血液供應,公司積極響應社區啟動的「應急愛心血庫」 無償獻血活動。報告期內,近30名職工報名參加無償獻血,貢獻晨鳴力 믊

▲ The Company donating masks for resumption of classes against the COVID-19 pandemic

公司為抗疫複課捐贈口罩



▲ Chenming Group's Anti-Epidemic Aid Fl∈et 晨鳴紙業抗疫馳援車隊



 Chenming Group employees participating in blood donation 晨鳴員工參加無償獻血活動

Our Commitment
to the Future04「晨」信共贏未來

Chenming Group understands that a sound corporate governance is essential for creating sustainable value. While continuously creating economic value, Chenming Group insists on building a responsible enterprise and devotes itself to regulating corporate governance, practicing compliant development, strengthening risk resilience, continuously improving ESG management system, and protecting the legitimate rights and interests of various stakeholders.

晨鳴紙業深知良好的公司治理水平對創造可持續價值至關重要,在不斷創造經 濟價值的同時,堅持以責任立企,致力於規範公司治理、踐行合規發展、加強風險 抵禦能力,不斷完善ESG管理體系,保護各持份者合法權益。



Corporate Governance 公司治理

Governance Structure 治理架構

Chenming Group strictly complies with the requirements of the "Company Law of the People's Republic of China", the "Securities Law of the People's Republic of China", the "Code of Corporate Governance for Listed Companies in China", the "Rules Governing the Listing of Shares on Shenzhen Stock Exchange", the "Listing Rules of the Stock Exchange of Hong Kong" and the relevant laws, regulations and regulatory documents of the China Securities Regulatory Commission. Chenming Group also formulated a series of governance systems, including the "Articles of Association", to continuously improve a governance mechanism with clear, standardized and effective supervision, decision-making and execution levels.

The Company has established a corporate governance structure consisting of the General Meeting of Shareholders, the Board of Directors, the Board of Supervisors and the management. Under the Board of Directors, there are four special committees, namely the Strategy and Sustainability Committee, the Audit Committee, the Compensation and Assessment Committee and the Nomination Committee, which are responsible for the guidance, supervision and regular review of the overall governance of the Company.

晨鳴紙業嚴格遵守《中華人民共和國公司 法》《中華人民共和國證券法》《上市公司治 理準則》《深圳證券交易所股票上市規則》 《香港聯合交易所上市規則》和中國證監會 相關法律法規及規範性文件的要求,制定了 《公司章程》等一系列治理制度,持續完善監 督、決策、執行層級清晰、規範有效的治理機 制。

公司建立了由股東大會、董事會、監事會和 管理層組成的公司治理架構,董事會下設戰 略及可持續發展委員會、審計委員會、薪酬 與考核委員會、提名委員會四個專門委員 會,負責對公司的整體治理進行指導、監督 和定期檢討。

Diversity 多元化

There is one female independent director, taking up 9.1% of the directors. We value diversity on our Board of Directors and are committed to increasing the percentage of female members on our Board.

公司女性獨立董事1名,女性董事占比9.1%,我們重視董事會多元化,並致力於提升董事會成員中女性成員的占比。

The members of the Board of Directors come from various fields such as papermaking, finance, accounting, management, law, environment and resource protection, forming a reasonable professional structure and rich expertise to help Chenming Group maintain its competitive advantage in the industry and develop in a steady and sustainable manner.

公司董事會成員來自造紙、金融、財會、管理、法律、環境與資源保護等多個領域,專業結構合理,具備豐富的知識技能與判斷,以推動晨鳴紙業 保持行業競爭優勢,穩健可持續發展。



■ Independence 獨立性

There are 11 members in the Board of Directors of the Company, including 5 executive directors, 2 non-executive directors and 4 independent directors, with the latter two taking up 54.5% of the directors. None of the independent directors holds shares of the Company in any form. During the report period, the Company formulated a number of corporate governance systems, including the "Rules of Procedure of the Board of Directors", the "Management Measures for Independent Directors" and the "Implementation Rules for the Audit Committee of the Board of Directors", in order to maintain a high standard corporate governance and protect the legitimate rights and interests of shareholders and various stakeholders.

