

LESSO 联塑

CHINA LESSO GROUP HOLDINGS LIMITED

中國聯塑集團控股有限公司

Incorporated in the Cayman Islands with limited liability

於開曼群島註冊成立的有限公司

Stock Code 股份代號: 2128



2023

可持續發展報告

SUSTAINABLE DEVELOPMENT REPORT

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關於本報告

About This Report

本報告為中國聯塑發佈的第四份可持續發展報告，此前本集團曾發佈五份社會責任報告。本報告重點展現了 2023 年度中國聯塑在環境、社會及管治方面的可持續發展理念、實踐、績效及願景。

This is the fourth sustainable development report issued by China Lesso. The Group has previously issued five social responsibility reports. This report highlights the Group's philosophy of sustainable development, as well as our practices, performance and future aspirations in the environment, social and governance responsibilities for the year 2023.

時間範圍

Period Covered by This Report

2023 年 1 月 1 日至 2023 年 12 月 31 日

1 January 2023 to 31 December 2023

報告範圍

Scope of This Report

本報告範圍與中國聯塑發佈的《2023 年度報告》一致（2022 年：不包括供應鏈服務平台業務、部分工廠和輕資產管理公司）。

The reporting scope is consistent with those included in the *2023 Annual Report* issued by China Lesso (2022: supply chain service platform business, factories and light asset management companies are excluded).

稱謂說明

Definitions

為便於表述和閱讀，報告中的「中國聯塑」「本集團」「我們」均指代「中國聯塑集團控股有限公司及其附屬公司」。

For the sake of optimal expression and readability, each of the terms "China Lesso", "the Group" or "We/us/our" in this report refers to "China Lesso Group Holdings Limited and its subsidiaries".

報告依據

Basis of Preparation

本報告依照香港聯合交易所有限公司（以下簡稱「聯交所」）《證券上市規則》附錄 C2《環境、社會及管治報告指引》（以下簡稱《ESG 報告指引》）履行披露責任，遵守重要性、量化、平衡性與一致性的匯報原則。有關氣候信息的披露遵循聯交所《氣候信息披露指引》。

This report was prepared to fulfill the duty of disclosure in accordance with the Appendix C2 *Environmental, Social and Governance Reporting Guide* (hereinafter referred to as the ESG Reporting Guide) to the *Rules Governing the Listing of Securities* on The Stock Exchange of Hong Kong Limited (hereinafter referred to as the "Stock Exchange") in compliance with the reporting principles of materiality, quantitative, balance and consistency. The disclosure of climate information is in alignment with the *Guidance on Climate Disclosures* of the Stock Exchange.

貨幣單位

Currency

除特殊說明外，本報告所包含的所有貨幣單位均為人民幣。

Unless otherwise specified, the currency in which the financial data are presented in this report is Renminbi ("RMB").

報告獲取

Access to the Report

本報告提供中英版本供讀者參閱，內容若有出入，請以中文版本為準。您可登錄 <https://www.lesso.com/> 網站在網上閱讀或下載本報告的電子版。如需獲取紙質版報告，您可通過 csr@lesso.com 與我們聯繫。

This report is available in both Chinese and English. In case of any discrepancy between the Chinese and English versions, the Chinese version shall prevail. An electronic copy of this report is available at <https://www.lesso.com/>. Please contact us via csr@lesso.com for a paper report if necessary.

董事長致辭

Chairman's Message

風雲變幻，波瀾起伏，2023 年是曲折而不凡的一年。面對種種未知與挑戰，作為中國內地領先的大型建材家居產業集團，中國聯塑始終堅信可持續發展能力是企業穩健經營的壓艙石、引航遠渡的定盤星。在全面落实十四五規劃的關鍵之年，中國聯塑不斷推動企業的高質量發展，以管道、建材家居、環保、新能源等多元產品打造美好城市與生活空間，持續加速推行可持續轉型的步伐，書寫環境、社會及管治責任的新篇章。

2023 was a tortuous and extraordinary year with great changes. Faced with all the unknowns and challenges, China Lesso, as a leading large-scale building materials and home improvement industry group in Mainland China, has always believed that the sustainable development capability is the ballast for sound business operation and the anchor for navigation. In the critical year for thorough implementation of the 14th Five-Year Plan, China Lesso continued to promote the high-quality development of the enterprise, and wrote a new chapter of environmental, social and governance responsibilities by creating a beautiful city and living space with diversified products such as piping, building materials and home improvement, environmental protection, and new energy, and continuously accelerating the pace of implementing sustainable transition.

我們將可持續發展理念全面注入頂層設計，在海內外運營地全面推進責任制，將資源消耗、健康與安全、產品創新、風險管理等關鍵指標融入經營管理要求，強化各級管理者和廣大員工的經營意識。一年來，我們聚焦資源、產能、場地、人力的統籌管理，全面提升精益運營水平，廣泛吸引優秀人才，構建從信息聽取、反饋響應到評估決策、高效執行的經營管理團隊和工作模式，磨練穿越行業週期的內功。

We injected the concept of sustainable development into the top-level design, fully promoted the accountability system in our domestic and overseas operations, integrated key indicators such as resource consumption, health and safety, product innovation, and risk management into the requirements of operation and management, and strengthened the operational awareness of the management and employees. Over the past year, by focusing on the integrated management of resources, production capacity, sites and manpower, we comprehensively upgraded lean operations, attracted a wide range of outstanding talents, built operation and management teams and work mode from information acquisition, feedback and response to evaluation, decision making, and efficient execution, so as to hone our internal strengths to traverse industry cycle.

我們積極開展研發創新，提升存量格局，挖掘增量機會。在持續推動技術配方改造，提升性能與產品競爭力的同時，重點加強在農業農村、工業及商業、燃氣等細分市場的產品研發力度，特別是在核電管道、輸氫管道等關鍵領域的產品創新，不斷拓展資源化處置、新能源產業在內的綠色產業版圖，向社會提供具備綠色、健康屬性的高質量產品和解決方案，以服務美好城市及鄉鎮空間。同時，我們助力構建合作共贏的行業生態，以責任採購推進負責任的供應鏈生態建設，以培訓賦能、開店扶持、商務支持、經銷商溝通等方式為合作夥伴全方位賦能，引入優秀合作方提升經營能力。

We actively carried out research and development innovation, improved the inventory management, and explored incremental opportunities. While continuing to promote the transformation of technical formulas and improve performance and product competitiveness, we focused on strengthening our R&D efforts in agriculture, rural areas, industry and commerce, and gas segments fields, particularly in key areas such as nuclear power piping and hydrogen transmission piping, and constantly expanded the green industry, including resource disposal and new energy industries, in order to provide the society with high-quality products and solutions of green and healthy attributes and better serve the cities and townships. In addition, we helped build a win-win industry ecosystem, promoted the construction of a responsible supply chain ecosystem with responsible purchases, empowered our partners in all aspects with training, store opening support, business support, distributors communication, and introduced outstanding partners to enhance operational capabilities.

我們把環保貫穿企業生產運營的全過程，秉承「自動化、智能化」的生產發展戰略，逐步實現設備管理、監控、數據獲取等方面的自動化應用，全面促進生產方式的綠色、精細化轉型，降低溫室氣體和廢棄物排放，減少能源、水資源消耗，踐行企業環境保護的責任。我們亦積極投身於社會公益事業，深化落實鄉村振興工作，興學育人，扶貧賑困，為鄉村發展注入內生動力，履行社會責任。

We took environmental protection into account throughout the process of production and operation. Adhering to the strategy of "automation and intelligence", we gradually realized the automation of equipment management, monitoring, data acquisition, and comprehensively promoted the green and refined transformation of production methods, thus reducing greenhouse gases and waste emissions, reducing the consumption of energy and water resources, and fulfilling the responsibility of corporate environmental protection. We also actively participated in social welfare undertakings. By deepening the implementation of rural revitalization work, promoting education, and helping the poor and needy, we injected power for rural development, and earnestly fulfilled our social responsibility.

功崇惟志，業廣惟勤，中國聯塑已然踏上新征程，迎接新挑戰。我們將持續踐行「開拓進取，務實創新，科學管理，精益求精」的企業精神，堅定「深耕管業、乘勢綠能、互惠共贏」的發展思路，以可持續發展理念為引導，引領行業的可持續轉型，為每位居者提供更綠色、更宜居、更高效的都市和生活空間，為構築美好未來貢獻堅定磅礴的聯塑力量！

As the old saying goes, one must have great ambition and make tireless efforts to achieve great exploits and accomplishments. China Lesso has embarked on a new journey to brave new challenges. Upholding the business spirit of "entrepreneurship, innovation, scientific management and perfectionism" and the development idea of "focusing on the piping industry, riding on the momentum of green energy, and achieving mutually beneficial and win-win situations", we will, under the guidance of sustainable development, lead the sustainable transition of the industry, provide everyone with a greener, more livable and more efficient urban and living space, and contribute our unwavering efforts to the development of a better future!

關於我們

About Us

集團概況 Group Profile

中國聯塑集團控股有限公司（簡稱：中國聯塑，股份代號：02128.HK）是國內領先的大型管道建材產業集團，業務涵蓋管道、建材家居、環保、新能源、供應鏈服務平台等板塊，擁有 10,000 多種產品，產品涉及管道、水暖衛浴、整體廚房、整體門窗、鋁模板材及智能爬架、淨水設備、防水與密封膠、消防器材、閥門、電線電纜、環境保護、農業設施、海洋養殖網箱、新能源等領域。

China Lesso Group Holdings Limited (China Lesso, Stock Code: 02128.HK) is a leading large-scale group that manufactures piping and building materials in China. The Group's businesses cover piping system, building materials and home improvement, environmental protection, new energy, supply chain service platform and other segments. Our product range covers more than 10,000 types of items, including piping, sanitary fittings and wares, integrated kitchens, doors and windows, aluminum formworks and intelligent scaffolding, water purifiers, waterproofing material and sealant, fire services, valves, electric wires and cables, environmental protection, agricultural facilities, marine aquaculture cages and new energy, etc.

隨著國際化、全球化進程步伐的推進，中國聯塑已建立超過 30 個先進的生產基地，分佈於全國 19 個省份及海外國家。中國聯塑不斷完善戰略佈局，拓寬銷售網絡和市場空間，及時、高效地為顧客提供產品和服務。

With internationalization and globalization, the Group has over 30 advanced production bases across 19 provinces in China and other countries. China Lesso continues to perfect its tactic layout, expand the sales network and market share, and deliver timely and efficient products and services to customers.



管道產業
Piping industry

塑料管道和管件 / 地下綜合管廊 / 農業 / 安防 / 閥門
Plastic piping and pipe fittings/integrated underground piping galleries/
agriculture/fire protection/valves



建材家居
Building materials and
home improvement

整體廚房 / 整體衣櫃 / 整體門窗 / 整體衛浴 / 淨水機 / 木門 / 防水密封膠 / 電線 /
開關電器 / 新風系統 / 建築設備
Integrated kitchens/integrated wardrobes/doors and windows/integrated
sanitary/water purifiers/wooden doors/waterproofing material sealants/electric
wires/switch devices/fresh air systems/construction equipment



環保產業
Environmental
protection industry

環境設計 / 環境檢測 / 工業固危廢處理等
Environmental design/environmental testing/industrial solid and hazardous
waste treatment, etc.



供應鏈服務平台
Supply chain
service platform

構建亞洲新時代商貿服務平台
Building a new era business services platform in Asia



新能源
New energy

光伏建築一體化材料 / 太陽能光伏組件 / 合同能源管理等
Photovoltaic integrated construction materials/solar energy photovoltaic
modules/contractual energy management, etc.

旗下品牌
Our Brands

LESSO 集團旗下品牌
Brands under China Lesso Group



環保諮詢
Environmental consultancy

環評
Environmental impact assessment

施工
Construction

環境監理
Environmental impact supervision

環保設備製造
Manufacturing of environmental protection equipment

運營
Operation

渠道與服務
Channels & Services

實現資源共享
Resource sharing
提供優質商貿服務
High-quality services for commerce and trade



新風淨化產品
Fresh air systems and air purifiers



衛浴潔具
Sanitary ware



住宅內裝設備工業化
Engineered solutions for interior equipment of residences

光伏售後服務技術諮詢
Technical consultancy - after sales service for photovoltaic products



鋼塑複合管
Steel plastic composite pipes

鍍鋅管
Galvanized pipes

光伏支架系統
Photovoltaic support systems



衛生材料
Sanitary materials

EVA 光伏保護膜
EVA films for photovoltaic cell protection

LESSO 联塑

水暖衛浴
Plumbing & sanitary ware
閘門
Valves

塑料管道
Plastic piping
消防器材
Fire services
防水密封膠
Waterproofing sealants

LESSO 领尚

整體廚房
Integrated kitchens
整體衣櫃
Integrated wardrobes
木門
Wooden doors
集成供暖系統
Integrated heating systems
淨水機
Water purifiers
整體門窗
Integrated doors and windows
石英石
Quartzite

LESSO 联塑班皓

光伏組件
Photovoltaic modules
儲能產品
Energy storage products
工程服務
Engineering Services



防水產品
Waterproofing products
標準化施工
Standardized construction

景興建科 | LESNTEC

鋁模板材
Aluminium frames
爬架
Scaffolding
產業工人
Industrial workers
集成衛浴
Integrated sanitary solutions

企業文化 Corporate Culture



企業目標 Corporate Objectives

振興中華民族工業，創建國際一流企業
Revitalizing Chinese industry and building a
world-class international business

包容 務實 創新 進取
Inclusive, pragmatic, innovative, progressive

企業文化 Corporate Culture



企業精神 Business Spirit

開拓進取，務實創新，科學管理，精益求精
Entrepreneurship, innovation, scientific
management and perfectionism

以質量為生命，以科技為龍頭，以顧客滿意為宗旨
Taking quality as the lifeline, leading with
technology and aiming for customer satisfaction

經營方針 Business Strategy



品牌發展 Branding

LESSO 寓意著傳承、輕鬆、安全、分享、開放的企業文化理念。紅色的標識象徵生生不息的生命，體現中國聯塑的活力激情、朝氣蓬勃、欣欣向榮，寓意著聯塑人孜孜不倦地追求、開創日蒸益上的宏圖事業。

The brand LESSO of China Lesso refers to the philosophy of linking, easy, safe, sharing and open corporate culture. The red logo represents exuberant life, indicating China Lesso's vitality, passion, vigor and prosperity, and implying the tireless pursuit and accomplishment of growing grand prospect and career.

L

傳承
LINK

E

輕鬆
EASY

S

安全
SAFE

S

分享
SHARE

O

開放
OPEN

品牌理念 Brand Concept

為居者構築輕鬆生活
Building a relaxing life for residents

品牌願景 Brand Vision

環球管道建材產業集團
Becoming a global piping and building material
group

品牌大理想 Brand Aspiration

社會各行業都共同致力於建設「健康」的城市環
境與生活空間
All industries of society are united to build a
"healthy" urban environment and living space

品牌承諾 Brand Commitment

為健康美好空間永續
Sustaining a healthy, scenic living space

品牌核心價值 Core Brand Value

高品質管道建材家居助力人文健康的綠色建築
High-quality piping, building materials and
home improvement are conducive to health and
cultural development

優化城市基礎設施建設，服務城鎮可持續發展
Optimizing construction of urban infrastructure
to serve sustainable urban development

產業智能化管理，助力傳統產業（農業）的現代
化升級

Intelligent management of industries to help
modernize and upgrade traditional industries
(agriculture)

為國家重大工程項目提供高品質的技術產品與服務
Providing high-quality products and services for
major national projects

品牌價值理念 Brand Value

專注產品品質 堅持創造力 為社會創造高價值的產
品與服務
Focusing on product quality, insisting in creativity,
and delivering high-value products and services
to the society

品牌本質 Brand Essence

建設城市環境與生活空間的管道建材生態產業平台
A piping and building materials ecological
industrial platform for building the urban
environment and living space

2023 亮點績效

Highlighted Performance in 2023

管治

Governance

16

16

17

17

員工反腐敗培訓覆蓋比率 **23%**，共 **1,808** 人，其中董事會成員、高級管理層人員 **25** 人

The anti-corruption training covers **23%** of employees (**1,808** people in total), including **25** participants from the Board and senior management

未發生貪污訴訟案件

No corruption litigation

出具內部審計報告 **78** 份，整改計劃完成率 **77%**

78 internal audit reports were issued, with a **77%** completion rate for rectification plans

品質

Quality

9

12

9

12

客戶滿意度 **98.04%** (2022 年: **97.93%**)

98.04% of customer satisfaction (2022: **97.93%**)

產品召回 **0** 宗

0 recall of products

科研開發和技術創新投入 **12.38** 億元 (2022 年: **12.19** 億元)

RMB **1.238** billion invested in scientific research and development and technological innovation (2022: RMB **1.219** billion)

環境

Environment

6

6

7

7

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光伏發電量 **3,567** 萬千瓦時 (2022 年: **2,733** 萬千瓦時)

35.67 million kWh of photovoltaic power generated (2022: **27.33** million kWh)

循環利用水資源 **574.16** 萬噸 (2022 年: **566.05** 萬噸)

5.7416 million tonnes of water recycled (2022: **5.6605** million tonnes)

回收利用塑料 **160,441** 噸 (2022 年: **156,896** 噸)

160,441 tonnes of plastic recycled (2022: **156,896** tonnes)

僱傭

Employment

員工培訓總時間 **374,631** 小時 (2022 年: **346,519** 小時)，期內開發培訓課程 **80** 門 (2022 年: **91** 門)

The total training time for employees is **374,631** hours (2022: **346,519** hours), with **80** training courses developed during the period (2022: **91** courses)

社會保險覆蓋率 **99.26%** (2022 年: **99.28%**)

The social insurance coverage rate is **99.26%** (2022: **99.28%**)

供應鏈

Supply chain

執行《採購流程手冊》的供應商比例 **88.79%**

88.79% of suppliers executed the *Procurement Process Manual*

審查的供應商數量 **6,864** 個

6,864 suppliers have been examined

開展 **2,311** 次供應商培訓，共 **2,770** 家供應商參與培訓

A total of **2,311** supplier trainings were conducted, in which **2,770** suppliers participated

社區

Community

2023 年度，本集團累計對外捐贈 **388.28** 萬元

In 2023, the Group donated RMB **3.8828** million in total

2023 年度，員工參與志願活動 **68** 次

In 2023, our staff participated in **68** volunteering activities

2023 責任榮譽
Responsibility Honors in 2023

環保榮譽 Honors Received for Environmental Efforts		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
茂名聯塑建材有限公司 Maoming Lesso Building Materials Co., Ltd.	茂名市節水型企業 Water Saving Enterprise in Maoming City	茂名市工業和信息化局、茂名市水務局 Maoming Municipal Bureau of Industry and Information Technology, Maoming Water Authority
廣州市環境保護工程設計院有限公司 Guangzhou Environmental Protection Engineering Co., Ltd.	「十三五」廣東省環保產業骨幹企業 Backbone Enterprise in the Environmental Protection Industry of Guangdong Province during the 13th Five-Year Plan Period	廣東省環境保護產業協會 Guangdong Association of Environmental Protection Industry
廣州市環境保護工程設計院有限公司 Guangzhou Environmental Protection Engineering Co., Ltd.	廣東省環境保護科學技術獎 Guangdong Provincial Environmental Protection Science and Technology Award	廣東省環境科學學會 Guangdong Society of Environmental Sciences
廣東華清生態環境有限公司 Guangdong Huaqing Ecological Environment Co., Ltd.	廣東省環保技術諮詢服務評價甲級資質 Guangdong Province Environmental Protection Technical Consulting Services Evaluation Level A Qualification	廣東省環境保護產業協會 Guangdong Association of Environmental Protection Industry
聯塑科技發展（貴陽）有限公司 Lesso Technology Development (Guiyang) Co., Ltd.	貴州省節能減排示範單位 Model Unit of Energy Conservation and Emission Reduction of Guizhou Province	貴州省節能減排研究會 Guizhou Energy Conservation & Emission Reduction Research Society
陝西聯塑科技實業有限公司 Shaanxi Lesso Technology Industrial Co., Ltd.	國家級綠色工廠 National Level Green Factory	工業和信息化部節能與綜合利用司 Energy Conservation and Comprehensive Utilization Department of the Ministry of Industry and Information Technology of the PRC
陝西聯塑科技實業有限公司 Shaanxi Lesso Technology Industrial Co., Ltd.	陝西省綠色工廠 Shaanxi Province Green Factory	西安國聯品質檢測技術股份有限公司認證與雙碳事業部 Certification and Double Carbon Business Department of United Nations Quality Detection Group Co., Ltd.

環保榮譽 Honors Received for Environmental Efforts		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
烏魯木齊聯塑科技發展有限公司 Urumqi Lesso Technology Development Co., Ltd.	新疆維吾爾自治區綠色建材示範企業 Green Building Materials Demonstration Enterprise of Xinjiang Uygur Autonomous Region	新疆維吾爾自治區工業和信息化廳 Department of Industry and Information Technology of Xinjiang Uygur Autonomous Region
廣東領和裝配式建築科技有限公司 Guangdong Linghe Prefabricated Building Technology Co., Ltd.	入選「十四五」裝配式建築適用綠色低碳產品、技術推薦目錄 Selected for the "14th Five-Year Plan" Catalogue of Green and Low-carbon Products and Technologies Recommended for Prefabricated Buildings	中國建材工業經濟研究會 China Society of Building Materials Industry Economy
廣東聯塑科技實業有限公司 Guangdong Liansu Technology Industrial Co., Ltd.	國家級綠色工廠 National Green Factory	中華人民共和國工業和資訊化部 Ministry of Industry and Information Technology of the People's Republic of China

安全榮譽 Safety-related Honors		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
湖南聯塑科技實業有限公司 Hunan Lesso Technology Industrial Co., Ltd.	2022 年度安全生產目標管理考核先進單位 Advanced Unit for 2022 Annual Safety Production Target Management Assessment	寧鄉經濟技術開發區管理委員會 Management Committee of Ningxiang Economic and Technological Development Zone
聯塑市政管道邢臺有限公司 Lesso Municipal Pipe (Xingtai) Co., Ltd.	省級健康企業 Provincial Health Enterprise	河北省衛生健康委員會 Health Commission of Hebei Province

產品質量 Product Quality		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
中油佳匯（廣東）防水股份有限公司 China National Petroleum Waterproof (Guangdong) Co., Ltd.	防水卷材影響力品牌、高分子防水卷材影響力品牌、工程防水形象力品牌 Influential Brand of Waterproof Membrane, Influential Brand of Polymer Waterproof Membrane, Engineering Waterproof Image Brand	慧聰防水網 Huicong Waterproofing Website(www.fs.hc360.com)
廣東開弘智能裝備有限公司 Guangdong Kaihong Intelligent Equipment Co., Ltd.	廣東省輕工業聯合會科學技術進步獎 Science and Technology Progress Award of Guangdong Light Industry Council	廣東省輕工業聯合會 Guangdong Light Industry Council
廣東聯塑班皓新能源科技集團有限公司 Guangdong Lesso Banhao New Energy Technology Group Co., Ltd.	順德區 2023 年新能源應用技術示範項目 2023 New Energy Application Technology Demonstration Project of Shunde District	順德區發展和改革局 Shunde District Development and Reform Bureau
廣東聯塑班皓新能源科技集團有限公司 Guangdong Lesso Banhao New Energy Technology Group Co., Ltd.	2023 年廣東省名優高新技術產品 Famous Hi-Tech Product of Guangdong Province in 2023	廣東省高新技術企業協會 Guangdong Hi-Tech Enterprise Association
廣東聯塑日利門業有限公司 Guangdong Lesso Rili Door Industry Co., Ltd.	工藝技術革新金智獎 Golden Intelligence Award for Technological Innovation	文創國家聯盟搜門網 National Cultural and Creative Design Industry Alliance, Search Door Website (www.sortdoor.com)
河南聯塑實業有限公司 Henan Lesso Industrial Co., Ltd.	河南省新一代信息技術融合應用新模式示範項目 New Model Demonstration Project of Henan Provincial New Generation Information Technology Integration Application	河南省工業和信息化廳 Department of Industry and Information Technology of Henan Province
河南聯塑實業有限公司 Henan Lesso Industrial Co., Ltd.	全國優秀品質管制小組 National Excellent Quality Management Group	中國品質協會、中華全國總工會、中華全國婦女聯合會、中國科學技術協會 China Association for Quality, All-China Federation of Trade Unions, All-China Women's Federation, China Association for Science and Technology
四川聯塑科技實業有限公司 Sichuan Lesso Technology Industrial Co., Ltd.	四川省工業品質標杆 Sichuan Province Industrial Quality Benchmark	四川省經濟和信息化廳 Sichuan Provincial Economic and Information Department

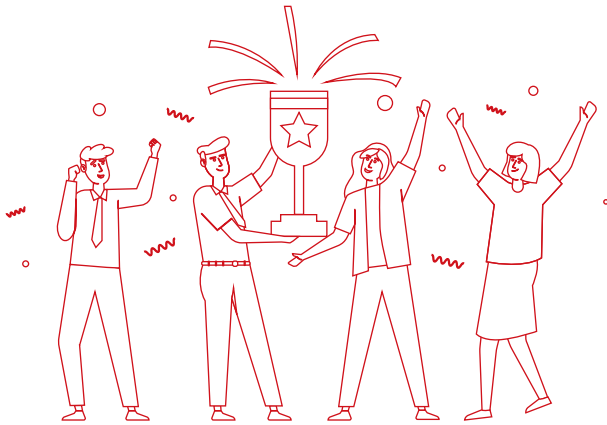
產品質量 Product Quality		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
雲南聯塑科技發展有限公司 Yunnan Lesso Technology Development Co., Ltd.	2023 年雲南省工業品質標杆企業 2023 Yunnan Province Industrial Quality Benchmarking Enterprise	雲南省工業和信息化廳 Department of Industry and Information Technology of Yunnan Province
廣州景興建築科技有限公司 Guangzhou King Hing Construction Technology Co., Ltd.	2023 年度品質 & 服務品牌企業、鋁合金模板租賃特級企業、模板腳手架租賃特級企業 2023 Quality & Service Brand Enterprise, Model Leasing Premium Enterprise in Aluminum Alloy, Model Leasing Premium Enterprise in Scaffold	中國基建物資租賃承包協會 China Construction Materials Rental Contractor Association
廣東聯塑科技實業有限公司 Guangdong Liansu Technology Industrial Co., Ltd.	廣東省政府品質獎 – 提名獎（第七屆） Guangdong Provincial Government Quality Award – Nomination Award (the 7 th)	廣東省人民政府 People's Government of Guangdong Province
廣東聯塑科技實業有限公司 Guangdong Liansu Technology Industrial Co., Ltd.	2023 年度塑膠行業品質管制先進單位 Advanced Unit for 2023 Plastic Industry Quality Control	中國塑膠加工工業協會 China Plastic Processing Industry Association
社會榮譽 Social Honors		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
廣東領尚淨水科技有限公司 Guangdong Lingshang Water Purification Technology Co., Ltd.	高新技術企業 Hi-tech Enterprise	國家科學技術部 Ministry of Science and Technology of the PRC
廣東領尚淨水科技有限公司 Guangdong Lingshang Water Purification Technology Co., Ltd.	淨水行業研學基地 Research and Learning Base for Water Purification Industry	全國衛生產業管理協會 National Association of Health Industry and Enterprise Management
廣東聯塑班皓新能源科技集團有限公司 Guangdong Lesso Banhao New Energy Technology Group Co., Ltd.	2023 太陽能光伏行業最具成長力企業 2023 Most Growing Enterprise in the Solar Photovoltaic Industry	維科網 OFweek

社會榮譽 Social Honors		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
廣東聯塑班皓新能源科技集團有限公司 Guangdong Lesso Banhao New Energy Technology Group Co., Ltd.	2023 年度新銳企業 2023 Emerging Enterprise	國際能源網、國能能源研究院 International Energy Website (www.IN-EN.com), China Magisterial Energy Navigator
海南聯塑科技實業有限公司 Hainan Lesso Technology Industrial Co., Ltd.	高新技術企業 Hi-tech Enterprise	海南省科學技術廳、海南省財政廳、國家稅務總局海南省稅務局 Hainan Provincial Department of Science and Technology, Department of Finance of Hainan Province, Hainan Provincial Tax Service of State Taxation Administration
海南聯塑科技實業有限公司 Hainan Lesso Technology Industrial Co., Ltd.	海南省研究生工作站 Hainan Graduate Workstation	海南省教育廳 The Education Department of Hainan Province
海南聯塑科技實業有限公司 Hainan Lesso Technology Industrial Co., Ltd.	國家知識產權示範企業 National Intellectual Property Demonstration Enterprise	國家知識產權局運用促進司 Utilization and Promotion Department of China National Intellectual Property Administration
湖南聯塑科技實業有限公司 Hunan Lesso Technology Industrial Co., Ltd.	誠信企業 Integrity Enterprise	寧鄉市優化營商環境工作領導小組辦公室 Office of the Leading Group for Optimizing Business Environment in Ningxiang City
廣東華清生態環境有限公司 Guangdong Huaqing Ecological Environment Co., Ltd.	科技型中小企業 Small/Medium-Sized Technology-Based Enterprises	廣東省科學技術廳 Department of Science and Technology of Guangdong Province
湖南華清檢測技術有限公司 Hunan Huaqing Testing Technology Co., Ltd.	國家高新技術企業 National Hi-tech Enterprise	湖南省科學技術廳 Department of Science and Technology of Hunan Province
南京聯塑科技實業有限公司 Nanjing Lesso Technology Industrial Co., Ltd.	中國專利優秀獎 China Patent Excellence Award	國家知識產權局 China National Intellectual Property Administration
安徽聯塑科技實業有限公司 Anhui Lesso Technology Industrial Co., Ltd.	滁州市和諧勞動關係示範單位 Chuzhou City Demonstration Unit of Harmonious Labor Relations	滁州市人力資源和社會保障局 Chuzhou Human Resources and Social Security Bureau

社會榮譽 Social Honors		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
河南聯塑實業有限公司 Henan Lesso Industrial Co., Ltd.	愛心企業 Caring Enterprise	周口市淮陽區見義勇為、公安民警英烈協會 Huaiyang District Association for Samaritans and Martyrs of Public Security Officers in Zhoukou City
河南聯塑實業有限公司 Henan Lesso Industrial Co., Ltd.	河南省勞動人事爭議金牌調解組織 Henan Provincial Gold Medal Mediation Organization for Labor and Personnel Disputes	河南省人力資源和社會保障廳、河南省總工會、河南省企業聯合會 / 企業家協會、河南省工商業聯合會 Department of Human Resources and Social Security of Henan Province, Henan Provincial Federation of Trade Unions, Henan Enterprise Confederation/Henan Enterprise Directors Association, Henan Federation of Industry and Commerce
聯塑科技發展（武漢）有限公司 Lesso Technology Development (Wuhan) Co., Ltd.	2023 武漢民營企業科技創新 50 強 2023 Top 50 Private Enterprises in Science and Technology Innovation in Wuhan	武漢市工商業聯合會 Wuhan Federation of Industry & Commerce
江西聯塑科技實業有限公司 Jiangxi Lesso Technology Industrial Co., Ltd.	江西省創新型中小企業 Innovative Small/Medium-Sized Enterprise in Jiangxi Province	江西省工業和信息化廳 Department of Industry and Information Technology of Jiangxi Province
江西聯塑科技實業有限公司 Jiangxi Lesso Technology Industrial Co., Ltd.	江西省製造業領航培育企業 Jiangxi Province Leading and Cultivating Enterprise in Manufacturing Industry	江西省工業強省建設工作領導小組辦公室 Office of the Leading Group for Construction of a Strong Industrial Province in Jiangxi Province
四川聯塑科技實業有限公司 Sichuan Lesso Technology Industrial Co., Ltd.	建築新材料產教融合中心 Industry-Education Integration Center of Building New Materials	四川建築職業技術學院 Sichuan College of Architectural Technology
四川聯塑科技實業有限公司 Sichuan Lesso Technology Industrial Co., Ltd.	慈善愛心企業 Charitable and Caring Enterprise	鶴壁市人民政府、德陽市投資企業協會 Hebi Municipal People's Government, Deyang Investment Enterprise Association
雲南聯塑科技發展有限公司 Yunnan Lesso Technology Development Co., Ltd.	2023 年雲南製造業企業 100 強 -- 第 68 名 2023 Top 100 Manufacturing Enterprises in Yunnan – Ranked No.68	雲南省企業聯合會、雲南省企業家協會 Yunnan Enterprise Confederation, Yunnan Enterprise Directors Association

社會榮譽 Social Honors		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
雲南聯塑科技發展有限公司 Yunnan Lesso Technology Development Co., Ltd.	2023 年雲南高新技術企業 100 強 -- 第 46 名 2023 Top 100 Hi-tech Enterprises in Yunnan – Ranked No.46	雲南省企業聯合會、雲南省企業家協會 Yunnan Enterprise Confederation, Yunnan Enterprise Directors Association
聯塑科技發展（貴陽）有限公司 Lesso Technology Development (Guiyang) Co., Ltd.	2023 貴州製造業企業 100 強 2023 Top 100 Manufacturing Enterprises in Guizhou	貴州省聯合會、貴州省企業家協會 Guizhou Enterprise Confederation, Guizhou Enterprise Directors Association
陝西聯塑科技實業有限公司 Shaanxi Lesso Technology Industrial Co., Ltd.	陝西省創新型中小企業 Innovative Small/Medium-Sized Enterprise in Shaanxi Province	咸陽市工業和信息化局 Xianyang Municipal Bureau of Industry and Information Technology
陝西聯塑科技實業有限公司 Shaanxi Lesso Technology Industrial Co., Ltd.	陝西省優秀民營企業 Excellent Private Enterprise in Shaanxi Province	省工信廳、省委統戰部、省人社廳、省工商聯 Industry and Information Technology Department of Shaanxi Province, The United Front Work Department of CPC Shaanxi Municipal Committee, Department of Human Resources and Social Security of Shaanxi Province, Shaanxi Federation of Industry & Commerce
烏魯木齊聯塑科技發展有限公司 Urumqi Lesso Technology Development Co., Ltd.	專精特新企業 Enterprise with Specialization, Refinement, Distinctiveness and Novelty Characteristics	新疆維吾爾自治區工業和信息化廳 Department of Industry and Information Technology of Xinjiang Uygur Autonomous Region
烏魯木齊聯塑科技發展有限公司 Urumqi Lesso Technology Development Co., Ltd.	優秀創新示範企業 Excellent Innovation Demonstration Enterprise	中共米東區委員會米東區人民政府 Midong District Committee of the CPC, Midong District People's Government
長春聯塑實業有限公司 Changchun Lesso Industrial Co., Ltd.	長春市「專精特新」企業 Enterprise with Specialization, Refinement, Distinctiveness and Novelty Characteristics in Changchun	長春市工業信息化廳 Department of Industry and Information Technology of Changchun City
江蘇永葆環保科技股份有限公司 Jiangsu Yongbao Environmental Protection Technology Co., Ltd.	模範職工之家 Model Home of Staff	常州市總工會 Changzhou Federation of Trade Unions

社會榮譽 Social Honors		
公司名稱 Company name	2023 年所獲榮譽 Honors obtained in 2023	頒獎單位 Presented by
廣東聯塑科技實業有限公司 Guangdong Liansu Technology Industrial Co., Ltd.	愛心資助顯真情，彝漢團結一家親 Loving Support Shows the True Friendship, the Yi and Han Nationality Unite as a Family	四川涼山彝族自治州布拖縣教育體育和科學技術局 Butuo County Education, Sports and Science & Technology Bureau, Liangshan Yi Autonomous Prefecture, Sichuan
廣東聯塑科技實業有限公司 Guangdong Liansu Technology Industrial Co., Ltd.	紅玉蘭慈善榜樣（企業） Magnolia Charity Model (Enterprises)	佛山市順德區慈善組織聯合會 Foshan Shunde Charity Organization Alliance



挖掘管道力量 助力農業強國

Responsibility Spotlight Tapping into the Piping Business to Facilitate the Development toward an Agricultural Force

全面推進鄉村振興，加速農業現代化發展是國家「十四五」期間的工作重心。其中，實現高標準農田建設，離不開農業科技的支撐。作為管道行業的領袖企業，本集團自覺擔負起科技興農的企業責任，充分發揮管道產業優勢與技術優勢，助力高標準農田建設，以科技賦能淡水養殖與海洋漁業轉型升級，為農業、漁業兩大領域提供管道設施與解決方案，構建現代智能農業系統，為實現更安全、更智能、更高質、更環保的現代化農業貢獻力量。

Comprehensively promoting rural revitalization and accelerating the development of modern agriculture are the national focuses during the "14th Five-Year Plan" period. Specifically, high-standard farmlands cannot be realized without the support of agricultural technologies. As a leading enterprise in the piping industry, the Group consciously undertakes the corporate responsibility for promoting agriculture by technologies, gives full play to the industrial strength and technical advantages in the piping field, facilitates the construction of high-standard farmlands, empowers the transformation and upgrading of freshwater aquaculture and marine fishery technologies, provides pipe facilities and solution for agriculture and fishery, and sets up a modern intelligent agriculture system, contributing its force to the safer, more intelligent and more environmentally friendly modern agriculture of better quality.

