



RISUN

China Risun Group Limited
中國旭陽集團有限公司

(於開曼群島註冊成立的有限公司)
(Incorporated in the Cayman Islands with limited liability)
股份代號 Stock Code : 1907



2023

環境、社會及管治報告
Environmental, Social, and Governance Report

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概述

Overview

報告說明

報告發佈週期

本報告時間範圍為2023年1月1日至2023年12月31日，部分內容或超出此時間範圍。

報告組織範圍

本報告內容涵蓋中國旭陽集團有限公司及所屬重要子公司相關數據。為便於表達，本報告中亦使用「旭陽集團」「旭陽」「本集團」「集團」「我們」等稱謂。

報告編製原則

本報告依據《香港聯合交易所有限公司證券上市規則》附錄C2《環境、社會及管治報告指引》（《ESG指引》），參照全球報告倡議組織《可持續發展報告標準》（GRI Standards）、國際標準化組織《ISO26000：2010社會責任指南》編寫。報告編製遵循重要性、量化、平衡、一致性原則。

ESG匯報原則

重要性：本報告遵循聯交所重要性原則規定，在報告中披露董事會及ESG工作小組審議ESG事宜，利益相關方溝通、實質性議題識別過程及實質性議題矩陣，具體遵循情況詳見後文對應部分。

量化：本報告中定量關鍵績效指標的統計標準、方法、假設及/或計算工具，以及轉換因素的來源，均在報告釋義中進行說明。

平衡：本報告不偏不倚地呈報本集團報告期內的表現，避免可能會不恰當地影響報告讀者決策或判斷的選擇、遺漏或呈報格式。

一致性：本報告披露數據所使用的統計方法均保持一致。

Report Description

Report release cycle

The time scope of the report is from January 1, 2023 to December 31, 2023, and some contents may be beyond it.

Report organization scope

The report covers the relevant data of China Risun Group Limited and its major subsidiaries. For the convenience of expression, the report also uses the terms such as “Risun Group”, “Risun”, “this Group”, “the Group”, “We”, etc.

Report compilation principle

This report has been compiled in accordance with the Environmental, Social and Governance Reporting Guide (Main Board Listing Rules Appendix C2) (“ESG Guide”) issued by the Hong Kong Exchanges and Clearing Limited (“HKEX”), with reference to the GRI Standards issued by the GSSB and the ISO26000:2010 – Guidance on Social Responsibility issued by the ISO. The preparation of this report adheres to the principle of materiality, quantification, balance and consistency.

ESG reporting principle

Importance: The report follows the SEHK’s principle of importance, and discloses the ESG issues reviewed by the Board of Directors and the ESG Working Group, stakeholders communication, substantive issues identification process and substantive issues matrix. For details of compliance, please refer to the corresponding part below.

Quantification: The statistical standards, methods, assumptions and/or calculation tools of the quantitative key performance indicators in the report, as well as the sources of conversion factors, are explained in the notes of the report.

Balance: The report presents the performance of the Group in an impartial manner during the reporting period, avoiding the choice, omission or presentation format that may improperly affect the decision-making or judgment of its readers.

Consistency: The statistical methods used for data disclosure in the report are consistent.

關於旭陽

中國旭陽集團有限公司(1907.HK)創立於1995年，總部設在北京。經過二十九年的發展，已成為集焦炭、化工、運營管理服務等業務板塊協同發展的大型企業集團。旭陽集團擁有河北邢台、定州、樂亭、滄州，山東鄆城、東明，內蒙古呼和浩特、印尼蘇拉威西以及江西萍鄉（在建）9個生產園區，並對河南海星化工（焦油）、內蒙古中盛科技（焦炭）、寶舜化工（焦油）、農耀化工（粗苯加氫）、中晉太行（焦炭）、山東項目（焦炭）、吉林康乃爾（苯胺）、山東萬山（苯加氫）提供運營管理服務。發展成為：

About Risun

China Risun Group Limited (1907.HK) was founded in 1995 and headquartered in Beijing. Through 29 years of development, it has become a large enterprise group integrating coke, chemical, operation and management services, and other business sectors. Risun owns a total of 9 production bases in Hebei's Xingtai, Dingzhou, Leting, Cangzhou, Shandong's Yuncheng, Dongming, Inner Mongolia's Hohhot and Sulawesi, Indonesia, and Jiangxi's Pingxiang (under construction), and provides operation and management services to enterprises such as Henan Haixing Chemical (tar), Inner Mongolia Zhongsheng Technology (coke), Baoshun Chemical (tar), Chenyao Chemical (hydrogenation for crude benzene), Zhongjin Taihang (coke), Shandong project (coke), Jilin Connell (phenylamine), and Shandong Wanshan (benzene hydrogenation). Currently Risun is:



概述 Overview

焦炭 Coke

產量
Production

12,543.7 千噸
million tons

粗苯 Crude benzene

加工量
Processing volume

754.4 千噸
million tons

煤焦油 Coal tar

加工量
Processing volume

917.7 千噸
million tons

甲醇 Methanol

產量
Production

706.9 千噸
million tons

苯酐 Phthalic anhydride

產量
Production

157.1 千噸
million tons

己內酰胺 Caprolactam

產量
Production

657.9 千噸
million tons

高純氫 High-purity hydrogen

產量
Production

9,300,402.0 m³

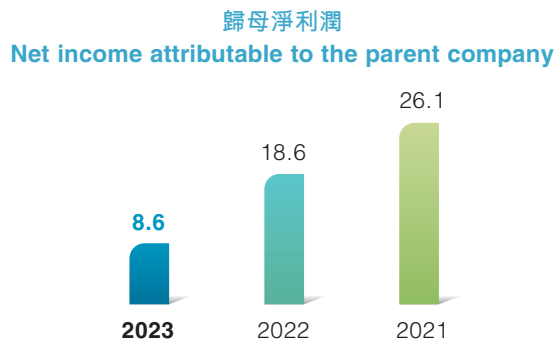
截至2023年12月31日，旭陽集團以焦炭為起點，形成了碳材料、醇氨、芳烴三條獨特的化工產業鏈，可生產5大類56種產品。運營焦炭生產線15條、化工生產線59條，3條高純氫生產線，開展國內外貿易，形成了覆蓋全國、輻射全球的銷售網絡和原料供應渠道。

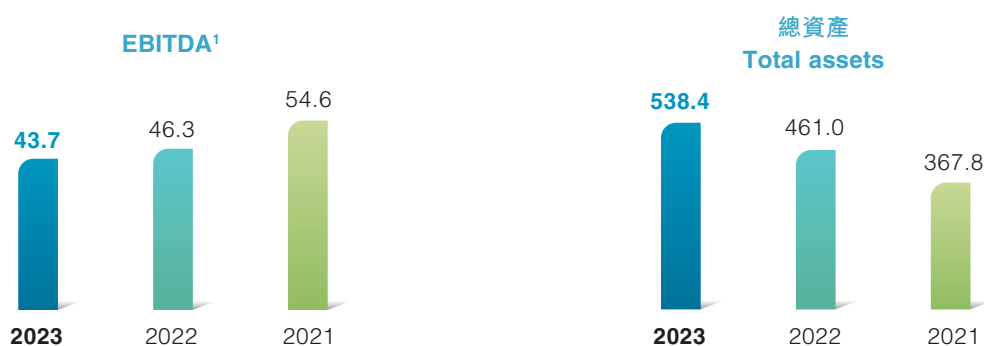
As of December 31, 2023, Risun Group has established three unique chemical industrial chains of carbon materials, alcohol ammonia, and aromatic hydrocarbons based on its chemical industrial chain of coke, which covered 56 types of refined chemicals in 5 categories; The Group operates 15 coke production lines, 59 chemicals production lines and 3 hi-purity hydrogen production lines. In addition, Risun Group has carried out domestic and foreign trade and formed a sales network and raw material supply channels covering the whole country and radiating the world.

2021年－2023年集團業績表現

Company performance in 2021-2023

單位：億元人民幣 (In 100 million RMB)





¹ EBITDA為未計利息、稅項、折舊及攤銷前盈利
EBITDA refers to earnings before interest, taxes, depreciation and amortization.

董事會ESG管治聲明

中國旭陽集團有限公司董事會承諾，本集團嚴格遵守《香港聯合交易所有限公司證券上市規則》參照全球報告倡議組織《可持續發展報告標準》(GRI Standards)、國際標準化組織的披露要求。

董事會是ESG相關事項的最高負責和決策機構，負責對公司ESG治理工作在實施過程中的全面監管。董事會及高級管理層對環境、社會及管治整體策略及匯報負責，並定期檢視ESG績效及信息披露，審議安全、環境、員工、投資等多項與ESG相關的議案，統一指導、決策並推動ESG目標落地。本集團管理層下設環境、社會及管治(ESG)工作小組，負責制定集團的ESG策略並監督ESG舉措的落實，監管ESG關鍵議題的承諾和表現，並審批本集團環境、社會及管治報告內的披露資料。本報告亦於2024年3月經環境、社會及管治工作小組、董事會審議後發佈。

本集團資本市場部作為總牽頭及協調部門，負責日常ESG協調和落實，定期向董事會及高級管理層匯報。2023年本集團通過董事會審議環境、社會及管治風險的評估，管理層已向本集團董事會確認，於報告期內，本集團有關環境、社會及管治風險管理及內部監控系統有效。

ESG Statement of the board of directors

The Board of Directors of China Risun Group Limited undertakes that this report has been compiled in accordance with the Environmental, Social and Governance Reporting Guide, with reference to the GRI Standards issued by the GSSB and the ISO26000:2010 – Guidance on Social Responsibility issued by the ISO.

The Board functions as the supreme body in charge of and making decisions for ESG-related matters and sees to comprehensive supervision over the implementation of the Company's ESG governance. The board of directors and senior management are responsible for the environmental, social, and governance strategy and report, periodically review the environmental, social, and governance information and performance, reviewing proposals about ESG such as safety, environment, employees, and investment, and direct, decide, and promote ESG work uniformly; The environmental, social, and governance ("ESG") working group under the management of the Group is responsible for formulating the Group's ESG strategy and overseeing the implementation of ESG measures, regulating the commitment and performance of key issues concerning ESG, and examining and approving disclosure information as contained in the Group's environmental, social and governance report. This report will be published after being deliberated by the ESG working group and the board of directors in March 2024.

The Capital Market Department of the Group, as the leading and coordinating department, is responsible for daily ESG coordination and implementation, and periodically reports to the board of directors and senior management; In 2023, the Group reviewed the environmental, social and governance risks through the board of directors. The management team has confirmed to the Group's Board of Directors that within the Reporting Period, the Group's risks management and internal monitoring system concerning environment, society and governance is effective.

董事長致辭

Chairman's Message



過去的2023年是充滿機遇與挑戰的一年，全球多種不確定因素疊加，給焦炭行業可持續發展帶來了嚴峻的挑戰。作為行業龍頭企業，旭陽集團深刻地認識到堅守可持續發展的責任，堅定地肩負起了引領行業可持續發展的重任。作為集焦炭、化工、運營管理服務等多個業務板塊的大型集團企業，旭陽集團積極探索新經營模式，加大研發投入和創新，不斷提升產品質量和服務水平，不斷滿足客戶多樣化的需求。同時集團持續深化改革，完善內部管理機制，優化資源配置，提高效率 and 效益；堅持以人為本，激發員工的創造力和積極性，建立起一支專業化、高素質的團隊，為集團的長遠發展提供堅實的人才保障。集團在複雜多變的環境中穩步前行，持續保持核心優勢，積極把握新機遇，持續賦能各個利益相關方，助力經濟、社會、環境的協調發展。

In the past 2023, a year full of opportunities and challenges, the superposition of multiple global uncertainties has brought tough challenges to the sustainable development of the coke industry. As a leader in the industry, Risun Group has established a firm commitment to realizing sustainable development and has taken on the important mission of leading the industrial sustainable development. As a large group integrating multiple sectors such as coke, chemicals, and operation and management services, Risun Group makes bold attempts of new business models, and keeps making investment and innovation in research and development, and refining its product quality and service level, to meet the diverse demands of customers. In the meantime, the Group continues to deepen reforms, upgrade internal management mechanisms, optimize resource allocation, and improve efficiency and effectiveness. Based on people-oriented approaches, it stimulates employees' creativity and enthusiasm, to have built a professional and high-quality team, providing solid supports for its long-term development. While forging ahead with a steady pace in this complex changing world, the Group maintains its core edge and seizes new opportunities, to continuously empower its stakeholders, and contribute to the coordinated development of economy, society and environment.



旭陽集團為焦炭、精細化工產品和氫能產品的綜合生產商及供貨商，於中國及全球的多個精細化工產品領域處於領先地位，並利用自身工業副產氫的優勢大力佈局「制—儲—運—加—用+研」氫能項目。目前，公司形成了焦炭、精細化工、運營管理的業務佈局，形成了碳材料、醇氨、芳烴三條獨特的化工產業鏈，可生產5大類56種產品。運營焦炭生產線15條、化工生產線59條，3條高純氫生產線。開展國內外貿易，形成了覆蓋全國、輻射全球的銷售網絡和原料供應渠道。

As a comprehensive manufacturer and supplier of coke, fine chemicals and hydrogen energy products, Risun Group takes a leading position in several fine chemical sectors home and abroad, and takes advantage of its by-product hydrogen to develop hydrogen projects consisting of hydrogen production, storage, transportation, re-fueling, use and research. So far, Risun Group has formed a business pattern of coke, fine chemicals, and operations and management, and established three unique chemical industrial chains of carbon materials, alcohol ammonia, and aromatic hydrocarbons, which covered 56 types of refined chemicals in 5 categories. The Group operates 15 coke production lines, 59 chemicals production lines and 3 hi-purity hydrogen production lines. In addition, Risun Group has carried out domestic and foreign trade and formed a sales network and raw material supply channels covering the whole country and radiating the world.

董事長致辭 Chairman's Message

綠色轉型，落實雙碳目標。旭陽集團牢固樹立「綠色發展」理念，積極響應國家「碳达峰、碳中和」戰略，不斷加強環保與可持續發展相關工作，將綠色低碳融入企業底色中，堅持走煤炭清潔高效利用之路。為順應國家戰略，我們成立雙碳研究所，錨定企業發展的四個維度：全生命週期綠色運營、綠色低碳轉型升級、碳捕集／碳利用／碳封存以及低碳運營管理。2023年全年環保投入25.1億元，實現二氧化碳減排378萬噸。

創新驅動，推動智能發展。集團視創新為企業發展的核心動力，投身於科技創新的浪潮中，致力於引領行業智能化發展。集團堅定不移地推進「從無到有」和「技改技措」兩大類研發創新系統，以不懈的努力和不斷的突破，致力於為智能化進程貢獻更多成果。集團現擁有8家高新技術企業、3家省級工程技術研發中心、3家省級技術創新中心、1家省級重點實驗室、8家省級企業技術中心、7家省級新型研發機構、3家國家級認證檢測中心以及博士後科研工作站等研發平台。取得40項國家、省市級技術創新成果，獲得216項省市級榮譽，其中包括省級科技進步獎6項，市級科技進步獎11項。截止至2023年末，我們已經累計獲得專利技術授權277項，獲得專有技術授權529項。

安全為本，保障生產質量。旭陽集團始終將安全生產和產品質量放在企業發展的核心位置，堅定不移地將安全生產視為企業永恒的主題，將產品質量安全作為企業的底線，為社會各界提供安全可靠的產品。我們不斷加強安全生產標準和管理體系建設，確保生產過程中的安全可靠。通過開展安全培訓和技能培訓，提升員工的安全意識和技能水平，加強安全風險防控，努力營造安全穩定的生產環境。通過建立先進管理模式，科學的安全管理體系，旭陽集團在各個生產環節層層把關，全面提升產品質量和生產安全水平。

Green transformation towards the goal of Carbon Peaking and Carbon Neutrality. Risun Group firmly upholds the concept of green development, positively responds to the national strategy of realizing Carbon Peaking and Carbon Neutrality, keeps working on environmental protection and sustainable development, integrates green and low-carbon as a part of the corporate philosophy, and keeps to the path towards clean and efficient use of coal. In response to the national strategy, we have established the Dual Carbon Research Institute, which focuses on corporate development from these four dimensions: full-life-cycle green operations, green and low-carbon transformation and upgrading, Carbon Capture, Utilization and Storage (CCUS), and low-carbon operations and management. In 2023, the annual investment in environmental protection recorded RMB2.51 billion yuan, and the carbon dioxide emission has been reduced by 3.78 million tonnes.

Promoting intelligent development through innovation. The Group keeps innovation-driven in corporate development, dives into technological innovation, and commits itself to leading the intelligent development of the industry. The Group firmly undertakes the promotion of the two R&D and innovation systems, namely, "innovation from scratch" and "technical transformation and technical measures", and is dedicated to make more contributions to the intelligent upgrading by making unremitting efforts and continuous breakthroughs. The Group has 8 high-tech enterprises, 3 provincial engineering technology R&D centers, 3 provincial technology innovation centers, 1 provincial key laboratory, 8 provincial enterprise technology centers, 7 provincial new R&D institutions, 3 national certification and testing centers, as well as research and development workstations and platforms. Achieved 40 national, provincial, and municipal-level technological innovation achievements, won 216 provincial and municipal-level honors, including 6 provincial-level scientific and technological progress awards and 11 municipal-level scientific and technological progress awards. As of the end of 2023, a total of 277 patents and 529 propriety technologies have been granted.

Staying safety-oriented, to guarantee production quality. Risun Group always prioritizes production safety and product quality as the key of corporate development. We make production safety as our eternal theme, and hold product quality and safety as the bottom line, to provide safe and sound products to all walks of life. We are constantly refining our production safety standards and management system, to ensure safe and controllable production processes. By providing safety training and skills training, we keep strengthening our employees' safety awareness and skill level, and consolidating safety risk prevention and control, and endeavor to build a safe and stable production environment. By building an advanced management model and a scientific safety management system, Risun Group establishes strict controls over each production process, to raise product quality and safety in an all-round manner.

董事長致辭 Chairman's Message

共榮發展，履行社會責任。旭陽集團將員工視為企業發展的重要支撐，始終秉承「以人為本」的人才發展理念。我們通過建立完善的員工激勵機制和培訓體系，為員工創造良好的工作環境和福利待遇，助力員工實現自身價值與企業共同發展。集團始終以「取之社會，回報社會」為責任和理念，以「為社會進步貢獻最大力量」為企業理想。我們通過參與各類公益活動、捐贈社會福利事業、支持教育和環保項目等方式，積極回饋社會、回報員工、回報股東，為社會和諧穩定作出積極貢獻，共同構建和諧共榮的美好未來。

知不足而奮進，望遠山而力行。新的一年旭陽集團將以歷史使命和時代責任為引領，以不懈的奮鬥和不竭的創新精神，為推動經濟高質量發展貢獻自己的力量。在新時代的征程中，旭陽集團將繼續以「世界領先的能源化工公司—創新引領未來」為願景目標，不斷深化改革創新，進一步加強科技創新，推動產業智能化、綠色化發展，努力為實現可持續發展貢獻旭陽力量。

Creating inclusive prosperity by fulfilling sufficient social responsibilities. Risun Group values its employees as key supports for the corporate development and sticks to a “people-oriented” concept of talent development. With a sound incentive mechanism and training system, we have created wonderful workplaces and benefits for our employees, helping them fulfill their value and growth together with the Company. The Group always takes “taking from society and repaying society” as its responsibility and philosophy, and “making the greatest contribution to social progress” as its vision. We make positive contributions to society, employees and shareholders by taking part in various public welfare events, making great donations to charitable causes, facilitating educational and environmental projects, in order to help create a stable and harmonious society, and to jointly build a bright future of shared harmony and common prosperity.

Forging forward while shortening shortcomings; aligning performances towards lofty goals. In the new year, Risun Group will continue to orient itself to the great mission of the history and the responsibility of the times, and contribute its own bit of power by making unremitting efforts and endless innovation to the high-quality economic development. To usher in the new era, Risun Group will uphold its vision and goal of developing into “The World’s Leading Energy Chemical Company – Innovation Leads to the Future”, keep deepening reform and innovation, further upgrade scientific and technological innovation, and promote the industry to go intelligent and green, thus contributing Risun’s power to the realization of sustainable economic development.



楊雪崗
Yang Xuegang
中國旭陽集團董事長
Chairman of China Risun Group

專題：旭陽集團上市五周年，ESG 績效持續提升 Feature: Risun Group Celebrates Its Fifth Anniversary of Listing, with Continuously Growing ESG Performances

旭陽集團於五年前成功登陸資本市場，開啟了新的征程。如今，在上市五周年之際，我們自豪地宣佈，企業在環境、社會和治理(ESG)方面取得了顯著的提升，為可持續發展注入了強勁動力。

在治理方面，旭陽集團堅持依法經營和誠信經營，建立了完善的公司治理體系、健全的內部管理體系和風險控制機制，保障了企業經營的穩健和可持續。我們高度重視透明度和公平性，在信息披露、股東權益保護、治理結構完善等方面不斷加強。我們定期對外進行ESG信息披露，本年度是連續第三年對外發佈獨立版ESG報告，向利益相關方公開披露企業的ESG績效和目標。我們與政府部門、業界合作夥伴和供應商建立了緊密的合作關係，共同推進治理水平的提升，樹立了企業的良好社會形象和信譽度。

Risun Group got listed in the capital market five years ago to embark on a new journey. This year marks the fifth anniversary of our listing, and we are proud to make this announcement that the Company has achieved remarkable improvements in environmental, social and governance (ESG) performances, adding strong momentum to the fulfillment of sustainable development.

In terms of governance, Risun Group sticks to legal and honest operations, and has established a sound corporate governance system, a sound internal management system and a risk control mechanism, safeguarding the stability and sustainability of its operations. We attach great importance to transparency and fairness, and keep refining ourselves in terms of information disclosure, protection of shareholders' rights and interests, and improvement of the governance structure. We publish our ESG information on a regular basis, and this year marks the third consecutive year of our issuance of independent ESG reports, to disclose the Company's ESG performances and goals to stakeholders. We have formed close cooperative relationships with authorities, industry partners and suppliers, to jointly drive the improvement of governance and build our sound image and credibility.



旭陽集團連續三年發佈獨立版ESG報告

Risun Group has released independent ESG reports for three consecutive years.

專題：旭陽集團上市五周年，ESG 績效持續提升

Feature: Risun Group Celebrates Its Fifth Anniversary of Listing, with Continuously Growing ESG Performances

在環境方面，旭陽集團堅持綠色發展理念，積極進行綠色清潔轉型，不斷加大環保投入，推進節能減排工作。我們順應國家「碳達峰•碳中和」戰略，制定「雙碳」行動方案、設立環保研究所、雙碳研究所、氫能研究所，開拓氫能業務、探索碳捕集、利用與封存(CCUS)試點項目，力求成為煤化工行業清潔高效轉型的主力軍。我們重視將可持續發展理念融入日常運營當中，依託先進的設備和控制系統，結合更先進的生產技術，實現每年減碳量的逐步提升。同時，我們通過節能技改、餘熱回收、循環利用等方式減少對資源的索取，追求人與自然和諧共生。五年內，我們有多個工廠榮獲「國家級」及「省級綠色工廠」，通過先進工藝，節能改造等各項措施減少碳排放1,610萬噸，節約水資源146萬立方米，節電6,425萬度。

In terms of the environment, Risun Group upholds the concept of green development, takes the lead in green and clean transformation, and continuously increases investment in environmental protection, to facilitate energy conservation and emission reduction. Aligning with the national strategy of Carbon Peak and Carbon Neutrality, we have formulated a dual carbon action plan, established the environmental protection research institute, the dual carbon research institute, and the hydrogen energy research institute, engaged in the hydrogen energy sector, and explored in carbon capture, utilization and storage (CCUS) pilot projects, striving to be a main player in the clean and efficient transformation of the coal chemical industry. We attentively integrate the concept of sustainable development into our daily operations, and have achieved increasingly lowered annual carbon emission by means of advanced equipment and control systems, plus advanced production technologies. Meanwhile, we reduce our demands on resources by technological innovation for energy conservation, waste heat recovery, and recycling, to pursue harmonious coexistence between man and nature. In the past five years, many of our plants have been crowned “National Green Factory” and “Provincial Green Factory”. By virtue of advanced technology, and different measures including energy-saving transformation, we have reduced carbon emissions by 16.1 million tonnes, saved water resources of 1.46 million cubic meters, and cut electricity consumption of 64.25 million kilowatt-hours.

專題：旭陽集團上市五周年，ESG 績效持續提升 Feature: Risun Group Celebrates Its Fifth Anniversary of Listing, with Continuously Growing ESG Performances

大力開拓綠色業務

Expanding green business

2019

計劃增加氫能產品產線：

In 2019, we planned to add a hydrogen production line;

2020

成為第一批入選《河北省2020年氫能產業重點項目清單》的企業：

In 2020, Risun Group was inscribed on the first “List of Key Projects of Hydrogen Energy Industry in Hebei Province in 2020”;

2021

發佈《旭陽集團氫能發展規劃》，立足自身優勢系統規劃氫能佈局：

In 2021, the Hydrogen Energy Development Plan of Risun Group was introduced, creating a blueprint of hydrogen energy based on its own edge;

2022

完成集團氫能市場主體設置及相應組織架構設計與佈局，加速推進「制－儲－運－加－用＋研」全產業鏈佈局發展：

In 2022, the Group has obtained the dominant position in hydrogen energy market and completed the corresponding organizational structure design and layout, and we are accelerating the layout of the whole industrial chain (production – storage – transportation – refueling – use + research);

2023

高純氫總產能達5,600萬方／年，成為目前京津冀雄範圍內最大的高純氫生產基地。

In 2023, we reached a total production capacity of high-purity hydrogen amounting to 56 million cubic meters per year, becoming the largest high-purity hydrogen production base in the Beijing-Tianjin-Hebei Region.



專題：旭陽集團上市五周年，ESG 績效持續提升

Feature: Risun Group Celebrates Its Fifth Anniversary of Listing, with Continuously Growing ESG Performances

■ 積極探索CCUS試點項目

■ Making active attempts in CCUS pilot projects

2021

將碳捕集納入實現碳中和的關鍵行動規劃中：

In 2021, CCUS was included in the key action plan for achieving carbon neutrality;

2022

在中煤旭陽建設全國焦化行業首個焦爐煙氣二氧化碳捕集項目：

In 2022, China Coal Risun built the first COFG carbon dioxide capture project in China's coking industry;

2023

滄州旭陽以合成氨低溫甲醇洗裝置脫碳尾氣為原料氣採用吸附與低溫精餾組合工藝製備食品級二氧化碳項目與中煤旭陽項目一同獲批河北省第二批二氧化碳捕集利用與封存試點項目。

In 2023, Risun Group's projects have been approved on the second list of Hebei Provincial CCUS pilot projects: Cangzhou Risun's project of preparing food-grade carbon dioxide using adsorption and cryogenic distillation from the decarbonized tail gas of the low-temperature synthetic ammonia methanol washing unit, together with the project of China Coal Risun.



專題：旭陽集團上市五周年，ESG 績效持續提升

Feature: Risun Group Celebrates Its Fifth Anniversary of Listing, with Continuously Growing ESG Performances

■ 持續推進工藝技改項目

2019

全集團積極開展超低排放改造：

In 2019, the whole Group initiated the transformation towards ultra-low emission;

2020

定州園區實施七大環保深度治理項目，累計減少顆粒物排放355噸、回收污水175.2萬噸、VOCs減排73.91噸；

In 2020, Dingzhou Base enacted seven deep treatment projects for environmental protection, leading to a decrease of particulate matter emissions by 355 tonnes, recycling of 1.752 million tonnes of wastewater, and a lowered VOCs emissions by 73.91 tonnes;

2021

邢台園區完成九大環保改造項目，使各項污染因子排放指標實現「超超低排放」標準；

In 2021, Xingtai Base completed nine renovation projects for environmental protection, bringing the emission indicators of pollution factors to the “ultra-low emission” standard;

2022

在實現污染物排放大幅降低後持續推進節能技改，唐山旭陽化工甲醇裂解氣改脫氫尾氣PSA裝置改造項目實現二氧化碳減排3,251噸／年，降低能耗1,530噸標煤／年；

In 2022, after a significant reduction in pollutant emissions, we continued to promote energy-saving technological transformation. Tangshan Risun Chemical's Hydrogen Production Plant Modification Project (transformation from using methanol cracking gas to using dehydrogenation tail gas) managed to reduce carbon dioxide emission by 3,251 tonnes/year and energy consumption by 1,530 tonnes of standard coal/year.

2023

脫硫廢液制酸項目正式投產，年產不低於92.5%的濃硫酸3.6萬噸。

In 2023, the project of producing acid from desulfurization waste liquid officially started production, with an annual output of 36,000 tonnes of concentrated sulfuric acid with a concentration of no less than 92.5%.



專題：旭陽集團上市五周年，ESG 績效持續提升

Feature: Risun Group Celebrates Its Fifth Anniversary of Listing, with Continuously Growing ESG Performances

在社會責任履行方面，旭陽集團始終將關愛員工和回饋社會視為自身義不容辭的責任。我們致力於員工的職業發展與生活福祉，提供良好的工作環境和福利待遇。五年來，集團員工數量穩步提升，人才結構不斷優化，國際化人才、高學歷人才、數字化人才大幅增長。我們為員工提供了持續的培訓和發展機會，員工滿意度得到了顯著提升。同時，集團加大科技研發投入，致力於實現「完全自動化、徹底自動化、完全信息化、徹底信息化」目標。此外，我們積極參與扶貧濟困、校企合作、教育支持、災後重建等公益活動，關愛社會弱勢群體，累計對外捐贈超2,200萬元。

In terms of social responsibilities, Risun Group always fulfills its duty of caring employees and attending charitable causes. We work hard to boost our employees' career development and well-being and to provide wonderful workplaces and benefits. Over the past five years, our employees have steadily increased in number and continuously refined in structure, with a notable growth of global, highly educated, and digital talents. We provide our employees with continuous training and development opportunities, winning a significantly higher employee satisfaction. What's more, the Group has made more investment in scientific and technological research and development, to devote itself to achieve the goal of "becoming fully and completely automated and information-based". In addition, we positively attend public welfare events for poverty alleviation, school-enterprise cooperation, educational support, and post-disaster reconstruction, and care for the disadvantaged in society, recording a total public donation of more than RMB22 million yuan.

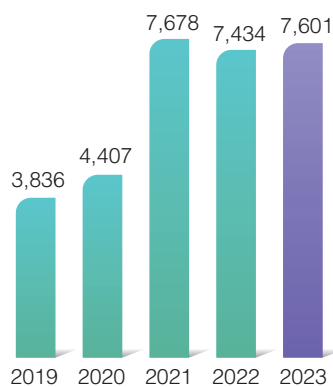
■ 以人為本，共繪企業發展華章

旭陽集團穩健發展，員工隊伍持續壯大，業務實力顯著增強。公司始終堅持人才為本，關注員工的成長和福祉，為員工提供良好的工作環境和發展機會，激發員工的創新活力和工作熱情。我們廣納行業精英，員工人數穩步增長，展現出蓬勃的生命力。

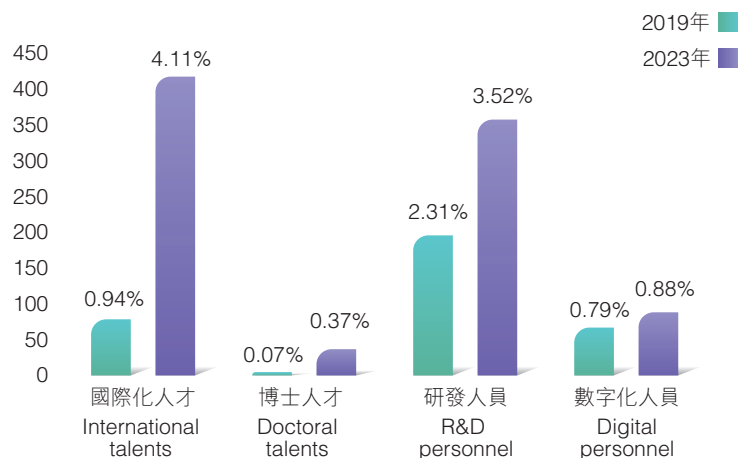
■ Staying people-oriented, and joining hands to draw a brilliant picture of corporate development

Risun Group is soundly growing with a greater workforce and more powerful business strength. The Company is always people-oriented, and pays attention to the growth and well-being of its employees. We provide our employees with wonderful workplaces and development opportunities, and always vitalize them for innovation and work enthusiasm. We have been seeking elites from the industry, and steadily increasing the number of our employees, showing great vitality.

旭陽集團員工總數
The total employees of Risun Group



2019年到2023年員工結構變化
Changes in employee structure from 2019 to 2023



專題：旭陽集團上市五周年，ESG 績效持續提升 Feature: Risun Group Celebrates Its Fifth Anniversary of Listing, with Continuously Growing ESG Performances

■ 人文關愛，設立員工互助社

旭陽集團在各子公司分別設立旭陽員工互助分社，遵循「重點幫扶、公開透明」「先救急後救貧」等幫扶機制，幫扶困難員工家庭子女上學、捐款救助員工重疾家屬等，及時救助與扶持困難員工。累計共計幫扶員工1,300餘人次。

■ Being philanthropic through our Employees' Mutual Help Association

Risun Group has established branches of Risun Employees' Mutual Help Association in each subsidiary, to provide timely support for our employees in need by helping their children to receive education and donating to their family members who suffer from serious illnesses, in compliance with such principles as "providing targeted assistance, and being open and transparent" and "emergency relief before poverty relief". Such supports have been provided for a total of more than 1,300 person-times.



旭陽集團各子公司召開座談會並走訪慰問困難員工

Risun Group's subsidiaries held seminars and visited employees in need.

專題：旭陽集團上市五周年，ESG 績效持續提升

Feature: Risun Group Celebrates Its Fifth Anniversary of Listing, with Continuously Growing ESG Performances

■ 校企聯合培養，賦能未來人才

2019

河北旭陽能源與河北科技大學成立「旭陽班」，精準培養高技能人才；旭陽集團定州園區與河北工業職業技術大學簽訂現代學徒制旭陽班戰略合作協議，實行高考計劃單列、校企聯合培養，「招生即招工、入校即入司」的培養模式。

■ Working with universities in talent cultivation to empower future talents

In 2019, Hebei Risun Energy cooperated with Hebei University of Science and Technology in launching the Risun Class to train targeted high-skilled talents; Risun Dingzhou Base entered into a strategic cooperation agreement with Hebei Vocational University of Industry and Technology on the Risun Class based on modern apprenticeship, in the mode of separately planned admission on the National College Entrance Examination, and university-enterprise joint cultivation, so that “the admission by the university means the recruitment by Risun”.

2020

應用網絡培訓、遠程教育和電化教育等多種方式，與中國人民大學等高校開展校企合作培訓。

In 2020, we cooperated with Renmin University of China and several others on university-enterprise programs, by different means such as online training, distance education and audio-visual education.

2023

啟動「鷹式工程」人才培養方案，與河北工業職業技術大學創新學生培養模式，在學校教學的基礎上，以崗位能力培養為主線，以工作任務和基於成果為導向，以學生為中心進行反向課程設計，學生與企業建立共同任務目標，達到人才培養與促進生產的雙贏效果。

In 2023, the Eagle Program for talent training was launched. We worked with Hebei Vocational University of Industry and Technology in implementing an innovative student training mode, which is aimed at win-win effects of talent training and production promotion, to fulfill common goals of students and the enterprise, on the basis of teaching and focusing on job competency training, with curriculum oriented to tasks and results and designed for students as the center.



專題：旭陽集團上市五周年，ESG 績效持續提升 Feature: Risun Group Celebrates Its Fifth Anniversary of Listing, with Continuously Growing ESG Performances

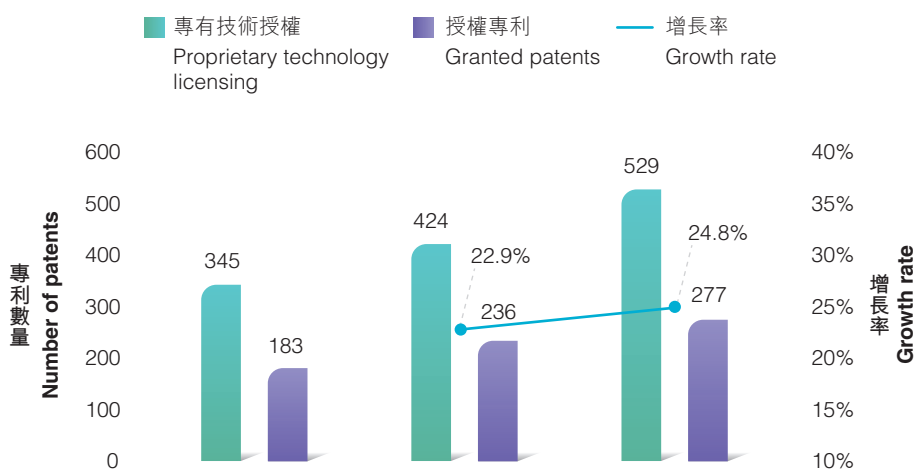
提升數智化，重視科技創新

截止2023年底，旭陽集團累計投資10.6億元，完成98個數智化項目。所有裝置自控率達到98%及以上、化工裝置自控率達到100%。相較於2021年，新增1家省級工程技術研發中心、2家省級技術創新中心、5家省級企業技術中心、5家省級新型研發機構、2家國家級檢測中心以及博士後科研工作站、博士後創新實踐基地、院士專家工作站等研發平台。

Improving digital upgrading and attaching importance to technological innovation

As of the end of 2023, Risun Group has invested a total of RMB1.06 billion yuan in completing 98 digital projects. The automatic control rate has reached over 98% for all the equipment and devices and 100% for all the chemical equipment and devices. Comparing with 2021, there are 1 new provincial engineering technology R&D centers, 2 provincial technology innovation centers, 5 provincial enterprise technology centers, 5 provincial new R&D institutions, 2 national testing centers, as well as research and development platforms such as post-doctoral research stations, postdoctoral innovation practice bases and academician expert workstations.

旭陽集團創新績效
Risun Group's performance in innovation



五年來，旭陽集團在ESG領域不斷探索創新，取得了顯著成績，但我們也清醒地意識到，這只是一個新起點。未來，我們將繼續深化改革，加強協同合作，進一步提升ESG績效水平。我們的長期目標是實現碳中和，通過可持續發展路線圖的制定和實施，為構建美好未來貢獻更大的力量。

Over the past five years, Risun Group has been exploring and making innovation in the ESG sector and has achieved remarkable results, which, however, as we clearly understand, is just a new starting point. In the future, we will keep deepening reforms, and strengthening collaboration, in order to further improve our ESG performance. In the long run, we are aimed at achieving carbon neutrality and making greater contributions to a better future through a well-pictured and soundly implemented roadmap of sustainable development.

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2023 年回顧

Overview of 2023

ESG 亮點及績效

ESG Highlights and Performance



綠色 Green

數據亮點

Statistical Highlights

- 全年環保投入25.1億元，通過先進工藝、節能改造等舉措實現二氧化碳減排378萬噸。
The annual investment in environmental protection recorded RMB2.51 billion yuan, and the carbon dioxide emission has been reduced by 3.78 million tonnes by virtue of advanced technology, and different measures including energy-saving transformation.
- 開展60次節能環保教育培訓，共計培訓8,414人次；
60 educational training sessions on energy conservation and environmental protection were held, involving a total of 8,414 trainees;
- 氫氣銷售930萬Nm³，完成年度目標122%，實現溫室氣體減排0.97萬噸，全流程溫室氣體排放值為0.49 CO₂/kgH₂，遠遠低於清潔氫閾值4.9kg CO₂/kgH₂。
The sales of hydrogen reached 9.3 million Nm³, achieving 122% of the annual target, and the greenhouse gas emissions have been reduced by 9,700 tonnes, the whole process GHG emission is 0.49 CO₂/kgH₂, which is much lower than the clean hydrogen threshold of 4.9kg CO₂/kgH₂;
- 2023年，獲批可持續發展授信7億美元。
In 2023, we have been approved for a sustainable development credit of 700 million US dollars.

行動亮點

Action Highlights

- 設立雙碳研究所，主要職能為制定「雙碳」規劃、提升「雙碳」管理、推廣溫室氣體減排措施及進行「雙碳」認證；
We established a dual carbon research institute, whose main roles are to make “dual carbon” plans, refine “dual carbon” management, promote measures for reducing greenhouse gas emission, and to conduct “dual carbon” certification;
- 制定「碳達峰 • 碳中和」行動頂層戰略：全生命週期綠色運營、綠色低碳轉型升級、碳捕集／碳利用／碳封存、低碳運營管理輸出；
We have formulated the top-level strategy for the Carbon Peak and Carbon Neutrality: full-life-cycle green operation, green and low-carbon transformation and upgrading, carbon capture, utilization and storage, and output of low-carbon operation and management;
- 從循環經濟、智能工廠和智慧園區建設、氫能供應等12個方面開展綠色低碳實踐，將綠色融入企業發展的方方面面。
We have made green low-carbon practices in 12 segments, including circular economy, construction of smart factories and smart bases, and hydrogen energy supply, to embrace the green concept in all aspects of corporate development.



創新 Innovation

- 累計獲得授權專利277項，獲得專有技術授權529項；
A total of 277 patents and 529 propriety technologies were granted;
- 現有博士學位員工38人，碩士學位員工298人；
There are 38 employees with doctor's degree and 298 employees with master's degree;
- 現有技術研發人員共計359人，佔比3.52%，其中博士25人，佔比6.96%；碩士112人，佔比31.20%；
There are 359 researchers and developers, accounting for 3.52% of the total. Among them, 25 employees have doctor's degree (accounting for 6.96%) and 112 employees have master's degree (accounting for 31.20%);
- 擁有3家省級工程技術研發中心、3家省級技術創新中心、1家省級重點實驗室、8家省級企業技術中心、7家省級新型研發機構、3家國家級檢測中心以及博士後科研工作站、博士後創新實踐基地、院士專家工作站等研發平台。
There are 3 provincial engineering technology R&D centers, 3 provincial technology innovation centers, 1 provincial key laboratory, 8 provincial enterprise technology centers, 7 provincial new R&D institutions, 3 national testing centers, as well as research and development platforms such as post-doctoral research stations, postdoctoral innovation practice bases and academician expert workstations.