公司董事會成員共有11名,其中執行董事5名,非執行董事2名,獨立董事4名,非執行董事與獨立董事共占比54.5%。獨立董事均未以任何形 式持有公司股份。報告期內,公司制訂《董事會議事規則》《獨立董事管理辦法》《董事會審計委員會實施細則》等多項公司治理制度,以維持高 標準的公司治理水平,保障股東與各利益相關者合法權益。

▲ Organizational Chart of Chenming Group

uring	the report period, tl	ne Company held 🤤	報告期的	为,公司			
	etings:12	Board of Supervisors meetings:8	•	General Meeting of Shareholders:3	•	Total number of special commi	
召開 12 次	見董事會 次	召開監事會 8 次		召開股東大會 3 次		召開各專業委員 9 次	會大會次數總計

During the report period, the Company used system construction and supervision as a means to strengthen performance assessment, improve internal control policies and processes. A planning and inspection team was set up to conscientiously implement the working policy of "strengthening departmental management, enhancing capital operation, improving investment relationship, and identifying corporate problems". The implementation of systems for a number of operational activities was inspected on a monthly basis, which identified and corrected 1,007 problems, avoiding direct economic losses of RMB 750,000.

報告期內,公司以制度建設與督查為手段,強化績效考核,完善內控制度與流程,並成立企劃督查小組,認真貫徹「強化部門管理、加強資本運 作、提升投資關係、查找公司問題」的工作方針,對多項運營活動的制度執行情況開展月度督查,發現整改問題1,007項,避免直接經濟損失達 75萬元。

Compliant Operations 合規運營

Chenming Group regards law-abiding and compliance as the bottom line of its business operation. Led by the core value of "integrity, mutual benefit and sharing ", Chenming Group continues to improve its internal control system and risk prevention and control mechanism, and takes clean governance, information security protection and investor relations management as its tools to create a business environment with high standard business ethics.

晨鳴紙業將守法與合規視為業務經營的底 線,在「誠信為本 共贏共享」核心價值觀的 引領下,持續完善內控體系與風險防控機 制,以廉政建設、信息安全保護以及投資者 關係管理等工作為抓手,營造高商業道德標 準的經營環境。

Internal control and compliance management 內控與合規管理

Based on the "Basic Standard for Enterprise Internal Control" and the "Supporting Guidance on Enterprise Internal Control", the Company updates and improves the internal control system in a timely manner, taking into account changes in the external social and economic environment as well as changes in the Company's development strategy and management requirements. A series of internal control systems such as the "Vertical Audit Management System" and the "Internal Control Management Manual" have been established to help build a standard internal control system.

公司依據《企業內部控制基本規範》《企業內部控制配套指引》,結合外部社會、經濟環境變化,以及公司發展戰略與管理要求的變化,及時更新 與完善內部控制體系建設,建立《審計垂直管理制度》《內部控制管理手冊》等一系列內部控制制度,進一步推動內控工作的規範化與制度化。

300 - 500			et attaces a
Complia	nce Management-related C	omplaint I	Handling f
\langle	2022年		2021年
•	Number of compli- ance-related complaints received:5	•	Number of con ance-related c received:23
	公司接收的合規相 關投訴事件數量 5件		公司接收的合规 關投訴事件數量 23件
•	Number of compli- ance-related complaints solved:4	•	Number of con ance-related c solved:23
	公司處理的合規相 關投訴事件數量 4件		公司處理的合規 關投訴事件數量 23件
	Number of employees punished for business ethics or integrity issues:4		Number of em punished for h ethics or integ issues:8
	因商業道德或廉潔從業問題被處罰的員工數量 4人		因商業道德或關問題被處罰的員 問題被處罰的員 8 人



Anti-corruption and anti-fraud 反貪腐與反舞弊

In order to promote the healthy development, the Company strictly abides by the "Interim Provisions on Prohibition of Commercial Bribery" and other laws and regulations. Misconducts will be investigated and held responsible in accordance with the law, including disciplinary actions, termination of labour contracts, and even criminal penalty. We have formulated and continuously improved the policies such as the "Implementation Opinions on Strengthening Clean Governance" and the "Complaint Management System", clarifying the management requirements of key operation nodes such as procurement, project construction and personnel management. The integrity management requirements are integrated into the whole process of enterprise operation, aiming to create an honest working environment. During the report period, there were no litigations related to corruption and bribery filed against the Company.