專業管道打造高質節水農業

Professional piping for high-quality water-saving agriculture

國家農業現代化發展加速，對農田水利設施、農業用水效率、農業用水安全都提出了更高的要求。而在農田設施相對薄弱，環境乾旱炎熱的西北地區，因用水方式不當而產生的土地鹽鹼化問題更是當地建設高標準農田的重要挑戰。

The accelerated development of the national agricultural modernization puts forward higher requirements for water conservancy facilities for farmlands, agricultural water-use efficiency, and agricultural water-use safety. In northwest China, where farm facilities are relatively weak and the environment is arid and hot, the land salinization issue caused by improper use of water is a significant challenge to the development of local high-standard farmlands.

在這一背景下，中國聯塑積極投身節水農業設施研發，開發 PVC-U 圓形栽培管、PVC-U 方型水培管、PVC-U 基質栽培槽等多款高品質農業管道產品，運用到栽培、灌溉、打藥、輸水供水等重要環節。這些管道均採用優質的無鉛化 PVC 材料，符合綠色環保要求，保障栽培系統衛生。同時，具備抗壓、抗張、抗鏽蝕的性能，不易受損和老化，摩阻係數極低，當灌溉用水通過管道時阻力更小，使灌溉時水流更加流暢，充分改善管網水力條件。配合滴灌、噴灌等節水灌溉方式，在提升灌溉效率的同時，有效減少水資源浪費和土壤鹽分積累，保持土壤肥力，促進作物生長，助推農業綠色高質高效發展。

In that context, China Lesso is actively devoted to the research and development of water-saving agricultural facilities, as well as the development of PVC-U round pipes for cultivation, PVC-U square pipes for floating hydroponics, PVC-U tanks for substrate culture and other agricultural piping products of high quality, which are applied to cultivation, irrigation, spray of insecticide, water delivery and supply and other important links. Those pipes are made of lead-free PVC materials of high quality, meeting the requirements for green and environmental development and guaranteeing the hygiene of culture system. In the meantime, they are anti-pressure, tensile, resistant to rust and not easy to damage and age, and has an extreme low coefficient of friction resistance so that there is less resistance of irrigation water flowing through pipes, making the irrigation water flow smoother and fully improving the hydraulic condition of piping network. The use of those pipes in combination with trickle irrigation, sprinkling irrigation and other water-saving irrigation methods can improve irrigation efficiency while effectively reducing the waste of the water resource and soil salinity accumulation to maintain soil fertility, and promoting crop growth and facilitating the green, high-quality and efficient development of agriculture.



西北高標準農田建設
Construction of High-standard Farmlands in Northwest China

溫室管理夯實智能農業基底

Greenhouse management lays a solid foundation for intelligent agriculture

在科技興農築強國的新時代，農業高質量發展離不開智能化的管理與調控。在鄉村振興、共同富裕的現代化農業發展要求下，溫室精準控制成為實現目標的重要抓手。

In the new era to promote agriculture and build a powerful country with technologies, high-quality agricultural development cannot be achieved without intelligent management and regulation. Facing the requirement for rural revitalization and common prosperity in the development of modern agriculture, precise greenhouse control has become an important link to achieve the goals.

為應對花卉種植產業對高品質盆景的旺盛需求，我們構建溫室框架、環境調控、育苗栽培、智能控制、採收配套五大智能系統，研發智能溫室大棚控制系統、智能水肥一體化系統、智能環境監測系統、智能節水灌溉系統與農產品種植管理系統，為廣東中山橫欄花卉產業園花卉種植提供鋸齒薄膜溫室，嚴控盆景種植所需溫度，並借助倒掛微噴技術有效解決了盆栽花卉水分易流失、施肥難把控的問題，有效提升盆景品質與花卉農產品的生產技術水平。

In response to the strong demand for high-quality bonsai in the flower planting industry, we have constructed five intelligent systems, namely greenhouse framework, environmental regulation, seedling cultivation, intelligent control, and harvesting support, developed the intelligent greenhouse control system, intelligent water and fertilizer integration system, intelligent environmental monitoring system, intelligent water-saving irrigation system, and agricultural product planting management system, and provided serrated film greenhouses for flower planting in the Henglan Flower Industry Park in Zhongshan, Guangdong, strictly controlling the temperature required for bonsai cultivation and effectively solving the problems of easy water loss and difficult fertilization control of potted flowers through inverted micro-sprinkling technology, and effectively improving the quality of bonsai and the production technology of flower agricultural products.



中山橫欄花卉產業園
Henglan Flower Industrial Park in Zhongshan

在杭州蕭山，中國聯塑重點支持傳化現代設施農業產業園項目（一期）。項目由 10 座溫室組成，採用 28 萬米的農業管道產品，全園區以地源熱作為主要溫控方式，冬季採用地源熱對溫室進行加溫保溫，夏天採用地下冷量通過機組與水簾結合進行室內降溫，實現地熱資源冬夏兩季的有序利用和自然綜合補給。其中 4 號玻璃溫室綜合運用了移動噴淋、植物補光、移動苗床、智能物聯網等多項現代農業科技和專業自動化設備，精準控制設施溫室溫度、光照、水分、空氣等環境因素。中國聯塑通過多項現代設施農業科技，推動溫室溫光水氣的精準控制和園區的高效、節能、綠色、低碳運行，提高了現代設施農業生產信息化、智能化管理水平。



28 萬米

採用農業管道產品

Adopts 280,000 meters of agricultural piping products

In Xiaoshan, Hangzhou, China Lesso focuses on supporting Transfar Modern Facility Agriculture Industrial Park Project (Phase I), which consists of 10 greenhouses and adopts 280,000 meters of agricultural piping products. The entire park is designed with geothermal heat as the main temperature control method. Geothermal heat is used to warm the greenhouses in winter, and underground cooling capacity is combined with water curtains for indoor cooling through the system in summer, achieving the orderly utilization of geothermal resources in winter and summer and natural comprehensive supply. Specifically, glass greenhouse No.4 comprehensively utilizes multiple modern agricultural technologies and professional automation equipment such as mobile spraying, plant supplementary light, mobile seedbeds, and smart Internet of Things to accurately control the environmental factors such as greenhouse temperature, lighting, moisture and air of the facilities. By virtue of agricultural technologies of modern facilities, China Lesso promotes precise control of greenhouse temperature, light, water and gas, as well as efficient, energy-saving, green, and low-carbon operation of the park, enhancing the intelligent management with information technologies of agricultural production of modern facilities.



傳化現代設施農業產業園
Transfar Modern Facility Agriculture Industrial Park

循環用水助力淡水生態養殖

Circulating water helps freshwater ecological aquaculture

近年來，中國漁業經濟產出快速增長，已成為中國農業的重要組成部分和農村經濟的重要增長點之一，但由於近年來對水體污染的加劇和過度捕撈等問題，給我國的淡水漁業養殖帶來了挑戰。

China's fishery economic output has grown rapidly and has become an important component of China's agriculture and one of the important growth points of rural economy in recent years. However, the issues including intensification of water pollution and overfishing in recent years have brought challenges to China's freshwater aquaculture.

在國家全力建設農業大國的政策引導下，中國聯塑根據國家農業發展需求，依託管道產品的技術優勢及服務優勢，開發池塘循環水養殖與尾水處理系統，高效分離養殖過程中產生的殘餌糞便，從源頭上解決養殖水體污染問題，系統每日處理水量可達 1,500m³ 以上，水循環回收利用率高達 99% 以上。此外，中國聯塑自主研發了適合用於高密度綠色養殖的一體化循環水養殖系統，可實現氨氮分離脫除、去除其中的亞硝酸鹽、抑制水中病原微生物生長、去除水中重金屬、輔助增氧等功能，從而淨化和重複利用養殖廢水，使養殖物件能在高密度養殖條件下始終維持最佳生理狀態。這種模式能最大限度提高單位產量品質、不產生內外環境污染，魚類能健康快速生長，同時通過可控的標準化操作流程防止病害發生，減少藥物使用，提高魚種成活率和生長速度，優化養殖產品品質。

Under the policy guidance that the country makes full efforts to build an agricultural power, China Lesso, based on the needs of national agricultural development, relies on the technological and service advantages of piping products to develop a pond water-circulating aquaculture and tail water treatment system, efficiently separating residual bait and feces generated during the aquaculture process, and solving the problem of aquaculture water pollution at the source. The system can process more than 1,500 m³ of water per day, achieving the water recycling and utilization rate of 99% or above. In addition, China Lesso has independently developed an integrated water-circulating aquaculture system suitable for high-density green aquaculture, which can achieve functions such as ammonia nitrogen separation and removal, removal of nitrite, inhibition of pathogenic microorganism growth in water, removal of heavy metals in water, and auxiliary oxygen generation, thereby purifying and reusing aquaculture wastewater, and enabling animals or plants to maintain their optimal physiological state under high-density aquaculture conditions. This model can maximize the quality of unit yield without leading to internal and external environmental pollution, and fish can grow healthy and quickly. Meanwhile, diseases can be prevented through controllable standardized operating procedures, reducing drug use, increasing the survival rate and growth rate of fish species, and optimizing the quality of aquaculture products.

2023 年

1,500m³ 以上

系統每日處理水量可達

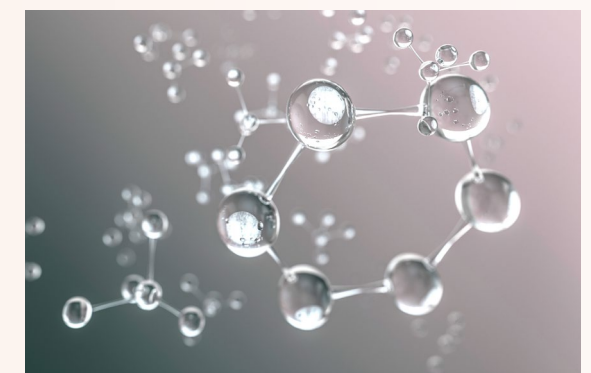
The daily water volume processed of the system can reach more than 1,500 m³



99% 以上

水循環回收利用率

Water recycling and utilization rate is 99% or above



優質管道破解深海取水難題

High-quality pipes solve the difficulty in deep sea water taking

海水養殖業在如火如荼發展之餘，也面臨著環境惡化、病害頻發、養殖密度大、海水生態污染等難題。為緊隨國家生態漁業轉型步伐，位於海南文昌的馮家灣現代漁業產業園的轉型升級之路須解決氣候災害、生態破壞、深海海況複雜多變等發展痛點。

While growing in full swing, the mariculture industry is faced with environmental deterioration, frequent diseases, intensive mariculture, marine pollution and other difficulties. In order to follow the pace of the national ecological fishery transformation, climatic disaster, ecological damage, complex and ever-changing conditions of deep sea and other problems should be solved for the transformation and upgrade of Fengjiawan Modern Fishery Industrial Park, Wenchang, Hainan.



馮家灣取水工程

Water Intake Project in Fengjiawan

為實現工業化、標準化、智能化養殖，馮家灣現代漁業產業園在園區內鋪設取水管道，統一從近海2公里、海平面以下9米的位置取水供整個園區的海水養殖使用，養殖尾水要經過四級淨化處理達到一級排放標準後方可排入河海。同時，中國聯塑參照G5+標準，嚴選生產用料，在生產流程中利用超聲波測厚系統在線測量監測，最終攻破大口徑管道因壁厚較厚，在產品成型時內外壁冷卻速度存在較大差異而容易出現的溶垂、內部縮孔和尺寸不穩定等技術難題，研製出適用於深海環境的超大口徑的高性能厚壁高密度聚乙烯（HDPE）管材管件，具備優越的抗風、抗浪、抗壓、耐海水腐蝕性能，為海南沉管引水入園的大流量取水帶來管道建設的整體方案。

To achieve the industrialized, standardized and intelligent breeding, water pipes are laid in Fengjiawan Modern Fishery Industrial Park in order that water can be taken from the location that is 2 km offshore and 9 m below the sea level for use for mariculture in the park, and effluent water of mariculture can be discharged into river and sea only after it is processed by four-level purification and meets the discharge standard level 1. Meanwhile, China Lesso refers to the G5+ standards, strictly selects production materials and utilizes ultrasonic thickness measuring system for online measurement and monitoring in the production process, finally overcomes sagging, shrinkage of internal holes, unstable sizes and other technical difficulties caused by great difference in the cooling speed of the inner and outer walls at the time of product molding due to thick walls of large diameter piping, and has developed super-caliber and high-performance high-density polyethylene (HDPE) pipes and pipe fittings with thick walls, which are suitable for deep-sea environment and excellent in wind resistance, wave resistance, crush resistance and seawater corrosion resistance, providing overall solution for the piping construction for the intake of great amount of water in connection with the introduction of water to the park through immersed piping in Hainan.

沉管技術賦能海洋生態養殖

Immersed tube technology empowers ecological mariculture

受海洋環境因素影響，取水管道的鋪設工作在面對水下超強壓力時要保證管道的密閉性和安全性，因此在施工過程中，管道焊接面強度檢測、浮拖、配重輔助下沉、海底管線定位及回填、進水口處理等重要節點的操作都至關重要。

Due to the impact on the marine environment, the leak proofness and safety of pipes should be ensured for the laying of water pipes when it is under super high pressure under water. As a result, the strength testing for the solder side of pipes, towing, adding weight to assist sinking, submarine piping positioning and back-filling, water inlet treatment and other important operations are vital in the construction process.

在海南項目中，我們運用海底沉管技術，解決了鋪設超大口徑高性能厚壁高密度聚乙烯管的難題，並組建了擁有豐富工程經驗的工程團隊，與海洋施工單位強強聯合，確保項目的長期穩定運行。同時，本集團力求管道鋪設的設計合理、維護簡單、利於海洋環境，通過與施工系統、運輸系統、技術系統等緊密配合，完成了沉管嚴絲合縫的對接。管道鋪設完成後，海水資源被不斷輸送到漁業養殖園區，經淨化處理後用於工業園區水產種苗、水產養殖、水產品加工流通、休閒漁業等多產業發展，滿足市場對戰略性新興產業的發展需求。

For the Hainan project, we applied the submarine immersed tube technology to solve the difficulty in the laying of large-caliber, high-density and high-performance HDPE pipes with thick walls, and built an engineering team experienced in engineering to work with a powerful marine constructor, ensuring the long-term stable running of the project. In the meantime, striving for reasonable design of pipes laid, simple maintenance and benefit to the marine environment, the Group completed the exact butt welding of immersed tubes by close cooperation with the construction system, transportation system, technical system, etc. After the completion of piping laying, seawater resources are constantly delivered to the fishery park, purified and then used for fishery breeding, aquaculture, processing and circulation of aquatic products, recreational fishery and other various industrial developments in the industrial park, meeting the market development demands of the strategic emerging industry.

未來，中國聯塑將持續以智能農業為抓手，佈局現代農業產業生態，作為現代鄉村農業產業鏈的前端支撐，為海底養殖、施工提供高效環保的解決方案，探索生產數字化、集約化應用場景，聚管道之力，助農業強國。

In the future, China Lesso will continue to take the intelligent agriculture as a support to lay out the modern agriculture ecology, act as the front support to the industrial chain of the modern rural agriculture to provide efficient and environmentally friendly solutions for marine culture and construction, explore scenarios of digitalized production and intensive application, capitalize on the strengths of its pipes to assist in the development toward an agricultural force.



奮楫篤行 赋能持续发展

Striving to Empower the Sustainable Development

中國聯塑將可持續發展注入頂層設計，健全企業管治與可持續發展管理體系，確保本集團管理營運符合法律法規和商業道德要求，保持與利益相關方的溝通協作，保障風險管理系統穩定運行。

The sustainable development is a part of China Lesso's top design, and the management system is perfected for corporate governance and sustainable development to ensure that the Group complies with the laws and regulations as well as requirements of business ethics in terms of management and operation. The Group keeps communication and cooperation with stakeholders and guarantees the stable operation of the risk management system.

回應聯合國可持續發展目標
Response to SDGs

16

和平、正義與強大機構

16

PEACE, JUSTICE AND STRONG INSTITUTIONS

17

促進目標實現的夥伴關係

17

PARTNERSHIPS FOR THE GOALS

重大性議題 Major issues	核心策略 Core strategies
可持續發展戰略與管理 Sustainable development strategies and management	- 可持續發展管治架構穩定運行，建立企業社會責任管理體系，實現各層級對於可持續發展事務有效管理與定期匯報審視 - The governance structure for sustainable development runs stably and the enterprise social responsibility management system is built to achieve efficient management and regular reporting and review of sustainability matters at all levels - 與內外部利益相關方保持積極的雙向溝通協作，定期釐定各議題實質性 - Keep active two-way communication and cooperation with internal and external stakeholders, and determine the substantiality of various issues on a regular basis
企業管治 Corporate governance	- 持續關注董事會構成，高度重視董事會成員獨立性、專業性、多元化水平，強化董事會治理能力 - Continuously pay attention to the composition of the Board of Directors ("Board"), attach great importance to the independence, specialty and diversity of members of the Board, and strengthen the governance ability of the Board - 完善企業治理架構，健全企業制度體系，規範股東權益保護和投資者關係管理 - Improve the corporate governance structure, perfect the corporate system, and standardize the shareholder interest protection and investor relations management
透明營運 Transparent operation	- 保障經營信息披露的時效性與質量，讓利益相關方全面、客觀了解本集團的實際營運情況 - Guarantee the timeliness and quality of operation information disclosure to enable stakeholders to know the actual business operation of the Group in a comprehensive and objective manner - 積極組織針對不同類型股東的信息披露與交流活動 - Actively organize information disclosure and communication activities for different types of shareholders
商業道德 Business ethics	- 完善反舞弊管理架構，規範反舞弊管理工作程序，保障潛在舞弊案件得到妥善受理 - Improve the anti-fraud management framework and standardize the work procedures of anti-fraud management to guarantee the proper handling of potential fraud cases - 優化舉報受理流程，保護舉報人的人身安全與隱私信息，保障舉報人基本權益不受侵害 - Optimize the reporting acceptance process and protect the personal safety and privacy information of whistleblowers to guarantee that the basic rights and interests of whistleblowers will not be infringed upon - 定期開展廉潔宣傳培訓，提升內外部反腐敗意識 - Carry out incorruptibility publicity and training on a regular basis to enhance the internal and external anti-corruption awareness
風險管控 Risk control	- 完善風險管理架構，建立長效的風險管理機制，強化風險識別、監控和防範能力 - Perfect the risk management framework, and build a long-term effective risk management mechanism to reinforce the ability to identify, monitor and prevent risks - 定期針對本集團人員及經營管理行為進行內部及第三方監察審計，及時整改流程管理不當事項 - Conduct regular monitoring and review by internal staff members or third parties for the employees and management behaviors of the Group, and rectify the improper management of process in a timely manner

關鍵績效 KPIs

- 員工反腐敗培訓覆蓋比率 **23%**，共 **1,808** 人，其中董事會成員、高級管理層人員 **25** 人
The anti-corruption training covers **23%** of employees (**1,808** people in total), including **25** participants from the Board and senior management
- 未發生** 貪污訴訟案件
No corruption litigation
- 出具內部審計報告 **78** 份，整改計劃完成率 **77%**
78 internal audit reports were issued, with a **77%** completion rate for rectification plans

可持續發展管治

Sustainability Management

中國聯塑建立有效的可持續發展管理體系，將可持續發展融入企業日常經營管理，不斷優化環境、社會及管治管理水平。
China Lesso builds an effective management system for sustainable development, integrates the sustainable development into the daily corporate operation and management, and keeps optimizing the environmental, social and governance performance.

可持續發展管治體系

Sustainability Management System

為確保可持續發展管理的有效性，系統實行可持續發展管理政策和措施，中國聯塑建立「決策 - 管理 - 執行」三層 ESG 管治架構體系，制定《ESG 重大事宜審批制度》《優秀 ESG 工作者評選制度》等 ESG 管理制度，明確界定可持續發展事務的職責與匯報機制，推進可持續發展工作穩健開展。
In order to ensure the effectiveness of sustainability management and to systematically implement the sustainability management policies and measures, China Lesso builds a three-level ESG framework system consisting of "Decision making – Management – Implementation", formulates the *Approval System for Material ESG Issues*, the *Selection System for Outstanding ESG Workers* and other ESG management policies, defining the responsibilities and reporting mechanisms for sustainable development affairs and promoting the steady implementation of sustainable development.

ESG 管治架構

ESG Framework

董事會將 ESG 監督決策職能授權給可持續發展委員會，下設可持續發展辦公室，統籌管理 ESG 相關事宜，定期向可持續發展委員會匯報。同時，成立 ESG 推進小組負責日常可持續發展相關事宜推進落地。
The Board delegates the ESG supervision and decision-making functions to the Commission on Sustainable Development, under which the Sustainable Development Office is set up to make overall plan for the management of ESG-related matters and to report work to the Commission on Sustainable Development on a regular basis. Meanwhile, the ESG Advancement Team is built to take responsibility for the daily promotion and implementation of matters related to the sustainable development.

ESG 管治架構
ESG Framework

機構 Organization	角色 Role	職責 Responsibility
可持續發展委員會 Commission on Sustainable Development	決策機構 Decision-making organization	- 領導、推進可持續發展工作； Leading and promoting the sustainable development work; - 審批可持續發展戰略、規劃和年度工作計劃、目標； Approve sustainable development strategies and plans as well as annual work plans and goals; - 對 ESG 總體進行監控，審批本集團重大實質性議題； Supervise the ESG work as a whole, and approve important substantive issues of the Group; - 處理可持續發展工作中的重大問題。 Handle major issues related to the Group's sustainable development work.

機構 Organization	角色 Role	職責 Responsibility
可持續發展辦公室 Sustainable Development Office	管理機構 Management organization	- 可持續發展管理體系的建立、實施和持續優化； Establish, implement and continuously optimize sustainable development management system; - 對包括氣候相關風險的 ESG 重要風險進行識別和評價，並根據董事會的決策制定氣候行動目標和計劃，討論目標的管理進度； Identify and assess major ESG risks including climate-related risks, develop climate action goals and plans based on the Board's decisions, and discuss progress in goals management; - 向可持續發展委員會匯報本集團面臨的 ESG 風險和挑戰，開展風險識別、評價與控制，匯報 ESG 工作開展進度； Report to the Commission on Sustainable Development on ESG-related risks and challenges the Group is faced with, identify, assess and control risks, and report the ESG work progress; - 組織開展實質性議題調研，並向可持續發展委員會提供分析，解釋得出實質性議題的過程及目前實質性議題清單； Organize surveys of substantive issues, provide analysis to the Commission on Sustainable Development, explain the process of determining the substantive issues and the list of current substantive issues; - 落實可持續發展委員會的各項決議，編制年度可持續發展報告，協調本集團可持續發展相關工作； Implement the resolutions of the Commission on Sustainable Development, prepare annual sustainable development reports, and coordinate work related to sustainable development for the Group; - 識別各利益相關方，組織協調利益相關方合理訴求，提升本集團可持續發展競爭力。 Identify stakeholders, perform organization and coordination work for reasonable demands of stakeholders to improve the competitiveness in sustainable development of the Group.
ESG 推進小組 ESG Advancement Team	執行主體 Implementer	- 收集和整理所在部門 ESG 信息、數據； Collect and sort the ESG information and data of the corresponding department; - 推進本集團下達的各項可持續發展工作任務和日常聯絡溝通。 Promote the sustainable development tasks assigned by the Group as well as daily contact and communication.

董事會聲明

Statement of the Board

本集團董事會遵循聯交所《ESG 報告指引》要求，深度參與本集團 ESG 事務治理，積極將 ESG 理念融入業務實踐中。本集團董事會已經審議明確了可持續發展管治體系，明確界定可持續發展事務的職責與匯報機制，將「可持續發展戰略與管理」相關議題納入本集團管理中。

The Board follows the requirements of the *ESG Reporting Guide* issued by the Stock Exchange, participates in the governance of the ESG-related matters of the Group in depth, and actively incorporates the ESG concepts into the business practices. The Board has deliberated and developed the sustainable development governance system, defined the responsibilities and reporting mechanisms for sustainable development matters, and included the issues related to the "sustainable development strategies and management" into the management of the Group.

董事會作為可持續發展管治體系的最高決策機構，負責決定本集團 ESG 管理架構及管理策略；確保設立合適及有效的 ESG 風險管理及內部監控系統，負責聽取 ESG 有關重要事宜的討論結果並關注 ESG 目標進展；審議及通過本集團 ESG 年度報告。請參閱本報告董事長致辭部分以了解 ESG 管理方針和策略的詳情。

As the highest decision-making body in the sustainable development governance system, the Board is responsible for deciding the Group's ESG management structure and strategies, ensuring the establishment of appropriate and effective management and internal monitoring system for ESG risks, listening to the discussion results of important matters related to ESG and following up on the progress of attainment of ESG goals; deliberating and adopting the annual ESG reports of the Group. For details of the ESG approach and strategies, please refer to Chairman's Message in the Report.

本集團遵循聯交所《ESG 報告指引》的要求，已設定覆蓋溫室氣體排放、廢棄物管理、水資源使用、能源消耗等關鍵 ESG 目標，董事會已就相關目標的設定及進展進行審閱及討論。

Following the requirements of the *ESG Reporting Guide* issued by the Stock Exchange, the Group has set the key ESG goals covering greenhouse gas emission, waste management, use of water resources, energy consumption, etc., and the Board has deliberated and discussed the setting and attainment of attainment of the relevant goals.

本集團 2023 年度可持續發展報告已由董事會於 2024 年 3 月 28 日審閱批准。

The Group's 2023 Sustainable Development Report has been deliberated and approved by the Board on 28 March 2024.

企業管理體系建設

Enterprise Management System Establishment

本集團致力於企業管理體系的建設和完善。我們從誠信建設入手，堅持依法經營，注重環境保護，關心員工福利，積極履行社會責任；在誠信經營方面，我們以客戶需求為導向，嚴格把控產品品質，贏得廣泛的市場認可；在誠信管理方面，我們建立完善的內部管理制度，加強風險防控，確保企業運營合規、透明。2023 年 7 月，本集團積極配合第三方權威機構審核評估，成功延續了企業誠信管理體系認證。未來，我們將繼續秉承誠信經營的理念，為客戶提供優質的產品和服務，為社會的和諧發展貢獻力量。

The Group is committed to the establishment and improvement of the enterprise management system. Starting with the development of honesty and integrity culture, we adhere



企業誠信管理體系認證證書

Certificate of Conformity of Enterprise Integrity Management System

to operation by law, pay attention to environmental protection, care about employee benefits and perform our social responsibilities proactively. As for operations with honesty and integrity, oriented to customer demands, we strictly control the product quality and are widely recognized in the market. As for management with honesty and integrity, we establish perfect internal management system to strengthen risk prevention and control, ensuring the compliance and transparency of enterprise operation. In July 2023, the Group was active in cooperating with the third-party authority for review and assessment, successfully extending the certificate for the system of management with honesty and integrity. In the future, we will continue to adhere to the concept of management with honesty and integrity and provide customers with high-quality goods and services, contributing our force to the harmonious social development.

本集團將社會責任管理體系建設作為高質量推進可持續發展治理、高效率推進重點工作的有力抓手。2023 年，廣東聯塑科技實業有限公司（「廣東聯塑」）啟動《社會責任管理體系—要求及使用指南》（GB/T 39604-2020）貫標認證工作，並開展社會責任管理體系要求及使用指南相關培訓，全面推進、落實社會責任管理體系建設；廣東聯塑班皓新能源科技集團有限公司（「聯塑班皓」）已獲得社會責任國際標準體系（Social Accountability 8000 International standard, SA 8000）認證。

The Group deems the social responsibility management system as an effective channel for sustainable development governance and efficient advancement of key work. In 2023, Guangdong Liansu Technology Industrial Co., Ltd. ("Guangdong Lesso") started the certification for implementation of the standards specified by the *Social Responsibility Management System - Requirements with Guideline for Use (GB/T 39604-2020)*, and carried out the relevant training for the social responsibility management system requirements and guideline for use, fully promoting and implementing the development of social responsibility management system. Guangdong Lesso Banhao New Energy Technology Group Co., Ltd. ("Lesso Banhao") has obtained the Social Accountability 8000 International Standard (SA 8000) certificate.

聯塑學院組織社會責任管理體系培訓

Lesso College organized the training for social responsibility management system

2023 年 11 月 20 日，聯塑學院組織《社會責任管理體系使用要求及指南》（GB/T 39604-2020）貫標培訓，培訓內容包括社會責任管理體系要求、使用指南及相關法律法規詳情，有效提升各部門對於社會責任工作管理要求的理解，不斷推動中國聯塑成為對社會負責的優秀企業。

On 20 November 2023, Lesso College organized the training for implementation of the standards specified by the *Social Responsibility Management System - Requirements with Guideline for Use (GB/T 39604-2020)*, with the training contents containing the social responsibility management system requirements, guidelines for use and details of the relevant laws and regulations, effectively improving the departments' understanding of requirements for the social responsibility management and constantly pushing China Lesso to become an excellent enterprise taking social responsibility.



社會責任管理體系培訓

Training for Social Responsibility Management System

利益相關方溝通
Communication with Stakeholders

中國聯塑始終堅持通過多種溝通渠道，與內外部利益相關方保持積極的雙向溝通協作，重視利益相關方的意見和建議，定期收集及評估利益相關方的反饋，並根據反饋評估結果調整本集團 ESG 工作的戰略及行動。

China Lesso always sticks to keeping active two-way communication and cooperation with internal and external stakeholders through multiple communication channels, attaches great importance to the opinions and advice of stakeholders, collects and assesses feedback from stakeholders on a regular basis, and adjusts the Group's ESG strategies and actions according to the feedback and assessment results.

利益相關方溝通渠道
Channels of Communication with Stakeholders

利益相關方 Stakeholders	期望與訴求 Expectations and needs	回應措施 Responses and measures
 政府與監管部門 Government and regulatory departments	透明營運 Transparent operation 循環經濟 Circular economy 當地經濟發展 Local economic development 可持續發展戰略與管理 Sustainable development strategies and management	日常匯報溝通 Daily reporting and communication 依法納稅 Tax compliance 論壇與交流活動 Forum and exchange activities 積極響應國家政策 Active response to national policies
 股東與投資者 Shareholders and investors	多元經營 Diverse operation 透明營運 Transparent operation 企業管治 Corporate governance 風險管控 Risk control	建立完善科學的決策及監督機制 Develop sound and scientific decision-making and supervision mechanisms 定期披露經營信息 Regular disclosure of operation information 組織參與針對不同類型股東的活動 Organize special activities for different types of shareholders 加強風險管控 Strengthen risk management and control
 顧客 Customers	產品質量 Product quality 優質服務 Excellent services 隱私保護與數據安全 Privacy protection and data security 負責任營銷 Responsible marketing	產品質量控制 Control product quality 提供優質服務 Render excellent service 保護客戶隱私 Protect customer privacy 滿意度調查 Conduct satisfaction surveys

利益相關方 Stakeholders	期望與訴求 Expectations and needs	回應措施 Responses and measures
 員工 Employees	員工培訓與發展 Employee training and development 員工薪酬與福利 Employee compensation and benefits 職業健康與安全 Occupational health and safety 員工關愛與幫扶 Employee care and support 多元與合規僱傭 Employment diversity and compliance	積極開展各類培訓 Actively hold all kinds of trainings 完善人才晉升與薪酬機制 Perfect the talent promotion and remuneration mechanisms 加強職業健康與安全管理 Enhance occupational health and safety management 推行多樣化的員工福利 Offer diverse employee benefits
 合作夥伴 Partners	經銷商管理 Distributors management 供應商管理 Supplier management 可持續採購 Sustainable procurement 商業道德 Business ethics 透明營運 Transparent operation	依法履行合同 Fulfill contracts according to the law 公開招標 Carry out open bidding 杜絕商業賄賂 Refuse commercial bribery 參加行業交流活動 Participate in exchange activities in the industry
 社區與公眾 Communities and the public	當地經濟發展 Local economic development 公益慈善活動 Public service and philanthropy 鄉村振興 Rural revitalization 氣候變化 Climate change 排放物及廢棄物管理 Emission and waste management 能源資源使用效益 Energy resource utilization efficiency 生物多樣性 Biodiversity	開展各類公益活動 Conduct all kinds of social service activities 加強產業幫扶工作 Intensify industrial support 支持鄉村振興戰略 Support rural revitalization strategies 鼓勵員工參加志願服務 Encourage employees to participate in voluntary services 發展綠色產業 Develop green industries 踐行綠色營運 Put green operation into practice 加強環境治理 Consolidate environmental governance 加強環境信息披露 Strengthen environmental information disclosure

實質性議題分析

Analysis of Substantive Issues

為充分了解本集團管理層以及各利益相關方在 ESG 信息披露和管理方面的需求與期望，本年度，本集團面向政府、股東、員工、客戶等內外部利益相關方發放調研問卷，從「對企業的財務影響」和「對利益相關方的重要性」兩個維度識別和評估可持續發展重要議題，形成本年度雙重實質性議題矩陣。

In order to fully understand the demands for and expectations of the ESG information disclosure and management of the management and stakeholders of the Group, the Group issued survey questionnaires in the current year to the government, shareholders, employees, customers and other internal and external stakeholders for identification and assessment of key issues of sustainable development in terms of "financial impact on the enterprise" and "importance to stakeholders", forming a matrix of double substantive issues for the current year.