高效 High efficiency

- 持續推進自動化、信息化、工業互聯網和智能製造，截至2023年底，集團累計投資10.6億元，完成了98個數智化項目。採用自動化設備和自控系統，實現工廠高度自動化，所有裝置自控率達到98%以上，其中化工裝置自控投用率達到100%，煉焦設備自動化水平處於行業領先地位；通過旭陽混合雲實現集團雲邊協同，快速響應和「存儲+計算+算法」的擴展能力。

We keep going automatic and information-based, and promoting industrial Internet and intelligent manufacturing. As of the end of 2023, Risun Group has invested a total of RMB1.06 billion yuan in completing 98 digital projects. We adopt automation equipment and automatic control system to achieve high automation. The automatic control rate of all devices reaches over 98%, among which the automatic commissioning rate of chemical devices reaches 100%, and the automation level of coking equipment is in the leading position in the industry. A cloud-edge collaboration has been achieved via Risun Hybrid Cloud, for making rapid responses and expanded capability of "storage + computing + algorithm".

- 自動化與信息化建設使得主要產品噸製造成本降低超10%；財務核算日常處理效率提升超50%；廠內物流效率提升50%以上，過磅效率提升了450%。

Automation and information have helped cut the manufacturing cost per tonne of major products by over 10%; the efficiency of daily financial accounting has been increased by more than 50%; the efficiency of in-plant logistics has been raised by over 50%, and the efficiency of weighing has been multiplied by 450%.



共享 Sharing

- 在崗員工7,601人，勞動合同簽約率100%；
There are 7,601 employees and the labor contract signing rate of full-time employees is 100%;
- 員工受訓總時長429,891.41小時，員工受訓總場次16,712次；
The total length of employee training is 429,891.41 hours, with 16,712 training sessions;
- 員工體檢率100%，職業病體檢覆蓋率100%。
The physical examination rate of employees is 100%, and the occupational disease physical examination coverage rate is 100%.

2023 年回顧 Overview of 2023

獎項與榮譽

Awards and Honors

集團獎項與榮譽

Risun Group



河北省政府質量獎 Quality Award of Hebei Provincial Government

河北省人民政府
Hubei Provincial People's Government



河北省冶金科技進步獎 Metallurgical Science and Technology Progress Award of Hebei Province

河北省金屬學會
Hebei Province Society for Metals



「創智獎」數字化轉型綜合實力卓越獎 “Manufacturing Innovation and Intelligence Award” – Excellence Award for Comprehensive Strength of Digital Transformation

中國能源研究會信息通信專委會
Information and Communication Committee of China Energy Research Society



2023第十三屆中國上市公司口碑榜 「最具社會責任上市公司獎」 The Best CSR Listed Company on the 13th Reputation List of China Listed Companies 2023

每日經濟新聞
National Business Daily



時代金融金桔獎「ESG時代先鋒 上市公司」 Golden Orange Award of Time Weekly Finance – “The ESG Pioneer Listed Company in the Era”

時代周報
Time Weekly



港股上市公司投資者關係天馬獎 Tianma Award for Investor Relations of Hong Kong Listed Companies

證券時報社
stcn.com



2023年度中國人才管理卓越典範獎 China Excellence Model Award for Talent Management in 2023

未來人才管理論壇
Hero – Future Talent Management Forum



最佳能源與資源公司 Best Company in Energy and Resources

智通財經
Zhitong Finance



傑出綠色和可持續貸款發行機構（原材料行業） — 卓越遠見可持續發展掛鈎貸款績效指標

香港品質保證局

Outstanding Award for Green and Sustainable Loan Issuer (Raw Material Industry) – Visionary Sustainability-linked Loan Performance Metrics

Hong Kong Quality Assurance Agency



附屬及合營聯營公司獎項與榮譽

Subsidiaries, joint ventures and associates

河北省博士後創新實踐基地
Hebei Provincial Postdoctoral
Innovation Practice Base

河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province

唐山旭陽化工
Tangshan Risun Chemical

省級健康企業
Provincial Health Enterprise

河北省衛生健康委員會、省工業和
信息化廳等六部門
The Health Commission and the Industry and
Information Technology Department of Hebei Province

唐山旭陽化工
Tangshan Risun Chemical

河北省模範職工之家
Hebei Province Model
Workers' Home

河北省總工會
Hebei Provincial Federation of Trade Unions

唐山旭陽化工
Tangshan Risun Chemical

河北省知識產權優勢企業
Intellectual Property Dominant
Enterprise in Hebei Province

河北省市場監督管理局
Hebei Provincial Administration for
Market Regulation

唐山旭陽化工
Tangshan Risun Chemical

2023年度省級節水型企業
Water Saving Enterprise in
Hebei Province in 2023

河北省工業和信息化廳、河北省水利廳
Industry and Information Technology
Department of Hebei Province, Department
of Water Resources of Hebei Province

唐山旭陽化工
Tangshan Risun Chemical

二氧化碳捕集項目
封存試點企業
CCUS Project Carbon Dioxide
Storage Pilot Enterprise

河北省應對氣候變化領導小組辦公室
The Leading Group Office for Response to
Climate Change in Hebei Province

滄州旭陽
Cangzhou Risun

河北省綠色工廠
Hebei Provincial Green Factory

河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province

滄州旭陽
Cangzhou Risun

河北省戰略性新興產業集
群骨幹企業
Backbone Enterprise of
Strategic Emerging Industry
Clusters in Hebei Province

河北省發展和改革委員會
Hebei Development and Reform Commission

滄州旭陽
Cangzhou Risun

河北省省級安全文化示範企業
Provincial Safety Culture
Demonstration Companies in
Hebei Province

河北省应急管理廳
Department of Emergency Management of
Hebei Province

滄州旭陽
Cangzhou Risun

河北省模範職工之家
Hebei Province Model
Workers' Home

河北省總工會
Hebei Provincial Federation of Trade Unions

滄州旭陽
Cangzhou Risun

河北省年度应急管理與
安全生產先進單位
Advanced Unit of Emergency
Management and Safety
Production in Hebei Province

河北省应急管理與安全生產協會
Hebei Emergency Management and Safety
Production Association

滄州旭陽
Cangzhou Risun

環保績效A級企業
Enterprise with a Grade A
Environmental Performance
Certificate

河北省生態環境廳
Department of Ecology and Environment of
Hebei Province

河北旭陽
Hebei Risun



2023 年回顧 Overview of 2023

全國就業與社會保障 先進民營企業 National Advanced Private Enterprise in Employment and Social Security

中國人力資源與社會保障部
Ministry of Human Resources and Social
Security of the People's Republic of China

河北旭陽
Hebei Risun

河北省第十二屆政府質量獎 Quality Award of the 12th Session of Hebei Provincial Government

河北省人民政府
Hebei Provincial People's Government

河北旭陽
Hebei Risun

河北省五一勞動獎狀 Hebei Provincial May 1st Labor Award

河北省總工會
Hebei Provincial Federation of Trade Unions

河北旭陽
Hebei Risun

河北省技術創新示範企業 Hebei Technological Innovation Demonstration Enterprise

河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province

河北旭陽
Hebei Risun

河北省兩新組織黨建示範點 “New Economic Organizations and New Social Organizations” Party Building Demonstration Site in Hebei Province

河北省委組織部、省委兩新工委
Hebei Provincial Party Committee Organization Department,
and Provincial Party Working Committee of “New Economic
Organizations and New Social Organizations”

河北旭陽
Hebei Risun

河北省工業高質量發展 百強企業 Hebei Province's Top 100 Industrial Enterprises with High-quality Development

河北省工商業聯合會
Hebei Federation of Industry and Commerce

河北旭陽
Hebei Risun

河北省2022年度應急管理與 安全生產先進單位 Advanced Unit of Emergency Management and Safety Production for 2022 in Hebei Province

河北省應急管理與安全生產協會
Hebei Emergency Management and Safety
Production Association

河北旭陽
Hebei Risun

內蒙古自治區健康企業 Health Enterprise in Inner Mongolia Autonomous Region

內蒙古自治區衛生健康委員會
The Health Commission of Inner Mongolia
Autonomous Region

旭陽中燃
Risun CHINA GAS

內蒙古民營企業100強 內蒙古製造業民營企業50強 Top 100 Private Enterprises in Inner Mongolia Autonomous Region Top 50 Manufacturing Private Enterprise in Inner Mongolia Autonomous Region

內蒙古自治區工商聯合會、內蒙古自治區發展和改革委員會
Federation of Industry and Commerce of Inner Mongolia
Autonomous Region, Development and Reform
Commission of Inner Mongolia Autonomous Region

旭陽中燃
Risun CHINA GAS

河北省節縣域特色產業集群 企業領跑者 Leader of Characteristic Industry Cluster Enterprises in Counties in Hebei Province

河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province

邢台旭陽化工
Xingtai Risun Chemical

河北省创新型中小企業 Innovative SME in Hebei Province

河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province

邢台旭陽化工
Xingtai Risun Chemical

國家級綠色工廠 National Green Factory

工業和信息化部
Ministry of Industry and Information
Technology

邢台旭陽化工
Xingtai Risun Chemical

河北省標準化協會會員單位 Member Unit of Hebei Provincial Standardization Association

河北省標準化協會
Standards Association of Hebei Province

邢台旭陽煤化工
Xingtai Risun Coal Chemical

河北省科技專家企業工作站 Science and Technology Expert Enterprise Workstation in Hebei Province

河北省科技技術協會
Hebei Science and Technology Association

邢台旭陽煤化工
Xingtai Risun Coal Chemical

河北省職業健康企業 Occupational Health Enterprise in Hebei Province

河北省衛生健康委
Health Commission of Hebei Province

邢台旭陽煤化工
Xingtai Risun Coal Chemical

2023 年回顧 Overview of 2023

河北省質量管理小組活動
一等質量科技成果
**First-class Quality Science and
Technology Achievements in Hebei
Province Quality Management Group Event**
河北省市場監督管理局、河北省工業和信息化廳
Hebei Provincial Administration for Market
Regulation, and Hebei Provincial Department
of Industry and Information Technology

邢台旭陽煤化工
Xingtai Risun Coal Chemical

國家級綠色工廠
National Green Factory

國家工業和信息化部
Ministry of Industry and Information
Technology

邢台旭陽煤化工
Xingtai Risun Coal Chemical

河北省科技創新領軍企業
**Hebei Provincial Science
and Technology Innovation
Leading Enterprise**

河北省科學技術廳
Hebei Provincial Department of Science
and Technology

邢台旭陽煤化工
Xingtai Risun Coal Chemical

河北省第三批產教融合型
企業名單
**Inscribed on the 3rd List of Hebei
Industry-Education-Research
Cooperative Enterprises**

河北省發展和改革委員會
Hebei Development and Reform Commission

中煤旭陽
China Coal Risun

年度重點用水企業、
園區水效領跑者
**Key Water Consumption
Enterprise and Leading Water
Efficient Enterprise for the Year**

工業和信息化部、水利部、國家發展和改革委員會、國家市場監督管理總局
Ministry of Industry and Information Technology, Ministry
of Water Resources, National Development and Reform
Commission, and State Administration for Market Regulation

中煤旭陽
China Coal Risun

年度國家級綠色園區
**National Green Industrial Park
of the Year**

工業和信息化部辦公廳
Office of Ministry of Industry and
Information Technology

中煤旭陽
China Coal Risun

河北省製造業單項冠軍
**Hebei Province Manufacturing
Champion**

河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province

中煤旭陽
China Coal Risun

河北省「無廢園區」
「無廢企業(工廠)」
**“Zero Waste Park” and “Zero
Waste Enterprise (Factory)” in
Hebei Province**

河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province

中煤旭陽
China Coal Risun

河北省縣域特色產業集群
「領跑者」
**Leader of Characteristic
Industry Cluster Enterprises in
Counties in Hebei Province**

河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province

中煤旭陽
China Coal Risun

河北省技術創新示範企業
**Hebei Technological Innovation
Demonstration Enterprise**

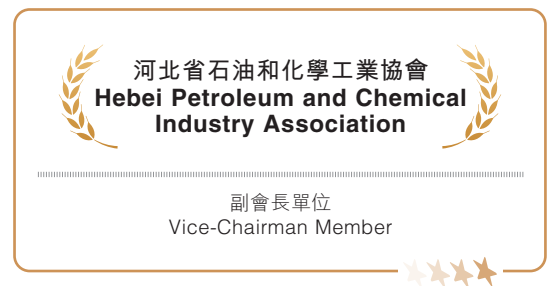
河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province

中煤旭陽
China Coal Risun

2023 年回顧 Overview of 2023

行業協會

Industry Association



可持續發展管理

Sustainable Development Management



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ESG Management			
ESG 管理架構	33		
ESG management structure			
利益相關方參與	35		
Stakeholders participation			

可持續發展管理

Sustainable Development Management

本集團將可持續發展的理念全面融入公司管理。我們建立了以董事會為核心的社會責任管理體系，並不斷回應和滿足利益相關方的要求。本年度我們設立雙碳研究所，貫徹落實集團「碳達峰•碳中和」行動方案，引領集團可持續發展。

在董事會層面，已通過成立可持續發展委員會決議，委員會人員、架構、職責等正在積極籌備中。通過建立可持續發展委員會，便於集團提高戰略一致性，加強風險管理，更好地應對與環境、社會和治理相關的挑戰，提高企業的競爭力和長期價值。

(一) 公司治理

良好的公司治理是實現企業可持續發展的關鍵。本集團嚴格遵守《中華人民共和國公司法》《香港聯合交易所有限公司證券上市規則》等相關法律法規，並根據公司發展情況持續優化治理架構，致力於提升治理水平，推動管理水平的持續提高。我們致力於將股東大會、董事會及其專門委員會、高級管理層以及各職能部門組成的公司治理機構的權責法定化、透明化、協調運作以及有效制衡，以實現更高水平的管理和責任擔當。

The Group has integrated the philosophy of sustainable development into its corporate governance system. We have created a social responsibility management system led by the Board of Directors to consistently respond to and fulfill the requirements of our stakeholders. In the past year, we founded the Double-carbon Research Institute to implement the Group's "Carbon Peaking and Carbon Neutrality Action Plan", driving our sustainable development efforts forward.

At the Board of Directors level, we approved the establishment of a Sustainable Development Committee and are currently engaged in determining its members, structure, and responsibilities. The creation of the Sustainable Development Committee will allow the Group to enhance strategic consistency, bolster risk management, and tackle challenges related to environmental, social, and governance issues more effectively. Ultimately, this will increase our competitiveness and contribute to our long-term value.

(I) Corporate Governance

Sound corporate governance is the key to realizing sustainable development. The Group strictly follows the Company Law of the People's Republic of China, the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited, and other applicable laws and regulations. We are committed to continuously improving our governance framework in line with our growth, striving to raise governance standards, and driving ongoing improvements in management practices. Furthermore, we aim to ensure that the rights and responsibilities of our governing bodies are rules-based, transparent, coordinated, and well-balanced through a system of checks and balances. These governing bodies include the shareholders' meeting, the Board of Directors and its special committees, senior management, and all functional departments. By establishing this structure, we aim to raise management effectiveness and accountability to new heights.

1. 公司治理架構

1. Corporate governance framework

集團設有董事會及下設三個專業委員會，分別為審核委員會、提名委員會、薪酬委員會；

The Group has a Board of Directors and three special committees, namely the Audit Committee, the Nomination Committee, and the Remuneration Committee.

董事會對股東負責並有職責向股東大會報告工作。董事會職責包括：負責召開股東大會；執行股東大會的決議案；決定本集團營運計劃及投資方案；制定年度財政預算方案、年終賬目、收益分派方案、資本增加或減少方案及相關文件；決定本集團管理部門成立、主要高管、財務總監及其他高級管理層人員的委任或免職事宜；制定本集團基本管理制度及決定董事會專門委員會的成立事宜。報告期內，本集團合計召開7次董事會會議，公司董事積極參與有關香港上市公司董事須履行的義務及職責以及上市公司有關持續專業發展之上市合規義務的研討會2次。

The Board of Directors is responsible to shareholders and has the duty to report to the shareholders' meeting. The Board of Directors is responsible for convening the shareholders' meeting, implementing the resolutions of the shareholders' meeting, finalizing the Group's operating plan and investment plan, formulating the annual financial budget plan, year-end accounts, income distribution plan, capital increase or decrease plan and relevant documentation, deciding on the establishment of the Group's management department, deciding on the appointment or dismissal of senior executives, chief financial officer and other senior management, formulating the Group's basic management system and deciding on the establishment of the special committee of the board of directors. During the reporting period, the Group held a total of 7 board meetings, and directors of the Group actively participated in 2 seminars on the duties and responsibilities of directors of the companies listed in Hong Kong and the listing compliance obligations of listed companies for sustainable professional development.

董事會

Board of Directors

高級管理層負責具體執行董事會決議案及本集團的日常業務管理，包括制定(1)本集團的營運計劃及投資方案，(2)內部管理部門成立計劃，(3)本集團基本管理制度及(4)本集團的具體規定。

The Senior Management is responsible for the specific implementation of the resolutions of the Board of Directors and the daily business management of the Group, including formulating (1) the Group's operating plan and investment plan, (2) the internal management department establishment plan, (3) the Group's basic management system and (4) the Group's specific regulations. Special Committees

高級管理層

Senior Management

可持續發展管理 Sustainable Development Management

專業委員會 Special Committee

審核委員會：審核委員會的目的為協助董事會確保本集團的財務報告、風險管理及內部控制系統有效且符合上市規則，監督本集團財務報表的完整性，選擇本集團的外聘核數師並評估其獨立性及資格，並確保董事與本集團內部及外聘核數師之間的有效溝通。報告期內，審核委員會舉行5次會議；

Audit Committee: The purpose of the Audit Committee is to assist the Board of Directors in ensuring that the Group's financial reports, risk management and internal control systems are effective and comply with the listing rules, supervising the integrity of the Group's financial statements, selecting the Group's external auditors and evaluating their independence and qualifications, and ensuring effective communication between directors and the Group's internal and external auditors. During the reporting period, the Audit Committee held 5 meetings.

薪酬委員會：薪酬委員會的主要職責包括制定及審核本集團董事及高級管理層的薪酬政策及架構並就僱員福利安排向董事會提供建議。薪酬委員會亦負責釐定根據購股權計劃授出的購股權歸屬。報告期內，薪酬委員會舉行1次會議；

Remuneration Committee: The main responsibilities of the Remuneration Committee include formulating and reviewing the remuneration policy and structure of the directors and senior management of the Group and providing suggestions to the Board of Directors on employee welfare arrangements. The Remuneration Committee is also responsible for determining the ownership of share options granted under the share option scheme. During the reporting period, the Remuneration Committee held 1 meeting.

提名委員會：提名委員會的主要職責包括至少每年檢討董事會的架構、規模、組成及多元化，並就任何擬作出之變動向董事會提供推薦建議，使之與本集團之企業策略相輔相成，評估獨立非執行董事的獨立性以確定其資格，以及就委任、重選及罷免董事以及董事繼任計劃向董事會提供建議。報告期內，提名委員會舉行1次會議。

Nomination Committee: The main responsibilities of the Nomination Committee include reviewing the structure, scale, composition and diversity of the Board of Directors at least annually, and making recommendations to the Board of Directors on any proposed changes to complement the Group's corporate strategy, evaluating the independence of independent non-executive directors to determine their qualifications, and making recommendations to the Board of Directors on the appointment, re-election and dismissal of directors and the succession plan of directors. During the reporting period, the Nomination Committee held 1 meeting.

2. 股東和投資者溝通

與股東的有效溝通對提升投資者關係及投資者了解本集團的業務及策略非常重要。本集團高度重视股東的意見及建議，積極組織及舉辦各類投資者關係活動，與股東保持溝通，及時滿足各股東的合理需求。為提升有效溝通，本集團設有網站<http://www.risun.com>，當中載有有關本集團的業務營運及發展、財務資料、企業管治常規及其他資料的最新資料，可供公眾人士閱覽。報告期內，本集團合計召開1次股東大會。

本集團堅信，良好的投資者關係有助於鞏固股東基礎的穩定性。因此，自上市以來，本集團一直並將致力於保持高度透明度，遵守上市規則，並及時向投資者提供全面準確的信息，持續履行上市公司信息披露的責任。為了加強與投資者之間的溝通，本集團通過舉辦路演、參加投資者峰會以及自願披露資料等方式，讓投資者了解企業的策略和業務運營狀況。

3. 董事會多元化

我們相信董事會多元化有助於提升董事會效力，促進企業長遠發展，切實維護股東權益，目前集團已採納董事會多元化政策。根據董事會多元化政策，我們在選擇董事會人選時考慮多個因素，包括性別、年齡、文化、教育背景、種族、專業、行業、管理經驗、技能、知識及服務任期，以確保董事會能夠從多個角度在業務戰略、風險防控等重要事宜上提供專業獨立的意見及判斷。最終將按選定候選人的優勢及將為董事會所作貢獻而作委任。董事會相信以唯才是用的原則委任董事將最有利於本集團繼續為其股東以及其他持份者服務。

2. Shareholders and investors communication

Effective communication with shareholders is very important to improving relations with investors and investors' understanding of the Group's business and strategy. The Group attaches great importance to the opinions and suggestions of shareholders, actively organizes and carries out various investors-relations activities to maintain communication with shareholders and meet the reasonable needs of shareholders in a timely manner. In order to make communication more effective, the Group has set up a website <http://www.risun.com>, which contains the latest information about the Group's business operation and development, financial information, corporate governance practices and other materials open for the public. During the reporting period, the Group held a total of 1 shareholders' meeting.

The Group firmly believes that robust investor relations are conducive to maintaining a solid shareholder base. To this end, the Group has always committed to transparency and compliance with the listing rules since our listing. We strive to provide comprehensive and accurate information to investors promptly and continuously fulfill the responsibility of information disclosure as a listed company. To strengthen communication with investors, the Group holds road shows and investor summits, and voluntary disclosure of information, so that investors can better understand the strategy and business operation of the Group.

3. Diversity of the Board of Directors

We believe that fostering diversity within the Board of Directors is imperative for bolstering its effectiveness, advancing long-term corporate growth, and safeguarding shareholders' rights and interests. To this end, we have implemented a comprehensive diversity policy that considers various factors. These include gender, age, cultural and academic background, ethnicity, professional expertise, industry and management experience, skills, knowledge base, and tenure of office. Such a holistic approach ensures that candidates selected for the Board can provide professional and independent opinions and judgments on important matters, such as business strategies and risk prevention and control, from multiple perspectives. In the end, the appointment will be made according to the strengths of the candidates and their contribution to the Board of Directors. The Board of Directors believes that the appointment of directors based on the principle that only the talented people can be appointed will be most beneficial for the Group to continue to serve its shareholders and other stakeholders.

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我們的董事擁有廣泛的知識和技能，涵蓋整體管理與戰略發展、銷售與市場推廣、財務與會計、法律、諮詢以及企業治理等領域，並具備焦炭行業的豐富經驗。他們還獲得了多種專業學位，包括工商管理、煤化工、工業經濟管理、會計、法律、國際貿易以及化學工程等。

Our directors possess a broad range of knowledge and skills, covering areas such as overall management and strategy development, sales and marketing, finance and accounting, legal affairs, consulting, and corporate governance. Additionally, they have extensive experience in the coke industry. They have also earned various professional degrees, including business administration, coal chemistry, industrial economic management, accounting, law, international trade and chemical engineering.

表4-1 旭陽集團董事會董事專業背景分佈情況

Table 4-1 Academic Backgrounds of Board Members of Risun Group							
專業	煤化工	會計	化學工程	法律	管理	國際貿易	其他
Profession	Coal chemistry	Accounting	Chemical engineering	Law	Management	International trade	Others
人數 Number	1	2	1	3	4	1	1

註：部分董事擁有多專業學歷背景

Note: some directors have several professional degrees.

本集團有三名具不同行業背景的獨立非執行董事，佔董事會成員人數的三分之一。此外，董事會年齡範圍廣泛，由33歲至65歲不等，且有1名女性董事。

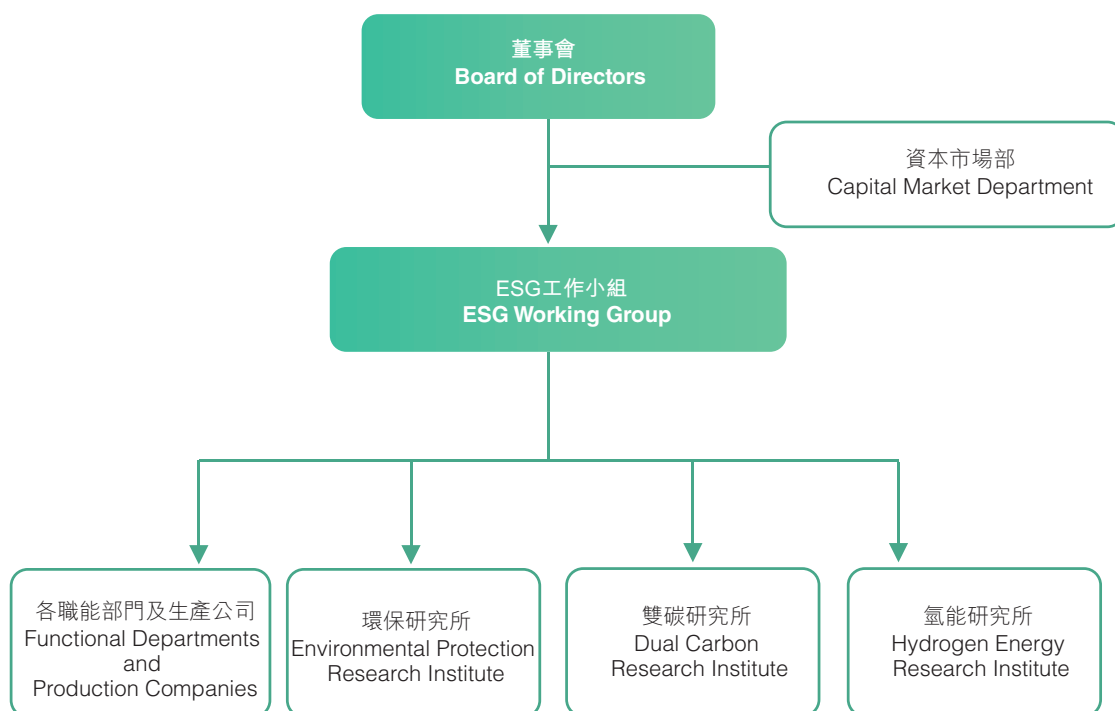
The Group has three independent non-executive directors with different industry backgrounds, accounting for one third of the board members. In addition, the Board of Directors is of a wide range of ages, ranging from 33 to 65, and with one female director.

表4-2 旭陽集團董事會董事年齡分佈情況

Table 4-2 Age Groups of Board Members of Risun Group				
年齡段	31-40歲	41-50歲	51-60歲	61-70歲
Age Group	31-40	41-50	51-60	61-70
人數 Number	1	1	4	3

(二) ESG管理

(II) ESG Management



1. ESG管理架構

董事會負責制定公司的ESG戰略、下達ESG的考核指標、監督ESG戰略的執行情況、識別ESG的機遇與風險並指導ESG風險處置等。董事會及高級管理層對環境、社會及管治整體策略及匯報負責，並定期檢視ESG績效及信息披露，審議安全、環境、員工、投資等多項與ESG相關的議案，統一指導、決策並推動ESG目標落地。本集團設立環境、社會及管治(ESG)工作小組。工作小組獲得董事會的授權後，明確開展ESG工作的目標、職責和績效考核重點。將ESG理念融入到業務戰略、業務規劃、投資決策、運營管理、考核評價、監督評估等各個環節，制定完整的管理流程，形成閉環管理系統。

1. ESG management structure

The Board of Directors is responsible for formulating the company's ESG strategies, setting ESG assessment targets, overseeing the execution of the ESG strategies, identifying ESG opportunities and risks, and providing guidance on managing ESG risks. The board of directors and senior management are responsible for the environmental, social, and governance strategy and report, periodically review the environmental, social, and governance information and performance, reviewing proposals about ESG such as safety, environment, employees, and investment, and direct, decide, and promote ESG work uniformly; The Group established an environmental, social, and governance (ESG) working group. Following the approval from the Board of Directors, this working group establishes clear objectives, responsibilities, and performance evaluation priorities for executing ESG initiatives. The working group is responsible for ensuring that ESG principles are seamlessly integrated into all aspects of corporate operation, including business strategy, planning, investment decisions, operational management, performance evaluation, and supervision and assessment. To achieve this, the working group develops thorough management processes to establish a closed-loop management system.

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資本市場部作為總牽頭及協調部門，負責日常ESG協調和落實，定期向董事會及高級管理層匯報。總部各部門及各子(分)公司根據自身業務及職能，負責具體ESG工作落實，並配合提報ESG績效，進行年度ESG信息匯報與披露，提升透明運營。ESG工作小組收集ESG各業務線涉及ESG需求的信息並向董事會反饋，負責下達董事會關於ESG目標及要求的指令，制定工作計劃並推進實施，同時研究相關政策並組織部門培訓。環保研究所，負責圍繞集團裝置存在的環保瓶頸開展新技術開發；對集團保設施提供技術支持；開展內外部的環保技術諮詢服務。雙碳研究所，負責包括集團「雙碳」發展規劃，搭建「雙碳」工作及管理架構，開展集團碳排放以及足跡核算。氫能研究所，謀劃制定集團氫能產業戰略方向、目標及規劃，負責氫能相關產業技術調研及生產裝備前沿技術研究等。

The Capital Market Department of the Board of Directors, as the leading and coordinating department, is responsible for daily ESG coordination and implementation, and periodically reports to the board of directors and senior management; departments of the headquarter and the subsidiaries (branches) are responsible for implementation of the ESG work according to their own businesses and functions, report the ESG performance and disclose and report the ESG information, thus making operation more transparent. The ESG Working Group gathers ESG-related demands of all ESG business lines and delivers such information to the Board of Directors. Its duties also include making directives from the Board on ESG objectives and requirements known to lower levels, drawing up work plans, facilitating their implementation, and conducting research on relevant policies while organizing departmental training sessions. The Environmental Protection Research Institute is responsible for developing new technologies to address environmental challenges faced by the Group's facilities, providing technical assistance for environmental protection facilities, and offering internal and external parties environmental technology consulting services. The Dual carbon Research Institute is entrusted with formulating the Group's "dual carbon" development plans, establishing corresponding work and management frameworks, and conducting the Group's carbon emissions and footprint accounting. Hydrogen Energy Research Institute is responsible for planning and formulating the Group's strategic direction, objectives and planning for the hydrogen energy industry, as well as conducting research on hydrogen energy-related industrial technologies and research on cutting-edge technologies for production equipment.

2. 利益相關方參與

利益相關方溝通：旭陽集團建立常態化、多渠道溝通機制，積極回應利益相關方的關注。利益相關方涉及股東、政府及監管機構、客戶、合作夥伴、員工、社區等。並通過多樣化溝通渠道及時回應利益相關方問詢，從可持續發展的角度出發，整理並制定了利益相關方溝通情況表，全面識別可持續發展風險與機遇，推動可持續發展工作。

2. Stakeholders participation

Communication with stakeholders: The Group has set up a regular and multi-channel communication mechanism to proactively address stakeholder concerns. Our stakeholders include shareholders, governmental and regulatory bodies, customers, partners, employees, and communities, among others. The Group is committed to timely and effective communication with stakeholders through multiple communication channels. We have created a stakeholder communication form from a sustainable development-oriented perspective, which enables us to comprehensively identify sustainable development risks and opportunities to advance sustainable development initiatives.

利益相關方 Stakeholders	溝通渠道 Communication Channels	關注議題 Topics
投資者／股東 Investors/Shareholders	<ul style="list-style-type: none"> 定期報告與信息披露 Periodic report and information disclosure 股東大會 General meeting 投資者關係活動 Investor relations activities 	<ul style="list-style-type: none"> 持續創造價值回報 Continue to return value 企業管治與風險管理 Corporate governance and risk management 行使知情權和參與決策權 Right to know and right to make decision
政府及監管機構 Governments and Regulators	<ul style="list-style-type: none"> 日常溝通 Daily communication 信息公告 Information bulletin 政企合作 Government and enterprise cooperation 政府審查 Government review 	<ul style="list-style-type: none"> 依法納稅 Pay taxes according to the laws 知識產權保護 Intellectual property protection 安全生產 Safety Production 節能降耗 Energy saving and consumption reduction 污染物治理 Pollutant treatment 信息披露 Information disclosure
客戶 Customers	<ul style="list-style-type: none"> 日常服務溝通 Daily service and communication 客戶走訪機制 Customer visiting mechanism 門戶網站 Web portal 	<ul style="list-style-type: none"> 產品質量穩定 Stable product quality 服務與反饋響應保障 Service and feedback response guarantee

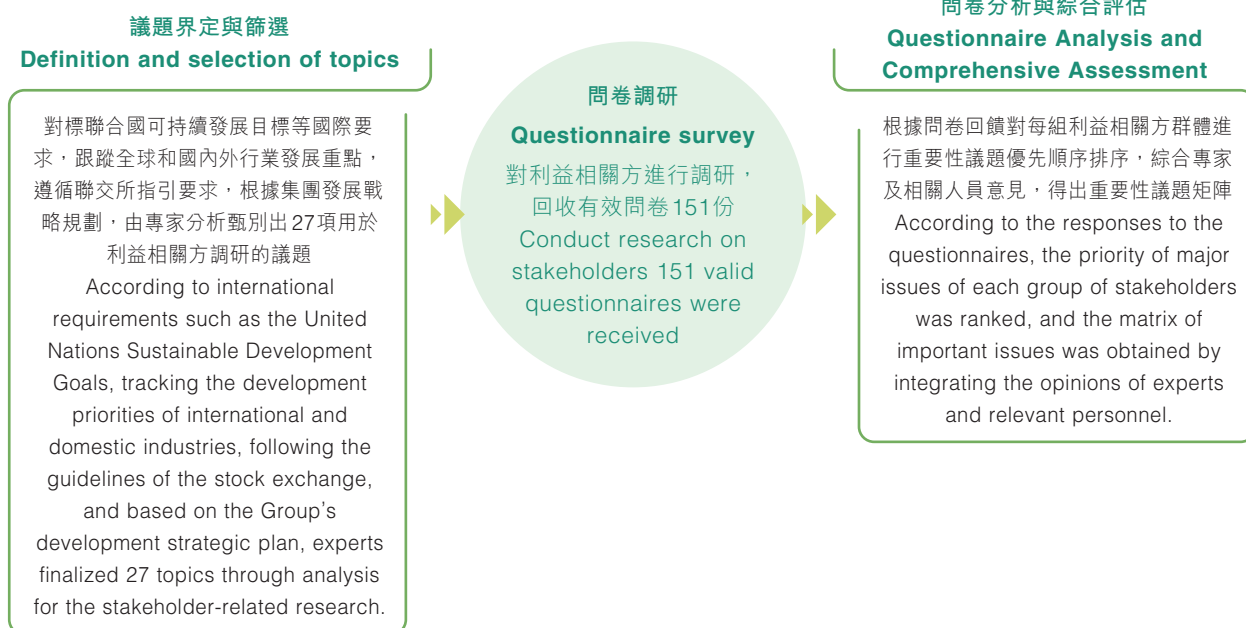
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利益相關方 Stakeholders	溝通渠道 Communication Channels	關注議題 Topics
供應鏈 Supply Chain	<ul style="list-style-type: none"> ■ 日常溝通 Daily communication ■ 座談大會 Symposium ■ 公開招標 Open tendering 	<ul style="list-style-type: none"> ■ 良好的合作關係 Good relations of cooperation ■ 暢通的溝通渠道 Expedite communication channels ■ 認真執行合作協議 Conscientiously implement cooperation agreement
合作夥伴 Partners	<ul style="list-style-type: none"> ■ 開展項目合作 Carry out project cooperation ■ 日常業務交流 Daily business communication ■ 參加協會會議 Attend association meetings ■ 線上服務平台 On-line service platform 	<ul style="list-style-type: none"> ■ 共同成長 Mutual development ■ 項目合作 Project cooperation ■ 資源共享 Resource sharing
專家 Experts	<ul style="list-style-type: none"> ■ 行業論壇 Industry forum ■ 項目評審會議 Project review meeting 	<ul style="list-style-type: none"> ■ 推動綠色工廠建設 Promote the construction of green plants ■ 應用低碳發展技術 Adopt low carbon development technology ■ 產品升級 Product upgrade ■ 本質安全 Essential safety
員工 Employees	<ul style="list-style-type: none"> ■ 定期會議 Periodic meetings ■ 員工培訓 Employee training ■ 工會活動 Labor union activities ■ 文化活動 Cultural activities 	<ul style="list-style-type: none"> ■ 保障員工合法權益 Safeguard legal rights and interests of employees ■ 推動職業發展與技能提升 Promote occupational development and improvement of skills ■ 工作與生活平衡 Work-life balance ■ 職業健康 Occupational health

利益相關方 Stakeholders	溝通渠道 Communication Channels	關注議題 Topics
社區 Communities	<ul style="list-style-type: none"> 志願者服務 Volunteer services 公益慈善活動 Public charity activities 	<ul style="list-style-type: none"> 社區公益 Community public service 慈善助學 Charity and educational aid 精準扶貧 Precise poverty alleviation 改善環境質量 Environmental quality improvement

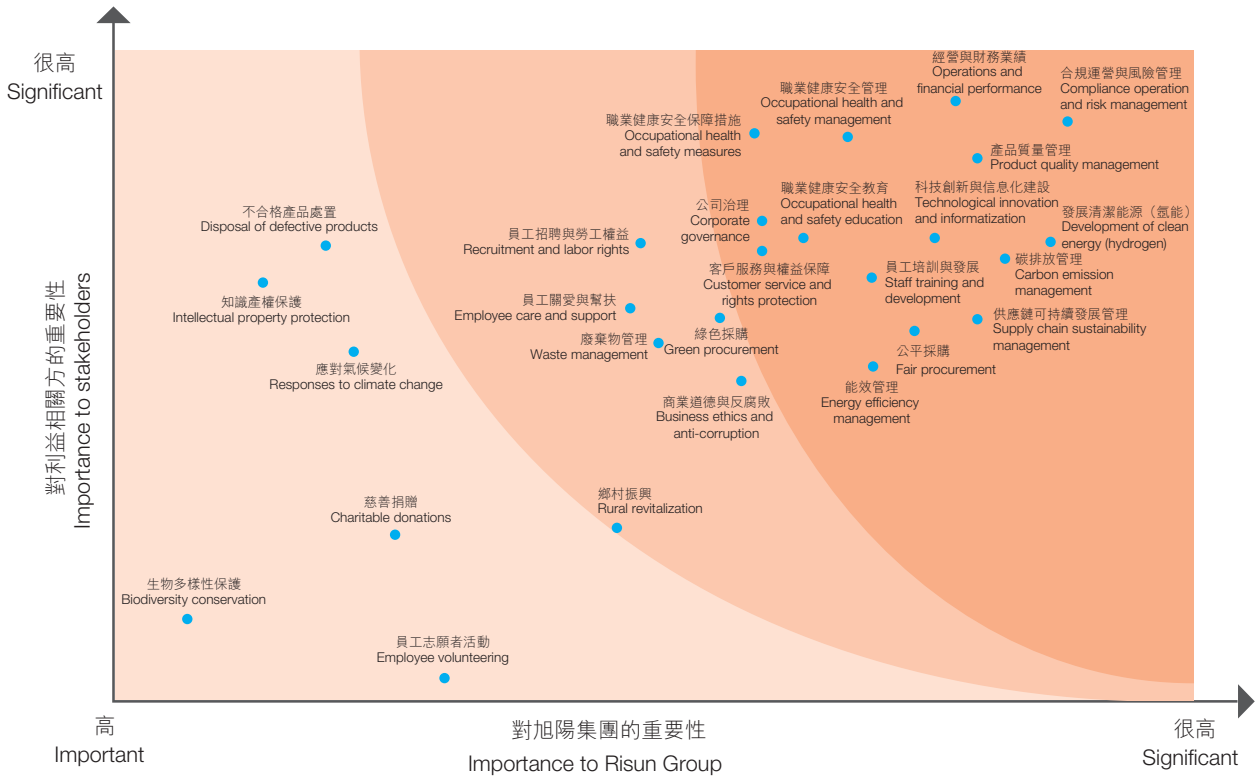
重要性議題識別過程與結論：本集團依據《香港聯合交易所有限公司證券上市規則》等政策標準，針對相關環境、社會及管治議題，基於利益相關方溝通與自身發展實際情況，從議題對利益相關方的重要性及議題對集團發展的重要性兩個維度出發，分別進行評估、篩選並形成重要性議題矩陣，作為集團ESG的核心議題及披露依據。

Identification Process of Material Topics: With respect to topics concerning the environment, social, and governance, the Group, in accordance with “Environmental, Social and Governance Reporting Guide” of the securities listing rules of Stock Exchange of Hong Kong Limited, and based on the stakeholder communication and practices of the Group, carried out evaluation and screening from the perspective of importance of the topics to the stakeholders and to the environment and society to form a matrix of material topics, as the focus of ESG of the Group and the basis of disclosure.



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旭陽集團ESG實質性議題矩陣
Risun Group's ESG Material Issues Matrix



(三) 合規與風險管理

1. 風險管理

充分有效的風險管治及內部控制是集團可持續發展的重要保障。本集團構建了涵蓋外部、內部風險控制的全流程風控體系，外部風險控制包括了產、供、銷、人、財、物所涉及的外部政策、法律風險與客戶風險控制重要維度。內部風險控制方面，集團成立風險控制委員會，不斷完善風控組織體系，由專門的風控人員進行風險控制和法律事務管理工作，對集團重大投資項目、重大經濟合同、重大決策事項等進行法律審查和風險把控，降低公司運營過程的法律風險。

(III) Compliance and Risk Management

1. Risk management

Sufficient and efficient risk management and internal control are imperative for safeguarding the Group's sustainable development. The Group has built a full-process risk control system covering both external and internal risk control. The external risk control includes the important dimensions of external policies, legal risks and customer risk control related to production, supply, sales, personnel, finance and materials. In terms of internal risk control, the Group has also set up a risk control committee to continuously improve its risk control organization system. The group has assigned risk control personnel to carry out risk control and legal affairs management and conduct legal review and risk control over the Group's significant investment projects, material business contracts, major decisions, etc., to reduce the legal risks in the Company's operation.