為促進企業的健康發展,公司嚴格遵守《關於禁止商業賄賂行為的暫行規定》等法律法規,踐行「依法依規 嚴肅追究,違紀人員降撤職、解除勞 動合同,情節嚴重的移交司法機關。」的管理原則,制定並不斷完善《關於加強廉政建設的實施意見》《投訴管理制度》等制度文件,明確物資採 購、項目建設及人事管理等關鍵運營節點的管理要求,將廉政管理要求融入企業運營全過程,營造陽光誠信的工作環境。報告期內,公司未發 生與貪腐及賄賂相關的訴訟事件。

The Company pays attention to promoting an honest and clean atmosphere by enhancing supervision, conducting special training and other activities to raise employees' awareness of integrity and firmly establish their own integrity defence. We regularly organize anti-corruption legal courses and training for employees exposed to high corruption risks to raise their awareness and make every effort to avoid of illegal acts.

公司注重推動廉政氛圍建設,通過強化監督、開展專題培訓等活動,提升員工廉潔意識,堅定築牢自身廉潔防線。我們定期為涉及高貪污風險 的員工組織反貪污法律課程及培訓,以提高其意識,竭力避免違法事情的發生。

We have formulated the "Complaint Management System" to continuously improve the reporting and handling mechanism, accepting reports through various anonymous reporting channels. The Discipline Inspection Committee is mainly responsible for the relevant work, and multiple departments jointly handle complaints related to illegal acts and misconducts, internal management and employee rights protection. The Company encourages all employees, suppliers and partners to participate in the supervision system of the Company's integrity performance through proper channels, and to report the relevant behaviours. The personnel receiving the reports are required to keep the reporters and the contents strictly confidential, and the information related to the reports is kept by special persons. Any breach of confidence, threat or retaliation will be dealt with seriously.

我們制定《投訴管理制度》,不斷完善舉報處理機制,通過多種匿名舉報途徑接受舉報,由紀委主要負責相關工作,多部門聯合處理違法亂紀、 內部管理及員工維權等相關投訴。公司鼓勵全體員工、供應商及合作夥伴通過正常渠道參與公司的廉潔誠信履職的監督體系中,對相關行為 進行舉報,要求受理舉報人員對舉報人及內容嚴格保密,並由專人保管及存放舉報相關資料,並將嚴肅處理洩密,以及任何威脅或實施打擊 報復行為的行為。



■ Protection against unfair competition 反不正當競爭

We strictly comply with relevant domestic and international laws, regulations and standards, such as the "Anti-Unfair Competition Law of the PRC", the "Contract Law of the PRC" and the "Model Provisions on Protection against Unfair Competition", to actively promote healthy economic development and eliminate the occurrence of unfair competition. During the report period, there was no significant violation to laws and regulations related to protection against unfair competition by the Company.

我們嚴格遵守中國《反不正當競爭法》《中華人民共和國合同法》以及《反不正當競爭示範條款》等國內國際法律法規和標準,積極推進經濟健 康發展,杜絕不正當競爭行為發生。報告期內,公司未發生重大違反反不正當競爭相關法律法規的情形。

Risk Management 風險管理

Chenming Group has formulated the "Comprehensive Risk Management Framework" and established a four-level risk management structure from Board of Directors to Audit Committee, Management and Functions. The Board of Directors is the highest decision-making body for comprehensive risk management; the Audit Committee is responsible for reviewing the Company's risk management-related systems and conducting regular audits of risk management controls and preventive measures; and the management team is responsible for the overall operation of the risk management system. Each function carries out relevant work according to its own responsibilities to manage all kinds of risks of the Company.

