



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



2022

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 Report Description

報告發佈週期 Report release cycle

本報告時間範圍為2022年1月1日至2022年12月31日，部分內容或超出此時間範圍。

The time scope of the report is from January 1, 2022 to December 31, 2022, and some contents may be beyond it.

報告組織範圍 Report organization scope

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。

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.

報告編製原則 Report compilation principle

本報告依據《香港聯合交易所有限公司證券上市規則》附錄二十七《環境、社會及管治報告指引》，參照全球報告倡議組織《可持續發展報告標準》(GRI Standards)、國際標準組織《ISO26000：社會責任指南(2010)》、中國社會科學院《中國企業社會責任報告指南(CASS-CSR4.0)》編寫。報告編製遵循重要性、量化、平衡、一致性原則。

This report has been compiled in accordance with the Environmental, Social and Governance Reporting Guide (Appendix 27 to the HKEX Main Board Listing Rules), with reference to the GRI Standards issued by the GSSB, the ISO 26000:2010 – Guidance on Social Responsibility issued by the ISO, and the China CSR Reporting Guide for Petrochemical Industry (CASS-CSR4.0) issued by CASS, by following the HKEX reporting principles (including “materiality”, “quantitative”, “consistency” and “balance”).

ESG匯報原則 ESG reporting principle

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。

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.

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。

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.

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。

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.

一致性：本報告披露數據所使用的統計方法均保持一致。

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



關於旭陽 About Risun

中國旭陽集團有限公司(1907.HK)創立於1995年，總部設在北京。經過二十八年的發展，已成為集焦炭、化工、運營管理服務、貿易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，江西萍鄉，內蒙古呼和浩特及印尼蘇拉威西9個生產園區，並對河南海星化工(焦油)、山西金州化工(焦油)、內蒙古中盛科技(焦炭)、寶舜化工(焦油)、晨耀化工(粗苯加氫)、洛陽龍澤(焦炭)、中晉太行(焦炭)提供運營管理服務。發展成為：

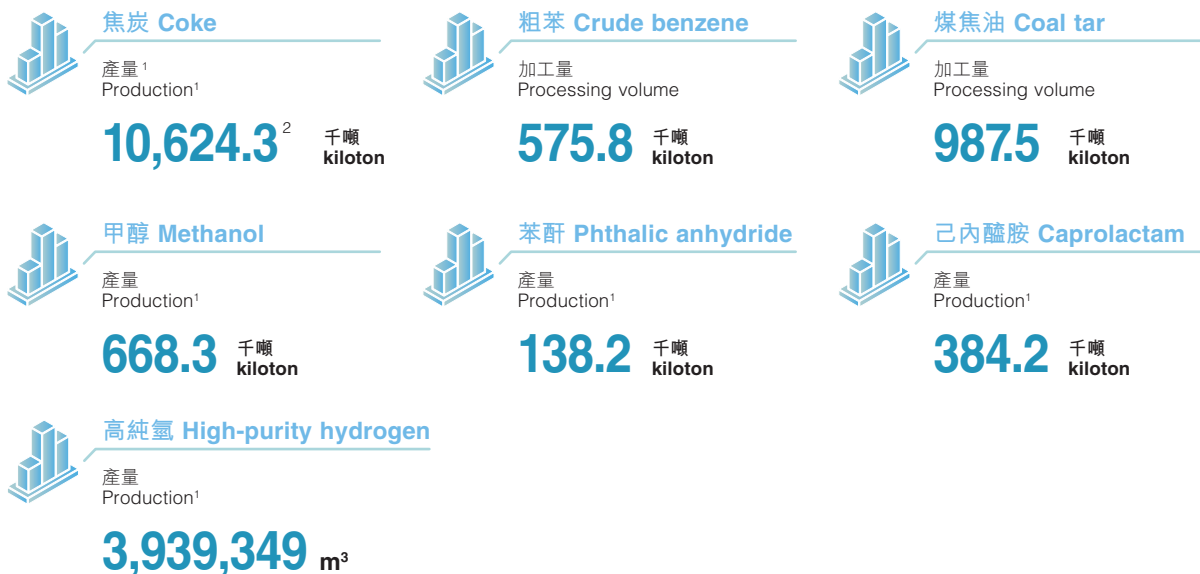
China Risun Group Limited (1907.HK) was founded in 1995 and headquartered in Beijing. Through 28 years of development, it has become a large enterprise group integrating coke, chemical, operation and management services, trade and other business sectors. Risun owns a total of 9 production bases in Hebei's Xingtai, Dingzhou, Leting, Cangzhou, Shandong's Yuncheng, Dongming, Jiangxi's Pingxiang, Inner Mongolia's Hohhot and Sulawesi, Indonesia, and provides operation and management services to enterprises such as Henan Haixing Chemical (tar), Shanxi Jinzhou Chemical (tar), Inner Mongolia Zhongsheng Technology (coke), Baoshun Chemical (tar), Chenyao Chemical (hydrogenation for crude benzene), Luoyang Longze (coke) and Zhongjin Taihang (coke). Currently Risun is:



註： 以上行業地位由獨立全球諮詢公司弗若斯特沙利文(北京)諮詢有限公司上海分公司(「弗若斯特沙利文」)按照旭陽集團2022年生產/加工量計算得出。

Note: The above-mentioned industry position was calculated by Frost & Sullivan (Beijing) Inc., Shanghai Branch Co., ("Frost & Sullivan"), an independent global consulting firm, based on Risun Group's production/processing volume of 2022.

概述 Overview



¹ 主要產品的產量包括自有產品及運營管理產品的產量。

The production volume of main products include the production volume of Risun's own products as well as that of the products operated and managed by the Risun.

² 按照乾基計算

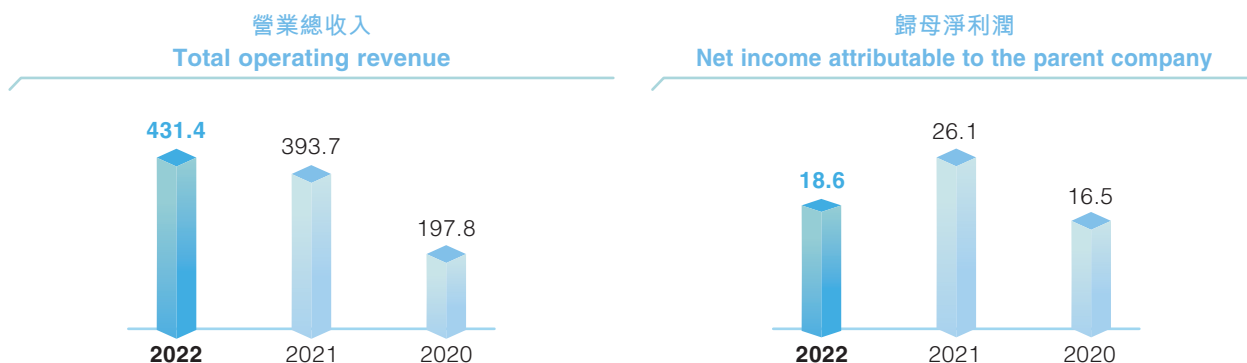
On a dry basis.

截至2022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55種產品。運營焦炭生產線12條、化工生產線53條，3條氫氣生產線。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管道。

As of December 31, 2022, 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 55 types of refined chemicals in 5 categories; operated 12 coke production lines, 53 chemicals production lines and 3 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.

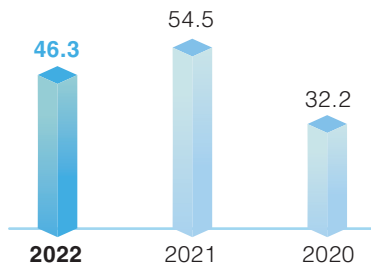
2020年－2022年集團業績表現 Company performance in 2020-2022

單位：億元人民幣 100 million RMB

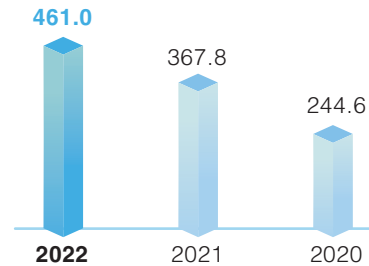




EBITDA³



總資產
Total assets



³ EBITDA為未計利息、稅項、折舊及攤銷前盈利
EBITDA is earnings before interest, taxes, depreciation and amortization.

董事會ESG管治聲明 ESG Statement of the board of directors

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》附錄二十七《環境、社會及管治報告指引》，參照全球報告倡議組織《可持續發展報告標準》(GRI Standards)、國際標準組織《ISO26000：社會責任指南(2010)》、中國社會科學院《中國企業社會責任報告指南(CASS-CSR4.0)》的披露要求。

The Board of Directors of China Risun Group Limited undertakes that the Group strictly complies with the disclosure requirements set forth in the Environmental, Social and Governance Reporting Guide (Appendix 27 to the HKEX Main Board Listing Rules), the GRI Standards issued by the GSSB, the ISO 26000:2010 – Guidance on Social Responsibility issued by the ISO, and the China CSR Reporting Guide for Petrochemical Industry (CASS-CSR4.0) issued by CASS.

本集團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信息。本報告亦於2023年3月經環境、社會及管治工作小組、董事會審議後發佈。

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 2023.

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，負責審議環境、社會及管治的風險。2022年本集團通過董事會審議環境、社會及管治的風險，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。

The Capital Market Department of the Group, as the general lead and coordination department, is responsible for the coordination and implementation of daily ESG and regular reporting to the board of directors and senior management, and is responsible for reviewing environmental, social and governance risks. In 2022, 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.

2023年，集團董事會進一步完善ESG治理體系，推動集團ESG治理水平不斷提升。

In 2023, the Group’s board of directors will further improve the ESG governance system, and promote the continuous improvement of the Group’s ESG governance level.



董事長致辭 Messages from the Chairman

2022年是實施「十四五」規劃的關鍵之年，是黨的二十大召開之年，也是我國踏上全面建設社會主義現代化國家新征程、向第二個百年奮鬥目標進軍的重要一年。面對新時代新征程的新機遇、新挑戰、新難題，過去一年，受全國疫情蔓延及國際地緣衝突影響，焦化行業企業面臨原料供需緊張、開工率下降、運輸受阻等重重挑戰。在這樣的大環境下，旭陽集團通過積極發揮行業龍頭優勢，多個重點項目穩步落地，產能逆勢增長，堅持將可持續發展與ESG理念融入日常生產運營，企業總體呈現出全面奮進、全面拓展、全面向好、全面蓄能的嶄新局面。

The year of 2022 is a critical year for the implementation of the “14th Five-Year Plan”, the year of the 20th National Congress of the Communist Party of China, and an important year for China to embark on a new journey to build China into a modern socialist country in all respects and advance toward the Second Centenary Goal. In the face of the new opportunities, new challenges and new problems brought by the new era and new journey, coking industry and coking companies have been confronted by various challenges, such as tight supply and demand of raw materials, declining operating rates, and disrupted transportation, due to the spread of the pandemic across the country and the global geopolitical conflicts in the past year. In this context, Risun Group, by actively giving play to its leading advantages in the industry, has steadily implemented several key projects, increased its production capacity, and insisted on integrating sustainable development and ESG concepts into daily production and operation. As a result, the Group manages to make substantial progress, realize considerable expansion, achieve remarkable improvement, and build up energy in an all-round way.

大企擔當，守護地球家園。全球氣候變化是人類面臨的最重大而緊迫的挑戰之一。旭陽集團積極落實國家政策，始終以「世界領先的能源化工公司—創新引領未來」為願景，高度關切生產運營過程中溫室氣體排放，識別生態環境與氣候變化帶來的各類風險與機遇，推動應對氣候變化融入公司治理、風險管理體系和日常運營。2022年集團位於河北省的所有生產公司全部獲批環保績效A級企業，綠色轉型取得重要階段性成果。為進一步提升集團環保及應對氣候變化的治理水平，我們在主要業務板塊設立碳排放長期與階段性目標，持續推動集團綠色低碳轉型，加大安全環保新技術研發，不斷推出研發創新成果，為守護綠水青山增磚添瓦，以實際行動為應對氣候變化作出貢獻。

Taking the responsibility to protect the earth. Global climate change is one of the most significant and urgent challenges facing mankind. Risun Group actively implements national policies, adheres to our corporate vision of “The World’s Leading Energy Chemical Company – Innovation Leads to the Future”, pays close attention to greenhouse gas emissions in the process of production and operation, identifies risks and opportunities arising from ecological environment and climate change, and promotes the integration of responses to climate change into corporate governance, risk management system and daily operations. In 2022, all the production companies of the Group in Hebei Province have been awarded the “Grade A Environmental Performance Certificate”, indicating that important progress has been made in green transformation. In order to further improve the Group’s environmental management and responses to climate change, we have set long-term and phased carbon emission targets for major business segments, continued to promote the Group’s green and low-carbon transformation, strengthened the R&D of new technologies for safe production and environmental protection, and continuously launched R&D and innovation results to protect the “lucid waters and lush mountains” and contribute to the fight against climate change.



匠心獨運，打造創新驅動。我們始終堅持創新引領、技術驅動道路，全力以赴提升集團創新研發能力，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」和「技改技措」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。同時，我們在氫能業務方面將分階段打造清潔低碳能源供應商、能源生態系統集成商、先進能源技術開發商、能源轉型卓越服務商，已基本完成集團氫能市場主體設置及相應組織架構設計與佈局，正加速推進「制－儲－運－加－用+研」全產業鏈佈局發展。

Being creative and innovation-driven. We adheres to the innovation-led and technology-driven path and strives to improve the Group's innovation and R&D capabilities. 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", the Group has formed two types of R&D and innovation systems, namely "innovation from scratch" and "technical transformation and technical measures", and built a full R&D industrial chain of creativity, small-scale test, middle test, industrialization and engineering design. As for the hydrogen energy segment, we will continue to build the Group into a clean and low-carbon energy supplier, an energy ecosystem integrator, an advanced energy technology developer, and a leading energy transformation service provider in stages. So far, the Group has substantially 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).

不忘初心，保障安全生產。安全是旭陽集團生存之基，我們始終將安全生產放在第一位，將員工生命安全放在第一位。2022年，我們不斷完善多項集團安全生產制度與管理辦法，各建設項目認真履行安全設施「三同時」，定期開展安全檢驗檢測，採取PDCA管理模式，持續改進、持續發展，提高安全管理水平；不斷完善安全文化建設，通過宣傳安全法律法規等各類安全培訓，提升員工安全生產意識，實現安全發展，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。

Guaranteeing safe production. Safety is essential to the survival of the Group and we always put production safety and the safety of employees' lives in the first place. In 2022, we continued to improve the systems and regulations of safety production of the Group, made sure that the "three-item" system on safety facilities was implemented by every project, conducted regular safety inspections and testing, adopted the PDCA management model, and carried out continuous improvements and development to improve safety management. In addition, we continued to improve the construction of safety culture and enhanced employees' safety production awareness through various safety trainings such as training on safety laws and regulations to ensure safe development and build the Group into an intrinsically safe enterprise.



董事長致辭 Messages from the Chairman

聚力員工，助推人才騰飛。旭陽集團有納人之量、容人之懷，有將各類多元化人才引進並使之融入集團偉業之中的氣魄，始終秉承「以人為本」的人才發展理念，把人才資源開發放在最優先位置，制定人才發展戰略，合理配置人才，著力打造一支團結協作、具有良好職業道德，同時專業能力過硬的職業化隊伍，採取一系列措施，不斷激發作為「第一要素」的人的活力和創造性，保障每位員工能夠在各自崗位充分得到提升，充分發揮自我潛能。

Promoting talent development. Risun Group has the capacity to accommodate talents, and the courage to introduce and integrate diversified talents into the development of the Group. Risun Group adheres to the “people-oriented” talent development concept, gives top priority to the development of human resources, formulates talent development strategy, and allocates talents in a rational way to build a cooperative team with good professional ethics and ability. Additionally, Risun Group takes a series of measures to continuously stimulate the vitality and creativity of people (first element of production) and ensures that every employee can get appropriate promotion based on their positions and give full play to their potential.

風雨同舟，打造共贏生態。我們始終以「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。2022年，我們積極開展社區關懷活動，體現「旭陽溫暖」。面對新冠疫情，本集團各園區十分重視疫情防控工作，多次組織捐物。報告期內，本集團累計為抗疫、鄉村振興、救災等領域捐款1,144.1萬元人民幣及100萬元港幣，彰顯了企業的社會擔當。同時我們大力開展校企合作，助力產學研結合，推動行業技術創新與發展，打造可持續共贏生態圈。

Creating a win-win ecosystem. We always take “taking from society and repaying society” as our responsibility and philosophy, and “making the greatest contribution to social progress” as our vision. In 2022, we actively carried out community care activities, which shows Risun’s love for the community. In the face of the COVID-19, every base of the Group attached great importance to the prevention and control of the pandemic and organized several runs of donations. During the reporting period, the Group donated a total of RMB11.441 million for prevention and control of the pandemic, rural revitalization, disaster relief and other purposes, demonstrating the social responsibility of the Group. At the same time, we vigorously carried out school-enterprise cooperation, promoted the combination of enterprises, universities, and research institutions, and boosted technological innovation and development of the industry to create a sustainable win-win ecosystem.



2023年是全面貫徹落實黨的二十大精神的開局之年，旭陽集團將以商業模式創新、體制機制創新、科技產品創新為引擎，通過多方式增長、多產業發展、多區域佈局，穩步推進集團事業的全國佈局和全球開拓，推進產業發展與自動化、信息化同步提升，加速向數字化、智慧化轉型，形成高端化工、高新技術產業發展的內生動力，以「世界領先的能源化工公司－創新引領未來」為願景目標，持續提升企業在全國乃至全球產業鏈和價值鏈中的地位，為國家經濟發展做出新的更大貢獻。

2023 is the first year to fully implement the spirit of the 20th National Congress of the Communist Party of China. Risun Group will make use of the innovation of business model, institution and mechanism, and technology and product to steadily promote the national layout and global expansion of the Group's business, facilitate industrial development as well as automation and informatization, accelerate the transformation to digitalization and intelligence, and develop an internal driving force for the development of high-end chemical industries and high-tech industries through multi-mode growth, multi-industry development, and multi-region layout. Risun Group will also adhere to our corporate vision of "The World's Leading Energy Chemical Company – Innovation Leads to the Future" and continue to move upwards in the national as well as the global industrial chain and value chain to further contribute to the economic development of China.

楊雪崗

Yang Xuegang
中國旭陽集團董事長

Chairman of China Risun Group



2022 耕耘與收穫

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2022 耕耘與收穫

Efforts and Achievements in 2022



2022年集團十大事件 Ten Key Events in 2022

事件 5 Event 5

集團設立「集團商品研究院」，進一步提升集團對自身商品及行業、市場的研究力、創新力以及商品可持續性，對集團產業佈局、發展戰略提供支持，實現集團高質量、可持續發展。

The Group established its own “Commodity Research Institute” to further strengthen the Group’s R&D on its own commodities, the industry as well as the market, improve the sustainability of the Group’s commodities, and provide support for the Group’s industrial layout and development strategy, so as to achieve high-quality and sustainable development of the Group.

事件 4 Event 4

集團設立旭陽物產（新加坡）有限公司，進一步拓展集團海外市場，充分利用新加坡的金融、航運、貿易網絡、資本、人才、地緣等優勢，高效支持印尼及其他海外項目發展及開展國際貿易、證券與融資等業務，實現業務國際化發展。

The Group set up Risun Materials (Singapore) Pte Ltd to further expand its overseas market and make full use of Singapore’s advantages in finance, shipping, trade network, capital, talents and geography to efficiently support the development of projects in Indonesia and other overseas projects and carry out international trade, securities and financing businesses, so as to internationalize its business activities.



事件 1
Event 1

集團入榜2022年《財富》中國500強排行榜，位列榜單第322位。集團2019年3月15日在香港主機板上市當年即躋身《財富》中國500強，並於後續逐年上榜。2022年第四次上榜，榜單排名較歷史最好位次提前82名。

The Group came 322nd on the 2022 Fortune China 500 List, which is 82 places ahead of its all-time best. The Group was listed on the main board of Hong Kong Stock Exchange on March 15, 2019 and included in the Fortune China 500 List in the same year and every year since then.



事件 2
Event 2

恒生指數有限公司宣佈旭陽集團從小型股調整為中型股，納入恒生大中型股指數，集團成長性與可持續性獲得資本市場高度認可。

Hang Seng Indexes Company Limited announced that Risun Group has been adjusted from small-cap to mid-cap and included in the Hang Seng Large-Mid Cap (Investable) Index, which indicates that the growth potential and sustainability of the Group have been highly recognized by the capital market.

事件 3
Event 3

集團舉行旭陽大廈落成典禮及集團總部創立20周年大會，完成集團總部喬遷，標誌著集團將開啟大規模全球開拓，打造世界知名跨國公司的新征程。

The Group held the inauguration ceremony of Risun Plaza and the 20th anniversary ceremony of the Group's headquarters, and completed the relocation of the Group's headquarters, which marks that the Group has embarked on a new journey of developing its global footprint and building a world-renowned multinational company.





2022 耕耘與收穫 Efforts and Achievements in 2022



事件 6 Event 6

集團在河北旭陽能源有限公司設立環保研究所，旨在更好引領集團煤焦化工生產公司環保技術發展，加速集團環保裝置迭代更新，持續提升集團的環保研發創新能力。

The Group set up an environmental protection research institute at Hebei Risun Energy Limited, aiming to better lead the development of environmental technology of coking and chemical production companies of the Group, accelerate the iteration and update of environmental protection equipment of the Group, and continuously improve the Group's research, development and innovation capabilities in the field of environmental protection.

事件 10 Event 10

集團位於河北省的所有生產公司，包括河北旭陽能源有限公司、河北中煤旭陽能源有限公司、滄州旭陽化工有限公司、唐山旭陽化工有限公司、唐山旭陽芳烴有限公司、邢台旭陽煤化工有限公司等，全部獲批環保績效A級企業。

All production companies of the Group, including Hebei Risun Energy Limited, Hebei China Coal Risun Energy Limited, Cangzhou Risun Chemical Limited, Tangshan Risun Chemical Limited, Tangshan Risun Aromatic Products Limited, and Xingtai Risun Coal Chemical Limited, have been awarded the "Grade A Environmental Performance Certificate".



事件 7
Event

集團設立集團集採中心，全面提高採購效率，保障供貨質量，加強供應鏈管理水平，提升供應鏈可持續發展能力。

The Group established a centralized procurement center at group level to comprehensively increase procurement efficiency, guarantee supply quality, strengthen supply chain management, and improve supply chain sustainability.

事件 8
Event

集團發佈《2021環境、社會及管治報告》。該報告為自公司上市以來連續第四年、首份單獨成冊發佈，全面介紹了旭陽集團2021年ESG管理與實踐。

The Group released the 2021 Environmental, Social, and Governance Report, which details Risun Group's ESG management and ESG practice in 2021. It is the fourth ESG report issued by the Company since its listing as well as the first separate ESG report published by the Company.

事件 9
Event

集團邢台園區焦爐煙氣7,500噸／年二氧化碳捕集示範項目建成投用。該項目創造了行業最快建設紀錄，是全國焦化行業首例建成投用的焦爐煙氣二氧化碳捕集項目，並入選2022年河北省工業綠色發展示範項目與河北省第二批二氧化碳捕集利用與封存試點項目名單，對整個焦化行業落實「碳達峰」、「碳中和」戰略具有重大示範引領和指導意義。

Xingtai Base's 7,500 tons/year COFG Carbon Dioxide Capture Demonstration Project was completed and put into use. This project is the fastest built project and the first project of capturing carbon dioxide from coke oven flue gas completed and put into use in China's coking industry. It has been included in Hebei's "2022 Industrial Green Development Demonstration Project List" and the "List of Carbon dioxide Capture, Utilization and Storage (CCUS) Pilot Projects in Hebei Province (Second Batch)" and played a pilot role in guiding the coking industry to implement the "carbon peaking" strategy and "carbon neutrality" strategy.





ESG 亮點與績效 ESG Highlights and Performance

綠色 Green

管理亮點 Management

- 完成《碳排放及碳資產管理制度》編製，確保「雙碳」管理工作流程順利實施；
The Group complied the *Carbon Emissions and Carbon Assets Management System* to ensure successful implementation of the “Carbon Peaking and Carbon Neutrality” management;
- 發佈《旭陽集團氫能發展規劃》，從「雙碳」背景下的氫能定位、氫能產業鏈及典型企業發展路徑、集團發展氫能的優勢、旭陽集團氫能發展規劃四個部分，系統規劃集團氫能產業的整體佈局發展；
The Group released the *Risun Group's Hydrogen Energy Development Plan*, and systematically planned the overall layout and development of the Group's hydrogen energy industry from four aspects: hydrogen energy positioning under the background of carbon peaking and carbon neutrality, hydrogen energy industry chain and typical enterprise development path, advantages of Risun in developing hydrogen energy, and Risun's hydrogen energy development plan;
- 制訂並發佈實施全員節能創新工作實施方案，組織開展《2022年「節能周」活動實施方案》，組織一系列節能活動，增強全員節能意識，營造全員節能降耗的工作氛圍；
The Group developed and released the implementation scheme of “Energy-saving Innovation for All”, organized the execution of the *Implementation Scheme of 2022 “Energy-saving Week”*, and coordinated a series of energy-saving activities to enhance the energy-saving awareness for all staff and create a working environment conducive to energy conservation and consumption reduction;
- 組建環保研究所，加大節能降碳技術研發力度。
The Group set up an environmental protection research institute to drive the research and development of energy-saving and carbon-reducing technologies.