四級風控體系

4-level risk control system

人員／部門 Personnel/Department	負責工作內容 Responsibility
分管高級副總裁 Sectorial senior vice president	根據高層對所負責區域業務了解情況提交風險報告 Submit the risk report based on the senior management's knowledge of the business in the responsible area
法務風控部 Dept. of Legal Affairs and Risk Control	了解客戶經營情況等內容，推動風險管理前置 Understand the customer's business information and carry out risk management in advance
集團各事業部及業務部門設專職或兼職風控專員 Full-time or part-time risk control specialists set up in all business departments of the Group	起草本部門的風控計劃並督促落實 Prepare the risk control plan of the department and supervise its implementation
業務員 Salesperson	根據業務情況每月提交風險分析報告 Submit the risk analysis report on a monthly basis based on business condition

兩級法務體系

2-level legal affairs system

集團法務風控部 Dept. of Legal Affairs and Risk Control of the Group	
各園區法務風控部 Dept. of Legal Affairs and Risk Control of each base	

可持續發展管理 Sustainable Development Management

本集團已設立一套完整、全面的風險管理體系，各營運部門識別及分析與其職能有關的風險，維持全面的風險記錄、編製風險緩解計劃、計量有關風險緩解計劃的有效性及報告風險管理情況。結合部門情況和實際業務需要，編製《業務風控風險點》手冊，做到主要風險點的全覆蓋；推動合同信息化平台落地，在客戶前期資質審核、合同簽訂、合同審核、合同履約管理、應收賬款的控制清收、訴訟管理和合同分析方面進行全方位覆蓋，提升風控信息化水平。對員工進行內部控制和風險管理進行培訓，提高全員風險管理意識和能力，嚴格執行企業內控管理制度，確保企業的內控制度和風險管理體系發揮有效的作用，降低企業經營風險。

2. 廉潔經營

集團高度重視合規經營，全面加強和完善業務經營過程中的反商業賄賂合規管理，對任何商業賄賂行為均奉行「零容忍」的態度。我們嚴格遵守《中華人民共和國刑法》《中華人民共和國公司法》《關於禁止商業賄賂行為的暫行規定》及《防治賄賂條例》等防止賄賂、勒索、欺詐及洗黑錢的相關法律法規，認真落實反腐敗責任，通過完善監督體制、深化制度建設、升級風險防控等措施，開展多層次的反腐倡廉教育，反腐敗工作取得良好成效。本年度，集團持續完善反腐敗舉報平台、渠道，打造監察徵信體系。對中高層幹部及重點崗位員工反腐倡廉的警示教育活動，提升反貪腐意識。集團監察審計部對各子公司開展全面審計，內容涉及銷售、採購業務以及採購價格等，審計頻率為每年4-5次。

報告期內，本集團未知悉及收到發生商業賄賂、勒索、欺詐及洗黑錢等違法違紀案件的通知。

The Group has formulated a complete and comprehensive set of risk management system. Each operating department identifies and analyzes risks related to its functions, maintains comprehensive risk records, formulates risk mitigation plans, measures the effectiveness of relevant risk mitigation plans and gives reports on risk management. According to their actual condition and business needs, each department prepares the manual of Risk Points for Business Risk Control to fully cover the main risk points, promotes the establishment of the contract informatization platform, covering all aspects of customer pre-qualification review, contract signing, contract review, contract performance management, control and collection of accounts receivable, litigation management and contract analysis, and thus improving the informatization level of risk control. In addition, we provide training to all employees in internal control and risk management to enhance their awareness and capabilities in risk management. We rigorously enforce our internal control management system to ensure the effective functioning of both the internal control and risk management systems, thereby mitigating our business risks.

2. Operate with honesty and integrity

The Group places a high emphasis on compliance and has been consistently enhancing its anti-commercial bribery compliance management throughout its business operations. We adopt a strict "zero tolerance" policy towards any form of commercial bribery. We strictly abide by the Criminal Law of the People's Republic of China, the Company Law of the People's Republic of China, the Interim Provisions on the Prohibition of Commercial Bribery, the Prevention of Bribery Ordinance and other relevant laws and regulations formulated to prevent bribery, extortion, fraud and money laundering, earnestly implement anti-corruption responsibility, and carry out anti-corruption education at various levels by improving the supervision system, deepening system construction, and upgrading risk prevention and control measures. So far, the Group has achieved satisfactory results in its anti-corruption efforts. Throughout the year, we have made constant efforts to improve our anti-corruption whistleblowing platform and channels and establish a robust monitoring and credit system. We have also organized educational campaigns for our middle and senior management, as well as key employees, with the aim to increase their awareness of anti-corruption practices. Furthermore, the Group's Supervision and Audit Department has conducted comprehensive audits on the Group's subsidiaries, focusing on sales, procurement operations, and pricing, with an audit frequency of about 4 to 5 times per year.

During the reporting period, the Group did not know or receive any notice of any violation of laws and regulations such as commercial bribery, extortion, fraud and money laundering.

完善反腐倡廉制度
Improve the anti-
corruption system

制定並實施《廉潔自律制度》《旭陽集團員工基本行為紅線規定》《集團往來禮品管理規定》《幹部重大活動備案制度》《員工違規違紀行為處理條例》《自查自糾管理辦法》及《全員舉報和合理化建議制度》等制度，對工作流程、員工日常行為進行規範管理，為反貪污工作提供有力的制度保障。

The Group has formulated systems such as Integrity and Self-discipline System, Basic Red Line Code of Conduct Regulations for Employees of Risun Group, Risun Group's Regulations on the Management of Reciprocal Gifts, Filing System for Major Events of Cadres, Regulations on Handling Employees' Violations of Rules and Disciplines, Management Measures for Self-examination and Self-correction, and System for Tip-off and Reasonable Suggestions by Employees, and put them into effect so as to standardize the management of work processes and daily behaviours of employees and provide reliable institutional guarantee for anti-corruption work.

建立檢舉監督機制
Establish a report and
supervision mechanism

建立暢通的檢舉監督機制，提供郵件、電話、微信公眾號和面談溝通等實名以及匿名舉報渠道；獲取舉報信息後，對舉報人進行保護；第一時間核實舉報信息，視情況進行調查或開展專項審計，如認定有貪腐等事實則根據內部審計制度相關規定進行處理。

The Group has created a smooth reporting and supervision mechanism, and provide tip-off channels such as email, telephone, WeChat official account and face-to-face communication. After obtaining the tip-off information is obtained, the Group will protect the whistleblower, check the information as soon as possible, investigate or conduct special audit based on the actual condition, and handle the personnel with the facts such as corruption according to the relevant regulations of the internal audit system.



可持續發展管理 Sustainable Development Management

檢舉人保護機制

Whistleblower protection mechanism

檢舉人保護機制是集團確保內部舉報者安全的關鍵環節。我們設立舉報通道，保障舉報人信息保密，並禁止任何形式的報復行為。《全員舉報和合理化建議制度》規定，嚴禁對舉報人打擊報復，一經發現，給予除名處理。

The whistleblower protection mechanism plays a key role in the Group's effort to ensure the safety of internal whistleblowers. While having established whistleblowing channels, we are dedicated to preserving the confidentiality of whistleblower information, with strict prohibitions against any form of retaliation. Our System for Tip-off and Reasonable Suggestions by Employees strictly forbids retaliation against whistleblowers. Any such actions, once discovered, will result in the immediate removal of the perpetrator from the Group.

簽署幹部、員工廉潔責任狀

Signing of the integrity guarantee letter by cadres and employees

中層以上幹部及關鍵崗位員工統一簽署廉潔責任狀，與供應商及客戶簽訂陽光合作協議，在對內和對外的活動過程中遵循誠實守信、平等公正、遵紀守法、不謀私利、利益迴避和信息保密等基本原則，嚴禁任何形式的賄賂、勒索、欺詐及洗黑錢行為。

Middle-level cadres and above as well as employees in key posts are required to sign the honesty and integrity guarantee letter, sign sunshine cooperation agreements with suppliers and customers, and follow the basic principles of honesty and trustworthiness, equality and justice, law-abiding, no self-seeking, interest avoidance and information confidentiality in the internal and external activities. In addition, bribery, extortion, fraud and money laundering are strictly prohibited.

開展反貪腐教育活動

Carry out anti- corruption educational activities

開展多頻次、全覆蓋的警示培訓活動。對於新入職員工進行全員覆蓋的廉潔自律警示培訓；定期在員工大會、專題會、晨會上進行警示培訓宣講，並定期在集團內發佈警示教育材料，加強警示培訓。

We implement anti-corruption education programs at various frequencies with all employees covered. As part of our on-boarding process, we conduct integrity and self-discipline warning training for all new employees. In addition, we frequently organize warning training sessions during staff meetings, special seminars, and morning assemblies. To further support our training initiatives, we distribute educational materials within the Group on regularly.

表4-3 2023年反貪腐培訓績效
Table 4-3 Anti-corruption Training Performance in 2023

指標名稱 Name of indicator	單位 Unit	細分 Regions	2023年度數據 Annual data for the year 2023
開展反貪污培訓總次數 Total number of anti-corruption training sessions	(次) (Times)		261
反貪污培訓時長 Total hours of anti-corruption training	(小時) (Hour)		15.3
按職級劃分的反貪污培訓次數 Number of anti-corruption training sessions conducted by position	(次) (Times)	董事 Directors	18
	(次) (Times)	管理層 Management	151
	(次) (Times)	員工 Employees	47
按職級劃分的反貪污培訓人次 Number of persons participating in anti-corruption training sessions by position	(人次) (Person)	董事 Directors	321
	(人次) (Person)	管理層 Management	5,230
	(人次) (Person)	員工 Employees	7,552
	(人次) (Person)		

可持續發展實踐

Sustainable Development Practices



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Environmental management		Health and safety	
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Response to climate change		Quality products	
綠色生態	71	供應鏈管理	112
Green ecology		Supply chain	
資源節約	73	員工發展	117
Resource saving		Development of employees	
污染物管理	79	社區共贏	133
Pollutant management		Community public service	
水資源管理	86		
Water resource management			

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身處我國「富煤貧油少氣」的資源特點中，作為煤化工行業的領頭企業，多年來旭陽始終堅持將可持續發展融入企業日常運營與實踐。我們以綠為底，走煤炭清潔高效利用之路，在減少環境污染、資源耗用的同時增強企業氣候韌性；我們以人為本，關注員工的健康、安全及生活福祉，助推員工職業發展；同時，我們以回報社會為己任，在鄉村振興等國家政策的領導下改善社會民生，實現共同富裕。

Given China's resource profile, characterized by "abundant coal, scarce oil, and limited natural gas resources", Risun, a prominent player in China's coal and chemical sector, remains committed to incorporating sustainable development principles into its daily operations and practices. Guided by the philosophy of green development, we strive for the clean and efficient utilization of coal. Our goal is to minimize environmental pollution and resource consumption, all while strengthening the climate resilience of our enterprise. At Risun, we adopt a people-centered approach that prioritizes the health, safety, and well-being of our employees, fostering an environment that supports their career development. Furthermore, we recognize our responsibility to repay society and are committed to improving the livelihood of the people and contributing to common prosperity in line with national policies such as rural revitalization and other relevant initiatives.



環境篇



(一) 環境篇

我們將可持續發展理念融入企業管理的頂層設計中，不斷完善環境管理體系，積極應對氣候變化帶來的影響，同時減少企業自身運營對環境的影響及對自然資源的耗用，逐年產出更進一步的環境績效，為我國如期實現「雙碳」目標貢獻旭陽力量。

- 環境管理：
 - 11家生產單位通過ISO14001環境管理體系認證，認證比例達到100%；
 - 開展60次節能環保教育培訓，共計培訓8,414人次。
- 應對氣候變化：
 - 氫氣銷售930萬Nm³，完成年度目標122%，實現溫室氣體減排0.97萬噸；
 - 2023年，ESG可持續發展授信共計

(I) Environment

We incorporate sustainable development principles into the top-level enterprise management strategy design, continuously enhancing our environmental management system and actively addressing the challenges posed by climate change. We are dedicated to minimizing the environmental impact of our operations and reducing the consumption of natural resources. By consistently improving our environmental performance year after year, we aim to contribute our due share to the achievement of China's "dual carbon" goal as scheduled.

- Environmental management:
 - 11 production units of the Group passed the ISO14001 environmental management system certification, with a certification ratio reaching 100%;
 - 60 educational training sessions on energy conservation and environmental protection were held, involving a total of 8,414 trainees.
- Response to climate change:
 - We have achieved 122% of our annual target with hydrogen sales reaching 9.3 million Nm³. This accomplishment resulted in a reduction of 9,700 tons of greenhouse gas emissions;
 - Our ESG credits for sustainable development reached a

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7億美元；

- 建立旭陽「碳達峰•碳中和」行動頂層戰略，從全生命週期綠色運營、綠色低碳轉型升級、碳捕集／碳利用／碳封存、低碳運營管理輸出四個方面推進集團「雙碳」行動進展。

- 資源管理：

- 各廠區均實現2023年年初設定的年度能源目標，節能降耗工作效果顯著；
- 單位收入能耗2.17噸標煤／萬元，降低8.14%；
- 各廠區新鮮水利用率均超過98%，最高達98.7%。

- 排放管理：

- 通過節能技改實現溫室氣體減排378萬噸。

1. 環境管理

集團堅持「遵紀守法、防治結合、節能降耗，持續改進」的環境方針，嚴格遵守並貫徹落實《中華人民共和國環境保護法》《中華人民共和國水污染防治法》《中華人民共和國大氣污染防治法》《中華人民共和國固體廢物污染環境防治法》《中華人民共和國環境保護稅法》《排污許可管理條例》《中華人民共和國節約能源法》《中華人民共和國清潔生產促進法》等國家法律法規，以環境管理制度為綱領，建立健全環境管理體系及架構，不斷完善對項目建設和突發事件的及時響應能力，並通過培訓提高全體員工的環境保護意識，使旭陽上下共同參與到環境事業中去。

total of 700 million US dollars in 2023;

- We have introduced the “Carbon Peaking and Carbon Neutrality” action as a top-level strategy, driving advancements in the Group’s “Dual Carbon” action across four primary areas: full lifecycle green operation, green and low-carbon transformation and upgrading, carbon capture, utilization, and sequestration, and export of low-carbon operation and management expertise

- Water Resource Management:

- All plants successfully met the annual energy targets set at the beginning of 2023, resulting in substantial energy saving and consumption reduction;
- The energy consumption per unit of revenue stood at 2.17 tons of standard coal per million yuan, representing a significant decrease of 8.14%;
- The fresh water utilization rate of all plants surpassed 98%, with the highest rate reaching 98.7%.

- Emission management:

- Through energy-saving technological reforms, we have successfully achieved a reduction of 3.78 million tons of greenhouse gas emissions.

1. Environmental management

The Group earnestly follows the environmental guidelines of “abiding by law, combining prevention with control, saving energy and reducing consumption, and continuously improving” and abides by the Environmental Protection Law of the People’s Republic of China, the Law of the People’s Republic of China on Water Pollution Prevention and Control, the Law of the People’s Republic of China on Air Pollution Prevention and Control, the Law of the People’s Republic of China on Prevention and Control of Environmental Pollution by Solid Waste, the Environmental Protection Tax Law of the People’s Republic of China, the Regulations on the Administration of Emission Permission, the Energy Conservation Law of the People’s Republic of China, the Law of the People’s Republic of China on the Promotion of Clean Production and other national laws and regulations. With the environmental management system as our guiding principle, we have strengthened its structure to continuously improve our ability to respond promptly to project construction and emergencies. Additionally, by offering training and cultivating environmental awareness among all employees, we inspire everyone at Risun to actively participate in our environmental initiatives.

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環境管理制度

Environmental management system

- 制定並完善《環境保護責任制》《環保設施管理制度》《環保考核細則》《環境保護管理辦法》《環境相關法律法規獲取與評價管理辦法》《環境信息公開管理辦法》《環保培訓管理辦法》《突發環境事件信息報告和調查處理管理辦法》《環境保護責任追究管理辦法》等制度和管理辦法，建設更加成熟的環境管理制度體系，聚焦環境保護的方方面面。

We have formulated and improved various systems and management methods, such as the Environmental Protection Responsibility System, Management System for the Environmental Protection Facilities, Regulation of Environmental Protection Assessment, Environmental Protection Management Methods, Management Measures for Acquisition and Evaluation of Environment-Related Laws and Regulations, Management Measures for Environmental Information Disclosure, Management Measures for Environmental Protection Training, Management Measures for Reporting and Investigating and Handling of Information on Environmental Emergencies, and Management Measures for Environmental Protection Accountability System. By implementing these systems, we have developed a more comprehensive and mature environmental management system that encompasses all aspects of environmental protection.

環境管理體系建設

Construction of environmental management system

- 創新環境保護網格化管理，實行「公司」「車間」「班組」三級管理，並在此基礎上明確「五加三」的管理模式，即每級管理都定區域、定人員、定職責、定任務、定獎懲，確保每個崗位都有人管，每個排放源都有人查，每項指標都有人負責，實現環境管理覆蓋全部操作崗位、全體員工，實現「橫向到邊、縱向到底」的網格管理；

We have introduced an innovative grid-based environmental protection management system, characterized by a three-level management structure consisting of the Company, the workshops, and the shifts. Based on this three-level management system, we have further developed a “5+3” management model (identifying areas, owners, responsibilities, tasks, and rewards and punishments to make sure that every position will be filled, every emission source will be checked, and every indicator can be traced back to its owner) to make sure the environmental management covers all operational positions and all employees, thus forming a vertical-horizontal grid-based management network;

- 設置環保監察部作為公司環保責任制評價考核的負責部門，統籌公司環保責任制評價考核工作；綜合執法隊、生產管理部、設備管理部、技術管理部、總管理部為公司環保責任制評價考核的主要業務負責部門，對污染物總量管控、環保設施運行、工藝指標管理和現場管理等提供評價考核依據。

The Environmental Protection Supervision Department has been established as the body to evaluate and assess the company's environmental protection responsibility system and to coordinate evaluation and assessment efforts. The Comprehensive Law Enforcement Team, Production Management Department, Equipment Management Department, Technology Management Department, and General Management Department serve as the main departments contributing to the evaluation and assessment of the company's environmental protection responsibility system. These departments provide essential data for evaluation, including control over total pollutant levels, environmental protection facility operations, process index management, and on-site management.

環境管理架構

Environmental management framework

- 縱向建立「公司」「車間(部門)」「班組」三級環保責任制，橫向設置環保監察部、環保管理小組等專項、專業管理部門，協同實施環保管理、研究、監察，橫縱共同構成公司環保管理網絡，保證環保全面、全流程管理和治理。

Vertically, we have established a three-level environmental protection responsibility system consisting of the Company, the workshops (departments), and the shifts. Horizontally, we have set up special, professional management departments such as the Environmental Protection Supervision Department and Environmental Protection Management Team to collaboratively implement environmental protection management, research, and monitoring. The combination of vertical and horizontal management structures forms the Company's environmental protection management network, ensuring thorough, full-process management and governance of environmental protection.

建設項目環保管理

Environment- friendly management of projects under construction

- 制定並完善《關於生產廠區內施工現場管理的規定》《秋冬季應急減排環保手冊》《建設項目「環評」與「三同時」執行管理辦法》《施工現場環境管控標準》等規定和管理辦法，嚴格規範項目建設施工過程中的環境保護措施，最大限度地降低對環境的影響；

We have formulated and improved various regulations and management methods, such as the Regulations on Construction Site Management in the Production Plant Area, Environmental Protection Manual for Emergency Emission Reduction in Autumn and Winter, Measures for the Implementation and Management of Environmental Assessment and Three-item System of Construction Projects, and Standards for Environmental Control at Construction Sites. These guidelines strictly regulate environmental protection measures during project construction to minimize environmental impact;

- 建設項目在動工興建之前，對該項目進行環境影響評價，並提出防治環境污染的對策和措施；建設項目的環境保護設施與主體工程實現同時設計、同時施工、同時投入使用的「三同時」。

Before initiating a construction project, we conduct an environmental impact assessment and propose countermeasures and prevention measures to control environmental pollution. In accordance with the "three-item" management system, the environmental protection facilities of the construction project are designed, constructed, and put into use simultaneously with the main project.

可持續發展實踐 Sustainable Development Practices

突發環境事件管理

Environmental emergency management

- 制定《突發環境事件應急演練計劃》，並按計劃要求組織員工進行演練活動，通過演練活動提高員工應對突發事件的機動性；

We have developed the Emergency Drill Plan for Environmental Emergencies and conducted drills with employees in accordance with the plan's requirements, thereby enhancing employee mobility in responding to emergencies;

- 報告期內，各園區舉行了以「煉焦三車間煤氣系統停車荒煤氣放散事故」「苯酐車間液萘罐B罐出口法蘭洩漏遇靜電發生起火、人員中毒事故」「苯加氫二期油庫粗苯洩漏事故」「加氫反應器R0252人孔洩漏催化劑發生著火」為代表的應急事故演練，人員物資到位，協調組織順利。

During the reporting period, our parks conducted drills on various representative emergency scenarios. These scenarios included: 1) a raw coke oven gas discharge accident due to a non-working gas system in the Third Coking Workshop; 2) a fire and personnel poisoning accident caused by leakage at the outlet flange of Liquid Naphthalene Tank B in the Phthalic Anhydride Workshop, triggered by static electricity; 3) a crude benzene leakage accident in the Benzene Hydrogenation Phase II; and 4) a fire due to a catalyst leakage through the R0252 manhole of the hydrogenation reactor. The drills were well-coordinated, with personnel and materials adequately prepared and organized.

環保培訓

Environmental protection training

- 定期開展環境法律法規、危險廢物管理、突發環境事件應急預案、生產工藝及排污節點工藝指標等環保知識的培訓；

We regularly conduct training sessions covering environmental laws and regulations, hazardous waste management, contingency plans for environmental emergencies, production processes, discharge node process indicators, and other relevant environmental protection topics;

- 在世界環境日、節能周及中國水周等特定時間節點組織組織開展節能宣傳活動，提高全員節能意識，生產、生活方面降低能源消耗；

Additionally, we organize energy-saving awareness campaigns during specific periods such as the World Environment Day, Energy-saving Week, and China Water Week. These activities aim to raise awareness among all employees about energy conservation and to reduce energy consumption in both production and daily life;

- 2023年開展60次節能環保教育培訓，共計培訓8,414人次。

In 2023, 60 educational training sessions on energy conservation and environmental protection were held, involving a total of 8,414 trainees.

環境管理體系認證

Environmental management system

- 多年來，集團各子公司在日常經營的各方面嚴格執行環境管理體系的要求，積極推進環境管理體系持續認證，使企業的環保管理始終維持在較高水平；
For many years, the Group's subsidiaries have strictly adhered to the requirements of the environmental management system in all aspects of their daily operations. They have actively promoted the continuous certification of the environmental management system, ensuring that the Company's environmental management is consistently maintained at a high level;
- 2023年集團11家生產單位通過ISO14001環境管理體系認證，認證比例達到100%。
In 2023, 11 production units of the Group passed the ISO14001 environmental management system certification, with a certification ratio reaching 100%.

環境影響內部考察

Internal environmental impact assessment

- 每月對生產車間環境評級考評，具體內容為：
We conduct a monthly assessment of environmental performance at the production plants, which covers the following areas:
 - 污染物排放總量及排放指標管理
Management of total pollutant discharge and emission targets
 - 環保設施運行控制能力
Operational control over environmental protection facilities
 - 無組織排放管理
Management of non-organized emissions
 - 現場管理水平
On-site management standards
 - 公司文件或要求的執行落實情況
Compliance with company documents or requirements
 - 環保事故事件
Environmental incidents and accidents
- 至少每周進行一次環境隱患排查工作，根據情況可隨時安排隱患大排查活動：
Environmental hazard investigations are conducted at least weekly, with the flexibility to arrange comprehensive investigations as needed to identify major potential risks;
 - 對排查出的環境隱患，要登記造冊，跟蹤管理，明確責任人和整改期限；
Detected environmental hazards are registered, tracked, and managed, with clear responsible persons and deadlines for rectification;
 - 對於重大環境隱患，必須由副組長負責，組織制定並實施隱患治理方案；重大隱患治理方案應包括以下內容：治理的目標和任務、採取的方法和措施、經費和物資的落實、負責治理的機構和人員、治理的時限和要求。
For significant environmental hazards, the deputy team leader is tasked with developing and implementing hazard management plans that outline objectives, tasks, methods, measures, budgetary requirements, material preparation, responsible parties and persons, deadlines, and other requirements.

河北旭陽建設環保管控治一體化平台

Hebei Risun's Integrated Environmental Protection Control and Governance Platform

該平台以國家超低排放政策及績效評級要求為設計依據，運用大數據管理與分析、地理位置信息系統、高精度3D建模、及智能AI識別技術，具備多種綜合分析功能，於2023年7月建成投用。全廠24個有組織重點排放源均按照超低排放要求進行了DCS改造，實現在線數據「超標預警、智能識別、發送指令、精準治理、效果評估」。同時，將885個無組織污染源點所關聯的設備接入平台，時刻關注污染源的產塵情況，真正實現環保工作的智能化，無人化，更高效率的管理。

In line with China's ultra-low emission policies and performance rating requirements, the Integrated Environmental Protection Control and Governance Platform was launched in July 2023. It leverages big data management and analysis, geographic information systems, high-precision 3D modeling, and intelligent AI recognition technology to provide a wide array of comprehensive analysis functions. All of Hebei Risun's 24 key organized emission sources have undergone DCS upgrading in accordance with ultra-low emission requirements. This has enabled online data monitoring with functions such as early warning when exceeding standards, intelligent identification, instruction sending, precise treatment, and effect assessment. Moreover, the platform has integrated equipment associated with 885 unorganized pollution sources to track dust production. This has facilitated intelligent, unmanned, and more efficient environmental protection management.



圖5-1 環保管控治一體化平台系統界面

Figure 5-1 The interface of the Integrated Environmental Protection Control and Governance Platform

案例
Case

唐山旭陽化工組織應急事故演練，及時檢測事故環境影響

Tangshan Risun Chemical's Emergency Drill to Timely Detect Environmental Impact

2023年6月為安全生產月，唐山旭陽化工組織了「苯酐車間液苯罐B罐出口法蘭洩漏遇靜電發生起火、人員中毒事故」的綜合應急演練。車間主任至現場確認事故，啟動車間級應急預案，除對傷員展開救援並及時滅火降溫外，特設專門的環境檢測組，對現場洩漏物質進行檢測，並指導現場水質達到排放要求。

In June 2023, Tangshan Risun Chemical conducted a comprehensive emergency drill during this Safety Production Month. The drill simulated a fire and personnel poisoning accident caused by leakage at the outlet flange of Liquid Naphthalene Tank B in the Phthalic Anhydride Workshop, which was triggered by static electricity. Upon confirmation of the accident by the workshop director, the emergency plan at the workshop level was activated. Immediate actions were taken, such as rescuing the injured and extinguishing the fire to reduce the temperature. A special team was also built to conduct on-site environmental tests to detect any leaked substances and ensure that water discharge met quality standards.

在切斷洩漏點及滅火之後，由環境檢測組人員對事故地點的洗消用水進行分析，並對地面殘液及大氣環境進行監測，在事故發生的第一時間最大限度地降低對環境產生的污染。

After the leakage and fire were brought under control, the environmental testing team promptly analyzed the decontamination water at the site and monitored residual liquids on the ground and atmospheric conditions. These measures helped to swiftly minimize environmental pollution resulting from the accident.



圖5-2 唐山旭陽化工事故應急演練
Figures 5-2 Tangshan Risun Chemical's
Emergency Drill



圖5-3 唐山旭陽化工事故應急演練
Figures 5-3 Tangshan Risun Chemical's
Emergency Drill

可持續發展實踐 Sustainable Development Practices

2. 應對氣候變化

旭陽集團作為全球最大的獨立焦炭生產商及供應商，始終堅定不移貫徹綠色低碳理念。我們以發展循環經濟和低碳經濟、建設資源節約型和環境友好型企業為基本方向，取得了顯著綠色低碳發展成果，實現了經濟效益和社會效益雙具兼收。

氣候風險治理

為更全面、更精確地開展ESG工作，我們搭建了三層管治架構，通過「董事會決策－資本市場部管理-ESG工作小組執行」三個層面層層推進，以將氣候風險管理融入企業的日常運營管理中。

2. Response to climate change

As the world's largest independent coke producer and supplier, Risun Group has always been committed to green and low-carbon development. With a focus on promoting the circular and low-carbon economy, we strive to become a resource-efficient and eco-friendly enterprise. We have made remarkable progress in green, low-carbon development, yielding both economic profits and social benefits.

Governance of climate risk

To ensure thorough and precise execution of our ESG initiatives, we have established a three-tier governance structure consisting of the Board of Directors, Capital Market Department, and ESG Working Group. This structure promotes decision-making, management, and execution of ESG initiatives across the three levels, integrating climate risk management into the daily operation and management of the enterprise.

相關事項的最高負責和決策機構，負責對公司ESG治理工作在實施過程中的全面監管及氣候風險管理。

董事會

Board of Directors

The Board of Directors serves as the highest authority and decision-making body regarding ESG-related matters. It is responsible for overall supervision and climate risk management efforts throughout the implementation of the Company's ESG initiatives.

ESG工作具體實施過程中的牽頭和協調部門，負責日常ESG政策的落實，定期向董事會匯報包括氣候風險管理在內的ESG相關實施進展。

資本市場部

Capital Market Department

The department leads and coordinates the specific implementation of ESG initiatives. It is responsible for ensuring adherence to ESG policies. Additionally, it regularly reports progress on ESG implementation, including climate risk management, to the Board of Directors.

ESG工作的執行和落實部門，制定工作計劃並推進實施，同時研究相關政策並組織部門培訓，管理包括氣候風險在內的各項ESG風險。

ESG工作小組

ESG Working Group

The working group is responsible for the execution and implementation of ESG initiatives. It formulates work plans and promotes their implementation. It also researches relevant policies, organizes departmental training, and manages all ESG risks, including climate risks.

氣候行動戰略

「碳達峰•碳中和」目標：

力爭2030年實現碳達峰，2060年實現碳中和。

Climate action strategy

“Carbon Peaking and Carbon Neutrality” goals:

Carbon Peaking by 2030 and Carbon Neutrality by 2060

可持續發展實踐 Sustainable Development Practices

「碳達峰•碳中和」行動頂層設計：

Top-level design for the “Carbon Peaking and Carbon Neutrality” action:

全生命週期綠色運營 Full lifecycle green operation	產業綠色低碳轉型升級 Green and low-carbon transformation and upgrading	碳捕集、碳利用、碳封存 Carbon capture, utilization, and sequestration	低碳運營管理輸出 Export of low-carbon operation and management expertise
<ul style="list-style-type: none"> 全集團推廣全生命週期綠色經營理念，從原料採購、物流運輸、物料倒運、工藝選擇、生產管理、設備維護、產品銷售、管理經營、生活方式等方面深度調整、挖潛，全面減排。 We advocate for green operations throughout the entire lifecycle. We implement comprehensive adjustments, tap into potentials, and minimize emissions across various stages, including raw material procurement, logistics and transportation, material handling, process selection, production management, equipment maintenance, product sales, management and operations, and lifestyle practices. 	<ul style="list-style-type: none"> 積極發展氫能、光伏等綠色、低碳新能源產業； We actively promote the development of green and low-carbon new energy resources, including hydrogen energy and photovoltaics; 自主研發或引進低碳生產工藝：擇機佈局節能環保、生物基材料、可降解塑料產業、高端工程塑料、保溫材料等。 We focus on independently researching and developing or introducing low-carbon production processes. In addition, we strategically invest in energy-saving and environmental protection, bio-based materials, degradable plastics, high-end engineering plastics, and thermal insulation materials sectors to further advance our green and low-carbon transformation and upgrading efforts. 	<ul style="list-style-type: none"> 梳理全集團碳排放足跡，建立碳排放名錄； We have assessed the carbon emission footprint of the entire group and established a carbon emission inventory; 打造碳捕集及碳利用項目示範並全面推廣，如焦爐煤氣碳捕集-PPC-X項目等； We have initiated demonstrative projects for carbon capture and utilization, like the coke oven gas carbon capture-PPC-X project, and promoted their adoption within the group; 聯合開發二氧化碳捕集、驅油、CO₂基材料等項目。 We have collaborated on projects involving carbon dioxide capture, reservoir oil displacement, and the development of CO₂-based materials. 	<ul style="list-style-type: none"> 加快行業兼併收購及運營管理，對外輸出旭陽特色的綠色供應鏈、管理經營及綠色低碳技術； We have accelerated our industry mergers and acquisitions, and operation management efforts to export Risun's green supply chain, management and operation, and green and low-carbon technology to other industry players; 促進行業綠色低碳轉型升級。 We have advanced the promotion of green and low-carbon transformation and upgrading within the industry.

可持續發展實踐 Sustainable Development Practices

《旭陽集團「破達峰•碳中和行動方案」：立足於頂層設計，我們通過加大自主創新及聯合創新，確立研發及推廣綠色低碳技術、加快低碳產業轉型、佈局碳捕集碳利用、發展氫能等新能源等10大條42小條行動舉措，向實現「雙碳」進一步邁進。

“Risun Group’s Carbon Peaking and Carbon Neutrality Action Plan”: Rooted in our top-level design, we are advancing steadily towards achieving the dual carbon goals. Our plan comprises 10 major actions, encompassing 42 items. These include fostering independent and collaborative innovation, researching and advocating for green and low-carbon technologies, expediting the transition to low-carbon development, implementing carbon capture and utilization strategies, and exploring alternative energy sources like hydrogen.

碳中和行動十大條

Ten major actions for achieving carbon neutrality

推廣綠色低碳工藝

Promoting green and low-carbon processes

加快低碳產業轉型升級

Expediting the transformation and upgrading towards low-carbon development

產業鏈上下游協同減碳

Collaborating with upstream and downstream partners to reduce carbon emissions

提高清潔能源佔比

Increasing the adoption of clean energy

建設旭陽林和公益林

Establishing Risun Forests and the Public Welfare Forest

探索碳捕集、碳利用、碳封存

Exploring carbon capture, utilization, and sequestration

完善綠色供應鏈體系

Enhancing the green supply chain system

大力發展綠色氫能源

Promoting the development of green and hydrogen energy

全面平台化、數字化、智能化發展

Implementing platform-based, digital, and intelligent development across all aspects

倡導綠色辦公和綠色生活

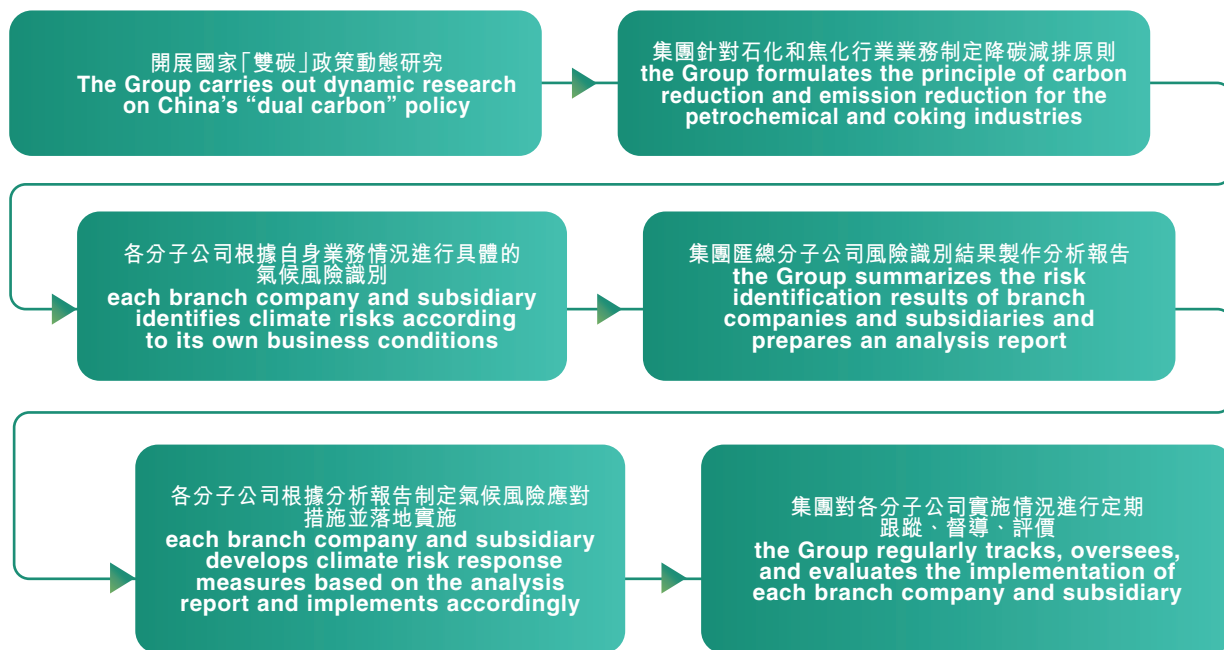
Advocating for green office spaces and lifestyles

氣候風險評估

風險識別和評估流程

Client Risk Assessment

Risk Identification and Assessment Process



可持續發展實踐 Sustainable Development Practices

識別的風險和應對措施

Identified risks and responses

風險維度 Risk Dimension	風險類別 Risk Category	風險描述 Risk Description	時間維度 Time Dimension	對戰略、業務及財務的影響 Strategic, Operational and Financial Implications	應對措施 Responses
轉型風險 Transformation risk	政策和法律風險 Policies and laws risk	<p>(1)未來碳價格政策的實施，將導致企業各項運營成本提高；(2)企業碳排放信息披露要求日趨嚴格；(3)企業現有高碳產品及服務受到強制性監管；(4)企業運營面臨更強的環保政策要求</p> <p>(1) The implementation of carbon price policy will lead to the increase of operating costs of enterprise; (2) the requirements for enterprise carbon emission information disclosure will become increasingly strict; (3) existing high-carbon products and services of the Group will be subject to mandatory regulation; and (4) enterprise operation will be subject to increasingly stringent environmental policies and requirements.</p>	中、長期 Medium-and long-term	<ul style="list-style-type: none"> 環保要求趨嚴，對煤炭量消耗指標進行控制可能造成限產，對產品產量有一定的影響； As environmental standards tighten, the controlled management of coal consumption metrics may lead to production constraints, exerting a discernible influence on output levels; 碳減排政策將導致企業面臨電力成本上升、新增碳交易成本等財務影響。 carbon emission reduction policies will subject the enterprise to financial impacts such as rising electricity costs and additional carbon transaction costs. 	<ul style="list-style-type: none"> 堅持能源利用最大化，不斷優化用能結構，最大限度減少用能投入 Commit to maximizing energy utilization and continually refining energy consumption structure, thereby minimizing energy inputs to the fullest extent possible 關注國家環境、「雙碳」政策，並及時根據政策變化調整企業戰略 Keep informed on national environmental policies and China's "dual carbon" policy, and make agile adjustments to corporate strategies

可持續發展實踐 Sustainable Development Practices

風險維度 Risk Dimension	風險類別 Risk Category	風險描述 Risk Description	時間維度 Time Dimension	對戰略、業務及財務的影響 Strategic, Operational and Financial Implications	應對措施 Responses
	技術風險 Technical risk	(1)企業以較低排放的產品及服務替代現有高碳產品及服務，顛覆性轉變產業結構；(2)新技術投資未能成功；(3)企業轉型至較低排放技術的成本較高 (1) Enterprise will replace existing high-carbon products and services with low-emission products and services, thus revolutionizing the industrial structure; (2) investments in new technology may fail; (3) the costs for enterprise to switch to lower-emission technologies may be relatively high.	中、長期 Medium- and long-term	<ul style="list-style-type: none"> 對集團整體戰略方向產生影響； The overall strategic direction of the Group may be affected; 新技術及產品研發導致成本提升，利潤降低。 research and development of new technology and product may lead to higher costs and lower profits. 	<ul style="list-style-type: none"> 使用節能環保設備，淘汰高耗能設備 Use energy-efficient equipment while phasing out high-energy-consuming equipment 進行節能技改，提高能源利用效率 Carried out energy-saving technological transformation and improved resource efficiency
	市場風險 Market risk	利益相關方更加關注企業二氧化碳減排表現及產品綠色化；未來碳價政策的實施將導致產品原材料價格上升 Stakeholders will pay more attention to emission reduction performance and product greening; and the implementation of carbon price policy will lead to the increase of operating costs of enterprise.	中、長期 Medium- and long-term	<ul style="list-style-type: none"> 集團市場行為將更加側重展示自身低碳轉型的行動與成績； The Group's market behavior will focus more on demonstrating its own actions and achievements in low-carbon transition; 原材料價格上升導致生產成本增加，利潤降低。 rising raw material prices will result in higher production costs and lower profits. 	<ul style="list-style-type: none"> 不斷優化用能結構，降低企業用能大頭－焦炭煉焦煤消耗 Continuously optimize energy consumption structure to curb the predominant energy guzzlers, namely coke and coking coal 實施林業碳匯，植樹造林 Implement forestry carbon sequestration and carry out afforestation

可持續發展實踐 Sustainable Development Practices

風險維度 Risk Dimension	風險類別 Risk Category	風險描述 Risk Description	時間維度 Time Dimension	對戰略、業務及財務的影響 Strategic, Operational and Financial Implications	應對措施 Responses
	聲譽風險 Reputational risk	集團業務類型屬高排放類企業，二氧化碳減排表現對企業聲譽影響較大，減排表現不利極大可能影響企業聲譽 The Group is a high-emission enterprise, and as a result, the carbon dioxide emission reduction performance has a great impact on its reputation and poor emission reduction performance will most likely affect its reputation.	長期 Long-term	<ul style="list-style-type: none"> 集團將投入更多資源用於自身減排正面宣傳； The Group will invest more resources in positive publicity of its own emission reduction achievements; 不良的二氧化碳減排表現及評價將會降低集團融資能力，運營現金流受影響。 poor carbon dioxide emission reduction performance and evaluation result will reduce the Group's financing capacity and affect its operating cash flow. 	<ul style="list-style-type: none"> 完善披露企業每年ESG表現 Improve disclosure of corporate annual ESG performance 加強對利益相關方和公眾對企業ESG表現的宣傳 Fortify efforts in communicating corporate ESG performance to stakeholders and the broader public
實體風險 Entity risks	急性風險 Acute risk	公司在乾旱、洪澇等極端天氣頻發區域的業務，可能帶來的影響 The potential impacts of business operations in regions prone to extreme weather such as droughts and floods	短、中期 Short- and long-term	損毀生產設施，影響正常的業務運營 Damage to production facilities, disrupting normal business operations	增設對於極端天氣的應急預案和演練 Establish emergency plans and drills in response to extreme weather events
	慢性風險 Chronic risk	公司供應鏈可能處於氣候變化高風險區域而帶來的風險 The Company's supply chain may be located in high-risk areas for climate change, which may bring risks.	長期 Long-term	導致供應鏈停滯甚至中斷，影響企業生產運營 Cause supply chain stagnation or even disruption, affecting corporate production and operational continuity	提高供應鏈氣候韌性 Improve the climate resilience of supply chain
		公司的沿海區域業務可能受到海平面上升帶來的不利影響 The Company's operations in coastal areas may be negatively affected by sea level rise.	長期 Long-term	沿海廠區有遷往內陸的風險，造成資產損失 Coastal facilities may face risks of relocation inland, resulting in asset losses	開展風險評估，提前做好應急預案 Conduct risk assessments and prepare emergency plans in advance
		持續高溫天氣對公司僱員工作環境帶來的不利影響 The continued high temperatures may adversely affect the working environment of company employees.	長期 Long-term	加速能源消耗，增大僱員工傷事故發生幾率 Accelerate energy consumption and increase the likelihood of employee injuries and accidents	提高對僱員在高溫天氣作業的保障措施 Implement comprehensive measures to safeguard employees operating in high-temperature environments

落實戰略措施

• 低碳產業

2022年，國家發改委、能源局聯合發佈《氫能產業發展中長期規劃（2021-2035年）》，明確了氫能在我國能源綠色低碳轉型中的戰略定位、總體要求和發展目標。旭陽集團依託《旭陽氫能發展規劃》，確定了氫能業務「承接集團能源戰略落地，助力碳中和，打造新的業務增長極」的戰略定位，提出了「一線、一網、兩翼、四階段」的「1124」發展思路。定州旭陽氫能有限公司著力打造旭陽版氫能產業生態系統，2023年依託氫氣生產—氫能儲運—加氫站建設運營—應用場景的「一線一網」佈局，從產業鏈供應端介入京津冀市場，打造氫能閉環生態的成功案例。

製氫端，持續開發各園區副產氫產能及利用，並對綠氫製備工藝進行調研和研發，籌劃建設綠氫製備工廠的可行性；儲運端，持續擴大公司氫氣運輸能力，推進液氫項目及研發，完成定州—高碑店—北京氫氣長輸管道省內備案；加氫站方面，推進定州和保定分別建設第二座綜合能源站，同時開拓在北京建立加氫母站的項目；應用端，繼續推進氫能源車輛運輸場景的搭建，研究並實施天然氣管道摻氫示範；資本市場和企業合作方面，持續跟蹤資本市場及業務合作拓展，加強與產業鏈相關企業的合作。

Implement strategic initiatives

• Low-carbon Industries

In 2022, the National Development and Reform Commission and the National Energy Administration joined forces to unveil the *Medium and Long-Term Plan for the Development of Hydrogen Energy Industry (2021–2035)*. This blueprint elucidated hydrogen energy's strategic positioning, overarching requirements, and development objectives within China's ambitious shift toward green and low-carbon energy landscapes. Leveraging *Risun Group's Hydrogen Energy Development Plan* as a guiding beacon, the Group delineated its strategic positioning in the hydrogen energy sector as an enabler for executing the Group's energy strategy, catalyzing carbon neutrality efforts, and pioneering novel avenues for business expansion. Within this framework, we introduced the "1124" development paradigm, encompassing "one line, one network, two wings, four stages". Dingzhou Risun Hydrogen Energy Co., Ltd. is diligently crafting the Risun-branded hydrogen energy industry ecosystem. In 2023, it strategically deployed the "one line, one network" model, intertwining hydrogen production, storage and transportation, refueling station infrastructure development, and application scenarios. This approach facilitated its entry into the Beijing-Tianjin-Hebei market from the industrial supply chain's inception, thereby exemplifying a successful case of a closed-loop hydrogen energy ecosystem.