實質性議題識別與評估工作流程：
Identification and Assessment Workflow of Substantive Issues:

1) 識別及建立議題庫 Identify issues and build an issue database

綜合考慮監管合規要求、各利益相關方關注焦點及行業發展趨勢，結合中國聯塑可持續發展工作規劃，多維度更新議題庫，包含環境、社會及管治 3 大範疇共計 28 項議題。

The database is updated multidimensionally with the regulatory compliance requirements, the focus of attention of stakeholders and the industry development trends considered and comprehensively in combination with the planning for sustainable development of China Lesso, which contains a total of 28 environmental, social and governance issues.

2) 利益相關方調研 Survey of stakeholders

本年度我們面向董事會成員、高管、職員、客戶、政府及監管機構、社區及公眾、經銷商、供應商、環保組織、投資者及股東等內外部利益相關方發放並回收 1,589 份有效調研問卷。

In the current year, we collected 1,589 valid questionnaires issued to members of the Board, senior management, employees, customers, government and regulators, communities and the public, distributors, suppliers, environmental protection organizations, investors, shareholders and other internal and external stakeholders.

3) 實質性評估 Substantive assessment

我們根據問卷調研數據及行業趨勢，評估各議題雙重實質性並對議題重要性進行排序，形成包含 12 項高度重要議題的 2023 年實質性議題矩陣，並由本集團管理層和外部專家審視議題評估結果。

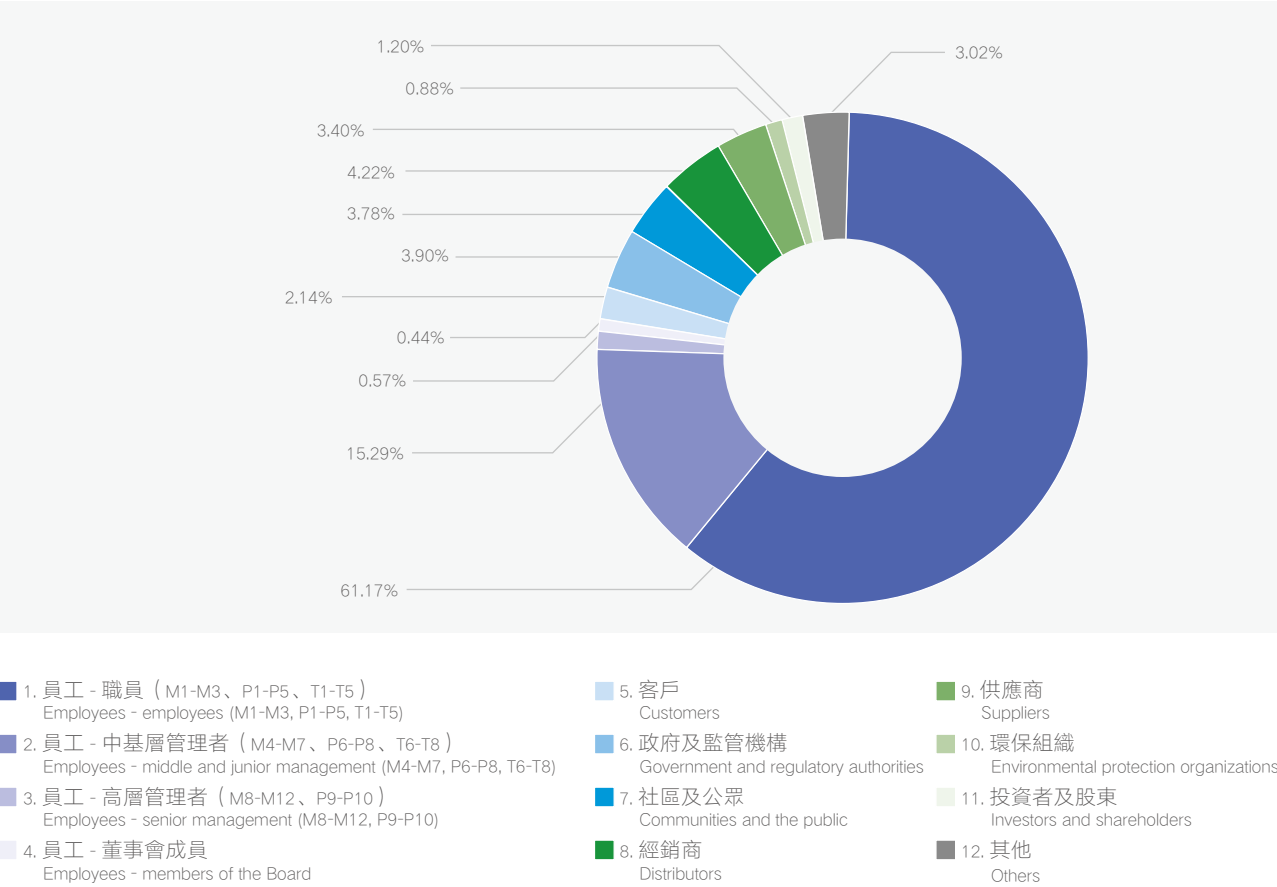
According to the questionnaire survey data and industrial trends, we assessed the double substantiality of issues and prioritize the materiality of such issues, forming a matrix of 2023 substantive issues which contained 12 highly important issues, and the Group's management and external experts reviewed the issue assessment result.

4) 議題回應及披露 Address and disclose issues

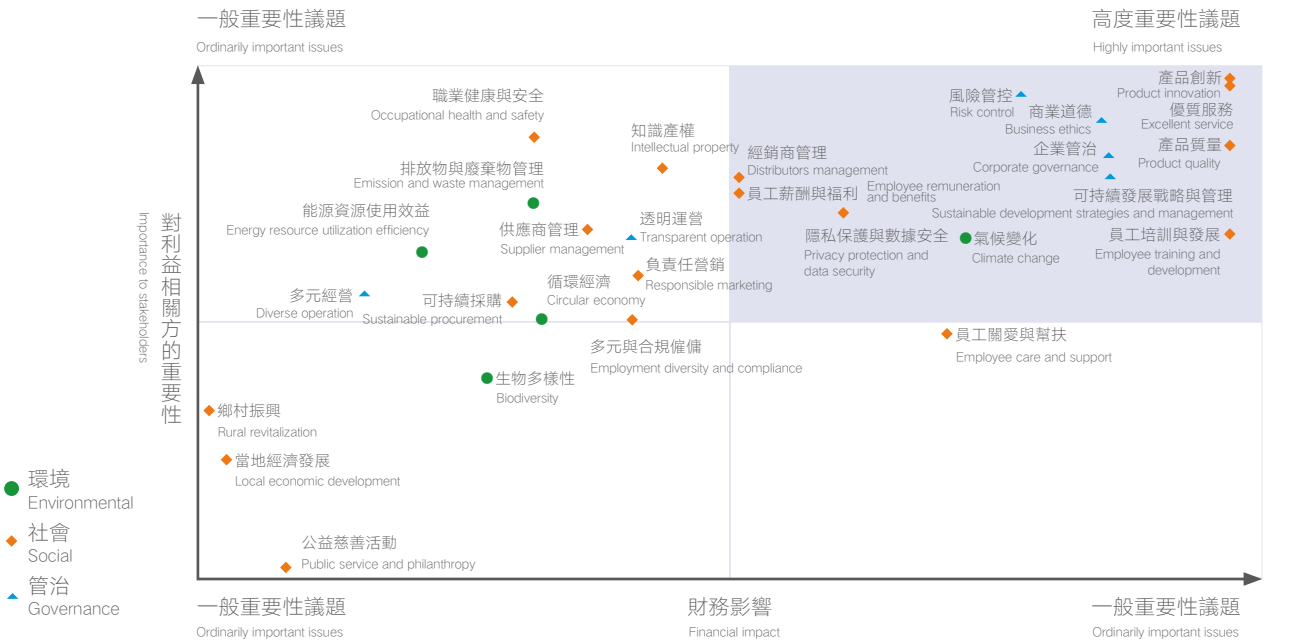
針對實質性議題，我們積極制定及實施管理行動計劃，向董事會呈現並獲得確認，在報告中進行重點回應與披露。

For substantive issues, we proactively made and implemented the management action plan, which was presented to and recognized by the Board, so that such key issues are addressed and disclosed in the report.

利益相關方回應比例：
Response ratio of stakeholders:



2023 年可持續發展重大議題矩陣：
2023 sustainable development major issue matrix:



2023 年重大性議題列表
List of 2023 Major Issues

議題重要性 Materiality of issue	議題排序 Issue ranking	議題範疇 Category	重大性議題 Substantive issue
高度重要議題 Highly important issues	1	社會 Social	產品創新 Product innovation
	2	社會 Social	優質服務 Excellent service
	3	社會 Social	產品質量 Product quality
	4	管治 Governance	商業道德 Business ethics
	5	管治 Governance	企業管治 Corporate governance
	6	社會 Social	員工培訓與發展 Employee training and development
	7	管治 Governance	風險管控 Risk control
	8	環境 Environmental	氣候變化 Climate change
	9	管治 Governance	可持續發展戰略與管理 Sustainable development strategies and management
	10	社會 Social	隱私保護與數據安全 Privacy protection and data security
	11	社會 Social	經銷商管理 Distributors management
	12	社會 Social	員工薪酬與福利 Employee remuneration and benefits
一般重要議題 Ordinarily important issues	13	社會 Social	供應商管理 Supplier management
	14	社會 Social	知識產權 Intellectual property
	15	社會 Social	職業健康與安全 Occupational health and safety
	16	社會 Social	員工關愛與幫扶 Employee care and support
	17	管治 Governance	透明營運 Transparent operation
	18	社會 Social	負責任營銷 Responsible marketing
	19	環境 Environmental	排放物及廢棄物管理 Emission and waste management
	20	社會 Social	多元與合規僱傭 Employment diversity and compliance
	21	環境 Environmental	循環經濟 Circular economy
	22	社會 Social	可持續採購 Sustainable procurement
	23	環境 Environmental	能源資源使用效益 Energy resource utilization efficiency
	24	管治 Governance	多元經營 Diverse operation
	25	環境 Environmental	生物多樣性 Biodiversity
	26	社會 Social	當地經濟發展 Local economic development
	27	社會 Social	公益慈善活動 Public service and philanthropy
	28	社會 Social	鄉村振興 Rural revitalization

完善公司治理 Improving Corporate Governance

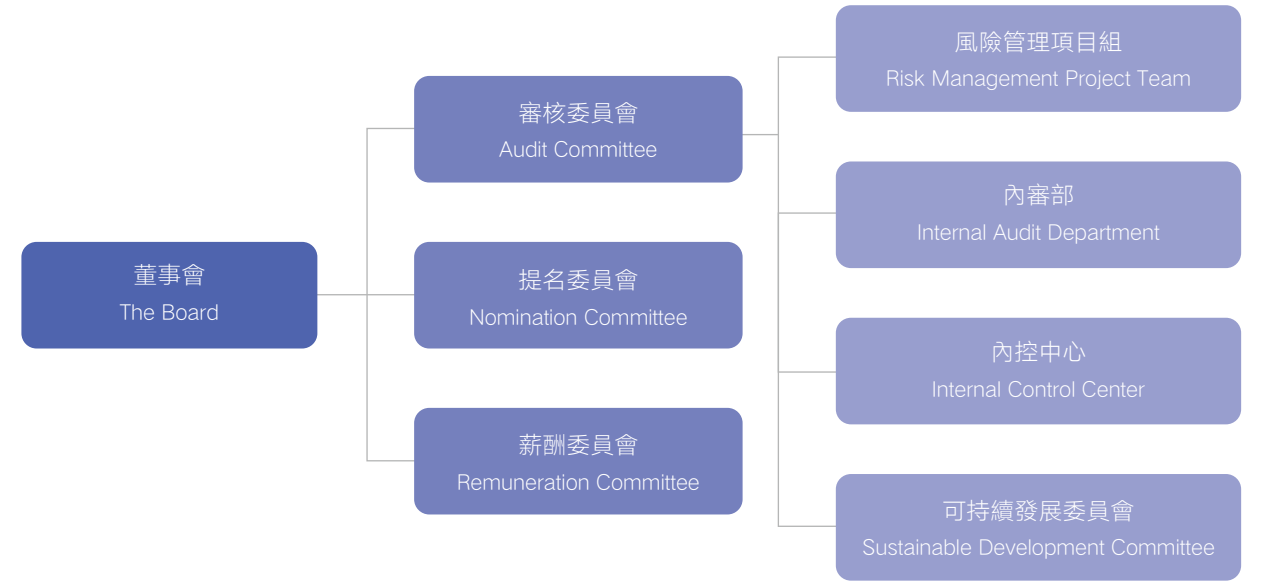
完善的企業管治是股東和業務夥伴的權益保障基礎，能夠持續保持股東信任，增加股東所持股份的價值。2023 年內，本集團嚴格遵守《證券及期貨條例》《開曼群島公司法》，《香港聯合交易所有限公司證券上市規則》《中華人民共和國公司法》等法律法規要求，結合實際情況，以規範、獨立、多元化的公司治理結構，規範公司運作。董事會及高級管理層嚴格按照《公司章程》賦予的職責，行使權利及履行義務，並充分發揮董事會專業委員會、獨立董事的作用，有效實施公司治理，維護股東利益。

Sound corporate governance is the foundation of guarantee for the rights and interests of shareholders and business partners, which can constantly maintain shareholder trust and increase the value of shares held by shareholders. In 2023, the Group strictly complied with the requirements of the *Securities and Futures Ordinance*, the *Cayman Islands Companies Act*, the *Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited*, the *Company Law of the People's Republic of China* and other laws and regulations, and by taking into account the actual situation, has standardized the corporate operations with standard, independent and diversified corporate governance structure. According to the responsibilities stipulated in the *Articles of Association*, the Board and senior management exercise their respective rights and assume their respective obligations, give full play to the functions of the Board committees and independent directors, efficiently implement corporate governance, and safeguard the interests of the shareholders and the Group.

企業管治架構 Corporate Governance Structure

董事會下設審核委員會，提名委員會及薪酬委員會，所有董事委員會主席均由獨立非執行董事擔任，以維護委員會的獨立性和有效性，保障本集團和股東的合法權益。董事會、董事委員會等詳細內容見《中國聯塑集團控股有限公司 2023 年度報告》。

The Board set up three board committees: the Audit Committee, the Nomination Committee and the Remuneration Committee, all of which are chaired by an independent non-executive director to safeguard the independence and effectiveness of them and to guarantee the legal rights and interests of the Group and shareholders. For details of the Board and the Board committees, please refer to the *2023 Annual Report of China Lesso Group Holdings Limited*.



董事會成員結構
Structure of Board Members

董事會落實用人唯才和多元化的原則，基於年齡、性別、經驗、專業知識與技能等多種因素綜合考量候選人，制定了《董事會成員多元化政策》《董事提名政策》等符合企業長期發展要求的規則和制度，促進董事會科學決策，預防和減緩潛在利益衝突。更多企業管治相關信息可點擊下方官網鏈接進行查閱。

官方網址：<https://www.lesso.com/investor-relations/corporate-regulation/>

The Board implements the principle of meritocracy and diversity, comprehensively considers candidates on basis of a variety of factors such as age, gender, experience, professional knowledge and skills, and formulates rules and systems in compliance with the requirements for the long-term corporate development such as the *Board Diversity Policy* and the *Director Nomination Policy*, to promote the scientific decisions of the Board and to prevent and ease potential conflicts of interests. More information about corporate governance can be found by clicking the following link to the official website.

Official Website：<https://en.lesso.com/corporate-governance/>

董事會現由 14 名董事組成，其中獨立董事 5 人，女性董事 3 人。

The Board currently consists of 14 directors, including 5 independent directors and 3 female directors.

董事會成員結構
Structure of Board Members

姓名 Name	性別 Gender	專業知識與技能 Professional Knowledge and Skills		主要經歷 Major Experience			年齡 Age		
		建材產業 Building Materials Industry	法律、財務 或會計 Legal, Finance or Accounting	建材產業 Building Materials Industry	法律、財務 或會計 Legal, Finance or Accounting	技術研究 Technical Research	50 歲以下 50 or below	51 至 60 歲 51 to 60	61 至 70 歲 61 to 70
執行董事 Executive directors									
黃聯禧 (主席) Wong Luen Hei (Chairman)	男 Male	☒		☒					☒
左滿倫 (行政總裁) Zuo Manlun (Chief Executive)	男 Male	☒		☒				☒	
左笑萍 Zuo Xiaoping	女 Female	☒		☒				☒	
賴志強 Lai Zhiqiang	男 Male	☒		☒				☒	
孔兆聰 Kong Zhaocong	男 Male	☒		☒				☒	
陳國南 Chen Guonan	男 Male	☒		☒		☒		☒	
林少全 Lin Shaoquan	男 Male	☒				☒	☒		

姓名 Name	性別 Gender	專業知識與技能 Professional Knowledge and Skills		主要經歷 Major Experience			年齡 Age		
		建材產業 Building Materials Industry	法律、財務或會計 Legal, Finance or Accounting	建材產業 Building Materials Industry	法律、財務或會計 Legal, Finance or Accounting	技術研究 Technical Research	50 歲以下 50 or below	51 至 60 歲 51 to 60	61 至 70 歲 61 to 70
黃貴榮 Huang Guirong	男 Male	☑		☑			☑		
羅建峰 Luo Jianfeng	男 Male		☑		☑			☑	
獨立非執行董事 Independent non-executive directors									
陶志剛 Tao Zhigang	男 Male		☑ (經濟) (Economic)		☑			☑	
鄭迪舜 Cheng Dickson	男 Male		☑		☑			☑	
呂建東 Lu Jiandong	女 Female		☑		☑			☑	
洪瑞江 Hong Ruijiang	男 Male	☑				☑		☑	
李穎嫻 Lee Vanessa	女 Female		☑		☑		☑		

加強投資者溝通
Improving Communication with Investors

及時、全面、準確的信息披露能夠為投資者及時充分了解本集團營運與發展動向提供渠道，增強投資者信賴。中國聯塑每年檢討《股东通訊政策》，為境內外投資者建立定期郵件往來、業績發佈會、投資者接待會、路演會議、日常電話接待、郵件回覆、接待調研等多渠道溝通平台，通過高效透明的溝通機制，保持與投資人的交流互動並及時跟進投資人建議，不斷完善和改進治理工作，維繫良性的投資者關係。

Timely, comprehensive and accurate information disclosure can provide a channel for investors to fully understand the operation and developments of the Group in a timely manner, enhancing investors' trust. China Lesso reviews the *Shareholder Communication Policy* annually, establishes platforms for domestic and foreign investors for communication through multiple channels such as regular e-mail correspondences, results announcement conference, investor reception meetings, roadshow meetings, daily reception of calls, e-mail replies, reception of survey, etc., maintains exchanges and interactions with investors and promptly follows up on investor advice through an efficient and transparent communication mechanism, and constantly perfects and improves its governance to maintain positive investor relations.

2022 年全年業績公告發佈會如期舉辦

The 2022 Annual Results Announcement Conference was held as scheduled

2023 年 3 月 20 日，中國聯塑面向全體股東及市場投資者，如期舉辦 2022 年全年業績公告發佈會，由集團主席黃聯禧先生就本集團主營業務的發展趨勢、未來戰略、海外佈局，以及對原料價格波動應對策略等方面回應投資者關注，有效增強市場認同，提升投資者信心。

On 20 March 2023, China Lesso held the 2022 Annual Results Announcement Conference for all its shareholders and market investors as scheduled, at which Mr. Wong Luen Hei, the chairman of the Group, responded to investor concerns in respect of the development trend of the Group's primary business, future strategies, overseas layout, strategies for fluctuations in price of raw materials, etc., effectively boosting the market recognition and enhancing the investor confidence.

關於可持續發展事項，本集團亦建立內外部雙向溝通渠道，不斷推進董事會的決議，回應投資者的關注，及時向投資者更新氣候變化、能源管理、企業管治、人權保護、低碳科技等重要事項內部管理慣例與最新進展。

For sustainable development issues, the Group has also established internal and external two-way communication channels, keeps promoting the Board resolutions, responds to investor concerns, and promptly updates investors on the internal management practices and latest developments in relation to important issues such as climate change, energy management, corporate governance, human right protection, low-carbon technology, etc.

反腐敗與反舞弊
Anti-Corruption and Anti-Fraud

中國聯塑致力於營造道德、誠信、守信經營的企業形象，不斷深化員工公平競爭觀念和商業道德素養，構建廉潔、透明的商業社會。本集團嚴格遵循《中華人民共和國刑法》《中華人民共和國刑事訴訟法》《中華人民共和國治安管理處罰法》《中華人民共和國香港特別行政區基本法》等相關規定，反對各種形式的貪污，包括敲詐、勒索和行賄受賄行為。

China Lesso is committed to creating a corporate image of ethics, integrity and trustworthy management, and keeps deepening employees' concept of fair competition and quality of business ethics, so as to build an honest and transparent business society. The Group strictly follows the *Criminal Law of the People's Republic of China*, the *Criminal Procedure Law of the People's Republic of China*, the *Public Security Administration Punishments Law of the People's Republic of China*, the *Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China* and other relevant provisions, and opposes all forms of corruptions, including blackmail, extortion and offering or accepting bribes.

關鍵績效 KPIs

- 報告期內，本集團**未發生**貪污訴訟案件。
During the Reporting Period, the Group was **not** involved in any corruption litigation case.

管理體系建設

Management System Construction

本集團發佈並至少每三年評估審閱《反舞弊管理制度及舉報政策》《企業行為準則和道德規範》等規章制度，以指導並約束員工及夥伴的商業行為。2023 年度，本集團已對《企業行為準則和道德規範》進行修訂完善，針對利益衝突申報、反貪污進行嚴格規定並已於官方網站發佈。

The Group releases and assesses and reviews at least once every three years the *Anti-fraud Management System and Whistleblowing Policy*, the *Code of Business Conduct and Ethics* and other rules and regulations, to guide and restrain the business conduct of our employees and partners. In 2023, the Group has amended and improved the *Code of Business Conduct and Ethics* to strictly regulate the declaration of conflicts of interests and the fight against corruption, and published it on the official website.

董事會是本集團反舞弊工作的最高領導機構，定期聽取相關匯報，監督審核委員會、反舞弊管理小組的反舞弊工作。本集團審核委員會下設反舞弊管理小組，履行舞弊案件的受理、舞弊舉報處理意見的審核等職責，規範反舞弊管理工作程序。

As the highest leadership of the Group for anti-fraud, the Board receives regular reports, supervises the anti-fraud work of the audit committee and the anti-fraud control unit. The anti-fraud control unit is set up under the audit committee of the Group, which fulfills acceptance of fraud cases, review of opinions on handling of reported frauds and other duties, and standardizes the anti-fraud management procedures.

反舞弊管理架構

Anti-fraud Management Architecture

機構 Organization	職責 Duties
董事會 The Board	負責督促管理層建立反舞弊文化環境、建立健全包括預防舞弊在內的內部控制體系；監督審核委員會、反舞弊管理小組的反舞弊工作 Responsible for supervising the management's establishment of anti-fraud culture and sound internal control systems including prevention of fraud; monitoring the audit committee's and anti-fraud control unit's anti-fraud work
審核委員會 Audit committee	負責對反舞弊工作進行持續監督；負責審閱舞弊舉報、調查、報告的記錄，負責指導、監督重大舞弊案件的調查及處理，以確保公正處理有關事宜 Responsible for constant supervision over anti-fraud work; responsible for reviewing records of whistleblowing, investigation and report of frauds, responsible for guiding and supervising the investigation and handling of major fraud cases to ensure the fair treatment of relevant matters
反舞弊管理小組 Anti-fraud control unit	負責建立反舞弊的企業文化環境，建立、健全預防舞弊在內的內部控制體系；負責本集團反舞弊管理制度制訂；負責決策舞弊案件的受理、舞弊舉報處理意見的審核等 Responsible for establishing anti-fraud culture, building and perfecting internal control systems including prevention of fraud; responsible for establishment of the anti-fraud management system of the Group; responsible for making decisions on acceptance of fraud cases, reviewing opinions on treatment of reported frauds, etc.
反舞弊調查組織 Anti-fraud investigation unit	負責舞弊事件投訴、舉報信息的接收，資料登記和歸檔，為反舞弊管理小組提供所接受案件的舞弊舉報調查報告與處理意見等 Responsible for receiving complaints and whistleblowing information about frauds, information recordation and filing, providing investigation reports on reported frauds and handling suggestions for the case accepted by the anti-fraud control unit, etc.
法律部 Legal department	根據舞弊舉報案件調查的需要，參與舞弊調查工作，在不同的階段給予反舞弊管理小組專業的法律意見 Participating in investigation of frauds and providing professional legal opinions to the anti-fraud control unit at different stages, as required for the investigation of reported frauds

舉報管理流程
Whistleblowing Management Process

為加強內外部舉報受理工作，有效打擊貪污腐敗行為，營造誠實廉潔的工作環境，本集團已於官方網站發佈《反舞弊管理制度及舉報政策》，對舉報信息受理、登記、調查、審計、決策、處置等各環節進行流程性優化，做到舉報有途徑、受理有程序，以負責任、有效的方式處理貪腐舞弊及其他不正當行為。

To strengthen the acceptances of internal and external whistleblowing cases, effectively fight against corruption and create a faithful and incorrupt work environment, the Group published the *Anti-fraud Management System and Whistleblowing Policy* on its official website, optimized the processes of acceptance, recordation, investigation, audit, decision-making and handling in respect of whistleblowing information, etc., and established whistleblowing channels and acceptance procedures, so that corruptions, frauds and other misconducts can be handled in a responsible and effective manner.

本集團鼓勵實名舉報，提供舞弊舉報專用信箱及電子郵箱等多種舉報渠道，廣泛收集群眾及員工舉報信息。同時，我們堅決保護舉報人的人身安全與隱私信息，對實名舉報人的個人信息及舉報內容予以嚴格保密，保障舉報人基本權益不受侵害，杜絕任何形式的打擊報復行為，一經發現，將根據法律要求嚴肅處理。

The Group encourages real-name whistleblowing, provides a variety of whistleblowing channels such as designated mailbox and email address for fraud reporting, and collects a wide range of whistleblowing information from the public and employees. Meanwhile, we resolutely protect the personal safety and privacy information of whistleblowers, strictly keep confidential whistleblowers' personal information and whistleblowing contents, to protect whistleblowers' basic rights and interests from infringement and completely eradicate any form of attack and retaliation. Any attack or retaliation discovered will be subject to stern handling according to legal requirements.

舞弊舉報及處理流程
Whistleblower Reporting and Handling Process

- 01 舞弊舉報 Whistleblower reporting
- 02 舞弊舉報信息接收和受理 Whistleblower reporting information receipt and acceptance
- 03 成立調查小組 Set up an investigation team
- 04 審計章程立項、調查和審計 Case filing based on audit charter, and carrying out of investigations and audits
- 05 調查取證 Investigate and collect evidences
- 06 撰寫調查報告與處理意見 Prepare investigation reports and handling opinions
- 07 調查判斷 Investigation verdict
- 08 形成舞弊舉報處理決定 Decision on the handling of the whistleblower report
- 09 存檔並執行處理決定 Filing and implementation of the handling decision

廉潔文化建設
Integrity Culture Development

為營造風清氣正的企業氛圍，提升管理層的理论素養和反腐敗意識，增強員工法律風險防範意識，中國聯塑每年面向董事會、管理層、員工及合作夥伴進行多場廉潔宣傳培訓，宣傳違法後果、典型案例、舉報渠道等相關信息，確保各相關方充分理解和遵守我們的商業道德和企業管治標準。

With a view to creating clean and upright enterprise atmosphere, raising the management's theoretical knowledge and anti-corruption awareness and strengthening employees' awareness of legal risk prevention, China Lesso held a number of incorruptibility publicity and training for the Board, the management, employees and business partners every year, promoting the consequences of violations of laws, typical cases, whistleblowing channels and other relevant information to ensure that all interested parties fully understand and comply with our business ethics and corporate governance standards.

關鍵績效 KPIs

- 員工反腐敗培訓覆蓋比率 **23%**，共 **1,808** 人，其中董事會成員、高級管理層人員 **25** 人。
The anti-corruption training covers 23% of employees (**1,808** people in total), including **25** participants from the Board and senior management.

中國聯塑開展重點人員防範職務犯罪專題培訓
China Lesso conducted special training on preventing work-related crimes for key personnel

2023 年 11 月 21 日，中國聯塑舉辦了《預防職務犯罪，構建法治企業》專題培訓，覆蓋董事會、管理層及合作夥伴，共 1,606 人參訓。培訓會詳細介紹了職務犯罪的定義和成因，涵蓋職務侵佔罪、挪用資金罪、非國家公職人員受賄罪等常見職務犯罪的構成條件等內容，使參會者充分認識到職務犯罪的危害，增強了預防和杜絕職務犯罪的法律意識、底線意識。

On 21 November 2023, China Lesso held a special training entitled "Preventing Work-Related Crimes to Build a Law-ruling Enterprise", covering the Board, management and business partners, with a total of 1,606 participants. The training session introduced definitions and causes of work-related crimes in detail, covering common conditions leading to work-related crimes such as crime of duty encroachment, crime of fund misappropriation, crime of non-public officials' acceptance of bribes, etc., to make participants fully aware of the hazards of work-related crimes and to raise the awareness of laws and bottom lines with respect to prevention and eradication of work-related crimes.



預防職務犯罪，構建法治企業
Preventing Work-Related Crimes to Build a Law-ruling Enterprise

風險管理 Risk Management

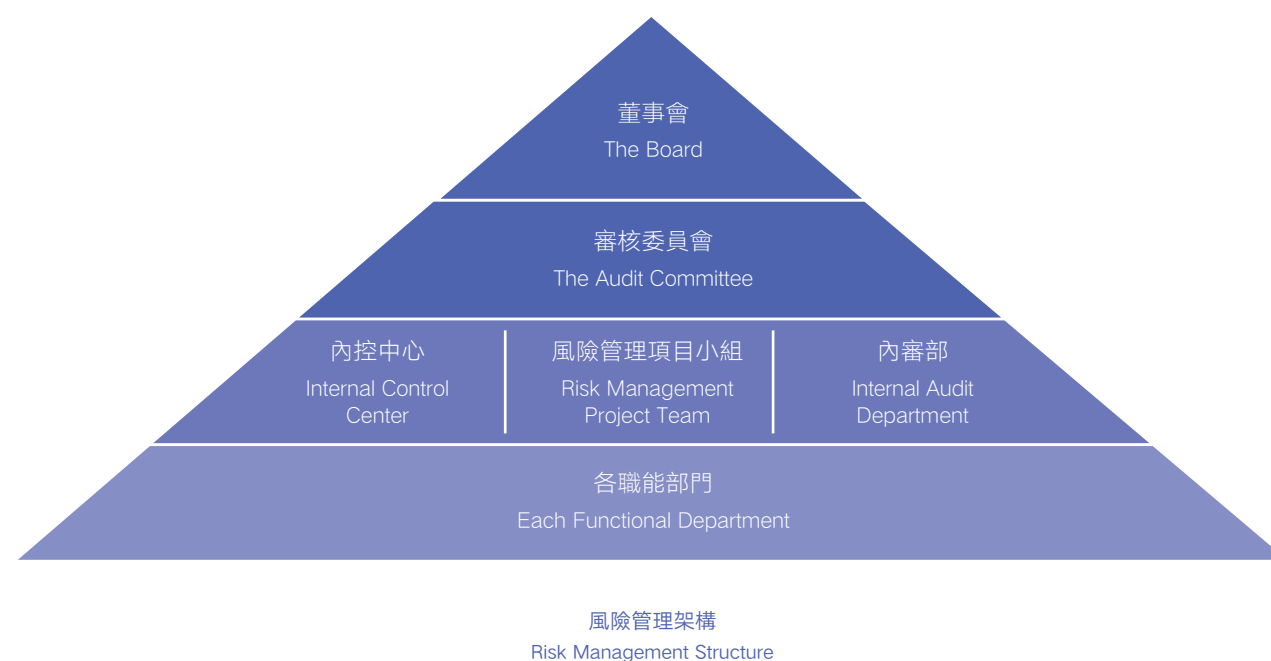
中國聯塑持續完善風險管理架構，依法制定《合同管理辦法》《資產管理制度》《資金管理制度》等一系列企業內部風險管理制度和政策，規範風險評估和管理流程，定期通過定性與定量相結合的方法，開展本集團內外部包括氣候變化在內的風險識別、評估與應對，將不利因素的影響降至最低，確保企業穩健發展。

China Lesso has continuously improved the risk management structure, developed a series of corporate internal risk management systems and policies such as the *Contract Regulations*, *Asset Management System* and *Capital Management System* in accordance with the law to standardize the risk evaluation and management procedures, and regularly carried out the internal and external risk identification, evaluation and response including the climate change through a combination of qualitative and quantitative methods, so as to minimize the impacts of adverse factors and ensure the steady development of the enterprise.