減排亮點舉措與成效 Emission reduction measures and results:

- 截至2022年12月31日，集團環保總投資已累計64.83億元；
As of December 31, 2022, the Group's total investment in environmental protection has reached RMB6.483 billion;
- 2022年集團通過技術改造優化，全年減排169,664噸二氧化碳；
In 2022, the Group reduced carbon dioxide emissions by 169,664 tons through technical transformation and optimization;
- 2022年河北旭陽能源有限公司脫硫廢液制酸項目，既解決脫硫廢液的處理難題，減少外排，降低了環境污染的風險，又可作為產品，實現廢物的資源化利用；
Hebei Risun Energy Limited launched the project of producing acid from desulfurization waste liquid in 2022, which may not only solve the problem of desulfurization waste liquid treatment, reduce the external discharge and lower the risk of environmental pollution, but also enable the resource utilization of waste by turning waste liquid into products;



- 定州旭陽氫能有限公司6,000Nm³/h制氫項目投產。此次投產的高純氫生產裝置系旭陽集團氫能產業項目的重要組成部分，同時也是河北省氫能應用示範工業重點項目。項目總投資約5,000萬元，項目製備的高純氫純度達到99.999%，產能12噸/天，每年可減少50,000噸二氧化碳排放；
Dingzhou Risun Hydrogen Limited's 6,000 Nm³/h hydrogen production project was put into operation. This high-purity hydrogen production project is an integral part of Risun's hydrogen energy industry project, as well as a key demonstration project of hydrogen energy application in Hebei Province. With a total investment of about RMB50 million, and a production capacity of 12 tons/day, the project can produce hydrogen with a purity of 99.999% and reduce carbon dioxide emissions by 50,000 tons per year;
- 2022年東明旭陽化工有限公司投資27.67萬元，通過利用回收肫化空壓蒸汽凝水回收工序閃蒸汽至硫酸、廢城除氧器的方式，實現年減排二氧化碳9,528噸；
In 2022, Dongming Risun Chemical Limited invested RMB276,700 to use processes and equipment such as producing sulfuric acid with flash steam from oximated steam condensate recovery system and deaerator for alkali waste, which reduces carbon dioxide emissions by 9,528 tons per year;
- 2022年唐山旭陽化工有限公司投資543萬元，通過對採用電拖鼓風機替代苯酐三期裝置現有汽拖鼓風機，同時對一期汽拖鼓風機改造並擴能，實現苯酐三套裝置運行風機互備，為各裝置穩定運行提供保障，年減排二氧化碳11,765噸；
In 2022, Tangshan Risun Chemical Limited invested RMB5.43 million to replace the existing steam-driven gas blowers used in Phase III phthalic anhydride plant with motor-driven gas blowers and transform and expand the capacity of steam-driven gas blowers used in Phase I to enable mutual backup between operating gas blowers used by three sets of phthalic anhydride plants and ensure the stable operation of each plant, which reduces carbon dioxide emissions by 11,765 tons per year;
- 河北旭陽能源有限公司對深度處理後的濃水進行提鹽處理，回用水進循環水池進行回用。濃鹽水提鹽項目建成後，更好地實現了變廢為寶，資源綜合利用；
Hebei Risun Energy Limited extracted salt from the advanced treated concentrated water and sent reused water back into the recycling pool for water reuse. After the construction of the salt extraction project for concentrated brine, the Group can better recycle waste materials and realize comprehensive utilization of resources;
- 2022年滄州旭陽化工有限公司完成VOCs深度治理項目，對環己酮、己內醯胺等裝置涉及的VOCs廢氣進行治理，年減排VOCs約179噸；
In 2022, Cangzhou Risun Chemical Limited carried out the in-depth management of VOCs, controlled the VOCs emitted by cyclohexanone plants and caprolactam plants, which reduces VOC emissions by about 179 tons;
- 2022年東明旭陽化工有限公司完成鍋爐煙氣脫硫改造項目，鍋爐煙氣經脫硫系統處理後，煙囪入口SO₂濃度小於35mg/m³，穩定達標排放；
In 2022, Dongming Risun Chemical Limited completed the boiler flue gas desulfurization project. After desulfurization, the flue gas concentration of SO₂ at the chimney inlet is less than 35 mg/m³, which meets the emission standard;
- 2022年集團大力開展植樹造林，綠化美化環境，集團整體綠化覆蓋率達到30%；
In 2022, the Group vigorously carried out the afforestation campaign for environmental greening and landscaping, resulting in an overall green coverage rate of 30%;
- 集團累計獲得授權環保專利69項，累計實施環保項目285項。
The Group obtained a total of 69 authorized patents in environment protection and implemented 285 environment protection projects.



創新 Innovation⁴

- 累計獲得授權專利236項，獲得專有技術授權424項；
A total of 236 patents and 424 propriety technologies were granted;
- 現有博士學位員工34人，碩士學位員工300人；
There are 34 employees with doctor's degree and 300 employees with master's degree;
- 現有技術研發人員共計407人，佔比3.57%，其中博士22人，佔比5.41%；碩士127人，佔比31.20%；
There are 407 researchers and developers, accounting for 3.57% of the total. Among them, 22 employees have doctor's degree (accounting for 5.41%) and 127 employees have master's degree (accounting for 31.20%);
- 現有化工工程、冶金工程、電子工程、機電工程以及財務、經濟等門類各級專業技術職稱人員3,337人，其中正高級技術職稱8人、副高級技術職稱126人、中級技術職稱785人、初級技術職稱2,418人；另有1,615名員工取得技師系列專業職業資格，其中高級技師184人、技師201人、高級技工1,230人；
There are 3,337 employees with professional titles at all levels in chemical engineering, metallurgical engineering, electronic engineering, mechanical and electrical engineering, finance and economy, including 8 employees with senior professional title, 126 employees with sub-senior professional title, 785 employees with medium-grade professional title, and 2,418 employees with junior professional titles. There are additional 1,615 technicians with occupational qualification certificate, including 184 senior technicians, 201 technicians and 1230 highly-skilled workers;
- 擁有2家省級工程技術研究中心、2家省級技術創新中心、1家省級重點實驗室、4家省級企業技術中心、6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臺。
There are 2 provincial engineering technology research centers, 2 provincial technology innovation centers, 1 provincial key laboratory, 4 provincial enterprise technology centers, 6 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.

⁴註：此部分數據為合營口徑，除全資子公司外，還包括中煤旭陽、旭陽中燃、旭陽偉山(印尼)、金牛旭陽。

⁴Note: This data covers all joint ventures, in addition to wholly-owned subsidiaries, it also includes China Coal Risun, Risun CHINA GAS, Risun Weishan (Indonesia) and Jinniu Risun.



高效 High efficiency

- 推進自動化、信息化、工業互聯網和智慧製造，採用自動化設備和自控系統，即時收集生產數據、監控生產設備運行，實現生產、運營、管理效率行業領先，所有裝置自控率達到96%，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；

Promote automation, informatization, industrial Internet and intelligent manufacturing, adopt automation equipment and automatic control system to collect production data and monitor the operation of production equipment in real time, and achieve an industry leading status in production, operation and management efficiency. The automatic control rate of all devices reaches 96%, among which the automatic commissioning rate of coking devices reaches 100%, and the automation level of coking equipment is in the leading position in the industry;

- 安全信息化平臺：實現以ERP為主要手段的信息化管理，規範、提升管理水平，形成「垂直一體化集團管控模式」，建立決策信息鏈，為企業各級管理人員提供足夠的決策支援數據。

Safety production information management platform: Realize the ERP-based information management, standardize and improve the management, form a “vertically-integrated group management and control mode”, establish a decision-making information chain, and provide managers at all levels of the enterprise with sufficient data to support their decision-making.



共享 Cooperation

- 在崗員工7,434人，勞動合同簽約率100%；

There are 7,434 employees and the labor contract signing rate of full-time employees is 100%;

- 員工受訓總時長452,058.8小時，員工受訓總場次14,787次；

The total length of employee training is 452,058.8 hours, with 14,787 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%.



2022 耕耘與收穫
Efforts and Achievements in 2022

獎項與榮譽
Awards and Honors
集團獎項與榮譽
Risun Group



ESG披露優化先鋒機構
Pioneering Organization in ESG Disclosure Enhancement

中國香港質量保證局
Hong Kong Quality Assurance Agency



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鉤貸款績效指標
Outstanding Award for Green and Sustainable Loan Issuer (Raw Material Industry) – Visionary Sustainability-linked Loan Performance Metrics

中國香港質量保證局
Hong Kong Quality Assurance Agency



「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



「2022第十二屆中國上市公司口碑榜」
之「最具成長海外上市公司」
“Oversea Listed Company with the Strongest Growth Potential” on the 12th Reputation List of China Listed Companies 2022

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National Business Daily



附屬及合營聯營公司獎項與榮譽
Subsidiaries, joint ventures and associates



國家級重點用水企業
水效領跑者
National Leading Water Efficient Enterprise

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

河北中煤旭陽
Hebei China Coal Risun



河北省省級
「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

河北中煤旭陽
Hebei China Coal Risun



河北企業質量管制40年
功勳企業
Enterprise Quality Management Meritorious Enterprise in Hebei for 40 Years

河北省質量協會
Quality Association of Hebei Province

河北中煤旭陽
Hebei China Coal Risun



河北省節水標杆企業
Water-saving Benchmarking Enterprises in Hebei Province

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

河北中煤旭陽
Hebei China Coal Risun



焦化企業環保績效A級企業
Coking enterprise with a Grade A Environmental Performance Certificate

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

河北中煤旭陽
Hebei China Coal Risun



河北省冶金科技進步二等獎
Second Prize of Metallurgical Science and Technology Progress Award of Hebei Province

河北省金屬學會
Hebei Province Society for Metals

河北中煤旭陽
Hebei China Coal Risun





**河北省產教融合型企業
Hebei Industry-Education-
Research Cooperative
Innovation Award**

河北省發展和改革委員會、河北省教育廳
Hebei Development and Reform Commission,
Hebei Education Department

河北中煤旭陽
Hebei China Coal Risun

**2022年工業互聯網創新
發展項目
2022 industrial Internet
innovation and
development projects**

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

河北中煤旭陽
Hebei China Coal Risun

**山東省首屆化工產業智慧化
改造提升勞動競賽團體三等獎
Third Prize of Shandong's 1st Competition for
Chemical Industry's Intelligent Transformation
and Upgradation (Group Award)**

山東省工業和信息化廳
Department of Industry and Information
Technology of Shandong Province

東明旭陽
Dongming Risun

**河北省省級「職業健康企業」
Provincial "Occupational
Health Enterprise" in Hebei
province**

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

滄州旭陽
Cangzhou Risun

**有機化工行業環保績效
A級企業
Organic chemical enterprise
with a Grade A Environmental
Performance Certificate**

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

滄州旭陽
Cangzhou Risun

**國家級重點用水企業
水效領跑者
National Leading Water
Efficient Enterprise**

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

河北旭陽
Hebei Risun

**河北省科技領軍企業
Hebei Provincial Science and
Technology Leading Enterprise**

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

河北旭陽
Hebei Risun

**中國工業數字化領航企業
China's Industrial Digital
Transformation Pilot Enterprise**

中國智慧製造高峰論壇
China Intelligent Manufacturing
Summit Forum

河北旭陽
Hebei 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

河北旭陽
Hebei Risun

**焦化企業環保績效A級企業
Coking 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

**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

**博士後創新實踐基地
Postdoctoral Innovation
Practice Base**

河北省人力資源和社會保障廳
Hebei Provincial Department of Human
Resources and Social Security

河北旭陽
Hebei Risun



2022 耕耘與收穫
Efforts and Achievements in 2022

**有機化工行業環保績效
A級企業**
**Organic chemical enterprise
with a Grade A Environmental
Performance Certificate**
河北省生態環境廳
Department of Ecology and
Environment of Hebei Province
唐山旭陽化工
Tangshan Risun Chemical

**唐山市互聯網與先進製造業
融合發展重點項目**
**Key Project of Integrated Development
of the Internet and Advanced
Manufacturing of Tangshan**
唐山市工業和信息化局
Bureau of Industry and Information
Technology of Tangshan
唐山旭陽化工
Tangshan Risun Chemical

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
唐山旭陽化工
Tangshan Risun Chemical

博士後創新實踐基地
**Postdoctoral Innovation
Practice Base**
河北省人力資源和社會保障廳
Hebei Provincial Department of
Human Resources and Social Security
唐山旭陽化工
Tangshan Risun Chemical

河北省科技領軍企業
**Hebei Provincial Science and
Technology Leading Enterprise**
河北省科學技術廳
Hebei Provincial Department of
Science and Technology
邢台旭陽化工
Xingtai Risun Chemical

河北省節水型企業
**Water Saving Enterprises
in Hebei Province**
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
邢台旭陽化工
Xingtai Risun Chemical

河北省省級安全文化示範企業
**Provincial Safety Culture
Demonstration Companies in
Hebei Province**
河北省應急管理廳
Department of Emergency
Management of Hebei Province
邢台旭陽化工
Xingtai Risun Chemical

**有機化工行業環保
績效A級企業**
**Organic chemical enterprise
with a Grade A Environmental
Performance Certificate**
河北省生態環境廳
Department of Ecology and
Environment of Hebei Province
邢台旭陽化工
Xingtai Risun Chemical

河北省省級綠色工廠
**Provincial Green Factory
in Hebei Province**
河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province
邢台旭陽煤化工
Xingtai Risun Coal Chemical

**工業控制系統信息安全
試點企業**
**Pilot enterprise for
industrial control system
information security**
河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province
邢台旭陽煤化工
Xingtai Risun Coal Chemical

**河北省專精特新中小企業
“Specialized, Delicacy,
Characteristic and Novelty”
SMEs of Hebei Province**
河北省工業和信息化廳
Industry and Information Technology
Department of Hebei Province
邢台旭陽煤化工
Xingtai Risun Coal Chemical

**有機化工行業環保
績效A級企業**
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河北省生態環境廳
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Xingtai Risun Coal Chemical



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

邢台旭陽化工
Xingtai Risun Chemical

國家級綠色工廠2022年度全國甲醇行業能效「領跑者」
National Green Factory 2022 National Energy Efficiency "Leader" in Methanol Industry

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

金牛旭陽
Jinniu Risun

呼和浩特市六大產業集群鏈主企業(第一批)
Chain-leader Enterprises of Hohhot's 6 Major Industrial Clusters (First Batch)

中共呼和浩特市委員會和呼和浩特市人民政
府
Hohhot Municipal Committee of the Communist Party of China and People's Government of Hohhot Municipality

旭陽中燃
Risun CHINA GAS

上述之外，河北邢台旭陽經濟開發區入榜全國2022年度綠色製造名單，獲國家工業和信息化部批准成為國家級綠色工業園區。

In addition to the above, Hebei Xingtai Xuyang Economic Development Zone was included in the "National Green Manufacturing List for 2022", and was approved by the Ministry of Industry and Information Technology (MIIT) as a national green industrial park.







可持續發展管理

Sustainable Development Management

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可持續發展管理 Sustainable Development Management

本集團積極踐行可持續發展理念，履行企業社會責任，建立以董事會為核心的社會責任管理體系，持續回應並滿足利益相關方要求等舉措。同時，集團積極籌備成立可持續發展委員會，明確集團可持續發展戰略、架構及管理模式，推動可持續發展融入企業日常運營及每位員工日常工作中。

The Group has actively pursued sustainable development, fulfilled its corporate social responsibilities, established a social responsibility management system with the Board of Directors as the core and continuously responded to and meet the requirements of stakeholders. Meanwhile, the Group has prepared for the establishment of the Sustainable Development Committee, developed the Group's sustainable development strategy, structure and management mode, and promoted the integration of sustainable development into the routine operations of the Group and the daily work of every employee.

公司治理 Corporate Governance

良好的公司治理是實現自身可持續發展的基礎。本集團持續完善公司治理制度，推動管理水平不斷提升，促進股東大會、董事會及其專門委員會、高級管理層、各職能部門組成的公司管治機構權責法定、權責透明、協調運轉、有效制衡。

Sound corporate governance is the foundation of realizing sustainable development. The Group has constantly improved its corporate governance system, enhanced its management level and promoted the legalization of powers and responsibilities, transparency of powers and responsibilities, coordinated operation and effective checks and balances of corporate governance institutions composed of shareholders' meeting, board of directors and its special committees, senior management and various functional departments.

公司治理架構 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、年終帳目、收益分派方案、資本增加或減少方案及相關檔；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9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 9 board meetings, and directors of the Group actively participated in 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
Senior Management

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.

專業委員會
Special Committees

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.



股東和投資者溝通

Shareholders and investors communication

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。本集團高度重視股東的意見及建議，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、財務信息、企業管治常規及其他內容的最新信息，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。

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.

本集團認為，良好投資者關係有助於建立更穩固的股東基礎，因此，自上市起，本集團一直並將致力維持較高透明度，遵守上市規則並將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。本集團通過舉辦路演、參加投資者峰會、自願披露信息等方式加強與投資者之間的溝通，讓投資者了解企業策略及業務營運狀況。

The Group believes that sound relations with investors are conducive to establishing a more stable shareholder base. Therefore, since its listing, the Group has been and will be committed to maintaining high transparency, complying with the listing rules, providing comprehensive and accurate information to investors in a timely manner, and continuously fulfilling the responsibility of information disclosure as a listed company. The Group strengthens communication with investors through road shows, investor summits and voluntary disclosure of information, so that investors can better understand the strategy and business operation of the Group.

董事會多元化

Diversity of the Board of Directors

為了提高董事會的業績質量並支持實現本集團的策略性目標及可持續發展，我們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，包括但不限於性別、技能、年齡、專業經驗、知識、文化及教育背景、種族及服務年期，以求實現董事會多元化。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。

We have adopted the board diversity policy to improve the performance of the Board of Directors and achieve the Group's strategic goals and sustainable development. As per the board diversity policy, and will consider many factors, including but not limited to gender, skills, age, professional experience, expertise, cultural and educational background, race and length of service, in order to achieve diversity of the Board of Directors. 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.



我們的董事具備不同知識及技能，包括整體管理及戰略發展、銷售及市場推廣、財務及會計、法律、諮詢及企業管治，並擁有焦炭行業經驗。我們的董事亦取得各種專業的學位，包括工商管理、煤化工、冶金工程、工業經濟管理、會計、統計、法律、國際貿易及化學工程。

Our directors have rich knowledge and skills, including overall management and strategic development, sales and marketing, finance and accounting, law, consulting and corporate governance, and have experience in coke operation. They have also earned various professional degrees, including business administration, coal chemistry, metallurgical engineering, industrial economic management, accounting, statistics, law, international trade and chemical engineering.

旭陽集團董事會董事專業背景分佈情況								
Academic Backgrounds of Board Members of Risun Group								
專業	煤化工	冶金工程	會計	統計	化學工程	法律	管理	國際貿易
Profession	Coal chemistry	Metallurgical engineering	Accounting	Statistics	Chemical engineering	Law	Management	International trade
人數	1	1	2	1	1	3	3	1
Number								

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32歲至64歲不等。

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 32 to 64.

旭陽集團董事會董事年齡分佈情況				
Age Groups of Board Members of Risun Group				
年齡段	30-40歲	41-50歲	51-60歲	61-70歲
Age Group	30-40	41-50	51-60	61-70
人數	1	1	5	2
Number				



在九名董事中，只有楊雪崗先生與楊路先生有關聯。儘管缺乏性別多元化，但考慮到我們現有的業務模式及特定需要，以及董事的不同背景及能力，董事會的組成符合董事會多元化政策，女性董事會成員任命事宜已在籌備中。

Among these 9 directors, only Mr. Yang Xuegang is related to Mr. Yang Lu. Despite the lack of gender balance, the composition of the Board of Directors complies with the board diversity policy, considering our existing business model and specific needs as well as the different industry backgrounds and capabilities of our directors. In addition, Risun is currently making preparation for the appointment of female board members.

ESG管理 ESG Management

本集團設立環境、社會及管治(ESG)工作小組。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。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。

The Group established an environmental, social, and governance (ESG) working group. 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 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.

合規與風險管理 Compliance and Risk Management

風險管理 Risk management

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。

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

分管副總裁
Sectorial 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

共開展合同審核風險培訓 **35** 場次
a total of **35** training sessions on contract

參加培訓人員數超過 **500** 餘人
involving more than **500** trainees



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；推動合同信息化平臺落地，在客戶前期資質審核、合同簽訂、合同審核、合同履行管理、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。2022年共開展合同審核風險培訓35場次，參加培訓人員數超過500餘人。

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 2022, there were a total of 35 training sessions on contract audit risk, involving more than 500 trainees.



廉潔經營

Operate with honesty and integrity

本集團嚴格遵守《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》及香港《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。

The Group strictly abides 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 implements its anti-corruption responsibility, and carries out anti-corruption education at various levels by improving its 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.

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。

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》《紅線禁令制度》《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*, *Red Line Prohibition System*, *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 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舉報管道；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.

集團及各子公司設有舉報電話及郵箱
The Group and its subsidiaries have tip-off phone numbers and email addresses.

集團及各子公司設有舉報箱
The Group and its subsidiaries have tip-off boxes.



官方微信設有「旭陽集團監察審計部服務監督平臺」
"Service Supervision Platform of Supervision and Audit Department of Risun Group" on official WeChat

集團及各子公司在醒目位置公示舉報聯繫方式
The contact information of the Group and its subsidiaries for tip-off is shown in conspicuous positions.





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定，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、利益回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，定期在員工大會、經辦會、專題會、晨會上進行警示教育，並定期在集團內發佈警示教育材料，加強警示培訓。

The Group carries out full-coverage warning training activities frequently, gives warning education at staff meetings, day-to-day meetings, special meetings and morning meetings, and publishes warning education materials and strengthens warning training on a regular basis.

利益相關方參與
Stakeholders Participation

利益相關方溝通
Stakeholders communication

本集團在年度工作過程中持續保持與利益相關方的溝通，涉及股東、政府及監管機構、客戶、合作夥伴、員工、社區等，通過與利益相關方座談會等多元化溝通管道，持續聆聽利益相關方期望與要求，並針對利益相關方的意見及時做出回應。集團從可持續發展角度出發，整理並形成利益相關方溝通情況表，為集團重要性議題識別工作提供基礎。

The Group maintained communication with stakeholders (including shareholders, governments and regulatory authorities, customers, partners, employees, community, etc.) during the year, and listened to the demands and appeals of the stakeholders and made responses to the opinions of the stakeholders in a timely manner through diversified channels, including the forum with stakeholders. The Group collated and prepared stakeholders communication form from the perspective of sustainable development, and laid a foundation for identification of material topics of the Group.



利益相關方 Stakeholders	溝通管道 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 智慧財產權保護 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 服務與回饋回應保障 Service and feedback response guarantee
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 暢通的溝通管道 Expedite communication channels 認真執行合作協定 Conscientiously implement cooperation agreement



利益相關方 Stakeholders	溝通管道 Communication Channels	關注議題 Topics
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 線上服務平臺 On-line service platform 	<ul style="list-style-type: none"> 共同成長 Mutual development 項目合作 Project cooperation 資源分享 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
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

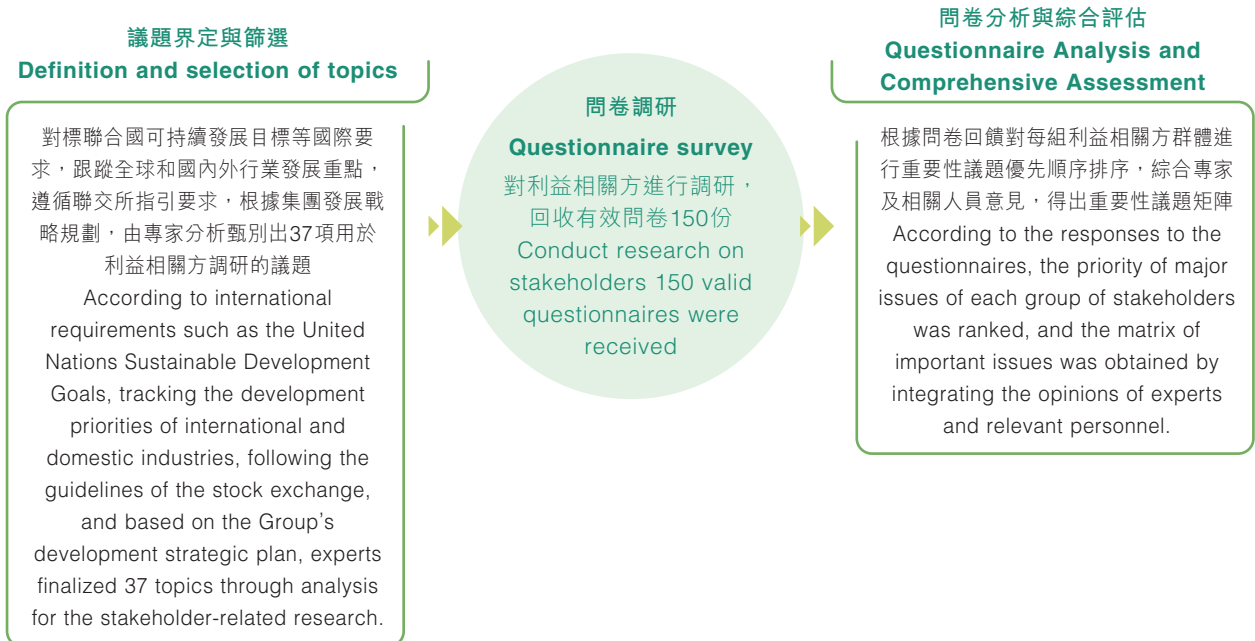


重要性議題識別過程

Identification Process of Material Topics

本集團依據《香港聯合交易所有限公司證券上市規則》附錄二十七《環境、社會及管治相關指引》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。

With respect to topics concerning the environment, social, and governance, the Group, in accordance with Appendix 27 “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.