🕞 Email to 電子郵件:

(図) Send letters to 信函: Room 609, Audit Department, R&D Centre, Chenming Group

晨鳴紙業研發中心稽察部609室

晨鳴紙業制定《全面風險管理綱要》,建立「董事會-審計委員會-經理層-職能部門」四位一體的風險管理架構,對風險開展分級 管理。董事會是公司全面風險管理工作的最高決策機構,由審計 委員會負責審查公司風險管理相關制度的建設,並就風險管理 控制及防範措施進行定期審核,由經理層負責風險管理系統的 總體運行。各職能部門根據自身職責,分別開展相關工作,全方 位管理公司各類風險。



Information Disclosure and Investor Relations 信息披露與投資者關係

We attach great importance to the rights and interests of investors and have formulated the "Investor Relations Management System" and the "Information Disclosure Management System" in strict accordance with the requirements of the regulators, the "Articles of Association" of the Company and the "Information Disclosure Management System of Listed Companies". A combination of online and offline methods is used to enhance the transparency of corporate operations and fully protect the rights of all shareholders to information, supervision and participation.

During the report period, the Company actively participated in relevant training organized by the Shenzhen Stock Exchange, the Association of Listed Companies and other institutions to enhance its investor relations management capabilities. At the same time, to ensure communication channels between investors and the Company, the Company has strengthened two-way communication with investors through multiple channels, including participating in the online reception day for investors in Shandong Province in 2022, holding on-site investor inquiry activities and responding to investors' questions on the "Hudongyi" platform. In 2022, the Company disclosed 338 announcements on designated information disclosure channels.

我們高度重視投資者的權益,嚴格按照監管 機構的要求和《公司章程》《上市公司信息披 露管理制度》等規定,制定《投資者關係管理 制度》《信息披露管理制度》,通過線上、線下 相結合的方式,提升企業運營透明度,全面 保障全體股東知情權、監督權和參與權。

報告期內,公司積極參與深交所、上市公司 協會等機構組織的相關培訓,以提升投資者 關係管理能力。同時,公司通過參與2022年 山東轄區投資者網上集中接待日活動、舉辦 現場投資者調研活動,以及於「互動易」平台 回復投資者提問等方式,多渠道加強與投資 者雙向溝通,確保投資者與公司溝通渠道順 暢。2022年,公司在指定信息披露渠道共披 露338份公告。



▲ The Company participating in the investor reception day and actively interacting with investors

公司參與投資者集中接待日,積極與投資者開展互動

Information Disclosure 信息披露

 Response to investor questions on Hudongyi:120+
 互動易回復投資者提問 120餘個
 保eception of investor inquiries:4
 接待投資者調研 4次

Data Safety and Privacy Protection 信息安全與隱私保護

Chenming Group actively adapts to the development trend of technology and industry transformation. It has upgraded its office system to BPM (Business Process Management) to realize the process management of business in order to enhance the management efficiency. In this process, the Company understands the importance of data safety and privacy protection, and measures including management system, hardware facilities and data encryption software have been taken to effectively protect customers' privacy and data safety.

The Company has established the "Data Safety Management System" and the "Data Backup Management System", requiring dedicated personnel to regularly review the information system on a monthly basis, and regularly backup and encrypt documents in possession of the Company, which can be shared and accessed only under the encrypted system to prevent data leakage. At the same time, we try our best to avoid the leakage of our confidential information and customer information by restricting employees' access to customer information, conducting responsibility assessment, and signing confidentiality agreements.



晨鳴紙業積極適應科技及行業轉型的發展 趨勢,將辦公系統升級至BPM(業務流程管 理),實現業務辦公的流程化,以提升公司管 理效率。在此過程中,公司深知信息安全與 隱私保護的重要性,從完善管理體系、硬體 設施配備以及資料加密軟體應用等舉措,切 實保護客戶隱私與資料安全。

公司建立覆蓋《信息安全管理制度》《資料備 份管理制度》,要求專人每月定期對信息系 統進行審查,且定期為公司文檔進行備份和 加密,僅在加密系統下可共享查閱,以防資 料外泄。同時通過限制員工對客戶資料的存 取、開展責任考核,以及簽署保密協議等舉 措,竭力避免發生公司機密及客戶資料洩露 事件。

About the Report 關於本報告

Overview 概況

This is the 2022 Environmental, Social and Governance Report (the "Report") of Shandong Chenming Paper Holdings Ltd (the "Company" or "Chenming Group"). The purpose of this Report is to communicate with stakeholders about the Company's environmental, social and governance management, measures and outcomes.