風險管理架構 Risk Management Structure

本集團已建立完善的風險管理架構和連接各上下級、各部門和業務單位的風險管理信息溝通渠道，並將持續完善和強化風險識別、監控和防範能力。董事會對全面風險管理工作的有效性負責；審核委員會為本集團最高層級的風險管理機構，對董事會負責；風險管理項目小組為風險管理主導機構；內控中心及內審部負責協助本集團開展風險管理工作，根據風險評估結果擬定內控工作計劃；各個職能部門接受風險管理項目組的協調及監督。

The Group has developed a complete risk management structure and the risk management information communication channels linking all departments and business units at all levels, and will continuously improve and strengthen risk identification, monitoring and prevention capability. The Board is accountable for the effectiveness of comprehensive risk management; the Audit Committee is risk management body of high rank in the Group and directly reports to the Board; the risk management project team leads risk management; the internal control center and the internal audit department are responsible for assisting the Group in risk management and preparing internal control plans according to the risk evaluation results; all the functional departments shall coordinate with and under the supervision of the risk management project team.



優化管理 Management Optimization

為建立長效的風險管理機制，提高本集團對重大影響事件和高風險系數事件的處理能力，本集團已建立貫穿全集團的風險管理基本流程，以及連接各上下級、各部門和業務單位的風險管理信息溝通渠道，確保信息溝通的及時、準確和完整，為風險管理監督與改進奠定基礎。同時，我們制定了《合同管理辦法》《資產管理制度》《資金管理制度》等一系列風險管理制度和政策，對本集團的風險狀況進行有效管理，為本集團經營管理的合法合規、資產安全、財務報告及相關信息的真實性、完整性提供合理保障。

In order to establish a long-term risk management mechanism, and improve the Group's ability to handle events with significant influences and high risks, the Group has put in place basic processes throughout the Group, and the risk management information communication channels linking all departments and business units at all levels, to ensure prompt, accurate and complete information communication and lay a solid foundation for risk management supervision and improvements. We also have developed a series of risk management systems and policies such as the *Contract Regulations*, *Asset Management System* and *Capital Management System*, so as to effectively manage the Group's risks and render reasonable guarantees for legal compliance of operation and management, asset safety, authenticity and completeness of the financial statements and relevant information of the Group.

內部審計 Internal Audit

我們根據《中華人民共和國審計法》《中國內部審計準則》《審計署關於內部審計工作的規定》等相關法律法規要求，結合自身實際制定了《內部審計章程》，對本集團的人員及經營管理行為進行監察審計，並聘請第三方專業機構梳理內控流程，提升合規營運水平。2023 年度，本集團的內部審計覆蓋了經濟責任、人力資源管理、信息安全、生產經營等關鍵流程，共出具內部審計報告 78 份，整改計劃完成率 77%。

The Group follows the *Audit Law of the People's Republic of China*, *Rules for Internal Auditing of the People's Republic of China*, *Provisions of National Audit Office on the Internal Audit*, and other laws and regulations, and we have formulated *Internal Audit Charter* internally based on the related laws and regulations combining with our own reality. In addition, we conducted supervisory audits towards the Group's employees from operational and managerial aspects, and engaged a third-party professional organization to revamp internal control processes to improve the level of regulatory compliance of business operations. In 2023, the Group's internal audit covers such key processes as economic responsibility, human resource management, information security and production management. The audit department issued 78 audit reports, with a 77% fulfilment rate for rectification plans.

氣候變化風險是本集團關注的重要風險類別之一，2023 年我們已主動深入識別並量化各類氣候變化相關的實體與轉型風險，並制定氣候風險管理辦法與應對措施，全面提升本集團對於氣候變化的適應能力，詳情請參閱本報告應對氣候變化章節，其餘已識別出的重大風險請參閱《中國聯塑集團控股有限公司 2023 年度報告》。

Climate change risk is one of the key risk categories the Group focuses on. In 2023, we have taken the initiative to deeply identify and quantify various physical and transition risks related to the climate change, and developed climate risk management methods and response measures to comprehensively enhance the Group's adaptation to the climate change. For details, please refer to Tackling Climate Change in the Report. For other major risks identified, please refer to the *2023 Annual Report of China Lesso Group Holdings Limited*.



穩抓品質 佈局多元品類

Quality Control for Layout of Multiple Categories

中國聯塑堅持「以質量為生命，以科技為龍頭，以顧客滿意為宗旨」的經營方針，始終將技術創新視為品牌發展的核心驅動力，以品質為本，力爭建立良好的品牌信譽，提高市場競爭力。

China Lesso insists on the business strategy of "Taking quality as the lifeline, leading with technology and aiming for customer satisfaction", always takes technological innovation as the core driving force of brand development. By putting quality first, China Lesso strives to establish a good brand reputation to improve the market competitiveness.

回應聯合國可持續發展目標
Response to SDGs



重大性議題 Major issues	核心策略 Core strategies
多元經營 Diverse operation	- 全方位擴展塑料管道及管件的應用層面，積極探索農業、工業管的市場機會 Expand the application of plastic piping and pipe fittings in an all-round way, and actively explore market opportunities of agricultural and industrial piping - 進軍光伏產業，擴大新能源業務佈局，推進環保業務板塊發展 Enter into the photovoltaic field, expand the distribution of new energy business, and promote the development of environmental protection business
產品創新 Product innovation	- 加大研發投入，吸納高層次人才，全力建設專業研發團隊 Increase investment in R&D, attract top talents and make every effort to build a professional R&D team - 推進產業數字化轉型，用科技賦能產品創新與智能製造 Advance the digital transformation of the industry, and empower the product innovation and intelligent manufacturing by technology
產品質量 Product quality	- 建立嚴格的質量管理體系與生產標準，實施全面的質量檢測程序 Establish strict quality management systems and production standards, and implement comprehensive quality test procedures - 重視質量文化建設，面向僱員開展質量管理培訓 Attach importance to quality culture construction, and conduct quality management training for employees
優質服務 Excellent service	建立有效溝通渠道，重視客戶反饋，迅速響應客戶需求以適應市場變化 Establish effective communication channels, pay attention to customer feedback, and quickly respond to customer needs to adapt to market changes
負責任營銷 Responsible marketing	遵循真實、公正的營銷原則，規範廣告資源使用，避免誤導性、誇大性宣傳 Follow the principles of true and fair marketing and regulate the use of advertising resources to avoid misleading and exaggerated publicity
隱私保護與數據安全 Privacy protection and data safety	- 建立信息安全管理體系，保障數據安全，防範隱私洩露 Establish an information security management system to ensure data security and prevent privacy disclosure - 加強全員信息安全培訓，提高員工信息安全意識 Strengthen information security training for all staff and improve employee information security awareness
知識產權 Intellectual property	- 制定知識產權保護制度，積極主動申請專利保護 Formulate intellectual property protection systems and actively apply for patent protection - 建立監控體系，及時察覺侵權行為，並通過法律手段追究侵權責任 Establish monitoring systems, detect infringement in time, and investigate the tort liability through legal means

關鍵績效 KPIs

- 客戶滿意度 **98.04%**（2022 年：97.93%）
98.04% of customer satisfaction (2022: 97.93%)
- 產品召回 **0** 宗
0 recall of products
- 科研開發和技術創新投入 **12.38** 億元（2022 年：12.19 億元）
RMB 1.238 billion invested in scientific research and development and technological innovation (2022: RMB 1.219 billion)

智造創新產品

Innovating Products through Smart Manufacturing

科技賦能發展，創新決勝未來。我們廣納人才，積極建設卓越的研發團隊，不斷探索全新產品領域，持續推動產品創新，致力於拓展業務邊界，用實際行動推動企業新發展變革。2023 年，四川聯塑科技實業有限公司（「四川聯塑」）、廣東華清生態環境有限公司成功通過省級「專精特新」中小企業認定。

Technology energizes development and innovation decides the future. We widely attract talents, actively build excellent R&D teams, constantly explore new product fields, continuously promote product innovation, work to expand business boundaries, and promote the new development and transformation of the enterprise with practical actions. In 2023, Sichuan Lesso Technology Industrial Co., Ltd. ("Sichuan Lesso") and Guangdong Huaqing Ecological Environment Co., Ltd. successfully passed the provincial "specialized, refined, characteristic and novel" SME identification.

拓展產品領域

Expanding Product Range

我們重視人才培養，不斷探索創新技術，在追求主業產品多元化的同時，投身新能源與環保領域，為清潔能源可持續發展貢獻力量。

We attach importance to talent training, constantly explore innovative technology, and are devoted to new energy and environmental protection while pursuing diversity of main products, to contribute to the sustainable development of the clean energy.

打造高端研發隊伍

Building High-end R&D Teams

中國聯塑通過持續引進高層次的科研人才和建立產學研合作機制，建設了高度專業化的研發團隊。為了激發創新活力，本集團提供了良好的科研環境，擁有廣東省高性能塑料管道工業設計中心、CNAS 國家認可實驗室、國家認定企業技術中心、廣東省塑料成型加工技術企業重點實驗室、博士後工作站、廣東省塑料管道產業技術創新聯盟等。報告期末，本集團已擁有科研人員 1,000 餘名。

China Lesso has built a highly specialized R&D team through the continuous introduction of high-level scientific research talents and establishment of industry-university-research cooperation mechanism. In order to stimulate the vitality of innovation, the Group has provided a good scientific research environment, owning Guangdong Industrial Design Center of High-Performance Plastic Piping, laboratory with CNAS national recognition, enterprise technology center with national recognition, Guangdong Key Laboratory of Plastic Molding Processing Technology Enterprise, Postdoctoral Workstation, Guangdong Plastic Piping Industry Technology Innovation Alliance, etc. As of the end of the Reporting Period, the Group has more than 1,000 researchers.

1,000_{餘名}

本集團已擁有科研人員

The Group has more than 1,000 researchers

主業產品多元創新

Diversifying the Innovation of Main Products

中國聯塑對主業產品創新保持高度關注，不斷追求研發領域的突破，致力於推出具有卓越性能和前瞻性設計的新產品。與此同時，我們針對深海養殖複雜的海洋情況開展關鍵技術攻關，通過研究開發可升降式深海養殖網箱實現海上養殖「可視、可控」的功能，助力海洋養殖可持續發展。2023 年，「聯塑高性能塑料管道工業設計中心」入選廣東省省級工業設計中心，本集團科研開發和技術創新總投入為 12.38 億元（2022 年：12.19 億元）。

China Lesso pays great attention to innovation of its main products, constantly pursues breakthroughs in the research and development field, and is committed to introducing new products with superior performance and forward-looking design. In the meantime, we tackle problems in key technologies for the complex ocean conditions of deep sea aquaculture, and realize the "visible and controllable" function of marine aquaculture through research and development of adjustable deep sea aquaculture cages, supporting the sustainable development of marine aquaculture. In 2023, "Lesso Industrial Design Center of High-Performance Plastic Piping" was selected as a provincial-level industrial design center in Guangdong Province, and the Group invested a total of RMB 1.238 billion in research and development and technological innovation initiatives (2022: RMB 1.219 billion).

RTP 柔性輸氫複合管通過國內首次非金屬管道純氫氣爆燃測試

RTP flexible hydrogen-transporting composite pipes pass the first pure hydrogen deflagration test of non-metal pipes in China

2023 年 11 月 23 日，中國聯塑自主研發的 RTP 柔性輸氫複合管在國內首次非金屬管道純氫氣爆燃測試中取得圓滿成功，管材各項指標達到設計要求，其耐高壓、高阻隔、結構高的特點避免了傳統金屬鋼管輸氫存在的氫脆、氫腐蝕風險，攻克氫能長距離輸送技術難關，助推氫能行業大規模商業化發展。

On 23 November 2023, the RTP flexible hydrogen-transporting composite pipes independently developed by China Lesso has successfully passed the first pure hydrogen deflagration test of non-metal pipes in China, with various indicators meeting the design requirements, which avoids the hydrogen embrittlement and hydrogen corrosion risks of traditional metal steel pipes for hydrogen transportation by virtue of the characteristics of high pressure resistance, good insulation and structure, overcomes technical difficulties in long-distance hydrogen transportation, and promotes the large-scale commercial development of hydrogen energy industry.



輸氫管道純氫爆燃測試完滿成功
Successful Completion of Pure Hydrogen Deflagration Test of Hydrogen-transporting Pipes



RTP 柔性輸氫複合管
RTP Flexible Hydrogen-transporting Composite Pipes

首台智能化可升降養殖網箱正式下水

Official launch of the first intelligent adjustable aquaculture cage

2023 年 5 月，中國聯塑研發生產的第一台智能化升降式深海養殖網箱「LESSO 聯塑 L001」正式下水，實現了海上養殖「可視、可控」，其升降系統可實現 16m/h 的升降速度，能夠快速響應颱風等極端天氣時緊急避險需求，大大提高了網箱的適應性，增強海洋養殖漁業抗風險能力，實現數字化、智能化養殖新突破。

In May 2023, the first intelligent adjustable deep sea aquaculture cage "LESSO L001" developed and produced by China Lesso was launched officially, realizing the "visual and controllable" function of marine aquaculture. The lifting system can realize the lifting speed of 16m/h, which can quickly respond to urgent danger prevention needs in extreme weather such as typhoons, greatly improves the adaptability of the cage, strengthens the risk control capability of marine aquaculture fisheries, and achieves new breakthroughs in digital and intelligent aquaculture.



網箱下水
Launch of Cages



網箱安裝完成
Completion of Installing Cages

專注新能源與環境保護

Focusing on New Energy and Environmental Protection

在國家「碳達峰」「碳中和」政策的驅動下，綠電需求日益高漲。聯塑班皓專注光伏新能源科技，致力於為工業、商業及戶用市場客戶提供創新性的綠色新能源方案，實現生態與能源的良性互動。2023 年，本集團光伏產品已通過 IEC61730 組件安全性認證、IEC 61215 組件可靠性認證、歐盟標準符合性認證等多項國內外認證。

Driven by the national policy of "carbon emission peaking" and "carbon neutrality", the demand for green electricity is growing. Lesso Banhao focuses on PV's new energy technology and remains committed to providing our industrial, commercial and household customers with innovative green new energy solutions, achieving a positive integration between ecology and energy. In 2023, the Group's photovoltaic products have passed IEC61730 component safety certification, IEC61215 component reliability certification, EU standard compliance certification and many other domestic and foreign certifications.

除此之外，中國聯塑高度重視環保業務發展，本集團旗下的江蘇永葆環保科技股份有限公司（「永葆環保」）秉承「節能環保、技術先行」的發展理念，持續在廢酸廢渣無害化處置及資源化綜合利用細分領域做出貢獻。2023 年，永葆環保獲評江蘇省專精特新中小企業及中國石油和化學工業聯合會頒發的科技進步獎。

In addition, China Lesso attaches great importance to the development of environmental protection business. Jiangsu Yongbao Environmental Protection Technology Co., Ltd. ("Yongbao Environmental Protection"), a subsidiary of the Group, adheres to the development concept of "energy saving and environmental protection, technology first", continues to make contributions to the harmless disposal of waste acid and waste residue and the segment of comprehensive resource utilization. In 2023, Yongbao Environmental Protection won the "specialized, refined, characteristic and novel" SME identification of Jiangsu Province and the technology progress award issued by China Petroleum and Chemical Industry Federation.

永葆環保攻克污泥「低溫乾化 + 熱解碳化」技術難關

Yongbao Environmental Protection overcomes the technical difficulty of "low temperature drying + pyrolytic carbonization" of sludge

永葆環保著力關注污泥處理環節關鍵技術難關，自主研發「低溫乾化 + 熱解碳化」技術。其中，「低溫乾化」採用低溫熱泵除濕原理，污泥減量化高達 90%；「熱解碳化」實現在絕氧密閉系統中間接對污泥加熱。這一關鍵技術具備工藝能耗低、清潔燃燒、排放環保（無有害物質二噁英產生）的優勢。憑藉「節能降耗，清潔環保」的特點，提升廢物處理行業的可持續性。

Yongbao Environmental Protection focuses on the key technical difficulty in the sludge treatment, and independently develops the "low temperature drying + pyrolytic carbonization" technology, of which, the low temperature heat pump dehumidification principle is adopted for the "low temperature drying" with the sludge reduction rate up to 90%; "pyrolytic carbonization" enables indirect heating of sludge in an anaerobic sealing system. The key technology has the advantages of low process energy consumption, clean combustion, environmentally friendly emissions (no harmful substance dioxins generated). By virtue of the characteristic of "energy saving, cost reduction and clean and environmental protection", the sustainability of the waste treatment industry is improved.



低溫乾化系統
Low Temperature Drying System



污泥熱解系統 - 連續爐
Sludge Pyrolysis System - Continuous Oven

2023 年，中國聯塑在產品創新方面的努力獲得了行業各界的認可，斬獲了多個獎項、榮譽稱號。

In 2023, China Lesso was recognized by all sectors of the industry by virtue of its efforts in the product innovation, obtaining multiple awards and honorary titles.

榮譽獎項 Honorary awards

教育部科技進步一等獎
First prize of the Technology Progress Award of Ministry of Education

中國輕工業聯合會技術進步獎二、三等獎
Second and third prize of the Technology Progress Award of China National Light Industry Council

廣東省輕工業聯合會科學技術進步獎一等獎
First prize of the Technology Progress Award of Guangdong Light Industrial Council

應用智能製造

Applying Smart Manufacturing

秉承「自動化、智能化」的生產發展戰略，中國聯塑致力於推動智能化生產進程，提高生產效率。多年來，通過不斷增加在自動化與數字化轉型方面的建設投入，我們整合先進技術，逐步實現設備管理、監控、數據獲取等方面的自動化轉型及應用。2023 年，各子公司根據不同地區和業務特性，有針對性地完成了自動化轉型。雲南聯塑科技實業有限公司（「雲南聯塑」）車間完成了車間信息化集成展示升級及造粒料自動抽料設計改造；聯塑科技發展（貴陽）有限公司（「貴陽聯塑」）車間在原有自動化基礎上增加了全自動打包設備；烏魯木齊聯塑科技發展有限公司（「烏魯木齊聯塑」）完成了 PE、PPR 破碎造粒車間自動儲送料系統改造。

Adhering to the production development strategy of "automation and intelligence", China Lesso is committed to promoting the intelligent production process and improving the production efficiency. Over the years, through continuous increase in the investment in automatic and digital transformation, we have integrated advanced technologies and generally realized the automatic transformation and application in such aspects as equipment management, monitoring and data acquisition. In 2023, each subsidiary completed the automated transformation in a targeted manner according to different regions and business characteristics. Yunnan Lesso Technology Industrial Co., Ltd. ("Yunnan Lesso") workshop completed the workshop information integration display upgrade and automatic pumping design and reform of granulation materials. Lesso Technology Development (Guiyang) Co., Ltd. ("Guiyang Lesso") workshop increased fully automatic packaging equipment based on the original automation. Urumqi Lesso Technology Development ("Urumqi Lesso") completed the transformation of automatic storage and feeding system of PE and PPR crushing and granulation workshop.

打造 PE 電熔管件智能製造示範車間

Creating the intelligent manufacturing demonstration workshop of PE electric fusion pipe fittings

PE 電熔管件智能製造示範車間配備了機器人、全自動繞線機、抽芯機、自動車床以及智能 AGV 小車轉運系統等多項關鍵智能製造設備，整體實現了供料、注塑、搬運、繞線、抽芯等生產環節的自動化。自動化設備的投入不僅大幅降低了生產員工勞動強度，提高員工工作幸福感，同時使產品綜合合格率由 70% 提升至 97%，有力保證了產品質量的穩定性。

The intelligent manufacturing demonstration workshop of PE electric fusion pipe fittings is equipped with robots, automatic winding machines, core extractors, automatic lathes, intelligent AGV car transfer system and a great deal of key intelligent manufacturing equipment, realizing the automation of feeding, injection molding, handling, winding, core extracting and other production links on the whole. The use of automatic equipment not only greatly reduces the labor intensity of production employees, and improves the happiness of employees in work, but also increases the integrated qualification rate of products from 70% to 97%, which effectively guarantees the stability of product quality.



PE 電熔管件智能製造示範車間
Intelligent Manufacturing Demonstration Workshop of PE Electric Fusion Pipe Fittings

關鍵績效 KPIs

- 產品綜合合格率由 **70%** 提升至 **97%**
Increase in the integrated qualification rate of products from **70%** to **97%**

兩大領先技術推動中國聯塑智能化建設

Two leading technologies promote the intelligent construction of China Lesso

2023 年，本集團的「塑料管道模具高效高精度智能化生產關鍵技術及產線」和「聚乙烯電熔管件智能化生產關鍵技術及產線」通過了中國輕工業聯合會科技成果鑒定，項目技術達到國際領先水準。

In 2023, the "key technology and production line of intelligent production of plastic pipe mold with high efficiency and precision" and "key technology and production line of intelligent production of polyethylene electromelting pipe fittings" of the Group passed the appraisal of scientific and technological achievements of China National Light Industry Council, and the project technology reached the international leading level.

塑料管道模具高效高精度智能化生產關鍵技術及產線

Key technology and production line of intelligent production of plastic pipe mold with high efficiency and precision

該項目通過對在線測量與定位系統、智能化生產調度系統和智能化生產管理系統的研究開發，攻克了以人工經驗為主導的生產過程不可控等行業技術瓶頸問題，為相關行業智能化生產提供了新的解決思路。

Through the research and development of the online measurement and positioning system, intelligent production scheduling system and intelligent production management system, the project has overcome the technical bottlenecks in the industry such as uncontrollable production process dominated by manual experience, and provided a new solution to intelligent production in related industries.

聚乙烯電熔管件智能化生產關鍵技術及產線

Key technology and production line of intelligent production of polyethylene electromelting pipe fittings

該項目研究開發的聚乙烯電熔管件無人車間一定程度上解決了聚乙烯電熔管件生產效率低、質量控制難度、製造過程追溯難度大等關鍵技術難題，具備穩定可控、效率高、良品率高等優勢。

The unmanned workshop of polyethylene electromelting pipe fittings developed in the project solves the key technical problems of polyethylene electromelting pipe fittings including low production efficiency, high quality control difficulty, and difficult manufacturing process tracking to a certain extent, and has the advantages of stability, controllability, high efficiency and high yield.

知識產權保護

Intellectual Property Protection

知識產權保護對於促進創新發展、建立企業信譽至關重要。我們完善知識產權管理制度，開展品牌打假、專利地圖分析等專利保護措施，鞏固創新成果，確保在市場競爭中維護企業自身權益。

The intellectual property protection is critical to promote the innovative development and establish the corporate reputation. We have improved the intellectual property management system, carried out patent protection measures such as brand counterfeiting and patent structure analysis, and consolidated innovative achievements, to ensure the protection of the enterprise's own rights and interests in the market competition.

知識產權管理體系
Intellectual Property Management System

中國聯塑嚴格遵守國家和行業相關知識產權法律法規，結合本集團實際情況，制定了全面的知識產權管理體系。我們沿用《商標管理辦法》總則，通過規範商標註冊、商標使用、商標權保護及商標檔案管理，全面履行商標權益保護的各項管理職責及義務。針對侵犯本集團商標權益的行為，我們將嚴格依循內部《打假維權管理辦法》執行。在專利管理方面，本集團沿用《集團專利管理辦法（試行）》，明確了本集團各部門聯動開展專利工作時的職責分工。

In strict accordance with the relevant intellectual property laws and regulations of the state and the industry, China Lesso has developed a comprehensive intellectual property management system combining with the reality of the Group. We follow the general provisions of *Trademark Management Measures*, and fully perform various management duties and obligations of trademark rights and interests protection by regulating the trademark registration, trademark use, trademark right protection and trademark file management. In response to the infringement of the Group's trademark rights and interests, we will strictly follow the internal *Anti-counterfeiting and Rights Protection Management Measures*. In terms of patent management, the Group continuously follows the *Patent Management Measures of the Group (Trial)*, which defines the division of responsibilities of different departments in the Group at the time of jointly carrying out the patent work.

知識產權保護舉措
Intellectual Property Protection Measures

為維護商業權益和品牌價值，本集團構建了區域性日常打假模式與專項重點打假模式相結合的全國打假工作體系。我們成立打假維權隊伍，深入進行市場走訪調查，一旦發現售假行為立即向執法部門舉報，情節嚴重的上報公安機關。執法部門處罰後，由本集團法律部協助跟進後續民事訴訟工作。

In a bid to safeguard commercial rights and brand value, the Group has established a national anti-counterfeiting system combining with regional daily anti-counterfeiting modes and special key anti-counterfeiting mode. We formed an anti-counterfeiting and right protection team to conduct in-depth market visits and investigation, and immediately report to the competent authorities after counterfeiting is found and report to relevant public security departments for very serious cases. After the punishment by the law enforcement department, the legal department of the Group will assist in the follow-up civil litigation.

協助公安破獲假冒商標侵權連鎖案件
Assisting the public security in cracking a chain of cases of counterfeit trademark infringement

2023 年 1 月，中國聯塑協助市場監管部門在山東省聊城市莘縣查處一起假冒商標的連鎖案件。本集團打假人員通過市場走訪，發現某工地使用假冒商標「LESSO 聯塑」註冊商標產品的侵權事件，本集團立即到當地市場監督管理局進行投訴舉報，並協助公安部門成功搗毀 4 個生產、銷售、儲存窩點，抓獲嫌疑人 29 名。

In January 2023, China Lesso assisted the market supervision department in investigating and prosecuting a chain of cases of counterfeit trademark in Shen County, Liaocheng City, Shandong Province. Through market visits and investigation, the anti-counterfeiting personnel of the Group found an infringement that a construction site used products marked with counterfeit "LESSO" registered trademark. The Group promptly made a complaint to the local administration for market regulation, and assisted in the public security department in successfully destroying 4 production, sales and storage dens, and arrested 29 suspects.

2023 年，本集團通過系統梳理知識產權註冊狀況，加強了對專利申請後續事項的跟蹤管理，持續提升知識產權保障力度。本年度，中國聯塑榮獲國家知識產權示範企業稱號。

In 2023, the Group strengthened follow-up and management of subsequent matters after patent applications and continuously enhanced the intellectual property protection by systematically sorting out the intellectual property registration. This year, China Lesso won the title of national intellectual property demonstration enterprise.

2023 年專利申請情況
Patent Application in 2023

截至 2023 年 12 月 31 日累計專利數 Accumulated number of patents as of 31 December 2023		
受理專利 Patents accepted	專利總數 Total number of patents	5,015
	外觀專利數 Number of appearance design patents	346
	發明專利數 Number of invention patents	1,224
	實用新型專利數 Number of utility model patents	3,445
授權專利 Granted patents	專利總數 Total number of patents	2,285
	外觀專利數 Number of appearance design patents	107
	發明專利數 Number of invention patents	356
	實用新型專利數 Number of utility model patents	1,822

2023 年新增專利數 Number of new patents in 2023		
受理專利 Patents accepted	專利總數 Total number of patents	351 (2022: 369)
	外觀專利數 Number of appearance design patents	17 (2022: 17)
	發明專利數 Number of invention patents	68 (2022: 54)
	實用新型專利數 Number of utility model patents	266 (2022: 298)
授權專利 Granted patents	專利總數 Total number of patents	216 (2022: 356)
	外觀專利數 Number of appearance design patents	4 (2022: 21)
	發明專利數 Number of invention patents	44 (2022: 27)
	實用新型專利數 Number of utility model patents	168 (2022: 308)

嚴控產品質量

Controlling Product Quality Strictly

關鍵績效 KPIs

- 產品質量問題投訴同比下降 **11.19%**
The product quality complaints decreased by **11.19%** on year-on-year basis
- 2023 年已售產品總數中因健康與安全理由而須回收的百分比 **0%**
Percentage of total products sold subject to recalls for health and safety reasons in 2023: **0%**

高標準、高質量的產品是企業可持續發展成功的基石。中國聯塑致力於通過完善的質量管理體系、嚴格的檢測流程，確保生產過程的每個環節都經過精密監控，以提供卓越優質的產品。同時，我們注重員工質量意識的培養，定期組織產品質量培訓，提升質量相關從業人員的通用及專業技能。

High standard and quality products are the cornerstone of sustainable development success of the enterprise. China Lesso is committed to ensuring each link of the production process is carefully monitored by a sound quality management system and strict testing process, so as to provide excellent quality products. Meanwhile, we pay attention to the cultivation of employees' quality awareness, regularly organize the product quality training, and improve the general and professional skills of quality-related practitioners.

質量管理體系

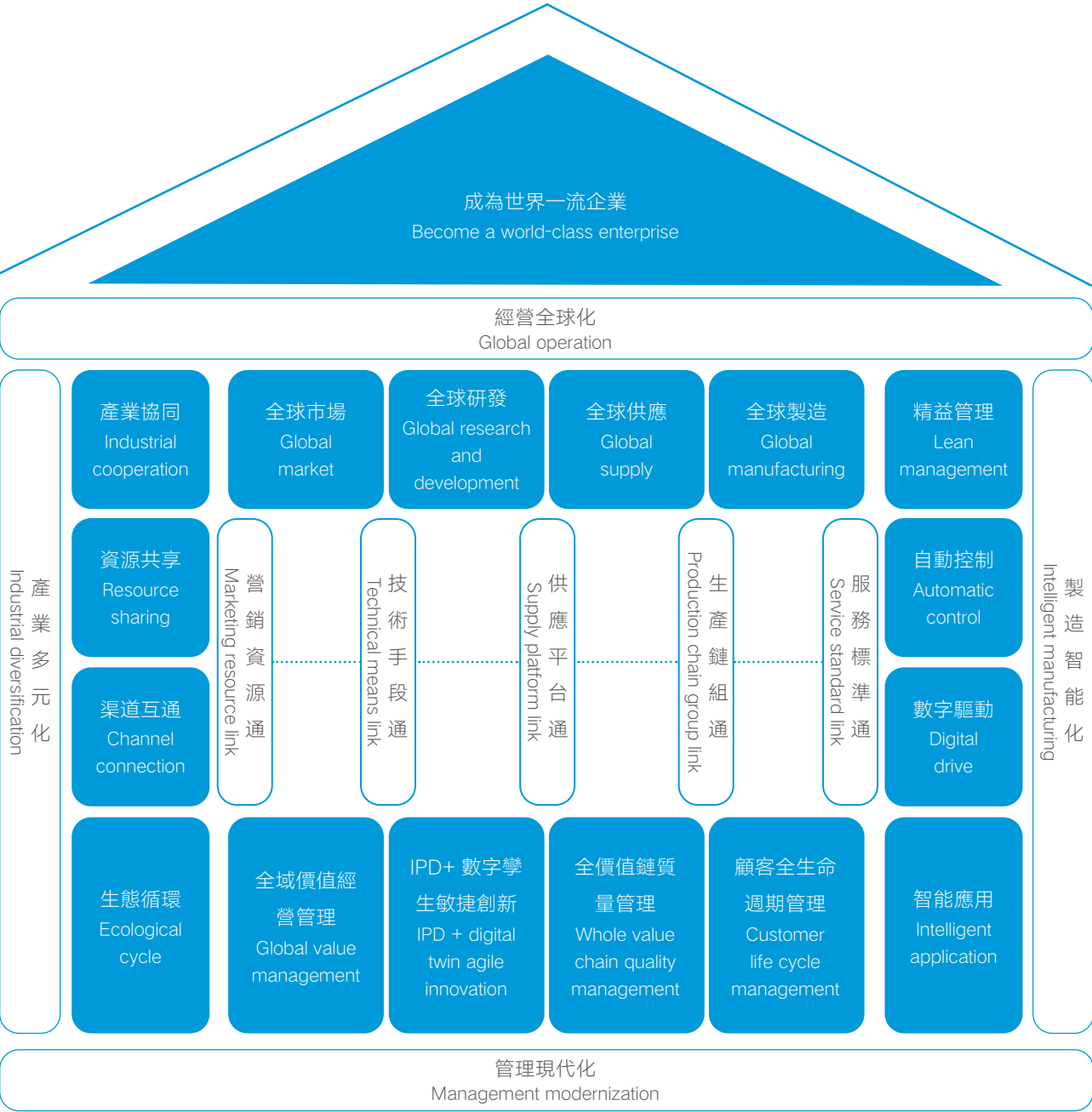
Quality Management System

中國聯塑深諳產品質量與安全對於企業保持市場競爭力的重要性。我們通過「五通」（即資源通、手段通、平台通、鏈組通、標準通）戰略，實現營銷創新、促進資源共享。結合統一設計開發平台、智能車間、QMS、PQC、物流系統等方式，我們構建了數字一體化解決方案，打通從營銷管理、研發設計、生產製造、物流服務等全價值鏈數據流，為「四化」（即經營全球化、產業多元化、製造智能化、管理現代化）賦能，最終實現五個「一流」，即一流的產品生產能力、一流的品牌塑造能力、一流的創新引領能力、一流的現代治理能力以及成為世界一流企業的目標。截至報告期末，本集團共有42家下屬子公司獲得ISO 9001質量管理體系認證。2023年，中國聯塑榮獲中國塑料加工工業協會授予的塑料行業質量管理先進單位，廣東聯塑榮獲第五屆中國質量獎提名獎，廣東省輕工業行業質量信得過班組建設獎，以及輕工業優秀質量管理小組。

China Lesso is deeply aware of the importance of product quality and safety for enterprises to maintain market competitiveness. We achieve the marketing innovation and promote resource sharing through "five links" strategy (namely resource link, means link, platform link, chain group link, standard link). Combining with the unified design and development platform, intelligent workshop, QMS, PQC, logistics system and other methods, we build a digital integration solution, connecting the whole value chain data flow from marketing management, R&D design, production and manufacturing, and logistics service, empowering the "four modernizations" (namely global operation, industrial diversification, intelligent manufacturing, and modern management), and finally realizing five "first-class levels" (namely first-class production capacity, first-class brand building capacity, first-class innovation leading capacity, first-class modern governance capacity and a goal of becoming a world-class enterprise). As of the end of the Reporting Period, the 42 subsidiaries of the Group obtained the ISO 9001 quality management system certification. In 2023, China Lesso was awarded the advanced unit of

quality management in the plastic industry granted by China Plastic Processing Industry Association, and Guangdong Lesso won the nomination award of the 5th China Quality Award, Trustworthy Quality Team Construction Award of the Light Industry of Guangdong Province, and the Excellent Quality Management Team of the Light Industry.