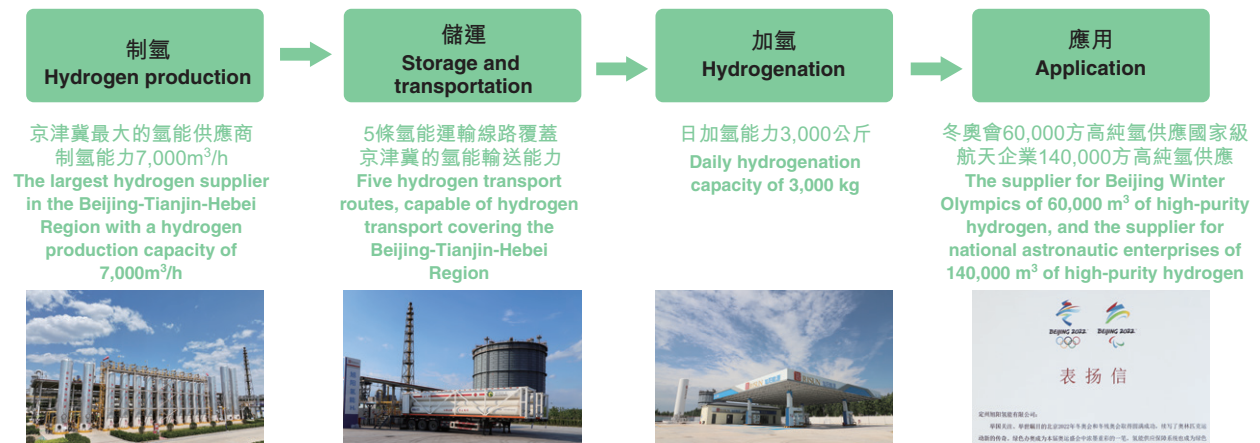
On the hydrogen production front, we focus on continual exploration of secondary hydrogen production capacity across various production bases, coupled with research and development endeavors aimed at refining green hydrogen production processes and assessing the feasibility of erecting green hydrogen production facilities. On the storage and transportation front, efforts are underway to expand the Company's hydrogen transportation capacity, advance liquid hydrogen projects and R&D efforts, and secure regulatory approvals for the provincial long-haul hydrogen pipeline network from Dingzhou to Gaobeidian and Beijing. On the hydrogen refueling station front, strides are being made in establishing the 2nd comprehensive energy stations in Dingzhou and Baoding, while simultaneously exploring the establishment of a flagship hydrogen refueling station in Beijing. On the application front, the emphasis persists on advancing hydrogen-powered transportation scenarios and piloting hydrogen blending demonstrations within natural gas pipelines. In terms of capital market and business cooperation, our collaboration with relevant entities along the industrial chain continues to be fortified, with a keen eye on capital market dynamics and expanding business cooperation avenues.

可持續發展實踐 Sustainable Development Practices

當前，我們正致力於實現「打造定州氫能保障基地，立足區內，服務北京，輻射京津冀，助力建設一體化閉環氫能產業圈」的旭陽氫能產業鏈發展願景，以氫能供給側建設為契入點，加快推進形成多品位氫氣產品供應和環京區域氫能交通網，從而推進氫能產業逐步從示範走向規模化、市場化，打造氫能產業高地。

At present, our unwavering commitment is centered on actualizing the Risun hydrogen energy industry chain's developmental vision. This encompasses fortifying Dingzhou as a cornerstone hydrogen energy hub, strategically poised to serve Beijing and radiate its influence across the wider Beijing-Tianjin-Hebei region, thereby fostering an integrated closed-loop hydrogen energy industry ecosystem. With hydrogen energy supply-side development as our vanguard, we are propelling forward to establish a multi-tiered hydrogen product supply framework and an expansive hydrogen energy transportation network in the Beijing vicinity. In doing so, we are driving the hydrogen energy sector towards scalable, market-driven growth, and cementing its stature as a premier industry stronghold.

立足供給側體系，建設「銷-運-產-供」模式，帶動氫能銷售網絡和規模化應用，做大做強氫能全產業鏈
To build a business mode integrating "sales - transportation - production - supply" based on the supply-side system, so as to drive the sales network and large-scale application of hydrogen energy, and to make the entire industry chain of hydrogen energy grow in size and power



• 循環經濟

我們始終堅持減量化、再利用和資源化原則，踐行清潔生產、綠色採購和廢棄物資源化利用等循環經濟發展理念，實現「原料互供，工藝互聯，價值延伸，排放最低」。其中，定州園區是全國產業鏈最長的煤焦化工生產基地，並成為河北省清潔生產示範園區、循環經濟示範園區，河北旭陽能源成為河北省第一批資源節約型環境友好型試點企業。

• Circular Economy

We steadfastly uphold the principles of "emission reduction, reuse and recycle", embodying the ethos of clean production, green procurement, and the recycling of waste resources. Our aim is to achieve a symbiotic ecosystem where raw materials are shared, processes are interconnected, value is extended, and emissions are minimized. Dingzhou Base stands out as the nation's leading coal coking chemical production base, boasting the longest industrial chain. Recognized as a model for clean production and circular economy in Hebei Province, it has propelled Hebei Risun Energy to the forefront as one of the province's pioneering enterprises in resource conservation and environmental friendliness.

可持續發展實踐 Sustainable Development Practices

• 智慧工廠

為貫徹集團「完全自動化、徹底自動化，完全信息化、徹底信息化」和全面實施數智化轉型升級戰略部署，持續提升智能製造水平，我們已建設「旭陽雲」工業互聯網平台、混合雲、旭陽1#大數據配煤專家、智慧物流、運輸協同、智能點巡檢機器人等自動化信息化系統，提高數字化、智能化生產水平，直接或間接降低碳排放。其中，「旭陽雲」工業互聯網平台更是榮獲國家特色專業型工業互聯網平台的榮譽。未來，我們將論證園區能源平衡，通過園區綜合平衡，實現能源優化，並通過提高生產效率及人均勞效實現間接減排。

• 綠色工廠

集團採取一體化、園區化、循環經濟佈局、資源綜合利用、工藝升級、節能環保改造、綠色供應鏈建設、智能工廠建設、智慧園區建設、發展綠色氫能以及倡導綠色辦公、綠色生活等一系列手段措施，實現有效溫室氣體減排及物質、能源最大化利用，有多個子公司獲得「省級綠色工廠」及「國家級綠色工廠」，全面反映公司綠色生產、綠色運營、綠色管理、綠色發展水平，有助於公司以更高標準持續完善綠色製造體系，提升社會形象，深化綠色高質量發展。

• Smart Factory

In alignment with the Group's strategy of "complete and thorough automation and informatization" and in order to roll out our digital & intelligent transformation and upgrading strategy and to enhance our digital and intelligent production standards, we have established a suite of automated information systems, including the "Risun Cloud" industrial Internet platform, hybrid cloud, Risun No.1 big data coal blending expert, intelligent logistics, transportation coordination, and intelligent patrol inspection robots. These advancements are aimed at enhancing our digital and intelligent production capabilities, directly and indirectly reducing carbon emissions. Notably, the "Risun Cloud" industrial Internet platform has been honored as a national benchmark for specialized industrial Internet platforms. Looking ahead, we are committed to achieving energy balance across various industrial parks, optimizing energy usage through comprehensive park-level balancing, and realizing indirect emission reductions by improving production efficiency and per capita labor productivity.

• Green Factory

The Group adopts an integrated approach, emphasizing park-based operations, circular economy principles, comprehensive resource utilization, technological upgrades, energy efficiency and environmental protection enhancements, green supply chain development, smart factory initiatives, smart park development, green hydrogen energy promotion, and advocacy for green office practices and lifestyles. These measures are designed to effectively reduce greenhouse gas emissions and maximize material and energy utilization. Multiple subsidiaries have been recognized as "provincial green factories" and "national green factories", reflecting our commitment to green production, operation, management, and development. This commitment not only enhances our corporate image but also deepens our pursuit of green, high-quality development.

可持續發展實踐 Sustainable Development Practices

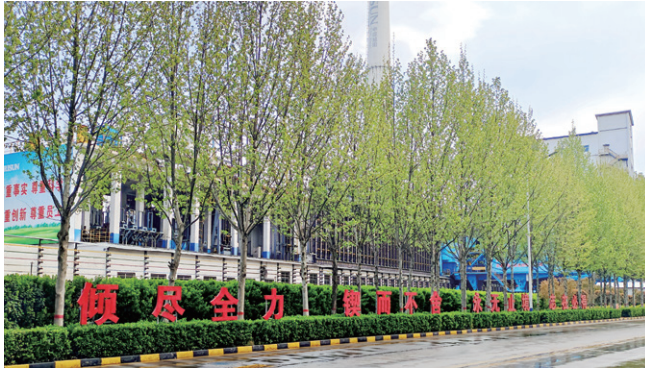


圖5-4 邢台旭陽經濟開發區—國家級綠色工業園區
Figure 5-4 Xingtai Risun Economic Development Zone – National Green Industrial Park



圖5-5 金牛旭陽—國家級綠色工廠
Figure 5-5 Jinniu Risun – National Green Factory



圖5-6 滄州旭陽—省級綠色工廠
Figure 5-6 Cangzhou Risun – Provincial Green Factory

可持續發展實踐 Sustainable Development Practices

• 綠色融資

在實現「雙碳」的社會大環境下，金融市場逐漸提高融資業務中對企業綠色金融相關元素的要求。我們早在幾年前便提前佈局，探討可持續發展融資形式，目前已成功發行多筆可持續發展掛鈎的多形式結構性貸款。截至2023年底，中國旭陽集團獲批可持續發展授信7億美元。

• Green Financing

In the backdrop of realizing the societal imperative of “dual carbon”, the financial market is progressively refining its criteria, demanding heightened green finance components within its financing frameworks. Years prior, we proactively laid the groundwork, delving into forms of sustainable development financing. Presently, we have successfully executed diverse formats of sustainable development-linked structured loans. As of the end of 2023, China Risun Group had been sanctioned a sustainable development credit line of USD700 million.

• 管理支撐

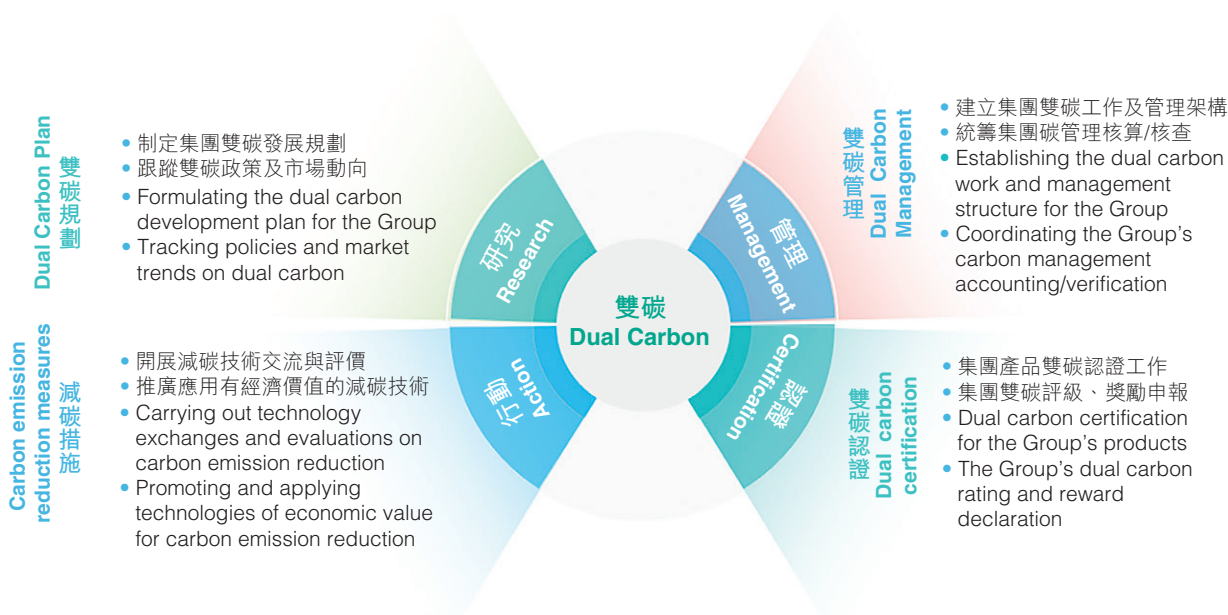
雙碳研究所

為深入貫徹落實中央關於「碳達峰•碳中和」的重要指示精神及中央經濟工作會議相關要求，集團設立雙碳研究所，謀求更加貼合企業實際的「雙碳」落地方式，探索煤化工產業更加綠色、低碳可持續的發展路徑。

• Management Facilitation

Dual Carbon Research Institute

In pursuit of effectuating the pivotal directives of the central government concerning “carbon peaking” and “carbon neutrality” and those as articulated in the pertinent mandates of the Central Economic Work Conference, the Group inaugurated the Dual Carbon Research Institute. This institution aims to devise pragmatic “dual carbon” implementation methodologies consistent with enterprise realities, and to chart a course for the coal chemical industry that is greener, low-carbon, and sustainability-oriented.



可持續發展實踐 Sustainable Development Practices

「雙碳」制度

我們嚴格遵循國家《中共中央國務院關於完整準確全面貫徹新發展理念做好「碳達峰•碳中和」工作的意見》、國務院關於印發《2030年前碳達峰行動方案的通知》《碳排放權交易管理辦法（試行）》《化工生產企業溫室氣體核算方法與報告指南》《中國獨立焦化企業溫室氣體排放核算方法與報告指南（試行）》及河北省委省政府出台《關於完整準確全面貫徹新發展理念認真做好「碳達峰•碳中和」工作的實施意見》等溫室氣體管理政策，制定了《深度減排攻堅方案》《環保綜合治理與提升方案》《重污染天氣應急響應「一廠一策」實施方案》等方案，充分發揮旭陽在焦炭、化工行業的示範引領作用，助推煤化工產業創新發展，並推動社會經濟結構綠色轉型，減緩氣候變化帶來的不利影響。

“Dual Carbon” Framework

In strict adherence to applicable greenhouse gas management policies, inclusive of the *Comprehensive and Accurate Implementation of the New Development Philosophy in Steering the “Carbon Peaking and Carbon Neutrality” Initiative* by the Central Committee of the Communist Party of China and the State Council, and the circulation of directives such as the *Action Plan for Carbon Peaking Before 2030*, alongside protocols like the *Carbon Emission Trading Management Measures (Trial)*, the *Guidelines for Greenhouse Gas Accounting and Reporting Methodologies for Chemical Production Enterprises*, the *Guide for Calculating Method and Reporting of Greenhouse Gas Emissions of Independent Coking Enterprises of China (Tentative)*, and the *Guidelines for Enforcement of the Comprehensive and Accurate Implementation of the New Development Philosophy in Steering the “Carbon Peaking and Carbon Neutrality” Initiative* promulgated by Hebei Party Committee of the Communist Party of China and Hebei Provincial People’s Government, we have formulated a suite of strategies encompassing the Intensive Emission Reduction Initiative, the Holistic Environmental Governance and Enhancement Scheme, and the Implementation Plan of “One Plant, One Policy” for Emergency Response to Heavily Polluted Weather. We are harnessing Risun’s pioneering role in the coking and chemical sectors to catalyze innovation and growth within the coal chemical industry, thereby propelling a paradigm shift toward a green socioeconomic fabric and mitigating the adverse repercussions of climate volatility.

案例
Case

滄州旭陽、中煤旭陽獲批河北省第二批二氧化碳捕集利用與封存試點項目
Cangzhou Risun and China Coal Risun Granted Approval for Hebei Province's Carbon Dioxide Capture, Utilization and Storage Pilot Projects (Second Batch)

2023年3月29日，滄州旭陽「以合成氨低溫甲醇洗裝置脫碳尾氣為原料氣採用吸附與低溫精餾組合工藝製備食品級二氧化碳項目」獲批入選河北省應對氣候變化領導小組辦公室公佈的河北省第二批二氧化碳捕集利用與封存試點項目。

On March 29, 2023, Cangzhou Risun's endeavor to harness Synthetic Ammonia Low-Temperature Methanol Washing Unit Decarbonization Exhaust Gas as feedstock for the production of food-grade carbon dioxide, employing a combination of adsorption and low-temperature distillation processes, earned it a spot among Hebei Province's carbon dioxide capture, utilization and storage (CCUS) pilot projects (second batch), as unveiled by the Climate Change Responses Steering Group Office of Hebei Province.

旭陽集團旗下還有焦化行業首個焦爐煙氣二氧化碳捕集項目——中煤旭陽焦爐煙氣二氧化碳捕集示範項目入選。整個河北省列入該第二批二氧化碳捕集利用與封存試點的項目共有7個，旭陽集團獨佔兩元，體現了省政府對旭陽集團及旗下企業「雙碳」實踐成果和行業領先水平的認可及肯定。

China Coal Risun, pioneering the realm of coke oven flue gas carbon dioxide capture within the coking industry under the aegis of Risun Group, also clinched inclusion in this demonstrative initiative. Risun Group secured two of the seven projects enlisted in Hebei Province's CCUS Pilot Projects (Second Batch), underscoring the provincial government's recognition and commendation of Risun Group's "dual carbon" accomplishments and vanguard status in the sector.

案例
Case

滄州旭陽第二個碳市場履約週期配額完成發放，實現碳配額 20 餘萬噸
Cangzhou Risun Surpasses the Quota Allocation Milestone for the Second Carbon Market Compliance Cycle, Surmounting 200,000 Tons

2023年7月，國家生態環境部進行了全國碳市場第二個履約週期配額發放。滄州旭陽作為納入發電行業重點排放單位的企業之一，取得了綠色低碳生產、綠色低碳運營的顯著成效。

In July 2023, the Ministry of Ecology and Environment dispensed quotas for the second compliance cycle of the national carbon market. As one of the premier emission entities in the power generation sphere, Cangzhou Risun has manifestly excelled in the realms of green and low-carbon production and operation.

經核算，滄州旭陽實現碳配額盈餘20.5萬噸，按當前碳市場價格可產生經濟效益1,400餘萬元。滄州旭陽順利完成第二個履約週期全國碳市場配額，是旭陽集團「雙碳」實踐的又一具體成果。

A close scrutiny reveals that Cangzhou Risun has amassed a surplus of carbon quotas exceeding 205,000 tons, translating into economic returns of RMB14 million at prevailing carbon market valuations. The fulfillment of the second compliance cycle of national carbon market quotas by Cangzhou Risun stands as yet another tangible manifestation of Risun Group's "dual carbon" endeavors.

可持續發展實踐 Sustainable Development Practices

溫室氣體排放績效

GHG Emissions Performance

表5-1 2021-2023年度溫室氣體排放績效

Table 5-1 Greenhouse Gas Emission Performance 2021-2023

排放物種類 Category of Emission	單位 Unit	2023年 2023	2022年 2022	2021年 2021
溫室氣體排放總量 Total emission of greenhouse gas	噸CO ₂ e tons of CO ₂ e	8,577,343.34	5,047,702.61	4,422,127.78
溫室氣體直接排放量 Direct emissions of greenhouse gases	噸CO ₂ e tons of CO ₂ e	7,789,855.81	4,386,131.17	3,824,537.41
溫室氣體間接排放量 Indirect emissions of greenhouse gases	噸CO ₂ e tons of CO ₂ e	787,487.53	661,571.43	597,590.37
溫室氣體排放密度 Greenhouse gas emission density	噸CO ₂ e/萬元人民幣 Ton of CO ₂ e/RMB 10 thousand	2.03	1.28	1.22

註：1. 溫室氣體排放量依據世界資源研究所(WRI)和世界可持續發展工商理事會(WBCSD)發佈的《溫室氣體核算體系—企業核算與報告標準》、政府間氣候變化專門委員會(IPCC)《第五次評估報告2013》以及《中國獨立焦化企業溫室氣體排放核算方法與報告指南(試行)》核算得出，其中電力部分的溫室氣體排放因子參照生態環境部《企業溫室氣體排放核算方法與報告指南發電設施(2022年)修訂版》選取；2. 由於山東鄆城園區、東明園區收購已滿三年，從今年起與其他公司合併披露；3. 2023年溫室氣體排放數據的增幅主要由於將呼和浩特旭陽中燃納入統計口徑，以及部分廠區業務規模增長。

Note: 1. Greenhouse gas emissions are calculated according to the Greenhouse Gas Protocol-Enterprise Accounting and Reporting Standard issued by the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), the Fifth Assessment Report 2013 issued by the Intergovernmental Panel on Climate Change (IPCC), and the Guide for Calculating Method and Reporting of Greenhouse Gas Emissions of Independent Coking Enterprises of China (Tentative), among which the greenhouse gas emission factor with respect to power generation is selected according to the Guide for Calculating Method and Reporting of Greenhouse Gas Emissions: Power Generation Facilities (Revision 2022) issued by the Ministry of Ecological Environment; 2. As the acquisitions of Shandong Yuncheng Base and Dongming Base have surpassed the three-year mark, they will now be consolidated and disclosed alongside other entities from this fiscal year; 3. The upsurge in greenhouse gas emission data for 2023 primarily stems from the incorporation of Hohhot Risun CHINA GAS into the statistical purview, coupled with the expansion of operational scale across select plant domains.

專題
Special Feature

積極拓展綠氫業務
Vigorous Expansion of Green Hydrogen Ventures

業務目標及達成情況

Business Objectives and Completion

2023年氫能業務目標

Hydrogen Energy Business Targets 2023

氫氣銷量達到765萬Nm³

Hydrogen sales of 7.65 million Nm³

達成情況

Completion

氫氣銷售930萬Nm³，達成目標

Hydrogen sales of 9.3 million Nm³, fulfilling the set target

2023年度亮點

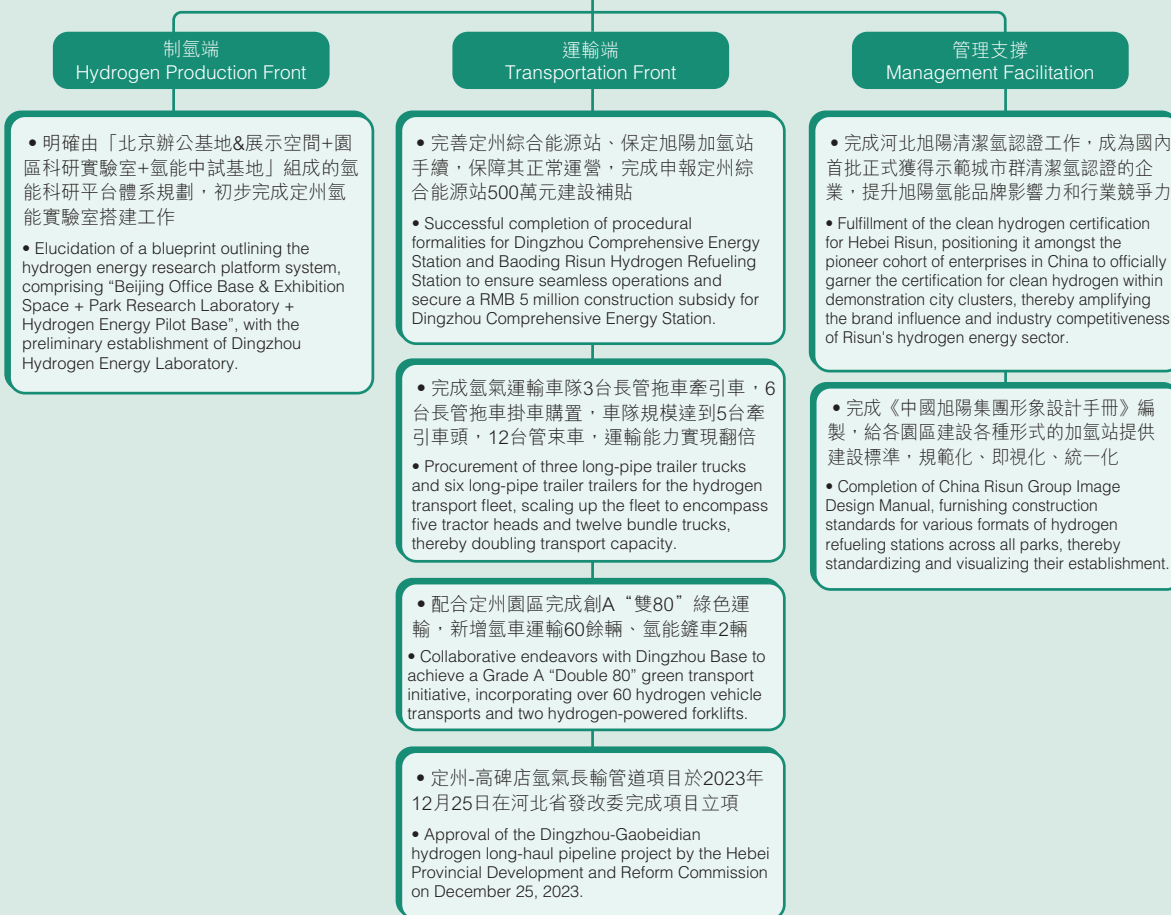
Key Highlights for 2023

年度績效

2023年度氫氣銷售930萬Nm³，完成年度目標122%，實現減碳9,700噸（按煤制氫碳排放標準線計算）：

Annual Performance Metrics

In 2023, hydrogen sales soared to 9.3 million Nm³, surpassing the annual target by 122%, thereby effecting a reduction in carbon emissions by 9,700 tons (calculated based on the coal-derived hydrogen carbon emission standard);



焦炭板塊溫室氣體減排
Mitigating Greenhouse Gas Emissions in the Coke Operations

焦炭板塊減排措施：

Emission reduction measures taken for coke sector:

- 降低煤焦比：根據煤場存煤情況，積極調整配煤比例，並提前對配比進行鐵箱實驗和小焦爐實驗，注意積累生產過程中用過的好的配煤方案，同時提高配合煤的粉碎細度，加強煉焦車間的煤餅搗固操作，逐步降低煤焦比；
Reduce the coal-to-coke ratio: proactively adjust the coal blending ratios in response to coal inventory levels, conduct stamp-charge coking test in small iron-box and small coke-oven experiments on the ratios in advance, and accumulate successful coal blending schemes used in the production process while enhancing the pulverization fineness of the coal used in blending and fortifying coal cake compaction operations within the coking workshop, thus gradually diminishing the coal-to-coke ratio;
- 提高幹熄焦自發電量：加強幹熄焦發電裝置的維護和保養，增加幹熄焦發電量和煤氣發電負荷，提高自發電量，不斷降低外購電量，從而降低碳排放量；
Increase the quantity of CDQ self-generated electricity: Enhance the maintenance of Coke Dry Quenching (CDQ) power generation equipment, increase the output of CDQ generation and coal gas power generation load, increase the quantity of self-generated electricity, and continuously reduce the quantity of purchased electricity, thereby facilitating a reduction in carbon emissions;
- 餘熱優化利用：不斷挖潛，充分利用焦化生產過程中的餘熱資源，新建三四期上升管餘熱回收裝置，將上升管餘熱進行回收用於焦化生產，同時替代粗苯管式爐加熱，減少煤氣燃燒產生的二氧化碳排放；
Optimize the application of residual heat: Continually tap and give full play to waste heat resources generated during coking production, including the establishment of waste heat recovery apparatus for third- and fourth-stage risers, facilitating the recovery of waste heat for utilization in coking processes. In addition, this strategy involves supplanting traditional crude benzene tube furnace heating methods, thereby curbing carbon emissions originating from gas combustion;
- 加大氫能利用開發：繼續擴大氫能建設規模，加大氫氣生產負荷，提高氫氣產量，從而降低二氧化碳排放；
Boost the utilization and development of hydrogen energy: Continue to expand the scale of hydrogen energy projects, boost hydrogen production load and volume, and thus reduce carbon dioxide emissions;
- 採用能源管理合同的形式對公司內的12台高耗能電機更換為節能的永磁電機，降低電能的消耗，從而降低二氧化碳排放。
Adopt energy management contracts to facilitate the replacement of twelve high-energy-consuming motors within the organization with energy-efficient permanent magnet motors. This transition aims to curtail energy consumption, thereby mitigating carbon emissions.

3. 綠色生態

集團嚴格按照國家相關法律法規開展環境監測與評估，建立健全環境監測體系，實現智能化自動化監控，以保證對大氣、土壤、水的影響更加精確可控。

環境監測

我們構築了數字化的環保監測系統，做到了「超標預警、智能識別、發送指令、精準治理、效果評估」全過程自動化管控，不但實現二氧化硫、氮氧化物、顆粒物等低於超低排放標準20%，同時完全滿足世界銀行及國際金融公司制定的「赤道原則(Equator Principles)」績效標準，保持固廢100%合規處置及綜合利用、焦化污水回收率100%及廢水零排放技術利用整體覆蓋，站到了行業環保制高點。

- 環保監測點委託第三方監測，數據接受員工和社會監督、與環保主管部門聯網，實現了全員、全方位、全過程、全天候聯防、聯控，達標排放；
- 各廠區擁有豐富的監測設備，以保證監測的準確性，以河北旭陽為例，共有19套自動監控裝置、18套廠界TVOC在線報警裝置、2套PM10檢測點位、3套空氣自動監測站點、1套物流門禁監控系統、1套危險廢物在線管理平台實時聯網。

3. Green ecology

The Group undertakes environmental monitoring and assessment in strict accordance with national environmental laws and regulations. This encompasses the establishment of a robust environmental monitoring framework, characterized by intelligent automation, ensuring precise and controlled management of atmospheric, soil, and water impacts.

Environmental monitoring

The Group has deployed a digitized environmental monitoring system, enabling a paradigm shift towards fully automated control encompassing “excessive standard alerting, intelligent pattern recognition, command transmission, targeted remediation, and performance evaluation”. This approach not only achieves a noteworthy reduction in emissions of SO₂, NO_x, particulate matters and other pollutants, surpassing ultra-low emission benchmarks by 20%, but also attains full compliance with the Equator Principles stipulated by the World Bank and International Finance Corporation. Noteworthy achievements include the steadfast adherence to 100% compliant solid waste disposal and comprehensive utilization practices, alongside the implementation of technologies ensuring 100% coke wastewater recovery and zero wastewater discharge, thereby positioning the organization at the vanguard of environmental stewardship within the industry.

- Environmental monitoring points are outsourced to third-party agencies for oversight, with data subject to scrutiny by both employees and the wider community, while also being integrated with environmental regulatory authorities, enabling organization-wide, all-round, whole-process, round-the-clock joint prevention and control to ensure compliance with emission standards.
- Each plant boasts a wealth of monitoring equipment to guarantee precision in surveillance. Take Hebei Risun for instance, it is equipped with a total of 19 sets of automatic monitoring devices, 18 sets of factory-wide TVOC online alarm devices, 2 sets of PM10 detection points, 3 sets of air automatic monitoring stations, 1 set of logistics access control monitoring system, and 1 set of a real-time interconnected hazardous waste online management platform.

可持續發展實踐 Sustainable Development Practices

- 環保監測點委託第三方監測、數據接受員工和社會監督、與環保主管部門聯網，實現了全員，全方位，全過程，全天候聯防，聯控，達標排放。
- Entrusting environmental monitoring points to third-party monitors, publishing data for supervision by the employee and the public, and networking with the environmental protection authority, to have achieved full-staff, all-round, full-process, and all-weather joint prevention and control to ensure compliance with emission standards



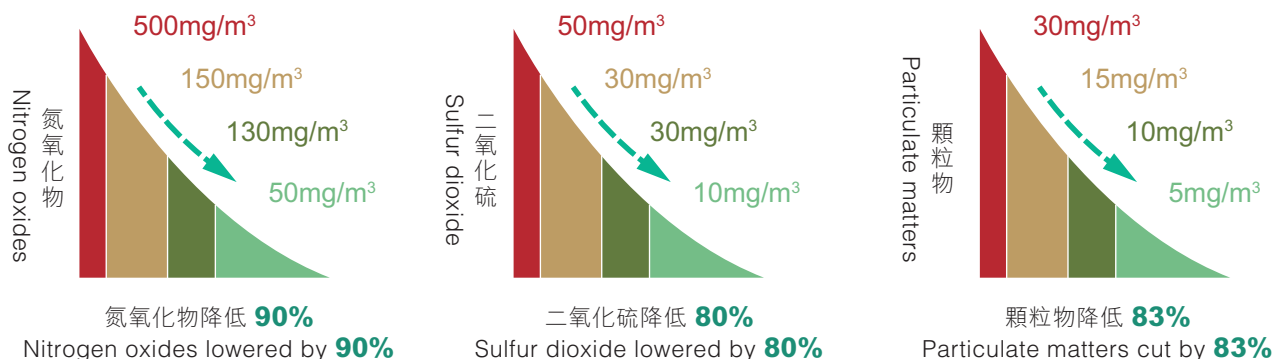
河北旭陽 Hebei Risun

信息實時公開
完善監測體系

Improving the
monitoring system
Real-time information
disclosure

- ◆ 19套自動監控裝置
- ◆ 18套廠界TVOC在線報警裝置
- ◆ 2套PM10監測點位
- ◆ 3套空氣自動監測站點
- ◆ 1套物流門禁監控系統
- ◆ 1套危險廢物在線管理平台實時聯網
- ◆ 19 sets of automatic monitoring devices
- ◆ 18 sets of TVOC online alarm devices at factories
- ◆ Two PM10 monitoring points
- ◆ Three automatic air monitoring stations
- ◆ One logistics access control monitoring system
- ◆ One online real-time management platform of hazardous waste

可持續發展實踐 Sustainable Development Practices



項目 Item	國家排放限值 National Emission Limit	特排限值 Special emission limit	省超低標準 Provincial ultra-low standard	可達到排放值 Achievable emission value
氮氧化物 Nitrogen oxides	500	150	130	50
二氧化硫 Sulfur dioxide	50	30	30	10
顆粒物 Particulate matters	30	15	10	5

生態保護

我們堅信「綠水青山就是金山銀山」，生態保護是作為生產型企業不可推卸的責任。我們遵守《中華人民共和國土壤污染防治法》、國務院《地下水管理條例》等相關法律法規，堅持在項目建設過程中實現環保設施與主體工程「三同時」，每年委託有資質的單位開展年度土壤檢測從而關注土壤、地下水的受影響情況。報告期內，未發現公司生產運營活動對於土壤、水等生態造成重大影響。

Ecological protection

We hold steadfast to the belief that "lucid waters and lush mountains are invaluable assets", recognizing ecological preservation as an inherent responsibility for productive enterprises. We adhere to pertinent legislation, such as the *Soil Pollution Prevention and Control Law of the People's Republic of China* and the State Council's *Regulations on Groundwater Management*. Throughout project development, we prioritize synchronizing environmental safeguards with core construction phases. Annually, accredited entities are tasked with conducting soil assessments to monitor the impact on both soil and groundwater. Throughout the reporting period, no significant ecological impacts stemming from the Company's production and operational activities have been identified.

4. 資源節約

作為一個典型的能源加工轉換型企業，我們嚴格遵守《中華人民共和國節約能源法》等法律法規，積極貫徹和執行國家和省政府關於節能工作的指示精神，大力建設資源節約、環境友好型的企業。不斷加強能源管理，提高能源管理水平，通過積極引進新工藝，實行技術改造，使能耗水平在達到政府要求的基礎上進一步降低，實現低碳生產、低碳運營。

4. Resource saving

As a typical energy processing and conversion entity, we meticulously comply with legislative frameworks such as the *Energy Conservation Law of the People's Republic of China*. We actively embrace the directives of national and provincial authorities on energy conservation, striving to cultivate resource-efficient and eco-friendly corporate models. Continuously fortifying our energy management practices and enhancing our proficiency in this domain, we endeavor to reduce energy consumption even further, building upon existing governmental benchmarks. This pursuit entails the proactive introduction of novel methodologies, technological innovations, and the realization of low-carbon production and operation standards.

可持續發展實踐 Sustainable Development Practices

我們的五年目標 (2021年 – 2025年) Our five-year goals (2021-2025)			2023年目標完成進度 Progress Towards 2023 Objectives
綜合能耗 Comprehensive energy consumption	焦炭板塊 Coke sector	工序能耗 < 115 千克標煤 / 噸 Process energy consumption < 115 kg standard coal/ton	2023年焦炭能耗 108.49 kg 標準煤 / 噸，遠低於 140 千克標煤 / 噸的行業准入能耗平均水平，較 2022 年的 110 千克標煤 / 噸有進一步降低 In 2023, the coke sector achieved a notable milestone with energy consumption plummeting to 108.49 kg of standard coal per ton, significantly undercutting the industry's standard admission level of 140 kg per ton. This marks a substantial drop from the 110 kg per ton recorded in 2022.
	化工板塊 Chemical industry sector	積極推進節能技改，各裝置間能源協同發展，提高能源利用率；優化用能結構，積極推進生物質燃料替代研究、試驗，推動能源結構優化 Actively promote energy-saving technological transformation and coordinate the development of energy among various units to improve the energy utilization; optimize the energy consumption structure, actively promote the research and test of biomass fuel substitution, and promote the optimization of energy structure	各廠區均實現 2023 年年初設定的年度能源目標，節能降耗工作效果顯著 Every plant successfully met the annual energy targets set forth at the inception of 2023, yielding tangible outcomes in energy conservation and consumption reduction.

資源節約管理

- **全面部署節能工作：**成立節能減排工作領導小組，負責節能工作的統籌安排和部署，各車間也成立相應組織，利用各種手段廣泛宣傳，做到機構健全，責任落實到位；
- **嚴格貫徹政策法規：**認真貫徹執行國家和省市節能法律法規規章及政策，遵照市縣節能辦的工作安排，設立節能管理機構和崗位，按時參加相關會議和培訓；

Resource saving management

- **Comprehensive planning for energy conservation efforts:** Establish a leader group dedicated to energy conservation and emission reduction, tasked with organizing cohesive planning and deployment of energy-saving endeavors, along with commensurate units at workshop level, so as to disseminate awareness through diverse channels to ensure robust institutional frameworks and steadfast execution of responsibilities.
- **Strict adherence to policies and regulations:** Meticulously implement national and provincial energy conservation laws, regulations, and policies; establish energy management entities and roles and ensure punctual attendance at pertinent meetings and training sessions in alignment with directives from municipal energy conservation authorities.