本報告是《山東晨鳴紙業集團股份有限公司 (簡稱「公司」「晨鳴紙業」)2022年度環境、 社會及管治報告》(本報告)。本報告目的在 於與持份者溝通公司在環境、社會及管治方 面的管理、舉措和成效。

Scope of Reporting 報告範圍

The Report discloses the Company's sustainability performance for the period from January 1, 2022 to December 31, 2022 and covers the production of pulp and paper products (main business), including culture paper, copperplate paper, white cardboard, copy paper, industrial paper, specialty paper and household paper (main products). Because the pulping and papermaking business has great financial significance for the Company and environmental impact, this Report covers only the aforementioned businesses and includes the environmental, social and governance performance of six production sites list as below:

本報告披露公司在2022年1月1日到2022年12月31日的可持續發展表現,並涵蓋文化紙、銅版紙、白卡紙、複印紙、工業用紙、特種紙和生活紙(主 要產品)的製作紙漿及紙品生產(主要業務)。由於制漿造紙業務對於公司具有重大的財務意義和環境影響,故本報告只涵蓋前述的業務,並包括 以下共六個生產基地在環境、社會及企業管治方面的表現:

1.Shandong Chenming Paper Holdings Ltd General Plant in Shouguang (hereinafter referred to as "Shouguang Chenming") 山東晨鳴紙業集團股份有限公司壽光本阜工廠(簡稱「壽光晨鳴」)

2. Jiangxi Chenming Paper Ltd (hereinafter referred to as "Jiangxi Chenming") 江西晨鳴紙業有限責任公司(簡稱「江西晨鳴」)

- 3.Zhanjiang Chenming Pulp & Paper Ltd (hereinafter referred to as "Zhanjiang Chenming") 湛江晨鳴漿紙有限公司(簡稱「湛江晨鳴」)
- 4.ilin Chenming Paper Ltd (hereinafter referred to as "Jilin Chenming") 吉林晨鳴紙業有限責任公司(簡稱「吉林晨鳴」)

5.Wuhan Chenming (Hanyang) Holdings Ltd (hereinafter referred to as "Wuhan Chenming"); 武漢晨鳴漢陽紙業股份有限公司(簡稱「武漢晨鳴」)

6. Huanggang Chenming Pulp & Paper Ltd (hereinafter referred to as "Huanggang Chenming"). 黃岡晨鳴漿紙有限公司(簡稱「黃岡晨鳴」)

The scope of reported operations and entities is consistent with the scope of reporting in previous years. Chenming Group regularly reviews its scope of reporting to ensure that the significant impact of the Company's overall business portfolio is covered.

量報的業務和實體範圍與往年的報告範圍一致[1]晨鳴紙業定期審閱其報告範圍,以確保涵蓋公司整體業務組合的重大影響。

Preparation Notes 編制說明

The Report has complied with all mandatory disclosure requirements and "comply or explain" provisions set out in the "Environmental, Social and Governance Reporting Guidelines" and also refers to selected disclosure requirements (or parts thereof) in the "Global Reporting Initiative's Sustainability Reporting Standards".

Reporting Principles 報告原則

This Report follows the HKEX 's reporting principles of "materiality, quantitative 本報告遵循聯交所的「重要性、量化、一致性」的彙 and consistency" and also discloses some neutral and objective indicators to 報原則,亦披露了部分中立客觀指標以強化「平衡 enhance "balance". 性」。

Reporting Principles 重要性

By carefully studying the national strategic plan, paying close attention to the sustainable development dynamics of the papermaking and paper products industry, using the materiality and relevance analysis table and materiality matrix in "Appendix I: Tool Library" of the HKEX's "How to Prepare an Environmental, Social and Governance Report" as tools, referring to the Global Reporting Initiative's process on materiality analysis and relevant international standards such as the Sustainability Accounting Standards Board (SASB), and combining with its own business characteristics and development strategy, Chenming Group identified 19 material topics that have a significant impact on the Company's development. The Board of Directors evaluated and ranked the materiality of the issues based on two dimensions: "internal assessment (impact on business)" and "external assessment (impact on stakeholders)". This allows the Company to focus its resources on the most pressing sustainability-related issues.

[1]Shanghai Chenming Industrial Ltd has been excluded from the scope of reporting because its property trust business has a very minor financial and operational impact on the Company and is not as significant as the pulping and papermaking business in terms of environmental, social and governance.