「五通四化」協同高效數智質量管理模式
"Five Links and Four Modernizations" Collaborative and Efficient Digital Intelligence Quality Management Mode



「五通」：質量協同
"Five links": quality collaboration

「四化」：協同發展
"Four modernizations": collaborative development

質量管理措施 Quality Management Measures

從原料的選用、配方、生產流程的控制到產品的入倉等環節，中國聯塑通過嚴格質量檢測和監控，牢牢把控產品質量的每一關，致力於為客戶提供高質量的產品。

From stages of raw material selection, formula and production process control to the product warehousing, China Lesso strictly controls product quality by testing and monitoring, and is committed to providing high quality products for customers.

產品質量檢驗 Product Quality Inspection

我們對產品及關鍵原材料實施嚴格的檢驗管理，包括原材料進廠檢驗、生產過程中的首檢、巡檢、自檢，以及對每批次產品進行可靠性抽檢等，以確保產品在每個製造階段的質量合規性。

We always strictly inspect products and key raw materials, including inspect raw materials upon arrival and before production, perform patrol inspection and self-inspection during production, and randomly inspect each batch of products, so as to meet quality standards at every manufacturing stage.

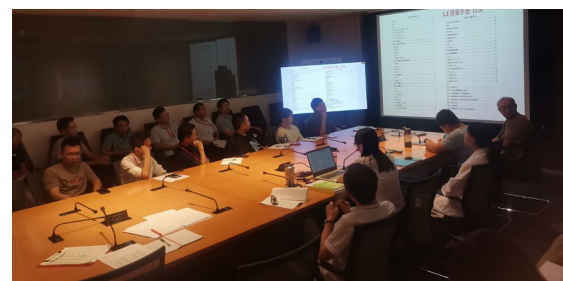
對於化學品管理，我們定期梳理市場與法規要求，制定相關限用禁用物質清單，以確保生產過程中使用物質合法合規。此外，我們要求材料供應商提供化學品有關檢測報告，並每年對化學品進行替換、增加，配方調整等。若涉及危險化學品使用，我們將按國家規定交由第三方處理。

As for chemical management, we regularly sort out the market and regulatory requirements, and formulate the list of relevant restricted and prohibited substances, to ensure the legality and compliance of substances used in the production process. In addition, we require material suppliers to provide relevant chemical testing reports, replace or add the chemicals and adjust the formula every year. We will seek assistance from a third party for handling for hazardous chemicals.

檢測中心開展 CNAS 檢驗準則與關鍵流程培訓 The testing center conducted CNAS inspection criteria and key process training

2023 年 9 月，檢測中心對所有檢驗員及工程師進行「CNAS 認可準則宣貫」以及「中心品質手冊、程序文件、內審、外審、計量溯源」的講解，明確了實驗室管理層和品質（技術）負責人、授權簽字人、內審員及監督員的工作範圍與工作職責，從而提高內部檢驗工作的準確性與規範性，進一步保障產品的整體質量水平。

In September 2023, the testing center explained the "CNAS accreditation standard publicity and implementation" and "center quality manual, program documents, internal audit, external audit and metrological tracing" for all inspectors and engineers, defines the work scope and responsibilities of laboratory management and quality (technical) directors, authorized signatories, internal auditors and supervisors, thus improving the accuracy and standardization of internal inspection, and further ensuring the overall quality of products.



檢測中心 CNAS 培訓現場
CNAS Training Site of the Test Center

數字化質量管理 Digital Quality Management

我們利用工廠製造執行系統（MES）對產品質量數據進行集中管理與分析，並在系統中設置驗收標準，實現自動化判定產品是否合格。針對不合格產品或產品質量異常趨勢，系統將進行報廢處理或發出整改通知，由品質部門負責監督後續處理及質量整改流程。

We centralized management and analysis of the product quality data by the factory manufacturing execution system (MES), and set the acceptance criteria in the system to automatically determine whether the products are qualified. For unqualified products or abnormal product quality trends, the system will conduct scrap processing or send a rectification notice, and the quality department is responsible for supervising the follow-up and quality rectification process.

產品召回機制 Product Recall Mechanism

我們建立了迅速、準確、高效的產品召回機制，為產品質量和客戶利益提供保障。本年度，中國聯塑收到產品質量投訴 238 件，產品召回事件 0 宗。

We have established rapid, accurate and efficient product recall mechanism, to meet product quality and protect customer interests. This year, China Lesso received 238 product quality complaints and 0 product recall.

產品召回機制 Product Recall Mechanism

當評審確定產品需要召回時，由品質工藝管理中心填寫聯絡函，第一時間通知經銷商召回信息。
If a recall is issued by the review group, the quality management center will complete a letter of contact and notify the distributor the recall as soon as possible.

- ✓ 客戶服務中心停止對召回產品接單發貨，倉儲物流中心安排查倉，並將查出的召回產品退回到生產車間處理。
The customer service center stops receiving orders and making deliveries of the recalled products, while the storage and logistics center arranges warehouse inspection and returns the recalled products to the production workshop for processing.
- ✓ 倉儲物流中心記錄退回產品數量並通知質檢員檢驗確認，倉庫將在一個工作日內處理召回產品。
The storage and logistics center records the number of returned products and notifies the quality inspector to conduct inspection and confirmation. The warehouse processes the recalled products within one business day.
- ✓ 生產車間在一個工作日內處理收到的召回產品，並填寫相關回執單。
The production workshop processes the recalled product received within one business day, and acknowledges receipt.
- ✓ 產品處理後由質量管理部門向責任部門發出報告，要求有關部門採取糾正措施。
After processing the product, the quality control department issues a report to the responsible department for taking corrective measures.
- ✓ 整理保存召回記錄，建立召回管理檔案。
File and keep recall records.

質量文化建設 Quality Culture Development

中國聯塑高度重視質量文化建設，定期舉辦質量相關活動，積極營造良好的質量氛圍。2023 年，廣東聯塑「以顧客需求為導向，以基層為質量改進主力」的質量文化建設活動入選「廣東省企業首席質量官質量變革創新實踐典型案例」。同時，我們每年制定系統的質量管理培訓計劃，以維持高水平的產品生產及服務。2023 年，本集團開展覆蓋多部門及生產車間的質量培訓 279 場，共計 538.17 課時，參與人數達 10,276 人次。

China Lesso attaches great importance to the quality culture development, regularly holds quality-related activities and actively creates a good quality atmosphere. In 2023, the quality culture development activity of "Taking Customer Demands as the Orientation and Taking Grassroots as the Main Force of Quality Improvement" in Guangdong Lesso was selected into the "Typical Cases of Quality Change and Innovation Practice of Chief Quality Officers in Enterprises in Guangdong Province". In the meantime, we develop systematic quality management training plans every year to maintain a high-level product production and service. In 2023, 279 quality trainings were conducted across multiple departments and production workshops, with 538.17 hours in total, and 10,276 participants.

2023 年

279 場

本集團開展覆蓋多部門及生產車間的質量培訓

The Group carried out **279** quality trainings sessions covering multiple departments and production workshops

2023 年

參與人數達 **10,276** 人次

The number of participants reached **10,276**

2023 年

共計 **538.17** 課時

With **538.17** hours in total

中國聯塑 2023 年質量知識競賽圓滿落幕

The 2023 quality knowledge competition of China Lesso was completed successfully

2023 年 10 月，中國聯塑舉辦質量知識競賽，來自生產、倉儲、品質工藝、模具等多個部門的一線員工積極參與，參賽人數共計超過 3,000 人。此次知識競賽體現了本集團基層員工對質量知識的重視，對宣傳質量安全文化、提升企業整體質量水平起到了極大的促進作用。

In October 2023, China Lesso held a quality knowledge competition, in which over 3,000 front-line employees from production, warehousing, quality process, mold and multiple departments actively participated. This knowledge competition showed importance of the quality knowledge attached by the employees, which played a great role in promoting the quality safety and improving our overall quality level.



質量知識競賽活動現場

Quality Knowledge Competition Site



質量知識競賽獲獎員工合影

Group Photo of Award-winning Employees in the Quality Knowledge Competition

中國聯塑舉辦 QC 成果發佈會經驗交流活動

China Lesso holds QC results release and experience exchange activities conference

2023 年，在廣東省輕工業優秀質量管理小組活動成果發佈暨交流會上，中國聯塑飛躍顛峰 QC 小組、鼎盛 QC 小組等多個質量管理小組獲得榮譽，包括 3 項金獎 1 項銀獎。QC 成果發佈會結束後，本集團亦組織獲獎小組分享經驗，旨在通過全集團質量管理經驗交流，增強企業整體管理意識。

In 2023, at the results release and exchange conference of excellent quality management group activities of the light industry in Guangdong province, China Lesso peaking QC group, Dingsheng QC group and multiple quality management groups won the honors, including 3 gold awards and 1 silver award. After the QC results conference, the Group also organized award-winning groups to share experience, aiming to enhance the overall management awareness of the enterprise through the quality management experience exchange of the whole group.



QC 獲獎小組分享經驗

Experience Sharing of QC Award-winning Groups

提升客戶體驗

Improving Customer Experience

中國聯塑嚴格遵守《中華人民共和國消費者權益保護法》及《商品售後服務評價體系》，制定了《客戶服務管理辦法》《顧客滿意度測量辦法》等相關內部政策，致力於全方位維護客戶權益，為客戶提供卓越的服務體驗。

In strict accordance with the *Law of the People's Republic of China on the Protection of Consumer Rights and Interests* and the *Evaluation System of After-sales Service of Product*, China Lesso has formulated internal policies such as the *Management Measures for Customer Services* and the *Measurement Methods for Customer Satisfaction*, and is dedicated to safeguarding customer rights and interests comprehensively, and providing excellent service experience for customers.

完善服務體系

Perfecting Service System

中國聯塑始終將客戶反饋視作業務改進和服務升級的重要驅動力，積極保持全流程高質量的客戶溝通，確保客戶的訴求獲得最為及時的響應。

China Lesso always regards customer feedback as a key driver of business improvement and service upgrade, and actively maintains high-quality customer communication throughout the full service to ensure timely response to customers' requests.

全流程服務

Providing Full Service

我們通過建立雙重管理制度，由技術團隊管理技術類問題，由相應責任部門負責日常管理問題，從而為不同客戶群體提供與其高度匹配的服務。同時，我們建立了全面的售前 - 售中 - 售後服務體系，致力於在每個經營環節為客戶提供關懷與支持。

Through the establishment of a dual management system, the technical team and corresponding departments are responsible for technical problems and routine management problems respectively, thereby providing corresponding services to customer. Meanwhile, we have established a comprehensive presales - sales - aftersales service system, and are committed to providing care and support for customers in each stage.



通過客服熱線、在線信息反饋等方式為客戶提供詳盡的產品設計信息和經銷商營運模式等專業諮詢服務。
Provide detailed product design information and operating model of distributors and other professional consultation services through the customer service hotline and online information feedback.



強化售中溝通渠道，確保及時響應客戶需求，解答產品安裝及使用疑問，提供合理的使用方案支持。
Strengthen the sales communication channels to ensure timely response to customers' demands, answer questions about product installation and use, and provide reasonable use scheme support.



持續提供技術支持，並通過產品質量回訪、建立良好的信息反饋及改進機制等方式保障客戶的使用體驗。
Continuously provide technical support, and guarantee the user experience of customers by product quality follow-up, establishing effective information feedback and improvement mechanisms.

打造全新「開發、維護、賦能」客戶服務模式

Creating a new customer service mode of "development, maintenance and empowering"

中國聯塑在家裝領域全面嘗試推廣「開發、維護、賦能」的客戶服務模式，以提升客戶獲取能力和客戶滿意度。在售前階段，我們於本年度首次嘗試線上招商廣告的形式，借助數字化手段拓展全新的客戶獲取渠道。在售中階段，我們通過促銷激勵、產品推介會等方式確保駐外商務人員與客戶保持緊密聯繫。在售後階段，我們為客戶提供經營計劃落地方案輔導並帶領客戶團隊集中作業開發。該服務模式旨在全方位提高客戶的滿意度，令客戶感受到品牌的關注與支持。

China Lesso attempts to promote the customer service mode of "development, maintenance and empowering" in an all-around way to improve the customer acquisition capability and the customer satisfaction. In the pre-sales stage, it is our first attempt to expand new customer acquisition channels by online investment advertisement with the help of digital means. In the sales stage, we ensure that business personnel stationed abroad maintain close contact with customers by promotion incentives, product introduction meeting and other means. In the after-sales stage, we provide guidance on business plan implementation for customers and lead customer teams to focus on operation and development. The service mode aims to comprehensively improve the customer satisfaction, and make customers feel the attention and support of the brand.



聯塑家裝管產品推介會
Product Introduction Meeting of Lesso Pipes for Home Decoration



家裝客戶線上招商廣告示例
Online Investment Advertisement Example of Home Decoration Customers

客戶投訴管理
Customer Complaints Management

我們建立了產品及服務相關的客訴日常管理和監測機制，制定《客戶投訴管理辦法》《服務管理手冊》等管理制度以規範客戶投訴處理工作。為提供更加專業和高效的服務，我們開設了包括現場、投訴電話、微信、郵箱等多種投訴渠道。一旦收到客戶訴求，將由專門的客訴處理團隊負責跟進相關事宜，根據不同的投訴信息進行分類處理。為保障服務質量，我們要求相關客服人員在接到客戶投訴後的 2 小時內首次回覆，24 小時內明確回應，確保客戶獲得最為及時的解決方案。

To standardise the handling of customers complaint, we have established day-to-day management and monitoring measures for customer complaints relating to our products and services and laid down the *Management Measures for Customer Complaints*, *Service Management Manual* and other management policies. In order to deliver more professional and efficient services, we have various channels in place for complaints such as on-site complaints filing, hotline, WeChat and dedicated email address. Once a customer complaint is received, a special customer service team will be responsible for following up on relevant matter and handling the case by category according to different complaint information. To ensure service quality, we require relevant customer service personnel to respond to the complaint within 2 hours after it is received and give a specific reply within 24 hours, so that the customer can obtain a timely solution.

關鍵績效 KPIs

- 客戶滿意度 **98.04%** (2022 年: 97.93%)
98.04% of customer satisfaction (2022: 97.93%)
- 客戶投訴數量 **11** 宗 (2022 年: 9 宗)
11 customer complaints (2022: 9)
- 投訴回覆率 **100%** (2022 年: 100%)
Customer complaint response rate: 100% (2022: 100%)

踐行責任營銷
Fulfilling Responsible Marketing

在產品推廣方面，中國聯塑堅持真實宣傳的原則，積極倡導負責任的營銷方式，避免誇大宣傳及誤導性行為，建立消費者信任。

In terms of product promotion, China Lesso adheres to publicity based on facts, proactively advocates responsible marketing, and avoids exaggerated promotions and misleading behaviors, in an attempt to build customer trust.

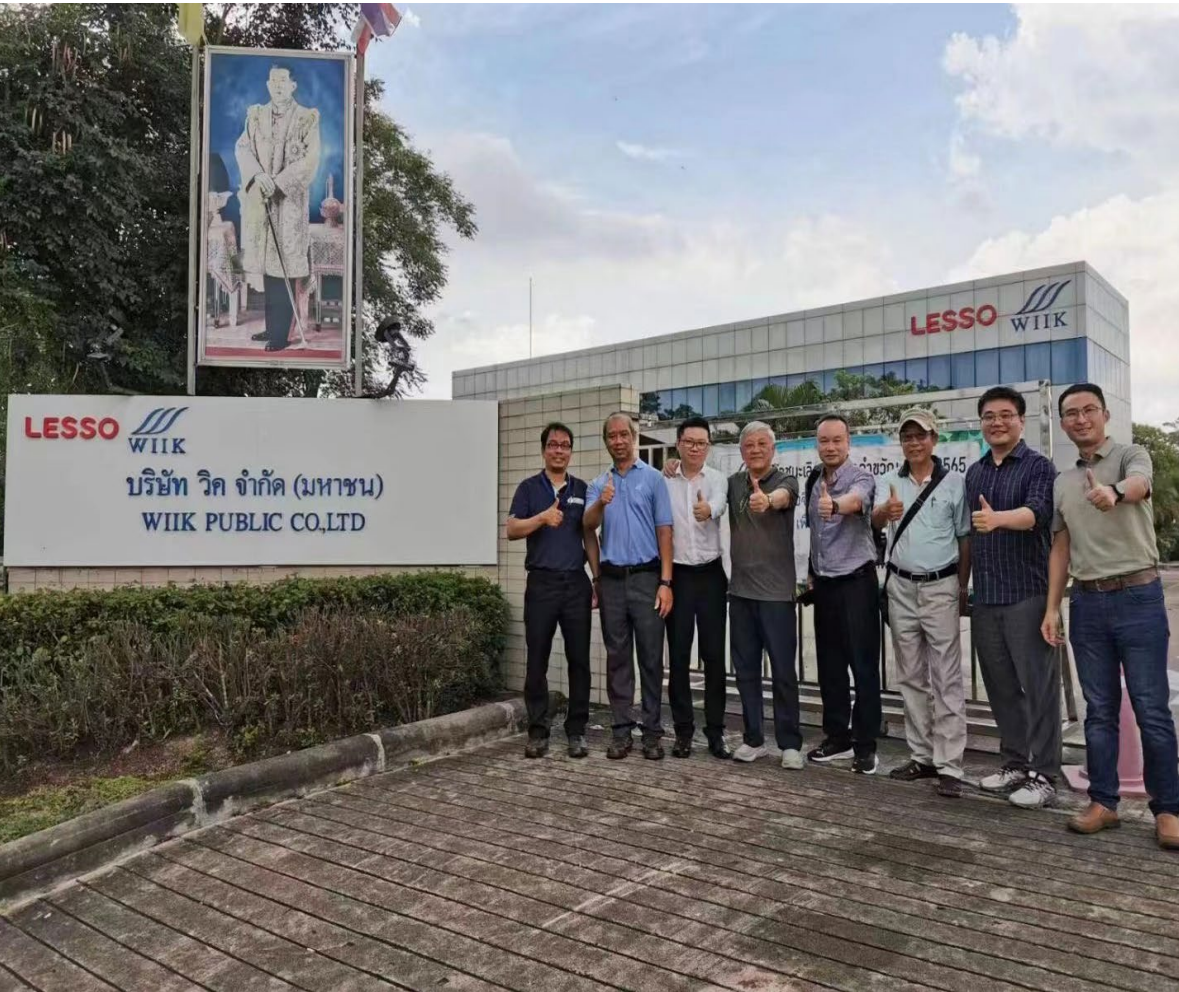
為加強本集團對廣告資源的整體監控能力，中國聯塑制定《廣告資源管理辦法》，明晰廣告資源使用的責任權利，統一廣告宣傳、標籤使用、營銷活動的應用規範，確保產品標籤和廣告宣傳符合法律法規的要求。市場與品牌管理中心將不定期對廣告資源的投入使用進行抽查，如有違規行為，本集團將對相關經辦人、責任人、廣告公司或經銷商進行嚴肅處理。

As a part of efforts made to ramp up the Group's overall monitoring capacity of advertising resources, China Lesso has formulated the *Advertising Resources Management Measures* to clarify the responsibility and power in relation to the use of advertising resources, unify the application specifications of advertisement, label use and marketing activities, determine the requirement that product labelling and advertisement comply with relevant laws and regulations. The market and brand management center carries out spot inspections on an irregular basis for the use of advertising resources. In case of any violation, the Group will take serious measures against relevant handling personnel, responsible person, advertising company or distributor.

全面統一規範海外工廠標識使用
Unifying and standardizing logo use of overseas factories in an all-round manner

2023 年，本集團根據 VI 視覺識別系統標準，結合不同國家和地區的語言與文化習慣，為海外工廠提供了規範、統一並符合當地法律法規的標識系統。目前，本集團已完成印度尼西亞、泰國、柬埔寨等東南亞國家廠區首批次的標識規劃和落地，有效提升了海外工廠的視覺形象，傳達統一的企業文化與形象。

In 2023, the Group provides a standardized and unified logo system that complies with local laws and regulations to overseas factories based on the VI visual identification system standards and in combination with the lingual and cultural practices in different countries and regions. At present, the Group has completed the first batch of logo planning and implementation in the factories in Indonesia, Thailand, Cambodia and other Southeast Asian countries, effectively elevating the visual image of overseas factories and conveying unified corporate culture and image.



泰國生產基地標識規範化
Standardization of Logo in Thailand Production Base

保護客戶信息
Protecting Customer Information

中國聯塑深知數據安全與隱私保護的重要性，高度重視客戶、消費者及合作夥伴的信息使用。我們嚴格遵守各項法律法規，制定了嚴密的隱私保護政策和操作流程，以確保客戶的個人信息得到妥善管理。

China Lesso is fully aware of the importance of data security and privacy protection and puts a new premium on the use of customer, consumer and partner information. We strictly observe all laws and regulations and have developed rigorous privacy protection policies and operational procedures so as to ensure that the personal data of customers can be properly processed.

網絡安全管理
Network Security Management

本集團「兩地三中心（順德龍江 - 武漢）」組成的數據中心採用主動與被動相結合的保護措施，在進行了主動管理和分析的同時，採用防火牆等傳統的被動保護措施，實現高效、安全的網絡安全管理，以應對潛在的網絡安全隱患。2023 年，數據中心通過態勢感知系統對本集團所有主機的各類威脅警告進行分析，及時對惡意 IP 和域名進行封禁和風險複查。

The data centers in "three centers in two cities (Longjiang Town, Shunde - Wuhan)" set up by the Group adopt combined protection measures of active and passive management. While using active management and analysis, the Group takes passive protection measures such as firewalls and other conventional methods, in response to potential network security hazards, achieving highly efficient network security management. In 2023, the data centers have analyzed the threat warnings of all hosts of the Group through situation awareness system, blocked the malicious IPs and domain names and rechecked the risks in a timely manner.

信息安全管理
Information Security Management

本集團通過搭建內部管理系統、賬號權限管理、開展信息安全培訓、定期對信息系統進行審計、IT 人員保密協議簽署等多種舉措，構築了堅實的企業信息安全防線。

The Group has built a solid corporate information security defense line through a number of approaches such as building internal management system, account access management, carrying out information security training, performing regular audits on information system, signing confidentiality agreement with IT personnel and the like.

系統權限
System authority

建立主數據系統，統一通過業務平台管理客戶、物料等核心數據，並只為相關部門賦予相應範圍權限。
Establishing a master data system, performing unified management of such core data as customers and materials through business platforms, and granting authority to relevant departments within their corresponding scope.

保密協議
Confidentiality agreement

為保障敏感信息的機密性，要求敏感崗位的員工簽署保密協議，隔離 IT 員工與具體數據信息。
Requiring personnel of sensitive positions to sign a confidentiality agreement and separating the IT staff from the specific data and information in order to ensure the confidentiality of sensitive information.

保護程序
Protection program

制定了完善的數據安全保護程序，對電腦等終端進行監管，確保數據在傳輸及存儲過程中安全可控。
Developing a complete protection program for data security, monitoring computers and other terminals, ensuring secure and controllable data transfer and storage.

離職賬號
Account of resigned staff

針對離職員工，及時一鍵註銷或關閉相關賬戶權限，以避免賬號洩漏的風險。
Cancelling or shutting down relevant account authority of resigned staff to prevent risk of account disclosure.

信息內審
Internal review of information

內審部門每年度開展覆蓋各子公司的信息系統全面審查。
The internal review department conducts annual comprehensive reviews for the information systems of the subsidiaries.

關鍵績效 KPIs

- 本年度，發現信息安全隱患的整改率達到 **100%**
This year, the rectification rate for the information security hazards discovered reaches **100%**.
- 本年度，發生信息洩露事件 **0** 起（2022 年：0 起）
This year, **0** information disclosure accidents have occurred (2022: 0).
- 本年度，共開展信息安全培訓 **3** 次，參加人數達 **707** 人次
This year, **3** information security training sessions have been carried out, with a total of **707** participants.



聚焦環境 引領低碳未來

Focusing on the Environment to Lead a Low-carbon Future

中國聯塑支持國家「2030 碳達峰、2060 碳中和」戰略，貫徹落實本集團可持續發展目標，在妥善管理環境影響、堅持綠色營運、優化資源利用、進行氣候相關風險與機遇分析應對的同時，以科技與產品創新，鑄就綠色發展之路。

China Lesso supports the national strategy of "Carbon emission peak by 2030 and carbon neutrality by 2060", and thoroughly implements the Group's sustainability goals. While appropriately managing environmental influence, sticking to green operations, optimizing resource utilization, carrying out analysis of and responding to climate-related risks and opportunities, China Lesso delves into green development by technology and product innovation.

回應聯合國可持續發展目標
Response to SDGs



重大性議題 Major issues	核心策略 Core strategies
能源資源使用效益 Energy resource utilization efficiency	- 設定能源消耗量綠色目標，優化能源管理體系，打造綠色工廠 Set goals of energy consumption, optimize energy management systems, build green factories - 打造節能減碳、綠色環保產品，發展新能源業務 Develop green and environmentally-friendly products in relation to energy saving and carbon reduction and explore new energy business
排放物及廢棄物管理 Emissions and waste management	- 設定溫室氣體排放量及有害、無害廢棄物產生量目標 Set goals with respect to GHG emissions, hazardous and non-hazardous waste generated - 形成多種廢棄物管理制度，分類合規處理廢棄物 Formulate various waste management policies, and handle waste by category and in a compliant manner - 優化生產工藝，推廣綠色辦公 Optimize production process, and promote green office practices
氣候變化 Climate change	- 開展氣候風險與機遇評估，分析氣候變化對於企業經營的影響 Conduct climate-related risk and opportunity evaluation, analyze the impact of climate change on corporate operations - 制定氣候變化應對措施，完善能源與碳管理體系，減緩氣候變化影響 Lay down climate change response measures, perfect energy and carbon management systems, and reduce climate change influence
循環經濟 Circular economy	積極開展生產用水、包裝循環利用，從使用材料、包裝方式、使用方式方面實現包材節約 Actively adopt recycling for production water and packaging, and achieve packaging saving in the aspects of materials used, packaging methods and using methods
生物多樣性 Biodiversity	貫徹生物多樣性保護理念，從自身業務出發保護森林、海洋環境 Implement biodiversity protection philosophy, and protect forest and marine environment from the respective of the Group's own business

關鍵績效 KPIs

- 光伏發電量 **3,567** 萬千瓦時（2022 年：2,733 萬千瓦時）
35.67 million kWh of photovoltaic power generated (2022: 27.33 million kWh)
- 循環利用水資源 **574.16** 萬噸（2022 年：566.05 萬噸）
5.7416 million tonnes of water recycled (2022: 5.6605 million tonnes)
- 回收利用塑料 **160,441** 噸（2022 年：156,896 噸）
160,441 tonnes of plastic recycled (2022: 156,896 tonnes)

踐行綠色目標

Practicing Green Goals

中國聯塑重點關注溫室氣體排放、廢棄物、耗水量、能源消耗管理，以 2025 年為目標年，設定綠色發展目標，全方位開展減碳、減廢、節水等一系列環保行動，挖掘本集團可持續發展潛力，實現經濟、社會、生態效益同步提升，描繪人與自然和諧藍圖。

China Lesso places a high value on the management of GHG emissions, waste, water consumption, energy consumption, and sets green development goals with 2025 as the target year. Furthermore, the Group carries out a series of comprehensive actions for environmental protection in respect of carbon reduction, waste reduction and water conservation, unleashes the Group's potential of sustainable development, and achieves simultaneous advancement of economic, social and ecological benefits, depicting a blueprint of harmony between human and nature.

我們持續評估並管理業務開展對環境及自然資源造成的影響，並採取一系列措施降低影響。2023 年，本集團未對環境及自然資源造成任何重大負面影響。

We continuously evaluate and manage the impacts of business operations on the environment and natural resources, and take a series of measures to reduce the impacts. In 2023, the Group did not cause any significant negative impact on the environment and natural resources.

中國聯塑綠色目標¹

China Lesso's Green Goals¹

指標類型 Type	綠色目標 Green goals	實施舉措 Initiatives
溫室氣體排放量 Greenhouse gas emissions	到 2025 年，單位產量範圍二溫室氣體排放強度較 2021 年（253.59 千克二氧化碳 / 噸）累計下降 3% By 2025, the Scope 2 GHG Emission intensity per unit of production will decrease by 3% compared with 2021 (253.59 kgCO ₂ /tonne).	車間能效改進：生產調度調整、設備更換技改，管理系統升級 Improve workshop energy efficiency: Production scheduling adjustment, device replacement and technological reform, and management system updates 發展清潔能源：加快佈設光伏等新能源設施，建設光儲充項目 Develop clean energy: Accelerate the deployment of photovoltaic and other clean energy facilities, and build projects of PV systems coupled with battery storage and EV charging stations
有害廢棄物產生量 Hazardous waste generated	到 2025 年，有害廢棄物單位產量產生量控制在 1.1 千克 / 噸以下 By 2025, the hazardous waste generated per unit of production is controlled below 1.1 kg/tonne.	改良生產工藝：優化產品工藝和生產工藝，創新模具改造，選用符合相應國家行業標準的可循環利用材料，推廣使用環保的水性塗料，進行激光噴碼改造 Improve production process: Optimize product process and production process, innovate mould modifications, select recyclable materials that are in compliance with relevant national industry standards, promote use of eco-friendly water-based coatings, and adopt laser printing renovation 危險廢棄物資源化：研發出將鋁灰、廢酸等材料轉化為淨水劑的處理工藝，實現危廢資源化利用 Recycling of hazardous waste: Develop processing process to transform aluminum ash, acid waste and other materials into water purifier, achieve recycling of hazardous waste

指標類型 Type	綠色目標 Green goals	實施舉措 Initiatives
無害廢棄物產生量 Non-hazardous waste generated	到 2025 年，無害廢棄物單位產量產生量 ² 控制在 1.0 噸 / 噸以下 By 2025, the non-hazardous waste generated per unit of production ² is controlled below 1.0 tonne/tonne.	優化產品設計：通過優化產品水口等工藝設計，從源頭減少廢棄物產生量 Optimize product design: By optimizing process design such as gates and runners outside the product, reduce waste generation at the source 有效回收利用：可回收材料 100% 破碎回用，其餘部分拆解後委託第三方出售或分類處理 Efficient recycling: Adopt recycling for recyclable materials after crushed, disassemble other parts and entrust third party to sell and process by category
耗水量 Water consumption	到 2025 年，單位產量總耗水強度 ³ 控制在 1.60 噸 / 噸以下 By 2025, the water consumption intensity per unit of production ³ is controlled below 1.60 tonne/tonne.	加強循環利用水管理：實現全封閉冷卻水循環利用，減少水資源浪費 Strengthen the management of recycled water: Achieve fully enclosed cooling water recycling, and reduce waste of water 節約用水：優先採用和更換節水型器具，宣傳增強全員節約用水意識 Water conservation: Give priority to the use and replacement of water-saving appliances, and promote and increase the awareness of water conservation among all employees
能源消耗量 Energy consumption	到 2025 年，單位產量總電耗強度較 2021 年（236.47 千瓦時 / 噸）上升幅度控制在 3% By 2025, the increase in electricity consumption intensity per unit of production will be controlled below 3% compared with 2021 (236.47 kWh/tonne).	推進數字化能源管理：上線自主研發的集團化能源管理智能化系統，裝配中央系統實現數字化可視化控制，高效管理生產能源 Promote digital energy management: Launch the intelligent analysis system independently developed for the Group's energy management, install central system to achieve digital and visual control, and efficiently manage production energy 開展節能改造：設備更換技改，調整產區及生產佈局，並持續開展餘熱回收 Implement energy-saving transformation: Perform device replacement and technological reform, adjust production areas and production layout, and continue to carry out waste heat recovery 踐行綠色辦公：安排 24 小時巡檢關閉無人辦公區照明設備，及時關閉電腦等辦公設備 Implement green office: Arrange 24-hour inspection and turn off the lighting equipment in idle areas without people present, and shut down computers and other office equipment



² 包含生產過程中產生的水口料、次品以及辦公及生活區域產生的固體廢棄物。我們生產過程中產生的絕大部分無害廢棄物已進行循環利用。

² Including degraded materials and defective products generated during production, and solid wastes generated in office and living areas. The vast majority of non-hazardous waste generated during our production process have been fully recycled.

³ 包含生產耗水量及生活用水量。耗水量主要來自於辦公及生活區域的生活用水，生產過程主要耗水來自循環水系統補水需求。

³ Including production and domestic water consumption. Water consumption mainly comes from domestic water in office and living areas, and the main water consumption in the production process comes from the water replenishment demand of the circulating water system.

¹ 中國聯塑的綠色目標以本集團的管道業務作為統計範圍。

¹ China Lesso's green goals are based on the statistical scope of the Group's piping business.

創造綠色價值 Creating Green Value

「十四五」是國家加速綠色低碳轉型，實現碳達峰的攻堅期。中國聯塑緊跟國家環保腳步，著力打造環保產品、拓展綠色節能產業，在業務中傳遞環保理念，以綠色描繪全集團高質量發展底色。

The Fourteenth Five Plan period is critical for China to accelerate green and low-carbon transformation and fulfill carbon emission peak. China Lesso follows closely the national pace in relation to environmental protection, makes efforts to craft environmentally friendly products and expand green and energy-saving business, and conveys the environmental protection philosophy in business operations, in a push to polish up the Group's green and high-quality development.

打造環保產品 Creating Environmentally Friendly Products

我們在產品研發與生產中秉持環保理念，配合市場發展趨勢，紮實技術儲備，從運用技術、適用領域、產品類別多角度打造和拓展環保產品版圖。2023 年，廣東聯塑管道產品共有 15 項獲得綠色建材產品認證，建材家居板塊廣東聯塑日利門業有限公司油漆飾面實木複合室內門等 4 項產品通過中國環境標誌產品認證。

We uphold the environmental protection philosophy in product R&D and production, align with the trend of market development, and consolidate technological reserve, in a bid to build and expand environmentally friendly product market from multiple perspectives of technology use, application fields and product category. In 2023, a total of 15 Guangdong Lesso piping products have obtained the green building material product certificate, 4 products including painted solid wood composite indoor doors of Guangdong Lesso Rili Door Industry Co., Ltd. in building materials and home improvement sector passed the certification of China Environmental Labelling products.