議題界定與篩選

Definition and selection of topics

對標聯合國可持續發展目標等國際要求，跟蹤全球和國內外行業發展重點，遵循聯交所指引要求，根據集團發展戰略規劃，由專家分析甄別出37項用於利益相關方調研的議題

According to international requirements such as the United Nations Sustainable Development Goals, tracking the development priorities of international and domestic industries, following the guidelines of the stock exchange, and based on the Group's development strategic plan, experts finalized 37 topics through analysis for the stakeholder-related research.

問卷調研

Questionnaire survey

對利益相關方進行調研，回收有效問卷150份
Conduct research on stakeholders 150 valid questionnaires were received

問卷分析與綜合評估

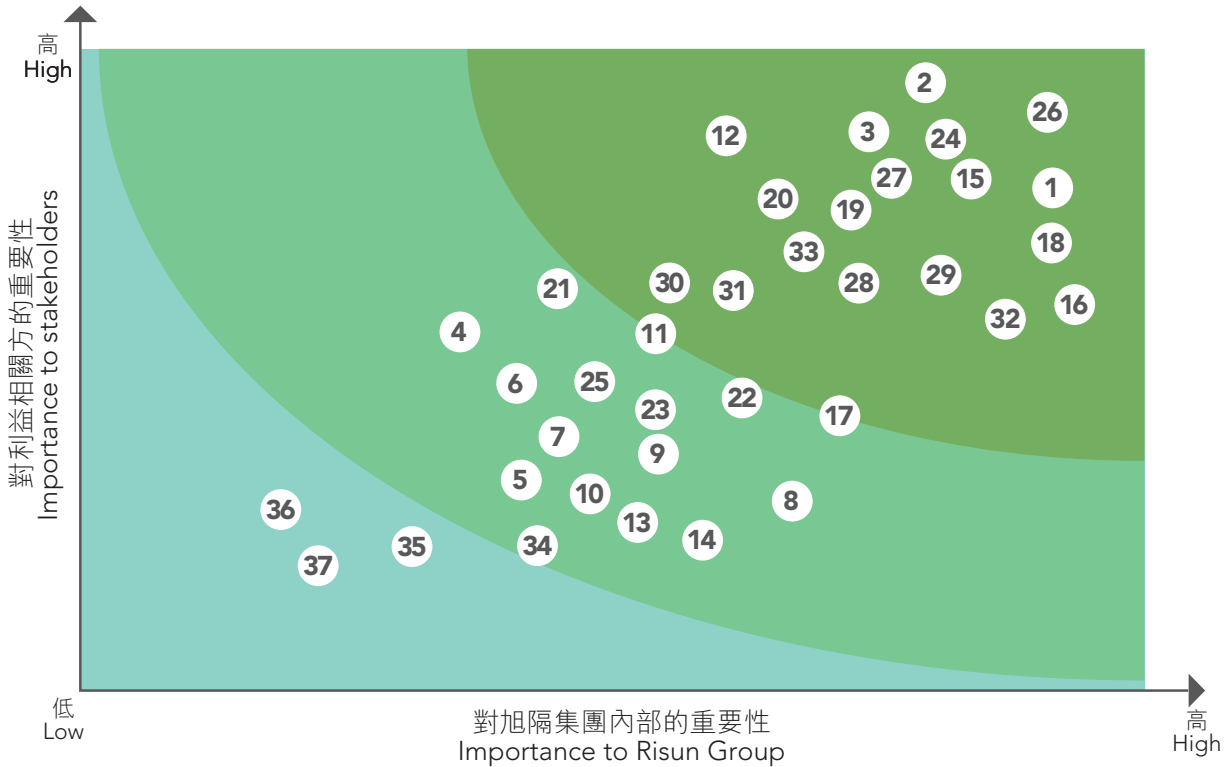
Questionnaire Analysis and Comprehensive Assessment

根據問卷回饋對每組利益相關方群體進行重要性議題優先順序排序，綜合專家及相關人員意見，得出重要性議題矩陣

According to the responses to the questionnaires, the priority of major issues of each group of stakeholders was ranked, and the matrix of important issues was obtained by integrating the opinions of experts and relevant personnel.



重要性議題識別結果
Results of Identification of Major Topics



高關注度議題
Topics of high concern

- 1 良好的業績
Good performance
- 2 合規運營
Compliance operation
- 3 公司治理
Corporate governance
- 6 利益相關方溝通
Stakeholder communication
- 9 發展清潔能源（氫能）
Develop clean energy (hydrogen energy)
- 10 降低生產過程中的污染排放
Reduce pollution and emission in production process
- 11 提高能源資源的利用效率
Improve the efficiency of utilization of energy resources
- 12 降低碳排放，應對氣候變化
Reduce carbon emissions and cope with climate change
- 14 安全文化建設
Safety culture construction

- 15 安全生產投入
Safety production input
- 16 職業健康安全培訓
Occupational health and safety training
- 17 職業健康安全措施
Occupational health and safety measures
- 18 安全生產事故
Safety production accidents
- 19 職業病發生率
Incidence rate of occupational diseases
- 20 公平採購
Fair procurement
- 24 產品品質管制
Product quality management
- 26 客戶服務品質
Customer service quality
- 27 客戶權益保障
Safeguard customers' rights and interests

中關注度議題
Topics of medium concern

- 4 反腐敗
Anti-corruption
- 7 碳達峰碳中和
Carbon peaking and carbon neutrality
- 22 供應鏈環境、社會風險管理
Environmental and social risk management in supply chain
- 25 不合格產品處置
Disposal of unqualified products
- 28 智慧財產權
Intellectual property right
- 29 科技創新
Scientific and technological innovation
- 30 平等僱傭
Employment equality
- 31 規範用工
Employment by laws and regulations
- 32 保障員工權益
Safeguard employees' rights and interests
- 33 員工培訓與發展
Employee training and development

低關注度議題
Topics of low concern

- 5 ESG治理
ESG governance
- 8 設定環境目標完善環境管理
Environment objectives
Environment and biodiversity management
- 13 環境及生物多樣性保護
Environmental and biodiversity protection
- 21 供應商HSE管理體系審核
Audit of HSE management system for suppliers
- 23 綠色採購
Green procurement
- 34 員工關愛與幫扶
Care for employees and support
- 35 鄉村振興
Rural revitalization
- 36 慈善捐贈
Charity and donations
- 37 員工志願者活動
Volunteer activity among employees



可持續發展實踐

Sustainable Development Practices

環境篇

Environment

環境管理

Environmental Management

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應對氣候變化

Response to climate change

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綠色生態

Green ecology

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資源節約

Resource saving

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排放管理

Emission management

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水資源管理

Water resource management

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社會篇

Society

健康與安全

Health and safety

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優質產品

Quality products

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供應鏈管理

Supply chain management

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員工發展

Development of employees

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社區共贏

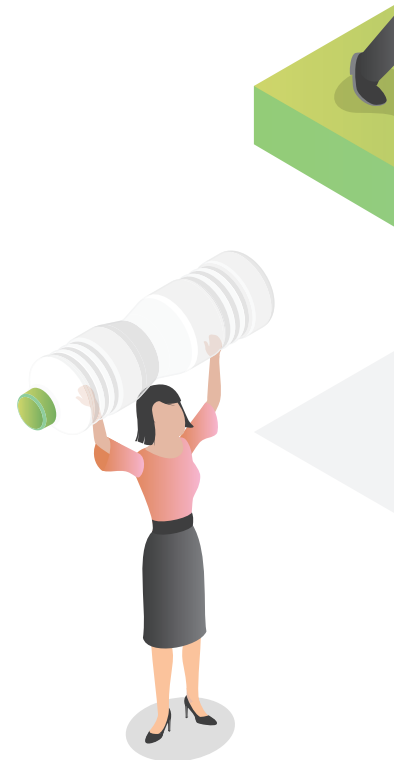
Community public service

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推動行業發展

The promotion of industrial development

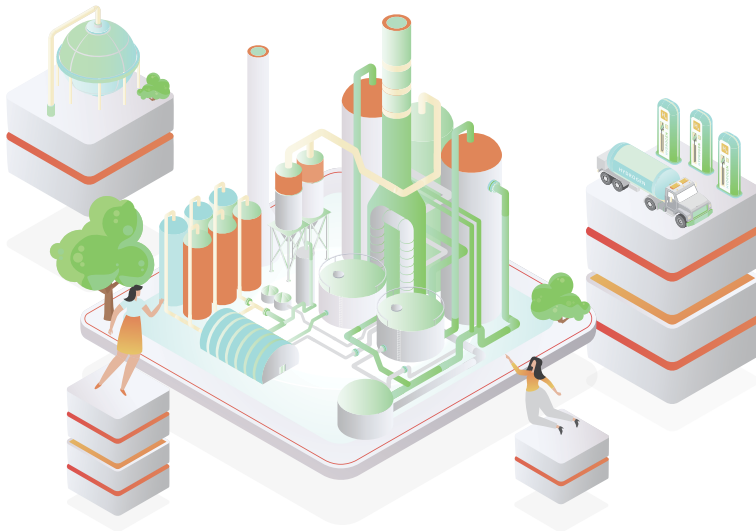
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可持續發展實踐 Sustainable Development Practices



本集團將可持續發展融入企業日常運營與實踐，搭建環境管理體系，踐行「兩山」原則，保護地球家園，助力國家「雙碳」目標實現；建立產品質量監測與職業健康安全架構，輸出優質放心產品，與員工及供應商夥伴共同進步；積極回應國家鄉村振興號召，持續發揮自身產業優勢帶動鄉村經濟與就業，彰顯「旭陽溫度」。

The Group has integrated sustainable development into its daily operation and practices, built an environmental management system and implemented the concept of “Lucid waters and lush mountains are invaluable assets” to protect the earth and contribute to the realization of China’s “double carbon” goal. Additionally, the Group has established a product quality monitoring and occupational health and safety management framework, produced high-quality and reliable products, and made progress together with its employees and suppliers. Furthermore, the Group has actively responded to China’s call for rural revitalization and continued to leverage its own industrial advantages to drive rural economy and employment to fulfill Risun’s social responsibilities.

環境管理 Environmental Management

集團認真貫徹嚴格遵守《中國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》《中國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》等國家資源節約和環境保護方針政策，積極踐行綠色低碳循環發展理念，遵循「遵紀守法、防治結合、節能降耗，持續改進」的環境方針，不斷完善環境管理體系和管理制度，針對建設項目、環境影響監測、突發環境事件等維度，推動環境保護責任從管理到實踐，並積極開展節能環保教育，提升全員環保意識，讓全員成為環境保護的責任人和踐行者，共同守護美麗家園。

The Group earnestly 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 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 guidelines and policies for resource conservation and environmental protection. We actively implement the concept of green and low-carbon cycle development, follow the environmental guidelines of “abiding by law, combining prevention with control, saving energy and reducing consumption, and continuously improving”, constantly improve the environmental management system and management regulations from the dimensions including projects under construction, environmental impact monitoring, environmental emergencies, promote the responsibility of environmental protection from management to practice, actively carry out educational activities on energy conservation and environmental protection, enhance the environmental protection awareness among employees, and encourage all employees to become the responsible persons and practitioners of environmental protection and jointly protect our beautiful homes.



資源節約

Resource saving

焦化行業屬於典型的能源加工轉換類行業。集團始終致力於構建綠色節能企業，依托於完整的產業鏈，從生產的全流程、全工序統籌，多維並舉開展各種節能措施，推動原料、產品護衛依托、公用介質相互供應、能源充分利用，充分實現原料、產品、餘熱、餘壓、三廢的綜合利用。一方面，注重節能裝置和設備建設，投資建設了智慧能源管控中心、煙道氣餘熱回收、工業餘熱供暖、乾熄焦發電等大型節能項目，有效實現能效提升。另一方面，注重實際運行的精益控制，比如減少能源投入、注重餘熱餘能資源回收利用等，能夠有效提高能源利用效率，降低單位產品能耗，實現全產業鏈綠色、低碳、節能運營。

Coking industry is a typical energy processing and conversion industry. The Group has always been committed to building a green energy-saving enterprise. Relying on its complete industrial chain, the Group has coordinated the whole production processes and procedures, carried out various energy-saving measures in multiple dimensions, promoted the mutual complementation of raw materials and products, the mutual supply of public medias and the full utilization of energy, and fully realized the comprehensive utilization of raw materials, products, residual heat, residual pressure and three wastes. On the one hand, the Group emphasized on the construction of energy-saving devices and equipment and have invested in construction of large-scale energy-saving projects such as the smart energy control center, flue gas residual heat recycling, heating by industrial residual heat, dry coke power generation, effectively realizing the improvement of energy efficiency. the Group emphasized on the lean control of actual operation, such as reducing energy input, focusing on recycling and utilization of residual heat and energy resources, which may effectively improve energy utilization efficiency, reduce energy consumption per unit product, and realize the green, low-carbon and energy-saving operation of the whole industrial chain.

- 制定並不斷完善《污染物排放管理制度》《環境監測管理辦法》《環保設施管理制度》《環保責任制度》《環保考核細則》《環境保護培訓制度》《排污申報管理辦法》《固體廢物管理辦法》《重污染天氣應急回應「一廠一策」實施方案》等管理制度與辦法，形成環境管理制度體系。

環境管理制度

Environmental management system

The Group formulated the *Pollutant Discharge Management System, Management Measures for the Environmental Monitoring, Management System for the Environmental Protection Facilities, Environmental Protection Responsibility System, Regulation of Environmental Protection Assessment, Environmental Protection Training System, Management Measures for the Pollution Discharge Declaration, Management Measures for Solid Waste, Implementation Plan of "One Plant, One Policy" for Emergency Response to Heavily Polluted Weather*, and other management systems and measures, thus forming its environmental management system.

- 不斷優化完善六級環保管控體系，在集團層面設置專門的環保管理委員會，在園區實行環保管理一體化，在各子公司建立環保管理委員會，推動班組環保管理縱向到底，實現每個人都是環保管理執行者，各層級崗位責任明確，目標清晰，並通過設立考核激勵機制確保體系運行持續改善。

環境管理體系建設

Construction of environmental management system

The Group continues to improve the sound six-level environmental protection management and control system. The Group set up a special environmental management committee; the base implemented the integration of environmental management; the Company established an environmental management committee; the team's environmental management was vertical to the end; everyone was an environmental management executor, and the posts at various levels had clear responsibilities with clear goals. The Group ensured continuous improvement of system operation through establishing the assessment and incentives mechanism.



環境管理架構

Environmental management framework

- 建立完善環境管理網絡化架構及分級管理制度，確保環境管理「人人有責」；
The Group established and improved the networked framework of environmental management and the hierarchical management system to ensure that everyone bears his share of the responsibility for environmental management;
- 完善管理環境問題監督流程，建立環保隱患排查管控程式，採用車間班組自查和公司檢查相結合的方式，發現問題後及時整改，並均按照「檢查、通報、整改、複查」的要求完成閉環管理，杜絕環保隱患。
The Group improved the supervision process for environmental issue management, established the process to investigate and control environmental hazards, adopted a combination of workshop self-inspection and company inspection to detect and rectify problems in a timely fashion, and carried out the closed-loop management consisting of “inspection, notification, rectification, and review” to eliminate environmental hazards.

建設項目環保管理

Environment-friendly management of projects under construction

- 依照國家相關法律法規要求，進行環境影響評價，並嚴格執行環保「三同時」制度；
The Group carried out environmental impact assessment in accordance with relevant national laws and regulations, and strictly implement the “three-item” system on environmental protection;
- 在施工場地揚塵管理遵循「業務負責、屬地管理、層層監督」的原則和「六個百分百、兩個禁止」的管控標準。
In terms of dust management at the construction site, the Group follows the principle of “business responsibility, localized management, layer-by-layer supervision” and the control standard of “six 100%s and two prohibitions”.

突發環境事件管理

Environmental emergency management

- 不斷完善《突發環境事件應急預案》，對生產運行過程中因突發性事件或自然災害導致的環境污染事件及其它潛在環境風險進行識別評價，制定相應處置和預防措施；
Continue improving the *Emergency Plan for Unexpected Environmental Events*, identify and evaluate environmental pollution events and other potential environmental risks caused by unexpected events or natural disasters during production and operation, and work out proper disposal and preventive measures;
- 組織開展焦煤及化工生產板塊環境突發事件應急演練，檢驗車間應對突發環境事件的應急救援和應急處置能力，提高救援隊伍快速反應能力，磨合救援機制，驗證應急預案的可行性、可操作性。
Emergency drills for environmental emergencies in the field of coking coal and chemical production were organized to test the emergency rescue and emergency response capabilities of workshops in dealing with environmental emergencies, improve the rapid response capabilities of rescue teams, adapt the rescue mechanism, and verify the feasibility and repeatability of emergency response plan.



環保培訓

Environmental protection training

- 2022年開展193次節能環保教育培訓，共計培訓11,793人次；
In 2022, 193 educational training sessions on energy conservation and environmental protection were held, involving a total of 11,793 trainees;
- 組織開展《焦化標準規範和固廢環保政策宣貫培訓》；
The training on dissemination and implementation of coking standards and solid waste disposal policies was organized and held;
- 通過「網絡學院」組織開展線上中高層環境專題研討會，以PPT形式做環保專項匯報，培訓內容涵蓋環保法律法規、上級環保檔精神傳達，事故案例等。
Online environmental seminars for middle and senior management were conducted through the “Networking Academy”, and special reports on environmental protection were delivered in the form of PPT presentation, covering environmental protection laws and regulations, main ideas of environmental protection documents issued by authorities, accident cases, etc.

環境管理體系認證

Environmental management system certification

- 提倡按照國家有關環境管理體系認證的規定，積極推進ISO14000環境管理體系建立和認證，提高企業環保管理水平；
Push on with the work on the establishment and certification of ISO14000 environmental management system according to the relevant national regulations on environmental management system certification so as to improve the environmental management level of the enterprise;
- 2022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91.7%。
In 2022, 11 production units of the Group passed the ISO14001 environmental management system certification, with a certification ratio reaching 91.7%.

註：唐山旭陽芳烴公司已具備認證條件，出於公司規劃考慮，暫推遲認證時間。

Note: Tangshan Risun Aromatic Products Limited is ready for certification. Due to the company planning, however, the certification is postponed.



案例
Case

河北旭陽能源有限公司創新環境管理模式，建立完整網路化架構
Hebei Risun Energy Limited innovates the environmental management model and establishes a complete networked framework

河北旭陽能源有限公司定州園區創新環境管理架構與模式，建立完善環境管理網路化架構，施行「公司」「車間」「班組」三級管理，並且在此基礎上明確「五加三」管理模式，「定區域」「定人員」「定職責」「定任務」「定獎懲」，確保每個崗位有人負責，每個排放源有人查，每個指標有人負責，實現環境管理覆蓋全部操作崗位，推進環境保護「人人有責」。

Dingzhou Base of Hebei Risun Energy Limited innovated the model of environmental management, established a complete networked framework, and implemented a three-level management system consisting of the Company, the workshops and the shifts. On the basis of this three-level management system, Dingzhou Base 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 everyone bears his share of the responsibility for environmental protection.

河北旭陽能源有限公司定州園區設置了專職環保監察部作為環保主管部門，並成立環保執法隊，實行24小時執法，配備專職環保管理人員，制定了環保責任制、環保操作規程和各項環保管理制度，每年年初公司各級人員簽訂環保目標責任書，明確環保責任，定期開展檢查監測，做到環保設施運行科學可控。

In addition, Dingzhou Base specifically set up an environmental protection supervision department to be in charge of environmental protection, formed an environmental protection law enforcement team, implemented 24-hour law enforcement operations, equipped the Base with full-time environmental management personnel, and formulated the system of accountability for environmental protection, the standard operating procedure for environmental protection and various environmental management systems. Furthermore, Dingzhou Base required employees at all levels to sign the environmental target responsibility document at the beginning of each year, clarified environmental responsibilities, carried out regular inspections and monitoring, and made the operation of environmental protection facilities scientifically controlled.

河北旭陽能源有限公司定州園區創新環境管理架構與模式
Innovative environmental management framework and model of Dingzhou Base of Hebei Risun Energy Limited

管理模式

環境保護網格化管理是河北省環境管理工作的重要創新，是環保監管體系的重要組成部分。河北旭陽能源有限公司實行「公司、車間、班組」的「三級管理」並在此基礎上明確「五加三」的管理模式，即每級管理特定區域、定人員、定職責、定任務、定獎懲、每個崗位都有人管，每個排污源都有人查，每項指標都有人負責，使環保管理涵蓋了全部操作崗位、全體員工，實現出「橫向到邊、縱向到底」的網絡管理。





管理框架網絡化
公司環保管理三級管理網絡圖



東明旭陽化工有限公司積極開展環保培訓，提升全員環保意識

Dongming Risun Chemical Limited actively carries out environmental protection training and enhances environmental awareness of all staff

案例
Case

2022年東明旭陽化工有限公司開展線上環保培訓，通過「網絡學院」組織全員學習環保知識，提升環保意識與相關技能。集團定期召開中高層周調會進行環保專項匯報，培訓內容涵蓋環保法律法規、上級環保檔精神傳達，事故案例等。

In 2022, Dongming Risun Chemical Limited carried out online environmental training and organized all employees to learn environmental protection knowledge through “Networking Academy” to improve their environmental awareness and related skills. The Group held weekly dispatching meeting for middle and senior management on a regular basis to conduct special reports on environmental protection. The training content covers environmental laws and regulations, main ideas of environmental protection documents issued by authorities, accident cases, etc.



東明旭陽化工有限公司開展線上環保培訓截圖
Screenshot of online environmental protection training carried out by Dongming Risun Chemical Limited



應對氣候變化

Response to climate change

全球氣候變化是人類面臨的最重大而緊迫的挑戰之一。集團作為全球最大的獨立焦炭生產商及供應商，積極落實國家政策，始終以「世界領先的能源化工公司－創新引領未來」為願景，高度重視生產運營過程中溫室氣體排放，主動參照氣候相關財務信息披露工作組(TCFD)建議，圍繞氣候變化帶來的實體風險和轉型風險，推動氣候風險管理融入公司治理、風險管理體系和日常運營，持續優化集團能源結構，提高清潔能源、可再生能源的比例；加大佈局氫能產業，推動集團氫能業務集約高效發展，打造能源轉型卓越服務商，為我國「雙碳」目標貢獻「旭陽力量」。

Global climate change is one of the most significant and urgent challenges facing mankind. As the world's largest independent coke producer and supplier, the Group actively implements national policies, adheres to our corporate vision of "The World's Leading Energy Chemical Company – Innovation Leads to the Future", attaches great importance to greenhouse gas emissions in the process of production and operation, actively refers to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), focuses on the physical risks and transformation risks brought by climate change, promotes the integration of climate risk management into corporate governance, risk management system and daily operations, continues to optimize the Group's energy structure and boosts the share of clean energy and renewable energy. Meanwhile, the Group expands its hydrogen energy industrial layout, promotes the intensive and efficient development of its hydrogen energy business, and strives to build itself into an excellent service provider in energy transformation in an effort to contribute to the realization of China's "double carbon" goal.

氣候變化治理與戰略

Governance of and strategies to address climate change

氣候變化風險治理

Governance of climate change

董事會對氣候變化的相關議題及工作負有監督管理職責，氣候變化相關議題由資本市場部負責牽頭和協調，形成應對氣候變化的相關行動計劃，並由相關部門、子公司進行落實。

The Board of Directors is responsible for the supervision and management of climate change related issues and work. The Capital market Department of the Board of Directors is responsible for leading and coordinating the climate change related issues, and preparing relevant action plans to deal with climate change, which shall be implemented by relevant departments and subsidiaries.

應對氣候變化戰略

Strategies to address climate change

圍繞目標全面分析、調查、核算集團在生產、運輸、辦公等全流程的碳排放來源，並形成相關的行動計劃；成立氫能公司及研究所，大力推進清潔能源轉型，保障集團氣候變化目標完成。

Comprehensively analyze, investigate and calculate the carbon emission sources of the Group in the whole process of production, transportation and office, form relevant action plans; set up hydrogen energy companies and research institutes, vigorously promote clean energy transformation, and ensure the realization of the Group's climate change goals.

應對氣候變化目標(2021-2030)

Targets of climate change (2021-2030)

- 與2060年國家「碳中和」目標相協調，逐步擴大焦爐煤氣制氫產能和節能減排項目的實施

Coordinate with China's national carbon neutrality target by 2060, and gradually expand the capacity of coke oven to produce hydrogen with gas and the implementation of energy conservation and emission reduction projects

- 積極推進碳捕集、碳利用，加大清潔能源開發利用，減少溫室氣體排放

Actively promote carbon capture and utilization, and promote development and utilization of clean energy, to reduce greenhouse gas emissions.