[1]因上海晨鳴寶業有限公司從事的房產信託業務對本公司的財務以及營運上的影響十分輕微且對環境、社會及企業管治方面不如制漿造紙業 務般重大,故從報告範圍剔除。

報告已遵守《環境、社會及管治報告指引》載列的 所有強制披露規定及「不遵守就解釋」條文,也參 照了全球報告倡議組織《可持續發展報告標準 (GRI Standard)》當中被選取的披露要求(或其 部分內容)。

晨鳴紙業認真研讀國家戰略規劃,密切關注造紙 和紙製品業的可持續發展動態,以聯交所《如何準 備環境、社會及管治報告》之《附錄一:工具庫》中 重要性和相關性分析表、重要性矩陣為工具,參考 全球報告倡議組織關於實質性分析的流程以及可 持續發展會計準則委員會(SASB)等相關國際標 準,結合自身的業務特性與發展戰略,識別出19 項對公司發展具有重大影響的實質性議題。公司 董事會按照「內部評估(對業務的影響)」以及「外 部評估(對權益人的影響)」兩個維度,對議題進行 重要性評估與排序,便於公司集中資源來解決當 前最迫切的可持續發展相關議題。

污染防治

能源管理

• Sustainable forestry 可持續森林

Identification and Assessment Process of Material Topics 實質性議題識別與評估流程		of Material Topics 題評估
Through the following steps, we identified 19 material issues to form a library of material topics for Chenning Group: 通過以下步驟,我們識別出19項議題,形成晨鳴紙業實質性議題庫: • Sorting out stakeholders' expectations and demands in line with the Company's business development. 根據公司業務發展,梳理持份者期望與訴求 • Research and analysis of global mainstream rating agencies and industry guidelines: MSCI, Sustainability Accounting Standards Board (SASB), International Organization for Standardization ISO 26000: 2010 Guidance on Social Responsibility, United Nations Sustainable Development Goals (SDGs), etc. 全球主流評級機構與行業指引研究分析:明晟公司(MSCI)、可持續發展會計準則委員會(SASB)、國際標準組織 ISO 26000:2010《社會責任指南》國際標準、聯合國可持續發展目標(SDGs)等; • Industry benchmarking: Studying peer companies' sustainability/social responsibility development strategies, management, and material topics reflected in their reports. 行業對標:研究同業企業可持續發展/社會責任發展戰略、管理以及報告體現的實質性議題	▲ 外部評估(對權益人的影響) External assessment (impact on stake	・ P ラ ・ Sustainab 可持續森林 ・ Water manag 水資源管理
 The "ESG Material Topics of Chenming Group - Questionnaire" was prepared and sent to 8 internal and external stakeholder groups, including shareholders and investors, customers, employees and suppliers, and 364 valid questionnaires were collected. 編制《晨鳴紙業ESG實質性議題-調查問卷》,向股東及投資者、客戶、員工、供應商等8個內外部持份者群 體進行意見調查,回收有效問卷364份。 Through the analysis of survey results, internal and external stakeholder interviews and expert assessments, 19 core topics were selected, ranked in importance and disclosed in detail in the Report. 通過問卷結果分析、內外部持份者調研訪談及專家評估等方式,篩選出19個核心議題,並對其進行重要性 排序,在報告中進行詳細披露。 	holders)	 Circular economy 循環經濟 Green logistics 綠色物流
 The Strategy and Sustainability Committee reviewed the results of the assessment based on the Company's development strategy and the relevant functions reviewed the results of the assessment based on their practices. Combined with the suggestions of external experts, the core topics of Chenming Group and their materiality were determined, and a materiality matrix was drew accordingly. 由戰略及可持續發展委員會根據公司發展戰略、相關職能部門根據實踐情況對議題評估結果進行審核, 結合外部專家建議,最終確定晨鳴紙業核心議題及其重要性,並據此繪製成實質性議題矩陣。 		
	Through the following steps, we identified 19 material issues to form a library of material topics for Chemning Group: 通過以下步導,我們描刻出19項議題,形成展唱紙某實質性議題解: • Sorting out stakeholders' expectations and demands in line with the Company's business development. · 根據公司業務發展, 依理特份者期望與訴求 • Research and analysis of global mainstream rating agencies and industry guidelines: MSCI, Sustainability Accounting Standards Board (SASB), International Organization for Standardization ISO 26000: 2010 Guidance on Social Responsibility, United Nations Sustainable Development Coals (SDCS), etc. · 全球主流評級機構與行業指引研究分析:明是公司 (MSCI)、可持備發展目標 (SDCS)等; • Industry benchmarking: Studying peer companies' sustainability/social responsibility development strategies, management, and material topics reflected in their reports. · Trä ***********************************	the characterial to a fact a second and a second and a second