中國環境標誌產品認證證書
China Environmental Labelling Product Certificate

2023 年

15 項

獲得綠色建材產品認證

A total of 15 Guangdong Lesso piping products have obtained the green building material product certificate

創新 PP-R 聚氨酯保溫複合管發泡結構，實現節能防凍

Innovative heat-preserving PP-R polyurethane composite pipe foam structure to achieve energy saving and freeze prevention

PP-R 聚氨酯保溫複合管由外護管、保溫層與工作管組成，其中保溫層採用硬質聚氨酯（PU）發泡保溫材料，創新採用全閉孔發泡結構，導熱係數小，用於建築冷熱水輸送時，可大幅降低管道與空氣對流換熱，有效降低管道輸送介質的熱量或冷量損失，節能效果顯著，在冬季能有效防止水管凍裂，提升建築總體運行能效與穩定性。

Heat-preserving PP-R polyurethane composite pipes consist of outer protection pipe, heat-preserving layer and functional pipe, wherein the heat-preserving layer adopts hard heat-preserving polyurethane (PU) foam material and innovatively uses foam structure with fully closed holes, which has small heat conductivity and can significantly reduce convection heat transfer between the pipe and air. This product can efficiently lower the heat or cold loss of pipe transport medium and deliver significant energy saving effect, thereby effectively preventing pipe frost crack in winter and improving the overall energy utilization efficiency and stability of building operations.



PP-R 聚氨酯保溫複合管
Heat-preserving PP-R Polyurethane Composite Pipes

核電廠用聚乙烯管材成功克服腐蝕、結垢痛點

Nuclear power plant successfully overcomes problems such as corrosion and fouling by adopting polyurethane pipes

核電廠重要廠用水系統採用的碳鋼或不銹鋼輸送管材，隨著服役時間的增長，易發生腐蝕、結垢等問題，影響核電廠冷源可靠性和機組安全運行。中國聯塑開發的核電廠用聚乙烯（PE）管材具有抗震性能優異，耐海水腐蝕性、耐泥沙沖蝕性強，且流動阻力小、強度高、韌性好、使用壽命長等特點，尤其適用於核電廠廠用水系統等海水冷卻系統，相較於傳統管材，極大提升系統可靠性和維護便利性，助推我國核電行業技術與裝備能力持續提升。

The carbon steel or stainless-steel transportation pipes adopted in the water piping system of important nuclear power plant are prone to such problems as corrosion and fouling over time, affecting the reliability of nuclear power plant cold source and operation safety of plant unit. The polyethylene pipes developed by China Lesso for nuclear power plant feature excellent seismic resistance performance, strong sea water and sediment corrosion resistance performance, small flow resistance, high strength, good resilience, long service life, among other characteristics. They are very suitable for nuclear power plant water system and other sea water cooling systems. Compared with other conventional pipes, they can improve significantly the reliability and maintenance convenience of the system, promoting continuous improvement of technology and equipment capacity of the nuclear industry in China.



核電廠用聚乙烯管材
Polyethylene Pipes Used in Nuclear Power Plant

發展綠色產業

Developing Green Industries

中國聯塑積極追隨國家綠色發展方向，推動新能源領域全產業鏈發展，持續深化環保產業佈局，為實現國家「雙碳」目標增添強勁動能。

China Lesso proactively follows the orientation of the national green development, pushes ahead with the full industry chain development in the new energy sphere, and makes continuous efforts to deepen the layout of the environmental protection industry, injecting strong driving force into the course of the national goal of "Carbon emission peak and carbon neutrality".

新能源產業全面發展

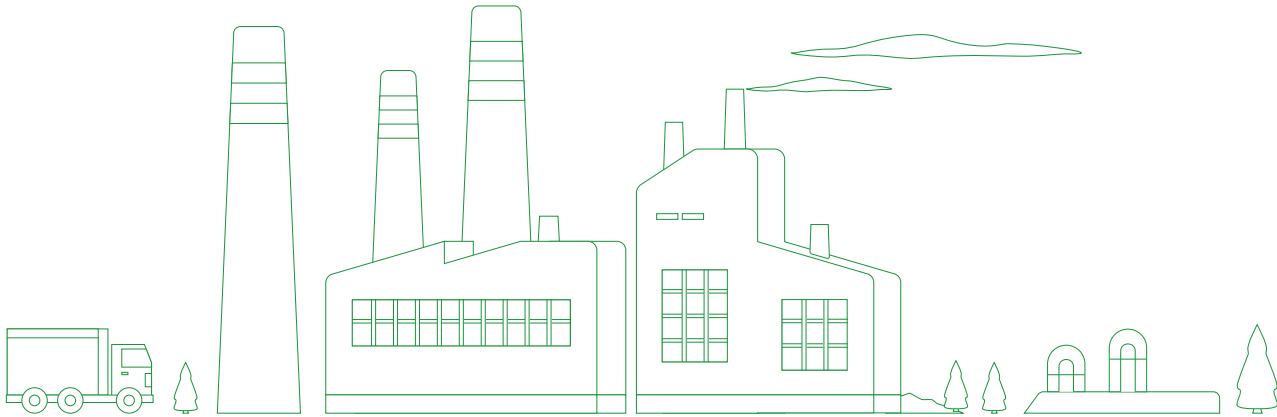
Comprehensive Layout of New Energy Industry

我們於 2022 年成立聯塑班皓，致力為全球客戶提供清潔能源轉型解決方案。聯塑新能源板塊集研發、生產、銷售與售後服務為一體，專注於太陽能發電技術等領域，業務範圍涵蓋光伏元件、儲能產品、工程服務，持續打造多產品、多項目、高產量、高水準的業務格局。

聯塑班皓在鞏固國內業務的同時，開拓國際市場。2023 年，河南黃淮光儲充和光伏發電項目啟動；湖南聯塑光伏發電項目成功並網發電；印度尼西亞生產基地投產落地，彰顯了聯塑班皓在新能源領域的實力與國際化視野。

We founded Lesso Banhao in 2022, in a bid to devote ourselves to delivering clean energy transformation solutions to global clients. With R&D, production, sales and after-sales service integrated, Lesso new energy sector focuses on solar power generation technologies and other fields, covering photovoltaic components, energy storage products, engineering service, continuously creating business landscape of multiple products, multiple projects, high production capacity and high standards.

Lesso Banhao explores the international market while consolidating the domestic business. In 2023, the Henan Huanghuai project of PV systems coupled with battery storage and EV charging stations and PV power generation is launched; Hunan Lesso PV power generation project is successfully integrated into the power grid for power supply; Indonesia production base has been put into production, demonstrating Lesso Banhao's strength and international horizon in the new energy sector.



關鍵績效 KPIs

- 截至 2023 年 12 月 31 日，聯塑已參與建設 **98** 個光伏電站項目，其中包括 **62** 個國內項目、**18** 個海外項目，並投資了 **18** 座電站，裝機容量達 **25.65** 兆瓦。

As of 31 December 2023, Lesso has participated in the construction of **98** PV power plant projects, including **62** domestic projects and **18** overseas projects, and has invested in **18** power plants with **25.65** MW installed capacity.

- 聯塑班皓助力黑龍江穆稜科冕木業分散式光伏項目 2025 年實現總發電量 **2,122.52** 萬度，二氧化碳減排量 **1.72** 萬噸。

Lesso Banhao assists Muling Kemian Wood Industry, Heilongjiang in the distributed PV project, which will achieve power generation capacity of **21,225.2** MWh in 2025 and carbon dioxide emission reduction of **17,200** tonnes.



182 單晶單玻 545W 光伏元件
182 Single-crystal Lattice Single-layer 545W PV Component

聯塑印尼光伏組件生產基地順利投產

Lesso overseas photovoltaic module production base in Indonesia was successfully launched

2023 年 9 月 19 日，聯塑印尼新能源生產基地舉行投產儀式，標誌著聯塑集團首個海外光伏元件生產基地順利投產，聯塑新能源產業進一步向海外拓展。該生產基地位於印尼淡目市巴圖鎮傑騰蘭工業園 D 地塊，全廠區佔地面積 11 萬 m²，設有完整的自動化設備、生產車間、恆溫倉庫以及各配套功能檢測中心，擁有兩條共 1.2GW 光伏元件生產線，是全球建設規模較大的光伏元件生產基地，也是印尼目前最大的光伏元件生產基地。

On 19 September 2023, the production ceremony of Lesso production base of new energy in Indonesia was held, marking the smooth commissioning of Lesso Group's first overseas photovoltaic module production base and further expanding the new energy industry overseas. This production base is located in Block D of Jietenglan Industrial Park, Batu Town, Demak City, Indonesia, where the entire plant covers an area of 110,000 m² and is equipped with complete automation equipment, production workshops, constant temperature warehouses, and various supporting function testing centers. It boasts two 1.2 GW photovoltaic module production lines and functions as one of the largest photovoltaic module production bases in the world. Currently it proves to be the largest photovoltaic module production base in Indonesia.

除光伏外，本集團加速佈局儲能板塊，供應並網模式和離網模式儲能系統，助力電網達成科學合理的電力調頻，減少能源浪費。同時，我們圍繞家庭儲能、工商業儲能等場景，推出包括戶用式分散式光伏系統、工商業分散式光伏系統、儲能系統、充電樁等集光儲充檢一體化解決方案，在滿足用戶光伏發電需求外，還能進行新能源消納、容量擴展、削峰填谷，幫助無電網地區進行用電覆蓋，最大化能源經濟與社會效益。

Apart from photovoltaic business, the Group accelerates the deployment of battery storage sector, with supply integrated into the power grid system and separate supply of energy storage system. The Group assists with the power grid system in scientific and reasonable electricity frequency regulation, reducing energy waste. In the meanwhile, we launch household distributed PV systems, industrial and commercial distributed PV systems, energy storage systems, charging stations and other integrated solution of PV systems coupled with battery storage, EV charging stations and inspection function by focusing on scenarios such as household energy storage, industrial and commercial energy storage, so that we can push forward with new energy absorption and consumption, capacity expansion, peak load shifting aside from meeting users' PV power generation need. The Group helps electricity distribution in areas not covered by the power grid system, maximizing energy economic effect and social benefits.

廣東聯塑打造光儲充停車場能源應用示範項目

Guangdong Lesso creates energy application demonstration project of parking lot with PV systems coupled with battery storage and EV charging stations

廣東聯塑光儲充停車場由利用「光伏元件 + 工商業儲能 + 充電樁」的整體智能能源方案進行停車充電，代替傳統「車棚 + 市電」的停車場營運模式，總裝機容量為 569.16 千瓦，配備 3 台 120 千瓦快充充電樁、16 台 7 千瓦慢充充電樁和儲能設施，年發電量可達 54.9 萬度。項目榮獲順德區發展和改革局 2023 年「新能源應用技術示範項目」榮譽稱號，為優化地區能源結構，營造低碳生活提供先進示範。

By harnessing the integrated intelligent energy solution of "PV components + industrial and commercial energy storage + charging stations", Guangdong Lesso's parking lots of PV systems coupled with battery storage and EV charging stations provide charging function for vehicles parked, replacing the conventional parking lot operation mode of "shed + mains supply". It has an installed capacity of 569.16 kW, equipped with 3 charging stations of 120 kW for fast charging, 16 charging stations of 7 kW for slow charging and battery storage facilities, with an annual capacity of 549,000 kWh. This project is awarded with the honorary title of 2023 New Energy Application Technology Demonstration Project issued by the Development and Reform Bureau of Shunde district.



光儲充停車場
Parking Lot of PV System Coupled with Battery Storage and EV Charging Stations

環保領域拓展研究

Extension Research in Environmental Protection Field

聯塑環保板塊子公司永葆環保，深耕環保產業二十餘年，立足於廢酸廢渣無害化處置及資源化綜合利用細分領域，針對金屬表面處理、機械製造、染料塗裝、電子加工、冶金加工、新能源等 10 多個行業產生的廢酸廢渣，充分提取、利用廢棄物中鋁、鐵資源，形成系列環保終端產品。同時，永葆環保通過自主創新研發與自動化裝備集成，對現有技術進行系統化升級改造，廣泛應用於印製電路、電子和金屬精飾等行業蝕刻工藝，實現「以廢治廢，變廢為寶」。

Yongbao Environmental Protection, a subsidiary of Lesso in environmental protection sector, has been deeply engaged in environmental protection industry for more than 20 years. Focusing on the harmless disposal of waste acid and waste residue and the comprehensive utilization of resources, and aiming at the waste acid and waste residue generated by more than 10 industries such as metal surface treatment, machinery manufacturing, dye coating, electronic processing, metallurgical processing, new energy, the company can fully extract and utilize aluminum and iron resources in the wastes, and has developed a series of environmental protection terminal products. In addition, through independent innovation, research and development and automation equipment integration, Yongbao Environmental Protection has systematically upgraded and transformed the existing technology, which is widely used in the etching process of printed circuits, electronics, and metal finishing industries, realizing the concept of "treating waste with waste and turning waste into treasure".

關鍵績效 KPIs

- 截至 2023 年 12 月 31 日，永葆環保擁有 **4** 個廢酸污泥資源化綜合利用處置基地，年處置規模達 **65** 萬噸 / 年，再生回用製備淨水劑產品約 **60** 萬噸 / 年，在常州及周邊地區的危廢處置利用服務客戶超 **2,000** 家。

As of 31 December 2023, Yongbao Environmental Protection owned **4** disposal bases for the comprehensive utilization of waste acid sludge resources, with an annual disposal scale of **650,000** tonnes/year, regeneration and reuse for the preparation of water purification agent products of approximately **600,000** tonnes/year, and more than **2,000** hazardous waste disposal and utilization service customers in Changzhou and the surrounding areas.

- 永葆環保承擔國家級（包括國家 863 科技計劃重大項目和國家科技部火炬計劃項目）、省級及市級科技計劃項目約 **20** 餘項，在環保領域擁有高新技術產品 **10** 餘項，申報自主研發專利 **40** 餘項；制定化工行業標準《廢酸中重金屬快速檢測方法能量 - 色散 X 射線螢光光譜法》（HG/T 6114-2022），主導修訂國標《工業氯化鐵》（GB/T 1621-2023），參與制定化工行業標準《移動式化學清洗廢液處理裝置技術規範》（HG/T547-2019）、團體標準《廢液處理處置行業綠色工廠評價要求》（T/CPCIF 0216-2022）等標準。

Yongbao Environmental Protection has undertaken about **20** national (including the major projects of National 863 Science and Technology Program and the Torch Program of the Ministry of Science and Technology of the People's Republic of China), provincial and municipal science and technology planning projects, has more than **10** high-tech products in the field of environmental protection, and has declared more than **40** patents for independent research and development. It has formulated the chemical industry standard *Rapid Detection Method of Heavy Metals in Waste Acid - Energy-Dispersive X-ray Fluorescence Spectrometry* (HG/T 6114-2022), led the revision of the national standard *Industrial Ferric Chloride* (GB/T 1621-2023), and taken part in the formulation of the chemical industry standard *Technical Specification for Movable Treatment Unit for Chemical Cleaning Waste Liquid* (HG/T547-2019), and the group standard *Requirements for Evaluation of Green Factories of the Waste Liquid Treatment and Disposal Industry* (T/CPCIF 0216-2022), and other standards.



永葆環保榮獲中國石油化工工業聯合會科技進步獎
Yongbao Environmental Protection Won the Science and Technology Progress Award of China Petroleum and Chemical Industry Federation

為加快構建環保全產業鏈服務體系，提升企業核心競爭力，我們重點延伸拓展了環保服務板塊的增值業務，主要包括環境應急服務、危廢貯存與設施定制服務、水處理技術服務、固廢專業運輸服務和「一站式」環保管家服務等五大服務，以期打通綠色發展「堵點」，破解固廢治理困局，助力產廢企業集中精力發展主業。

In order to accelerate the construction of whole industry chain service system for environmental protection and enhance the core competitiveness of the enterprise, we focus on extending and expanding the value-added business of the environmental protection service segment, which mainly includes five major services, namely environmental emergency services, customized services for hazardous waste storage and facilities, water treatment technology services, professional transportation services for solid wastes and "one-stop" environmental protection housekeeping services, with a view to breaking through the "blocking points" of green development, solving the dilemma of the management of solid wastes, and assisting the waste-producing enterprises in focusing on the development of their main business.

六大方向深化鋁灰資源化利用

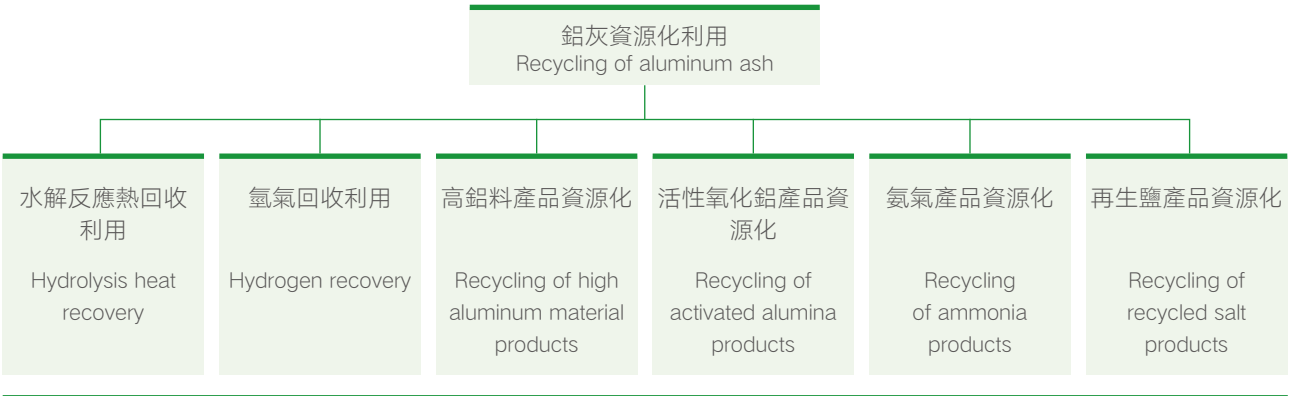
Deepening the utilization of aluminum ash resources in six directions

聯塑環保板塊的廣東興發環境科技有限公司深刻把握鋁灰特性，推進六大方向的鋁灰資源化利用，不斷拓展技術應用邊界，實現經濟與環境雙贏效益。

With a deep understanding of the characteristics of aluminum ash, Guangdong Xingfa Environmental Technology Co., Ltd., a subsidiary of Lesso engaged in the environmental protection sector, has promoted the utilization of aluminum ash resources in six directions, and constantly expanded the boundaries of technology application to achieve win-win benefits for both the economy and the environment.



廣東興發環境科技有限公司
Guangdong Xingfa Environmental Technology Co., Ltd.



傳遞環保理念

Environmental Protection Concepts Delivery

我們制定環保、能源管理體系制度培訓計劃，組織開展環保知識競賽，並在聯塑雲學堂在線學習平台中，結合本集團業務嵌入環保相關課程，增設「光伏行業發展現狀與趨勢」等課程，促使員工緊跟環保趨勢，夯實業務能力。在對內傳遞環保理念的同時，不斷拓展微博、微信公眾號與視頻號、抖音、小红书、知乎、Facebook、LinkedIn、Blog 等國內外外部渠道，形成全球新媒體 / 社媒營運矩陣，講述聯塑環保故事、宣傳聯塑環保實踐。

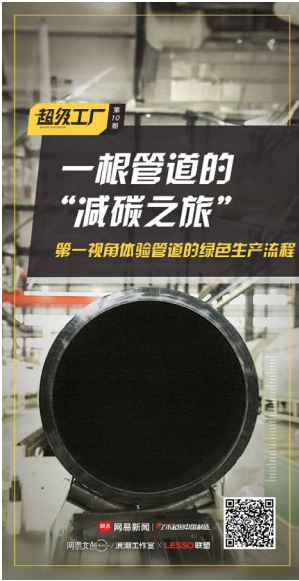
We have formulated training plans for environmental protection and energy management systems, organized environmental protection knowledge competitions, included environmental protection related courses into the online learning platform of Lesso Cloud School based on the Group's business, and created courses such as "Current Situation and Trend of Development of Photovoltaic Industry", so as to urge our employees to keep abreast of environmental protection trends and consolidate their business capabilities. While delivering the concept of environmental protection internally, we have constantly expanded external channels at home and abroad such as microblog, WeChat official account and video channel, as well as Douyin, Xiaohongshu, Zhihu, Facebook, LinkedIn, and Blog, forming a global new media/social media operation matrix to tell the story of environmental protection and publicize the practice of environmental protection in Lesso.

網易《超級工廠》《答案如下》欄目解讀中國聯塑環保實踐

The environmental protection practice of China Lesso explained in NetEase's "Super Factory" "The Answer is as Follows" programs

2023 年，中國聯塑攜手網易《超級工廠》及《答案如下》兩大王牌欄目，從管道產品環保減碳轉型與能源運輸安全效率提升兩大方面，解讀本集團環保實踐。欄目分別介紹了管道巨頭「低碳之旅」和「西氫東送」工程中利用 RTP 柔性輸氫複合管的案例，體現了中國聯塑領先於行業的製造實力、發展眼光以及高度的社會責任感。

In 2023, China Lesso joined hands with Net Ease's *Super Factory* and *The Answer is as Follows* to explain the Group's environmental protection practices from two aspects, namely the transformation of piping products into environmentally friendly carbon-reducing products and the enhancement of the safety and efficiency of energy transportation. The programs introduced the cases of utilizing the RTP flexible hydrogen transporting composite pipe in the piping giant's "Low Carbon Journey" and "West-to-East Hydrogen Delivery" projects respectively, reflecting China Lesso's industry-leading manufacturing strength, development vision and high sense of social responsibility.



《超級工廠》欄目
Super Factory Program



《答案如下》欄目
The Answer is as Follows Program

堅持綠色營運

Insisting on Green Operation

我們不斷迭代環境管理體系，落實責任部門、明確業務分工，開展環保監測、廢棄物管理、化學品管理與噪音控制，追蹤評價產品碳足跡，創造健康安全的工作生產環境，以期實現全流程全鏈條綠色營運。

We continued to iterate the environmental management system, implement responsible departments, clarify business division, carry out environmental protection monitoring, waste management, chemical management and noise control, track and evaluate product carbon footprint, and create a healthy and safe work and production environment, in order to achieve green operation in the whole process and the whole chain.

環境管理

Environmental Management

我們嚴格遵守《中華人民共和國環境保護法》，制定了《能源管理手冊》《節能降耗管理規定》等一系列內部管控制度，並定期對制度進行合規性檢查，確保本集團各項工作均符合要求。我們積極推進質量管理體系、環境管理體系、職業健康安全體系（QEO）一體化認證，截至 2023 年底，本集團共有 41 家子公司通過 QEO 體系認證（2022 年：36 家）。

In strict compliance with the *Environmental Protection Law of the People's Republic of China*, we have formulated a series of internal control systems such as the *Energy Management Manual* and the *Management Regulations on Energy Conservation and Consumption Reduction*, and regularly checked the compliance of policies to ensure that all work of the Group meets the requirements. We take initiatives to promote the integrated certification of quality, environment and occupational health and safety management systems (QEO). As of the end of 2023, the Group had 41 subsidiaries certified through the QEO system (2022: 36).

環境管理體系運行與驗證

Operation and Verification of Environmental Management System

我們形成了環境資源管理、應急響應機制、環境知識培訓、產品碳足跡管理等環境管理體系維度，持續跟踪環境管理工作表現，及時實施糾正和預防活動，並對整改情況進行驗證，確保環境保護管理的有效性。

We have established environmental management system dimensions such as environmental resource management, emergency response mechanism, environmental knowledge training, and product carbon footprint management, and continuously track the performance of environmental management work, also put corrective and preventive measures into practice in a timely manner, and inspect the rectification, in order to ensure the effectiveness of environmental protection management.

環境管理體系維度 Dimensions of environmental management system
環境資源管理：配備人力資源、基礎設施、工作環境、技術、信息資源 Environmental resources management: Provide human resources, infrastructure, work environment, technology, information resources, etc.
應急響應機制：建立應急響應小組，定期開展消防、突發環境事件應急演練 Emergency response mechanism: Set up an emergency response team, carry out regular fire drills and organize emergency drills for environmental contingencies

環境管理體系維度 Dimensions of environmental management system
環境知識培訓：加強法律法規的培訓，同步推進面授培訓和線上直播，培養內訓師團隊，提高員工安全環保意識 Environmental knowledge training: Intensify training of laws and regulations, simultaneously promote face-to-face training and online live broadcast, cultivate internal trainer team, and raise employees' awareness of safety and environmental protection
產品碳足跡管理：完善管理框架，參與制定產品碳足跡核算規則制定，與外部顧問合作衡量產品全生命週期各階段碳排放 Product carbon footprint management: Improve the management framework, participate in the formulation of product carbon footprint accounting rules, and work with external consultants to measure carbon emissions at all stages of the product's life cycle

環境因素識別與應急保護

Environmental Factor Identification and Emergency Protection

為有效識別本集團活動與服務過程中的環境影響因素，預防環保安全事故發生，我們制定了《環境、職安管理運行控制程序》《環境、職安管理監視和測量控制程序》《環境因素識別、評價與更新控制程序》《環境安全事故應急預案》，每年對已有項目及新擴改項目開展環境因素識別及評價，有針對性地制訂管理方案或措施，並主動接受環保監測站監測，加強流程化、標準化管理。

In order to effectively identify the environmental impact factors in the course of the Group's activities and services, and prevent environmental accidents, we have formulated the *Control Procedures for Environmental and Workplace Safety Management Operation*, *Control Procedures for Environmental and Occupational Safety Management Monitoring and Measurement*, *Control Procedures Concerning the Identification, Assessment and Updating of Environmental Factors*, and *Emergency Plans for Environmental Safety Accidents*, annually identify and evaluate the environmental factors for the existing projects and the new expansion and renovation projects, formulate targeted management plans or measures, and take the initiative in accepting the monitoring of the environmental protection monitoring station to enhance the process-based and standardized management.

環境因素識別、評價與更新 Environmental factor identification, evaluation and update	環境安全事故應急處理 Emergency response to environmental incidents
識別：各部門進行識別，需關注過去、現在、將來三種時態及正常、異常、緊急三種狀態下可能產生的環境影響，並考慮生產及相關活動全過程 Identification: Each department identifies the possible environmental impacts that occurred, occurs and may occur and the possible impacts that may occur under the normal, abnormal and emergency states, and considers the whole process of production and related activities	組織領導：行政總裁擔任組長，安監、行政、倉儲、物流、生產等多部門共同組成應急領導小組；各部門安全負責人、分管安全工作員工及具備專業技能人員組成現場應急小組 Leadership: The chief executive serves as the team leader, an emergency leading team consists of officers of the safety supervision, administration, warehousing, logistics, production and other related departments; an on-site emergency team consists of security leaders of each department, staff responsible for security and personnel with professional skills
確認：各部門匯總環境因素評價，管理者代表進行因素的排查與判斷，體系辦匯總公司級重要環境因素 Confirmation: Each department shall summarize the evaluation of environmental factors, the management representative shall conduct the investigation and judgment of factors, and the System Office shall summarize the important environmental factors at the company level	

環境因素識別、評價與更新 Environmental factor identification, evaluation and update	環境安全事故應急處理 Emergency response to environmental incidents
評價：從資源能源消耗量、合規性、相關方建議、潛在影響後果程度等多維度評價環境因素 Evaluation: Evaluation of environmental factors from multiple dimensions such as resource and energy consumption, compliance, suggestions from relevant parties, potential impact and its degree 更新：當法律法規、業務發展方向、相關方訴求發生變化時，各部門應重新識別環境因素並評價 Update: When laws and regulations, business development direction, and the demands of relevant parties change, all departments should re-identify and evaluate the environmental factors	事故分類：按事故影響分一般、重大兩類；按事故種類分火災、爆炸、油品洩漏、化學品洩漏、颱風等多種事故，分類制定預防及處理流程 Accident classification: According to the impacts of accidents, it is divided into general and major categories; according to the types of accidents, it is divided into fire, explosion, oil leakage, chemical leakage, typhoon. Preventive measures and handling process shall be developed by category

綠色工廠建設
Green Factory Construction

中國聯塑重視綠色工廠的打造、建設與持續管理，在車間實施「6SK」現場管理要求。自廣東聯塑獲得國家工信部綠色工廠認證後，各子公司亦持續發力，積極主動貫徹落實綠色工廠運行要求。

China Lesso attaches importance to the creation, construction and continuous management of green factories, and implements "6SK" on-site management requirements in workshops. Since the certification of Guangdong Lesso as a green factory by the Ministry of Industry and Information Technology of the People's Republic of China, our subsidiaries have also made efforts to actively implement the requirements for the operation of green factories.

陝西聯塑順利通過省級綠色工廠認證
Shaanxi Lesso successfully passed the provincial green factory certification

陝西聯塑科技實業有限公司（「陝西聯塑」）積極主動貫徹落實綠色工廠運行要求，持續開展固廢綜合利用、水資源循環利用、VOC 削減等多項節能降耗等措施，推動生態環保提檔升級。2023 年 10 月，陝西聯塑經過自評價、第三方機構評價、屬地工信部門推薦、專家論證層層篩選，順利通過省級綠色工廠認證。

Shaanxi Lesso Technology Industrial Co., Ltd. ("Shaanxi Lesso") actively implements the operation requirements of green factories, and carries out a number of energy saving and consumption reduction measures such as comprehensive utilization of solid waste, recycling of water resources, and VOC reduction, to promote the upgrading of ecological and environmental protection. In October 2023, Shaanxi Lesso successfully passed the provincial green factory certification after self-evaluation, evaluation by third-party organizations, recommendation by local industry and information departments, and expert verification.



廢棄物管理
Waste Management

我們嚴格遵守國家相關法律法規要求，制定《水污染防治管理規定》《大氣污染防治管理規定》《廢棄物管理規定》規範三廢管理，並以合規為底線，以技術為突破，積極探索廢棄物管理創新解決方案。

In strict compliance with the national relevant laws and regulations, we have formulated the *Water Pollution Control and Management Regulations*, *Atmospheric Pollution Control and Management Regulations* and *Regulations on Waste Management* to standardize management of the three wastes. We also actively explore innovative solutions for waste management with compliance as the bottom line and technology as the breakthrough point.

廢水處理
Treatment of Waste Water

我們遵照《中華人民共和國水污染防治法》等法律法規和國家標準要求，進行雨污分流改造，嚴格控制有害物質流入排放口，將清洗排污水和生活污水經三級過濾後合規排放，廢液由有資質的公司合法處理；同時每年依據廣東省地方標準《水污染排放限值》檢測污水排放，發現超標時及時採取糾正措施。

我們對生產循環水池加裝水質淨化處理設備，改善冷卻循環水水質，廣東聯塑已加裝濾水系統 15 套，水質淨化處理設備 9 套。2023 年本集團合法達標排放生活廢水 2,373,840 噸（2022 年：1,910,703 噸）。

In accordance with the requirements of the *Law of the People's Republic of China on Prevention and Control of Water Pollution* and other laws and regulations and national standards, we carry out the reconstruction of rainwater and sewage diversion, strictly control the flow of harmful substances into the discharge outlet, discharge cleaning sewage and domestic sewage after three-stage filtration, and engage properly qualified companies to process waste liquids. Besides, the sewage discharge is tested annually according to the *Discharge Limits of Water Pollutants of Guangdong Province*, and corrective measures are taken immediately in case of excessive discharge.

We have equipped the production water recycling pool with water purification devices to improve the quality of recycled cooling water. Guangdong Lesso has installed 15 sets of water filtration system and 9 sets of water purification devices. In 2023, the Group discharged 2,373,840 tonnes of domestic wastewater in a compliant manner (2022: 1,910,703 tonnes).



廢氣管理

Waste Gas Emissions Management

我們遵照《中華人民共和國大氣污染防治法》等法律法規和國家標準要求，在工業設計、材料選擇和項目建設中將廢氣排放減至最低程度，逐步改進擠、注塑用進料方式，設置專用封管道輸送，並定期檢查廢氣採集過濾裝置。

生產端，我們在各車間安裝脈衝布袋除塵設備、揮發性有機物（VOCs）廢氣治理設施、VOC 排放處理設備和線上監測系統，升級改造廢氣治理設施，選用低有機溶劑、水性溶劑的材料，從源頭減少污染物產生。

員工端，我們提供防毒口罩等防護設備，部分車間開展 VOC 廢氣應急預案演練、除塵系統應急預案演練，保障員工的安全與健康。

In accordance with the *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution* and other laws, regulations and national standards, we reduce waste gas emissions to the minimum in industrial design, material selection and project construction. We gradually improve the feeding method for extrusion and injection molding, utilize designated sealed pipes for transportation, and regularly inspect the collection and filtration devices for waste gas emissions.

In the aspect of the production, we install pulse bag equipment for dust removal, treatment facilities of volatile organic compounds (VOCs) waste gas, treatment equipment of VOCs emission and online monitoring system in each workshop, upgrade and transform waste gas treatment facilities, and select materials with low organic solvent and water-based solvent content to reduce the generation of pollutants at the source.

In the aspect of the staff, we provide protective equipment such as gas masks, and carry out VOC waste gas emergency plan drills and dust removal system emergency plan drills in some workshops, in order to ensure the safety and health of employees.

2023 年聯塑廢氣處理設備升級關鍵進展 Key progress of waste gas treatment equipment upgrades of Lesso in 2023	
廣東聯塑 Guangdong Lesso	全面加裝 VOC 廢氣處置裝置，其中給水管車間 3 套，排水車間 2 套，槽管車間 4 套，金屬配件車間 1 套，配件車間 1 套。 VOC waste gas disposal devices were installed, including 3 sets in the feed pipe workshop, 2 sets in the drainage workshop, 4 sets in the channel pipe workshop, 1 set in the metal fittings workshop and 1 set in the fittings workshop.
陝西聯塑 Shaanxi Lesso	PVC 新車間新增 2 台廢氣處理設備，加裝後 VOC 從原有 4.2mg/m ³ 下降到 2.96mg/m ³ 。 Two sets of new waste gas treatment equipment were added to the new PVC workshop, and the VOC was reduced from 4.2 mg/m ³ to 2.96 mg/m ³ after installation.
四川聯塑 Sichuan Lesso	投資約 241 萬元對環保 VOCs 設施進行升級改造，2023 年實現減排非甲烷總烴污染物 4.3 噸。 Approximately RMB 2.41 million was invested to upgrade environmental VOCs facilities, and 4.3 tonnes of non-methane total hydrocarbon pollutants were reduced in 2023.
烏魯木齊聯塑 Urumqi Lesso	投資約 220 萬元對環保 VOCs 設施進行升級改造，將三台 UV 等離子光氧催化設施更換為催化燃燒設施，處理效率提升至 90% 以上，2023 年減排非甲烷總烴污染物近 59 噸。 Approximately RMB 2.2 million was invested to upgrade environmental VOCs facilities. Three UV plasma photooxygen catalytic facilities were replaced with catalytic combustion facilities. The treatment efficiency was improved to more than 90%, and the non-methane total hydrocarbon pollutants were reduced by nearly 59 tonnes in 2023.