氣候變化風險識別、評估及應對

Identification and evaluation of and response to climate change risks

氣候變化風險識別流程

Process of climate change risk identification



氣候變化風險機遇識別與評估

Identification and evaluation of climate change risks and opportunities

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
政策風險 Policy 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; (4) enterprise operation will be subject to increasingly stringent environmental policies and requirements.</p>	中、長期 Medium- and long-term	<p>集團整體戰略將融入更多應對氣候變化風險的考量；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</p> <p>More considerations will be given to climate change risks in the development of the Group's overall strategy; carbon emission reduction policies will subject the enterprise to financial impacts such as rising electricity costs and additional carbon transaction costs.</p>



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
技術風險 Technical risk	<p>(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</p> <p>(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.</p>	中、長期 Medium- and long-term	<p>對集團整體戰略方向產生影響；新技術及產品研發導致成本提升，利潤降低</p> <p>The overall strategic direction of the Group may be affected; research and development of new technology and product may lead to higher costs and lower profits.</p>
市場風險 Market risk	<p>利益相關方更加關注企業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</p> <p>Stakeholders will pay more attention to emission reduction performance and product greening; the implementation of carbon price policy will lead to the increase of operating costs of enterprise.</p>	中、長期 Medium- and long-term	<p>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；原材料價格上升導致生產升本增加，利潤降低</p> <p>The Group's market behavior will focus more on demonstrating its own actions and achievements in low-carbon transition; rising raw material prices will result in higher production costs and lower profits.</p>
聲譽風險 Reputational risk	<p>集團業務類型屬高排放類企業，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</p> <p>The Group is a high-emission enterprise, and as a result, the emission reduction performance has a great impact on its reputation and poor emission reduction performance will most likely affect its reputation.</p>	長期 Long-term	<p>集團將投入更多資源用於自身減排正面宣傳；不良的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</p> <p>The Group will invest more resources in positive publicity of its own emission reduction achievements; poor emission reduction performance and evaluation result will reduce the Group's financing capacity and affect its operating cash flow.</p>



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
急性風險 Acute risk	<p>集團沿海區域業務可能受到颱風、海平面上升帶來的不利影響 The Group's operations in coastal areas may be negatively affected by typhoons and sea level rise.</p> <p>部分地區持續高溫天氣對公司僱員工作環境帶來不利影響 The continued high temperatures in some areas may adversely affect the working environment of company employees.</p>	長期 Long-term	抵抗風險、災害及相關運營成本增加、產出減少、收入下降、資產質量降低 Rising cost of risk and disaster protection and related operation, lower output, reduced income and declining asset quality.
慢性風險 Chronic risk	<p>集團在乾旱、洪澇頻發區域的業務，可能存在大量積水、溫度過低以及排水等生產運營風險 The Group's operations in areas with frequent droughts and floods may be subject to production and operation risks such as waterlogging, excessively low temperature and drainage issues.</p> <p>集團供應鏈可能處於氣候變化高風險區域而帶來的風險 The Group's supply chain may be located in high-risk areas for climate change, which may bring risks.</p>	長期 Long-term	



氣候變化風險應對措施

Measures in response to climate change risks

應對轉型風險
Coping with the
transformation
risks

開展碳減排專項
行動
Carry out special
actions for
carbon emission
reduction

業務層面

On business level:

- 實施安全儀錶控制系統、污水處理系統、鍋爐濕式電除塵、廢鹼焚燒爐煙氣達標等一系列深度環保提升項目，實現了污水、粉塵、煙氣SO₂、NO_x等超低排放，並在達到超低排放基礎上，創新突破環境治理技術，進一步擴大超低排放覆蓋面，打造更高標準更高水平的生態園區、綠色工廠、潔淨生產線；

Implement a series of in-depth environmental protection improvement projects such as safety instrument control system, sewage treatment system, boiler wet electrostatic precipitator and waste alkali incinerator flue gas standard, and achieved ultra-low emissions of sewage, dust, flue gas SO₂ and NO_x, and on the basis of reaching ultra-low emissions, innovated and broke through environmental treatment technologies, further advanced towards ultra-low emissions to build higher standard and higher level ecological bases, green factories and clean production lines;

- 積極開拓氫能業務，大力佈局「制－儲－運－加－用+研」氫能項目，設立氫能事業部，成立氫能公司，組建氫能研究所，發佈《旭陽集團氫能發展規劃》，引領綠色能源創新發展。

Actively develop hydrogen energy business, develop hydrogen energy projects consisting of hydrogen production, storage, transportation, re-fueling, use and research, set up a hydrogen energy department and a hydrogen energy company, establish a hydrogen energy research institute and officially release the *Risun Group's Hydrogen Energy Development Plan* to lead the innovation and development of green energy.



運管管理層面

On operation and management level:

- 構建清潔低碳安全高效的能源體系，加大可再生能源發展力度；
Build a clean, low-carbon, safe and efficient energy system, and step up the development of renewable energy;
- 積極參與全國碳市場；
Participate in national carbon market with enthusiasm;
- 完成《碳排放及碳資產管理制度》編製，確保「雙碳」管理工作流程順利實施；
Complete the compilation of Carbon Emissions and Carbon Assets Management System to ensure successful implementation of the “Carbon Peaking and Carbon Neutrality” management;
- 制訂並發佈實施全員節能創新工作實施方案，組織開展《2022年「節能周」活動實施方案》，組織一系列節能活動，增強全員節能意識，營造全員節能降耗的工作氛圍。
Develop and release the implementation scheme of “Energy-saving Innovation for All”, organize the execution of the *Implementation Scheme of 2022 “Energy-saving Week”*, and coordinate a series of energy-saving activities to enhance the energy-saving awareness for all staff and create a working environment conducive to energy conservation and consumption reduction.



優化能源結構
Optimize energy structure

- 實施創新驅動發展戰略，開展技術合作，開發綜合能源利用項目；
Implement innovation-driven development strategy, carry out technical cooperation, and develop integrated energy utilization projects;
- 提高清潔能源、可再生能源的比例。近年來，集團用能結構不斷優化，降低企業用能較高的焦炭煉焦煤消耗，2016年洗精煤用能佔比98.07%，2022年下降至91.62%，減少了6.45個百分點，效果顯著。
Increase the proportions of clean energy and renewable energy. In recent years, the Group continuously optimized its energy structure to reduce the consumption of coking coal in the high-energy production process of coke. The energy consumption of clean coal production accounted for 91.62% in 2022, 6.45% down from 98.07% in 2016, indicating a remarkable energy saving result.

實施林業碳匯，
植樹造林
Implement forestry carbon sequestration and carry out afforestation

- 集團高度重視綠化工作，集團各工廠裸露土地均已被樹木或綠草覆蓋，在建築設施、停車場、人行道、廣場周邊均種植了大量鄉土植物，維護簡單、耐候性強，同時有效降低了熱島效應，室外透水率遠高於30%。
The Group attaches great importance to the greening work. The Group has planted trees or green grass on bare land in each base, and grown a large number of plants around building facilities, parking lots, sidewalks and squares, which are not only easy to maintain and weather-resistant, but also effectively reduce the heat island effect, achieving the outdoor permeability rate of much higher than 30%.



極端天氣应急管理
Emergency
management of
extreme weather

- 不斷完善異常天氣《特種設備安全應急指南》《暴風雪極端災害天氣事故專項應急處置預案》《防汛抗洪工作方案》等，並積極組織應急演練，針對性地提高極端天氣回應能力和處置能力；
Continue to improve the *Special Equipment Safety Emergency Guide under Abnormal Weather*, the *Special Emergency Response Plan for Extreme Snowstorm Weather Accidents* and the *Flood Control Plan*, and actively organize emergency drills to improve the response and handling capacity of extreme weather;
- 制定並完善車間防水設備、排水設備及系統的定期檢查機制；
Develop and improve regular inspection mechanism for workshop waterproof equipment, drainage equipment and drainage system;
- 規範突發事件應急措施，購買相關保險。
Standardize emergency measures and purchase related insurance policies.

應對實體風險
Coping with the
entity risks

重污染天氣應急
回應
Emergency
response in
heavily polluted
weather

- 完善應急組織機構管理模式，統籌推動重污染天氣應急回應工作；
Improve the management model of emergency organization to coordinate and promote the emergency response in heavily polluted weather;
- 嚴格落實無組織管控措施，包括對施工區域全部加裝圍擋、對施工區域裸露地面、土堆、料堆進行全面苫蓋等，並在施工區域安裝PM10揚塵線上監測設備，有效減少揚塵；
Strictly implement the unorganized control measures, including installing fences in the construction area, covering the exposed ground, soil pile and material pile in the construction area, and installing PM10 dust online monitoring equipment in the construction area, so as to effectively reduce dust;
- 嚴把車輛准入關，確保施工區域內作業的非道路移動車輛尾氣檢測全部合格，並按監管要求選用清潔能源車輛。
Strictly control vehicle access, ensure that all non-road mobile vehicles operating in the construction area shall be subject to the exhaust gas detection, and select clean energy vehicles according to the regulatory requirements.



河北旭陽能源有限公司成立能源管理中心，科學低碳節能管理
Hebei Risun Energy Limited sets up an energy management center and carries out low-carbon and energy-saving management in a scientific way

案例
Case

河北旭陽能源有限公司定州園區成立能源管理中心，通過能源管理中心的建設，健全各用能環節的節能管理制度，細化深化節能管理，做到用能有計劃、耗能有計量、統計有記錄、考核有定額，進一步完善節能管理體系。成立了一把手任組長的創建工作領導小組，把節能納入企業生產、經營決策的全過程，協調解決創建工作的重大問題；強化各車間、班組節能管理機構力量，車間、班組配備專職或兼職的能源管理人員。

Dingzhou Base of Hebei Risun Energy Limited has set up an energy management center. Through the construction of this center, Dingzhou Base improved the energy-saving management system of all energy consumption links and refined and deepened energy saving management, so as to achieve planned energy consumption, measured energy consumption, recorded statistics and rated assessment and further improve the energy-saving management system. In addition, Dingzhou Base has set up a leading group for the demonstration creation work with the head of enterprise as the group leader, incorporated energy conservation into the production and decision-making process, coordinated and addressed major problems identified in the demonstration creation work, strengthened the capacity of energy-saving management organization of each workshop and shift, and assigned full-time or part-time energy management personnel to the workshops and shifts.





旭陽集團建設全國焦化行業首個焦爐煙氣二氧化碳捕集項目
Risun Group builds the first COFG carbon dioxide capture project in China's coking industry

案例
Case

旭陽集團持續加大綠色低碳發展投入和相關工作及針對性措施力度，率先在河北中煤旭陽能源有限公司建設焦爐煙氣7,500噸／年二氧化碳捕集示範項目。該項目於2022年3月建成投用，設計採用化學吸收法捕集工藝及深冷分離法提純工藝，每年可捕集二氧化碳7,500噸，回收的二氧化碳經深度提純可用於生產可降解塑膠，從而「變廢為寶」，在進一步推動集團邢台園區產業鏈延伸、增加產品附加值的同時，亦有效降低企業碳排放成本支出，促進碳匯交易，兼具顯著環保效益和經濟效益。與此同時，旭陽集團將此項目作為一個開放性產學研平臺，不斷增加綠色能源技術儲備，激發企業科技創新活力，提升產業科技含量，充分發揮其在深化企業和產業轉型升級中的輻射促進作用。

Risun Group continued to increase investment in green and low-carbon development, stepped up efforts to carry out related work and implement targeted measures, and took the lead to build a 7,500 tons/year demonstration project of capturing carbon dioxide from coke oven flue gas in Hebei China Coal Risun Energy Limited. This project was completed and put into operation in March 2022. It is designed to adopt the chemical absorption capture process and the cryogenic distillation-based separation and purification process, and can capture 7,500 tons of carbon dioxide per year. The recovered carbon dioxide can be used to produce degradable plastics after deep purification, thus “turning waste into treasure”. In addition to further promoting the extension of the industrial chain of the Group's Xingtai Base and increasing the added value of products, this project effectively reduces the carbon emission cost of the enterprise, drives carbon sink transactions, and generates both environmental and economic benefits. Meanwhile, Risun Group used this project as an open industry-university-research platform to accumulate green energy know-hows, motivate the technological innovation of the enterprise, enhance the technological content of the industry, and stimulate and facilitate the transformation and upgrading of the enterprise as well as the industry.

2022年5月，河北中煤旭陽能源有限公司焦爐煙氣7,500噸／年二氧化碳捕集示範項目入選河北省工業和信息化廳公佈的「2022年省工業綠色發展示範項目名單」。

In May 2022, Hebei China Coal Risun Energy's 7,500 tons/year COFG Carbon Dioxide Capture Demonstration Project was included in Hebei's "2022 Industrial Green Development Demonstration Project List" issued by the Industry and Information Technology Department of Hebei Province.



河北中煤旭陽能源有限公司焦爐煙氣7,500噸／年二氧化碳捕集示範項目工廠

Plant of Hebei China Coal Risun Energy's 7,500 tons/year COFG carbon dioxide capture demonstration project



旭陽氫能獲國家級清潔氫認證
Risun Hydrogen gets the national clean hydrogen certificate

案例
Case

旭陽氫能順利通過國家氫能及燃料電池汽車示範評價平臺《低碳氫、清潔氫及可再生氫標準及評價》認證，成為國內首批正式獲得示範城市群清潔氫認證的企業。旭陽氫氣產品在生產的全生命週期中碳排放量符合《低碳氫、清潔氫及可再生氫標準及評價》標準中的最高指標，即生產每公斤氫氣的二氧化碳排放量小於5公斤。旭陽氫能產品不僅擁有了嶄新的「清潔能源」名片，在清潔能源轉型與供應推動工作中也將發揮重要作用。

Risun Hydrogen successfully passed the low carbon hydrogen, clean hydrogen and renewable hydrogen certification conducted by the National Hydrogen Energy and Fuel Cell Vehicle Demonstration Evaluation Platform and became one of the first batch of enterprises to obtain the clean hydrogen certificate in China's multi-city cluster FCEV demonstration program. The carbon emission of Risun Hydrogen's products through the whole life cycle of production meets the highest standard specified in the Standard and Evaluation of Low Carbon Hydrogen, Clean Hydrogen and Renewable Hydrogen, that is, the carbon dioxide emission per kilogram of hydrogen produced is less than 5 kilograms. As a result, Risun Hydrogen's products will not only be certified as "clean energy", but will also play an important role in clean energy transformation and supply promotion.



國家氫能及燃料電池汽車示範評價平臺《低碳氫、清潔氫及可再生氫標準及評價》認證

Low Carbon Hydrogen, Clean Hydrogen and Renewable Hydrogen Certification of the National Hydrogen Energy and Fuel Cell Vehicle Demonstration Evaluation Platform



案例
Case

旭陽氫能為國家氫能示範城市提供穩步供應

Risun Hydrogen provides national hydrogen energy demonstration cities with steady hydrogen supply

旭陽氫能已穩步供應到北京、天津和保定等國家氫能示範城市。2022年，旭陽集團在保定市氫能方面工作得到了讚譽，保定市發展和改革委員對旭陽集團為保定市氫能供應、加氫站建設、氫能重卡示範運營等提供的有力支持表示感謝。徐水大王店撬裝站（保定旭陽加氫站）是目前氫能重卡的主要供應點，確保了氫能重卡每年單車運行7,500公里以上的考核指標，並能夠滿足當前及未來一段時期的供氫需求，為保定市氫能產業發展提供了動力來源。

Risun Hydrogen has provided national hydrogen energy demonstration cities such as Beijing, Tianjin, and Baoding with steady hydrogen supply. In 2022, Risun Group was praised for its work in guaranteeing hydrogen energy supply for Baoding and received a letter of appreciation from the Development and Reform Commission of the Baoding Municipality for its support to the supply of hydrogen energy, the construction of hydrogen re-fueling stations, and the demonstrative operation of hydrogen energy heavy trucks in Baoding. As the main supply source of hydrogen for hydrogen energy heavy trucks, the skid-mounted re-fueling station at Dawangdian Town of Xushui District (the Baoding Risun Hydrogen Re-fueling Station) ensures not only that every hydrogen energy heavy truck can run more than 7,500 kilometers per year, but also that the hydrogen supply needs of current and future periods can be met, thus providing Baoding with the power to drive the development of hydrogen energy.

保定市发展和改革委员会

感謝信

旭陽集團：
自2017年簽署合作協議以來，保定氫能產業發展迅速，保定氫能產業發展委員會始終以誠實信實和專業精神與旭陽集團合作，共同推動保定氫能產業的發展。保定氫能產業發展委員會在保定氫能產業發展中，始終與旭陽集團保持密切合作，共同推動保定氫能產業的發展。

一年來，我們對保定氫能產業發展委員會在推動保定氫能產業發展中，始終與旭陽集團保持密切合作，共同推動保定氫能產業的發展。保定氫能產業發展委員會在保定氫能產業發展中，始終與旭陽集團保持密切合作，共同推動保定氫能產業的發展。

保定氫能產業發展委員會在保定氫能產業發展中，始終與旭陽集團保持密切合作，共同推動保定氫能產業的發展。保定氫能產業發展委員會在保定氫能產業發展中，始終與旭陽集團保持密切合作，共同推動保定氫能產業的發展。



保定市發展和改革委員會感謝信

Letter of Appreciation from
Development and Reform Commission
of the Baoding Municipality



張家口賽區賽時交通運行
指揮部表揚信

Letter of Commendation from
Game-time Traffic Operations
Coordinating and Command Center
of Zhangjiakou Competition Zone

在張家口冬奧和冬殘奧會期間，定州旭陽氫能有限公司積極承擔氫氣供應保障任務，供應氫燃料5萬Nm³，得到張家口賽區賽時交通運行指揮部的表揚信。

During the Winter Olympics and Winter Paralympics, Dingzhou Risun Hydrogen Energy Limited proactively undertook the task of guaranteeing the hydrogen supply for Zhangjiakou, supplied 50,000 normal cubic meters of hydrogen fuel, and received a letter of commendation from the Game-time Traffic Operations Coordinating and Command Center of Zhangjiakou Competition Zone.



綠色生態
Green ecology

環境監測
Environmental monitoring

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，按照集團各園區特點形成特色化環境監測體系與管理模式，實現了全員、全方位、全過程、全天候聯防、聯控達標排放。

By carrying out environmental monitoring and assessment in strict accordance with relevant national laws and regulations, establishing and improving the environmental monitoring system, and creating a characteristic environmental monitoring system and management model according to the characteristics of each base of the Group, the Group has realized the up-to-standard emission with the support of the all-staff, whole-process, all-round and all-weather monitoring system and the joint prevent and control mechanism.

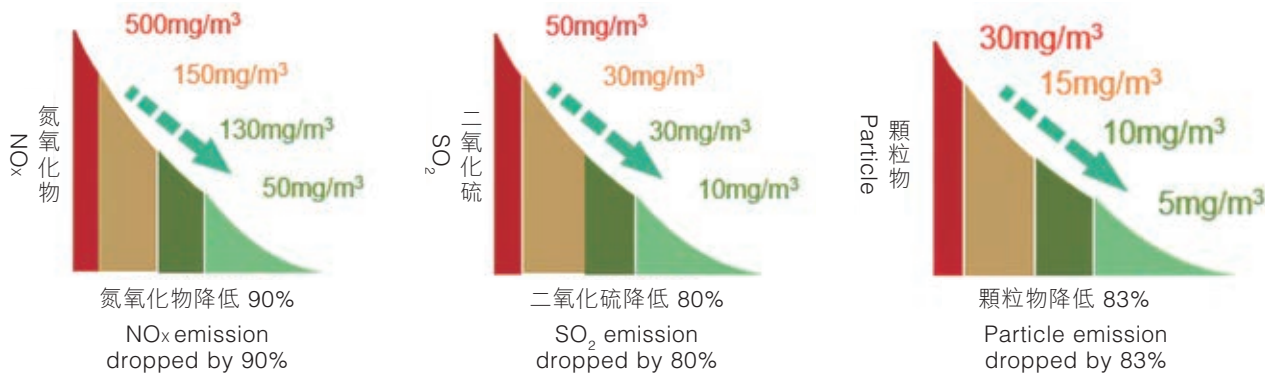
旭陽集團環境監測示意圖

Risun Group's Environmental Monitoring System



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。

Entrust a professional third-party organization to conduct monitoring at environmental monitoring sites, subject the data to supervision by employees and the society, connect with the environmental protection authorities to realize the up-to-standard emission with the support of the all-staff, whole-process, all-round and all-weather monitoring system and the joint prevent and control mechanism.



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 emission limit	可達到排放值 Emission limit attainable
氮氧化物 NO _x	500	150	130	50
二氧化硫 SO ₂	50	30	30	10
顆粒物 Particle	30	15	10	5



河北旭陽 Hebei Risun

信息實時公開 完善監測體系

Complete monitoring system Real-time information disclosure

3套空氣自動監測站點

3 automatic air monitoring stations

1套物流門禁監控系統

1 set of logistics access monitoring system

1套危險廢物在線管理平台實時聯網

1 real-time connected online hazardous waste management platform

19套自動監控裝置

19 sets of automatic monitoring equipment

18套廠界TVOC在線報警裝置

18 sets online TVOC alarm device at plant boundary

2套PM10監測點位

2 PM10 monitoring sites

綠色信貸

Green credit

本集團始終高度重視自身綠色運營，持續加大相關資金與人員投入，與國內外多家商業銀行合作籌組可持續發展績效掛鉤貸款，用於集團生產工藝綠色低碳升級改造。報告期間內，環保水平持續提升，集團位於河北省的所有生產公司獲批環保A級績效企業。截至2023年3月1日，集團可持續發展績效掛鉤貸款總金額累計達24.02億元。

The Group always attaches great importance to green operation, continues to increase capital and human resource input in relevant areas, and cooperates with a number of commercial banks at home and abroad to make arrangement for the sustainability-linked loans (SLL), which are used for green and low-carbon upgrading of the Group's production processes. During the reporting period, the environmental performance of the Group has been improved, and all the production companies of the Group in Hebei Province have been awarded the "Grade A Environmental Performance Certificate". As of March 1, 2023, the total amount of the Group's SLLs reached RMB2.402 billion.

資源節約

Resource saving

焦化行業屬於典型的能源加工轉換類行業。集團始終致力於構建綠色節能企業，依託於完整的產業鏈，從生產的全流程、全工序統籌，多維並舉開展各種節能措施，推動原料、產品護衛依託、公用介質相互供應、能源充分利用，充分實現原料、產品、餘熱、餘壓、三廢的綜合利用。一方面，注重節能裝置和設備建設，投資建設了智慧能源管控中心、煙道氣餘熱回收、工業餘熱供暖、乾熄焦發電等大型節能項目，有效實現能效提升。另一方面，注重實際運行的精益控制，比如減少能源投入、注重餘熱餘能資源回收利用等，有效提高能源利用效率，降低單位產品能耗，實現全產業鏈綠色、低碳、節能運營。

Coking industry is a typical energy processing and conversion industry. The Group has always been committed to building a green energy-saving enterprise. Relying on its complete industrial chain, the Group has coordinated the whole production processes and procedures, carried out various energy-saving measures in multiple dimensions, promoted the mutual complementation of raw materials and products, the mutual supply of public medias and the full utilization of energy, and fully realized the comprehensive utilization of raw materials, products, residual heat, residual pressure and three wastes. On the one hand, the Group emphasized on the construction of energy-saving devices and equipment and have invested in construction of large-scale energy-saving projects such as the smart energy control center, flue gas residual heat recycling, heating by industrial residual heat, dry coke power generation, effectively realizing the improvement of energy efficiency. the Group emphasized on the lean control of actual operation, such as reducing energy input, focusing on recycling and utilization of residual heat and energy resources, which effectively improves energy utilization efficiency, reduce energy consumption per unit product, and realize the green, low-carbon and energy-saving operation of the whole industrial chain.



我們的目標：2021年－2025年
Our goals: 2021-2025



綜合能耗 **Comprehensive energy consumption**

焦炭板塊：工序能耗 < 115 千克標煤／噸。

Coke sector: process energy consumption < 115 kg standard coal/ton.

化工板塊：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。

Chemical industry sector: 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.



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.

2022年綜合能耗進展

Comprehensive energy consumption reduction progress in 2022

2022年焦炭板塊工序能耗已降到110 千克標煤／噸以下，對比行業准入能耗平均水平140 千克標煤／噸，降低能耗效果顯著。

In 2022, the process energy consumption of coke sector has been reduced to less than 110 kg standard coal/ton, well below the access value of energy consumption of the industry (which is 140 kg standard coal/ton), indicating a remarkable progress in energy consumption reduction.

2022年新鮮水能耗進展

Fresh water consumption reduction progress in 2022

2022年新鮮水水循環利用率達到98.5%。

The water recycling rate of fresh water was 98.5% in 2022.



資源節約管理
Resource saving
management

- 完善能源管理組織機構管理模式，健全各用能環節的節能管理制度，細化深化節能管理，做到用能有計劃、耗能有計量、統計有記錄、考核有定額；
Continue improving an energy management organization, improve the energy-saving management system of all energy consumption links, refine and deepen energy-saving management, so as to achieve planned energy consumption, measured energy consumption, recorded statistics and rated assessment;
- 不斷完善《能源管理制度》《能源消耗定額管理制度》《能源計量管理制度》《能源節約管理制度》《用水管理規定》等，通過嚴密制度規範提升能源管理水平，科學引領生產活動，保證節能工作有效落地；
Continue improving Energy Management System, Energy Consumption Quota Management System, Energy Measurement Management System, Energy Saving Management System, Regulations on Water Management, etc., improve energy management through strict systems and norms, scientifically lead production activities, and ensure the effective implementation of energy conservation.
- 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。
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.