可持續發展實踐 Sustainable Development Practices

- **開展能效對標工作：**與系統內、國內同類型先進企業進行對標，確定本企業能耗指標與對標值之間的差距，制定相應的改進目標，分解和落實改進措施；
- **Energy efficiency benchmarking:** Carry out energy efficiency benchmarking with domestic leading enterprises of the same type within the system to identify the gap between the energy consumption performance of the enterprise and the benchmark value, set improvement goals accordingly, and break down and implement improvement measures.
- **追求能源管理效益：**制定並修訂《能源消耗定額管理制度》等文件，將煤氣、水、蒸汽、電等能源的使用納入考核範圍，規範了能源管理的方向和重點，提高生產車間對能源利用的重視程度；
- **Pursuit of energy management efficacy:** Formulate and revise instruments such as the Energy Consumption Quota Management System by incorporating the consumption of gas, water, steam, electricity and other energy sources into performance appraisal. This standardized the trajectory and emphasis of energy management and improved the awareness of energy utilization within workshops.
- **充分利用信息平台：**利用好MES系統信息平台，實現各種能源消耗在線監控，有效提高能源管控水平，並做到及時節能。
- **Leveraging information platforms:** Harness the MES system's information grid for real-time monitoring of energy consumptions. This effectively escalated the standard of energy control, ensuring timely realization of energy savings.

綠色生產

• 節能技改：

- 苯乙烯裝置夏季受自然溫度影響，6-9月份運行兩台循環水泵無法滿足工藝要求，運行三台循環水泵存在餘量，對苯乙烯循環水泵增上變頻器，年降低碳排放340噸；
- 在苯加氫二期預蒸餾塔和混合苯的2/4層塔盤分別增設兩個側線採出口，提高混合苯採出量，同時停用其他不必要裝置，年節電量22萬度。

Green production

• *Technological innovations in energy conservation:*

- The integration of variable frequency drives onto styrene circulating water pumps yielded an annual carbon emissions reduction of 340 tons, countering the challenge of natural temperature fluctuations during the summer months, which previously hindered operations between June and September, where the operation of two circulating water pumps failed to meet the process requirements, while the operation of three circulating water pumps resulted in surplus capacity;
- Introducing two additional side-line outlets on the distillation tower of the second-phase benzene hydrogenation unit and the 2/4-layer tray tower of mixed benzene bolstered mixed benzene output. Simultaneously, the discontinuation of extraneous units produced an annual electricity saving of 220,000 kWh.

可持續發展實踐 Sustainable Development Practices

• 工藝優化：

- 通過改變粗苯加氫裝置的分離工藝，生產更適合市場的產品及符合苯乙烯裝置的純苯品質，實現產品與能耗的最佳匹配，年降低碳排放約1.5萬噸；
- 將己內酰胺工藝廢液輸送至氫氨車間，經過工藝和水煤漿添加劑配方優化，直接用己內酰胺廢液製備水煤漿，水煤漿的製備消耗己內酰胺濃縮廢液約20 m³/h，同時減少煤漿製備脫鹽水使用量。

• 餘熱利用：

- 在原供暖流程的基礎上，將苯乙烯中水引至換熱站與供暖回水進行熱交換，預熱後的回水再經蒸汽加熱後送至各取暖單位，冷卻後的中水分送至各車間，節約取暖季每小時3噸蒸汽耗量，年降低二氧化碳3,325噸；
- 充分挖掘苯酐裝置潛能，深度利用苯酐餘熱供給安能送市區供熱，達到能源最大化利用，實現年節電量1,296萬度，年降低碳排放7,391噸。

綠色辦公

- 辦公區公用設施的樓梯間、走廊除夜間外不開啟照明，辦公室、更衣室做到人「走燈滅電扇停」，杜絕長明燈及無人情況下的電扇運行；
- 夏季空調設定溫度應不低於26℃，室內無人時關閉空調；
- 計算機、打印機等辦公電器隨用隨開，杜絕長時間待機；
- 倡導無紙化或電子辦公，減少廢紙的產生，並鼓勵員工重複使用單面紙。

• Process optimization:

- By reconfiguring the separation process of the crude benzene hydrogenation unit, production aligned more closely with market demands, enhancing the quality of pure benzene tailored to the styrene unit. This optimization achieved optimal synergy between product and energy, resulting in an annual carbon emissions reduction of approximately 15,000 tons.
- Routing waste liquid from the caprolactam process to the hydrogen ammonia unit facilitated process optimization and refinement of water-coal slurry additive formulations. This enabled the direct synthesis of water-coal slurry from caprolactam waste liquid, consuming approximately 20 m³/h of caprolactam concentrated waste liquid for slurry preparation while curtailing desalinated water usage.

• Waste heat utilization:

- Augmenting the existing heating process by diverting styrene intermediate water to the heat exchange station facilitated heat exchange with heating return water. This preheated return water, subsequently directed to heating units, curtailed steam consumption by 3 tons per hour during the heating season, ultimately resulting in an annual reduction of 3,325 tons of carbon emissions.
- Maximizing the latent potential of the phthalic anhydride unit to supply waste heat for urban district heating epitomized the principle of energy maximization. This translated into an annual electricity saving of 12.96 million kWh and an annual reduction of 7,391 tons of carbon emissions.

Green office

- In the office areas, common facilities such as stairwells and corridors remain unlit except for nighttime. Offices and changing rooms adhere to the policy of “lights off and fans halted” when unoccupied, effectively eliminating the unnecessary operation of lights and fans during unmanned periods.
- During the summertime, the air conditioning is set to a minimum temperature of 26°C, and it is switched off when the premises are vacant.
- Computers, printers and other office equipment are activated on demand, thereby mitigating prolonged standby periods.
- The advocacy for paperless or electronic office practices not only reduces paper waste but also promotes the reutilization of single-sided paper.

案例
Case

脫硫廢液制酸項目延伸產品附加值
Desulfurization Waste Acid Production Underpins Value-added Extension

該項目用於處理回收園區化產二四五期脫硫工段產生的脫硫廢液，於2023年2月正式投產，可年產不低於92.5%的濃硫酸3.6萬噸。項目將煤氣脫硫過程中產生的脫硫廢液和硫泡沫經一系列工藝後產出濃硫酸，同時尾氣經處理後工藝指標達標排放。

Commissioned in February 2023, the project efficiently processes desulfurization waste liquids from phases II, IV and V of the recycling park, yielding an annual production of 36,000 tons of high-purity concentrated sulfuric acid ($\geq 92.5\%$). The project transforms desulfurization waste liquids and sulfur foam into concentrated sulfuric acid through a meticulously designed process. Furthermore, stringent emission standards are met following exhaust gas treatment.

該工藝技術成熟，產品濃硫酸回用於生產硫銨產品，延伸了產品的附加值，在清潔生產的同時，創造了經濟效益，彰顯出旭陽堅持綠色環保的責任與擔當。

The mature technological framework enables the reuse of the produced concentrated sulfuric acid in the manufacturing of ammonium sulfate products, thereby enhancing products' value-added content. This not only underscores a commitment to green environmental protection but also yields tangible economic benefits.



圖5-7 脫硫廢液制酸設備

Figure 5-7 Desulfurization Waste Acid Production Equipment

可持續發展實踐 Sustainable Development Practices

表5-2 2021-2023年度資源消耗績效

Table 5-2 Resource Consumption Performance 2021-2023

資源種類 Category of Resources	單位 Unit	2023年 2023	2022年 2022	2021年 2021
煤炭 Coal	噸 (Ton)	11,660,898.69	7,882,441.98	7,961,688.16
柴油 Diesel	噸 (Ton)	3,180.31	1,982.01	1,533.57
汽油 Gasoline	噸 (Ton)	45.41	47.48	49.25
淨外購電力 Net purchased electricity	兆瓦時 (MWh)	1,465,659.66	933,756.03	801,258.21
自產電力 Self-generated electricity	兆瓦時 (MWh)	1,765,468.05	–	–
淨外購熱力 Net purchased heat	吉焦 (GJ)	-442,735.25	1,173,185.15	1,267,254.05
綜合能耗 Comprehensive energy consumption	噸標煤 (Ton of standard coal)	9,179,882.01	9,337,280.81	10,475,170.75
綜合能耗消耗密度 Comprehensive energy consumption density	噸標煤 / 萬元人民幣 (Ton of standard coal / RMB ten thousand)	2.17	2.36	2.88

註：1.表中綜合能耗數據是按照《綜合能耗計算通則》核算得出；2.表中能源消耗來自本集團生產統計台賬；3.表中密度類數據是按用量除以營業收入核算得出；4.淨外購熱力負值是指本集團向外出售的熱力；5.自產電力為本年度新增指標；6.由於山東鄆城園區、東明園區收購已滿三年，從今年起與其他公司合併披露；7.2023年部分能耗數據的增幅主要是由於將呼和浩特旭陽中燃納入統計口徑，以及部分廠區業務規模增長。

Note: 1. The comprehensive energy consumption data in the table were calculated based on the General Rule for Calculation of Comprehensive Energy Consumption; 2. The energy consumption in the table was from the Group's production statistics account; 3. The density data in the table was calculated according to the energy consumption divided by the operating revenue; 4. The negative value of net purchased heat refers to the heat sold by the bases in total; 5. Self-generated electricity is a new metric introduced this fiscal year; 6. As the acquisitions of Shandong Yuncheng Base and Dongming Base have surpassed the three-year mark, they will now be consolidated and disclosed alongside other entities from this fiscal year; 7. The upsurge in select energy consumption data for 2023 primarily stems from the incorporation of Hohhot Risun CHINA GAS into the statistical purview, coupled with the expansion of operational scale across select plant domains.

5. 污染物管理

我們依照《中華人民共和國水污染防治法》《中華人民共和國大氣污染防治法》《中華人民共和國固體廢物污染環境防治法》等法律法規，對廠區產生的污染物嚴格進行嚴格處理處置，減少對環境的污染。對於工業「三廢」，我們分設不同的管理制度，在完成合規處置的基礎上進行污染防治，實現了污水、粉塵、煙氣中SO₂、NO_x等的超低排放，並持續向超超低排放進一步邁進。未來，我們將繼續致力建設綠色園區、潔淨工廠、清潔生產線，不斷提升園區綠色生產和運營水平。

報告期內，未發生因違反排放物規定而導致的環境訴訟案件。

5. Pollutant management

We strictly handle and dispose of pollutants generated in the factory area in accordance with pertinent laws and regulations such as the *Law of the People's Republic of China on Water Pollution Prevention and Control*, the *Law of the People's Republic of China on Water Pollution Prevention and Control*, and the *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste* to reduce environmental pollution. To address industrial waste water, waste gas and solid waste, we've established tailored management systems to ensure compliance with disposal regulations while striving for pollution prevention and control. It enables us to achieve ultra-low emissions of pollutants such as SO₂ and NO_x in waste water, dust and flue gas, thereby progressing towards even more stringent emission standards. Looking ahead, we will stay committed to constructing green parks, clean factories, and sustainable production lines remains, with continuous efforts aimed at elevating the standard of green production and operational excellence within the park.

Throughout the reporting period, there were no instances of environmental litigation resulting from violations of emission regulations.

我們的五年目標：2021年－2025年		2023年目標完成進度
Our five-year goals: 2021-2025		Progress Towards 2023 Objectives
污水排放 Sewage discharge	焦炭板塊 Coke sector 進一步開展廢水深度處理，污水回收率達到80%以上 Further carry out advanced wastewater treatment to ensure that the wastewater recovery rate may reach more than 80%	已實現 Completed
	化工板塊 Chemical industry sector 不斷推進廢水零排放技術的利用，減少廢水排放量，開展水平衡測試，統籌優化配置水資源 Continuously promote the utilization of zero discharge technology of wastewater, reduce wastewater discharge, carry out water balance test, and comprehensively optimize the allocation of water resources	已實現 Completed
污染物排放 Pollutant emission	SO ₂ 、NO _x 、顆粒物等污染物排放濃度低於園區所在省份的超低排放標準的20%，所在省份無超低排放標準的園區低於國家超低排放標準的20% The emission concentration of SO ₂ , NO _x , particulate matters and other pollutants is lower than 20% of the ultra-low emission standard in the province where the base is located, and where there is no ultra – low emission standard in the province where the base is located, the emission concentration of the base is lower than 20% of the national ultra-low emission standard.	已實現 Completed
固體廢棄物 Solid waste	保持固廢100%合規處置或綜合利用 All the solid waste is disposed of or comprehensively in accordance with relevant provisions	已實現 Completed

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此外，定州園區單獨設置污染物減排目標：2023年NO_x較2022年減排30%，即減排188噸，該目標已在2023年達成。2024年，我們將繼續通過環保節能設備升級改造、提升管理與維護，降低NO_x排放。

In addition, the pollution reduction targets have been separately set for Dingzhou Base: in 2023, NO_x emissions decreased by 30% compared to 2022, i.e., a reduction of 188 tons, and this target was achieved in 2023. In 2024, we will continue to reduce NO_x emissions by upgrading and renovating eco-friendly and energy-saving equipment and improving equipment management and maintenance.

- **管理制度：**《非正常工況排水指標控制制度》《污染物排放管理制度》《「三廢」管理辦法》等
Management systems: *Index Control System for Wastewater Discharge under Abnormal Conditions, Pollutant Discharge Management System, and Management Measures for Waste Water, Waste Gas and Solid Waste, etc.*
- **合規處置：**建有污水處理站，處理後廢水指標滿足GB8978《污水綜合排放》標準要求，同時滿足各廠區所在地污水處理廠進水指標，處理後廢水經排放口排入各廠區所在地污水處理廠
Compliant disposal: A sewage treatment station has been built, and the treated waste water meets the requirements of GB8978 *Integrated Wastewater Discharge Standard*, as well as the influent standards of sewage treatment plants in various factory areas. The treated wastewater is discharged into the sewage treatment plant in the respective factory areas through the discharge outlet.
- **污染防治：**
- **Pollution prevention and control:**
 - 嚴格按照規範要求建設污水監測站、規範化污水外排口，併購買了國內先進的COD在線監測儀、氨氮在線監測儀，用於對外排水水質進行實時監測，監測數據已上傳至省、市、新區環保部門網絡平台；
Strictly adhere to the standard requirements for the construction of sewage monitoring stations, standardized sewage discharge outlets, and purchased advanced domestic COD online monitoring instruments and ammonia nitrogen online monitoring instruments for real-time monitoring of discharged water quality. The monitoring data has been uploaded to the provincial, municipal, and new district environmental protection department network platforms;
 - 建設有初期雨水池、隔油池，嚴格實施雨污分流，有效避免了含油污水對環境的污染，並通過物料的回收，減少了物料的損耗；
Build initial rain water tank and oil separation tank, strictly implement the provisions on rain and sewage diversion, effectively avoid environmental pollution caused by oily sewage, and reduce material loss through material recycling;
 - 建設多座事故污水池，用於暫存、收集裝置排放的高濃度廢水、事故狀態下廢水，確保了不達標廢水的及時處理，有效的避免了廢水對環境帶來的風險。
Build accident sewage tanks, which are used to temporarily store and collect the high concentration waste water discharged by the device and the waste water under accident conditions, so as to ensure the timely treatment of substandard waste water and effectively avoid the risk of waste water to the environment.

廢水 Effluent

廢氣
Waste
gas

- **管理制度：**《污染物排放管理制度》《「三廢」管理辦法》等
Management systems: *Pollutant Discharge Management System, Management Measures for Waste Water, Waste Gas and Solid Waste, etc.*
- **合規處置：**主要排放口均安裝在線監測設備，並委託有資質單位合規合法聯網運行，並委託第三方監測單位定期對排口開展監測，保證廢氣排放數據穩定達標
Compliant disposal: Online monitoring equipment has been installed at the main discharge outlets, and qualified units have been commissioned to operate legally and compliantly. Third-party monitoring units are commissioned to conduct regular monitoring of the outlets to ensure stable compliance with emission data.
- **污染防治：**
Pollution prevention and control:
 - 按照《大氣污染防治行動計劃實施方案》等要求，實施焦爐煙氣中低溫脫硫脫硝、煙氣「脫白」技術、焦爐煙氣超超低改造項目等環保提升項目，減少VOCs、氮氧化物、二氧化硫等污染物的排放；
According to the requirements of the Implementation Scheme for the Air Pollution Prevention and Control Action Plan, etc., implement environmental protection improvement projects such as medium and low temperature desulfurization and denitration of coke oven flue gas, flue gas “dewhitening” technology and ultra-low transformation project of coke oven flue gas, so as to reduce the emission of VOCs, nitrogen oxides, sulfur dioxide and other pollutants;
 - 儲煤單元實施全封閉改造，同時對煤轉運、煤粉碎、裝煤、推焦、熄焦、篩焦、硫銨乾燥等粉轉物料、產品的流轉環節安裝封閉、除塵設施減少煤塵、粉塵等顆粒物的逸散。
The coal storage unit was completely enclosed for transformation, and the enclosed dust removal facilities were installed for the intermediate links of powder materials and products such as coal transport, coal pulverizing, coal loading, coke pushing, coke quenching, coke screening, and ammoniumsulfur drying to reduce the release of particulate matters such as coal dust and dust.

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固廢
Solid
waste

危險廢物
Hazardous
waste

- **管理制度：**《固體廢物管理辦法》《危險廢物污染防治責任制度》等
Management systems: *Solid Waste Management Measures, Hazardous Waste Pollution Prevention and Control Responsibility System, etc.*
- **合規處置：**根據國家和公司危廢管理規定進行合法轉移
Compliant disposal: Legal transfer is conducted in accordance with national and corporate hazardous waste management regulations.
- **污染防治：**
Pollution prevention and control:
 - 日常管理：定期組織危險廢物管理檢查活動，編製《危險廢物年度管理計劃》，制定危險廢物專項應急救援預案，建立危險廢物台賬，及時完成固體廢物動態信息填報工作，同時，將承包商產生的危險廢物納入公司統一管理；
Daily management: Regularly organize hazardous waste management inspection activities, formulate annual hazardous waste management plans, develop special emergency rescue plans for hazardous waste, establish hazardous waste registers, timely complete dynamic information reporting on solid waste, and include hazardous waste generated by contractors in the Company's unified management;
 - 貯存：建設專門的危險廢物暫存間，在暫存場所張貼相應的標識，在危險廢物包裝物上黏貼標籤；
Storage: Construct dedicated hazardous waste temporary storage rooms, post corresponding signs at the storage sites, and affix labels on hazardous waste packaging materials;
 - 轉移：與具備危險廢物處置單位的企業簽訂長期合作協議，有效保證危險廢物的及時轉移。
Transfer: Sign long-term cooperation agreements with enterprises that have hazardous waste disposal capabilities to ensure timely transfer of hazardous waste.

固廢 Solid waste	一般固廢 General solid waste	<ul style="list-style-type: none"> 管理制度：《固體廢物管理辦法》等 Management systems: <i>Solid Waste Management Measures, etc.</i>
		<ul style="list-style-type: none"> 合規處置：生活垃圾交由城市環衛部門進行統一處置，粉煤灰、爐渣等與第三方簽訂合作協議進行綜合利用，實現廢物資源化，污泥交由第三方單位合規處置 Compliant disposal: Domestic waste is uniformly disposed of by the municipal sanitation department, while the fly ash and slag are comprehensively used under the cooperation agreement with a third party for comprehensive utilization and recycling of waste, and the sludge is disposed of by a third party.
		<ul style="list-style-type: none"> 污染防治： Pollution prevention and control: <ul style="list-style-type: none"> 通過加強現場管理，提高員工操作水平，嚴格控制工藝指標達到控制無害廢物減量化的目標。 By strengthening on-site management and improving the operational level of employees and strictly controlling process indicators, we achieve the goal of reducing harmless waste reduction.

表5-3 2021-2023年度排放物績效

Table 5-3 Emission Performance 2021-2023

排放物種類 Category of Emission	單位 Unit	2023年 2023	2022年 2022	2021年 2021
SO ₂ 排放總量 Total SO ₂ emissions	噸 (Ton)	497.06	380.71	296.60
SO ₂ 排放密度 SO ₂ emission density	千克／萬元人民幣 (kg/RMB 10 thousand)	0.12	0.10	0.08
SO ₂ 排放密度變化率 SO ₂ emission density increase/decrease	百分比 Percentage	21.99	-	-
SO ₂ 近三年平均排放密度 Average SO ₂ emission density over the past three years	千克／萬元人民幣 (kg/RMB 10 thousand)		0.10	
NO _x 排放總量 Total NO _x emissions	噸 (Ton)	1,256.29	1,136.84	1,173.69
NO _x 排放密度 NO _x emission density	千克／萬元人民幣 (kg/RMB 10 thousand)	0.30	0.29	0.32
NO _x 排放密度變化率 NO _x emission density increase/decrease	百分比 Percentage	3.25	-	-
NO _x 近三年平均排放密度 Average NO _x emission density over the past three years	千克／萬元人民幣 (kg/RMB 10 thousand)		0.30	

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排放物種類 Category of Emission	單位 Unit	2023年 2023	2022年 2022	2021年 2021
顆粒物排放總量 Total particle emission	噸 (Ton)	191.10	184.87	166.26
顆粒物排放密度 Particle emission density	千克／萬元人民幣 (kg/RMB 10 thousand)	0.05	0.05	0.05
顆粒物排放密度變化率 Particulate matter emission density increase/decrease	百分比 Percentage	-3.41	-	-
顆粒物近三年平均排放密度 Average particulate matter emission density over the past three years	千克／萬元人民幣 (kg/RMB 10 thousand)		0.05	
污水排放總量 Total sewage discharge	噸 (Ton)	6,697,847.94	5,550,279.45	5,354,834.96
COD排放總量 Total COD discharge	噸 (Ton)	545.78	343.67	402.70
氨氮排放總量 Total ammonia nitrogen discharge	噸 (Ton)	17.03	9.51	9.41
污水排放密度 Sewage discharge density	噸／萬元人民幣 (Ton/RMB 10 thousand)	1.58	1.40	1.47
污水排放密度變化率 Waste water discharge density increase/decrease	百分比 Percentage	12.76	-	-
污水近三年平均排放密度 Average waste water discharge density over the past three years	噸／萬元人民幣 (Ton/RMB 10 thousand)		1.49	
有害廢棄物產生量 Amount of hazardous waste	噸 (Ton)	332,969.52	308,742.74	245,550.13
有害廢棄物產生密度 Production density of hazardous wastes	噸／萬元人民幣 (Ton/RMB 10 thousand)	0.08	0.08	0.07
有害廢棄物處理率 Treatment rate of hazardous waste	%	100.00	100.00	100.00
無害廢棄物產生量 Non-hazardous waste production	噸 (Ton)	555,385.12	343,112.98	320,266.02
無害廢棄物產生密度 Production density of non-hazardous wastes	噸／萬元人民幣 (Ton/RMB 10 thousand)	0.13	0.09	0.09
無害廢棄物處理率 Treatment rate of non-hazardous waste	%	100.00	100.00	100.00

註：1.廢氣中SO₂、NO_x及顆粒物的排放數據根據本集團在線監測系統及自行監測統計核算得出；2.有害廢棄物產生量、污水排放量根據本集團生產系統統計台賬核算；3.COD、氨氮排放總量根據第三方監測報告核算得出；4.無害廢棄物主要為生活垃圾，其排放總量按照0.5kg/人/天核算；5.密度類數據按排放量/產生量除以營業收入核算得出；6.SO₂、NO_x、顆粒物及污水排放的變化率和近三年平均排放密度為本年度新增指標；7.由於山東鄆城園區、東明園區收購已滿三年，從今年起與其他公司合併披露；8.2023年部分排放數據的增幅主要是由於將呼和浩特旭陽中燃納入統計口徑，以及部分廠區業務規模增長。

Note: 1. The emission data of SO₂, NO_x and particulate matters in the exhaust gas are calculated according to the on-line monitoring system and self-monitoring and statistics of the Group; 2. The total amount of hazardous waste and sewage discharge are calculated according to the statistical account of the production system of the Group; 3. Total COD and ammonia nitrogen emissions are calculated according to the third-party monitoring report; 4. The nonhazardous waste is mainly domestic garbage, and the total amount of discharge is calculated based on 0.5kg/person/day; 5. The density data is calculated according to the emission/production divided by the operating revenue; 6. The rate of increase/decrease and average densities for SO₂, NO_x and particulate matter emission and waste water discharge are new metrics introduced this fiscal year; 7. As the acquisitions of Shandong Yuncheng Base and Dongming Base have surpassed the three-year mark, they will now be consolidated and disclosed alongside other entities from this fiscal year; 8. The upsurge in select emission data for 2023 primarily stems from the incorporation of Hohhot Risun CHINA GAS into the statistical purview, coupled with the expansion of operational scale across select plant domains.

案例
Case

中煤旭陽建設「花園式工廠」，榮獲河北省無廢企業（工廠）稱號
China Coal Risun's construction of a "Garden-Style Factory" garners esteemed recognition as a Waste-Free Enterprise in Hebei Province

2023年11月，河北省工業和信息化廳公佈2023年河北省無廢園區、無廢企業（工廠）名單，中煤旭陽位列其中。在環保提升方面，中煤旭陽在堅持環境管理制度、環保宣傳培訓、升級改造設備等多維並舉綜合發力的同時，實施環保「三同時」162項、環保專項治理與提升157項，其中42項為國內技術首創。

In November 2023, the Industry and Information Technology Department of Hebei Province unveiled the roster of waste-free parks and enterprises (factories) for 2023, wherein China Coal Risun secured a notable position. Demonstrating a steadfast commitment to environmental enhancement, China Coal Risun has embarked on a multifaceted approach encompassing environmental management protocols, outreach initiatives, and equipment upgrading initiatives. It has implemented 162 environmental initiatives highlighting "three-item" management system (implementing corresponding safety measures during project design, construction, and operation and service simultaneously) and 157 specialized interventions, 42 of which represent pioneering advancements on the domestic technological landscape.

中煤旭陽實現了顆粒物排放濃度低於10毫克/立方米、二氧化硫排放濃度低於15毫克/立方米、氮氧化物排放濃度低於25毫克/立方米，創造了行業最優，達到了「超超低排放」標準。中煤旭陽也高度重視做好綠化工作，現已成為名副其實的「四季常綠，三季見花」的花園式工廠。

China Coal Risun has made notable achievements, including a particulate matter emission concentration below 10 mg/m³, a SO₂ emission concentration under 15 mg/m³, and a NO_x emission concentration below 25 mg/m³, thereby attaining preeminence in the industry and surpassing the "ultra-low emission" benchmark. Furthermore, the Group places paramount importance on greening, evolving into a veritable "garden-style factory" distinguished by perennial verdure and seasonal floral displays.

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6. 水資源管理

我們嚴格遵守《中華人民共和國水法》《飲用水水源保護區污染防治管理規定》等法律法規，制定水管理制度，成立節水企業工作領導小組及工作小組，由上至下執行水資源管理。

報告期內，無用水水質許可、標準和法規相關的違規事件發生；河北旭陽通過實現「焦化廢水零排放，水循環利用鏈條再延長」獲評「國家級水效領跑者」，唐山旭陽化工獲省、市級節水型企業殊榮。

6. Water resource management

Complying with pertinent laws and regulations such as the *Water Law of the People's Republic of China* and the *Regulations on the Prevention and Control of Pollution in Drinking Water Source Protection Areas*, the Group has instituted comprehensive water management systems, established a leader group and a working group for water conservation, and cascaded water resource management directives throughout the organization.

During the reporting period, there were no incidents of non-compliance pertaining to water quality licenses, standards, or regulations. Notably, Hebei Risun's achievement of "zero discharge of coking waste water and extension of the water recycling chain" garnered national acclaim, earning it the prestigious title of "National Water Efficiency Pioneer", while Tangshan Risun Chemical was recognized as a water-saving enterprise at both provincial and municipal levels.

	我們的五年目標 (2021年 – 2025年) Our five-year goals (2021-2025)	2023年目標完成進度 Progress Towards 2023 Objectives
新鮮水消耗 Fresh water consumption	水循環利用率大於98%，推進水資源循環利用 The water recycling rate is greater than 98%, and promote the recycling of water resources	各廠區新鮮水利用率均超過98%，最高達98.7%，較2022年最高的98.5%有進一步提升 The utilization of fresh water in each factory surpassed 98%, peaking at 98.7%, marking an enhancement from the previous level of 98.5% achieved in 2022.

表5-4 2021-2023年度水資源消耗績效

Table 5-4 Water Resource Consumption Performance 2021-2023

	單位 Unit	2023年 2023	2022年 2022	2021年 2021
新鮮水用水總量 Total fresh water consumption	萬噸 (Ten thousand tons)	4,178.71	2,552.96	2,579.73
新鮮水用水密度 Fresh water consumption density	噸／萬元人民幣 (Ton/RMB 10 thousand)	9.88	6.46	7.10
新鮮水耗水總量 Total fresh water consumption	萬噸 (Ten thousand tons)	3,487.48	–	–
新鮮水耗水密度 Fresh water consumption density	噸／萬元人民幣 (Ton/RMB 10 thousand)	8.24	–	–
基線水壓力高地區所佔百分比 Proportion of regions subject to high baseline water pressure	百分比 Percentage	12.50	–	–
基線水壓力極高地區所佔百分比 Proportion of regions subject to extremely high baseline water pressure	百分比 Percentage	87.50	–	–

註：1. 新鮮水耗水總量、密度及分程度基線水壓力地區佔比為本年度新增指標；2. 由於山東鄆城園區、東明園區收購已滿三年，從今年起與其他公司合併披露；3. 2023年部分排放數據的增幅主要是由於將呼和浩特旭陽中燃納入統計口徑，以及部分廠區業務規模增長。

Note: 1. Total fresh water consumption, density and proportions of regions subject to high or extremely high baseline water pressure are new metrics introduced this fiscal year; 2. As the acquisitions of Shandong Yuncheng Base and Dongming Base have surpassed the three-year mark, they will now be consolidated and disclosed alongside other entities from this fiscal year; 3. The upsurge in select emission data for 2023 primarily stems from the incorporation of Hohhot Risun CHINA GAS into the statistical purview, coupled with the expansion of operational scale across select plant domains.

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水資源管理 Water Resource Management

- 成立以總經理為組長的節水企業工作領導小組，全面組織協調公司節水型企業的創建工作；各車間成立由一把手為組長的節水型企業工作小組，制定各自車間節水型企業創建方案和措施，並負責具體工作；

Establish a dedicated leader group for water conservation, which is led by the general manager and responsible for comprehensively coordinating and driving forward the establishment of water-efficient enterprise; establish workshop-level specialized task forces, which are led by their respective top executives and tasked with developing their respective blueprints and implementing measures to foster water efficiency within their domains.
- 加大檢查和考核力度，每周對跑冒滴漏和浪費現象進行檢查，對檢查出來的問題及時進行通報和督辦，杜絕水資源的浪費；

Intensify efforts in inspections and assessments, where rigorous inspections are conducted weekly to identify instances of leaks and waste; carry out prompt reporting of identified misconduct along with follow-up actions, thereby ensuring a zero-tolerance stance towards the waste of the water resource.
- 制定並完善《用水節水管理制度》《能源消耗定額管理制度》《能源管理考核細則》等制度，加強用水管理，合理利用水資源。

Formulated and refine a suite of institutional frameworks, including the *Water Consumption and Conservation Management System*, the *Energy Consumption Quota Management System* and the *Energy Management Performance Criteria*, to improve water management and properly exploit water resources.

節水實踐
Water-saving
Practices

- 減少新鮮水取用：
Fresh water consumption reduction:
 - 公司使用的感應式便器、冷卻塔等均為節水型設備；
Adopt water-saving sensor-operated toilets and cooling towers;
 - 採取科技循環水藥劑：阻垢劑、非氧化性殺菌劑、氧化性殺菌劑，濃縮倍數由2倍提高到4倍，減少補水70m³/h，年減少補水61.3萬m³。
Use technological circulating water chemicals including scale inhibitors, non-oxidizing biocides, and oxidizing biocides. Reduce the amount of make-up water by 70 m³/h by increasing the concentration of circulating water from 2 times to 4 times, with an annual savings of 613,000 m³ of make-up water.
- 工藝優化節水：
Process optimization for water saving:
 - 鍋爐定排擴容器熱量回收項目利用排污池中溫度較高的水進行換熱，可節約用水40,000噸／年；
The project of heat recovery from boiler periodic blowdown expansion vessel uses high-temperature blowdown water in the blowdown tank for heat exchange, which can achieve water saving of 40,000 tons;
 - 將硫銨裝置除濕塔除濕塔改為雙級串聯水洗工藝，利用低濃度水進行尾氣二次洗滌，可節約用水16,000噸／年。
The desiccant tower of the sulfur ammonium unit is modified to a two-stage series water washing process, using low-concentration water for secondary gas washing, which can save 16,000 tons of water per year.
- 循環水重複利用
Reuse of recycled water:
 - 生活區域廁所水源由新鮮水改造為循環水排水；
Shift from fresh water to reclaimed sources for toilet flushing in residential area;
 - 生產區域配合煤加水由新鮮水改造為循環水，蒸汽冷凝液回收至焦爐餘熱鍋爐產蒸汽，新增循環水電化學除垢設備，改善循環水水質指標，減少循環水排水量。
Shift from fresh water to reclaimed sources towards for coal-water co-utilization within production area, coupled with the recovery of steam condensate for steam production in waste heat boiler. The integration of circulating water electrochemical descaling equipment further bolsters water quality indices while minimizing the discharge of recycled water.

唐山旭陽化工獲 2023 年度省、市級節水型企業殊榮
Tangshan Risun Chemical garners prestigious recognition as Water-Saving Enterprise at Provincial and Municipal Levels in 2023

2023年，唐山旭陽分別獲批唐山市工業領域節水型企業、河北省節水型企業（園區）和節水標桿企業（園區）。
In 2023, Tangshan Risun Chemical garner accolades as a Water-saving Enterprise in the Industrial Sector of Tangshan City and as a Water-saving Enterprise (Park) in Hebei Province, and a Model Water-saving Enterprise (Park).

唐山旭陽歷來重視節約用水工作，採取了多項有效加強節水管理的措施：一是強化生產受控，夯實節水工作的基礎；二是突出裝置達標管理，落實節水工作的關鍵；三是加大技術改造和技改技措投入，提高節水技術經濟水平；四是加強重點用水設備監測及檢查，實現嚴格的生產現場節水管控。通過多維並舉、綜合發力，公司節水工作取得了顯著成效。

Tangshan Risun has long upheld a commitment to water conservation, implementing a package of effective measures to fortify its water-saving initiatives: 1. Fortifying production oversight to solidify the bedrock of water-saving endeavors; 2. Prioritizing device compliance management to enforce pivotal water-saving measures; 3. Amplifying investments in technological overhauls and innovative measures to bolster the economic viability of water-saving technologies; 4. Intensifying scrutiny and inspections of pivotal water-consuming apparatus to meticulously regulate water-saving measures at the production site. Through a multifaceted and concerted approach, the Company has realized substantial gains in its water-saving endeavors.

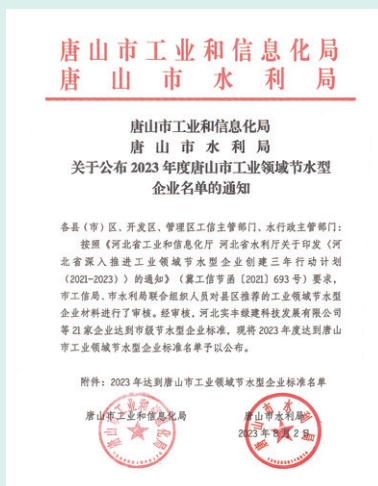


圖5-8唐山市工業和信息化局、唐山市水利局聯合印發

Figure 5-8 The Bureau of Industry and Information Technology of Tangshan, in collaboration with the Tangshan Water Resources Bureau

《關於公佈2023年度唐山市工業領域節水型企業名單的通知》
jointly disseminated the *Notification on the Release of the 2023 List of Water-Saving Enterprises in the Industrial Sector in Tangshan City*

社會篇



(二) 社會篇

1. 健康與安全

安全生產

旭陽集團秉承「安全是旭陽生存之基」的理念，相信只有在安全的基石上發展，旭陽集團才會走得更穩健、更安全。本集團將安全放在第一位，將員工生命安全放在第一位，認真遵守《中華人民共和國安全生產法》《中華人民共和國安全生產許可證條例》等國家有關安全生產的法律法規及標準規範要求，編製完善《安全生產「反三違」管理辦法》《裝置生產異常情況報告、處理授權機制》《危險化學品裝卸安全確認管理制度》《建設項目安全設施「三同時」管理制度》《建設項目職業衛生「三同時」管理規定》等制度，各建設項目認真履行安全設施「三同時」手續，定期開展安全檢驗檢測活動，採取PDCA管理模式。我們持續改進、持續發展，以打造本質安全型企業為目標，實現旭陽人「平安旭陽，幸福家園」的美好願望，使旭陽成為生命健康的綠洲、平安幸福的家園。

(II) Society

1. Health and safety

Safety production

Guided by the philosophy that "Safety is the cornerstone for Risun's survival", the Group is convinced that a foundation of safety is essential for achieving steady and secure development. The Group always prioritizes safety and the safety of its employees and strictly adheres to the Law of the People's Republic of China on Safety Production, the Regulation on Work Safety Permits of the People's Republic of China, and other relevant national laws, regulations, and standards on safety production. It has also implemented and continuously improved various systems, such as the Management Measures for the Prevention of Three Violations in Safety Production, the Mechanism for the Reporting and Authorized Handling of Abnormal Equipment Production Situations, the Management System for Hazardous Chemical Loading and Unloading Safety Confirmation, the "Three-Item" Management System for the Construction of Safety Facilities in Construction Projects, and the "Three-Item" Management Regulations for Occupational Health in Construction Projects. All construction projects meticulously followed the "three-item" safety procedures and regularly conducted safety inspections and testing with the adoption of the PDCA management model. In our ongoing pursuit of refinement and advancement and with the ultimate goal of creating an intrinsically safe enterprise, we endeavor to fulfill the aspiration of Risun family: "Safe Risun, Happy Home", transforming Risun into a sanctuary of vitality and a stronghold of safety and happiness.

可持續發展實踐 Sustainable Development Practices

報告期內，本集團在安全生產方面投入 16,290萬元，為保證安全生產提供有力支持。

During the reporting period, the Group invested a sum of RMB162.90 million into safety production, furnishing robust support to uphold safety standards.



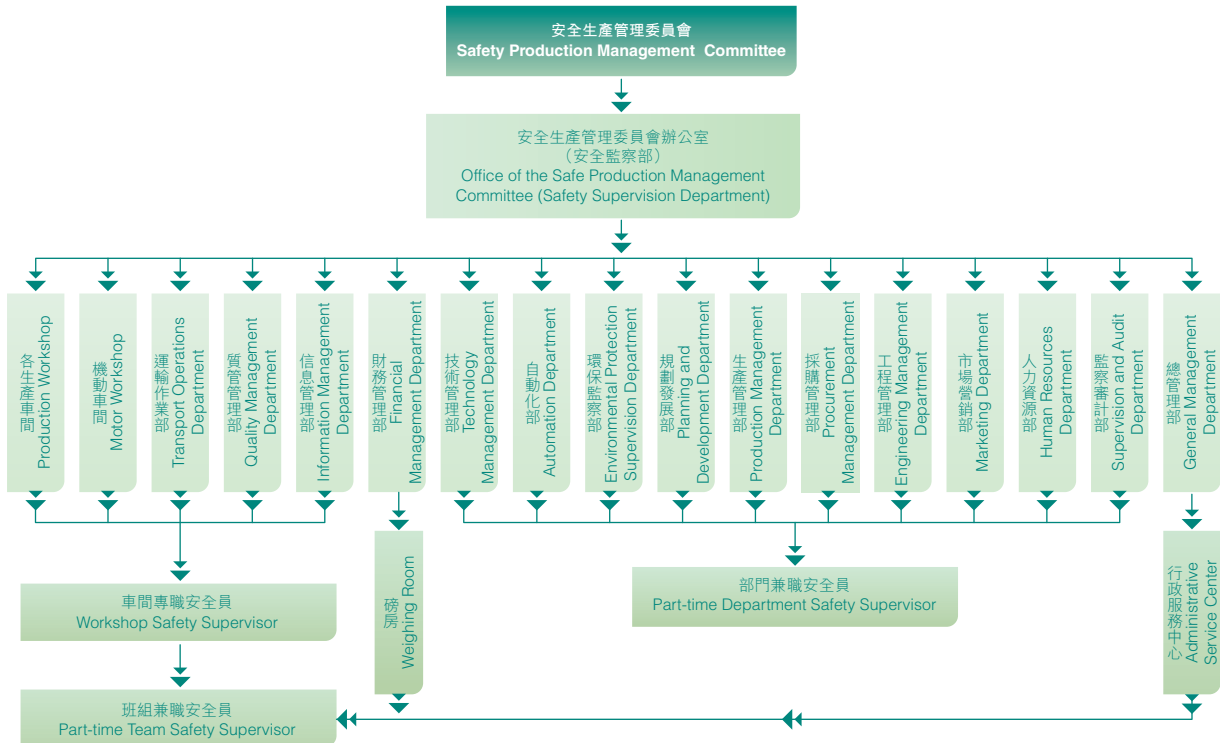
安全生產目標：六大事故發生率為零

Safety Production goals: zero incident rate of the six major accidents

- 重傷及以上人身事故為零（含承包商事故）
- 重大生產（操作）事故為零
- 重大設備事故為零
- 重大火災、爆炸事故為零
- 重大廠內交通事故為零
- 職業病發病率為零
- Zero severe or fatal injuries incidents (including incidents involving contractors)
- Zero incidents of major production (operation) accidents
- Zero incidents of major equipment accidents
- Zero incidents of major fire and explosion accidents
- Zero incidents of major in-plant traffic accidents
- Zero occupational disease incidence rate

公司嚴格遵守國家安全相關的法律法規及規範要求，成立安全管理組織機構，建立了從上到下、從左到右，縱向到底、橫向到邊的安全組織管理網絡。

The Group strictly adheres to national safety-related laws, regulations, norms, and requirements. It has established a top-to-bottom, left-to-right, and vertical-horizontal safety management network covering all levels of the Group and all areas of production and operation.



圖：集團安全管理體系架構

Figure: Risun Group's safety management system architecture

旭陽安全管理機制與舉措

Safety management mechanisms and measures of
Risun

建立EHS管理體系
Establish the EHS
management system

- 各子公司已創建了環境管理體系和職業健康安全體系並取得相應證書，認證證書有效期三年，在有效期內，每年定期委託第三方機構開展監督審核和再認證工作。
All subsidiaries have established Environmental, Health, and Safety (EHS) management systems and have obtained the corresponding certifications which are valid for three years. During this period, a third-party organization is commissioned on a regular basis to supervise, verify, and carry out recertification procedures.