2021-2023 年廢氣排放量

Waste Gas Emissions from 2021 to 2023

年度 Year	NOx/ 千克 NOx/kg	SOx/ 千克 SOx/kg
2021	425.18	2.12
2022	399.09	1.99
2023	735.33	3.68

關鍵績效
KPIs

- 顆粒物排放量 **76.73** 噸
Particulate matter emissions: **76.73** tonnes
- VOC 排放量 **1,016.07** 噸
VOC emissions: **1,016.07** tonnes

廢棄物處理

Waste Treatment

我們嚴格遵照《中華人民共和國固體廢棄物污染環境防治法》等法律法規要求，區分有害廢棄物、無害廢棄物管理方式，由相應職能部門分類處理。

We differentiate between hazardous and non-hazardous waste management methods in strict compliance with the requirements of the *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste* and other laws and regulations, and have them classified and handled by the corresponding functional departments.

改良生產工藝
Improving
production
process

我們積極推進源頭減量、末端無害、循環利用等措施，在產品開發中融入資源循環設計理念，遵循「減量化、再利用、再循環」原則，創新模具改造，選用符合國家行業標準的可循環利用材料，推廣使用環保的水性塗料，進行激光噴碼改造，降低廢棄物對環境的影響。

We positively push forward measures such as source reduction, harmless treatment and recycling; we integrate the concept of resource recycling design into the product development following the principle of "reduction, reuse and recycling", innovate the mold transformation, select recyclable materials that meet the national industry standards, promote the use of environmentally friendly water-based coatings, and carry out laser coding transformation, so as to reduce the impact of waste on the environment.

探索危廢處置
Exploring
hazardous
waste
disposal

本集團環保板塊積極探索危廢處置技術，從廢酸廢渣中提取高品位鋁、鐵資源，研發出將鋁灰、廢酸等材料轉化為淨水劑的處理工藝，形成節能低碳的廢酸廢渣資源化處置與循環利用工藝鏈，實現危廢資源化利用。

The Group actively explores hazardous waste disposal technologies in the environmental protection sector. We have succeeded in extracting high-grade aluminum and iron resources from waste acid and waste residue, and developed a treatment process that turns materials including aluminum ash and waste acid into water purification agents, forming an energy-saving and low-carbon process chain for reclamation and recycling of waste acid and waste residue, to recycle hazardous waste.

關鍵績效
KPIs

- 產生有害廢棄物 **5,813** 噸（2022 年：7,203 噸）
5,813 tonnes of hazardous waste produced (2022: 7,203 tonnes)
- 合規處置有害廢棄物 **5,114** 噸（2022 年：7,179 噸）
5,114 tonnes of compliant disposal of hazardous waste (2022: 7,179 tonnes)
- 有害廢棄物排放密度 **0.19** 噸 / 百萬人民幣營收
Hazardous waste intensity: **0.19** tonnes / revenue per million RMB

有害廢棄物處理方式
Methods of Hazardous Waste Treatment

有害廢棄物種類 Hazardous waste type	處理方式 Treatment method
廢礦物油類 Used mineral oil	按規存放於危廢倉庫中並粘貼相應標籤，設置台帳並進行現場管理 It is stored in hazardous waste warehouse according to regulations, marked with corresponding labels. Accounts are set up for on-site management.
廢乳化液 Used emulsion	
油墨、塗料廢物 Printer ink and paint	
含汞廢物 Mercury-containing waste	交由第三方有資質公司進行專業無害化處理，主動接受第三方監測 Hazardous waste is handed to a qualified third party for harmless disposal. We actively accept third-party monitoring.
廢酸、化驗室的廢液 Waste acid, waste liquid from laboratories	
廢鹵化有機溶劑 Waste halogenated organic solvents	
廢有機溶劑 Waste organic solvents	
化學品空瓶、空罐 Empty chemical containers, empty cans	

無害廢棄物處理方式
Methods of Non-hazardous Waste Treatment

無害廢棄物種類 Non-hazardous waste type	處理方式 Treatment method
銅沙 Copper scraps	可回收部分 100% 破碎回用，如不能回用則對廢品進行拆解後，嚴格分類處理金屬等可回收材料，交由材料供應部門委託交由下游處置商 The recyclable part is 100% crushed and recycled . If it cannot be recycled, the waste is dismantled and strictly resorted. Recyclable materials such as metals are entrusted to downstream disposers by the materials supply department.
銅類複合帶邊角料餘料 Leftover copper composite strips	
廢鐵、鋁材 Iron scraps, waste aluminium materials	
廢膠帶、紙皮、廢木頭、包裝物 Used tape feeder, cardboard, waste wood, packing materials	
錫渣、電子元件管腳和導線等 Tin dross, pins and wires from electronic components	分類儲存，用袋裝於垃圾桶並加蓋，定期消毒，送交環保公司處理 Stored by classification, packed using garbage bags and put into garbage cans with covers, sterilized regularly and delivered to environmental protection companies.
廢塑料、不合格品塑料 Waste plastics, plastics contained in non-conforming products	
生活垃圾、廚餘垃圾 Domestic waste, kitchen garbage	

2021-2023 塑料回收量
Plastic Recycled Volume from 2021 to 2023

年度 Year	塑料 / 噸 Plastic/tonne
2021	176,008
2022	156,896
2023	160,441

關鍵績效
KPIs

- 產生無害廢棄物 **224,033** 噸（2022 年：219,905 噸）
224,033 tonnes of non-hazardous waste produced (2022: 219,905 tonnes)
- 合規處置無害廢棄物 **224,052** 噸（2022 年：219,799 噸）
224,052 tonnes of compliant disposal of non-hazardous waste (2022: 219,799 tonnes)
- 無害廢棄物排放密度 **7.26** 噸 / 百萬人民幣營收
Non-hazardous waste intensity: **7.26** tonnes / revenue per million RMB



噪音控制
Noise Control

我們嚴格遵照《工業企業廠界環境噪音排放標準》，制定《噪聲污染管理規定》，區分廠界噪音及工位噪音，控制噪音源頭及傳播路徑。同時，我們設置噪音控制標準，定期監測與改善噪音，為工區人員提供保護措施，為員工和社區居民創造良好生活生產環境。

We have formulated our *Regulations on Noise Pollution Management* in accordance with the relevant requirements of the *Standards for Environmental Noise Emission in Industrial Enterprises*. We distinguish factory noise and work-station noise, control noise source and transmission path. Meanwhile, we set noise control standards, and regularly carry out noise monitoring and improvement, providing protection measures for employees in the work area, and creating a healthy living and production environment for employees and community residents.

噪音管理
Noise Management

控制噪音源頭 Controlling noise at source	控制噪音傳播路徑 Controlling noise transmission paths	設置噪音控制標準 Setting noise control standards
• 及時更換噪音大的老舊設備 Replacement of dilapidated and noisy equipment • 為破碎輸送系統管道加裝隔音棉，取消冷料輸送流程中的震動塔 Application of cotton insulation in main channels of crushing and conveying systems, elimination of the vibration tower in the cold material conveying process • 對管件自動包裝機、破碎房、車間風機房進行隔音改造 Noise insulation and transformationtests were performed on automatic pipe packing machines, crushing rooms and fan rooms of the workshop • 監測設備振動值並及時處理 Monitoring equipment vibration values and addressing them in a timely manner • 在廠區及辦公區域範圍內行駛車輛禁止響號 No honking when driving in the factory and office area	• 採用短距輸送設備擴大員工與噪音源距離 Short-distance transmission equipment is used to increase the distance between employees and noise sources • 對風機房、壓縮機房等噪音大的區域圍蔽隔音 Enclose and insulate large areas such as fan rooms and compressor rooms • 對破碎車間採取密閉措施 Take sealing measures for crushing workshops • 設置破碎區輸送降噪系統、衛床設備隔音防護裝置 Install noise reduction systems in crushing areas and noise protection devices in punch machines • 對自動化機改設備增加隔音系統 Add sound insulation systems to automatic technological transformation equipment • 拉遠設備區與員工工作區距離 Expand the distance between equipment areas and employee work areas • 為員工配備合規的耳罩、耳塞等勞保用品並指導員工合理佩戴 Employees are provided with earmuffs, earplugs, and other labor protection supplies to protect them from noise pollution	• 工位噪音：≤ 85dB(A) Work station noise: ≤ 85dB(A) • 廠界噪音：白天≤ 65dB(A)； 夜間≤ 55 dB(A) Factory noise: ≤ 65dB(A) in daytime; ≤ 55dB(A) at night • 當工位噪音≥ 110dB(A)，應立即停止生產進行整改 If the workstation noise ≥ 110 dB(A), stop production immediately for remediation

中國聯塑車間減噪改造案例
Workshop noise reduction and transformation of China Lesso

配件車間對原有中央供料系統的羅茨風機真空泵進行升級改造為「永磁雙級無油節能真空泵」，改造後噪音平均下降約 10dB，噪音下降比例約 8.69%。

湧口車間進行 PVC 和 PPR 撕碎 / 破碎區隔音房改造，改造後噪音平均下降約 30dB，噪音下降比例約 27.27%。

鶴山破碎車間為自動破碎生產線加裝物理噪音隔離，有效降低工作環境噪音約 30dB。

In the parts workshop, the Roots fan vacuum pump of the original central feeding system was upgraded to "permanent magnet double-stage oil-free energy-saving vacuum pump". After the transformation, the average noise was reduced by about 10dB, and the noise reduction ratio was about 8.69%.

The sound insulation room of PVC and PPR shredding/crushing area was reformed in the Yongkou workshop. The average noise was reduced by about 30dB after the transformation, and the noise reduction ratio was about 27.27%.

In Heshan crushing workshop, physical noise isolation was installed for the automatic crushing production line, effectively reducing the working environment noise by about 30dB.

生物多樣性保護
Protecting Biodiversity

我們將生物多樣性保護的理念融入日常經營中，以自身業務技術實力，保護森林、海洋生態環境，探索生物資源的可持續利用，促進人與自然和諧共生。

We integrate the concept of biodiversity protection into our daily operations, protect forest and marine ecosystems with our own business and technical strengths, and explore the sustainable use of biological resources, in order to promote the harmonious coexistence of man and nature.

領尚構建速生材製造高品質層積複合材技術體系
Lesso built the technical system for manufacturing high-quality laminated composite materials from fast-growing wood

我國木材供需矛盾突出，且由於人工速生林木材實木化利用存在徑級小、易開裂、乾燥難等技術難題，人工林木材僅有2.5%可實木化利用。為解決這一痛點，領尚積累人工林速生材製造高品質層積複合材的技術體系，推出「LESSO領尚木門」，創新低質速生材層積複合平行/正交膠合木等系列產品，解決了低質速生材乾燥難、熱穩定性差、尺寸穩定性差等相應木門穩定性的技術瓶頸。

The contradiction between wood supply and demand is prominent in China, and due to the technical problems in solid wood utilization of fast-growing plantation woods such as diameter limit, easy cracking and drying difficulty, only 2.5% of plantation woods can be used as solid wood. In order to solve this problem, Lesso has developed a technical system for manufacturing high-quality laminated composite lumber from fast-growing lumber in plantation forests, and launched the "Lesso wooden door", and innovative laminated composite lumber/orthogonal glued laminated series products made of inferiority fast-growing wood, which solved the technical bottleneck concerning stability of wooden door made of inferiority fast-growing wood with drying difficulty, poor thermal stability and poor dimensional stability.

自主研發可降解海洋養殖網箱，助力打造「藍色糧倉」 Self-developed biodegradable marine aquaculture cages to help build a "blue granary"

在海洋養殖領域，中國聯塑自主研發設計的海洋養殖網箱，結合先進的生物降解聚酯-聚氨酯房屋技術，不產生海洋微塑料和污染物，實現 100% 回收利用。同時，中國聯塑大口徑 PE 給水管道符合養殖尾水排放運輸標準，具有施工成本低、柔韌性好、耐腐蝕性強、抗衝擊性能優良等特點，減少對海洋的二次污染，被應用於海南省瓊海市玉帶灘沿線養殖尾水收集管理中。我們利用養殖網箱和給水管道兩款優質產品，最大限度減少對海洋的污染，保護海洋生物多樣性與生態環境，為國家建設「藍色糧倉」貢獻聯塑之力。

In the field of marine aquaculture, the marine aquaculture cages independently developed and designed by China Lesso does not produce marine microplastics and pollutants, and are recyclable, thanks to its advanced biodegradable polyester-polyurethane housing technology. The large-diameter PE water supply piping of China Lesso, which meets the aquaculture tail water discharge and transportation standards, features low construction cost, good flexibility, strong corrosion resistance, excellent impact resistance, and reduces the secondary pollution to the ocean, has been applied to the collection and management of aquaculture tail water along the Yudai Beach in Qionghai City, Hainan Province. By making use of two high-quality products, namely aquaculture cages and water supply pipes, we aim to minimize the pollution to the sea, protect the marine biodiversity and ecological environment, and contribute to the construction of the "blue granary" for the country.



大口徑 PE 給水管道
Large Diameter PE Water Supply Pipe

應對氣候變化

Tackling Climate Change

製造業節能減碳轉型深刻影響全球綠色低碳發展進程。中國聯塑作為管道行業領軍者，時刻關注氣候風險的有效管理與氣候機遇的有效識別，持續改進管理流程、增強知識儲備、迭代分析結果、優化應對方案，爭做行業內氣候變化管理的先行者。

The energy-saving and carbon-reducing transformation of the manufacturing industry has a profound impact on the global green and low-carbon development process. Being at the forefront of the piping industry, China Lesso is always keeping a close eye on the effective management of climate-related risks and effective identification of climate-related opportunities. The Group consistently enhances its management processes, expands its knowledge base, conducts iterative analyses of outcomes, and refines its response strategies. Through these efforts, China Lesso aims to set a benchmark in climate change management within the industry.

管理氣候風險

Managing Climate-related Risk

隨著氣候變化影響日益顯著，積極應對氣候變化，構建人與自然生命共同體，推動形成人與自然和諧共生新格局成為全球新的關注點，管理氣候風險有利於本集團提高氣候適應力、減少氣候變化引起的損失。

As the impact of climate change is increasingly significant, an active respond to climate change, building a community of life between man and nature, and promoting the formation of a new pattern of harmonious symbiosis between man and nature become a global new focus. Consequently, managing climate-related risks is instrumental in boosting the Group's resilience to climate impacts and mitigating losses attributed to climate change.

我們基於聯交所《氣候信息披露指引》，結合本集團發展現狀，持續更新氣候變化風險與機遇，評估氣候風險與機遇財務影響，不斷提升本集團氣候適應力與氣候風險管理能力。

In alignment with the *Guidance on Climate Disclosures* of the Stock Exchange and mindful of the current development condition of our Group, we have been continuously updating the risks and opportunities associated with climate change, and evaluating their financial implications, thereby persistently bolstering the Group's resilience to climate-related challenges while enhancing our capabilities in managing climate-related risks.

治理

Governance

本集團氣候相關事宜由本集團行政總裁直接管理，董事會在可持續發展委員會的支持下，每年審議氣候相關議題及氣候相關風險和機遇，把關減緩氣候風險的戰略決策。由各業務職能高級管理層組成的可持續發展委員會及其下設的可持續發展辦公室負責氣候風險的識別及評估，並根據董事會決策制定落實氣候變化相關的政策、行動和績效表現，實時監控相關工作目標管理進度並定期向董事會匯報。

The Group's climate-related affairs are under the direct purview of the chief executive of the Group. Supported by the Sustainable Development Committee, the Board annually reviews climate-related topics, risks, and opportunities and reviews strategic decisions to mitigate climate-related risks. The Sustainable Development Committee, consisting of the senior management of all business functions, and the Sustainable Development Office under it, is in charge of the identification and assessment of climate-related risk, formulates and implements climate-related policies, actions and manages performance in accordance with the decisions of the Board, and monitors the progress of relevant work objectives in real time, and regularly reports such progress to the Board.

此外，我們每年組織面向董事會、高級管理人員及各部門可持續發展相關人員的 ESG 及氣候變化專題培訓。本年度，我們協同外部專家與諮詢機構開展了「ESG 的實踐與趨勢」「ESG 評級提升工作坊」「ESG 管理體系高層培訓」等相關培訓，促進管理人員掌握 ESG 及氣候變化相關知識與技能，優化相關決策。

In addition, we arrange annual training sessions on ESG and climate change tailored for the Board, senior management, and personnel engaged in sustainability across different departments. Throughout the year, we partnered with external experts and consulting agencies to conduct specialized training sessions, including "ESG Practice and Trends", "ESG Rating Improvement Workshop", and "Training on ESG Management System for management", aiming to enhance the management's proficiency in ESG and climate change-related matters and refine decision-making processes in these areas.



ESG 工作的實踐與趨勢主題培訓
Training on ESG Practices and Trends



ESG 評級提升工作坊
ESG Rating Improvement Workshop

戰略

Strategy

氣候變化對業務領域多樣、營運地點多元的中國聯塑可能產生重大影響。隨著業務領域的不斷拓展，本年度，我們將氣候情境分析的範圍拓展至本集團所有業務領域及上下游關鍵價值鏈環節，基於 2022 年結果，結合聯交所《氣候披露指引》，對應梳理 2 項潛在氣候實體風險、7 項潛在氣候轉型風險及 4 項關鍵氣候機遇。

Climate change may exert a major influence on the operations of China Lesso covering diverse business areas and operating locations. As our business areas continue to grow, we've broadened our climate scenario analysis this year to encompass all sectors of the Group's operations and key value chains upstream and downstream. Building upon the outcomes of 2022 and adhering to the *Guideline on Climate Disclosures* of the Stock Exchange, we've identified 2 potential climate-related physical risks, 7 potential climate-related transition risks, and 4 key climate-related opportunities.

基於 2022 年結果，結合聯交所《氣候披露指引》，對應梳理
Building upon the outcomes of 2022 and adhering to the *Guideline on Climate Disclosures* of the Stock Exchange, we've identified

2 項

潛在氣候實體風險

potential climate-related physical risks

7 項

潛在氣候轉型風險

potential climate-related transition risks

4 項

關鍵氣候機遇

key climate-related opportunities

2023 年分析採用的氣候情境描述

Description of the Climate Scenarios Used in Analysis of 2023

情境名稱 Scenario	路徑描述 Path description	參考情境 Reference scenario	相關氣候風險 Climate-related risks	相關氣候機遇 Climate-related opportunities
低碳空間情境 (1.5°C x 城市分散情境) Low-carbon scenarios (1.5°C x scattered urban scenarios)	- 全球開始採取雄心勃勃、協調一致的全球氣候行動，在 2100 年全球溫升控制在 1.5°C 以下 The whole world starts to take an ambitious and concerted global climate action to control the global temperature increase within 1.5°C by 2100. - 中國城市發展模式向著相對均衡的方向發展，一、二、三線城市均建設符合城市特徵的生產和生活空間，城市人口密度保持合理水平，二、三線城市出現較多非公寓 / 高層居住需求 China's urban development model is developing to become relatively balanced. The production and living space in tier-one, tier-two, and tier-three cities meet urban characteristics. The urban population density is maintained at a reasonable level. We see increasing demand for non-apartment/high-rise residences in tier-two and tier-three cities. - 經濟：低碳的生產和生活空間建設成為全球共識，並對於經濟增長產生持續驅動 Economy: Low-carbon production and construction of living space become a global consensus and continue to drive economic growth. - 技術：清潔能源、綠色建築、新型材料等多種突破性技術獲得投資和政策偏向，傳統技術出現提前退役，新能源價格在 2030 年前後出現明顯下降 Technology: An array of technological breakthroughs, including clean energy, green building, and innovative materials, gain investment and policy backing. Traditional technologies are being phased out ahead of schedule, and the cost of new energy is expected to experience a significant decline around 2030. - 市場：消費者和利益相關者的偏好朝著建立零排放循環經濟的方向發展，對於綠色建築相關產品需求和偏好增強 Market: Consumers and stakeholders are shifting towards a zero-emission circular economy, driving heightened demand and preference for products related to green building.	IPCC - SSP1-1.9 ⁴ NGFS - Net Zero 2050 ⁵	- 強化排放量披露義務 Enhanced emissions reporting obligations - 提高溫室氣體排放定價 Increased pricing of greenhouse gas emissions - 加強現有產品和服務的要求及監管 Strengthen the requirements and supervision of the current products and services - 推動能源綠色低碳轉型 Promote green and low-carbon energy transformation - 客戶行為變化 Changes in customer behavior - 原料成本波動 Fluctuations in raw material costs - 利益相關方關注 Stakeholder concerns	- 開發和 / 或增加低碳商品和服務 Develop and/or increase low-carbon products and services - 採用更高效率的運輸方式 Take more efficient means of transportation - 回收再利用 Recycle and reuse - 減少用水量和耗水量 Reduce water use and consumption

⁴ 共享社會經濟路徑 (SSPs) 是政府間氣候變化專門委員會 (IPCC) 構建的全球社會經濟發展情境。SSP1 -1.9、2.6、4.5 分別為三項不同的社會經濟發展情境，其對應的溫升幅度分別在 1.4°C、1.7°C、2.7°C 左右。

⁴ The Shared Socio-economic Pathways (SSPs) are scenarios of global socioeconomic development created by the Intergovernmental Panel on Climate Change (IPCC). SSP1-1.9, 2.6, and 4.5 refer to three scenarios of socioeconomic development, corresponding to the temperature increases of around 1.4°C, 1.7°C, and 2.7°C, respectively.

⁵ 央行與監管機構綠色金融網絡發佈了一套六種情境，考慮了過渡風險、實體風險及氣候政策的實施。其中 Net Zero 2050、Delayed Transition、Nationally Determined Contributions (NDCs) 分別為對應 1.5°C 的有序路徑、對應 2°C 的紛亂路徑和 3°C 左右的熱房世界路徑。

⁵ The Network of Central Banks and Supervisors for Greening the Financial System (NGFS) issued a set of six different scenarios, by considering transition and physical risks and the implementation of climate policies. Specifically, Net Zero 2050, Delayed Transition, and Nationally Determined Contributions (NDCs) correspond to the orderly path of limiting global warming to within 1.5°C, the disorderly path of limiting global warming to within 2°C, and the "hothouse earth" path of limiting global warming to within about 3°C, respectively.

情境名稱 Scenario	路徑描述 Path description	參考情境 Reference scenario	相關氣候風險 Climate-related risks	相關氣候機遇 Climate-related opportunities
綠色城市情境 (2°C x 城市集中情境) Green cities (2°C x centralized urban scenarios)	- 全球開始逐步採取步調一致的全球氣候行動，在 2100 年全球溫升控制在 2°C 以下 The whole world starts to take a concerted global climate action to limit global temperature to increase within 2°C in 2100. - 中國城市發展模式向著相對集中的方向發展，一線城市及超一線城市的人口密度不斷增長至較高水平 China's urban development model is relatively concentrated. The population density of tier-one and tier one+ cities have been rising to a fairly high level. 二、三線城市出現人口明顯流出，居住需求出現明顯放緩，房屋以改造和改善需求為主 Population outflows obviously in tier-two and tier-three cities. The demand for purchasing a new house in such cities has slowed markedly, and the main demand is for home renovation and improvement. - 經濟：低碳的生產和生活空間建設成為全球共識，並對於經濟增長產生持續驅動 Economy: Low-carbon production and construction of living space become a global consensus and continue to drive economic growth. - 技術：清潔能源、綠色建築、新型材料等多種突破性技術獲得投資和政策偏向，傳統技術出現提前退役，新能源價格在 2030 年前後出現明顯下降 Technology: An array of technological breakthroughs, including clean energy, green building, and innovative materials, gain investment and policy backing. Traditional technologies are being phased out ahead of schedule, and the cost of new energy is expected to experience a significant decline around 2030. - 市場：消費者和利益相關者的偏好朝著建立零排放循環經濟的方向發展，對於綠色建築相關產品需求和偏好增強，但集中於高層 / 商業體應用，需求增長有限 Market: Consumers and stakeholders are shifting towards a zero-emission circular economy, driving heightened demand and preference for products related to green building, mainly high-rise/commercial buildings. But demand growth is limited.	IPCC – SSP1-2.6 NGFS - Delayed Transition	- 強化排放量披露義務 Enhanced emissions reporting obligations - 提高溫室氣體排放定價 Increased pricing of greenhouse gas emissions - 加強現有產品和服務的要求及監管 Strengthen the requirements and supervision of the current products and services - 推動能源綠色低碳轉型 Promote green and low-carbon energy transformation - 原料成本波動 Fluctuations in raw material costs - 利益相關方關注 Stakeholder concerns	- 開發和 / 或增加低碳商品和服務 Develop and/ or increase low-carbon products and services - 採用更高效率的運輸方式 Take more efficient means of transportation - 回收再利用 Recycle and reuse - 減少用水量和耗水量 Reduce water use and consumption

情境名稱 Scenario	路徑描述 Path description	參考情境 Reference scenario	相關氣候風險 Climate-related risks	相關氣候機遇 Climate-related opportunities
棕色空間情境 (3°C x 城市分散情境) Brown space (3°C x scattered urban scenarios)	- 全球按照目前的氣候目標和計劃開展行動，在 2100 年全球溫升控制在 3°C 以下 The whole world takes action in line with the current climate goals and plans and intends to limit global temperature to increase within 3°C in 2100. - 中國城市發展模式向著相對均衡的方向發展，一、二、三線城市均建設符合城市特徵的生產和生活空間，城市人口密度保持合理水平，二、三線城市出現較多非公寓 / 高層居住需求 China's urban development model is relatively balanced. The production and living space in tier-one, tier-two, and tier-three cities meet urban characteristics. The urban population density is maintained at a reasonable level. Demands for non-apartment/ high-rise residences in tier-two and tier-three cities increase. - 經濟：全球民族主義升溫導致全球合作有限、自由貿易逆轉，最終抑制經濟產出增長 Economy: The surge in global nationalism has resulted in constrained global cooperation and a reversal of free trade, ultimately impeding the growth of economic output. - 科技：投資不足限制了綠色技術研發活動和新技術的商業化，但適應氣候變化災害相關的建築技術得到重視，例如雨水回收、反光材料等 Technology: Limited investment has constrained research and development activities in green technology and the commercialization of new technologies. However, there's a notable emphasis on construction technologies addressing climate change and disaster adaptation, such as recycling of rainwater and reflective materials. - 市場：消費者和行業受經濟選擇驅動，依賴傳統選擇，未出現明顯對於綠色建築 / 綠色產品的偏好 Market: Consumer and industrial decisions are primarily driven by economic factors, resulting in a reliance on traditional choices, with no distinct preference for green buildings/products.	IPCC – SSP2-4.5 NGFS - Nation-ally Determined Contributions (NDCs)	- 颱風 Typhoons - 熱浪 Heat waves - 強化排放量披露義務 Enhanced emissions reporting obligations	- 回收再利用 Recycle and reuse - 減少用水量和耗水量 Reduce water use and consumption

情境名稱 Scenario	路徑描述 Path description	參考情境 Reference scenario	相關氣候風險 Climate-related risks	相關氣候機遇 Climate-related opportunities
城市熱島情境 (3°C x 城市集中情境) Urban heat islands (3°C x centralized urban scenarios)	全球按照目前的氣候目標和計劃開展行動，在 2100 年全球溫升控制在 3°C以下 The whole world takes action in line with the current climate goals and plans and intends to limit global temperature to increase within 3°C in 2100.	IPCC-SSP2-4.5 NGFS-Nationally Determined Contributions (NDCs)	- 颱風 Typhoons - 熱浪 Heat waves - 強化排放量披露義務 Enhanced emissions reporting obligations	- 回收再利用 Recycle and reuse - 減少用水量和耗水量 Reduce water use and consumption
	中國城市發展模式向著相對集中的方向發展，一線城市及超一線城市的人口密度不斷增長至較高水平 China's urban development model is relatively concentrated. The population density of tier-one and tier one+ cities have been rising to a fairly high level.			
	二、三線城市出現人口明顯流出，居住需求出現明顯放緩，房屋以改造和改善需求為主 Population outflows obviously in tier-two and tier-three cities. The demand for purchasing a new house in such cities has slowed markedly, and the main demand is for home renovation and improvement.			
	經濟：全球民族主義升溫導致全球合作有限、自由貿易逆轉，最終抑制經濟產出增長 Economy: The surge in global nationalism has resulted in constrained global cooperation and a reversal of free trade, ultimately impeding the growth of economic output.			
	科技：投資不足限制了綠色技術研發活動和新技術的商業化，但適應氣候變化災害相關的建築技術得到重視，例如雨水回收、反光材料等 Technology: Limited investment has constrained research and development activities in green technology and the commercialization of new technologies. However, there's a notable emphasis on construction technologies addressing climate change and disaster adaptation, such as recycling of rainwater and reflective materials.			
	市場：消費者和行業受經濟選擇驅動，依賴傳統選擇，未出現明顯對於綠色建築 / 綠色產品的偏好 Market: Consumer and industrial decisions are primarily driven by economic factors, resulting in a reliance on traditional choices, with no distinct preference for green buildings/products.			

本集團參考 SSP 5-8.5、SSP 1-2.6 及中國自主貢獻目標（NDCs）路徑，持續與各相關部門保持溝通，了解實際營運中的氣候相關影響，結合外部公開情境的各項參數及相關研究，更新 4 項氣候情境的潛在參數選擇及取值如下：

With reference to SSP 5-8.5, SSP 1-2.6 and the China's pathway of Nationally Determined Contributions ("NDCs"), the Group actively communicated with all departments to understand the climate-related impacts of actual operations, and has updated the potential parameters and values for the 4 climate scenarios based on various parameters of the externally publicized scenarios and the relevant researches, as set out below:

2023 年氣候情境關鍵參數設計
Design of the Key Parameters of Climate Scenarios in 2023

情境 Scenario		低碳空間情境 Low-carbon space (1.5°C x 城市分散情境) (1.5°C x scattered urban scenarios)	綠色城市情境 Green cities (2°C x 城市集中情境) (2°C x centralized urban scenarios)	棕色空間情境 Brown space (3°C x 城市分散情境) (3°C x scattered urban scenarios)	城市熱島情境 Urban heat islands (3°C x 城市集中情境) (3°C x centralized urban scenarios)
颱風 Typhoons	颱風造成的直接損失 Direct loss caused by typhoons	較 2015 年上升 2.8% 左右 Increase by around 2.8% from 2015	較 2015 年上升 6.7%~7.9% Increase by 6.7-7.9% from 2015	較 2015 年上升 16.7%~19.3% Increase by 16.7-19.3% from 2015	較 2015 年上升 16.7%~19.3% Increase by 16.7-19.3% from 2015
	洪水造成的直接損失 Direct loss caused by floods	較 2015 年上升 15.8% Increase by 15.8% from 2015	較 2015 年上升 26.1% ~ 31.1% Increase by 26.1-31.1% from 2015	較 2015 年上升 81.2% ~ 105% Increase by 81.2-105% from 2015	較 2015 年上升 81.2% ~ 105% Increase by 81.2-105% from 2015
熱浪 Heat waves	2100 年溫升 Temperature increased by 2100	1.3~1.4 °C	1.6~1.7 °C	2.6~2.7°C	2.6~2.7°C
	員工生產效率 Employees' production efficiency	較 2015 年降低 0.6% 左右 Decrease by around 0.6% from 2015	較 2015 年降低 1.0%~1.1% Decrease by 1.0-1.1% from 2015	較 2015 年降低 2.1%~3.3% Decrease by 2.1-3.3% from 2015	較 2015 年降低 2.1%~3.3% Decrease by 2.1-3.3% from 2015
強化排放量披露義務 Enhanced emissions reporting obligations	強制碳披露 Mandatory carbon disclosure	已實施，並且在 2025 年開始要求企業針對範圍 3 進行披露和管理。 This policy has been implemented. Additionally, enterprises are required to disclose and manage Scope 3 from 2025.	已實施，並且在 2025 年開始要求企業針對範圍 3 進行披露和管理。 This policy has been implemented. Additionally, enterprises are required to disclose and manage Scope 3 from 2025.	僅要求企業針對範圍 1&2 數據進行管理。 Enterprises are only required to manage the data of Scopes 1 and 2.	僅要求企業針對範圍 1&2 數據進行管理。 Enterprises are only required to manage the data of Scopes 1 and 2.