Quantitative 量化

The Company has compiled data and reference calculations for all specific Key Performance Indicators (KPIs) in according to the guidance of the "Appendix II: Reporting Guidelines for Environmental Key Performance Indicators" and "Appendix III: Reporting Guidelines for Social Key Performance Indicators" of the HKEX's "How to Prepare an Environmental, Social and Governance Report", and other national and industry data. The data, management mechanisms and cases contained in the Report are derived from the original records or financial reports of the Company's actual operations. Financial data in the Report are in RMB. In case of discrepancies between financial data and the Company's annual financial reports, the latter shall prevail. 本公司遵照聯交所《如何準備環境、社會及 管治報告》之《附錄二:環境關鍵績效指標彙 報指引》及《附錄三:社會關鍵績效指標彙報 指引》的指引和其他國家級和行業資料來編 制所有特定關鍵績效指標(KPIs)資料、參 考其計算方法。報告中資料、管理機制和案 例來自公司實際運營的原始記錄或財務報 告。報告中的財務資料以人民幣為單位。財 務資料與公司年度財務報告不符的,以年度 報告為准。

Consistency 一致性

The Company confirms that this Environmental, Social and Governance Report are prepared in the same manner as in previous years. A consistent methodology is used to summarize the environmental and social performance for the current year from official documents, statistical data and management and operational data collected in accordance with the Company's system. 本公司確認環境、社會及管治報告的編制方 式與往年無異。採用一致的方法從公司的正 式文件、統計資料及根據本公司制度所收集 的管理和營運資料總結本年度的環境和社 會的績效表現。

Reliability Statement 可靠性陳述

Chenming Group undertakes that nothing in the Report contain any false statements, misleading statements or material omissions, and the Board of Directors of the Company assumes individual and joint responsibility for the truthfulness, accuracy and completeness of the information herein.

Report Access 報告獲取

The Report has been prepared in both English and Chinese and has been uploaded to the websites of The Stock Exchange of Hong Kong Limited (the "HKEX") (www.hkex-news.hk), Juchao Information website (www.cninfo.com.cn) and the Company's website (http://www.chenmingpaper.com).

Contact Us 聯繫方式

Chenming Group encourages all stakeholders to make advice or comments on the Company's sustainable development and environmental, social and governance efforts. For any relevant matters, please contact chenmmingpaper@163.com.

Forward-looking statements 前瞻性陳述

This Report contains forward-looking statements that are based on current expectations, estimates, forecasts, beliefs and assumptions about the business and markets in which the Group and its production sites operate and are not guarantees of future performance. Our performance may be affected by market risks, uncertainties and factors beyond Chenming Group's control. As a result, actual results and returns may differ significantly from the assumptions made and the statements contained in this Report. 本報告包含的前瞻性陳述,乃基於集團及下 屬生產基地的業務和所營運市場的現行期 望、估計、預測、信念及假設,並不能保證未 來的表現。我們的表現或會受到市場風險、 不明朗因素和超出晨鳴紙業控制範圍的因 素影響。因此,實際結果及回報或會與本報 告所作出的假設及所載的陳述有顯著差異。 晨鳴紙業承諾本報告內容不存在任何虛假 記載、誤導性陳述或重大遺漏,公司董事會 對其內容真實性、準確性和完整性承擔個別 及連帶責任。

本報告以中、英文編寫,並已上載至香港聯 合交易所有限公司("聯交所")網站 (www.hkexnews.hk)、巨潮資訊網站 (www.cninfo.com.cn)及本公司網站 (http://www.chenmingpaper.com)。

晨鳴紙業鼓勵所有持份者對本公司可持續 發展與環境、社會及管治工作提出建議或意 見。如有相關事宜,請聯繫chenmmingpaper@163.com。