健全安全責任體制
Improve the safety
responsibility system

- 成立安全生產委員會，建立了以主要負責人為核心的覆蓋各子公司、各層級、各部門、各類人員的全員崗位安全生產責任制，明確各崗位的責任人員、責任範圍、責任清單；並定期組織召開安全專題會議，協調解決各子公司安全生產過程中存在的問題；
Set up the safety production committee and establish the safety production responsibility system for all posts of all subsidiaries, levels, departments, and employees with the responsible person as the core, specifying the responsible persons of all posts, scope of responsibility, list of responsibilities; and organize and hold safety meetings regularly to coordinate and solve the problems in the safety production process of each subsidiary company;
- 建立覆蓋全體員工的安全責任考核機制，制定量化的考核指標和獎罰標準，夯實全員的安全生產責任意識；
Establish a safety responsibility assessment mechanism covering all employees, and formulate quantitative assessment indicators and reward and punishment standards to consolidate the safety production responsibility consciousness of all employees;
- 制定完善集團項目建設「三同時」(施工項目相應安全保障措施與項目同時設計、同時施工、同時投入生產和使用)制度，從項目建設源頭確保安全實施。
Develop and improve the “three-item” management system (implementing corresponding safety measures during project design, construction, and production and use simultaneously) in the Group’s project construction to ensure safety from the source.

可持續發展實踐 Sustainable Development Practices

完善安全問題監督流程 Improve the safety issue supervision process

- 根據風險台賬，編製隱患排查清單和計劃，準備檢查表並執行檢查，通報結果後制定整改方案，落實整改並複查，最後更新隱患治理台賬；
Compile inventories and plans for hazard identification according to risk registers, prepare the safety checklist, and execute inspections; issue inspection reports, prepare the plan to address any identified hazards, and implement the plan accordingly; carry out follow-up evaluations and update the hazard mitigation logs;
- 公司負責制定重大和較大風險的事故隱患排查清單，一般風險和低風險由所在車間、部門編製事故隱患排查清單。為確保執行到位，公司定期對各級部門的隱患排查工作進行監督檢查。
The Company is responsible for drafting the register of substantial and consequential risks, delegating formulation of the register of moderate and minimal risks to respective workshops and departments. To ensure diligent execution, the Company conducts regular supervisory audits of the hazard investigation efforts across all levels of departments.

安全風險分級防控和 隱患治理體系 Hierarchical risk control and hidden danger treatment systems

- 推行雙控體系建設，遵循「一切作業必須有方案，一切方案必須有風險分析」的硬性標準，密切關注「一個核心、兩個重點、四個要素」；
Carry out the building of a dual prevention systems of hierarchical risk control and hidden danger treatment, follow the hard-and-fast standard that “all operations must have a plan and all plans must have risk analysis”, and place great emphasis on “one core, two priorities, and four elements”;
- 嚴格推行「124雙控管理法」和「根原因分析法」。公司堅持開展「公司、部門、班組」三級檢查活動，每次檢查結束後都組織開展隱患「根」原因分析，深挖隱患背後的管理問題。
Rigorously implement the “124 dual prevention management method” and “root cause analysis method”. Conduct inspections at the three levels of the Group, departments, and teams, and carry out “root” cause analyses for hidden dangers to identify underlying management issues.

安全質量標準化 Safety and quality standardization

- 積極推進安全生產標準化的宣傳推廣行動，指派專員前往危險化學品登記中心，參與安全標準化評審員的培訓考核流程；
Actively drive the publicity and advocacy of standardized safety production practices, specially assign personnel to attend training and assessment for safety standardization auditors at the Hazardous Chemicals Registration Center;
- 對照集團安全質量相關評審標準逐條、逐項的進行認真排查和梳理；
Conduct careful investigation and sorting item by item in accordance with the Group's Safety and Quality-Related Evaluation Standards;
- 根據安全標準化要求，實施嚴格的安全管理獎懲管理辦法。
Implement a strict system of rewards and punishments for safety management in accordance with safety standardization requirements;

生產安全事故應急體系
Emergency system
for production safety
accidents

- 成立安全生產委員會，明確總經理為應急管理第一負責人，調度室為應急值班室，實行24小時值班制度。應急預案中成立以總經理為總指揮，各車間部門負責人為組長的應急小組，明確了各小組職責範圍；
Set up Safe Production Committee, and make it clear that the General Manager is the first person in charge of emergency management and the dispatching room is the emergency duty room. Implement the 24-hour duty system. According to the emergency plan, establish an emergency team with the General Manager as the general commander and the heads of all workshop departments as the team leader, and clarify the scope of responsibilities of each team;
- 公司成立專職消防隊24小時備勤，出現應急情況第一時間到達現場進行應急處置。
Set up a full-time fire brigade which may be available 24 hours a day and may arrive at the scene for emergency disposal in case of emergency.

針對承包商的安全
管理舉措
Safety management
measures for the
contractor

- 嚴格審核承包商資質，對於資料符合要求的承包商單位憑入廠聯絡單由承包商業務主管部門引領至安全部進行入廠安全培訓，培訓合格後由主管部門進行相關教育或培訓，再次培訓合格後方可到現場作業；
Conduct a rigorous evaluation of the contractor's qualifications. If the contractor's information meets the requirements, the contractor, with the entry permit, is led by the competent department in charge of the contractor business to the safety department for on-site safety training. After passing the training, the competent department will provide additional education or training, and the contractor will only be allowed to operate on site only after passing the training again;
- 承包商作業人員在監護下進行特定作業，監護人員對作業進行安全交底並全程監護，特殊作業人員須持特種作業證件憑開具的特種作業票進行作業，不得超範圍或改變作業內容，作業結束後由車間監護人員進行確認，確認合格後結束作業；
Operators from the contractor side must carry out specific operations under supervision. Supervisory personnel should provide safety briefings and supervision throughout the operation. Special operators are required to possess special operation credentials and perform operations with the special operation permit issued to them. They are not allowed to exceed the scope or modify the content of the operation. Once the operation is completed, supervisory personnel from the workshop must confirm that the operation meets the required standards before its closure;
- 針對承包商單位在作業過程中發生的違章行為，執行「一罰、二停、三清退」管理要求。
Implement the management policy of “penalty for the first-time violation, suspension for the second-time violation, and dismissal for the third-time violation” for contractors who violate safety regulations during their operations.

可持續發展實踐 Sustainable Development Practices

公司安全環保信息化建設 Development of information- based safety and environmental protection

- 建設部署智能門禁系統、人員定位系統、智能巡檢系統，有效促進公司安全環保數字化管理。其中利用智能門禁系統對進入生產區域的人員和車輛進行精準管控，分類統計出入生產區域人員和車輛信息，實時顯示生產區域內人員和車輛動態，發揮定位、報警、跟蹤、巡檢和作業管理等信息化、智能化功能，實現了生產區與非生產區的可靠隔離；

The systems of intelligent access control, personnel positioning, and intelligent patrol and inspection have been developed and implemented which effectively facilitated the digital management of safety and environmental protection within the Group. The intelligent access control system is used to precisely monitor personnel and vehicles entering the production area and then classifies and counts the information of personnel and vehicles entering and leaving the production area. It also displays the real-time status of personnel and vehicles in the production area, and has information-based intelligent functions such as positioning, alarming, tracking, inspection, and operation management. The system enables reliable isolation of the production area from non-production areas;
- 啟動安全生產信息化綜合平台開發建設工作，現已完成多個模塊基礎功能建設，目前雙重預防機制模塊正常運行，其他模塊已錄入基礎數據，進入試運行階段。

The development of a comprehensive platform for information-based safety production has been initiated. Several modules of basic functions have been completed, with the dual prevention mechanism module currently in normal operation. Other modules have entered the trial phase after basic data input.

集團各公司均建立、實施、保持和持續改進職業健康安全、環境與質量管理體系，經過職業健康安全、環境管理體系認證，並且和質量管理體系實現「三合一」運行。

All companies within the Group have established, implemented, maintained, and continuously improved the systems of occupational health and safety, environmental management, and quality management. They have obtained certifications for their systems of occupational health and safety and environmental management, and achieved “three-in-one” operation with the quality management system.

可持續發展實踐
Sustainable Development Practices

子公司 Subsidiary	職業健康安全管理體系 GB/T45001-2020 ISO45001:2018 Occupational health and safety management system	環境管理體系 GB/T24001-2016 ISO14001:2015 Environmental management system	質量管理體系 GB/T19001-2016 ISO9001:2015 Quality management system
	GB/T45001-2020 ISO45001:2018	GB/T24001-2016 ISO14001:2015	GB/T19001-2016 ISO9001:2015
邢台旭陽化工 Xingtai Risun Chemical	認證 Certified	認證 Certified	認證 Certified
中煤旭陽 China Coal Risun	認證 Certified	認證 Certified	認證 Certified
邢台旭陽煤化工 Xingtai Risun Coal Chemical	認證 Certified	認證 Certified	認證 Certified
金牛旭陽 Jinniu Risun	認證 Certified	認證 Certified	認證 Certified
唐山旭陽化工 Tangshan Risun Chemical	認證 Certified	認證 Certified	認證 Certified
鄆城旭陽 Yuncheng Risun	認證 Certified	認證 Certified	認證 Certified
河北旭陽 Hebei Risun	認證 Certified	認證 Certified	認證 Certified
定州天鷲 Dingzhou Tianlu	認證 Certified	認證 Certified	認證 Certified
滄州旭陽 Cangzhou Risun	認證 Certified	認證 Certified	認證 Certified
旭陽中燃 Risun CHINA GAS	認證 Certified	認證 Certified	認證 Certified

註： 有四家子公司獲得GB/T 23331-2020 ISO 50001:2018能源管理體系認證。東明旭陽因吸收合併原有三家子公司，其三體系證書公司名稱變更正在辦理中。

Note: Four subsidiaries have obtained certification for the GB/T 233312020/ISO 50001:2018 energy management system. Dongming Risun is in the process of changing the company name of its triple certification (safety, quality and environment) due to the absorption and merger of its three original subsidiaries.

可持續發展實踐 Sustainable Development Practices

安全教育

員工安全教育一直是本集團關注的重點之一。我們深知員工的安全與健康是公司可持續發展的基石，也是企業社會責任的核心體現。為了更好地滿足各崗位員工的培訓需求，我們制定了詳細的年度培訓計劃，確保培訓內容的時間、地點、培訓人員和培訓形式都多樣具體。同時，我們也意識到傳統的培訓形式可能存在局限性，因此我們改變了培訓形式，採用了現場講解、警示視頻等形式來培訓安全生產知識。報告期內我們先後開展安全教育培訓、事故案例宣講、職業健康及工傷預防培訓、安全事故綜合演練等多項活動。

Safety education

Employee safety education remains a cornerstone of the Group. We deeply acknowledge that the safety and well-being of our workforce underpins the Company's enduring sustainability and epitomizes our commitment to corporate social responsibility. To better cater to the diverse training needs across various roles, we've crafted comprehensive annual training schedules. These schedules ensure a varied and specific approach to the timing, location, trainers and formats employed in delivering training content. Recognizing the inherent limitations of traditional training formats, we've embraced innovative formats. From on-site demonstrations to cautionary videos, we've endeavored to impart knowledge about production safety. Throughout the reporting period, our endeavors encompassed a spectrum of activities, including safety education modules, case studies on accidents, training sessions focused on occupational health and injury prevention, and full-scale drills for safety incident responses.

每日安全分享 Daily sharing on safety

交接班會上，安全管理人員與專業技術人員共同分享安全相關的知識，知識廣泛涉及法律法規的解讀、制度規程的遵循、工藝操作的要點、電氣儀表的使用以及應急救援措施等方面。

In our daily shift handover meetings, a collaborative exchange unfolds between our safety management personnel and technicians. This exchange delves deep into safety knowledge, spanning legal interpretation, regulatory compliance, technological operations, electrical instrumentation, and emergency responses.

安全教育培訓方法 Safety education and training methodology

領導幹部講安全 Lectures on safety by company leaders

高層領導輪流在每月的安全委員會會議上進行安全培訓，而中層幹部則每周在生產系統安全例會上負責進行安全培訓。Safety training is given by high-level leaders on a rotating basis during monthly safety committee meetings, while middle-level leaders give regular safety training sessions at weekly safety meetings of the production system.

旭陽大學線上學習 Online learning on the Risun University platform

利用旭陽大學網絡平台，持續開展每月一主題的安全法律法規及規範學習活動。Risun University, the Group's online learning platform, is utilized to conduct monthly themed learning activities on safety laws and regulations, and norms.

案例
Case「人人講安全、個個會應急」安全生產月專題活動
“Workplace Risk: I See, I Know, I Control” Special Initiatives during Safety
Production Month

2023年6月是全國第22個「安全生產月」，為深入宣傳貫徹黨的二十大精神和習近平總書記關於安全生產重要論述，堅持人民至上、生命至上，堅持統籌發展和安全，推動安全生產責任落實，壓緊壓實安全生產主體責任，集團各個園區開展一系列安全生產月活動。各園區根據自身業務，分別開展如安全專題培訓、安全生產月知識競賽、安全主題演講比賽等系列活動。圍繞「人人講安全個個會應急」這一主題，牢固樹立安全發展理念，不斷提高員工安全知識水平及應急處置能力。通過一系列的安全活動，夯實廣大員工安全意識，增強員工應急處置能力，烘托公司安全文化氛圍。

June 2023 is the 22nd nation-wide “Safety Production Month”. With a commitment to disseminating and embodying the ethos of the 19th National Congress of the Communist Party of China and the pivotal pronouncements of General Secretary Xi Jinping regarding safety production, our unwavering dedication to prioritizing the people and safeguarding lives remains steadfast. Embracing a holistic approach to development and safety, we endeavor to uphold the implementation of safety production responsibilities and fortify the core tenets of safety production. Across various production bases within the Group, a range of initiatives have been undertaken during the Safety Production Month. Tailored to the unique operational contexts of each base, these initiatives encompass safety training sessions, knowledge contests, and safety-centric speech contests. Underpinning the theme of “Workplace Risk: I See, I Know, I Control”, we aim to inculcate a steadfast commitment to safety development, perpetually elevating the collective safety consciousness and emergency responsiveness of our workforce. Through this series of safety-centric activities, we endeavor to solidify the safety awareness of our employees, fortify their emergency responsiveness, and cultivate a pervasive corporate culture of safety consciousness.



圖5-9 滄州旭陽安全生產月動員部署大會

Figure 5-9 Mobilization and Deployment Assembly for Safety Production Month at Cangzhou Risun



圖5-10 旭陽煤化工開展「安全宣傳諮詢日」活動

Figure 5-10 “Safety Consultation Day” Campaign at Risun Coal Chemical



圖5-11 鄆城旭陽領導及員工代表參加安全月簽字活動

Figure 5-11 Participation of Yuncheng Risun’s Leadership Cadre and Employee Delegates in the Safety Production Month Signing Ceremony



圖5-12 東明旭陽組織開展安全生產月知識競賽

Figure 5-12 Convening of the Safety Production Month Knowledge Contest by Dongming Risun

可持續發展實踐 Sustainable Development Practices



圖5-13 旭陽中燃組織危險化學品企業特殊作業安全管理培訓

Figure 5-13 Organization of Specialized Operation Safety Management Training for Hazardous Chemical Enterprises by Risun CHINA GAS



圖5-14 邢台旭陽化工安全主題宣傳板報

Figure 5-14 Display of the Safety Theme Bulletin Board by Xingtai Risun Chemical

表5-5 2023年員工安全教育績效

Table 5-5 Assessment of Employee Safety Education Performance for 2023

指標名稱 Name of indicator	單位 Unit	2023年度 2023	2022年度 2022
安全教育培訓次數 Frequency of safety education and training	(次) (Times)	262	1,346
安全教育培訓人次 Number of persons participating in the safety education and training	(人次) (Person)	74,939	105,932
安全應急演練次數 Frequency of safety emergency drills	(次) (Times)	1,354	4,307
安全應急演練參與人次 Number of persons participating in the safety emergency drill	(人次) (Person)	11,782	76,144

職業健康

本集團嚴格遵守《中華人民共和國安全生產法》《中華人民共和國職業病防治法》等相關法律法規，編製《職業衛生管理制度》《職業危害因素識別報告》《職業衛生責任制》等員工職業安全相關制度，並通過建立全面的職業健康管理體系，確保員工在工作中的安全與健康。我們積極開展職業危害因素的識別和評估工作，採取有效措施減少和控制職業病危害。通過組織定期的職業健康檢查，配備了必要的個人防護裝備，定期開展職業健康知識培訓等方式提升員工對職業健康的認識和意識，增強他們自我保護的能力。為員工營造一個安全、健康、舒適的工作環境。

報告期內，無員工患職業病，職業病體檢覆蓋率達100%，員工體檢率達100%。

Occupational health

The Group, strictly abiding by relevant laws and regulations such as the *Law of the People's Republic of China on Safety Production* and the *Law of the People's Republic of China on Prevention and Control of Occupational Diseases*, has established a number of employee occupational safety-related systems including the Occupational Health Management System, the Occupational Hazard Identification Report, and the Occupational Health Responsibility System. Additionally, the Group has established a complete employee health and safety management system to ensure employees' well-being and safety at workplace. We proactively engage in the identification and assessment of occupational hazards, implementing effective measures to mitigate and control these risks. We organize routine occupational health examinations, equip personnel with requisite personal protective gear, and conduct periodic sessions on occupational health knowledge, thereby enriching employees' awareness and fostering a culture of self-preservation. We endeavor to cultivate a working environment that is safe, healthy, and conducive to productivity for our workforce.

During the reporting period, no employees suffered occupational diseases. The Group achieved a 100% coverage rate for occupational disease medical examinations and employee medical examinations.

完善職業健康安全管理制度 Improve the occupational health management system

- 建立10項職業健康安全相關管理制度，包括：《職業病危害警示與告知制度》《職業病危害項目申報制度》《職業病防治宣傳教育培訓制度》《職業病防護設施維護檢修制度》《職業病防護用品管理制度》《職業病危害監測及評價管理制度》《建設項目職業衛生「三同時」管理制度》《勞動者職業健康監護及其檔案管理制度》《職業病危害事故處置與報告制度》《職業病危害應急救護與管理制度》。
- Establish 10 occupational health and safety-related management systems: the System of Warning and Informing of the Occupational Disease Hazard, the Application System for Occupational Disease Hazard Projects, the Occupational Disease Related Publicity, Education and Training System, the Maintenance and Service System of Occupational Disease Prevention Facilities, the Management System for Occupational Disease Protective Equipment, the Management System for Occupational Disease Hazard Monitoring and Evaluation, the Management System for "Three-item" of Occupational Health in Construction Projects, the Management System for Occupational Health Monitoring and File Management of Workers, the Management System for Occupational Disease Hazard Incident Handling and Reporting, and the Management System for Occupational Disease Hazard Emergency Response and Management.

可持續發展實踐 Sustainable Development Practices

健全職業健康安全管理體系 Improve occupational health and safety management system

- 成立職業衛生管理機構，指定安全部為公司職業衛生管理機構，明確具體職責並任命職業衛生管理人員；
Establish an occupational health management organization, designate the safety department as the occupational health management organization, appoint occupational health management personnel and clarify their specific responsibilities respectively;
- 每年年初制定職業危害防治計劃與實施方案。
At the beginning of each year, formulate the occupational hazard prevention plan and implementation plan.

強化職業健康防護用品管理 Reinforce occupational health protection supply management

- 制定勞動防護用品發放標準，並定期為員工發放工作服、勞保鞋、防毒面具、防塵口罩、防護眼鏡、防護手套等勞動防護用品，保障員工的安全與健康，降低工作中受傷或患病的風險。
Establish standards for the allocation of labor protection supplies and regularly provide employees with work clothes, labor protection shoes, gas masks, dust masks, protective glasses, protective gloves, and other labor protection supplies, to ensure the safety and health of employees, reduce the risk of injuries or illnesses during work.

加強職業健康作業區域管理 Strengthen the management of occupational health operation area

- 各作業區域依照年度職業危害防治計劃與實施方案、崗位職業病防治責任制開展工作。
Each operational area follows the annual occupational hazard prevention and control plan and implementation plan and the duty system for occupational disease prevention and control to carry out work.

開展職業危害因素監測與管理 Carry out monitoring and management of occupational hazard factors

- 依照職業病危害監測及評價管理制度，定期委託第三方檢測機構完成全場職業危害因素監測；
Regularly entrust a professional third-party organization to complete the monitoring of occupational hazard factors according to the Occupational Disease Hazard Monitoring and Evaluation Management System;
- 定期由專人負責作業場所職業危害日常監測，並記錄檢測結果。
Designate a person to be responsible for the daily monitoring of occupational hazards in the workplace and for recording the test results.

加強員工職業健康管理
**Strengthen the employee
occupational health
management**

- 在產生職業病危害的作業場的醒目位置設置公告欄，公佈職業病防治的規章制度、操作規程、職業病危害事故應急救援措施和工作場所職業病危害因素檢測結果；

Set up a notice board in a conspicuous position in areas involving occupational disease hazards to publicize the rules and regulations on occupational disease prevention and control, operating procedures, emergency rescue measures for occupational disease hazard accidents and the detection results of occupational disease hazard factors in the workplace;
- 做好工作場所可燃、有毒氣體報警器的年度檢驗檢測工作；

Carry out annual inspection and detection of combustible and toxic gas alarms in the workplace;
- 全力開展健康教育，普及防護知識，制訂職業衛生制度和操作規程。領導和勞動者要通過培訓，學習有關職業病防治的政策和法規，職業危害及其防護知識。提高對改善勞動條件，控制職業危害重要性的認識，防止職業病的發生；

Fully implement health education to promote protection knowledge and develop occupational health systems and operating procedures. Through training, leaders and workers should learn about policies and regulations on occupational disease prevention and control, occupational hazards, and protective measures. Raise awareness of the importance of improving labor conditions and controlling occupational hazards to prevent the occurrence of occupational diseases;
- 在可能造成職業病危害的工作場所，或因進行設備檢修而不得不接觸高濃（強）度有害物質時，必須配備有效的個人防護用品；

Effective personal protective equipment must be equipped in workplaces that may cause occupational disease hazards or in situations where employees have to be exposed to highly concentrated (strong) hazardous substances due to equipment maintenance;
- 開展多種形式的心理健康保障項目，引導員工樹立積極、健康的心態；

Undertake diverse initiatives addressing psychological well-being, guiding employees to adopt a resilient and balanced mindset;
- 嚴格組織職業健康檢查。

Organize and conduct occupational health examinations in a strict manner.

可持續發展實踐 Sustainable Development Practices

2. 優質產品

本集團始終秉承「全員努力、顧客至上、不斷創新、追求卓越」的質量方針，建立全流程準確識別生產工序關鍵質量控制點，質量控制全程可追溯，實現閉環管理，致力於踐行嚴格且全面的產品及服務質量管理。集團嚴格遵守《中華人民共和國產品質量法》等法律法規，各園區制定《質量管理制度》《不合格品控制程序》《質量事故管理辦法》等制度，使產品根據《產品內控要求》進行生產，嚴把產品質量關，確保生產操作環節安全平穩，產品和中間產品質量穩定。

保障產品質量

對於焦炭產品，制定《進廠煤管理制度》以保證進廠精煤的質量；修訂完善《質量控制點及考核辦法》，聯合生產管理部、技術管理部對焦炭質量進行全過程檢查監督，嚴格按照《質量控制點及考核辦法》對生產車間不符合項進行處罰，對產品質量進行時監控、日調度、周分析、月總結，提升焦炭質量。制定《產品出廠檢驗規定》《質量檢驗管理制度》《關鍵質量控制點操作控制制度》等管理制度，確保產品質量達到標準；建立嚴格的質量控制體系和過硬的檢測設備及成熟的檢測技術，檢測中心通過「CNAS實驗室認可」做到產品批批檢測，達到產品可追溯的要求。

2. Quality products

The Group steadfastly uphold a quality policy centered around “concerted endeavor, customer-centricity, relentless innovation, and pursuit of excellence”. We institute a meticulous approach, meticulously identifying pivotal quality control junctures within our production processes, thereby ensuring a seamlessly traceable quality control paradigm. Through the implementation of a closed-loop management system, we are steadfast in our pursuit of stringent and comprehensive standards governing product and service quality. The Group stringently complies with laws and regulations such as the Law of the People’s Republic of China on Product Quality. In addition, all bases have formulated systems such as the Quality Control System, the Control Procedures for Nonconforming Products, and the Quality Accident Management Measures to ensure that products are manufactured in accordance with the Product Internal Control Requirements and that product quality is strictly controlled. This helps ensure safe and efficient production operations and stable product and intermediate product quality.

Guarantee product quality

For our coke products, we have devised the Coal Entry Management System, guaranteeing the quality of incoming raw coal, and augmented and refined protocols such as the Quality Control Checkpoints and Assessment Methods; whole-process inspection and supervision are jointly executed by the production and technical management departments; penalties are enforced for deviations in strict adherence to the Quality Control Checkpoints and Assessment Methods, while real-time monitoring, daily scheduling, weekly analysis, and monthly reviews are conducted to continually enhance coke quality. To fortify our commitment to quality, we have established protocols such as the Product Delivery Inspection Regulations, Quality Inspection Management System, and Quality Control Checkpoints and Assessment Methods. These measures, backed by robust quality control apparatus and cutting-edge testing methodologies, ensure compliance with standards and facilitate batch testing of products by the our testing centers accredited by CNAS, in alignment with the imperatives of product traceability.

可持續發展實踐 Sustainable Development Practices

對於化工產品，修訂完善《主要化工原輔料管理制度》，確保了化工原料始終處於受控狀態。《易制毒化學品管理制度》《原料接收標準》，明確規定各化工原輔料質量標準及流程制度，確保化工產品生產過程的安全性、合規性和質量穩定性，保護公共安全和環境健康。不定期組織質量風險辨識活動，對全週期全流程質量風險辨識工作全面指導和檢查，完善質量管理工作，從根本上防範質量事故發生，實現公司高質量發展。

本集團各子公司依據GB/T19001-2016/ISO9001:2015標準的相關要求建立了質量體系，體系的建立包括對產品生產和服務提供全過程的規範管理，涵蓋了從原材料採購到產品交付的每個環節。通過此舉，我們不斷改進和優化生產過程，提高產品和服務的質量水平，提升客戶滿意度和市場競爭力。

報告期內，本集團焦炭及化工產品客戶滿意率達到100%。

優質客戶服務

本集團嚴格遵守《中華人民共和國消費者權益保護法》等相關法律法規，制定《客戶服務及對內要求細則》《客戶管理與溝通制度》等制度，全面落實以客戶為中心，為客戶創造價值的理念，定期調查了解客戶滿意度，及時了解客戶的營運和需求。同時集團規範客戶數據管理，注重保護客戶隱私，完善客戶投訴機制，不斷提高服務水平和服務質量。

For chemical products, we've revised and improved the Management System for Major Chemical Raw and Auxiliary Materials to ensure perpetual control over the status of chemical raw materials. The Controlled Substances Management System and Standards for Raw Material Reception outline the quality benchmarks and procedural protocols for various chemical raw materials, thereby safeguarding the safety, compliance, and consistency of the chemical production process, thereby upholding public safety and environmental integrity. We conduct periodic quality risk assessments to comprehensively oversee and evaluate the full spectrum of quality risk identification endeavors. This aids in refining our quality management practices, proactively mitigating the likelihood of quality-related incidents, and propelling the Company towards a trajectory of high-caliber development.

Each subsidiary within the Group adheres to the requirements of the GB/T19001-2016/ISO9001:2015 standards, meticulously crafting a quality assurance framework that spans the process of product manufacturing and service delivery. This comprehensive approach covers all facets from raw material procurement to the final product delivery. These initiatives are pivotal in our ongoing quest to refine and optimize our production processes, elevate the caliber of our products and services, amplify client contentment, and fortify our standing within the marketplace.

During the reporting period, the customer satisfaction of coke and chemical products of the Group reached 100%.

Quality customer service

The Group stringently complies with relevant laws and regulations such as the Law of the People's Republic of China on Protecting Consumers' Rights and Interests, formulates regulations including the Rules for Customer Service and Internal Requirements and the Customer Management and Communication System, fully implements the concept of customer-centered and creating value for customers, regularly investigates and understands customer satisfaction, and timely understands customers' operation and needs. Moreover, the Group instills stringent norms for customer data governance, with a keen emphasis on safeguarding customer privacy. We continually refine our customer complaint mechanism, thereby improving service standards and quality.

可持續發展實踐 Sustainable Development Practices

報告期內，本集團未收到客戶投訴。

During the reporting period, the Group did not receive any customer complaints.

- 旭陽對客戶的理念：始終以客戶為中心，用一流的質量與服務贏得客戶的信賴與尊敬，實現共同發展。
 - 旭陽對客戶的宗旨：尊重客戶，理解客戶，持續提供超越客戶期望的產品與服務，誠信創造價值，品質成就卓越。
 - 旭陽對客戶的原則：誠信合作，互利雙贏。
- Risun's customer philosophy: always put customers first and earn their trust and respect through first-class quality and service to ultimately achieve common development.
 - Risun's customer service tenet: respect and understand customers, consistently provide products and services that exceed their expectations, create value through integrity, and achieve excellence through quality.
 - Risun's customer principles: honest cooperation, mutual benefit, and win-win results.

客戶管理

Customer management

通過科學的客戶評價系統對業務客戶進行評分分級，並根據分級情況對業務進行調整，實現業務的穩定和收益的提高。

Adopt a scientific customer evaluation system to score and grade customers and then adjust businesses based on the grades to ensure business stability and revenue growth.

客戶溝通

Customer communication

通過電話、實地走訪、電子郵件等方式靈活地與客戶展開溝通，明確劃分溝通層級以提高溝通效率、增強溝通效果，及時了解客戶對產品及提供服務的批評、建議、希望和投訴，對於客戶提出的意見及時組織有關部門進行落實。

Communicate with customers through flexible means such as telephone calls, field visits, and e-mails, divide communication level to improve communication efficiency and effectiveness, timely get to know customers' criticism, suggestions, hopes, or complaints regarding product quality and services, and promptly organize relevant departments to address the feedback by customers.

客戶關係

Customer relations

對歷年往來的客戶建立檔案資料，記錄客戶的名稱、情況、信用、與本集團的關係等，並由專人保管。

Create an archive for the Group's customers over the years, including their name, situation, credit, and relationship with the Group. Assign designated persons to manage and maintain the archive.

客戶信息保護

Customer information security

集團重視客戶信息保護，嚴格遵守《中華人民共和國個人信息保護法》，保障客戶商業信息與個人信息安全，規範保密行為。每位員工入職時均簽訂有保密協議，承諾對客戶資料履行保密義務。

The Group accords paramount importance to the security of customer information, strictly abiding by the *Personal Information Protection Law of the People's Republic of China*. This ensures the security of customer-centric business intelligence and individual data privacy, while adhering to rigorous confidentiality protocols. Each member of our workforce is required to sign a non-disclosure agreement upon induction, pledging to protect the security of client information.

客戶意見

Customers' opinions

定期調查客戶意見，向客戶發放「客戶滿意度調查表」，對調查結果應按客戶滿意程度或按客戶不滿意原因進行分類並解決。調查結果應收集存檔，以備對解決結果進行跟進檢查。

Regularly conduct surveys on customers' opinions by distributing the "customer satisfaction questionnaire" to customers. Classify the survey results according to customer satisfaction degree or reasons for customer dissatisfaction to address their dissatisfaction. The survey results should be collected and kept on file for follow-up and checking that whether the dissatisfaction is addressed.

客戶投訴

Customer complaints

建立完善客戶投訴管理制度，更加有效地處理客戶投訴，提升客戶滿意度，增強品牌信譽，促進產品質量提高和售後服務的改善。

Establish a robust customer complaint management system to quickly address customer complaints, enhance customer satisfaction, enhance company credibility, and promote the improvement of product quality and after-sales service

數據安全與隱私保護

集團致力於提升數據質量和實現數據價值，將其視作數據管理的首要目標。為此，我們引入了DAMA數據管理體系，並根據實際業務需求，構建了完善的數據管理組織、流程、標準和平台工具。同時，我們建立了集團級數據架構，以確保與戰略和業務發展保持一致，指導數據集成和管理數據資產。

Data security and privacy protection

The Group is unwavering in its commitment to enhance data quality and unlock its intrinsic value, considering this endeavor the cornerstone of effective data governance. To this end, we've embraced the DAMA Data Management System, crafting a sophisticated framework encompassing organizational structures, processes, standards and tools tailored to the realities of our operational landscape. Simultaneously, we've erected a Group-wide data architecture to ensure alignment with our strategies and business development, thereby providing the guiding framework for data integration and management of data assets.

在數據安全方面，我們採取了多重措施。針對敏感信息，採用數據脫敏技術；對於訪問控制，限制對敏感數據的訪問，只允許授權人員訪問特定的數據，以確保數據僅在必要的情況下被使用。此外，我們採用了加密措施來保護數據的傳輸和存儲，以防止未經授權的訪問和數據洩露。我們通過定期審查數據使用的目的和方式，以確保其符合相關法規和政策，並提高數據處理的透明度，向用戶解釋數據的收集和使用方式，以建立信任。

With respect to data security, we've adopted a multifaceted approach. Sensitive data undergoes desensitization techniques, while access controls are enforced, granting exclusive privileges solely to authorized personnel, thus safeguarding against unwarranted data utilization. Moreover, we've instituted robust encryption protocols to fortify both data transmission and storage, preempting any unauthorized access or data exposure. Through periodic audits scrutinizing the purposes and modes of data utilization, we ensure strict adherence to pertinent regulations and corporate policies, concurrently enhancing the transparency of our data processing methodologies by explaining how we collect and use user data, thereby fostering user trust.

整個集團的數據收集、存儲、處理、分享和銷毀都嚴格按照標準化流程進行，以構建一個可信賴的數據環境。我們通過嚴格的標準化流程，確保數據的安全性、完整性和可用性，為企業的穩健發展提供了可靠的數據支撐和保障。

Across the Group, data collection, storage, processing, dissemination and disposal adhere rigorously to standardized processes, culminating in the establishment of a trustworthy data ecosystem. Through the meticulous implementation of standardized procedures, we guarantee the security, integrity and accessibility of our data, thus creating a dependable foundation for the sustainable growth and resilience of the Group.

可持續發展實踐 Sustainable Development Practices

技術創新研發

本集團制定《集團創新項目研發管理條例》《技術創新獎勵管理制度》等制度，堅持踐行創新引領、技術驅動的道路，以「集團總工程師及集團生產技術部－各園區工程技術研究中心／技術創新中心－各生產公司生產技術部」的三級研發創新體系為基礎，形成了「從無到有」（新產品新工藝新技術開發）和「技改技措」（現有裝置持續優化升級）兩大類研發創新系統，構築起創意、小試、中試、產業化、工程設計全研發產業鏈，支撐和拉動企業裝置效能、生產效率、產品質量、服務水平等實現全方位提升。並在創新過程中，重視知識產權及專利保護，保護屬於集團的重要資產。

集團現擁有3家省級工程技術研發中心、3家省級技術創新中心、1家省級重點實驗室、8家省級企業技術中心、7家省級新型研發機構、3家國家級認證檢測中心以及博士後科研工作站等研發平台。取得40項國家、省市級技術創新成果，獲得216項省市級榮譽，其中包括省級科技進步獎6項，市級科技進步獎11項。報告期內，本集團研發隊伍人數達359人，投入研發資金1,921.23萬元人民幣，佔銷售收入比例0.42%，未發生涉及知識產權及品牌保護方面的糾紛、索賠與訴訟。

Technological innovation and R&D

The Group remains committed to the development path guided by innovation and driven by technologies. It has developed various systems such as the Regulations on the Research and Development Management of Risun's Innovation Projects and the Management System of Technological Innovation Rewards. Based on the three-level R & D innovation system of "the Group's chief engineer and Production Technology Department—Engineering Technology Research Center of each base/Technology Innovation Center—Production Technology Department of each production company", it has formed two types of R & D and innovation systems, namely "innovation from scratch" (development of new products, new processes and new technologies) and "technical transformation and technical measures" (continuous optimization and upgrading of existing devices), and built a full R & D industrial chain of creativity, small-scale test, middle test, industrialization and engineering design, so as to support and drive the enterprise to improve its device efficiency, production efficiency, product quality and service level in an all – round way. And in the process of innovation, the Group paid attention to intellectual property and patent protection to protect its important assets.

The Group has 3 provincial engineering technology R&D centers, 3 provincial technology innovation centers, 1 provincial key laboratory, 8 provincial enterprise technology centers, 7 provincial new R&D institutions, 3 national certification and testing centers, as well as research and development workstations and platforms. Achieved 40 national, provincial, and municipal-level technological innovation achievements, won 216 provincial and municipal-level honors, including 6 provincial-level scientific and technological progress awards and 11 municipal-level scientific and technological progress awards. During the reporting period, the Group had 359 R & D team members and invested RMB19.2123 million in R & D, representing 0.42% of the Group's sales revenue. The Group has no disputes, claims and litigation involving intellectual property rights and brand protection.

商業模式創新
Business Model Innovation

技術引導市場、市場反饋技術、技術市場結合不斷升級迭代新產品

Technological innovation spearheads market trends, and market feedback informs subsequent technological advancements, resulting in an iterative cycle that continually elevates our product offerings.

科技產品創新
Technological Products Innovation

專注於現有裝置挖潛、產品升級、高附加值產業鏈延伸，實現循環經濟

The Group focuses on unlocking the potential of existing equipment, upgrading products, expanding the high value-added industrial chain, and achieving a circular economy.

體制機制創新
Institutional Framework Innovation

三級研發創新機制：集團－各園區工程中心－各生產公司
Three-level R & D innovation system: the Group – Engineering Technology Research Center of each base – each production company



創新模式
Innovation Models

專利技術277項

醇氨、芳烴、碳材料、焦化、其他

277 patented technologies

Alcohol ammonia, aromatics, carbon materials, coking, etc.

著作權14項

數據平台及算法

14 intellectual properties

Data platform and algorithms



多項技術成果

A range of technological breakthroughs

專有技術529項

產品提質、生產操作技術、設備改造技術、節能環保、安全技術、自動化技術、工藝改進技術

529 proprietary technologies

Product quality improvement, production techniques, equipment modification techniques, energy efficiency and environmental protection, safety practices, automation solutions, and manufacturing process improvements

可持續發展實踐 Sustainable Development Practices

科技創新管理 Science and technology innovation management

- 制定《技術創新獎勵管理制度》，規範技術創新工作，明確技術創新內容、職責、權限、流程、獎勵等有關內容；
Formulate the Management System of Technological Innovation Rewards and standardize the work of technological innovation, clarify the contents, responsibilities, authorities, processes, rewards and other relevant aspects of technological innovation;
- 制定《研發項目及人員管理制度》，提高公司技術創新水平，加強公司對研發項目的管理，使公司的科技管理工作進一步規範化，有效促進「技術創新」工作的順利、高效進行，實施公司「科技興企」的重要決策；
Formulate the Management System of R & D Projects and Personnel to enhance the Group's technological innovation level and strengthen the management of R & D projects, further standardize the scientific and technological management, effectively promote the smooth and efficient progress of "technological innovation", and implement the important decision of "prospering the enterprise through science and technology";
- 制定《科技類榮譽獎勵辦法(試行版)》，激發全體幹部員工的科技工作熱情，鼓勵幹部員工多出成績、出好成績，為企業爭榮增譽，公司對取得外部各級科技榮譽的先進集體和個人給予一定的獎勵。
Formulate the *Science and Technology Honors Incentive Program (Trial)* to stimulate the enthusiasm of all personnel to devote themselves to science and technology, motivate them to achieve better results, and win honors for the Group. This program will recognize and reward outstanding groups and individuals who have received external scientific and technological honors at all levels.

產學研合作情況 Industry-university- research cooperation

- 與廣州工業智能研究院合作承擔省級計劃項目《基於焦化水處理數字化智能管控關鍵技術》；
Work together with the Guangzhou Industrial Intelligence Research Institute to be responsible for the provincial-level project "Key Technology of Digital Intelligent Control Based on Coking Wastewater Treatment";
- 與邢台學院合作共建《河北省碳基材料及應用技術創新中心》，開展碳纖維材料技術研究。
Collaborate with Xingtai University to establish the Carbon-based Materials and Applied Technology Innovation Center of Hebei Province to conduct the research on carbon fiber material technology.

所獲重大科技獎項
Major science and
technology awards

- 多次獲得河北省科技進步獎，被河北省認定為科技領軍企業，榮獲河北省技術創新示範企業稱號。
The Group has won the Science and Technology Progress Award of Hebei Province multiple times. It is also recognized as Hebei Provincial Science and Technology Leading Enterprise and won the honorary title of Technological Innovation Demonstration Enterprises of Hebei Province.

專利保護機制與措施
Patent protection
mechanism and measures

- 嚴格遵守《集團專利技術、專有技術管理規定》，以規範專利技術管理，明確專利申請渠道，促進公司科技創新發展，保護公司知識產權，完善自主創新的知識產權管理體系，更好地發揮專利技術所有權；
Strictly follow the Group's Regulations on the Management of Patent and Proprietary Technology to ensure standardized management of patent technology, clarify patent application procedures, foster scientific and technological innovation, safeguard the Group's intellectual property rights, enhance the management system for independent innovation, and fully leverage the value of patent technology ownership;
- 在合同開發、委託開發時，雙方應事先約定專利申請權及專利權的歸屬；擁有專利權後，應充分、有效的應用這一專利，使企業在競爭中佔有優勢，實現專利技術產業化；按時交納專利年費，維持專利權效力；在專利轉讓、許可及投資過程中，簽訂合法有效、權利義務關係明確的合同，維護企業的合法權益。
For contract and entrusted development, both parties must agree on the patent application rights and ownership beforehand.. Once the patent is obtained, it should be effectively utilized to give the Group a competitive advantage and to facilitate the industrialization of the patented technology. It is also essential to pay the annual patent fee on time to maintain the validity of the patent. Furthermore, in any patent transfer, licensing, or investment transactions, a legally-binding and effective contract with clear rights and obligations should be signed to protect the legitimate rights and interests of the Group.