綠色生產
Green production

- 提高設備的能效，採用高能效機電設備，氨水泵、集液泵、脫硫液循環水泵等水泵配套電機均選用高能效電機，電機效率提升；
Increase energy efficiency of plants and units, adopt high energy-efficiency mechanical and electrical equipment, and equip all ammonia pumps, collector pumps and desulfurization water circulating pumps with high energy-efficiency motors to improve motor efficiency;
- 2022年滄州旭陽完成VOCs深度治理項目，對環己酮、己內醯胺等裝置涉及的VOCs廢氣進行治理，實現減排VOCs約178.5噸/年；
Cangzhou Risun Chemical Limited completed the advanced VOC treatment project and conducted treatment of VOCs involved in cyclohexanone and caprolactam production in 2022, which reduces the VOC emission by about 178.5 tons per year;
- 脫硫脫硝風機、循環水泵、脫硫泵、粉碎機、裝煤推焦電機等大功率電機均安裝了變頻器，可根據生產工況實現自動調速，節電效果明顯，目前安裝變頻器共163台；
All high-power motors used for desulfurization and denitrification fan, water circulating pump, desulphurization pump, pulverizer, coal loader and coke pusher have been equipped with frequency convertors, which allows for automatic speed regulation according to production conditions and substantial electricity saving. Currently, a total of 163 frequency convertors have been installed;



綠色生產
Green production

- 在根據各園區實際情況，積極回收利用反滲透濃水、反洗水等，減少新鮮水的整體用量，並採用先進工藝對生化處理後的污水進行深度處理，處理後的水作為循環水系統補水再利用。

Actively recycle the reverse osmosis brines and back washing water according to the actual situation of each base to reduce the overall consumption of fresh water, adopt advanced technology to conduct advanced treatment of biochemically-treated sewage, and use the treated water to refill the water recycling system.

餘熱應用
Application of residual heat

- 發揮工業餘熱的價值，用於城市供暖、製冷、發電等多個場景。其中，我們利用化工生產初冷器餘熱回收，向市區供暖，供熱面已達到650萬平方米，在保民生的同時，年可節約標煤9.20萬噸／年，年減排二氧化碳約22.32萬噸／年。

Give full play to the value of industrial residual heat for urban heating, refrigeration, power generation and other scenarios. Among them, we use the residual heat recycled from the primary cooler in chemical production to heat the urban area. The heating surface has reached 6.5 million square meters. While ensuring the people's livelihood, we can save 92,000 tons of standard coal per year and reduce about 223,200 tons of carbon dioxide per year.

綠色辦公
Green office

- 提倡節約用電，充分利用自然光照，杜絕「長明燈」，長時間離開辦公室注意關燈關空調，將路燈、照明等逐步更換為節能燈；

Advocate saving electricity, making full use of natural light, eliminating "long-time lights", turning off lights and air conditioning when leaving the office for a long time, and gradually replacing the street lights and lighting with energy-saving lights;

- 節約使用空調，空調溫度夏季不低於26℃，冬季不高於20℃；

Reduce the use of air conditioner, and the temperature of air conditioner shall not be lower than 26℃ in summer and higher 20℃ in winter;

- 提倡節約用紙，充分利用協同辦公系統，實行無紙化辦公；

Advocate saving paper, making full use of collaborative office system and implementing paperless office;

- 各園區工廠進行綠化改造，提升各園區綠色辦公環境。

Conduct green retrofit in each base to improve the green working environment of each base.



2020-2022年度資源消耗績效

Resource Consumption Performance of 2020-2022

資源種類 Category of Resources	單位 Unit	2022年度 2022	2021年度 2021	2020年度 2020
煤炭 Coal	噸 (Ton)	6,077,079.03	6,125,817.36	6,356,672.00
柴油 Diesel	噸 (Ton)	1,581.95	985.52	1,384.40
汽油 Gasoline	噸 (Ton)	47.48	49.16	33.79
淨外購電力 Net purchased electricity	兆瓦時 (MWh)	693,776.68	540,488.87	734,136.13
淨外購熱力 Net purchased heat	吉焦 (GJ)	1,680,755.62	1,827,013.15	-246,502.01
綜合能耗 Comprehensive energy consumption	噸標煤 (Ton of standard coal)	5,778,967.98	5,510,886.36	6,532,639.10
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)	1.84	1.94	3.77
新鮮水用水總量 Total fresh water consumption	萬噸 (Ten thousand tons)	1,685.56	1,711.36	1,573.31
新鮮水用水密度 Fresh water consumption density	噸／萬元人民幣 (Ton/RMB 10 thousand)	5.36	5.79	9.09

註： 1.表中綜合能耗數據按照《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；5.2022年本集團結合生產運營實際及監管要求，進一步優化了資源消耗統計口徑及範圍，並同步對往年數據做了更新；6.該表格數據未包含山東鄆城園區和東明園區資源消耗績效。7. 2022年度柴油消耗量有所增加主要是因為河北旭陽有限公司2022年進煤和焦炭發貨火運比例較2021年增加，火運煤和焦炭調運量增加，廠內機車使用柴油量增加；2022年度淨外購電力、綜合能耗增加主要因為滄州旭陽二期30萬噸／年己內酰胺於2022年投產運行。

Notes: 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. In 2022, the Group further optimized the caliber and scope of emissions statistics based on the actual production and operation condition and regulatory requirements, and updated the data of previous years simultaneously; 6. The resource consumption performance of Shandong Yuncheng Base and Dongming Base were not included in this Table; 7. The increase of diesel consumption in 2022 was mainly attributed to the increase of proportions of railway transportation for incoming coal and coke delivery, the increase of quantity of coal transported by rail and quantity of coke transferred, and the increase of quantity of diesel consumed by vehicles in production bases of Hebei Risun in 2022 (compared to 2021); and the increase of net purchased heat and comprehensive energy consumption in 2022 was mainly attributed to the commencement and operation of Cangzhou Risun Chemicals' Phase II 300,000 tons/year Caprolactam Expansion Project in 2022.



2021-2022年度山東鄆城園區和東明園區資源消耗績效

2021-2022 Resource Consumption Performance of Shandong Yuncheng Base and Dongming Base

資源種類 Category of Resources	單位 Unit	2022年度 2022	2021年度 2021
煤炭 Coal	噸 (Ton)	1,805,362.95	1,835,870.80
柴油 Diesel	噸 (Ton)	400.06	548.05
汽油 Gasoline	噸 (Ton)	0.00	0.09
淨外購電力 Net purchased electricity	兆瓦時 (MWh)	239,979.36	260,769.34
淨外購熱力 Net purchased heat	吉焦 (GJ)	-507,570.46	-559,759.10
綜合能耗 Comprehensive energy consumption	噸標煤 (Ton of standard coal)	3,558,312.83	4,964,284.39
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)	4.42	6.03
新鮮水用水總量 Total fresh water consumption	萬噸 (Ten thousand tons)	867.40	868.37
新鮮水用水密度 Fresh water consumption density	噸／萬元人民幣 (Ton/RMB 10 thousand)	10.77	10.54

註： 1.此表僅包括2021年新收購的山東鄆城園區和東明園區，因此僅披露2021-2022年數據；2.表中綜合能耗數據按照《綜合能耗計算通則》核算得出；3.表中能源消耗來自本集團生產統計台賬；4.表中密度類數據按用量除以營業收入核算得出；5.淨外購熱力負值是指本集團向外出售的熱力；6.2022年本集團結合生產運營實際及監管要求，進一步優化了資源消耗統計口徑及範圍，並同步對往年數據做了更新。

Notes: 1. This Table only includes the Shandong Yuncheng Base and Dongming Base, which were newly acquired in 2021, so only 2021 and 2022 data is disclosed; 2. The comprehensive energy consumption data in the table were calculated based on the *General Rule for Calculation of Comprehensive Energy Consumption*; 3. The energy consumption in the table was from the Group's production statistics account; 4. The density data in the table was calculated according to the energy consumption divided by the operating revenue; 5. The negative value of net purchased heat refers to the heat sold by the bases in total; 6. In 2022, the Group further optimized the caliber and scope of emissions statistics based on the actual production and operation condition and regulatory requirements, and updated the data of previous years simultaneously.



案例
Case

唐山旭陽化工有限公司甲醇裂解氣改脫氫尾氣 PSA 裝置改造項目
Hydrogen Production Plant Modification Project of Tangshan Risun Chemical Limited (transformation from using methanol cracking gas to using dehydrogenation tail gas)

脫氫尾氣中氫氣含量約94%，該部分副產尾氣一般情況下均進行燃燒處理，造成能源浪費。針對這一問題，為實現尾氣高附加值利用，唐山旭陽化工有限公司通過將原甲醇為原料裂解制氫裝置改為以現有苯乙烯裝置脫氫尾氣為原料的PSA裝置，節省了大量的甲醇、水、電能、天然氣等。既能有效連接公司苯加氫裝置與苯乙烯裝置上、下游產業鏈，又能實現尾氣高附加值利用，年可降低產生的二氧化碳排量3,251噸，年降低標煤1,530噸，年單位產品能耗降低0.106kgce/Nm³(即3.11MJ/Nm³)；尾氣提氫後再進行回收燃燒，實現能源的變廢為寶及高價值階梯利用。

The hydrogen content in the dehydrogenation tail gas is about 94% and this by-product tail gas is generally burned off, resulting in energy waste. To address this issue and realize high value-added utilization of tail gas, Tangshan Risun Chemical Limited modified the original methanol cracking hydrogen production plant using methanol as raw material into a pressure swing adsorption (PSA) plant using dehydrogenation tail gas generated by the existing styrene plant as raw material, thus considerably reducing the consumption of methanol, water, electricity and natural gas. The PSA plant not only connects the benzene hydrogenation plants of the Company with the upstream and downstream of the industrial chain, but also enables high value-added utilization of tail gas. After modification, the annual carbon dioxide emission can be lowered by 3,251 tons, 1,530 tons of standard coal can be saved per year, and the energy consumption per unit product can be reduced by 0.106 kgce/Nm³ (3.11MJ/Nm³) annually. By burning off the tail gas after hydrogen recovery, Tangshan Risun Chemical manages to realize the recycle and high value-added stepped utilization of waste materials.



唐山旭陽化工有限公司PSA裝置
PSA Plant of Tangshan Risun Chemical Limited



可持續發展實踐 Sustainable Development Practices

排放管理 Emission management

作為獨立的焦化企業，我們深知保護生態環境的責任和義務。一直以來，我們積極回應節能減排的號召，不斷加大資金投入，固強補弱，實施安全儀錶控制系統、污水處理系統、鍋爐濕式電除塵、廢城焚燒爐煙氣達標等一系列深度環保提升項目，實現了污水、粉塵、煙氣SO₂、NO_x等超低排放，並在達到超低排放基礎上，創新突破環境治理技術，進一步推進行超超低排放邁進，打造更高標準、更高水平的生態園區、綠色工廠、潔淨生產線。

As an independent coking enterprise, we are well aware of the responsibility and obligation to protect the ecological environment. All along, we have actively responded to the call for energy saving and emission reduction, continuously increased capital investment to implement a series of in-depth environmental protection improvement projects such as safety instrument control system, sewage treatment system, boiler wet electrostatic precipitator and waste alkali incinerator flue gas standard, and achieved ultra-low emissions of sewage, dust, flue gas SO₂ and NO_x, and on the basis of reaching ultra-low emissions, innovated and broke through environmental treatment technologies, further advanced towards ultra-low emissions to build higher standard and higher level ecological bases, green factories and clean production lines.



我們的目標：2021年—2025年 Our goals: 2021-2025



污水排放 Sewage discharge

焦炭板塊：進一步開展廢水深度處理，污水回收率達到80%以上；

Coke sector: further carry out advanced wastewater treatment to ensure that the wastewater recovery rate may reach more than 80%.

化工板塊：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。

Chemical industry sector: 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.



污染物排放 Pollutant emission

SO₂、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 SO₂, 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.



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.



2022年污水排放進展：2022年公司焦炭板塊污水回收率已達到100%。

Sewage discharge reduction progress in 2022：Sewage discharge reduction progress in 2022: the wastewater recovery rate of the Company's coke sector was 100% in 2022.

2022年污染物排放進展：2022年公司主要排放污染物：二氧化硫、氮氧化物、顆粒物等，不但已滿足低於超低排放標準的20%，且完全滿足世界銀行及國際金融公司所制定的「赤道原則(Equator Principles)」績效標準體系。

Pollutant emission reduction progress in 2022: the main pollutants emitted by the Company in 2022 include SO₂, NO_x, particulate matters and other pollutants. The emission concentration of these pollutants not only was lower than 20% of the ultra-low emission standard but also met the Equator Principles, a system of performance standards set by the World Bank and the International Finance Corporation.

集團廢棄物減排措施

Waste emission reduction measures of the Group

- 深度處理：針對生產運營過程中產生的廢水，統一通過污水處理站進行處理。各園區的污水處理站均採用的先進處理工藝，確保經污水處理站淨化處理後的水質符合排放標準；

Advanced treatment: the waste water generated in the production and operation process is uniformly treated through the sewage treatment station. The sewage treatment stations in each base adopts advanced treatment technology to ensure that the water quality after purification by the sewage treatment station meets the discharge standard;

- 異味管理：在各園區升級優化污水處理異味處理設施，並採取密閉加廢氣處理措施對污水處理站異味進行治理，進一步降低污染物排放；

Odor management: upgrade and optimize the sewage treatment odor treatment facilities in each base, and take closed and waste gas treatment measures to control the odor of the sewage treatment station, so as to further reduce the discharge of pollutants;

- 應急管理：建設緊急污水池、事故污水池，分別用於暫存、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，有效避免廢水對環境的污染；

Emergency management: build emergency sewage tank and accident sewage tank, which are respectively 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 pollution of waste water to the environment;

- 雨污分流：建設有初期雨水池、隔油池，嚴格實施雨污分流，避免含油污水對環境的污染，並通過物料的回收，並減少物料的損耗。

Rain and sewage diversion: build initial rain water tank and oil separation tank, strictly implement the provisions on rain and sewage diversion, avoid environmental pollution caused by oily sewage, and reduce material loss through material recycling.

廢水

Waste water



廢氣

Exhaust gas

- 升級改造：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；

Upgrading and transformation: 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 "dewhiting" 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;

- 封閉管理：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、硫鉍乾燥等粉轉物料、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。

Closed management: 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.

- 減少排放：通過技改舉措，提高原輔料利用率，提高催化效率，延長廢舊催化劑的使用壽命，降低更換頻次。精心維護生產設施，杜絕各種廢物的跑冒滴漏；

Reduce emissions: through technical transformation measures, improve the utilization rate of raw and auxiliary materials, improve the catalytic efficiency, prolong the service life of waste catalysts and reduce the replacement frequency. Carefully maintain the production facilities and put an end to the leakage of all kinds of waste;

固廢

Solid waste

危險廢物

Hazardous waste

- 回收利用：化工生產車間產生的焦油渣、酸焦油、瀝青渣、剩餘污泥定期送往備煤系統摻入煉焦煤中綜合利用；脫硫廢液送至提鹽工段進行回收再利用，粗苯工段再生殘渣摻入焦油中綜合利用；

Recycling: transport regularly the tar residue, acid tar, asphalt residue and surplus sludge produced in the chemical production workshop to the coal preparation system and mix them with coking coal for comprehensive utilization; transport the desulfurization waste liquid to the salt extraction section for recycling, and the regeneration residue of the crude benzene section is mixed into tar for comprehensive utilization;



固廢
Solid waste

危險廢物
Hazardous waste

- 合規處置：建設專門的危險廢物暫存間，在該暫存間地面鋪設抗滲混凝土，混凝土層表面鋪設防滲層，且建設防溢流地溝且配備滅火器，具備防雨、防風、防曬、防滲漏的功能，有效避免污染物洩漏污染環境。與具備危險廢物中處置單位的企業長期合作，確保危險廢物的及時轉移。

Compliant disposal: build a special temporary storage room for hazardous waste, lay impermeable concrete on the ground of the temporary storage room, and lay impermeable layer on the surface of the concrete layer, and build an anti-overflow trench; the temporary storage room shall be equipped with fire extinguishers to enable them to have the functions of preventing rain, wind, sun and leakage, so as to effectively avoid pollutant leakage that may pollute the environment. Ensure the timely transfer of hazardous waste through long-term cooperation with enterprises with hazardous waste disposal units.

一般固廢
General solid waste

- 減少排放：優化生產工藝，精心操作，提高鍋爐燃煤利用率，降低煤粉灰和爐渣產生量。在辦公場所鼓勵廢舊硒鼓重新裝墨後再利用；

Reduce emissions: optimize the production process, and improve the utilization rate of boiler coal and reduce the production of pulverized coal ash and slag through careful operation. Encourage the reuse of waste toner cartridges after refilling ink in the office;

- 回收利用：焦炭生產車間除塵設施產生的煤塵和焦塵定期返回煤場摻入煉焦煤中使用，實現綜合利用；

Recycling: the coal dust and coke dust generated by the dust removal facilities in the coke production workshop are regularly returned to the coal yard and mixed with coking coal for comprehensive utilization;

- 合規處置：一般固體廢物主要包括生活垃圾、粉煤灰、爐渣、污泥，其中生活垃圾交由當地城市環衛部門進行統一處置。粉煤灰、爐渣與第三方簽訂合作協定，進行綜合利用，實現廢物資源化；污泥交由第三方合規處置。

Compliant disposal: general solid waste mainly includes domestic waste, fly ash, slag and sludge. Among them, the domestic waste is handed over to the local urban environmental sanitation department for unified disposal. The fly ash and slag are comprehensively used under the cooperation agreement with a third party for comprehensive utilization and recycling of waste. The sludge is disposed of by a third party.



2020-2022年度排放物績效

2020-2022 Emission Performance

排放物種類 Category of Emission	單位 Unit	2022年 2022	2021年 2021	2020年 2020
SO ₂ 排放總量 Total SO ₂ emission	噸 (Ton)	272.71	255.84	252.81
SO ₂ 排放密度 SO ₂ emission density	千克／萬元人民幣 (kg/RMB 10 thousand)	0.09	0.09	0.15
NO _x 排放總量 Total NO _x emission	噸 (Ton)	803.32	879.19	1,090.06
NO _x 排放密度 NO _x emission density	千克／萬元人民幣 (kg/RMB 10 thousand)	0.26	0.31	0.63
顆粒物排放總量 Total particle emission	噸 (Ton)	169.19	151.15	129.97
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	0.08
溫室氣體排放總量 Total emission of greenhouse gas	噸CO ₂ e (Ton of CO ₂ e)	3,565,948.06	2,940,373.23	2,800,743.44
溫室氣體直接排放量 Direct emissions of greenhouse gases	噸CO ₂ e (Ton of CO ₂ e)	2,985,404.10	2,423,810.34	2,305,227.12
溫室氣體間接排放量 Indirect emissions of greenhouse gases	噸CO ₂ e (Ton of CO ₂ e)	580,543.96	516,562.89	495,516.32
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)	1.13	1.04	1.62
污水排放總量 Total sewage discharge	噸 (Ton)	3,840,765.45	2,647,206.96	1,133,180.37
COD排放總量 Total COD discharge	噸 (Ton)	133.17	84.60	54.11
氨氮排放總量 Total ammonia nitrogen discharge	噸 (Ton)	6.70	6.18	3.04
污水排放密度 Sewage discharge density	噸／萬元人民幣 (Ton/RMB 10 thousand)	1.22	0.93	0.65
有害廢物產生量 Amount of hazardous waste	噸 (Ton)	194,864.11	49,544.30	51,347.01



排放物種類 Category of Emission	單位 Unit	2022年 2022	2021年 2021	2020年 2020
有害廢棄物產生密度 Treatment rate of hazardous waste	噸／萬元人民幣 (Ton/RMB 10 thousand)	0.06	0.02	0.03
有害廢棄物處理率 Emission of harmless wastes	%	100.00	100.00	100.00
無害廢棄物產生量 Emission density of harmless wastes	噸 (Ton)	223,725.95	164,969.29	133,378.32
無害廢棄物產生密度 Treatment rate of non-hazardous waste	噸／萬元人民幣 (Ton/RMB 10 thousand)	0.07	0.06	0.08
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線上監測系統及自行監測統計核算得出；2.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數參照生態環境部《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；3.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；4.COD、氨氮排放總量根據第三方監測報告核算得出；5.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；6.密度類數據按排放量／產生量除以營業收入核算得出；7.2022年本集團結合生產運營實際及監管要求，進一步優化了排放物統計口徑及範圍，並同步對往年數據做了更新；8.該表格數據未包含山東鄆城園區和東明園區資源消耗績效。9. 2022年溫室氣體排放密度、污水排放密度、無害廢棄物密度增加主要因為滄州旭陽有限公司二期30萬噸／年己內酰胺項目於2022年投產運行；2022年有害廢棄物產生密度增加主要因為河北旭陽煤焦油列入危險廢物管理計劃，按危險廢物合規轉移利用。

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. 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; 3. The total amount of hazardous waste and sewage discharge are calculated according to the statistical account of the production system of the Group; 4. Total COD and ammonia nitrogen emissions are calculated according to the third-party monitoring report; 5. The nonhazardous waste is mainly domestic garbage, and the total amount of discharge is calculated based on 0.5kg/person/day; 6. The density data is calculated according to the emission/production divided by the operating revenue; 7. In 2022, the Group further optimized the caliber and scope of emissions statistics based on the actual production and operation condition and regulatory requirements, and updated the data of previous years simultaneously; 8. The emissions performance of Shandong Yuncheng Base and Dongming Base was not included in this Table; 9. The increase of greenhouse gas emission density, sewage discharge density and emission density of harmless wastes in 2022 was mainly attributed to the commencement and operation of Cangzhou Risun Chemicals' Phase II 300,000 tons/year Caprolactam Expansion Project in 2022; and the increase of production density of hazardous wastes in 2022 was mainly attributed to the fact that the coal tar produced by Hebei Risun was included in the hazardous waste management plan and transferred and used as hazardous waste in accordance with relevant provisions.



2021-2022年度山東鄆城園區和東明園區排放物績效

2021-2022 Emissions Performance of Shandong Yuncheng Base and Dongming Base

排放物種類 Category of Emission	單位 Unit	2022年 2022	2021年 2021
SO ₂ 排放總量 Total SO ₂ emission	噸 (Ton)	108.00	40.76
SO ₂ 排放密度 SO ₂ emission density	千克／萬元人民幣 (kg/RMB 10 thousand)	0.13	0.05
NO _x 排放總量 Total NO _x emission	噸 (Ton)	333.52	294.50
NO _x 排放密度 NO _x emission density	千克／萬元人民幣 (kg/RMB 10 thousand)	0.41	0.36
顆粒物排放總量 Total particle emission	噸 (Ton)	15.68	15.11
顆粒物排放密度 Particle emission density	千克／萬元人民幣 (kg/RMB 10 thousand)	0.02	0.02
溫室氣體排放總量 Total emission of greenhouse gas	噸CO ₂ e (Ton of CO ₂ e)	1,481,754.55	1,894,499.79
溫室氣體直接排放量 Direct emissions of greenhouse gases	噸CO ₂ e (Ton of CO ₂ e)	1,400,727.07	1,803,810.07
溫室氣體間接排放量 Indirect emissions of greenhouse gases	噸CO ₂ e (Ton of CO ₂ e)	81,027.48	90,689.72
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)	1.84	2.30
污水排放總量 Total sewage discharge	噸 (Ton)	1,709,514.00	2,707,628.00
COD排放總量 Total COD discharge	噸 (Ton)	210.50	318.10
氨氮排放總量 Total ammonia nitrogen discharge	噸 (Ton)	2.81	3.23
污水排放密度 Sewage discharge density	噸／萬元人民幣 (Ton/RMB 10 thousand)	2.12	3.29
有害廢棄物產生量 Amount of hazardous waste	噸 (Ton)	113,878.63	196,005.83
有害廢棄物產生密度 Production density of hazardous wastes	噸／萬元人民幣 (Ton/RMB 10 thousand)	0.14	0.24



排放物種類 Category of Emission	單位 Unit	2022年 2022	2021年 2021
有害廢棄物處理率 Treatment rate of hazardous waste	%	100.00	100.00
無害廢棄物產生量 Emission of harmless wastes	噸 (Ton)	119,387.03	155,296.73
無害廢棄物產生密度 Emission density of harmless wastes	噸／萬元人民幣 (Ton/RMB 10 thousand)	0.15	0.19
無害廢棄物處理率 Treatment rate of non-hazardous waste	%	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線上監測系統及自行監測統計核算得出；2.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數參照生態環境部《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；3.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；4.COD、氨氮排放總量根據第三方監測報告核算得出；5.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；6.密度類數據按排放量／產生量除以營業收入核算得出；7.2022年本集團結合生產運營實際及監管要求，進一步優化了排放物統計口徑及範圍，並同步對往年數據做了更新。

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. 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; 3. The total amount of hazardous waste and sewage discharge are calculated according to the statistical account of the production system of the Group; 4. Total COD and ammonia nitrogen emissions are calculated according to the third-party monitoring report; 5. The nonhazardous waste is mainly domestic garbage, and the total amount of discharge is calculated based on 0.5kg/person/day; 6. The density data is calculated according to the emission/production divided by the operating revenue; 7. In 2022, the Group further optimized the caliber and scope of emissions statistics based on the actual production and operation condition and regulatory requirements, and updated the data of previous years simultaneously.



2022年焦化板塊減碳進展 Carbon reduction progress in coking sector in 2022

2022年集團溫室氣體排放密度為0.167噸CO₂e／噸焦炭，與2021年相比下降13%。

The greenhouse gas emission density of the Group in 2022 was 0.167 ton of CO₂e/ton of coke, a 13% decrease compared with 2021.