可持續發展實踐 Sustainable Development Practices

數字化建設

集團圍繞數字化轉型、信息系統優化、數字平台打造以及數字化人才培養制定數字化轉型策略。2023年，旭陽集團累計投資1.88億元，完成了58個數智化項目。通過MES、LIMS等系統實現工廠高度自動化，並達到較高自控率；通過大數據決策分析、供應鏈金融等方式，提升了人均勞效、檢驗效率、廠內物流效率；通過旭陽混合雲實現集團雲邊協同，快速響應和存儲+計算+算法的擴展能力。

長期的自動化與信息化建設使得主要產品噸製造成本降低超10%；財務核算日常處理效率提升超50%；廠內物流效率提升50%以上，過磅效率提升了450%。

3. 供應鏈管理

集團高度重視供應鏈管理，致力於打造公開、透明、公正的良好合作環境，持續優化供應商系統化管理機制，在保證企業自身利益的同時，實現與供應商夥伴的共贏。根據《中華人民共和國招標投標法》《中華人民共和國招標投標法實施條例》制定《集團招投標管理制度》《集團供應商管理制度》，我們秉持「合作共贏，共同發展」的理念，以審慎的原則和嚴格的標準來選擇供應商和承包商，除產品質量、服務能力和企業信譽以外，更看重其履行社會責任的理念和行動，與供應商共同成長。

報告期內，集團合作的供應商共計2,814家。

Digitalization

The Group has crafted a digital transformation strategy centered on digitization, optimization of information systems, the forging of digital platforms, and the nurturing of digital talents. In 2023, Risun Group had invested RMB188 million in digital transformation, successfully executing 58 digital initiatives. Leveraging sophisticated systems such as MES (Manufacturing Execution System) and LIMS (Laboratory Information Management System), the Company has achieved a high degree of workshop automation, yielding remarkable levels of self-regulation. Moreover, through big data analytics, innovative supply chain financing and other methodologies, we've enhanced per capita labor efficiency, inspection efficiency, and intra-factory logistics efficiency. The implementation of the Risun hybrid cloud has further facilitated collaborative cloud-edge endeavors within the Group, enabling agile responsiveness and scalability across storage, computation and algorithmic domains.

Long-term Automation and information have helped cut the manufacturing cost per tonne of major products by over 10%; the efficiency of daily financial accounting has been increased by more than 50%; the efficiency of in-plant logistics has been raised by over 50%, and the efficiency of weighing has been multiplied by 450%.

3. Supply chain

The Group places paramount importance on its supply chain management, striving to foster an environment characterized by openness, transparency and equity in collaboration. Continual refinement of systematic supplier management mechanisms underscores the Group's commitment to mutual prosperity while safeguarding the interests of the enterprise. In strict adherence to the provisions outlined in the *Bidding Law of the People's Republic of China* and its attendant regulatory framework and the *Regulation on the Implementation of the Bidding Law of the People's Republic of China*, the Group has promulgated the Risun Group's Bidding Management System and the Risun Group's Supplier Management System. Guided by the ethos of "win-win cooperation and mutual development", we exercise utmost prudence and adopt strict standards to select suppliers and contractors. The Group values not only their product quality, service ability and enterprise prestige, but also their philosophy and actions in fulfilling social responsibility, so as to achieve develop with suppliers together.

During the reporting period, the Group cooperated with a total of 2,814 suppliers.

表5-6 2023年供應商數據

Table 5-6 Supplier Data for the Year 2023

指標名稱 Name of indicator	細分 Regions	單位 Unit	2023年度數據 Annual data for the year 2023			
供應商總數 Total number of suppliers		(家) /	2814			
按地區劃分的供應商數目 Number of suppliers by geographical region	華北 North China	(家) /	995	比例 Percentage	(%)	35%
	華中 Central China	(家) /	340	比例 Percentage	(%)	12%
	華東 East China	(家) /	591	比例 Percentage	(%)	21%
	華南 South China	(家) /	302	比例 Percentage	(%)	11%
	東北 Northeast China	(家) /	283	比例 Percentage	(%)	10%
	西北 Northwest China	(家) /	157	比例 Percentage	(%)	6%
	西南 Southwest China	(家) /	146	比例 Percentage	(%)	5%
生產商通過環境社會考察數量 Number of producers having passed the ESG review		(家) /	2,157	比例 Percentage	(%)	77%
生產商審查覆蓋數量 Number of producers covered in the review		(家) /	2,397	比例 Percentage	(%)	85%

可持續發展實踐 Sustainable Development Practices

供應商准入

本集團通過設立供應商評審委員會來管理供應商准入事務，該委員會負責進行供應商資格預審、考察評估、准入評審和審批，以及供應商的考核評價。滿足集團設置的基本條件的供應商經考察確認後將納入《合格供應商名錄》。對已採用的供應商進行定期考核與評價，並將其劃分為四個等級。對於被評為「不合格供應商」或進入黑名單的企業，本集團將停止與其合作；而對於履行合同良好、綜合考評等級高的供應商，經過集團評審委員評審後，授予「集團優秀供應商」稱號。此外，本集團規定了供應商必須具備全面的質量、環境、安全、職業健康管理體系等基本條件。在供應商准入時，入圍指標要求生產商提供質量管理體系、環境管理體系認證、職業健康管理體系認證，以確保供應商的合規性和可靠性。

環境和社會風險管理

為加強供應商資源管理並確保供應商隊伍的合格與穩定，我們制定了《集團供應商管理制度》，規範供應商管理行為，建立供應商准入、使用評價和淘汰體系，以提供可靠的物資供應、工程建設及服務等保障。在管理過程中，安全監察部、環保監察部負責審核確認有關安全、環保、職業健康的條款及相關資質，監督供應商對國家及政府安全環保政策法規的落實情況，並對供應商的安全、環保、職業健康進行評價考核。此外，我們通過第三方工具審查供應商在環保方面的通報情況，並通過實地考察觀察公司的實際操作和管理情況，例如參觀生產基地了解其環境管理和安全措施，以及與公司員工進行交流了解其勞工權益保護情況。

Supplier access

The Group has established a Supplier Evaluation Committee to manage supplier access. This Committee is responsible for supplier pre-qualification, supplier inspection and evaluation, supplier access evaluation and approval, and supplier performance assessment. Suppliers who meet the basic requirements set by the Group will be included in the Qualified Supplier List after inspection and confirmation. The Group regularly assesses and evaluates suppliers it has adopted and classified them into four grades. Suppliers who are rated as “unqualified” or blacklisted will not be cooperated with. Those who perform well and receive a high comprehensive evaluation grade will receive the title of “Excellent Supplier of Risun Group” after evaluation by the evaluation committee. Additionally, the Group stipulates suppliers must meet the basic requirement of having a complete quality, environmental, safety and occupational health management system. In terms of the adoption of suppliers, the adoption indicators require that producers should obtain certifications for their systems of quality management, environmental management and occupational health and safety management in order to ensure compliance and reliability of suppliers.

Environment and social risk management

To enhance supplier resource management and ensure the qualification and stability of the supplier team, we has developed the *Supplier Management System of Risun Group* to standardize supplier management practices and establish a supplier access, evaluation, and elimination system in order to ensure reliable provision of material supply, engineering construction, and services. During the management process, the two departments of Safety Supervision and Environmental Protection Supervision are responsible for reviewing and confirming the terms and qualifications on safety, environmental protection, and occupational health. They are also responsible for supervising the compliance of suppliers with national and governmental safety and environmental protection policies and regulations. In addition, they assess and evaluate the safety, environmental protection, and occupational health of suppliers. In addition, we have reviewed the environmental management reports submitted by suppliers with tools provided by third parties and observed the environmental operations and management of the Company through on-site visits (e.g. visiting production bases to understand their environmental management and safety measures, and interviewing company employees to understand how they protect labor rights).

綠色採購

本集團在供應商產品或服務的招採、驗收等環節明確提出環保和節能等方面的要求，並現場查看其環境管理情況。對於新改擴建項目，本集團嚴格落實國家標準，環保排放選擇低指標排放，優先採用節能、環保的工藝及設備，定期監察使用單位新改擴建項目關於節能環保設備的採購及使用情況，對違規及不作為情況進行通報。項目驗收時嚴格依據節能標準，並有相關部門參與驗收。

本集團努力營造公開、公平、公正的採購環境，與供應商簽訂《誠信合作及反商業賄賂協議書》，規範各項商務活動，預防和制止商業賄賂和不正当競爭行為，並公開集團、營銷監察審計部的電話及郵箱，以保證供應鏈的廉潔。

Green procurement

The Group has set clear requirements for environmental protection and energy conservation in the bidding, procurement, and acceptance of products or services from suppliers. For new renovation and expansion projects, the Group strictly adheres to national standards by selecting technology and equipment with low emissions and giving priority to energy-saving technology and equipment to protect the environment. It also regularly monitors the procurement and use of energy-saving and eco-friendly equipment in the new renovation and expansion projects of the users, and reports the violations and omissions. The acceptance of projects strictly adheres to energy-saving standards, and relevant departments are involved in the process.

The Group endeavors to create an open, fair, and just procurement environment. It signs the Agreement on Honest Cooperation and Anti-Commercial Bribery with its suppliers and standardizes various business activities to prevent and curb commercial bribery and unfair competition. Additionally, the Group discloses the contact information of its phone numbers and email addresses as well as those of the Marketing Supervision and Audit Department to ensure the integrity of the supply chain.

綠色供應鏈體系建設

Construction of green supply chain system

- 建立綠色供應體系；
- 推動供應商綠色生產，要求供應商採用行業綠色低碳工藝，採購低碳產品；
- 構建綠色運輸體系，加快「公轉鐵」，提高新能源物流車比例，年排放二氧化碳5.4萬噸；
- 零庫存管理，減少物料倒運，間接減排。
- Setting up a green supply chain system;
- Promoting green production of suppliers, pushing suppliers to adopt green and low-carbon process and purchasing low-carbon products;
- Building up a green transportation system, speeding up the “modal shift from road to rail”, increasing the proportion of new-energy vehicles in the total number of cars for logistics transportation and reducing the annual carbon dioxide emissions to 54,000 tons;
- Adopting the zero inventory management to minimize material transfer and thereby reduce carbon emissions indirectly.

可持續發展實踐 Sustainable Development Practices

供應鏈合作與共建

集團以「合作共贏、共同發展」為原則，持續推進供應商風險管控能力提升，攜手供應商共同發展。在日益複雜的全球經濟環境下，我們深知強化供應鏈的可持續性與穩定性對企業長遠發展的重要性。因此，本集團不斷完善供應商評估體系，優先選擇遵守相關法規、積極履行社會責任的合作夥伴。同時，通過定期組織培訓和交流會等方式培養供應商的風險意識和應對能力，促進與供應商持續向好、向高發展，共同踐行可持續發展理念。

供應鏈金融

集團積極推動供應鏈金融專項活動，重點關注煤化工產業，以頭部企業為核心，吸引銀行和信託公司等出資方，結合科技、產業、數據和金融，打造了能源化工「產業鏈」金融平台。平台為中小型供應商、經銷商和客戶提供多種金融產品，有效促進金融服務於產業，推動整體煤化工產業鏈的發展。同時集團還基於農行金融產品特性和線下業務開展經驗，建立了可信任的「區塊鏈+供應鏈金融」模式，形成了數據資產模式，為後續拓展奠定了基礎。隨著供應鏈金融平台的建成，公司資金流動性和主動權得到了增強，為實現產業互聯生態提供了更快速、更精準的支持。

Supply chain cooperation and co-development

Following the principle of “win-win cooperation and mutual development”, the Group continued to promote the enhancement of suppliers’ risk management capability and join hands with suppliers to achieve mutual development. In an increasingly complex global economic environment, we are well aware of the importance of a sustainable and stable supply chain for the long-term development of the enterprise. For this reason, the Group has constantly optimized its supplier evaluation system and given priority to partners who obey relevant laws and regulations and take the initiative to fulfill their social responsibilities when choosing suppliers. Meanwhile, trainings and exchanges have been held regularly to improve suppliers’ awareness of and ability to cope with risks, promote mutual development with suppliers and implement the concept of sustainable development together.

Supply Chain Finance

The Group has taken the initiative to promote the special supply chain finance campaign with the focus on coal chemical industry. This campaign aims to attract investors such as banks and trust funds with the leading enterprises as the core and integrates technology, industry, data and finance to build a financial platform for energy and chemical industry chain. By providing medium – and small-sized suppliers, distributors and customers with various financial products, the platform effectively served the industries with financial supports and propelled the development the whole coal chemical industry chain. The Group also set up the reliable model of “block chain + supply chain finance” based on the characteristics of Agricultural Bank of China’s financial products and its experience in off-line business to build up the data asset model and lay a foundation for future expansion. Along with the construction of the financial platform for supply chain, the financial liquidity and the control of the Company have been enhanced, which provides the development of the interconnected industrial ecology with more accurate support at a faster pace.

可持續發展實踐 Sustainable Development Practices

本年度集團通過推進多項管理創新模式和措施，如商品研究院、客戶管理、長協合同等，搭建了多項信息化產品套件，實現了「供應鏈+信息化」的同步提升，並已具備了與外部企業業務交互的能力。公司內外部供應鏈大數據決策及數字化運營的協同，為可持續供應鏈的發展奠定了堅實基礎。

4. 員工發展

本集團遵循《中華人民共和國勞動法》《中華人民共和國勞動合同法》等法律法規，制定了《集團招聘管理辦法》《旭陽集團薪酬管理辦法》等制度，嚴格遵守平等僱傭原則。在招聘過程中，我們明確年齡要求，進行身份審核，確保不錄用年齡不符合要求的人員。同時，集團制定《旭陽集團反強制勞動管理規定》，明確工作時長，嚴格按照國家規定的工作時間執行，堅決反對童工和強制勞工的存在。

本集團與員工簽訂正式勞動合同，充分保障員工在招聘、解僱、升職、工作時長、休假、薪酬福利、多樣性、防止歧視、平等機會等多方面的權益。嚴格執行國家工時制度，按規定落實員工帶薪假期。員工享有法定節假日、年休假、婚假、探親假、喪假、產假、病假、工傷假等法定帶薪假期。我們不斷完善健全員工權益監督管理體制及用工管理制度，構建有效的員工保障體系，推動平等和多元化的員工團隊建設，切實保護員工合法權益。為員工提供公平、開放的工作環境，鼓勵員工發揮個人潛力，實現共同成長。

In 2023, the Group set up several It-based product suites, improved the “supply chain + informationization” synchronously and build up the ability to carry out business interaction with external enterprises by promoting various innovative management models and measures, such as the Commodity Research Institute, customer management and long-term contracts. The coordination between the big-data-based decision-making process and the digital operation of internal and external supply chains laid a firm foundation for the development of sustainable supply chain.

4. Development of employees

The Group complies with law and regulations such as the *Labor Law of the People's Republic of China* and the *Labor Contract Law of the People's Republic of China*, has relevant policies and systems in place, such as the *Recruitment Management Measures of Risun Group* and the *Remuneration Management Measures of Risun Group*, and follows the principle of equal employment. We clearly states age requirements and carries out identification verification during recruitment to avoid recruiting any candidate who fails to meet the age requirements. At the same time, the Group has developed the *Risun Group's Regulations on the Anti-forced Labor Management*, specified the working hours clearly, implemented the working hours prescribed by the state and made a stand against child labor and forced labor.

We sign formal labor contracts with employees to fully safeguard employees' rights and interests in terms of employee recruitment, dismissal, promotion, working hours, vacation, salary and benefits, diversity, prevention of discrimination, equal opportunities, etc. We follow the working hours system stipulated by the state strictly and provide employees with paid leave in accordance with relevant rules and regulations. Employees are entitled to statutory paid leaves such as statutory holidays, annual leave, marriage leave, family leave, bereavement leave, maternity leave, sick leave, work-related injury leave, etc. We continue to improve and complete the system to supervise and manage employees' rights and interests and the employment management system, set up an effective system to safeguard employees' rights and interests and promote the building of an equal and diverse team to protect employees' legitimate rights and interests. To provide employees with an equal and open working environment, employees are encouraged to tap their personal potential for mutual development.

可持續發展實踐 Sustainable Development Practices

報告期內，本集團未發生使用童工、強制勞工及重大勞動違法的訴訟事件。

平等與多元

集團堅持員工多元化構成的原則，以多方面評估專業人員的任職資格為基礎，確保所有員工享有平等的就業機會，絕不因性別、年齡等因素進行歧視。在招聘過程中，我們秉持公開、公正的原則，對所有應聘者一視同仁，多元化地選拔錄用各方面的優秀人才，不會因性別、語言、地域、信仰、身體殘疾等因素而進行差別化聘用，嚴格遵循同工同酬的原則，致力於營造一個包容與多元化並存的職場環境。

集團秉承民主管理理念，鼓勵員工參與決策和管理。我們建立了一套民主決策機制，包括定期舉行員工代表公開投票、應屆大學生員工座談會等，以促進員工與管理層之間的溝通和合作。在公司重大事務決策中，我們重視聽取員工的意見和建議，並尊重多數員工的意願。我們致力於建立一種開放、透明、公正的企業文化，不斷加強民主管理，保障員工的知情權、參與權和監督權激發員工的創造力和參與度，共同推動公司的發展和進步。

During the reporting period, the Group did not have any litigation incidents related to the use of child labor, forced labor, or major labor violations.

Equality and diversification

The Group sticks to the principle of diversified composition of employees, assessed the qualifications of professional employees from various perspectives, and based on that, ensured all employees enjoyed equal employment opportunity, eradicating any discrimination based on gender, age or whatnot. In the recruitment process, we adhered to the principle of openness and fairness, treated all applicants equally, selected and recruited outstanding talents in various fields, employed them without discrimination based on gender, language, region, religion or physical disability, and strictly followed the principle of equal pay for equal work, striving to create an inclusive and diverse workplace environment.

Guided by the philosophy of democratic management, the Group encourages its employees to take part in decision making and management. We have provided a set of mechanisms for democratic management, including regular public voting of employee representatives, and seminars for new college student employees to enhance the communication and cooperation between employees and the management. We have listened to employees' opinions and suggestions and respected the wills of the majority of employees during the major business decision-making process. We are committed to create an open, transparent and fair corporate culture, constantly enhance democratic management, uphold employees' right to information, participation and supervision and motivate employees' creativity and engagement so as to promote the development and advancement of the Company.

可持續發展實踐 Sustainable Development Practices

報告期內，集團人才招聘具體措施包括不限於：

- 旭陽集團人才招聘理念：具有專業能力、創新能力、擔當能力，並有意願與集團成為「三個共同體」的人才；
- 旭陽集團人才招聘標準：「四類人才」：四類人才是指領軍人才、結構性人才、短缺性人才、補短板人才；
- 旭陽集團人才招聘原則：遵守國家和地方政府的相關法律法規及用人政策；本著「先內部協調，後外部招聘」的原則，確實無法在集團內部協調的，方可轉為外部招聘；不能突破集團確定的編製總額；嚴格按照招聘管理辦法、職位任職資格選拔人才，擇優錄取；
- 旭陽集團海外用工：遵循本地化用工原則，加強與供應商的合作關係，嚴格審核本土員工材料，尊重當地風俗習慣及宗教信仰，對於在關鍵、重要崗位根據實際需要與本地員工簽訂保密、競業限制、知識產權等專項協議。

During the reporting period, the Group has implemented various measures for talent recruitment, including but not limited to:

- Risun Group's talent recruitment philosophy: recruit talents who possess professional expertise, innovative skills, a strong sense of commitment, and a willingness to become an integral part of the "three communities" of the Group;
- Risun Group's talent recruitment standard: recruit "four types of talents", namely leading talents, structural talents, talents in short supply, and talent with the expertise to fill gaps or shortages of the Group;
- Risun Group's talent recruitment principles: be in compliance with relevant national and local government laws, regulations, and employment policies; follow the principle of "internal transfer first, otherwise external recruitment" and external recruitment will only be conducted when it is impossible to coordinate the transfer of existing employees within the Group; ensure that the total headcount determined by the Group is not exceeded; and strictly follow the recruitment management methods and select talent based on job qualifications and merit;
- Risun Group's overseas employment: adhere to the principle of local employment, establish strong cooperative relationships with suppliers, conduct thorough reviews of the qualifications of local employees, respect local customs and religious beliefs, and sign special agreements with local employees in key and important positions on confidentiality, non-competition, and intellectual property rights when needed.

可持續發展實踐 Sustainable Development Practices



圖5-15東明旭陽開展員工座談會
Figure 5-15 Seminar for Employees Held by Dongming Risun



圖5-16旭陽中燃開展員工大會
Figure 5-16 Staff Meeting Held by Risun CHINA GAS

案例 Case

社招新員工入職座談交流會 Onboarding Seminar for New Employees from Social Recruitment

2023年，集團總部和各園區公司舉辦了社招新員工入職座談交流會，為新員工提供機會，分享個人發展期望和工作感受。在會議上，員工自由表達對公司管理、制度流程的看法，提出問題並提供發展建議，助力促進公司的持續改進和發展。此類開放式的交流會增強了員工與管理層之間的溝通和信任，激發了員工的參與熱情，提升了員工的歸屬感和工作滿意度。同時，集團通過傾聽員工的聲音，可以更及時地發現和解決問題，更好地滿足員工的需求，推動整個組織向更高水平邁進。

In 2023, onboarding seminars for new employees from social recruitment were held by the Group's headquarters and the bases and subsidiaries to provide new employees with opportunities and a platform to share their personal development expectation and work experience. At the seminar, employees expressed their opinions on the management, systems and processes of the Company freely, raised questions and shared their advices for development to drive the continual improvement and development of the Company. This type of open exchange meeting enhances the communication and mutual trust between employees and the management, stimulates the enthusiasm of employees to participate and engage and intensifies employees' sense of belonging and work satisfaction. By listening to the voice of the employees, the Group can also detect and solve problems more timely, meet employees' requirements better and further advance its development as a whole.



圖5-17入職座談交流會
Figure5-17 Onboarding Seminar

表5-7 2023年員工僱傭情況
Table 5-7 Employment in 2023

指標名稱 Name of indicator	單位 Unit	2023年度 2023
員工總數 Total number of employees	(人) (Person)	7,601
合同工員工總數 Total number of contract labors	(人) (Person)	7,601
勞務派遣員工總數 Total number of outsourcing labors	(人) (Person)	0
男性員工總數 Total number of male employees	(人) (Person)	6,275
女性員工總數 Total number of female employees	(人) (Person)	1,326
高級職稱員工總數 Total number of employees with senior titles	(人) (Person)	95
中級職稱員工總數 Total number of employees with medium titles	(人) (Person)	582
初級職稱員工總數 Total number of employees with junior titles	(人) (Person)	1,792
30歲以下員工總數 Total number of employees under 30 years old	(人) (Person)	2,475
31-40歲員工總數 Total number of employees from 31 to 40 years old	(人) (Person)	3,351
41-50歲員工總數 Total number of employees from 41 to 50 years old	(人) (Person)	1,307
50歲以上員工總數 Total number of employees above 50 years old	(人) (Person)	468
河北省內地區員工總數 Total number of employees in Hebei Province	(人) (Person)	4,780
河北省以外地區員工總數 Total number of employees in regions outside Hebei Province	(人) (Person)	2,821
少數民族員工總數 Total number of employees of ethnic minorities	(人) (Person)	194

可持續發展實踐 Sustainable Development Practices

表 5-8 2023 年員工流失情況 Table 5-8 Turnover rate in 2023			
指標名稱 Name of indicator	單位 Unit	2023 年度 2023	
正式員工年度流失比率 Annual turnover rate of regular employees	(%)	19.67	
其中男性員工流失比例 Turnover percentage of male employees	(%)	16.68	
其中女性員工流失比例 Turnover percentage of female employees	(%)	2.99	
其中河北省內員工流失比例 Turnover percentage of employees in Hebei Province	(%)	8.85	
其中河北省外員工流失比例 Turnover percentage of employees outside Hebei Province	(%)	10.83	
其中30歲及以下員工流失比例 Turnover percentage of employees under 30 years old (inclusive)	(%)	12.05	
其中31-40歲員工流失比例 Turnover percentage of employees from 31 to 40 years old	(%)	5.37	
其中41-50歲員工流失比例 Turnover percentage of employees from 41 to 50 years old	(%)	1.60	
其中51歲以上員工流失比例 Turnover percentage of employees above 51 years old	(%)	0.65	
經由正式申訴機制提交的勞工問題申訴的總數 Total number of labor-related appeals filed through formal appeal mechanism	(件) (case)	2	

表5-9 2023年員工工傷情況
Table 5-9 Work-related injuries in 2023

指標名稱 Name of indicator	單位 Unit	2023年度 2023	2022年度 ¹ 2022	2021年度 2021
因工傷死亡人數 Number of deaths due to work-related injuries	(人) (Person)	0	2	0
因工傷死亡比率 Death rate due to work-related injuries	(%)	0	0.03%	0
因工傷損失工作日數 Number of working days lost due to work-related injuries	(天) (Day)	0	0	0

1 2022年工傷事故為山東洪達化工有限公司發生的一氧化碳中毒事故，事故發生後本公司已迅速進行工傷保險的申報，全面妥善處理，於第一時間向上級主管部門報告，並及時處置事故現場，認真總結經驗教訓以確保生產安全。

¹ The work-related accident that occurred in 2022 was a case of carbon monoxide poisoning at Shandong Hongda Chemical Co., Ltd. Following the incident, the Group took prompt action by reporting it to the relevant authorities, declaring industrial injury insurance, and providing comprehensive and appropriate treatment to the affected individuals. Additionally, the Group immediately cleaned up the accident site and conducted a thorough analysis to learn from the incident and ensure production safety.

學習與成長

員工的學習成長和發展是企業可持續發展的重要支柱之一。為此，集團致力於為員工提供全面、多元化的學習機會，以幫助他們不斷提升專業技能、拓展知識領域，並實現個人職業發展目標。本集團以「塑造旭陽人才梯隊，加快人才成長」為指引，立了多層次、全方位的培訓管理體系。通過完善的培訓管理體系，創新培訓方式，將培訓學習貫穿於員工職業生涯全過程，以滿足他們的發展需求，儲備知識和經驗，提升綜合素質。除了培訓外，集團對於員工的晉升機制和職業發展規劃也格外重視。我們持續完善員工成長和晉升機制，搭建公平公正的人才發展平台，為他們提供暢通的晉升通道和公平公正的晉升機制，鼓勵員工不斷挑戰自我、追求卓越。

我們堅信，通過這些舉措能夠激發員工實現自我價值、提升員工的專業能力和素質水平，進而建設一支高素質的人才隊伍，為公司的長期發展提供堅實支撐。

Learning and growth

The learning, growth and development of employees is one of the pillars of the sustainable development of the enterprise. For this reason, the Group is committed to provide employees with all-round and diverse learning opportunities to help them continuously improve their professional skills, expand their knowledge base and achieve personal career development goals. Guided by the philosophy of “Establishing Risun’s Talent Echelon to Advance Employee Development”, the Group has established a multi-level comprehensive training management system, aiming to provide training and learning throughout the whole career path through all-rounded training management system and innovative training methods to help employees meet their needs for further development, accumulate knowledge and experience, and improve their comprehensive competence. Besides that, the Group also attaches great importance to the promotion mechanism and the vocational development planning for employees. We continue to perfect the development and promotion mechanisms for employees, establish a fair and impartial talent development platform and provide employees with unblocked promotion channels and fair and impartial promotion mechanism to encourage them to embrace challenges and pursue excellence.

We are convinced that, with these measures, we can motivate employees to achieve self-value, enhance their professional abilities and qualities and build a high-quality talent team to support the development of the Company in the long run.

可持續發展實踐 Sustainable Development Practices

- 推動培訓工作規範化：本集團制定了《培訓管理辦法》等管理制度及辦法，推動人才培養體系建設；
Promote the standardization of training programs: The Group has established management systems and measures on training such as the Training Management Measures to advance the development of a standardized talent training system;
- 建立內部培訓平台：本集團建立了旭陽大學內訓平台，結合員工職業發展規劃，針對不同序列、不同職級的員工開發了系列培訓課程，有針對性地提升員工的業務理論和工作技能素質；
Establish the internal training platform: The Group has established Risun University as an internal training platform and developed a series of training courses tailored to the career development plans of employees at different levels of different sequences to improve their business theory and job skills in a targeted manner;
- 開發多類別培訓課程：為員工提供各類型的培訓課程，包括新員工培訓、管理類培訓、專業技能提高類培訓、資質取證類培訓、在職教育等提升員工理論素質及業務素養；
Develop training courses of various types: The Group offers a range of training courses to employees, including new employee training, management training, professional skills improvement training, training for obtaining qualification certificates, and on-the-job education, to enhance their theoretical knowledge and business expertise;
- 多元化培訓方法：採用「線上」「線下」「內部」「外部」等培訓方式，積極應用網絡培訓、遠程教育和電化教育等多種手段開展培訓，同時結合不同的培訓對象、培訓內容靈活選擇觀看多媒體、現地觀摩、實操、體會交流、評比競賽、考核等方法手段，促進員工全面發展，不斷提升自我素質，為集團長期發展注入源源不斷的人才力量；
Diversified training methods: The Group utilizes various training methods, including online, offline, internal, and external training. The Group actively employs online training, distance education, and audio-visual education to carry out training. The training programs are tailored to different trainees with different contents, and various means like multimedia viewing, on-site observation, practical exercises, experience exchanges and sharing, competition, and assessment are flexibly employed to improve training effectiveness, so as to promote the comprehensive development of employees, continuously improve their own qualities, and inject a steady stream of talent into the long-term development of the group;
- 「5+N」培訓模式：統籌管理集團年度培訓規劃與實施，聚焦幹部培養，建立「5+N」組訓模式。即總裁研討班、總經理建設班、高管提升班、中層強化班、研發創新班以及各園區和公司組織的各類旭陽文化和技能等員工培訓。
Training model of “5+N”: the Group manages the annual training planning and implementation in a coordinated manner with an emphasis on cadre training and has established a “5+N” group training model, which consists of the president seminar, the capacity building class for general manager, the ability upgrading class for senior management, the ability strengthening class for middle-level leaders, the R&D innovation class, and a variety of training programs on Risun’s corporate culture and professional skills for various bases, subsidiaries and organizations.

員工培訓 Employee training

員工晉升
Employee promotion

- 本集團制定了《旭陽集團幹部管理辦法》《旭陽集團職級管理辦法》《集團技術序列、技能序列通道聘任管理辦法》等政策，進一步完善了員工發展體系，規範了集團中高層幹部、專業幹部的選拔、考評、輪崗、培養、淘汰等工作程序，有助於提升管理效率和運營水平，激發員工的工作積極性和創造力，為集團的可持續發展提供了有力支撐；

The Group has made the *Management Measures for Cadres*, the *Management Measures for Class of Position*, the *Measurement Measures for Recruitment through Technical Sequence and Skill Sequence of Risun Group* and other management systems to further improve the employee development system and standardized the selection, evaluation, job rotation, training, and elimination processes for the Group's middle – and high-level and professional leaders, which in turn led to improved management efficiency and operation, higher work enthusiasm and creativity of employees, and a concrete support for the sustainable development of the Group;
- 本集團實行管理序列、專業序列和技能序列的三大職業序列，員工可以依據員工職位職級體系，並結合自己的能力和意願，選擇適合自己職位的發展通道，拓展自身的職業發展空間；

Implement such three occupational sequences as the management sequence, professional sequence and skill sequence. The employees can choose a development path suitable for their post and expand their career plan according to the post grading system and based on their own abilities and wills;
- 公平晉升保障：三大職業序列各層級晉升標準明確，對全體員工公開透明的；通過組織資格審核、面試答辯、考評考核等措施，公平競爭獲得崗位晉升；提職人員，在公司範圍內公示，以接受廣大員工監督。

Fair promotion mechanism: the Group has clearly defined the promotion criteria for different grades of three occupational sequences and made them open and transparent to all employees; ensured impartial promotion through fair competition by taking measures such as conducting pre-qualification, promotion interview and defense, review and assessment; and make public announcements regarding the newly promoted employees across the company for mass supervision.

可持續發展實踐 Sustainable Development Practices

旭陽集團員工培訓體系

The employee training system of Risun Group

新入職員工 New recruits

- 對社會招聘新員工開展關於安全培訓、集團情況、企業文化、辦公系統、財務制度等主要管理制度的培訓，使新員工能夠很快勝任崗位，提高工作效率，為今後的工作、管理打下良好基礎；

Provide training for newly recruited employees from social recruitment on safety, the Group's situation, corporate culture, office system, financial system and key management systems to facilitate their quick adaptation to the position and help them increase their work efficiency and lay a good foundation for future work and management;
- 對校園招聘新員工，本集團集中組織了大學生訓練營入職培訓、生產系統工作歷練、導師幫帶、大學生實習班組長訓練營等系列培訓，幫助新員工盡快適應工作環境。

For new employees recruited from campus directly, the Group organizes a series of training activities, such as onboarding training camp for undergraduates, production practice, mentor system and leadership camp for undergraduate interns, to help new employees to fit into the working environment quickly.

基層員工 Grass-roots employees

- 通過職業技能培訓、生產安全培訓、崗位風險防控培訓、生產工藝流程培訓、七型班組建設培訓、技術比武等，推進全體一線操作員工崗位學習的氛圍，營造立足崗位成才的環境。

Promote the on-the-job learning culture for all front-line operational staff through vocational skill training, safety production training, job risk prevention and control training, production process training, seven-type team building training, and technical competitions to create an environment that supports career success.

班組長 Team leaders

- 持續推進班組長的培養和班組標準化管理工作，吸收先進的管理方法，積極推進班組建設，打牢生產體系的根基。

Continuously promote the development of team leaders and the standardization of team management, and adopt advanced management methods to promote the building of teams to lay a solid foundation for an efficient production system.

儲備幹部 Reserve cadres

- 從統一文化價值觀、提升一線管理技能、強化專業知識等方面開展學習培養，當年實現一定比例的儲備幹部的考評和晉升。

Conduct learning and training with the aim to enhance shared cultural values, improve front-line management skills, and strengthen professional knowledge. Evaluate and promote a certain percentage of reserve cadres within the same year.

管理層
Management

- 針對新提職幹部開展培訓課程，定期實施角色轉換、管理能力提升、改善績效管理、團隊建設賦能等學習項目，使新提職幹部快速適應新的崗位並推動團隊開展業務、實現績效；

Provide regular training programs for newly promoted cadres, including role transition, management capacity building, performance management improvement, and team building empowerment, to help them adapt quickly to their new positions and lead their teams to carry out business and achieve performance goals;
- 針對中層後備幹部和本集團總經理開設培訓班，進一步提升本集團領導層的管理水平。

Provide training courses for middle-level reserve cadres and the Group's general managers to enhance the leadership and management skills of the Group's leaders.



圖5-18 旭陽定州園區開展技術大講堂培訓
Figure 5-18 Lecture on Technologies Held by Risun Dingzhou Base



圖5-19 大學生實習幹部及「鷹式工程」旭陽班學生系列培訓
Figure 5-19 Series Trainings for Undergraduate Cadre Trainees and Students from "Hawk Project" Risun Class



圖5-20 旭陽滄州園區組織新員工入職培訓
Figure 5-20 Onboarding Training for New Employees Organized by Risun Cangzhou Base



圖5-21 唐山旭陽組織開展心理健康素養培訓
Figure 5-21 Mental Health Literacy Training Organized by Tangshan Risun

可持續發展實踐 Sustainable Development Practices

案例
Case

旭陽大學項目 Risun University Project

旭陽大學成立於2017年，主要職責為集團幹部培養、專業技能提升、制度流程複製與標準化、文化價值觀傳承，持續為集團發展培養並輸送管理專業人才。

Established in 2017, the Risun University is responsible for carrying out cadre training, professional capability enhancement, replication and standardization of systems and processes and inheritance of cultural values for the Group and is tasked with cultivating and providing the Group with professional managers needed for its development.

旭陽大學在2023年推進專職化管理，下設領導力學院、通用管理學院、專業技術學院等3個學院和12技能培訓與鑑定中心。2023年22家園區及公司，自主開發95門課件，以線上線下相結合方式開展培訓。線下培訓共計18,228場次、351,000人次、33,921.1學時，線上學習共計389,865.28小時。

In 2023, the Risun University made efforts to promote the professional management and set up 3 institutes (i.e. the Leadership Institute, the General Management Institute and the Professional Skill Institute) and 12 skill training and appraisal centers. In addition, a total of 95 courses have been developed independently by 22 bases and subsidiaries and a series of trainings have been carried out in a combination of online and offline ways in 2023. A total of 18,228 offline training sessions have been conducted with 351,000 participants. The study hours of offline courses amounted to 33,921.1 hours and that of online courses totaled 389,865.28 hours.



圖5-22 旭陽集團幹部培訓

Figure 5-22 Cadre Training of Risun Group

表5-10 2023年度員工培訓情況
Table 5-10 Employee Training in 2023

指標名稱 Name of indicator	單位 Unit	2023年 2023
受訓員工總場次 Total number of trainings	(次) (Times)	16,712
受訓員工總人次 Number of employees trained	(人次) (Person)	370,977
受訓員工百分比 Percentage of employees trained	(%)	100
男性員工受訓比例 Percentage of male employees trained	(%)	100
女性員工受訓比例 Percentage of female employees trained	(%)	100
高級職稱員工受訓比例 Percentage of employees with senior titles trained	(%)	100
中級職稱員工受訓比例 Percentage of employees with medium titles trained	(%)	100
初級職稱員工受訓比例 Percentage of employees with junior titles trained	(%)	100
培訓經費支出金額 Training expense	(萬元) (RMB10,000)	66.44
員工培訓總時長 Total training hours of employees	(小時) (Hour)	429,891.41
員工受訓平均時數 Average training time per employee	(小時/人) (hour/person)	56.56
男性員工平均受訓時長 Average training time per male employee	(小時/人) (hour/person)	57.27
女性員工平均受訓時長 Average training time per female employee	(小時/人) (hour/person)	55.85
高級及以上員工受訓總時長 Total training hours of senior employees and above	(小時) (Hour)	4,919.31
高級及以上員工受訓平均時數 Average training hours of senior employees and above	(小時/人) (hour/person)	51.78
中級員工受訓總時長 Total training hours of middle-level employees	(小時) (Hour)	30,501.2
中級員工受訓平均時數 Average training time per middle-level employee	(小時/人) (hour/person)	52.41
初級員工受訓總時長 Total training hours of junior employees	(小時) (Hour)	102,165.05
初級員工受訓平均時數 Average training time per junior employee	(小時/人) (hour/person)	57.01

可持續發展實踐 Sustainable Development Practices

關愛與服務

本集團始終堅持「對員工的責任是旭陽最大的責任」的企業理念。為了更好地促進企業文化建設，豐富員工生活、陶冶思想情操，調動員工積極性，提升員工凝聚力和向心力，集團制定了《員工福利辦法》。該辦法旨在為員工提供全方位、多層次的福利支持，確保員工在工作中獲得實質性的關懷和支持。我們實施了一系列的福利計劃，包括但不限於：傾聽員工合理建議並及時落實，及時解決員工生活中遇到的困難，關愛女性員工生理和心理健康，關懷外派員工及其家屬，幫扶、慰問困難員工，組織開展春節聯歡晚會、秋遊登山等豐富多彩的文體活動。通過這些福利措施，我們努力為員工營造一個安全、舒適、有利於學習和成長的工作環境，讓每一位員工都能夠在工作中獲得實實在在的關愛和支持。

Care and services

The Group is always committed to the corporate philosophy of "The biggest responsibility of Risun is to its employees". The *Management Measures for Employee Welfare* has been developed by the Group to better facilitate the construction of corporate culture, enrich leisure activities for employees, cultivate employees' tastes, mobilize the initiative of employees and promote camaraderie and cohesiveness among employees. This Measures aims to provide employees with all-round and multi-level support in terms of employee welfare, in order to ensure that employees can receive substantial care and support during work. We have carried out a series of welfare programs, including but not limited to valuing the rational suggestions from its employees and implementing them promptly, striving to address any difficulties encountered by its employees and caring for the physical and mental health of female employees, as well as expatriate employees and their families, providing support and comfort to employees in need and organizing various cultural and sporting activities, including the Spring Festival evening party and autumn hiking. With these welfare measures, we managed to create a safe and comfortable working environment conducive to learning and developing and make sure every employee is provided with real care and concrete support during work.

特色薪酬體系 Characteristic remuneration system

- 建立以價值為導向的薪酬管理原則，具有市場競爭力和激勵性的薪酬分配機制，搭建薪酬福利體系，為員工提供有競爭力的薪酬水平。
Establish a value-oriented remuneration management principle, a competitive and motivating wage distribution mechanism and a salary and welfare system to provide employees with competitive salaries.

傾聽員工心聲 Listen to employees

- 定期收集員工的合理化建議和意見，並及時與意見涉及部門進行溝通，督辦落實。
Regularly solicit rational feedback and suggestions from employees, promptly communicates them to the relevant departments for reviewing and implementation, and oversee the execution of these suggestions to ensure that they are carried out effectively.

關注員工生活 Care for employees' life

- 邀請滄州市人民醫院醫生為員工進行健康知識普及和進行相關病症檢測；
Invite doctors from Cangzhou People's Hospital to give employees lectures on various health-related topics and provide disease diagnostic testing;
- 免費午餐、結婚禮金、撫恤金、子女助學金、生日祝福、夏季送清涼、冬季取暖費等，幫助員工減輕生活負擔。
Offers various benefits to employees, including free lunches, wedding cash gifts, pensions, student grants for employee' children, birthday celebrations, and cooling and heating subsidies in summer and winter to alleviate the financial burden on employees.

關愛女性員工

Care for female employees

- 制定《女工保護管理制度》，減少和解決女職工在勞動和工作中因生理特點造成特殊困難，保護女職工的合法權益，保障女職工的身體健康；
Formulate the Management System for the Protection of Female Employees to reduce and solve the special difficulties caused by the physiological characteristics of female employees in working, protect their legitimate rights and interests and ensure their health;
- 三八國際婦女節組織趣味活動，為女性員工發放節日禮品。
Organize enjoyable activities and offer gifts to female employees in celebration of the International Women's Day on March 8th.

關懷外派員工

Care for expatriate employees

- 制定實施《關愛外派員工家庭有關規定》，明確關愛責任主體和實施程序，向外派員工發放「關愛行動明白卡」，明確可以提供幫助的內容、關愛行動責任主體及相關負責人，為外派員工創建安全、健康、快樂的工作環境，解決外派員工家庭遇到的突發事件、困難及問題。
Formulate and implement the Provisions on Caring for Expatriate Employees' Families, clarify the responsible subjects and implementation procedures, issue "caring action card" to expatriate employees, clarify the contents regarding the assistance that can provided, the responsible subjects of caring action and relevant principals, create a safe, healthy and happy working environment for expatriate employees, and solve the emergencies, difficulties and problems encountered by expatriate employees' families.

幫扶困難員工

Help employees with difficulties in life

- 開展員工互助一日捐活動；
Conduct one-day donation activities to promote mutual help among employees;
- 遵循「重點幫扶、公開透明」、「先救急後救貧」、「員工本人優先」等原則，節假日慰問一線困難員工。
Follow the principles of "openness and transparency with a focus on providing help", "urgent need before poverty alleviation", and "putting employees first" when helping employees with difficulties in life and visit front-line employees who face difficulties during holidays to express solicitude and support.