焦炭板塊減排具體措施（部分）：

Some specific emission reduction measures taken for coke sector:

- 降低煤焦比：不斷調整配煤結構，並提前對配比進行鐵箱實驗和小焦爐實驗，得出比較理想的配比用於生產，注意積累生產過程中用過的好的配煤方案，同時加強搗固操作，逐步降低煤焦比；

Reduce the coal-coke ratio: Constantly adjust the coal blending structure and conduct stamp-charge coking test in small iron-box and small coke-oven experiments on the ratio in advance to obtain an ideal coal-coke ratio for production, collect good coal blending schemes used in the production process, and strengthen the stamped charging operation to gradually reduce the coal-coke ratio;



- 提高自發電量：加強乾熄焦發電裝置的維護和保養，提高自發電量，不斷降低外購電量；

Increase the quantity of self-generated electricity: Enhance the maintenance of Coke Dry Quenching (CDQ) power generation equipment, increase the quantity of self-generated electricity, and continuously reduce the quantity of purchased electricity;

- 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，繼續擴大城市對外供熱面積，不斷提高外供熱量，降低碳排放量；

Optimize the application of residual heat: Continue to tap and give full play to the residual heat resources generated in coking production process, enlarge the urban heating surface, increase the amount of heat for external heat, and reduce carbon emission;

- 加大氫能利用開發：繼續擴大氫能建設規模，提高氫氣產量，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, and reduce carbon dioxide emissions.



水資源管理

Water resource management

水資源管理及制度 Water resource management and system

- 成立節能減排工作領導小組，協調節能減排工作；
Set up the energy conservation and emission reduction working group to coordinate the work of energy conservation and emission reduction;
- 制訂完善《用水節水管理制度》，根據實際情況制定訂了水資源消耗的指標，加強公司水資源的管理，規範了水資源使用考核標準。
Formulate and improve the Water Consumption and Conservation Management System where water consumption indicators are developed based on actual situations, thus reinforcing the Group's water resource management and standardizing the criteria for evaluating the use of water resources.

減少新鮮水取用 Fresh water consumption reduction

- 根據《節能節水專用設備企業所得稅優惠目錄》中節水設備參數，公司使用的感應式便器、冷卻塔均為節水型設備；
Adopt water-saving sensor-operated toilets and cooling towers according to water conservation equipment parameters listed in the *Catalogue of Energy and Water Conservation Equipment Eligible for Enterprise Income Tax Preferences*;
- 廁所沖水使用高置水箱，定時沖水，便池使用感應出水裝置，節約水資源；
Adopt high tanks that flush at regular intervals and sensor-operated water dispensing devices in toilets to save water;
- 使用化產系統夏季製冷機，保證工藝指標正常的情況下，降低低溫水的溫度，減少循環水的使用量，同時蒸汽冷凝液回用於循環水補水，節約55m³/h，年度節約48.2萬m³。
Utilize summer chillers in the chemical production system to reduce the temperature of low-temperature water while maintaining normal process indicators. Reduce the use of circulating water while the recycled steam condensate is used as make-up water for the circulating water system. All this has resulted in a water savings of 55 m³/h and an annual savings of 482,000 m³.



節約生產用水
Production water
supply conservation

- 汽輪機液動閥控制水回收項目，可節約除鹽水4,000噸／年；
The project of water recycling controlled by turbine liquid-actuated valves saves 4,000 tons of demineralized water per year;
- 鍋爐排污降溫池熱量回收項目，可節約脫鹽水80,000噸／年；
The project of heat recovery from the cooling pool of the boiler blowdown saves 80,000 tons of demineralized water per year;
- 完成了化產二期提鹽蒸汽冷凝水回煉焦二車間餘熱鍋爐補水改造工作，平均每小時可節約一次水5m³。
Complete the renovation work of returning the condensate of the salt extraction steam to the waste heat boiler of the second coking plant for water make-up at the Phase II of the chemical production, resulting in an average primary water savings of 5 m³ per hour.

污水處理
Sewage treatment

- 通過污水深度處理技術，將工藝廢水經過處理後回收200m³/h，年度回收175.2萬m³；
Recycle 200 m³/h of processed wastewater by adopting the deep water treatment technology with an annual recovery of 1,752,000 m³;
- 通過循環水電化學除垢節水技術，對循環水中的硬度進行有效去除，對水中細菌、藻類等進行有效控制，從而減少化學藥劑投加量，提高濃縮倍數，降低循環水排污，達到節能節水目的；
Utilize the circulating water electrochemical descaling and water-saving technology to effectively remove hardness from the circulating water and control bacteria and algae growth, thus reducing chemical dosages, increasing concentration, and decreasing the discharge of circulating water to ultimately achieve energy and water conservation;
- 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70m³/h補水，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.
- 化產系統低溫水排污補入循環水當作補水，節約15m³/h，四套系統節約4*15=60m³/h，年度節約52.6萬m³。
Reuse the low-temperature water discharged from the chemical production system as make-up water for circulating water with a savings of 15 m³/h. With four sets of systems in place, a total of 60 m³/h can be saved, which amounts to an annual savings of 526,000 m³.



河北旭陽能源有限公司建設濃水提鹽項目，打造業內生態循環典範

Hebei Risun Energy Limited has strived to be a role model of ecological recycling in the industry by developing the salt extraction from concentrated water project.

案例
Case

集團河北旭陽能源有限公司污水深度處理濃水提鹽裝置設計年處理濃水量48萬立方米，項目佔地5,000平方米，裝置主要包括預處理、COD處理、膜分鹽濃縮、結晶乾燥、污泥處理等單元，以及配套的生產輔助設施。其主要的工藝流程為來水自除氟裝置澄清出水，經過化學除硬、過濾、樹脂軟化、納濾分鹽、膜濃縮後，濃水進入蒸發結晶單元，最終淡水作為循環冷卻水的補充水回收利用。此項目更好地解決了濃水的處理循環利用，實現廢水、廢氣、廢固的「零排放」和「循環再利用」，真正做到了變廢為寶，資源的綜合利用。

Hebei Risun Energy Limited has installed the deep wastewater treatment equipment to achieve salt extraction from concentrated water. The equipment is designed to treat 480,000 cubic meters of concentrated water annually and cover an area of 5,000 square meters. The equipment mainly consist of the pretreatment, COD treatment, membrane salt separation and concentration, crystallization and drying, and sludge treatment units, along with other supporting production auxiliary facilities. The primary process flow involves clarifying the incoming water from the defluoridation device, followed by chemical hardening, filtration, resin softening, nanofiltration, and salt separation. The concentrated water then enters the evaporation and crystallization unit, while the final fresh water is recycled as make-up water for the circulating cooling system. This project effectively addresses the treatment and recycling of concentrated water, achieving “zero discharge/emission/disposal” and “recycling” of waste water, waste gas, and waste solids. By transforming waste into valuable resources, the project facilitates the comprehensive utilization of resources.

此次建設投產的濃水提鹽項目，是集團堅持以高於、嚴於國家環保標準，在水綜合利用、能源平衡方面，自我加壓、自我改造、自我提升的創舉，是打造業內生態循環典範，創建國家級標杆園區的新舉措。

The salt extraction from concentrated water project is an innovative initiative of the Group that exemplifies its dedication to the holistic utilization of water and energy balance, surpassing even the most stringent national environmental protection regulations. Through its implementation, the project is a model of ecological recycling in the industry and a new measure towards the development of a national benchmark park.



社會篇
Society

健康與安全
Health and safety

安全生產
Safety production

旭陽人秉承「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，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。

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. They adopted the PDCA management model for continuous improvement and development, with the goal of creating an intrinsically safe enterprise and fulfilling Risun’s vision of “Safe Risun, Happy Home” for all.



面對新冠疫情，各子公司成立傳染病疫情應急指揮部，設置疫情防控預案，遵循「預防為主，防治結合」的原則，以突發事件的預測、預防為重點，以對危急事件程序處理的快捷準確為目標，最大限度把突發事件造成的損失和影響降低到最低程度。

To address the COVID-19 epidemic, each subsidiary established an emergency response center for infectious diseases and developed epidemic prevention and control plans. They adhered to the principle of “prevention in the first place and integrating prevention with control” with a focus on predicting and preventing emergencies. The aim was to respond quickly and accurately to critical events, minimizing the loss and impact caused by emergencies as much as possible.

報告期內，本集團在安全生產方面投入12,983.4萬元，除投產時間較短的唐山旭陽芳烴產品有限公司外，全部生產型子公司均獲職業健康安全管理体系認證，安全生產形勢持續向好。

During the reporting period, the Group invested RMB129.834 million in safety production. Except for Tangshan Risun Aromatic Products, which has been in production for a short time, all production subsidiaries received occupational health and safety management system certifications. The situation of safety production continues to improve.



安全生產目標：六大事故發生率為零

Safety production target: zero incident rate of the six major accidents

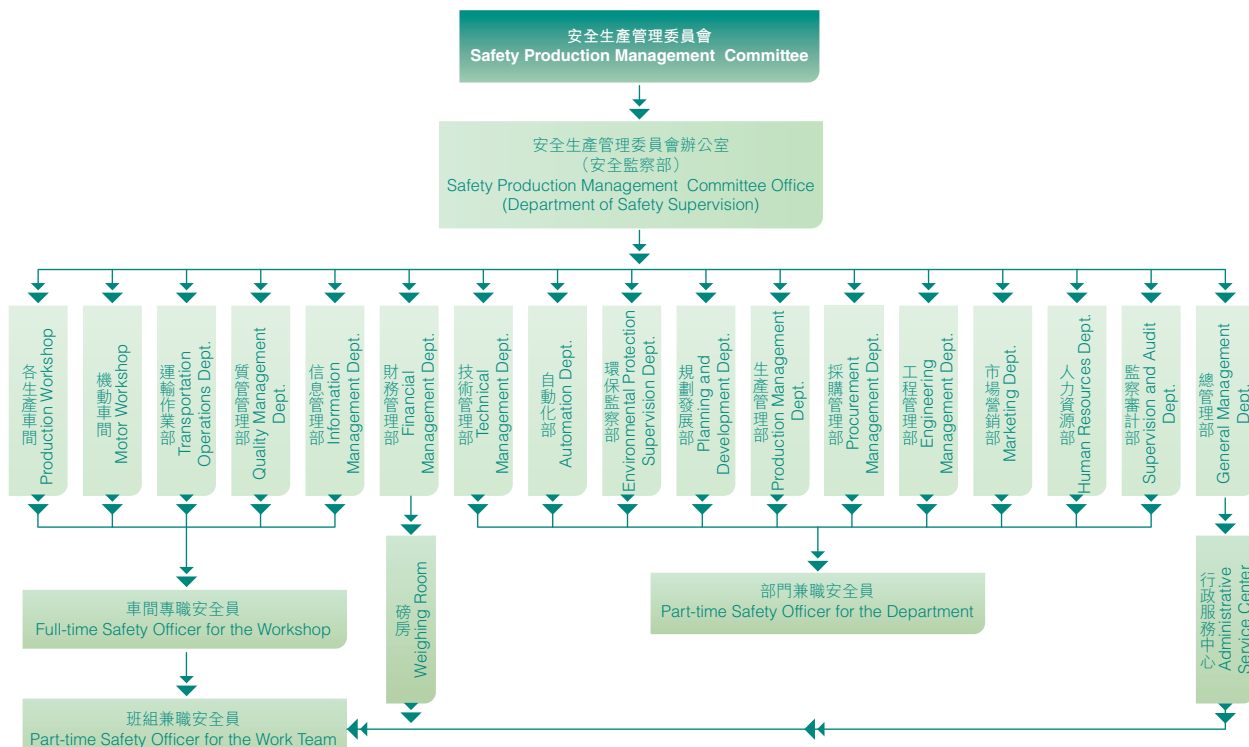
- 重傷及以上人身事故為零（含承包商事故）
- 重大生產（操作）事故為零
- 重大設備事故為零
- 重大火災、爆炸事故為零
- 重大廠內交通事故為零
- 職業病發病率為零
- Zero severe or fatal injuries incidents (including incidents involving contractors)
- Zero incidents of major production (operation) accidents
- Zero incidents of major equipment accidents
- Zero incidents of major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



可持續發展實踐 Sustainable Development Practices

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、橫向到邊的安全性群組織管理網絡。

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.



集團安全管理體系架構

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.



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

- 查閱風險管控信息台賬，編製事故隱患排查清單，編製隱患排查計劃，準備安全檢查表，組織落實檢查，發佈檢查通報，編製隱患整改方案，依據方案落實整改，隱患閉環複查，填寫隱患治理信息台賬；

Prepare the hidden danger investigation list, formulate the hidden danger investigation plan, and develop the safety checklist according to the risk control information account. Conduct inspections, issue inspection reports, prepare the plan to address any identified hidden dangers, and implement the plan accordingly. Carry out closed-loop reviews on the hidden danger management process and update the hidden danger treatment information ledger;

- 重大、較大風險由公司負責編製事故隱患排查清單，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。公司定期對各級各部門依照風險組織的隱患排查治理情況進行監督檢查。

The Group is responsible for preparing the list of hidden dangers of large and major risks, while the list of hidden dangers of general and low risks is prepared by relevant workshops and departments. The Group conducts regular supervision and inspections of hidden danger investigation and treatment in each department at all levels according to the risk management system.

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

- 大力開展安全生產標準化宣傳教育活動，安排專人到危險化學品登記中心參加安全標準化評審員培訓考試；

Actively conduct publicity and education activities on safety production standardization, and assign special personnel to attend safety standardization evaluator training and examination at the Dangerous 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，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.



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

- 已建設部署智慧門禁系統、人員定位系統、智慧巡檢系統，有效促進公司安全環保數字化管理。其中利用智慧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，即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、智慧化功能，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臺開發建設工作，現已完成多個模組基礎功能建設，目前雙重預防機制模組正常運行，其他模組已錄入基礎數據，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.



安全認證

Safety certification

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，並且和質量管制體系實現「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.

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 GB/T45001-2020 ISO45001:2018	環境管理體系 GB/T24001-2016 ISO14001:2015 Environmental management system GB/T24001-2016 ISO14001:2015	質量管理體系 GB/T19001-2016 ISO9001:2015 Quality management system GB/T19001-2016 ISO9001:2015
邢台旭陽化工 Xingtai Risun Chemical	認證 Certified	認證 Certified	認證 Certified
河北中煤旭陽 Hebei China Coal Risun	認證 Certified	認證 Certified	認證 Certified
邢台旭陽煤化工 Xingtai Risun Coal	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
東明旭陽 Dongming Risun	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：唐山旭陽芳煙公司已具備認證條件，出於公司規劃考慮，暫推遲認證時間；另，有四家子公司獲得GB/T 23331-2020 ISO 50001:2018能源管理體系認證。

Note: Tangshan Risun Aromatic Products Limited meets the conditions for certification, but due to the company's planning considerations, certification has been temporarily postponed. Additionally, four subsidiaries have obtained certification for the GB/T 23331-2020/ISO 50001:2018 energy management system.



安全教育

Safety education

按照各崗位培訓需求，集團制定了詳細的年度培訓計劃，通過現場講解、警示視頻等多樣形式培訓安全生產知識。每月開展一次事故案例集中警示教育，強化安全意識提高。於報告期內先後開展了2022年春節前安全培訓教育、開工第一課、警示三月行、職業健康安全教育和雙控和特殊作業培訓、安全生產月警示教育等。公司總結形成了「日分享 一周培訓 一月考核 一季排名 一年比武」的培訓教育體系，開創性的實施了每日安全分享、領導幹部講安全及旭陽大學線上學習等新穎培訓教育方法。

The Group has developed a thorough annual training plan on safety production that is tailored to the specific training needs of each position. The training is delivered through various methods such as on-site lectures and safety warning videos. Additionally, all employees must attend a warning education session on accident cases every month to enhance safety awareness. During the reporting period, the Group has conducted various safety training and education programs, including the safety training and education session before the 2022 Spring Festival, the safety education session at the beginning of operation, warning education in March, occupational health and safety education, training on dual prevention and special operation, and warning education in the safety production education month. Based on past experience, the Group has put in place a training and education system featuring “daily sharing, monthly training, quarterly ranking, and annual competition” and pioneered innovative ways of training and education including daily sharing on safety, lectures on safety by company leaders, and online learning on the platform of Risun University.

	<p>每日安全分享 Daily sharing on safety</p>	<p>由安全管理人員與專業技術人員每天利用交接班會的時間分享安全知識，涵蓋法律法規、制度規程、工藝操作、電氣儀錶與應急救援等方方面面。 Safety knowledge is shared by safety management personnel and professional technicians during daily handover meetings, covering laws and regulations, systems and procedures, process operation, electrical instrumentation, emergency rescue, and other aspects.</p>
<p>健全安全責任體制方法 Safety education and training methods</p>	<p>領導幹部講安全 Lectures on safety by company leaders</p>	<p>由高層領導輪流在每月安委會會議上做安全培訓，中層幹部每週在生產系統安全例會上做安全培訓。 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.</p>
	<p>旭陽大學線上學習 Online learning on the Risun University platform</p>	<p>利用旭陽大學網絡平臺，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.</p>



案例
Case

遵守安全生產法，當好第一責任人

Case: Compliance with safety production laws and being the first responsible person

2022年5月底，為認真貫徹落實習近平總書記「從根本上消除事故隱患，有效遏制重特大事故發生」的重要指示精神，根據《山東省2022年「安全生產月」活動實施方案》和《菏澤市2022年「安全生產月」活動實施方案》，東明旭陽積極組織開展了以「遵守安全生產法，當好第一責任人」為主題的安全生產月系列活動。安全生產月中，分別組織開展以「遵守安全生產法，當好第一責任人」主題的安全徵文比賽、安全生產法及「八抓20項」創新舉措安全知識競賽、人人都是安全員等系列活動。

At the end of May 2022, Dongming Risun organized a series of activities for the Safety Production Month campaign with the theme of “Compliance with Safety Production Laws and Being the First Responsible Person” in order to earnestly implement General Secretary Xi Jinping’s important instruction to “fundamentally eliminate hidden dangers and effectively curb serious accidents”. These activities were organized in accordance with the Implementation Plan for the 2022 “Safety Production Month” Activities of Shandong Province and the Implementation Plan for the 2022 “Safety Production Month” Activities of Heze City. During the campaign, the company organized a safety essay contest with the same theme, a knowledge contest on safety production laws and the innovative initiative of “eight emphases with twenty measures for safety management”, and an activity named “everyone is a safety officer”, among others.



東明旭陽領導及員工代表參加安全生產月簽字儀式
Leaders and employee representatives of Dongming Risun attended a signing ceremony for the Safety Production Month campaign



東明旭陽領導對安全生產月活動致辭
A Dongming Risun leader delivered a speech during the Safety Production Month campaign



唐山旭陽芳烺組織安全知識競賽活動
Tangshan Risun Aromatic Products organized a safety knowledge contest



邢台旭陽煤化工組織安全漫畫畫報創作活動
Xingtai Risun Coal organized a safety-themed cartoon and illustration creation activity



邢台旭陽化工製作安全月板報
Xingtai Risun Chemical created a piece of blackboard newspaper for the Safety Production Month campaign



鄆城旭陽舉辦消防安全宣傳月活動
Yuncheng Risun organized activities for the Fire Safety Publicity Month campaign

指標名稱 Name of indicator	單位 Unit	2022年度 2022	2021年度 2021
安全教育培訓次數 Frequency of safety education and training	(次) (Times)	1,346	276
安全教育培訓人次 Number of persons participating in the safety education and training	(人次) (Person)	105,932	68,406
安全應急演練次數 Frequency of safety emergency drills	(次) (Times)	4,307	2,971
安全應急演練參與人次 Number of persons participating in the safety emergency drill	(人次) (Person)	76,144	22,026

員工健康

Occupational health

為加強職業衛生管理，強化個人防護管控，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，並對公司涉及職業危害的各崗位職業衛生操作規程進行了編製、修訂，嚴格按照公司的《制度管理辦法》對職業衛生方面制度的宣貫、培訓及執行情況進行檢查、考核，確保各項制度的順利執行。

To strengthen occupational health management and personal prevention and control, 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 prepared and revised occupational health operating procedures for positions involved in occupational hazards. Moreover, it has conducted strict inspections and evaluations on the publicity, training, and implementation of the occupational health system in accordance with the Group's System Management Measures to ensure the smooth execution of these systems.



面對新冠疫情，本集團應急辦公室負責應急物資和防護用品如防護手套、口罩、消毒液、溫度計等的配備，負責感染人員必需藥品（連花清瘟、布洛芬等）的採購，及臨時隔離點消毒藥品和器械及有關防護物資的採購，切實保證每一位旭陽員工的健康。

During the COVID-19 epidemic, the Group's emergency office was responsible for providing emergency materials and protective supplies such as gloves, masks, disinfectant solutions, and thermometers. The office also procured essential drugs (such as Lianhua Qingwen and ibuprofen) for infected personnel, as well as disinfectant drugs and equipment and related protective materials for temporary isolation sites. These efforts aimed to effectively ensure the health of every Risun employee.

報告期內，職業病體檢覆蓋率達100%，員工體檢率達100%。

During the reporting period, 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》《職業病危害應急救援與管理制度》。

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.

**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。

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.

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;
- 嚴格組織職業健康檢查。
Organize and conduct occupational health examinations in a strict manner.



優質產品

Quality products

本集團嚴格遵守《中華人民共和國產品質量法》等法律法規，各園區制定《質量管制制度》《不合格品控制程式》《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。

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.

保障產品質量

Guarantee product quality

對於焦炭產品，制定《進廠煤管理制度》《質量控制點及考核辦法》等以保證進廠精煤的質量；對於化工產品，制定《主要化工原輔料管理制度》，明確規定各化工原輔料質量標準及流程制度。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並編製相應的管理檔，加以實施和保持，持續改進其有效性。

In terms of coke products, the Group has established various management systems such as the Management System for Coal Entering the Factory and the Quality Control Checkpoints and Assessment Methods to ensure the quality of clean coal that has entered the factory. For chemical products, the Management System for Major Chemical Raw and Auxiliary Materials has put in place which clearly stipulates the quality standard and process system for each raw and auxiliary material. All subsidiaries of the Group have established quality systems and prepared corresponding management documents in accordance with the relevant requirements of the GB/T19001-2016/ISO9001:2015 standard. These systems are implemented, maintained, and continuously improved to ensure their effectiveness.

報告期內，本集團焦炭及化工產品客戶滿意率達到100%。

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



優質客戶服務

Quality customer service

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，完善客戶投訴機制，不斷提高服務水平和服務質量。

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, timely understands customers' operation and needs, and improve the customer complaint mechanism to continue improving the quality of services.

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。
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.
- 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，質量成就卓越。
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.
- 旭陽對客戶的原則：誠信合作，互利雙贏。
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

- 建立客戶投訴管理制度，以利於迅速處理客戶投訴事件，維護公司信譽，促進產品質量提高和售後服務的改善。
Establish a customer complaint management system to quickly deal with customer complaints, maintain company reputation, and promote the improvement of product quality and after-sales service.



技術創新研發

Technological innovation and R&D

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，重視智慧財產權及專利保護，保護屬於集團的重要資產。

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.

報告期內，本集團研發隊伍人數達407人，投入研發資金147,561萬元人民幣，佔銷售收入比例3%，未發生涉及智慧財產權及品牌保護方面的糾紛、索賠與訴訟。

During the reporting period, the Group had 407 R & D team members and invested RMB1.47561 billion in R & D, representing 3% 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**

專注於現有裝置挖潛、產品升級、高附加值產業鏈延伸，實現迴圈經濟

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

**科技產品創新
Scientific and technological product innovation**

聚醯胺彈性體，自主研發2000噸年工業示範裝置，2019年投產，填補國內空白，可替代進口材料

The Group's independently-developed industrial demonstration equipment capable of producing 2,000 tons of polyamide elastomer was put into production in 2019. This development has successfully filled a gap in China's industry and can replace imported materials.