豐富文體活動

Enrich cultural and sports activities

- 組織單身員工聯誼等活動，加強員工凝聚力；
Organize activities such as the party for single staff to promote camaraderie among employees;
- 在重要節假日開展春節聯歡晚會、「安全慶元宵」猜燈謎、中秋節自製月餅等活動，豐富員工業餘生活；
Hold on important holidays events such as the Spring Festival gala, the riddle-guessing game for the "Safe Celebration of the Lantern Festival", and the moon-cake making activity for the Mid-Autumn Festival to enrich leisure activities for employees;
- 定期組織羽毛球賽、籃球賽、秋遊登山等體育活動，助力員工健康生活。
Regularly organize sporting activities such as badminton and basketball matches and autumn hiking to encourage healthy lifestyles among employees.

可持續發展實踐 Sustainable Development Practices



圖5-23 鄆城旭陽舉辦2023年春節聯歡活動
Figure 5-23 2023 Spring Festival Gala Held by Yuncheng Risun



圖5-24 唐山旭陽舉辦青年團建聯誼活動
Figure 5-24 Team Building and Networking Activity Held by Tangshan Risun



圖5-25 東明旭陽組織舉辦消暑卡拉OK大獎賽
Figure 5-25 Summer Karaoke Competition Organized by Dongming Risun



圖5-26 旭陽中燃慶「三八」國際勞動婦女節系列趣味活動
Figure 5-26 Series Enjoyable Activities Held by Risun CHINA GAS in Celebration of the International Women's Day on March 8th



圖5-27 滄州旭陽組織開展戶外拓展活動
Figure 5-27 Outdoor Activities Organized by Cangzhou Risun



圖5-28 旭陽中燃組織開展跨年慶祝活動
Figure 5-28 New Year's Eve Celebration Activity Organized by Risun CHINA GAS



圖5-29 邢台旭陽走訪慰問困難員工家庭並提供幫助
Figure 5-29 Leaders from Xingtai Risun Visiting Employees with Difficulties and Providing Care and Assistance



圖5-30 定州園區夏日送清涼活動
Figure 5-30 "Delivering Coolness in Summer" Activity Held by Dingzhou Base

5. 社區共贏

本集團始終以「取之社會，回報社會」為責任和理念，致力於助力民生改善，實現共同富裕。我們通過開展各類公益活動，支持教育、醫療等項目，為改善社區民生貢獻一份力量。同時，我們積極參與環保活動，倡導綠色生活，致力於打造清潔、美麗的生活環境。通過這些舉措，我們努力實現與社區的良性互動，共同譜寫社區發展的美好未來。

報告期內，本集團累計為鄉村振興、救災等領域捐款189.30萬元人民幣，彰顯了企業的社會擔當。

5. Community public service

The Group always takes "taking from society and repaying society" as its responsibility and philosophy, and devotes itself to promoting people's livelihood and common prosperity. We contribute to the improvement of community's livelihood by carrying out various public service activities and supporting different programs such as education and medical programs. Meanwhile, we strive to create a clean and beautiful living environment by taking the initiative to participate in environmental protection activities and advocating green lifestyle. By taking these measures, we aims to achieve positive interactions with the communities and join hands with them to secure better community development.

During the reporting period, the Group donated a total of RMB1.893 million for rural revitalization, disaster relief and other purposes, demonstrating the social responsibility of the Group.

可持續發展實踐 Sustainable Development Practices

社區關愛

Community care

公益捐贈 Charity donations

- 為清水縣公益事業捐贈45萬元；
The Group donated RMB450,000 to the programs for public good in Qingshui County;
- 為抗洪救災捐款，總計動員2,114人，捐贈66,450元；
The Group donated RMB66,450 and mobilized 2,114 people in total to fight the flood and provide disaster relief;
- 向山東省殘疾人福利基金會捐贈1萬元；
The Group donated RMB10,000 to the SD Welfare Fund for the Disabled;
- 向定州市殘疾人聯合會捐贈20萬元。
The Group donated RMB200,000 to the Dingzhou Disabled Persons' Federation.

社區共建 Joint contribution of community development

- 冬季利用餘熱對外部社區供熱，面積達356萬平方米，惠及用戶5萬餘戶；
The Group made use of the residual heat to supply heat to external communities, covering an area of 3,560,000 m² and benefiting more than 50,000 households;
- 聯動各地消防大隊出警參與救援，保障區域消防安全；
The Group has worked with local fire brigades on multiple occasions to dispatch firefighting teams when necessary, supporting and ensuring the fire safety of local communities;
- 「八一」建軍節來臨之際，與各地派出所以及消防隊聯合舉辦文體活動；
On the occasion of the Army Day on August 1st, the Group held various cultural and sporting activities jointly with local police stations and fire brigade;
- 集團積極響應環保運動，促進健康生活方式，冠名生態馬拉松比賽。
The Group also responded to the environmental movement actively by promoting healthy lifestyle and serve as the title sponsor for the eco-marathon.

志願活動
Volunteer activities

- 相應無償獻血號召，組織員工無償獻血活動；
The Group responded to the call for blood donation and organized its employees to donate blood on an unpaid basis;
- 為鄉村地區兒童提供英文以及中文培訓，提升鄉村孩童文化水平，增強他們的學習能力和競爭力，助力他們實現人生夢想。
The Group held English and Chinese trainings for children in rural areas to help them improve their literacy, enhance their ability to learn and compete and realize their life dreams.

環境保護
Environmental protection

- 組織員工開展守護碧海銀灘活動，清理海邊浴場垃圾，助力環境提升；
The Group organized its employees to carry out the “Blue Sea and Silver Beach Protection” campaign to clean up the bathing beach and thereby improve the environment;
- 積極響應社區號召，組織員工參與植樹活動，為社區綠化貢獻力量；
The Group responded to the community call to organize employees to take part in the tree planting activity in order to contribute to the environmental landscaping of community;
- 組織開展環保開放日活動，邀請邢台市機關單位、周邊村莊及員工家屬參觀邢台園區各類裝置建設。
The Group held an environmental protection open day event and invited individuals from the government departments of Xingtai city, local villagers, and employees' families to visit Xingtai Base to see various installations and construction projects.

可持續發展實踐 Sustainable Development Practices



圖5-31 為鄉村孩子們提供英文和中文培訓
Figure 5-31 English and Chinese Trainings for Children in Rural Areas



圖5-32 邢台園區組織開展環保開放日活動
Figure 5-32 Environmental Protection Open Day Event Held by Xingtai Base



圖5-33 旭陽中燃組織員工參與無償獻血活動
Figure 5-33 Employees of Risun CHINA GAS Participating in Voluntary Blood Donation



圖5-34 定州園區組織員工參與植樹節活動
Figure 5-34 Employees of Dingzhou Base Participating in a Tree-planting Activity on the Tree-Planting Day

案例
Case

旭陽定州園區對外城市供熱

Risun Dingzhou Base Using Residual Heat for Urban Heating

對外供熱是民生工程，是改善民生的重任，更是提升百姓福祉的關鍵之舉。旭陽集團定州園區緊隨城市發展的步伐，積極響應國家關於餘熱利用與節能減排的號召。園區投資1.2億元，傾力打造供熱首站，並對25個餘熱採集點進行了成功改造。園區利用工業餘熱向城市供暖350萬平方米，每年為周邊企業提供蒸汽3萬噸。此舉每年節能折標準煤8.46萬噸，減排二氧化碳18萬噸、減排二氧化硫1,100噸、減排氮氧化物354噸，提高了能源綜合利用效率，節約了社會成本，惠民同時更推動了環保減排的廣泛實施。

Aiming to improve people's livelihood, the external heating, as a livelihood project, is essential to the advance of people's welfare. The Dingzhou Base of Risun Group keeps pace with urban development and actively responds to the call of the state for utilizing residual heat and reducing carbon emissions.

A total of RMB120 million has been invested by the Base to build the first heating station and 25 residual heat collection sites have been renovated. The Base uses residual heat from industrial processes for urban heating, covering an area of 3,500,000 m², and provides local enterprises with 30,000 tons of steam on an annual basis. This measure leads to an energy consumption amounted to 84,600 metric tons standard coal equivalent per year, reduces carbon dioxide emission, sulfur dioxide emission and nitrogen oxides emission by 180,000 tons, 1,100 tons and 354 tons, respectively, improves the comprehensive utilization of energy, saves social cost, benefits the public while promoting the implementation of environmental protection and carbon emission reduction activities.

剛剛過去的2023-2024年供暖季，旭陽集團定州園區供熱總量高達62萬吉焦，贏得了供熱公司和廣大用戶的一致好評，進一步彰顯了我們的社會責任感，提升了旭陽的品牌效應。下一步，旭陽集團定州園區供熱項目將繼續進行技術優化和改造，不斷提高供熱能力，有效擴大供熱規模，將更多的熱量輸送到千家萬戶，實現經濟效益與社會效益的雙贏，為構建美好社會貢獻更多力量。

The Dingzhou Base of Risun Group, with a supply heat of 620,000 GJ in the past 2023-2024 heating season, received unanimous praise from the heating companies and the majority of users, demonstrating our social responsibilities and enhancing the brand effect of Risun. Next, the Dingzhou Base of Risun Group plans to further the technology optimization and transformation of its heating project, continue to increase its heating capacity, effectively scale up the heating operation and provide more heat to millions of households to realize economic and social benefits, so as to contribute more to the building of a better society.



圖5-35定州園區城市集中供熱首站

Figure 5-35 First Urban Centralized Heating Station Built by Dingzhou Base

可持續發展實踐 Sustainable Development Practices

校企合作

集團高度重視國家人才戰略，認識到人才是企業發展的關鍵驅動力。因此，我們積極推進校企深層次合作，以促進產學研合作的發展。我們著眼於培養具有創新能力和實踐能力的高層次人才，開展了多項校企合作項目，致力於搭建起產學研合作的橋樑。

University-enterprise cooperation

By attaching great importance to the national talent strategy, the Group has recognized that talent is a key driver of business growth. As a result, we actively promoted the in-depth cooperation between universities and enterprises as a way to advance the development of industry-university-research collaboration. Aiming to act as bridge for industry-university-research cooperation, we carried out various university-industry cooperation programs with a focus on cultivating high-caliber talents with innovative ability and practical ability.

博士後創新實踐基地

Postdoctoral Innovation Practice Base

- 博士後創新實踐基地是培養博士後高層次人才、促進科技創新和成果轉化的關鍵平台，旨在建立企業和科研院所之間暢通的人才和技術交流渠道，推動產學研用結合；
The Postdoctoral Innovation Practice Base serves as a key platform for cultivating high-caliber postdoctoral talents and promoting technological innovation and achievement transformation and aims to establish an unblocked talent and technology exchange channel between enterprises and academic institutions to facilitate industry-academia-research collaboration;
- 旭陽定州園區和唐山園區成功設立河北省博士後創新實踐基地，成為了省級博士後科研工作的重要平台。
By setting up the Hebei Provincial Postdoctoral Innovation Practice Bases, Dingzhou Base and Tangshan Base of Risun Group have evolved as important platforms for postdoctoral innovation practice at provincial level.

攜手高校合作共贏

Cooperation with universities

- 與新能源特色高校如中南大學、北京科技大學、吉林大學、內蒙古科技大學等建立了合作關係，組織了校企產研合作、實踐基地建設、實習就業等座談交流；
The Group partnered with universities with leading new energy-related disciplines, such as Central South University, University of Science and Technology Beijing, Jilin University and Inner Mongolia University Of Science and Technology, and organized various activities like university-enterprise-research cooperation, construction of practice base and seminars and exchange activities on internship and employment;
- 集團共組織105場校園招聘會，其中宣講會20場、雙選會85場。
The Group held 105 on-campus job fairs, including 20 sessions of career talk and 85 sessions of mutual selection.

設立博士後工作站

Establishment of post-doctoral workstations

- 集團設立北京奧特美克博士後科研工作站，與清華大學、北京航空航天大學、中國農業大學等博士後流動站聯合招收，此站共計7人，目前在站2人，已出站5人；

The Group set up the Beijing Automic Post-doctoral Research Station and carried out joint enrollment with postdoctoral mobile research stations such as Tsinghua University, Beijing University of Aeronautics and Astronautics and China Agricultural University. This station has 7 postdoctoral researchers in total, among them, 2 are at the station and 5 have obtained approval to leave the station;
- 集團設立北京旭陽科技博士後科研工作站，與北京化工大學博士後流動站聯合招收。此站共計7人，目前在站5人，已出站2人。

The Group set up the Beijing Risun Technology Post-doctoral Research Station and carried out joint enrollment with the post-doctoral mobile stations of Beijing University of Chemical Technology. This station has 7 postdoctoral researchers in total, among them, 5 are at the station and 2 have obtained approval to leave the station.



圖5-36中國礦業大學(北京)學生到園區實踐實習
Figure 5-36 Students from China University of Mining and Technology-Beijing Taking the Internship at the Base



圖5-37旭陽集團與河北經貿大學「旭陽班」簽約儀式
Figure 5-37 Signing Ceremony for “Risun Class” Between Risun Group and Hebei University of Economics and Business

可持續發展實踐 Sustainable Development Practices

推動行業發展

旭陽集團作為行業龍頭企業，始終視推動行業高質量發展為己任。我們不斷加強與同行業的合作與交流，攜手共進，共同探索行業發展的新路徑、新模式，促進行業資源共享、信息共享，共同應對行業面臨的各種挑戰和困難。集團參與多項國家標準的起草與制定，充分發揮在行業發展中的引領作用與技術實力。集團將不斷提升自身技術水平，以更加積極的姿態推動行業技術水平提升，促進行業發展。

The promotion of industrial development

As a leading enterprise in the industry, Risun Group has always regarded helping promote the high-quality development of the industry as its own responsibility. We have continued to deepen the cooperation and exchange with enterprises in the same industry, made progress together to explore new development paths and innovative development models of the industry and facilitated resource sharing and information sharing within the industry to cope with various challenges and difficulties faced by the industry. By participating in the drafting and formulation of various national standards, the Group has given full play to its leading role and technical strength in the development of the industry. The Group has continuously promoted the technical development of itself and the industry with a proactive attitude to bring the industry forward.

旭陽集團參與制定的國家和行業標準（部分）

National and industry standards that Risun Group has participated in drafting (partial list)						
序號 No.	標準名稱 Standard name	類別 Category	標準號 Standard number	職責 Responsibility	起草單位 Drafter	發佈單位 Publisher
1	脫酚油	省地方標準	DB 13/T 1626-2012	參與起草	邢台旭陽煤化工有限公司	河北省質量技術監督局
	Dephenolized oil	Provincial-level standard	DB 13/T 1626-2012	Drafting participant	Xingtai Risun Coal Chemical Co., Ltd.	Bureau of Quality and Technical Supervision of Hebei Province
2	三聚甲醛	企業標準	Q/XXM 10-2013	主持起草	邢台旭陽煤化工有限公司	邢台旭陽煤化工有限公司
	1,3,5-Trioxane	Enterprise standard	Q/XXM 10-2013	Drafting leader	Xingtai Risun Coal Chemical Co., Ltd.	Xingtai Risun Coal Chemical Co., Ltd.
3	炭黑油	企業標準	Q/XXM 05-2017	主持起草	邢台旭陽煤化工有限公司	邢台旭陽煤化工有限公司
	Carbon black oil	Enterprise standard	Q/XXM 05-2017	Drafting leader	Xingtai Risun Coal Chemical Co., Ltd.	Xingtai Risun Coal Chemical Co., Ltd.
4	聚氧基二甲醚	企業標準	Q/XXM 11-2014	主持起草	邢台旭陽煤化工有限公司	邢台旭陽煤化工有限公司
	Polyoxymethylene dimethyl ethers	Enterprise standard	Q/XXM 11-2014	Drafting leader	Xingtai Risun Coal Chemical Co., Ltd.	Xingtai Risun Coal Chemical Co., Ltd.
5	粗苯	行業標準	YB/T5022-2016	主要起草	湖南華菱湘潭鋼鐵有限公司 1、旭陽集團有限公司 2、福建省三鋼(集團)有限責任公司 3、冶金工業信息標準研究院4	中華人民共和國工業和信息化部
	Crude benzene	Industrial standard	YB/T5022-2016	Principal drafter	Hunan Valin Xiangtan Iron and Steel Co., Ltd. 1, Risun Group Co., Ltd. 2, Fujian Sansteel (Group) Co., Ltd. 3, Institute of Information Standards for Metallurgical Industry 4	Ministry of Industry and Information Technology of the People's Republic of China

可持續發展實踐 Sustainable Development Practices

旭陽集團參與制定的國家和行業標準(部分)						
National and industry standards that Risun Group has participated in drafting (partial list)						
序號 No.	標準名稱 Standard name	類別 Category	標準號 Standard number	職責 Responsibility	起草單位 Drafter	發佈單位 Publisher
6	焦粉和小顆粒焦炭	冶金行業標準	YB/T 4138-2017	主持起草	邢台旭陽科技有限公司 1、江蘇沙鋼集團有限公司 2、金能科技股份有限公司 3、旭陽集團有限公司 4、冶金工業信息標準研究所5	中華人民共和國工業和信息化部
	Coke fines and small-sized coke	Metallurgical	YB/T 4138-2017	Drafting leader	Xingtai Risun Technology Co., Ltd. 1, Jiangsu Shagang Group Co., Ltd. 2, Jinneng Science and Technology Co., Ltd. 3, Risun Group Co., Ltd. 4, Institute of Information Standards for Metallurgical Industry 5	Ministry of Industry and Information Technology of the People's Republic of China
7	冶金焦炭	國家標準	GB/T 1996-2017	主要起草	本鋼集團有限公司 1、旭陽集團有限公司 2、金能科技股份有限公司 3、鞍鋼股份有限公司 4、福建省三鋼(集團)有限責任公司 5、冶金工業信息標準研究院6	中華人民共和國國家質量監督檢驗檢疫總局中國國家標準化管理委員會
	Metallurgical coke	National standard	GB/T 1996-2017	Principal drafter	Bengang Group Co., Ltd. 1, Risun Group Co., Ltd. 2, Jinneng Science and Technology Co., Ltd. 3, Ansteel Group Corporation Limited. 4, Fujian Sansteel (Group) Co., Ltd. 5, Institute of Information Standards for Metallurgical Industry 6	General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China, Standardization Administration of China
8	焦化二甲苯	國家標準	GB/T 2285-2018	主要起草	邢台旭陽科技有限公司 1、上海寶鋼化工有限公司 2、馬鋼(集團)控股有限公司 3、冶金工業信息標準研究院4	國家市場監督管理總局中國國家標準化管理委員會
	Coking xylene	National standard	GB/T 2285-2018	Principal drafter	Xingtai Risun Technology Co., Ltd. 1, Baosteel Chemical Co., Ltd. 2, Magang (Group) Holding Co., Ltd. 3, Institute of Information Standards for Metallurgical Industry 4	State Administration for Market Regulation, Standardization Administration of China

附錄

Appendix



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Appendix

1. 港交所ESG指標索引

1. HKEX ESG index

序號	指標描述	披露情況	章節
A1排放物	<p>一般披露</p> <p>有關廢氣及溫室氣體排放、向水及土地的排污、有害及無害廢棄物的產生等的：</p> <p>(a) 政策；及</p> <p>(b) 遵守對發行人有重大影響的相關法律及規例的資料。</p> <p>註：廢氣排放包括氮氧化物、硫氧化物及其他受國家法律及規例規管的污染物。溫室氣體包括二氧化碳、甲烷、氧化亞氮、氫氟碳化合物、全氟化碳及六氟化硫。</p> <p>有害廢棄物指國家規例所界定者。</p>	披露	污染物管理
A1排放物	A1.1排放物種類及相關排放數據。	披露	污染物管理
A1排放物	A1.2 直接（範圍1）及能源間接（範圍2）溫室氣體排放量（以噸計算）及（如適用）密度（如以每產量單位、每項設施計算）。	披露	污染物管理
A1排放物	A1.3 所產生有害廢棄物總量（以噸計算）及（如適用）密度（如以每產量單位、每項設施計算）。	披露	污染物管理
A1排放物	A1.4 所產生無害廢棄物總量（以噸計算）及（如適用）密度（如以每產量單位、每項設施計算）。	披露	污染物管理
A1排放物	A1.5 描述所訂立的排放量目標及為達到這些目標所採取的步驟。	披露	污染物管理
A1排放物	A1.6 描述處理有害及無害廢棄物的方法，及描述所訂立的減廢目標及為達到這些目標所採取的步驟。	披露	污染物管理
A2資源使用	<p>一般披露</p> <p>有效使用資源（包括能源、水及其他原材料）的政策。</p> <p>註：資源可用於生產、儲存、運輸、樓宇、電子設備等。</p>	披露	資源節約、水資源管理
A2資源使用	A2.1 按類型劃分的直接及／或間接能源（如電、氣或油）總耗量（以千個千瓦時計算）及密度（如以每產量單位、每項設施計算）。	披露	資源節約
A2資源使用	A2.2 總耗水量及密度（如以每產量單位、每項設施計算）。	披露	水資源管理

附錄 Appendix

序號	指標描述	披露情況	章節
A2資源使用	A2.3 描述所訂立的能源使用效益目標及為達到這些目標所採取的步驟。	披露	資源節約
A2資源使用	A2.4 描述求取適用水源上可有任何問題，以及所訂立的用水效益目標及為達到這些目標所採取的步驟。	披露	水資源管理
A2資源使用	A2.5 製成品所用包裝材料的總量(以噸計算)及(如適用)每生產單位佔量。	披露	資源節約
A3環境及天然資源	一般披露 減低發行人對環境及天然資源造成重大影響的政策。	披露	環境管理、 綠色生態
A3環境及天然資源	A3.1 描述業務活動對環境及天然資源的重大影響及已採取管理有關影響的行動。	披露	環境管理、 綠色生態
A4氣候變化	一般披露： 識別及應對已經及可能會對發行人產生影響的重大氣候相關事宜的政策。	披露	應對氣候變化
A4氣候變化	A4.1 描述已經及可能會對發行人產生影響的重大氣候相關事宜，及應對的行動。	披露	應對氣候變化
B1僱傭	一般披露 有關薪酬及解僱、招聘及晉升、工作時數、假期、平等機會、多元化、反歧視以及其他待遇及福利的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。	披露	員工發展
B1僱傭	B1.1 按性別、僱傭類型(如全職或兼職)、年齡組別及地區劃分的僱員總數。	披露	員工發展
B1僱傭	B1.2 按性別、年齡組別及地區劃分的僱員流失比率。	披露	員工發展
B2健康與安全	一般披露 有關提供安全工作環境及保障僱員避免職業性危害的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。	披露	健康與安全
B2健康與安全	B2.1 過去三年(包括匯報年度)每年因工亡故的人數及比率。	披露	健康與安全
B2健康與安全	B2.2 因工傷損失工作日數。	披露	健康與安全

序號	指標描述	披露情況	章節
B2健康與安全	B2.3 描述所採納的職業健康與安全措施，以及相關執行及監察方法。	披露	健康與安全
B3發展及培訓	一般披露 有關提升僱員履行工作職責的知識及技能的政策。描述培訓活動。 註：培訓指職業培訓，可包括由僱主付費的內外部課程。	披露	員工發展
B3發展及培訓	B3.1 按性別及僱員類別（如高級管理層、中級管理層等）劃分的受訓僱員百分比。	披露	員工發展
B3發展及培訓	B3.2 按性別及僱員類別劃分，每名僱員完成受訓的平均時數。	披露	員工發展
B4勞工準則	一般披露 有關防止童工或強制勞工的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。	披露	員工發展
B4勞工準則	B4.1 描述檢討招聘慣例的措施以避免童工及強制勞工。	披露	員工發展
B4勞工準則	B4.2 描述在發現違規情況時消除有關情況所採取的步驟。	披露	員工發展
B5供應鏈管理	一般披露 管理供應鏈的環境及社會風險政策。	披露	供應鏈管理
B5供應鏈管理	B5.1 按地區劃分的供應商數目。	披露	供應鏈管理
B5供應鏈管理	B5.2 描述有關聘用供應商的慣例，向其執行有關慣例的供應商數目，以及相關執行及監察方法	披露	供應鏈管理
B5供應鏈管理	B5.3 描述有關識別供應鏈每個環節的環境及社會風險的慣例，以及相關執行及監察方法。	披露	供應鏈管理
B5供應鏈管理	B5.4 描述在揀選供應商時促使多用環保產品及服務的慣例，以及相關執行及監察方法。	披露	供應鏈管理

附錄 Appendix

序號	指標描述	披露情況	章節
B6產品責任	一般披露 有關所提供產品和服務的健康與安全、廣告、標籤及私隱事宜以及補救方法的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。	披露	優質產品
B6產品責任	B6.1 已售或已運送產品總數中因安全與健康理由而須回收的百分比。	披露	優質產品
B6產品責任	B6.2 接獲關於產品及服務的投訴數目以及應對方法。	披露	優質產品
B6產品責任	B6.3 描述與維護及保障知識產權有關的慣例。	披露	優質產品
B6產品責任	B6.4 描述質量檢定過程及產品回收程序。	披露	優質產品
B6產品責任	B6.5 描述消費資料保障及私隱政策，以及相關執行及監察方法。	披露	優質產品
B7反貪污	一般披露 有關防止賄賂、勒索、欺詐及洗黑錢的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。	披露	廉潔經營
B7反貪污	B7.1 於匯報期內對發行人或其僱員提出並已審結的貪污訴訟案件的數目及訴訟結果。	披露	廉潔經營
B7反貪污	B7.2 描述防範措施及舉報程序，以及相關執行及監察方法。	披露	廉潔經營
B7反貪污	B7.3 描述向董事及員工提供的反貪污培訓。	披露	廉潔經營
B8社區投資	一般披露 有關以社區參與來了解營運所在社區需要和確保其業務活動會考慮社區利益的政策。	披露	社區共贏
B8社區投資	B8.1 專注貢獻範疇(如教育、環境事宜、勞工需求、健康、文化、體育)。	披露	社區共贏
B8社區投資	B8.2 在專注範疇所動用資源(如金錢或時間)。	披露	社區共贏

Serial number	Description of index	Disclosure information	Chapter
A1 Emissions	<p>General disclosure Information on:</p> <p>(a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.</p> <p>Note: Air emissions include NO_x, SO_x, and other pollutants regulated under national laws and regulations. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. Hazardous wastes are those defined by national regulations.</p>	Disclosure	Emission management
A1 Emissions	<p>A1.1 The types of emissions and respective emissions data.</p>	Disclosure	Emission management
A1 Emissions	<p>A1.2 Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).</p>	Disclosure	Emission management
A1 Emissions	<p>A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).</p>	Disclosure	Emission management
A1 Emissions	<p>A1.4 Total non-hazardous waste produced (by weight or volume) and, where appropriate, intensity (e.g. per unit of production volume, per facility, per official employee).</p>	Disclosure	Emission management
A1 Emissions	<p>A1.5 Description of emissions target(s) set and steps taken to achieve them.</p>	Disclosure	Emission management
A1 Emissions	<p>A1.6 Description of how hazardous and non – hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.</p>	Disclosure	Emission management

附錄 Appendix

Serial number	Description of index	Disclosure information	Chapter
A2 Use of resources	General disclosure Policies on the efficient Use of resources (including energy, water and other raw materials) Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.	Disclosure	Resource Saving Water resource management
A2 Use of resources	A2.1 Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Disclosure	Resource Saving Water resource management
A2 Use of resources	A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Disclosure	Water resource management
A2 Use of resources	A2.3 Description of energy use efficiency target(s) set and steps taken to achieve them.	Disclosure	Resource saving
A2 Use of resources	A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	Disclosure	Water resource management
A2 Use of resources	A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Disclosure	Resource saving
A3 Environment and natural resources	General disclosure A Policies on minimising the issuer's significant impacts on the environment and natural resources.	Disclosure	Environmental management Green ecology
A3 Environment and natural resources	A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Disclosure	Environmental management Green ecology
A4 Climate change	General disclosure: Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Disclosure	Response to climate change
A4 Climate change	A4.1 Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Disclosure	Response to climate change

Serial number	Description of index	Disclosure information	Chapter
B1 Employment	General disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Disclosure	Development of employees
B1 Employment	B1.1 Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region.	Disclosure	Development of employees
B1 Employment	B1.2 Employee turnover rate by gender, age group and geographical region.	Disclosure	Development of employees
B2 Health and safety	General disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Disclosure	Health and safety
B2 Health and safety	B2.1 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	Disclosure	Health and safety
B2 Health and safety	B2.2 Lost days due to work injury.	Disclosure	Health and safety
B2 Health and safety	B2.3 Description of occupational health and safety measures adopted, and how they are implemented and monitored.	Disclosure	Health and safety

附錄 Appendix

Serial number	Description of index	Disclosure information	Chapter
B3 Development and training	General disclosure Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. Note: Training refers to vocational training. It may include internal and external courses paid by the employer.	Disclosure	Development of employees
B3 Development and training	B3.1 The percentage of employees trained by gender and employee category (e.g. senior management, middle management, etc.)	Disclosure	Development of employees
B3 Development and training	B3.2 The average training hours completed per employee by gender and employee category.	Disclosure	Development of employees
B4 Labour standards	General disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced Labour.	Disclosure	Development of employees
B4 Labour standards	B4.1 Description of measures to review employment practices to avoid child and forced labor.	Disclosure	Development of employees
B4 Labour standards	B4.2 Description of steps taken to eliminate such practices when discovered.	Disclosure	Development of employees
B5 Supply chain management	General disclosure Policies on managing environmental and social risks of the supply chain.	Disclosure	Supply chain management
B5 Supply chain management	B5.1 Number of suppliers by geographical region.	Disclosure	Supply chain management
B5 Supply chain management	B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	Disclosure	Supply chain management

Serial number	Description of index	Disclosure information	Chapter
B5 Supply chain management	B5.3 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Disclosure	Supply chain management
B5 Supply chain management	B5.4 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Disclosure	Supply chain management
B6 Product responsibility	General disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Disclosure	Quality products
B6 Product responsibility	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Disclosure	Quality products
B6 Product responsibility	B6.2 Number of products and service related complaints received and how they are dealt with.	Disclosure	Quality products
B6 Product responsibility	B6.3 Description of practices relating to observing and protecting intellectual property rights.	Disclosure	Quality products
B6 Product responsibility	B6.4 Description of quality assurance process and recall procedures.	Disclosure	Quality products
B6 Product responsibility	B6.5 Description of consumer data protection and privacy policies, and how they are implemented and monitored.	Disclosure	Quality products
B7 Anti-corruption	General disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Disclosure	Compliance and risk management

附錄 Appendix

Serial number	Description of index	Disclosure information	Chapter
B7 Anti-corruption	B7.1 Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the Reporting Period and the outcomes of the cases.	Disclosure	Compliance and risk management
B7 Anti-corruption	B7.2 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	Disclosure	Compliance and risk management
B7 Anti-corruption	B7.3 Description of anti-corruption training	Disclosure	Compliance and risk management
B8 Community investment	General disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Disclosure	Community public service
B8 Community investment	B8.1 Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport).	Disclosure	Community public service
B8 Community investment	B8.2 Resources contributed (e.g. money or time) to the focus area.	Disclosure	Community public service

2. 對聯合國可持續發展目標的貢獻

2. Contributions to the United Nations Sustainable Development Goals

聯合國可持續發展目標 United Nations Sustainable Development Goals	章節 Chapter
 <p>1 無貧窮 1 NO POVERTY</p>	<p>員工發展 Development of employees 社區共贏 Community public service</p>
 <p>2 零飢餓 2 ZERO HUNGER</p>	<p>員工發展 Development of employees 社區共贏 Community public service</p>
 <p>3 良好健康與福祉 3 GOOD HEALTH AND WELL-BEING</p>	<p>應對氣候變化 Response to climate change 健康與安全 Health and safety 社區共贏 Community public service</p>
 <p>4 優質教育 4 QUALITY EDUCATION</p>	<p>員工發展 Development of employees 社區共贏 Community public service</p>
 <p>5 性別平等 5 GENDER EQUALITY</p>	<p>公司治理 Corporate Governance 員工發展 Development of employees</p>
 <p>6 清潔飲水和衛生設施 6 CLEAN WATER AND SANITATION</p>	<p>環境管理 Environmental Management 水資源管理 Water resource management</p>

附錄

Appendix

聯合國可持續發展目標 United Nations Sustainable Development Goals	章節 Chapter
	環境管理 Environmental Management 應對氣候變化 Response to climate change 資源節約 Resource saving
	公司治理 Corporate Governance 員工發展 Development of employees 社區共贏 Community public service
	優質產品 Quality products
	公司治理 Corporate Governance 員工發展 Development of employees 社區共贏 Community public service
	環境管理 Environmental Management 應對氣候變化 Response to climate change 資源節約 Resource saving 排放物管理 Pollutant management
	優質產品 Quality products 供應鏈管理 Supply chain management

聯合國可持續發展目標 United Nations Sustainable Development Goals	章節 Chapter
 <p>13 氣候行動 13 CLIMATE ACTION</p>	環境管理 Environmental Management 應對氣候變化 Response to climate change 綠色生態 Green ecology 資源節約 Resource saving
 <p>14 水下生物 14 LIFE UNDER WATER</p>	環境管理 Environmental Management 應對氣候變化 Response to climate change 綠色生態 Green ecology 排放物管理 Pollutant management
 <p>15 陸地生物 15 LIFE ON LAND</p>	環境管理 Environmental Management 應對氣候變化 Response to climate change 綠色生態 Green ecology 排放物管理 Pollutant management
 <p>16 和平、正義與強大機構 16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>	公司治理 Corporate Governance ESG管理 ESG Management 合規與風險管理 Compliance and Risk Management
 <p>17 促進目標實現的伙伴關係 17 PARTNERSHIPS FOR THE GOALS</p>	公司治理 Corporate Governance 優質產品 Quality products

3. 驗證聲明



驗證聲明

範圍及目的

香港品質保證局已對中國旭陽集團有限公司(「該公司」)的2023年環境、社會、管治報告(「報告」)的全部內容進行獨立驗證。報告概述該公司及附屬機構(統稱「該集團」),於2023年的環境、社會、管治(「ESG」)表現。報告中的資料及數據涵蓋2023年1月1日至12月31日。

此驗證聲明的目的是對報告所載之內容提供有限保證。報告依據香港聯合交易所有限公司(「香港聯交所」)《證券上市規則》附錄C2《環境、社會及管治報告指引》(《ESG指引》)要求編制,參照全球報告倡議組織的《可持續發展報告準則》(「GRI準則2021」)以及《ISO 26000:2010 社會責任指引》。

保證程度和驗證方法

驗證工作是根據國際審計與核證準則委員會發佈的《國際核證聘用準則3000》(修訂版)「歷史財務資料審計或審閱以外的核證聘用」執行。驗證過程是為獲取恰當的合理保證意見和結論而制定。

驗證內容包括檢閱ESG表現數據收集、計算和匯報的系統和程序,檢閱有關文件資料,與負責編制報告內容的代表面談,選取具有代表性的數據和資料進行查核。相關原始數據和支持證據亦根據抽樣計劃於核實過程中經過詳細審閱。

獨立性

該公司負責收集和陳述報告內的資料。香港品質保證局不涉及編撰此報告。我們的驗證過程是完全獨立。就提供此驗證服務而言,香港品質保證局與該公司之間並無任何會影響驗證公正性及獨立性的關係。

結論

基於是次的驗證結果,香港品質保證局對報告作出合理保證並總結:

- 報告是依據香港聯交所《ESG指引》的要求編制,同時參照GRI準則2021;
- 報告平衡、清晰、具比較性和及時地將該集團的ESG表現闡述,包括所有重要和相關的可持續發展範疇;以及
- 報告內的數據和資料可靠完整。

此報告展示了該集團在擴大其透明度方面的不斷努力,並讓持份者可以清楚了解其對ESG的承諾、管理和績效。

香港品質保證局代表簽署

梁靄怡
助理總監, 金融業務
2024年4月



VERIFICATION STATEMENT

Scope and Objective

Hong Kong Quality Assurance Agency (“HKQAA”) has been commissioned by China Risun Group Limited (“the Company”) to conduct an independent verification for its Environmental, social and governance Report 2023 (“the Report”). The Report gives an overview of the Environmental, social and governance (“ESG”) performance of the Company and its subsidiaries (“the Group”), during 2023. The information and data contained in the Report cover the period from 1 January to 31 December 2023.

The aim of this verification is to provide a limited assurance on the reliability of the reporting contents. The Report has been prepared in accordance with the Environmental, Social and Governance Reporting Guide (Main Board Listing Rules Appendix C2) (“ESG Guide”) issued by the Hong Kong Exchanges and Clearing Limited (“HKEX”) and reference to the Global Reporting Initiative Sustainability Reporting Standards (“GRI Standards 2021”), and ISO 26000:2010 Guidance on Social Responsibility .

Level of Assurance and Methodology

The process applied in this verification was based on the International Standard on Assurance Engagements 3000 (Revised) - Assurance Engagements Other Than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board. The verification process was designed to obtain a reasonable level of assurance in accordance with the standard for the purpose of devising the verification conclusion.

The verification procedures included verifying the systems and processes implemented for collecting, collating, and reporting the ESG performance data; reviewing relevant documentation; interviewing responsible personnel with accountability for preparing the reporting contents and verifying selected representative samples of data and information. Raw data and supporting evidence of the selected samples were thoroughly examined during the verification process according to the sampling plan.

Independence

The Company was responsible for the collection and presentation of the information. HKQAA did not involve in the preparation of the Report. Our verification activities were entirely independent and there was no relationship between HKQAA and the Company that would affect the impartiality and independence for providing the verification service.

Conclusion

Based on the verification results and in accordance with the verification procedures undertaken, HKQAA has obtained reasonable assurance and is in the opinion that:

- The Report has been prepared in accordance with the ESG Guide issued by the HKEX and reference to GRI Standards 2021 ;
- The Report illustrates the ESG performance of the Group, covering all material aspects, in a balanced, comparable, clear and timely manner and
- The data and information disclosed in the Report are reliable and complete.

The Report demonstrates the Group’s continuous efforts in extending its scope of transparency and allows stakeholders to visualise its commitment, stewardship and performance towards ESG.

Signed on behalf of Hong Kong Quality Assurance Agency

Teresa Leung
Assistant Director, Finance Business
April 2024

附錄 Appendix

4. 名詞釋義 4. Definition

簡稱 Abbreviation	全稱 Full Name
邢台旭陽化工 Xingtai Risun Chemical	邢台旭陽化工有限公司 Xingtai Risun Chemical Co., Ltd.
中煤旭陽 China Coal Risun	河北中煤旭陽能源有限公司 Hebei China Coal Risun Energy Co., Ltd.
邢台旭陽煤化工 Xingtai Risun Coal Chemical	邢台旭陽煤化工有限公司 Xingtai Risun Coal Chemical Co., Ltd.
金牛旭陽 Jinniu Risun	河北金牛旭陽化工有限公司 Hebei Jinniu Risun Chemical Co., Ltd.
唐山旭陽化工 Tangshan Risun Chemical	唐山旭陽化工有限公司 Tangshan Risun Chemical Co., Ltd.
東明旭陽 Dongming Risun	東明旭陽化工有限公司 Dongming Risun Chemical Co., Ltd.
鄆城旭陽 Yuncheng Risun	鄆城旭陽能源有限公司 Yuncheng Risun Energy Co., Ltd.
河北旭陽 Hebei Risun	河北旭陽能源有限公司 Hebei Risun Energy Co., Ltd.
定州天鷲 Dingzhou Tianlu	定州天鷲新能源有限公司 Dingzhou Tianlu New Energy Limited
滄州旭陽 Cangzhou Risun	滄州旭陽化工有限公司 Cangzhou Risun Chemical Co., Ltd.
旭陽中燃 Risun CHINA GAS	呼和浩特旭陽中燃能源有限公司 Hohhot Risun China Gas Energy Limited
定州園區 Dingzhou Base	由河北旭陽能源有限公司及定州天鷲新能源有限公司組成 Consisting of Hebei Risun Energy Co., Ltd. And Dingzhou Tianlu New Energy Limited

5. 意見反饋

5. Feedback

感謝您閱讀本集團2023年《環境、社會及管治報告》。為了向您及其他利益相關方提供更有價值的信息，促進本集團提升環境、社會及管治的整體工作能力和水平，我們衷心歡迎您能夠對報告提出真知灼見，並通過以下方式反饋給我們：

Thank you for reading the Group's 2023 Environmental, Social, and Governance Report. In order to provide you and other stakeholders with more valuable information and to promote the Group's overall working ability and level of in environmental, social and governance efforts, we sincerely welcome your insightful comments on the report and give feedback to us through the following ways:

地址：北京市豐台區花鄉四合莊2號路旭陽科技大廈1號樓

Address: Building 1, Risun Plaza, Sihezhuang No.2 Road, Huaxiang Town, Fengtai District, Beijing

郵政編碼：100070

Postal code: 100070

電郵：ir@risun.com

E-mail: ir@risun.com

1、您屬於以下哪類利益相關方？

Which of the following types of stakeholders do you belong to?

A

政府及監管機構
Government and regulatory agencies

B

客戶
Customers

C

投資者/股東
Investors/Shareholders

D

供應鏈
Supply chain

E

員工
Employees

F

合作夥伴
Partners

G

社區
Communities

H

專家
Experts

附錄 Appendix

- 2、 您認為本報告是否完整覆蓋了您對本集團的期望？

Do you believe that this Report provides complete coverage of your expectations on the Group?

A

是
Yes

B

否，您認為您還有哪些期望在本報告中沒有反映？
No, what other expectations do you think are not reflected in this Report?

- 3、 您認為本集團是否很好地回應了您的期望？

Do you think the Group has responded well to your expectations?

A

是
Yes

B

否，您認為您的哪些期望沒有得到很好地回應？
No, what expectations do you think have not been well responded?

- 4、 您認為本報告的內容安排和版式設計是否方便閱讀？

Do you think the content arrangement and layout of this Report are easy to read?

A

好
Excellent

B

較好
Good

C

一般
Not bad

D

差
Poor

- 5、 您對本集團ESG工作和本報告還有哪些意見和建議？

Do you have any other comments and suggestions on the Group's ESG work and this Report?

再次感謝您的參與！

Thank you again for your participation!



China Risun Group Limited
中國旭陽集團有限公司