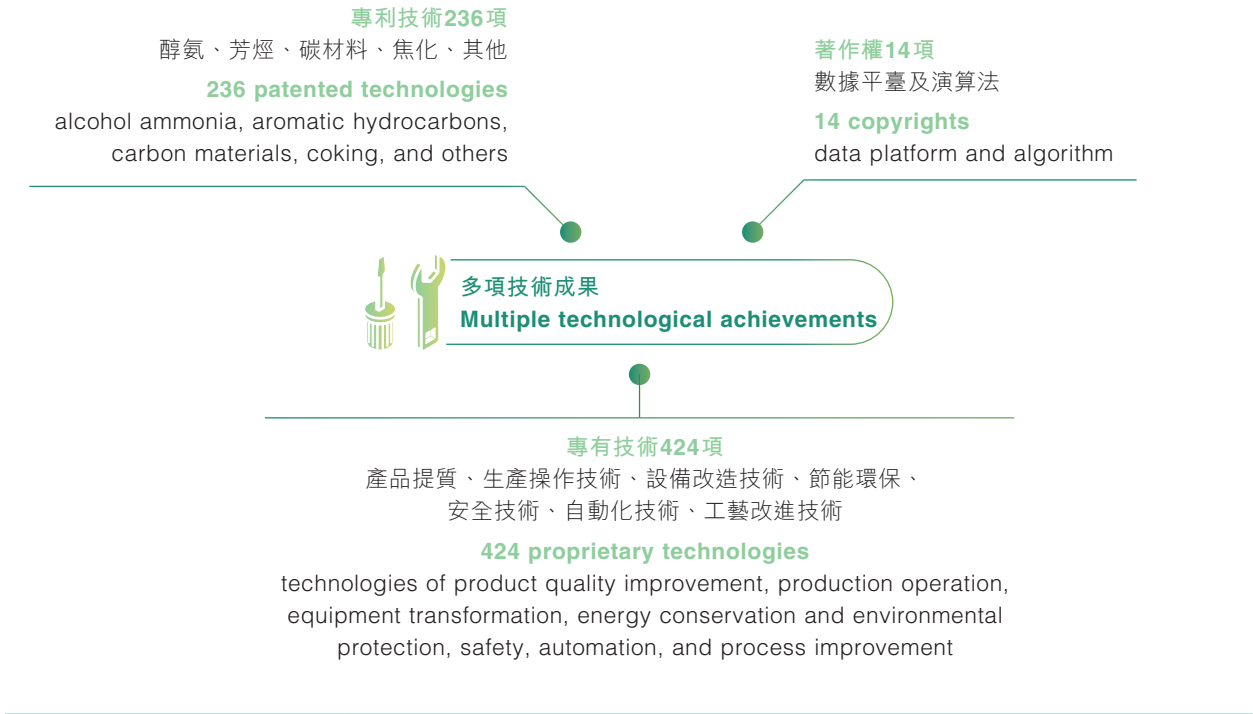
**體制機制創新
System and mechanism innovation**

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**





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、許可權、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

- 與廣州工業智慧研究院合作承擔省級計劃項目《基於焦化水處理數字化智慧管控關鍵技術》：
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，明確專利申請管道，促進公司科技創新發展，保護公司智慧財產權，完善自主創新的智慧財產權管理體系，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. 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.



唐山旭陽化工有限公司與高校合作優化工藝，填補國內行業空白
Tangshan Risun Chemical Limited cooperated with NCST on process optimization, successfully bridging a critical gap in this sector within China.

案例
Case

唐山旭陽化工有限公司粗苯加氫精製（簡稱苯加氫）裝置，採用德國伍德的技術，該工藝可以分為加氫除雜工段和產品分離工段。唐山旭陽化工有限公司委託華北理工大學化學工程學院進行工藝的優化開發，經過大量的流程模擬及多次實驗模擬，在原裝置分離工藝的基礎上，對產品結構進行分離優化的調整。調整後只將原混合物料中的苯分離出來，甲苯和二甲苯不再使用300單元進行分離，而通過400單元的T401塔實現分離，原300單元的T303塔被優化掉，這樣不僅滿足公司主產品純苯需求，而且減少了精餾次數，降低了產品能源單耗。

The benzene hydrogenation equipment at Tangshan Risun Chemical Limited utilizes the technology developed by the German company Wood. The process is composed of the two sections of hydrogenation and impurity removal, and product separation. The company cooperated with North China University of Science and Technology (NCST) in R & D on optimizing the process. Through extensive process simulations and experimental trials, the original separation process was modified to optimize the structure of the equipment. As a result of the modification, only benzene is now separated from the original mixture, while toluene and xylene are no longer separated using the 300 unit. They are now separated using the T401 tower of the 400 unit, while the T303 tower in the original 300 unit has been optimized. This modification not only fulfills the demand of the company for pure benzene as its main product, but also reduces the number of required distillations and lowers the energy unit consumption during the production process.

該項目的實施，可以減少苯加氫裝置煤氣消耗約1000m³/年，折合人民幣700多萬。此項技術為國內首創，能起到行業的帶頭作用。

The implementation of this project can result in a gas consumption reduction of approximately 1,000 m³/year for the benzene hydrogenation unit, which amounts to a cost savings of over RMB7 million. This technology is the first of its kind in China and has the potential to play a leading role in the industry.



供應鏈管理

Supply chain management

本集團秉持「合作共贏，共同發展」的理念，致力於建設可持續的夥伴關係，為供應商提供公開、透明、公正的良好環境，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。

Guided by the philosophy of “win-win cooperation and mutual development”, the Group is dedicated to the building of sustainable partnerships and an open, transparent, and just cooperation environment for suppliers. Adopting the principle of prudent and strict standard 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.

報告期內，集團合作的供應商共計4,534家。

During the reporting period, the Group cooperated with a total of 4,534 suppliers.

供應商准入

Supplier access

本集團設立供應商評審委員會，負責供應商資格預審、供應商考察評估、供應商准入評審和審批，以及供應商的考核評價。對於滿足本集團設置的基本條件的供應商，經考察確認後納入《合格供應商名錄》。對於本集團已採用的供應商，定期對其進行考核與評價，將供應商劃分為四個等級，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；對於履行合同良好，綜合考評等級高的供應商，經集團評審委員評審後授予「集團優秀供應商」稱號。

The Group has established a supplier evaluation committee 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 classifies 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.

供應鏈環境和社會風險管理

Supply chain environment and social risk management

本集團制定《旭陽集團供應商管理制度》，加強供應商資源管理，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，保證供應商隊伍的合格與穩定，提供可靠的物資供應、工程建設及服務等保障。在對供應商進行管理的過程中，由安全監察部、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，以及對供應商安全、環保、職業健康進行評價考核。在供應商准入時，本集團也規定了其必須具有全的質量、環境、安全、職業健康管理體系這一基本條件。

The Group has developed the Supplier Management System of Risun Group that aims to enhance supplier resource management, standardize supplier management practices, and establish a supplier access, evaluation, and elimination system in order to ensure the qualification and stability of the supplier team, and reliable provision of material supply, engineering construction, and services. During the process of supplier management, 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 terms of the adoption of suppliers, the Group also stipulates suppliers must meet the basic requirement of having a complete quality, environmental, safety and occupational health management system.



綠色採購

Green procurement

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。

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.

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、行銷監察審計部的電話及郵箱，以保證供應鏈的廉潔。

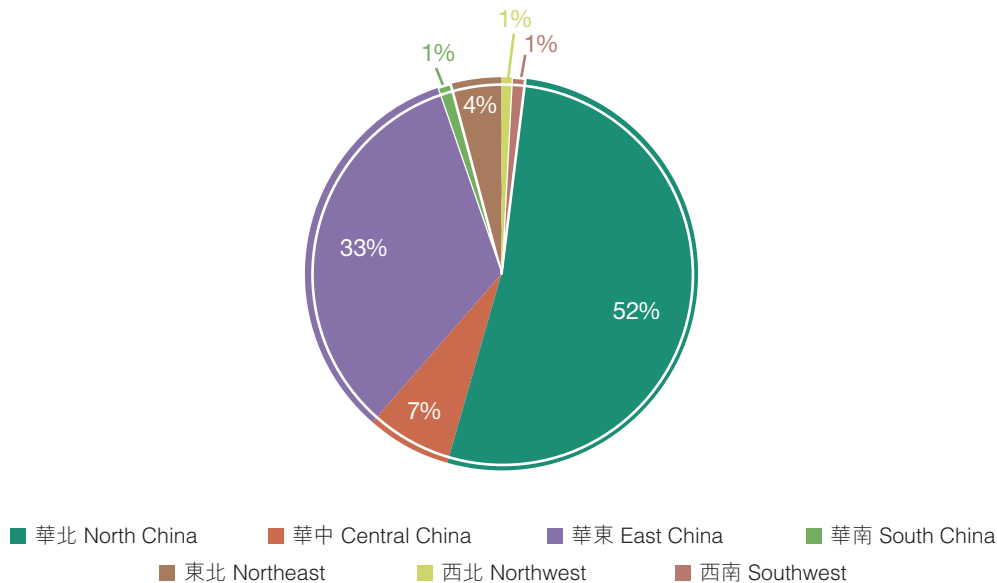
The Group endeavors to create an open, fair, and just procurement environment. It signs the *Agreement on Honest Cooperation and Anti-Commercial Bribery* with its suppliers and standardizes various business activities to prevent and curb commercial bribery and unfair competition. Additionally, the Group 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.

供應鏈合作與共建

Supply chain cooperation and co-development

本集團推進供應鏈金融服務平臺的建設，利用科技手段，通過和外部優秀方案解決服務商的合作實現科技賦能與價值創造。本集團供應鏈金融通過有效的數據與信息，提供更精準、高效的大運營服務，覆蓋產業鏈上、下游客戶及產業鏈周邊服務商，已於2022年完成旭陽供應鏈金融六步法體系、客戶全生命週期管理體系及風控管理體系建設，與農行攜手進行了垂直產業鏈金融科技產品的創新與嘗試，在保障風險可控的前提下，協助金融機構突破黑色產業鏈業務。

The Group has actively promoted the development of a financial service platform in the supply chain. By collaborating with external solution providers, it aims to leverage technological means to achieve technological empowerment and create value. The Group's supply chain finance offers accurate and efficient services for large-scale operations through effective data and information, covering both upstream and downstream customers as well as service providers around the industry chain. In 2022, the Group completed the development of its six-step supply chain finance system, customer full-lifecycle management system, and risk control management system. In addition, it collaborated with the Agricultural Bank of China in exploring the development of vertical industry chain financial technology products to assist financial institutions in combating illicit activities within the industry chain while ensuring risk management.



員工發展

Development of employees

本集團嚴格遵守《中華人民共和國勞動法》《中華人民共和國勞動合同法》等法律法規，制定《旭陽集團薪酬管理辦法》《集團招聘管理辦法》等制度，始終堅持平等僱傭原則，招聘時列明年齡要求，並嚴格審核應聘者的身份證件，保證不錄用年齡不符的人員，講明工作時長，嚴格按照國家規定的工作時間來執行，反對任何形式的童工與強制勞工。本集團並與員工簽訂正式勞動合同，在員工招聘、解僱、升職、工作時長、休假、薪酬福利、多樣性、防止歧視、平等機會等多方面充分保障員工權益，推動平等、多元化的員工團隊建設。

The Group fully complies with national laws 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*. It has also implemented its own internal systems such as the Remuneration Management Measures of Risun Group and the Recruitment Management Measures of Risun Group. The Group follows the principle of equal employment and clearly states age requirements during recruitment, carefully verifying the identity documents of applicants to avoid any age discrepancies. The Group strictly complies with state-mandated working hours and opposes all forms of 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., and promote the construction of equal and diversified employee team.

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。

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.



平等與多元

Equality and diversification

本集團注重員工多元化構成，從多個方面評估專業人員的任職資格，保障所有員工享有平等的就業機會，不因任何基於性別、年齡等因素的歧視。在招聘過程中始終秉承公開、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，不因性別、語言、地域、信仰、身體殘疾等差異實施差別化聘用，遵循同工同酬，打造包容與多元化的職場環境。

The Group paid high attention to the diversified composition of employees, assessed the qualifications of professional employees from various perspectives, guaranteed all employees enjoyed equal employment opportunity, and eradicate the any discrimination based on gender and age. In the recruitment process, we always 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 followed the principle of equal pay for equal work to create an inclusive and diverse workplace environment.

在民主管理方面，本集團各子公司開展多樣的會議和活動，如：人大代表公開投票、監督委員會例會、應屆大學生員工座談會等，不斷加強民主管理，保障員工的知情權、參與權和監督權。

All subsidiaries of the Group hold various meetings and activities to promote democratic management. These include public voting to select deputies to the People's Congress, regular meetings of the supervisory committee, and seminars for new college student employees. These efforts aim to enhance democratic management and uphold employees' rights to information, participation, and supervision.

報告期內，集團人才招聘具體措施包括不限於：

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

- 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；
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;
- 旭陽集團人才招聘標準：「四類人才」：即領軍人才、結構性人才、短缺性人才、補短板人才；
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;
- 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；
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;
- 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、智慧財產權等專項協議。
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.



2022年員工僱傭情況 Employment in 2022		
指標名稱 Name of indicator	單位 Unit	2022年度 2022
員工總數 Total number of employees	(人) (Person)	7,434
合同工員工總數 Total number of contract labors	(人) (Person)	7,431
勞務派遣員工總數 Total number of outsourcing labors	(人) (Person)	3
男性員工總數 Total number of male employees	(人) (Person)	6,025
女性員工總數 Total number of female employees	(人) (Person)	1,409
高級職稱員工總數 Total number of employees with senior titles	(人) (Person)	81
中級職稱員工總數 Total number of employees with medium titles	(人) (Person)	559
初級職稱員工總數 Total number of employees with junior titles	(人) (Person)	1,693
30歲以下員工總數 Total number of employees under 30 years old	(人) (Person)	2,629
31-40歲員工總數 Total number of employees from 31 to 40 years old	(人) (Person)	3,167
41-50歲員工總數 Total number of employees from 41 to 50 years old	(人) (Person)	1,162
50歲以上員工總數 Total number of employees above 50 years old	(人) (Person)	476
河北省內地區員工總數 Total number of employees in Hebei Province	(人) (Person)	4,551
河北省以外地區員工總數 Total number of employees in regions outside Hebei Province	(人) (Person)	2,883
少數民族員工總數 Total number of employees of ethnic minorities	(人) (Person)	165



2022年員工流失情況 Turnover rate in 2022			
指標名稱 Name of indicator	單位 Unit	2022年度 2022	
正式員工年度流失比率 Annual turnover rate of regular employees	(%)	13.06	
其中男性員工流失比例 Turnover percentage of male employees	(%)	13.48	
其中女性員工流失比例 Turnover percentage of female employees	(%)	11.28	
其中河北省內員工流失比例 Turnover percentage of employees in Hebei Province	(%)	10.15	
其中河北省外員工流失比例 Turnover percentage of employees outside Hebei Province	(%)	17.66	
其中30歲及以下員工流失比例 Turnover percentage of employees under 30 years old (inclusive)	(%)	23.39	
其中31-40歲員工流失比例 Turnover percentage of employees from 31 to 40 years old	(%)	6.85	
其中41-50歲員工流失比例 Turnover percentage of employees from 41 to 50 years old	(%)	6.80	
其中51歲以上員工流失比例 Turnover percentage of employees above 51 years old	(%)	12.61	

2022年員工工傷情況 Work-related injuries in 2022				
指標名稱 Name of indicator	單位 Unit	2022年度 2022	2021年度 2021	2020年度 2020
因工傷死亡人數 Number of deaths due to work-related injuries	(人) (Person)	2	0	0
因工傷死亡比率 Death rate due to work-related injuries	(%) (%)	0.03%	0	0
因工傷損失工作日數 Number of working days lost due to work-related injuries	(天) (Day)	0	0	\

註： 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。

Note: The work-related accident that occurred in 2022 was a case of carbon monoxide poisoning at Shandong Hongda Chemical Limited. 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

Learning and growth

本集團以「塑造旭陽人才梯隊，加快人才成長」為指引，在自身發展的同時，通過建立多層次、全方位的培訓管理體系，豐富培訓內容，創新培訓方式，努力將培訓學習貫穿於員工職業生涯全過程，滿足員工發展需求，為員工成長發展儲備知識和經驗，提升員工綜合素質，以匹配瞬息萬變的職位能力要求，適應本集團長遠發展。同時，我們還持續完善員工成長和晉升機制，為人才成長暢通管道，搭建公平公正的人才發展平臺，最大限度地發揮員工的主人翁精神和潛能，激發員工實現自我價值、崗位價值和社會價值，努力建設一支高素質的人才隊伍。

Guided by the philosophy of “Establishing Risun’s Talent Echelon to Advance Employee Development”, the Group, while developing itself, has enriched the training contents and innovated the training methods by establishing a multi-level comprehensive training management system. It aims to provide training and learning throughout the whole career path to help employees meet their needs for further development, thus helping them accumulate knowledge and experience, and improve their comprehensive competence to meet the ever-changing job requirements and adapt to the Group’s long-term development. Meanwhile, we continue to improve the employee development and promotion mechanism to provide a smooth path for the development of employees and build an equal and just talent development platform, so as to motivate employees to achieve self-value, position value, and social value and build a high-quality talent team.

- 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;

- 建立內部培訓平臺：本集團建立了旭陽大學內訓平臺，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、遠端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物件、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，切實提高培訓效果。

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.

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》等政策，進一步完善了員工發展體系，明確專業人員任職資格標準，規範了集團中高層幹部、專業幹部的選拔、考評、輪崗、培養、淘汰等工作程式，提升集團幹部管理水平；

Formulate the Management Measures for Cadres and Management Measures for Class of Position and other management systems. These policies have further improved the employee development system, clarified the qualification standards for professional personnel, and standardized the selection, evaluation, job rotation, training, and elimination processes for the Group's middle and high-level and professional leaders;

- 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.

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本集團情況、企業文化、人事制度、辦公系統、財務制度、常用辦公及主要管理制度的培訓，從心態轉變、文化融入等方面幫助新員工快速適應工作環境；

Provide training for newly recruited employees from social recruitment on the Group's situation, corporate culture, personnel system, office system, financial system, and common office and key management system to facilitate their quick adaptation to the working environment in terms of mindset change and cultural integration;

- 對校園招聘新員工設立集訓營，進行為期兩周的集訓，內容包含軍事化訓練、旭陽文化、制度學習、團隊融合、職業素養等，從崗位應知應會、崗位見習等方面幫助新員工進行職業生涯的引導。

A two-week training camp is set up for newly recruited employees from campus recruitment, which includes military training, corporate culture and systems, team building, and professional qualities, among others. The training aims to guide new employees in their career development by providing position knowledge and hands-on experience.



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.



滄州園區開展2022應屆大學生集訓
Cangzhou Base organized the 2022 fresh graduate training camp



唐山旭陽舉辦技術大講堂
Tangshan Risun organized a lecture on technologies



東明旭陽開展職工禮儀培訓
Dongming Risun organized a staff etiquette training session



邢台園區組織籌備班組長訓練營
Xingtai Base organized a training camp for team leaders



案例
Case

旭陽集團系統培訓中高層幹部，提升「五個」能力

The middle and high-level cadres of Risun Group received comprehensive training to improve “five” abilities.

2022年，旭陽集團針對全集團中高層幹部，按照管理層級分別設置總裁研討班、高管提升班、中層強化班，對集團總部以及全集團中高層幹部進行為期一年系統管理培訓。培訓按照文化、管理和業務劃分內容，堅持以業務為核心，提升管理能力為基準，提升中高層幹部「五個」能力。

In 2022, the Group launched a comprehensive one-year management training program for middle and high-level leaders across the entire organization. The program was tailored to different levels of management and included a president seminar, ability upgrading class for senior management, and ability strengthening class for middle-level leaders. The training program focused on three categories: culture, management, and business. It stressed business-related skills and ability improvement with management ability improvement as the basic requirement in order to enhance the “five” abilities of middle and high-level cadres.

培訓課程包含「碳达峰」、「碳中和」背景與影響，雙重預防機制建設運行，旭陽安全環保管理，焦炭、化工行業先進智慧製造，民營企業可能涉及的刑事犯罪，變革環境下的領導力修煉等。

The training curriculum covered a wide range of topics, including the background and impact of “peak carbon dioxide emissions” and “carbon neutrality”, the establishment and implementation of dual prevention mechanisms, safety and environmental management at Risun, advanced intelligent manufacturing in the coke and chemical industry, the potential criminal offenses in private enterprises, and leadership improvement in an environment of reform.



旭陽集團高管提升班培訓

Risun Group's ability upgrading training program for senior management



2022年度員工培訓情況 Employee Training in 2022		
指標名稱 Name of indicator	單位 Unit	2022年 2022
受訓員工總場次 Total number of trainings	(次) (Times)	14,787
受訓員工總人次 Number of employees trained	(人次) (Person)	313,431
受訓員工百分比 Percentage of employees trained	(%)	98.30
男性員工受訓比例 Percentage of male employees trained	(%)	98.73
女性員工受訓比例 Percentage of female employees trained	(%)	96.84
高級職稱員工受訓比例 Total number of employees with senior titles	(%)	92.86
中級職稱員工受訓比例 Total number of employees with medium titles	(%)	98.57
初級職稱員工受訓比例 Total number of employees with junior titles	(%)	94.29
培訓經費支出金額 Training expense	(萬元) (RMB10,000)	111.42
員工培訓總時長 Total training hours of employees	(小時) (Hour)	452,058.8
員工受訓平均時數 Average training time per employee	(小時/人) (hour/person)	61.89
男性員工平均受訓時長 Average training time per male employee	(小時/人) (hour/person)	63.78
女性員工平均受訓時長 Average training time per female employee	(小時/人) (hour/person)	60.00
高級及以上員工受訓總時長 Total training hours of senior employees and above	(小時) (hour)	4,355.87
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)	58.86
中級員工受訓總時長 Total training hours of middle-level employees	(小時) (Hour)	27,800.03
中級員工受訓平均時數 Average training time per middle-level employee	(小時/人) (hour/person)	53.56
初級員工受訓總時長 Total training hours of junior employees	(小時) (Hour)	102,323.82
初級員工受訓平均時數 Average training time per junior employee	(小時/人) (hour/person)	62.43



關愛與服務

Care and services

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，關注員工工作與生活的平衡，重視企業人文關懷，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，讓員工充分感受「旭陽溫暖」。

Always committed to the corporate philosophy of “The biggest responsibility of Risun is its responsibility to its employees”, the Group strives to maintain a healthy work-life balance for its employees and places a strong emphasis on providing humanistic care. It values the rational suggestions from its employees and implements them promptly. Risun also strives to address any difficulties encountered by its employees and cares for the physical and mental health of female employees, as well as expatriate employees and their families. In addition, the Group provides support and comfort to employees in need and organizes various cultural and sporting activities, including the Spring Festival evening party and autumn hiking, thus creating “a sense of warmth and belonging” among employees.

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式，向外派員工發放「關愛行動明白卡」，明確可以提供說明的內容、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.



定州園區組織植樹節活動

Dingzhou Base organized a tree-planting activity on the Tree-Planting Day



唐山旭陽婦女節為員工發放福利

Tangshan Risun provided female employees with the International Women's Day benefits



領導中秋節慰問印尼園區員工家屬

Leaders visited the families of expatriate employees working at Indonesia Base



鄆城旭陽領導慰問一線員工

Leaders of Yuncheng Risun visited front-line workers



定州園區舉辦元宵猜燈謎活動

Dingzhou Base held a riddle-guessing game on the Lantern Festival



定州園區開展司慶拔河比賽

Dingzhou Base held a tug-of-war competition to celebrate company anniversary



邢台旭陽組織秋遊登山活動

Xingtai Risun organized an autumn hiking activity



印尼園區喜迎聖誕、元旦，舉辦慶祝晚會

Indonesia Base held an evening party to celebrate Christmas and New Year

社區共贏

Community public service

本集團始終以「取之社會，回報社會」為責任和理念，積極參與各園區周邊社區的公益志願活動；面對新冠疫情，本集團各園區十分重視疫情防控工作，多次組織捐物；開展校企合作，助力產學研結合，致力於建設更美好的社區家園，打造可持續共贏生態圈。

The Group has always upheld the responsibility and philosophy of “taking from society and giving back to society” by actively participating in public welfare volunteer activities in the communities surrounding its bases. In response to the COVID-19 epidemic, all bases of the Group attached great importance to epidemic prevention and control and made multiple donations. The Group has also engaged in university-enterprise cooperation, facilitated industry-academia-research collaboration, and committed to building better communities and creating a sustainable win-win ecosystem.

報告期內，本集團累計為抗疫、鄉村振興、救災等領域捐款1,144.1萬元人民幣及100萬元港幣，彰顯了企業的社會擔當。

During the reporting period, the Group has donated a total of RMB11.441 million and HK\$1 million to support epidemic prevention and control, rural revitalization, and disaster relief, demonstrating its corporate social responsibility.



社區關愛
Community care

疫情防控

Epidemic prevention and control

- 為滄州渤海新區捐贈20萬防疫物資；
The Group donated RMB200,000 worth of epidemic prevention materials to Cangzhou Bohai New Area;
- 向樂亭縣紅十字會捐資100萬元，支援樂亭縣疫情防控；
The Group donated RMB1 million to the Red Cross Society of Leting County to support their efforts in epidemic prevention and control;
- 向仁濟抗疫基金捐款100萬元港幣；
The Group donated HK\$1 million to the Hong Kong-based Yan Chai Anti-epidemic Fund.
- 多次組織員工參與疫情防控志願工作。
The Group has organized employees to participate in the voluntary work of epidemic prevention and control several times.

消防安全

Fire safety

- 多次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.

社區溫情

Community warmth

- 向樂亭縣殘聯藝術團公益捐助3,000元；
The Group donated RMB3,000 to support the Art Troupe of Disabled Persons' Federation of the Leting County;
- 多次到社區、村莊走訪、捐助公益物資，充分體現區域龍頭企業應盡的社會責任與義務；
The Group visited communities and villages several times and donated public welfare materials, fully reflecting the social responsibilities and obligations of a regional leading enterprise;
- 組織開展無償獻血活動，81名志願者總計獻血26,700毫升。
The Group organized blood donation activities, with 81 volunteers donating a total of 26,700 ml of blood.



活躍地方經濟

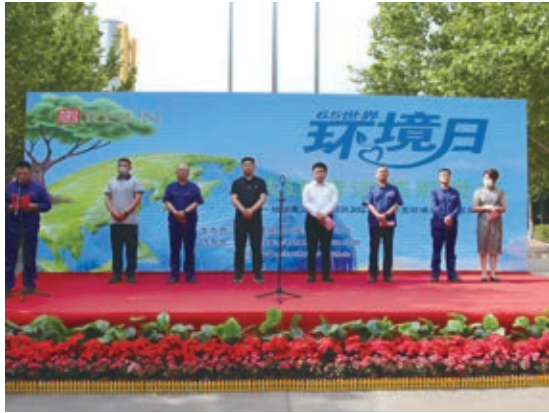
Local economy invigoration

- 推行餐廳食材本地化採購，與定州市6家食材供應商簽訂合作協定，拉動並啟動本地直供商銷售管道；
The Group procured local food ingredients for its restaurants and signed cooperation agreements with 6 food suppliers in Dingzhou City, which has helped activate the sales channels of local direct suppliers;
- 愛心助農50,000元，幫扶樂亭縣農戶解水果滯銷問題。
The Group provided assistance to farmers in Leting County with a donation of RMB50,000 to help them solve the problem of unsalable fruits.

環境保護

Environmental protection

- 組織員工清理廠區周邊外主要道路的紫穗槐和雜物，美化環境；
The Group organized employees to clean up the litter of purple robe locust trees on the major roads surrounding the factory areas to improve the environment;
- 開展「低碳環保、向綠而行」環保開放日活動，誠邀邢台市機關單位、周邊村莊人員及員工家屬參觀邢台園區；
The Group held an environmental protection open day event with the theme of “low carbon, greenness, and environmental protection”. During the event, individuals from the government departments of Xingtai city, local villagers, and employees’ families were invited to visit Xingtai Base;
- 聯合邢台市生態環境局襄都區分局、邢台市生態環境促進協會共同在中煤旭陽舉辦2022年六五環境日主題宣傳活動。
The Group co-organized the 2022 June 5th World Environment Day-themed publicity activity with the Xiangdu District Branch of Xingtai Ecological Environment Bureau and Xingtai Ecological Environment Promotion Association at China Coal Risun.



中煤旭陽聯合政府舉辦環境日宣傳活動
China Coal Risun co-organized the World
Environment Day-themed publicity activity with
local government



中煤旭陽走訪社區、鄉村，捐贈公益物資
China Coal Risun visited communities and villages
and donated public welfare materials



唐山旭陽員工參與疫情防控工作
Employees of Tangshan Risun participated in
epidemic prevention and control



旭陽中燃能源員工參與無償獻血志願活動
Employees of China Coal Risun participated in
voluntary blood donation



校企合作

University-enterprise cooperation

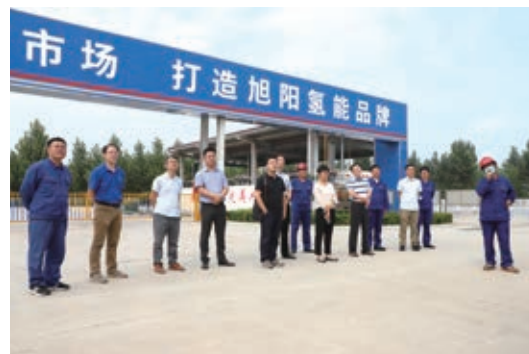


案例
Case

河北旭陽能源有限公司與中國礦業大學（北京）共建「研究生專業實踐基地」
Hebei Risun Energy Limited co-established the “Professional Practice Base for Graduate Students” with China University of Mining & Technology, Beijing

2022年7月，河北旭陽能源有限公司與中國礦業大學（北京）秉承「優勢互補、資源分享、互惠雙贏、共同發展」原則開展校企合作，共建「研究生專業實踐基地」，堅持著眼於企業發展、學校辦學的內在要求，致力於企業、學校、社會三方共贏，進一步拓展校企合作的深度和廣度，不僅有效助力旭陽集團人才戰略實施與事業全國佈局、全球開拓，有效助力學校精準提升人才培養、增加學生就業管道，同時亦將通過校企合作帶來的合力聚增，為社會穩就業工作大局做出更多更大的貢獻。

In July 2022, Hebei Risun Energy Limited and China University of Mining & Technology, Beijing launched cooperation in establishing a “Professional Practice Base for Graduate Students” based on the principles of “complementary advantages, resource sharing, mutual benefit, and common development”. Focusing on the essential needs of enterprise development and school running, the Group aims to create a mutually beneficial relationship among the enterprise, university, and society and deepen and widen university-enterprise cooperation. The effort will not only support Risun Group’s talent strategy and business expansion across China but also enhance the ability of universities to provide precise talent cultivation and more employment opportunities for students. Moreover, it will contribute more to the overall stability of employment in society through the strengthened collective force of university-enterprise cooperation.



研究生專業實踐基地

The Professional Practice Base for Graduate Students



推動行業發展

The promotion of industrial development

旭陽集團作為焦化行業龍頭企業，始終視助推行業高質量發展為己任，參與多項焦炭及煤化工產品國家標準的起草與制定，幫助同行業企業運營管理其焦化和化工產業，提升同行業企業競爭力，全面加強旭陽集團行業影響力和行業貢獻度，打造行業共贏生態圈。

As a leading enterprise in the coking industry, Risun Group has always regarded helping promote the high-quality development of the industry as its own responsibility. It has participated in drafting and formulating various national standards for coke and coal chemical products, and provided support to peer companies in managing their coking and chemical products and services. This has not only improved their competitiveness but also reinforced Risun Group's industrial influence and contribution which is conducive to fostering a win-win ecosystem for the industry.

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 Limited	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 Limited	Xingtai Risun Coal Chemical Limited
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 Limited	Xingtai Risun Coal Chemical Limited
4	聚甲氧基二甲醚	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 Limited	Xingtai Risun Coal Chemical Limited
5	粗苯	行業標準	YB/T5022-2016	主要起草	湖南華菱江潭鋼鐵有限公司 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 Limited 1, Risun Group Limited 2, Fujian Sansteel (Group) Limited 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 Coke fines and small-sized coke	冶金行業標準 Metallurgical industrial standard	YB/T 4138-2017	主持起草 Drafting leader	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 Xingtai Risun Technology Limited 1, Jiangsu Shagang Group Limited 2, Jinneng Science and Technology Limited 3, Risun Group Limited 4, Institute of Information Standards for Metallurgical Industry 5	中華人民共和國工業和信息化部 Ministry of Industry and Information Technology of the People's Republic of China
7	冶金焦炭 Metallurgical coke	國家標準 National standard	GB/T 1996-2017	主要起草 Principal drafter	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 Bengang Group Limited 1, Risun Group Limited 2, Jinneng Science and Technology Limited 3, Ansteel Group Corporation Limited. 4, Fujian Sansteel (Group) Limited 5, Institute of Information Standards for Metallurgical Industry 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 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 Coking xylene	國家標準 National standard	GB/T 2285-2018	主要起草 Principal drafter	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 Xingtai Risun Technology Limited 1, Baosteel Chemical Limited 2, Magang (Group) Holding Limited 3, Institute of Information Standards for Metallurgical Industry 4	國家市場監督管理總局中國國家標準化管理委員會 State Administration for Market Regulation, Standardization Administration of China



提升同業競爭力

The strengthening of industry peers' competitiveness

自2014年起，旭陽集團憑藉嚴格的的安全與環保標準、行業領先的技術水平、龐大的專業技術人才隊伍以及有效的市場策略不斷幫助同業企業運營管理其焦化和化工產業。經過八年的探索，旭陽集團運營管理服務業務穩步提升，從發現機會，到合作談判，再到旭陽進駐接管運營、提升各種標準、達到旭陽集團運營標準，形成一整套體系、方法、制度、流程。未來，旭陽集團還會繼續穩步擴大運營管理服務業務規模，提高盈利總規模，助推同行業企業高質量、協調發展，實現共助、共促、共贏。

Since 2014, Risun Group has been leveraging its strict safety and environmental standards, industry-leading technology, a large team of professional and technical experts, and effective marketing strategies to offer its industry peers support for their operation and management of coking and chemical services. Over the course of eight years of exploration, Risun Group has seen steady improvement in its operational and management services. It has developed a comprehensive system of methods, systems, and processes, starting from identifying opportunities and negotiating cooperation, to taking over operations and implementing various standards to meet the Group's operational standards. In the future, the Group will continue to steadily expand its operation and management service business, increase total profitability, promote high-quality and coordinated development within the industry, and foster mutual help, promotion, and a win-win situation.





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1. 港交所ESG指標索引 HKEX ESG index

序號	指標描述	披露情況	章節
A1排放物	<p>一般披露 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 (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。 有害廢棄物指國家規例所界定者。</p>	披露	五、1(5) 排放管理
A1排放物	A1.1 排放物種類及相關排放數據。	披露	五、1(5) 排放管理
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	五、1(5) 排放管理
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	五、1(5) 排放管理
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	五、1(5) 排放管理
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	五、1(5) 排放管理
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	五、1(5) 排放管理
A2資源使用	<p>一般披露 有效使用資源（包括能源、水及其他原材料）的政策。 註：資源可用於生產、儲存、運輸、樓宇、電子設備等。</p>	披露	五、1(4) 資源節約
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	五、1(4) 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	五、1(4) 資源節約



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	五、1(4) 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	五、1(4) 資源節約
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)每生產單位估量。	披露	五、1(4) 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	五、1(1) 環境管理
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	五、1(1) 環境管理
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	五、1(2) 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	五、1(2) 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	五、2(4) 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	五、2(4) 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	五、2(4) 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	五、2(1) 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	五、2(1) 健康與安全
B2健康與安全	B2.2 因工傷損失工作日數。	披露	五、2(1) 健康與安全



附錄 Appendix

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	五、2(1) 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	五、2(4) 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	五、2(4) 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	五、2(4) 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	五、2(4) 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	五、2(4) 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	五、2(4) 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	五、2(3) 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	五、2(3) 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	五、2(3) 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	五、2(3) 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	五、2(3) 供應鏈管理



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	五、2(2) 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	五、2(2) 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	五、2(2) 優質產品
B6產品責任	B6.3 描述與維護及保障智慧財產權有關的慣例。	披露	五、2(2) 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式。	披露	五、2(2) 優質產品
B6產品責任	B6.5 描述消費數據保障及私隱政策，以及相關執行及監察方法。	披露	五、2(2) 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	四、3(2) 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	四、3(2) 廉潔經營
B7反貪污	B7.2 描述防範措施及舉報程式，以及相關執行及監察方法。	披露	四、3(2) 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	四、3(2) 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	五、2(5) 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	五、2(5) 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	五、2(5) 社區共贏



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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	5.1(5) Emission management
A1 Emissions	<p>A1.1 The types of emissions and respective emissions data.</p>	Disclosure	5.1(5) Emission management
A1 Emissions	<p>A1.2 Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).</p>	Disclosure	5.1(5) 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	5.1(5) Emission management
A1 Emissions	<p>A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).</p>	Disclosure	5.1(5) Emission management
A1 Emissions	<p>A1.5 Description of emissions target(s) set and steps taken to achieve them.</p>	Disclosure	5.1(5) 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	5.1(5) Emission management

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	5.1(4) Resource saving
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	5.1(4) Resource saving
A2 Use of resources	A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Disclosure	5.1(4) Resource saving
A2 Use of resources	A2.3 Description of energy use efficiency target(s) set and steps taken to achieve them.	Disclosure	5.1(4) 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	5.1(4) Resource saving
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	5.1(4) 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	5.1(1) Environmental Management
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	5.1(1) Environmental Management
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	5.1(2) 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	5.1(2) Response to climate change



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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	5.2(4) 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	5.2(4) Development of employees
B1 Employment	B1.2 Employee turnover rate by gender, age group and geographical region.	Disclosure	5.2(4) 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	5.2(1) 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	5.2(1) Health and safety
B2 Health and safety	B2.2 Lost days due to work injury.	Disclosure	5.2(1) 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	5.2(1) Health and safety

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	5.2(4) 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).	Disclosure	5.2(4) Development of employees
B3 Development and training	B3.2 The average training hours completed per employee by gender and employee category.	Disclosure	5.2(4) 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	5.2(4) Development of employees
B4 Labour standards	B4.1 Description of measures to review employment practices to avoid child and forced Labour.	Disclosure	5.2(4) Development of employees
B4 Labour standards	B4.2 Description of steps taken to eliminate such practices when discovered.	Disclosure	5.2(4) Development of employees
B5 Supply chain management	General disclosure Policies on managing environmental and social risks of the supply chain.	Disclosure	5.2(3) Supply chain management
B5 Supply chain management	B5.1 Number of suppliers by geographical region.	Disclosure	5.2(3) 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	5.2(3) Supply chain management



附錄
Appendix

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	5.2(3) 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	5.2(3) 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	5.2(2) Quality products
B6 Product responsibility	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Disclosure	5.2(2) Quality products
B6 Product responsibility	B6.2 Number of products and service related complaints received and how they are dealt with.	Disclosure	5.2(2) Quality products
B6 Product responsibility	B6.3 Description of practices relating to observing and protecting intellectual property rights.	Disclosure	5.2(2) Quality products
B6 Product responsibility	B6.4 Description of quality assurance process and recall procedures.	Disclosure	5.2(2) Quality products
B6 Product responsibility	B6.5 Description of consumer data protection and privacy policies, and how they are implemented and monitored.	Disclosure	5.2(2) 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	4.3 Compliance and risk management

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	4.3 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	4.3 Compliance and risk management
B7 Anti-corruption	B7.3 Description of anti-corruption training	Disclosure	4.3 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	5.2(5) Community public service
B8 Community investment	B8.1 Focus areas of contribution (e.g. education, environmental concerns, Labour needs, health, culture, sport).	Disclosure	5.2(5) Community public service
B8 Community investment	B8.2 Resources contributed (e.g. money or time) to the focus area.	Disclosure	5.2(5) Community public service



2. 對聯合國可持續發展目標的貢獻 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>五、2(4)員工發展 5.2(4) Development of employees 五、2(5)社區共贏 5.2(5) Community public service</p>
	<p>五、2(4)員工發展 5.2(4) Development of employees 五、2(5)社區共贏 5.2(5) Community public service</p>
	<p>五、1(2)應對氣候變化 5.1(2) Response to climate change 五、2(1)健康與安全 5.2(1) Health and safety 五、2(5)社區共贏 5.2(5) Community public service</p>
	<p>五、2(4)員工發展 5.2(4) Development of employees 五、2(5)社區共贏 5.2(5) Community public service</p>
	<p>四、1公司治理 4.1 Corporate Governance 五、2(4)員工發展 5.2(4) Development of employees</p>
	<p>五、1(1)環境管理 5.1(1) Environmental Management 五、1(4)資源節約 5.1(4) Resource saving</p>



聯合國可持續發展目標 United Nations Sustainable Development Goals	章節 Chapter
	五、1(1)環境管理 5.1(1) Environmental Management 五、1(2)應對氣候變化 5.1(2) Response to climate change 五、1(4)資源節約 5.1(4) Resource saving
	四、1公司治理 4.1 Corporate Governance 五、2(4)員工發展 5.2(4) Development of employees 五、2(5)社區共贏 5.2(5) Community public service 五、2(6)推動行業發展 5.2(6) The promotion of industrial development
	三、3獎項與榮譽 3.3 Awards and Honors 五、2(2)優質產品 5.2(2) Quality products
	四、1公司治理 4.1 Corporate Governance 五、2(4)員工發展 5.2(4) Development of employees 五、2(5)社區共贏 5.2(5) Community public service
	五、1(1)環境管理 5.1(1) Environmental Management 五、1(2)應對氣候變化 5.1(2) Response to climate change 五、1(4)資源節約 5.1(4) Resource saving 五、1(5)排放管理 5.1(5) Emission management 五、2(5)社區共贏 5.2(5) Community public service
	五、2(2)優質產品 5.2(2) Quality products 五、2(3)供應鏈管理 5.2(3) Supply chain management



聯合國可持續發展目標 United Nations Sustainable Development Goals	章節 Chapter
	五、1(1)環境管理 5.1(1) Environmental Management 五、1(2)應對氣候變化 5.1(2) Response to climate change 五、1(4)資源節約 5.1(4) Resource saving 五、1(5)排放管理 5.1(5) Emission management
	五、1(1)環境管理 5.1(1) Environmental Management 五、1(2)應對氣候變化 5.1(2) Response to climate change 五、1(4)資源節約 5.1(4) Resource saving 五、1(5)排放管理 5.1(5) Emission management
	五、1(1)環境管理 5.1(1) Environmental Management 五、1(2)應對氣候變化 5.1(2) Response to climate change 五、1(4)資源節約 5.1(4) Resource saving 五、1(5)排放管理 5.1(5) Emission management
	四、1公司治理 4.1 Corporate Governance 四、3合規與風險管理 4.3 Compliance and Risk Management 五、2(4)員工發展 5.2(4) Development of employees 五、2(5)社區共贏 5.2(5) Community public service
	四、1公司治理 4.1 Corporate Governance 四、4利益相關方參與 4.4 Stakeholders Participation 五、2(2)優質產品 5.2(2) Quality products



3. 獨立鑒證報告 Independent Assurance Report

Deloitte.

德勤

獨立鑒證報告 Independent Assurance Report

中国旭阳集团有限公司董事会（以下简称“董事会”）：

To the Board of Directors of China Risun Group Limited (the "Board of Directors"):

我们受中国旭阳集团有限公司（以下简称“中国旭阳”）董事会的委托，对中国旭阳编制的自2022年1月1日起至2022年12月31日止的2022年度ESG报告（以下简称“ESG报告”）进行有限保证鉴证。

We have been engaged by the Boards of Directors of China Risun Group Limited (hereafter 'China Risun') to perform a limited assurance engagement on the information disclosed in China Risun 2022 ESG Report (hereafter 'the ESG Report') for the financial period from 1 January 2022 to 31 December 2022.

董事会的责任

Responsibilities of the Board of Directors

董事会负责根据香港联合交易所《环境、社会及管治报告指引》编制ESG报告，并对其中的表述（包括报告准则、报告局限性及报告所载的信息和认定）负责。

The Board of Directors is responsible for preparing the 2022 ESG Report in accordance with Environmental, Social and Governance Reporting Guide issued by Hong Kong Stock Exchange, and its presentation (including reporting guidelines, limitations, reporting data and relevant identification procedures).

董事会负责确定ESG环境关键绩效表现，负责建立和维护适当的ESG环境绩效表现管理系统和用于生成ESG报告中披露的环境绩效表现信息的内部控制系统，以及负责保留足够的记录。

The Board of Directors is also responsible for determining China Risun's objectives in respect of ESG environmental key performance and reporting, establishing and maintaining appropriate environmental performance management system and internal control system for obtaining environmental performance information in the report, and maintaining sufficient records.

我们的责任

Our Responsibilities

根据与中国旭阳的约定，我们负责实施有限保证鉴证工作（以下简称“鉴证工作”），对ESG报告中披露的2022年度环境关键绩效指标实施有限保证鉴证程序，并对报告中披露的2022年度环境关键绩效指标是否存在重大错报进行评价。本鉴证报告仅为董事会编制，除此以外，并没有其他责任。我们不会就我们的工作或本鉴证报告的内容，对任何第三方承担任何责任。环境关键指标包括：



附錄 Appendix

In accordance with the agreed terms with China Risun, we are responsible for performing a limited level of assurance engagement on the following selected data in the ESG Report, as well as evaluating whether there is any material misstatement of the environmental key performance indicators of 2022 disclosed in the ESG Report. Our work is only for the Board of Directors, and for no other purposes. We do not assume responsibility or accept liability to any other person or third party for our work or the contents of this report. The environmental key indicators including:

- 二氧化硫排放总量
- Total SO₂ emission
- 二氧化硫排放密度
- SO₂ emission density
- 氮氧化物排放总量
- Total NO_x emission
- 氮氧化物排放密度
- NO_x emission density
- 颗粒物排放总量
- Total particle emission
- 颗粒物排放密度
- Particle emission density
- 温室气体排放总量
- Total emission of greenhouse gas emission
- 温室气体直接排放量
- Direct emissions of greenhouse gas emissions
- 温室气体间接排放量
- Indirect emissions of greenhouse gas emission
- 温室气体排放密度
- Greenhouse gas emission density
- 污水排放总量
- Total sewage discharge
- COD 排放总量
- Total COD discharge
- 单位营收 COD 排放量
- COD discharge density
- 氨氮排放总量
- Total ammonia nitrogen discharge
- 单位营收氨氮排放量
- Ammonia nitrogen discharge density
- 污水排放密度
- Sewage discharge density
- 有害废弃物产生量
- Generation of hazardous waste
- 有害废弃物产生密度
- Density of hazardous waste generation
- 无害废弃物产生量
- Generation of non-hazardous waste
- 无害废弃物产生密度
- Density of non-hazardous waste generation
- 煤炭消耗量
- Coal consumption
- 柴油消耗量
- Diesel consumption
- 汽油消耗量
- Gasoline consumption
- 天然气消耗量
- Natural gas consumption
- 净外购电力
- Net purchased electricity
- 净外购热力
- Net purchased heat
- 综合能耗
- Comprehensive energy consumption



- 综合能耗消耗密度
- Comprehensive energy consumption density
- 新鲜水用水总量
- Total fresh water consumption
- 新鲜水用水密度
- Fresh water consumption density

我们的独立性和质量控制

Our Independence and Quality Control

我们遵守国际会计师职业道德准则理事会《国际会计师执业道德守则》（“Code of Ethics for Professional Accountants”）对独立性和其他道德的要求。我们的质量控制采用《国际质量控制准则第一号》（“International Standard on Quality Control 1”）。

We conducted our engagement in accordance with the independence and other ethical requirements in the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants. We maintained a comprehensive system of quality control applying *International Standard on Quality Control 1*.

工作的基础

Basis of Our Work

我们按照《国际鉴证业务准则第3000号（修订版）：历史财务信息审计或审阅以外的鉴证业务》（“International Standard on Assurance Engagements 3000”）执行有限保证鉴证工作。我们在策划和执行有限保证鉴证工作时，均以取得一切我们认为必需的信息和解释为目标，使我们能获得充分的凭证作出结论。

We conducted our work in accordance with *International Standard on Assurance Engagements 3000 (Revised): Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*. We planned and performed our limited assurance engagement to obtain all the information and evidence which we considered necessary to form conclusions.

工作程序、范围及局限性

Procedures, Scopes and Limitations of Our Work

ESG报告鉴证工作的内容包括与主要负责ESG报告信息编制工作的人员进行询问，并恰当地实施分析和其他证据收集程序。我们所实施的工作包括：

Our procedures performed included interviewing with China Risun's personnel responsible for collecting, compiling and reporting the information, analyzing the information obtained, and other procedures relevant to the collection of the appropriate evidences. Specifically we:

- 与中国旭阳确立2022年度ESG报告独立有限鉴证工作所包括的环境关键绩效指标及相关的评价标准；
- Establishing acknowledgement of Environmental key performance indicator regarding the 2022 ESG Report with China Risun to perform this limited assurance engagement.
- 与中国旭阳负责收集、整理和披露信息的管理层和员工进行访谈，根据香港联合交易所《环境、社会及管治报告指引》检查环境关键绩效指标信息是否已反映在报告中，抽取中国旭阳总部层面相关原始文件与报告信息进行比对；
- Interviewing management and staff responsible for the Subject Matter Information, Assessing the inclusion of the Environmental key performance indicators in the ESG Report against requirements of the *Environmental, Social and Governance Reporting Guide* issued by Hong Kong Stock Exchange, and comparing the sampled original documents from Headquarter with the statements in the ESG Report.
- 在考虑定量和风险分析的基础上，抽取环境关键绩效指标进行复核，对选定的唐山旭阳化工有限公司、邢台旭阳化工有限公司两家子公司开展鉴证工作。



附錄 Appendix

- On the basis of quantitative and risk analysis, the environmental key performance indicators were selected for review, and the Tangshan Risun Chemical Co.,Ltd. and Xingtai Risun Chemical Co.,Ltd were selected for verification.

有限保證鑒證為獲取有限保證而實施的程序旨在確認信息的可信性，該程序的范围會小於為獲取合理保證所實施的程序的範圍。我們的工作和鑒證報告並不會就中國旭陽ESG報告管理系統和程序的有效性及其績效信息發表意見。

In a limited assurance engagement, the evidence gathering procedures are less in scope than a reasonable assurance engagement. Accordingly, we do not express an opinion on the effectiveness of any of the China Risun's management systems, business processes, and related financial performance data.

除唐山旭陽化工有限公司、邢台旭陽化工有限公司外，我們沒有對中國旭陽的其他分支機構及子公司實施上述鑒證工作，且不會訪問外部利益相關方。歷史比較數據也不在本次鑒證工作範圍內。同時，本次鑒證範圍不包括對ESG報告中披露的財務信息與數據。

We only performed above assurance work at Tangshan Risun Chemical Co.,Ltd. and Xingtai Risun Chemical Co.,Ltd, not including any branches and subsidiaries, we did not interview with external stakeholders. Moreover, the scope of this work does not include historical comparative data and financial data.

結論

Our Conclusions

根據我們上述的鑒證工作，我們並沒有注意到任何重大事項，使我們相信中國旭陽根據標準編制的ESG報告中披露的ESG環境相關的关键績效指标存在重大錯報。

Based on our work performed, nothing has come to our attention that would lead us to believe that there is any material misstatement related to the Subject Matter in the ESG Report.

This is translation of the Chinese language version of the Independent Assurance Report. If there is any conflict between the Chinese and English version, the Chinese version will prevail.


德勤信永會計師事務所（特殊普通合夥）
Deloitte Touche Tohmatsu Certified Public Accountants LLP
2022年4月17日
17 April 2022

4. 意見反饋 Feedback

感謝您閱讀本集團2022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，並通過以下方式回饋給我們：

Thank you for reading the Group's 2022 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：中國北京豐台區花鄉四合莊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, the PRC

郵遞區號：100070

Postal code: 100070

電郵：ir@risun.com

Email: 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



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