情境 Scenario		低碳空間情境 Low-carbon space (1.5℃ x 城市分散情境) (1.5℃ x scattered urban scenarios)	綠色城市情境 Green cities (2℃ x 城市集中情境) (2℃ x centralized urban scenarios)	棕色空間情境 Brown space (3℃ x 城市分散情境) (3℃ x scattered urban scenarios)	城市熱島情境 Urban heat islands (3℃ x 城市集中情境) (3℃ x centralized urban scenarios)
提高溫室氣體排放定價 Increased pricing of greenhouse gas emissions	碳價格 Carbon prices	2050 年，450 美元 / 噸二氧化碳左右 Around USD 450/tonne of carbon dioxide in 2050	2050 年，350~450 美元 / 噸二氧化碳左右 Around USD 350-450/tonne of carbon dioxide in 2050	2050 年，50 美元 / 噸二氧化碳左右 Around USD 50/tonne of carbon dioxide in 2050	2050 年，50 美元 / 噸二氧化碳左右 Around USD 50/tonne of carbon dioxide in 2050
	政策轉型速度 Speed of policy transformation	快速而協同的政策行動，且各國政策向低碳轉型步調相對一致。 Rapid and concerted policy actions and the relatively consistent pace of all countries' policies toward low-carbon transformation.	緩慢但具備明確政策行動，且各國政策向低碳轉型步調不一致，注重氣候公平討論。 Slow but specific policy actions, the inconsistent pace of all countries' policies toward low-carbon transformation, and emphasis on the discussion about climate equity.	緩慢且消極的政策行動，投入不足，發展中國家轉型能力不足。 Slow and negative policy actions, inadequate input of developed countries in low-carbon transformation, and inadequate capacity of developing countries in the transformation.	緩慢且消極的政策行動，投入不足，發展中國家轉型能力不足。 Slow and negative policy actions, inadequate input of developed countries in low-carbon transformation, and inadequate capacity of developing countries in the transformation.
原料成本波动 Fluctuations in raw material costs	清潔能源可得性 Clean energy availability	2030 年，多數國家實現廣泛的清潔能源覆蓋，太陽能和風能將成為電力供應主要來源。 By 2030, most countries have an extensive coverage of clean energy, and solar and wind energy will become the main electricity supply source.	2030 年起，化石能源使用出現明顯下降趨勢，新建煤電在這一時期完全停止。 From 2030, the use of fossil energy shows a significant decrease, and no more coal-fired power plant will be established.	部分發展中國家對於清潔能源投資投入不足，無法滿足廣泛的清潔能源需求。 Some developing countries have inadequate input in clean energy and fail to meet the extensive demand for clean energy.	部分發展中國家對於清潔能源投資投入不足，無法滿足廣泛的清潔能源需求。 Some developing countries have inadequate input in clean energy and fail to meet the extensive demand for clean energy.
	能源結構轉型 Transformation of energy mix	2050 年，清潔能源代替絕大部分化石燃料使用，化石燃料比例降至 20% 以下。 By 2050, clean energy will replace the majority of fossil fuel consumption, reducing the proportion of fossil fuels to less than 20%.	清潔能源佔比逐漸增加，至 2050 年化石燃料約佔 30%~40% 左右。 The share of clean energy is gradually increasing, with fossil fuels accounting for about 30% to 40% by 2050.	清潔能源比例增長較緩，至 2050 年化石燃料比例仍超過 50%。 The share of clean energy grows fairly slowly, with the share of fossil fuels still exceeding 50% by 2050.	清潔能源比例增長較緩，至 2050 年化石燃料比例仍超過 50%。 The share of clean energy grows fairly slowly, with the share of fossil fuels still exceeding 50% by 2050.
	原油需求 Crude oil demands	2050 年對原油的需求加速減少，2050 年，全球原油消耗降至約 2,000 萬桶 / 天。 In 2050, the demand for crude oil decreases at an accelerated rate, with global crude oil consumption dropping to about 20 million barrels per day (bpd) in 2050.	對原油的需求持續減少，2050 年，全球原油消耗降至約 4,000 萬桶 / 天。 The demand for crude oil continues to decline, with global crude oil consumption dropping to about 40 million bpd in 2050.	對原油的需求緩慢減少，2050 年，全球原油消耗降至約 7,500 萬桶 / 天。 The demand for crude oil decreases slowly, with global crude oil consumption falling to about 75 million bpd in 2050.	對原油的需求緩慢減少，2050 年，全球原油消耗降至約 7,500 萬桶 / 天。 The demand for crude oil decreases slowly, with global crude oil consumption falling to about 75 million bpd in 2050.

情境 Scenario		低碳空間情境 Low-carbon space (1.5℃ x 城市分散情境) (1.5℃ x scattered urban scenarios)	綠色城市情境 Green cities (2℃ x 城市集中情境) (2℃ x centralized urban scenarios)	棕色空間情境 Brown space (3℃ x 城市分散情境) (3℃ x scattered urban scenarios)	城市熱島情境 Urban heat islands (3℃ x 城市集中情境) (3℃ x centralized urban scenarios)
原料成本波动 Fluctuations in raw material costs	森林生產力 Forest productivity	僅考慮溫度影響，當氣溫升高 1.5~2℃，森林生產力增幅在 1%~10% 左右。 Considering solely the impact of temperature, a temperature rise of 1.5 to 2℃ results in a forest productivity increase of around 1% to 10%.	僅考慮溫度影響，當氣溫升高 1.5~2℃，森林生產力增幅在 1%~10% 左右。 Considering solely the impact of temperature, a temperature rise of 1.5 to 2℃ results in a forest productivity increase of around 1% to 10%.	僅考慮溫度影響，當氣溫升高 3℃以上，森林生產力將下降 10% 左右。 Considering solely the impact of temperature, a temperature rise of more than 3℃ results in a forest productivity decrease of around 10%.	僅考慮溫度影響，當氣溫升高 3℃以上，森林生產力將下降 10% 左右。 Considering solely the impact of temperature, a temperature rise of more than 3℃ results in a forest productivity decrease of around 10%.
	木材需求 Wood demands	木材作為鋁鋼等高碳材料的替代材料，及主要碳匯來源，需求量將成倍增長，其中獲得可持續認證木材比例將顯著上升。 The demand for wood, a substitute for high-carbon materials like aluminum and steel and a crucial carbon sink source, will grow exponentially, with the proportion of certified sustainable wood increasing significantly.	人口聚集推動木材消費量增長，部分國家強制要求公共建築部分使用木材建造以滿足減碳需求。 The population concentration is driving the growth of wood consumption, and in some countries, it is mandatory for public buildings to be partially constructed with wood to meet carbon reduction requirements.	基於減碳需求的木材消費較少。 Relatively low wood consumption derived from low carbon reduction.	基於減碳需求的木材消費較少。 Relatively low wood consumption derived from low carbon reduction.
	電動貨車普及率 Popularity of electric trucks	2050 年，約 90% 的貨車已採用電能 / 氫能驅動。 By 2050, approximately 90% of trucks are electricity or hydrogen driven.	2050 年，約 50% 的貨車仍採用汽油 / 柴油驅動。 By 2050, approximately 50% of trucks still use gasoline or diesel.	2050 年，大部分的貨車仍採用汽油 / 柴油驅動。 By 2050, most trucks still use gasoline or diesel.	2050 年，大部分的貨車仍採用汽油 / 柴油驅動。 By 2050, most trucks still use gasoline or diesel.
技術發展 Technological development		清潔低碳轉型相關技術迅速發展，清潔能源相關技術成本明顯降低。 Technologies related to clean and low-carbon transformation develop rapidly, and the cost of clean energy-related technologies declines sharply.	由於歷史排放累計較高，碳消除技術得到格外重視，清潔能源相關技術成本有所降低。 Given the high, cumulative emissions, carbon elimination technologies become highly valued, resulting in a reduction in the cost of clean energy-related technologies.	由於較為嚴重的氣候災害，災害適應技術得到更高的重視，需要構建適應力更強的基礎設施。 Due to severe climate disasters, disaster-adaptive technologies become highly valued, requiring the construction of more resilient infrastructures.	集中式基礎設施建設和城市尺度適應災害技術得到更高的重視，需要構建適應力更強的基礎設施。 Centralized infrastructure construction and urban scale disaster adaptation technology have received higher attention, requiring the construction of more resilient infrastructures.

情境 Scenario		低碳空間情境 Low-carbon space (1.5°C x 城市分散情境) (1.5°C x scattered urban scenarios)	綠色城市情境 Green cities (2°C x 城市集中情境) (2°C x centralized urban scenarios)	棕色空間情境 Brown space (3°C x 城市分散情境) (3°C x scattered urban scenarios)	城市熱島情境 Urban heat islands (3°C x 城市集中情境) (3°C x centralized urban scenarios)
原料成本波動 Fluctuations in raw material costs	光伏生產成本 Photovoltaic production costs	得益於光伏組件效率、電網調節能力及裝機容量的提升，全球光伏生產成本顯著下降。 The global cost of PV production has fallen significantly as a result of improvements in PV module efficiency, grid regulation, and installed capacity.	發展中國家主導全球光伏裝機容量的增長，推動光伏成本下降。 Developing countries are leading the global growth in installed PV capacity and driving down the PV cost.	光伏生產成本受技術發展影響有所下降。 The PV production cost has been reduced by technological development.	光伏生產成本受技術發展影響有所下降。 The PV production cost has been reduced by technological development.
客戶行為變化 Changes in customer behavior	綠色轉型需求 Demand for green transformation	智能基建、遠程控制系統、用戶能源生產和存儲產品的需求增長。 The demands for intelligent infrastructure, remote control systems, and user energy production and storage products increase.	商用建築太陽能、節能等技術需求增長。 The demands for technologies, such as commercial solar energy for construction purposes and energy conservation, increase.	用戶能源生產和存儲產品的需求增長。 The demand for user energy production and storage products increases.	無 None
	可持續消費需求 Demand for sustainable consumption	全球消費者對於低碳消費意願和認知增強，且由於總體轉型較為公正，具備進行低碳消費的能力。 Consumers worldwide are becoming more willing and aware of low-carbon consumption and have the capacity to make environmentally conscious choices aided by a fairer transformation overall in terms of low-carbon consumption.	儘管全球消費者對於低碳消費的認知加強，但由於轉型壓力，潛在消費能力降低。 Despite increased global consumer awareness of low-carbon consumption, potential consumption capacity has been reduced due to transformation pressures.	非必需產品需求因總體經濟衰退，向必需產品轉移。 The demand for non-essential products shifted to essential products as a result of the general economic downturn.	非必需產品需求因總體經濟衰退，向必需產品轉移。 The demand for non-essential products shifted to essential products as a result of the general economic downturn.
利益相關方關注 Stakeholder concerns	投資者要求 Requirements for investors	強化 ESG 投資要求，要求企業 ESG 評級達到行業領先水平。 Make ESG investment requirements stricter, and require the ESG ratings of corporates to be industry-leading.	強化 ESG 投資要求，要求企業 ESG 評級達到行業中上水平。 Make ESG investment requirements stricter, and require the ESG ratings of corporates to be at a medium level or above in the industry.	對企業 ESG 評級有所關注。 Be aware of the ESG ratings of corporates.	對企業 ESG 評級 有所關注。 Be aware of the ESG ratings of corporates.

氣候相關風險及機遇為本集團營運帶來全新的挑戰，在一定程度上也會影響本集團的財務表現，為響應各利益相關方對氣候相關財務信息披露的需求，2023 年度，本集團結合氣候情境關鍵參數及業務開展實際情況，針對氣候相關風險及機遇對本集團財務的潛在影響展開評估。

Climate-related risks and opportunities pose brand-new challenges to the Group's operations and can, to some extent, impact its financial performance. To meet the expectations of stakeholders for climate-related financial disclosures, the Group initiated an assessment in FY2023. This assessment considers the potential impact of climate-related risks and opportunities on the Group's finances, incorporating key parameters from climate scenarios and the actual condition of its business development.

風險識別與評估

Risk Identification and Assessment

我們基於外部趨勢研判與內部實踐評估，按照短期（2025 年）、中期（2030 年）、長期（2050 年）三個時間尺度，識別出適用於本集團發展現狀的 2 項潛在氣候實體風險、7 項潛在氣候轉型風險及 4 項關鍵氣候機遇，分析其可能對業務帶來的影響。

Based on the external trend research and internal practice assessment, we have identified 2 potential climate-related physical risks, 7 potential climate-related transition risks and 4 key climate opportunities applicable to the Group's current development in the short-term (by Year 2025), medium-term (by Year 2030), and long-term (by Year 2050) to analyze their potential impacts on the business.

2023 年氣候變化風險與機遇

Risks and Opportunities of Climate Change in 2023

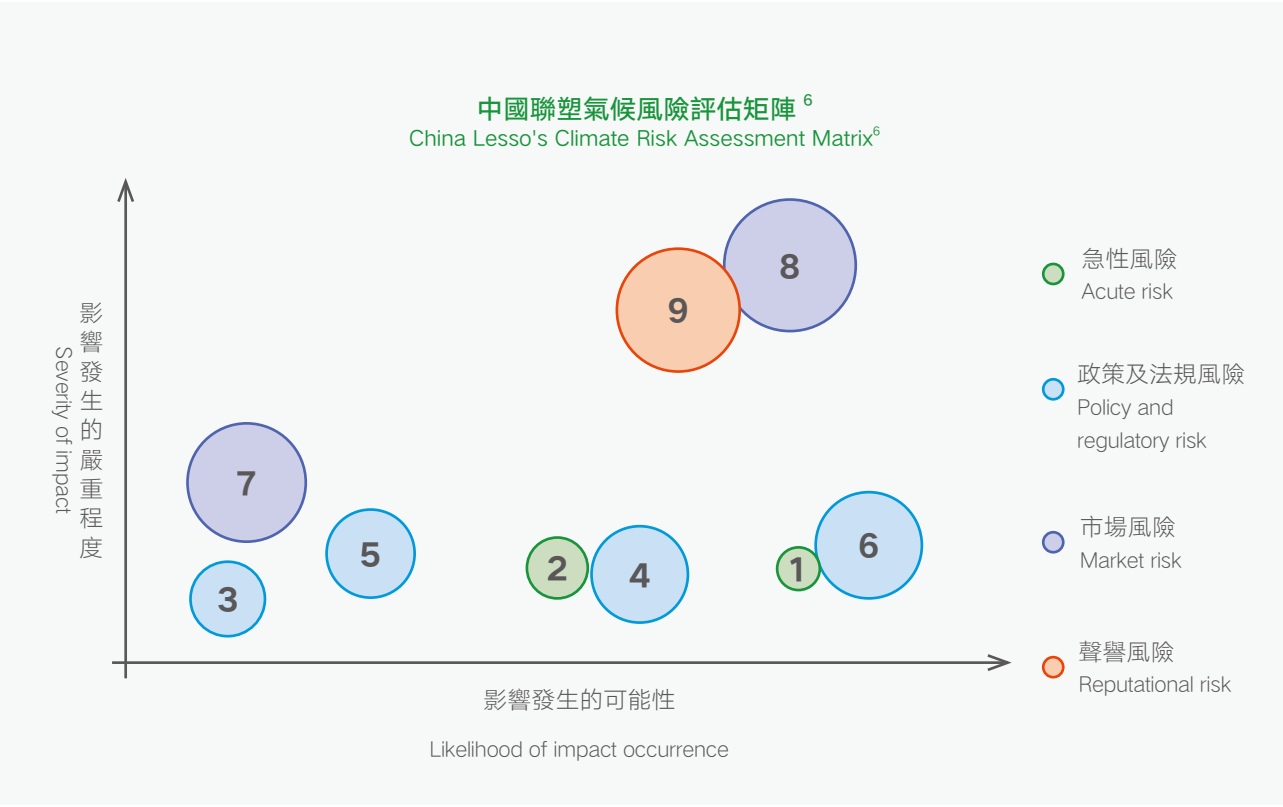
風險類型 Risk type		影響因素 Factor	業務可能受到的影響 Possible impact on business	時間 尺度 Time scale
實體 風險 Physical risk	急性 風險 Acute risk	颱風 Typhoons	根據歷史颱風資料，中國聯塑在中國境內位於廣東、海南、福建的生產基地以及海外地區位於印尼的生產基地面臨著極高和高風險的颱風受災風險。在預計未來高強度颱風將更加頻繁且強度增大的情況下，本集團可能將遭遇更多的生產營運中斷次數和總天數（包括因颱風預警導致的停工），導致更高的生產經營中斷損失。同時，因颱風引起的洪澇等次生災害，可能導致廠房、設備及資產受到破壞，運輸受阻、供應商交付中斷，而影響正常生產經營活動。 According to the historical typhoon information, China Lesso's domestic production bases in Guangdong, Hainan and Fujian provinces and overseas production bases in Indonesia are exposed to very high and high risk of typhoon damage. Given the expectation of increased frequency and intensity of high-strength typhoons in the future, the Group may experience more interruptions of production and operation and more days (including shutdown caused by typhoon warnings), resulting in greater losses from such interruptions. Meanwhile, secondary disasters such as floods caused by typhoons may result in damage to factories, equipment and assets, transportation disruptions and interruptions in supplier deliveries, which may affect normal production and operating activities.	中期 Medium-term
		熱浪 Heat waves	中國聯塑主要營運地點之一，廣東省是極端高溫熱浪天氣的高度影響地區，預計年均持續時間將不斷增強，並且可能隨著大灣區城市化進程不斷加劇。在高溫天氣持續延長的背景下，本集團生產和營運所需的通風、製冷及空氣調節設備運行用電成本增加，存放於室外的產品可能因高溫暴曬受損。同時，由於高溫天氣延長，員工高溫補貼需求增加，與氣溫相關的疾病發病率預計將持續增加，導致人力成本提升。 As one of China Lesso's major operating locations, Guangdong province is highly affected by extreme heat waves. It is anticipated that the annual duration of such heat waves will continue to increase, potentially intensifying with the urbanization process in the Greater Bay Area. Against the prolonged periods of hot weather, the operating costs of the Group's ventilation, cooling and air conditioning equipment required for production and operations have increased, and products stored outdoors may incur damage due to prolonged exposure to high temperatures. In addition, due to the prolonged high temperatures, the increase in heat subsidies for employees and the rising incidence of temperature-related illnesses lead to an increase in labor costs.	長期 Long-term

風險類型 Risk type	影響因素 Factor	業務可能受到的影響 Possible impact on business	時間 尺度 Time scale
轉型 風險 Transition risk	政策及 法規 風險 Policy and regulatory risk	強化排放量披露義務 Enhanced emissions reporting obligations 本集團目前上市所在的香港聯交所已要求所有上市企業披露溫室氣體排放量，並進一步要求披露溫室氣體範圍 3 排放數據及氣候變化應對事宜，增加信息披露的合規風險。 At present, the Stock Exchange, on which the Group is listed, has required all listed companies to disclose their greenhouse gas emissions and further requires disclosure of GHG scope 3 emissions and the responses to climate change, increasing the compliance risk with respect to information disclosure.	短期 Short-term
		提高溫室氣體排放定價 Increased pricing of greenhouse gas emissions 中國已啟動全國碳市場，包括鋼鐵、有色、建材、造紙等行業在內的八大高排放行業將陸續於「十四五」期間被納入，未來仍將擴大碳市場管轄行業範圍。歐盟、美國等國家實施的碳邊境調整機制僅覆蓋鋼鐵、水泥、化肥、鋁和發電五大方面，未來亦可能擴展到更多行業。本集團尚未納入中國碳市場管轄行業範圍，但考慮在中長期碳市場範圍可能進一步擴大，若排放超出限額的溫室氣體，將可能需要付出額外經營成本。 China has initiated a nationwide carbon market, which will gradually cover eight major high-emission industries, including steel, non-ferrous metals, building materials, and papermaking during the "14th Five-Year Plan" period. The scope of industries under the governance of the carbon market is expected to expand further in the future. The carbon border adjustment mechanisms (CBAM), currently enforced by such countries as the European Union and the United States, currently focus solely on five key industries: steel, cement, fertilizer, aluminum, and power generation. However, it may extend the coverage to include more industries in the future. The Group is not one of the first emission-controlled industries included in China's carbon market, but it is considered that the scope in the medium and long term carbon market may be further expanded. The Group will incur additional operating costs if its emission of greenhouse gases exceeds the limits.	長期 Long-term
		加強現有產品和服務的要求及監管 Strengthen the requirements and supervision of the current products and services 政府或行業協會對產品能耗標準、行業碳強度要求愈加嚴格，管控產品全生命週期碳排放量，甚至要求淘汰高碳產品。本集團的管道業務將面臨能耗限額控制，其餘高碳產品的銷售額也將面臨影響。 Governments or industry associations propose higher standards of product energy consumption and stricter requirements of the carbon intensity of the industry, control the carbon emissions during the whole lifecycle of products, and demand the phase-out of high-carbon products. The Group's piping business will be subject to energy-consumption limits, and sales of other high-carbon products will also be impacted.	長期 Long-term
		推動能源綠色低碳轉型 Promote green and low-carbon energy transformation 政府或行業協會對行業碳強度要求愈加嚴格，促進能源結構轉型的體制、機制和政策體系不斷完善。本集團未來將面臨能源結構轉型壓力。 As government or industry associations impose increasingly stringent industry carbon intensity requirements, the system, mechanisms, and policy framework for promoting energy mix transformation are continuously enhanced. The Group will face pressure for energy mix transformation in the future.	長期 Long-term
	市場 風險 Market risk	客戶行為變化 Changes in customer behavior 越來越多的企業入局環保業務，企業在低碳產品、新能源、可持續農業等領域競爭壓力增大。越來越多消費者對氣候變化議題更為重視，低碳消費品可能會擠壓傳統消費品的市場份額。例如隨著低碳綠色建築的不斷建設和發展，對綠色管材、綠色家居、環保建材的需求預計將逐漸增長。 As more companies invest in environmental protection related business, there is heightened competitive pressure in sectors such as low-carbon products, new energy, and sustainable agriculture. Moreover, consumers are increasingly concerned about climate change, potentially impacting the market share of traditional consumer goods. For instance, the continuous construction and development of low-carbon green buildings is anticipated to drive up demand for green piping materials, eco-friendly home improvement, and environmentally sustainable building materials.	中期 Medium-term

風險類型 Risk type	影響因素 Factor	業務可能受到的影響 Possible impact on business	時間 尺度 Time scale
轉型 風險 Transition risk	市場 風險 Market risk	原料成本波動 Fluctuations in raw material costs 由於環保要求日漸嚴格，對原材料及能源的低碳轉型要求越來越高，電力、金屬件、PVC 粉等原材料及能源價格隨國家政策及市場趨勢波動，促使本集團時刻關注市場變化，調整生產計劃。如果碳密集型原材料成本上升及產品生產過程中需要使用的能源價格上漲，則導致生產成本增加；如果原料成本下降，則面臨產能過剩、市場需求減少、利潤率下滑。 Due to the increasingly strict environmental requirements, the requirements for the low-carbon transformation of raw materials and energy are becoming higher and higher. The prices of raw materials and energy, such as electricity, metal parts, and PVC powder, are subject to fluctuations influenced by national policies and market trends. This necessitates the Group's close monitoring of market changes and adjustment of production plans accordingly. Increases in the costs of carbon-intensive raw materials or prices of energy used during product production processes will result in higher production costs. Conversely, decreases in raw material costs may lead to overcapacity, reduced market demand, and declining profit margins.	長期 Long-term
	聲譽 風險 Reputational risk	利益相關方關注 Stakeholder concerns 越來越多的投資者採用責任投資原則等 ESG 投資準則，高度關注企業氣候變化行動。如本集團未能積極開展脫碳轉型，可能導致投資者低估企業價值。 An increasing number of investors are adopting ESG investment guidelines such as the principles for responsible investment, placing a strong focus on corporate climate change actions. If the Group fails to proactively shift to decarbonization, this may result in investors underestimating the value of the Group.	中期 Medium-term
機遇 Opportunities	商品和 服務 Products and services	開發和 / 或增加低碳商品和服務 Develop and/ or increase low-carbon products and services 越來越多的公司將進入提供低碳商品和服務的業務領域，以滿足消費者和客戶日益增長的低碳產品或在宏觀應對氣候背景下的新產品需求，在氣候風險的適應和應對中提供如清潔能源等具備節能、減排作用的產品，以及能夠提升地區應對氣候風險能力的產品。部分低碳商品和服務可以獲得政府或投資機構的支持，如高標準農田建設、光伏發電、環保產業等均獲得政府的支持。 More and more companies will enter into the business areas of low-carbon commodities and services, and provide products favorable for energy conservation and emission reduction, such as clean energy, during the adaption and response to climate-related risk, as well as products that can help regions improve their response to climate-related risk. Some low-carbon goods and services may receive backing from governments or investment institutions. Examples include high-standard farmland construction, photovoltaic power generation, and environmental protection industries, all of which benefit from governmental support.	長期 Long-term
		採用更高效率的運輸方式 Take more efficient means of transportation 越來越多公司在營運中制定運輸結構和運輸效率的提升計劃，實施改善產品包裝、優化運輸結構、數字化信息化管理等運輸優化方式，提高產能和營運效率，減少差錯 / 事故率，提升產品品質，減少客戶投訴，增加收入。 An increasing number of companies make plans to improve transportation structure and efficiency during operations, optimize transportation by improving product packaging, transportation structure, and digital information-based management, to increase production capacity and operational efficiency, reduce error/incident rates, enhance product quality, minimize customer complaints, and boost revenue.	短期 Short-term
	資源 效率 Resource efficiency	回收再利用 Recycle and reuse 為減少資源消耗，越來越多的公司開展生產材料回收再利用工作，使用回收材料替代原材料，或是處理廢料使其重新投入生產流程，減少生產過程中對原材料的消耗；提高良品率，減少廢品回收能耗。 In order to reduce resource consumption, more and more companies recycle production materials, replace raw materials with recycled materials or turn scraps reusable in production, cut the consumption of raw materials during production, raise yield of qualified products, and reduce energy consumption during recycling.	短期 Short-term
		減少用水量 和耗水量 Reduce water supply and consumption 在未來水資源壓力逐步提升的背景下，越來越多公司開始水循環資源化治理。除此之外，公眾及政府越來越重視節水型社會建設，特別是在農業領域，改造節水灌溉區以滿足水資源的可持續利用。 As water resources pressure rises in the future, a growing number of companies will manage water resources. In addition, both the public and governments are increasingly putting a new premium on the establishment of water-saving societies, particularly in the agricultural sector, through the renovation of water-saving irrigation areas to ensure the sustainable utilization of water resources.	短期 Short-term

我們從影響發生的可能性、影響的嚴重程度及影響發生時可能導致的影響範圍三個維度，評估中國聯塑的9大氣候風險表現，形成氣候風險評估矩陣；並按未來中國聯塑開展相關活動的可能性，由高到低排序氣候機遇。

We evaluate China Lesso's performance on 9 climate risks from 3 perspectives: the likelihood of occurrence, the severity of the impact, and the potential impact range. This forms a climate risk assessment matrix. We also rank climate-related opportunities from high to low based on the likelihood of China Lesso undertaking relevant activities in the future.



氣候風險類型
Types of Climate-related Risks

對應序號 No.	風險類型 Risk type	
1	急性風險 Acute risk	颱風 Typhoons
2		熱浪 Heat waves
3	政策及法規風險 Policy and regulatory risk	提高溫室氣體排放定價 Increased pricing of greenhouse gas emissions
4		強化排放量披露義務 Enhanced emissions reporting obligations
5		加強現有產品和服務的要求及監管 Strengthen the requirements and supervision of the current products and services
6	市場風險 Market risk	推動能源綠色低碳轉型 Promote green and low-carbon energy transformation
7		客戶行為變化 Changes in customer behavior
8		原料成本波動 Fluctuations in raw material costs
9	聲譽風險 Reputational risk	利益相關方關注 Stakeholder concerns

氣候機遇排序
Ranking of Climate-related Opportunities

未來企業開展相關活動的可能性（由高到低） The likelihood of future corporate activities (from high to low)	機遇類型 Opportunity type	
1	資源效率 Resource efficiency	採用更高效率的運輸方式 Adopt more efficient modes of transportation
2	商品和服務 Products and services	開發和 / 或增加低碳商品和服務 Develop and/or increase low-carbon products and services
3	資源效率 Resource efficiency	減少用水量和耗水量 Reduce water use and consumption
4	資源效率 Resource efficiency	回收再利用 Recycle and reuse



⁶ 氣泡的大小表示風險的影響範圍，氣泡越大，該風險的影響發生時可能導致的影響範圍越大。
⁶ The size of the bubble indicates the impact scope of the risk, with larger bubbles suggesting a broader impact when the risk occurs.

指標與目標

Indicators and Targets

審核委員會下設的風險管理項目組將氣候相關風險類型納入本集團風險管理，與可持續發展委員會合作，定期討論並開展氣候風險的管理控制工作，積極應對氣候對本集團營運的影響。基於氣候風險與機遇分析結果，我們根據本集團及各業務部門的實際操作流程、現有資源和未來發展規劃，編制了一系列行動方案，旨在提升本集團對氣候相關風險與機遇的識別、評估和管理能力。此外，我們還設定了相應的指標與目標，以衡量管理氣候風險與機遇的有效性，並持續監控進度，確保本集團在應對氣候變化風險與機遇領域取得實質性進展。

The Risk Management Project Team under the Audit Committee incorporated the types of climate-related risks into the Group's risk management and cooperated with the Sustainable Development Committee to regularly discuss and conduct climate-related risk control, and proactively respond to the influences of climate on the Group's operations. Based on the analysis results of climate-related risks and opportunities, we have prepared a series of action plans according to the actual operation process, existing resources and future development plans of the Group and each business unit, aiming to improve the Group's ability to identify, assess and manage climate-related risks and opportunities. In addition, we have also set relevant indicators and targets to measure the effectiveness of managing climate risks and opportunities, and continuously monitored the progress to ensure that the Group makes substantial progress in addressing climate-related risks and opportunities.

風險類型 Risk type		影響因素 Factor	行動內容 Action content	指標名稱 Indicator name	目標 Target
實體風險 Physical risk	急性風險 Acute risk	颱風 Typhoons	選擇高地勢、基礎設施完備的地點建立生產基地。拓寬供應渠道，以降低對單一供應商的依賴風險。完善極端天氣應急預案，儲備安全防護物料，統計颱風造成的資產損失以便保險理賠。定期開展應急演練，對員工進行極端天氣應急培訓，全面提升颱風及洪澇災害的應急防範能力。 Select a location with high terrain and complete infrastructure to establish a production base. Broaden the supply channel to reduce the risk of dependence on a single supplier. Improve emergency plans for extreme weather, reserve safety protection materials, and calculate the asset loss caused by typhoons for insurance claims. Carry out emergency drills regularly, conduct emergency training of extreme weather for employees, and comprehensively improve our emergency prevention capacity for typhoons and floods.	極端天氣應對處理率 Extreme weather response rate	極端天氣應對處理率達到 100% The extreme weather response rate reaches 100%
				颱風、暴雨防護物料儲備完整度 Completeness of typhoon and rainstorm protection material reserve	100% 生產工作區域儲備防護物料 Protection materials are reserved in the production work area completely
				極端天氣應急培訓 / 演練頻率 Frequency of emergency training/ drilling for extreme weather	每年至少組織 1 次極端天氣應急培訓 / 演練 At least 1 emergency training/ drilling for extreme weather shall be organized every year

風險類型 Risk type		影響因素 Factor	行動內容 Action content	指標名稱 Indicator name	目標 Target
實體風險 Physical risk	急性風險 Acute risk	熱浪 Heat waves	制定生產端高溫應急預案，改善工作環境，推進廠區自動化改造，同時統計高溫造成的資產損失以便保險理賠。為員工提供解暑降溫飲品等高溫福利，發放高溫補貼，並依照國家標準為高溫導致的工傷提供賠償。加快產品周轉，減少高溫下運輸和存放時間，全面提升極端高溫天氣的應對能力。 Formulate high temperature emergency plan at the production end, improve the working environment, promote the automatic renovation of the factory, and calculate the asset loss caused by the high temperature for insurance claims. Provide high temperature benefits such as cooling drinks for employees, give high-temperature subsidies and provide compensation for work-related injuries caused by high temperature according to national standards. Accelerate the product turnover, reduce the transportation and storage time under high temperature, and comprehensively improve the ability to cope with the extreme hot weather.	各車間工序自動化環節數量 Number of process automation links in each workshop	提升各車間工序自動化環節數量 Increase the number of process automation links in each workshop
				通風、製冷等降溫設備覆蓋率 Coverage rate of ventilation, refrigeration and other cooling equipment	提升高溫地區通風、製冷等降溫設備的覆蓋率 Improve the coverage rate of ventilation, refrigeration and other cooling equipment in high temperature areas
				高溫津貼與福利價值 High-temperature subsidy and benefit value	以各地高溫天氣勞動保護法規為底線，持續提升高溫津貼與福利的標準 Continuously raise the standard of high-temperature subsidies and benefits taking the laws and regulation on labor protection under high temperature in various regions as the bottom line
轉型風險 Transition risk	政策及法規風險 Policy and regulatory risk	強化排放量披露義務 Enhanced emissions reporting obligations	建立清晰的碳管理架構，依照本集團碳管理制度，制定生產環節具體碳管理規則，設定碳排放目標和強度目標，開展碳排放盤查和氣候風險評估。擴大能源管理系統覆蓋範圍，常態化收集排放數據。組織碳管理培訓，提高員工的碳管理意識。 Establish a clear carbon management structure, develop specific carbon management rules for production links according to the carbon management system of the Group, set carbon emission targets and intensity targets, and carry out carbon emission inventory and climate-related risk assessment. Expand the coverage of the energy management system, collect emission data on a regular basis. Organize carbon management training and improve the carbon management awareness of employees.	溫室氣體範圍 1&2 Greenhouse gas scopes 1&2	針對管道板塊：到 2025 年，單位產量範圍二溫室氣體排放強度較 2021 年（253.59 千克二氧化碳 / 噸）累計下降 3% For the piping sector: By 2025, the Scope 2 GHG Emission intensity per unit of production will decrease by 3% compared with 2021 (253.59 kg CO ₂ /tonne).

風險類型 Risk type		影響因素 Factor	行動內容 Action content	指標名稱 Indicator name	目標 Target
轉型風險 Transition risk	政策及法規風險 Policy and regulatory risk	強化排放量披露義務 Enhanced emissions reporting obligations		溫室氣體範圍 3 Greenhouse gas scope 3	範圍 3 數據範圍覆蓋至 15 個類別，完整覆蓋上下游價值鏈，設定範圍 3 排放目標 The scope 3 data covers up to 15 categories, with complete coverage of upstream and downstream value chains. Set scope 3 emission targets
				能源管理系統覆蓋範圍 Energy management system coverage	提升企業能源管理系統的覆蓋範圍 Improve the coverage of the enterprise energy management system
				碳管理培訓 Carbon management training	總部每年開展 1-2 次碳管理培訓 The headquarters conducts 1-2 carbon management trainings every year
		提高溫室氣體排放定價 Increased pricing of greenhouse gas emissions	為應對未來可能擴大的全國碳市場範圍及可能擴充至更多行業的碳邊境調整機制，本集團制定全面的碳管理制度，以總部為示范，為各產線設定溫室氣體排放目標和績效要求，定期評估進展，并持續關注全球碳市場政策，確保本集團碳管理策略與全球趨勢保持一致，積極應對潛在的因超出排放限額所需支付的額外成本風險。 In response to the possible expansion of the national carbon market scope and possible expansion of carbon border adjustment mechanism to more industries in the future, the Group formulates comprehensive carbon management systems, takes the headquarters as a model, sets greenhouse gas emission targets and performance requirements for each production line, regularly evaluates the progress and continuously pays attention to the global carbon market policies, to ensure that the Group develops carbon management strategies in line with the global trend, and actively addresses the potential risks of additional costs arising from exceeding the emission limits.	碳管理制度完整性 Carbon management system integrity	发布《碳管理辦法》《碳管理監督及績效考核辦法》《碳信息披露辦法》以及《碳數據核算制度體系》 Issue the <i>Carbon Management Measures</i> , the <i>Carbon Management Supervision and Performance Appraisal Methods</i> , the <i>Carbon Information Disclosure Methods</i> and the <i>Carbon Data Accounting System</i>

風險類型 Risk type		影響因素 Factor	行動內容 Action content	指標名稱 Indicator name	目標 Target
轉型風險 Transition risk	政策及法規風險 Policy and regulatory risk	提高溫室氣體排放定價 Increased pricing of greenhouse gas emissions		碳管理目標達成情況評估 Assessment on achievement of carbon management objectives	每年至少評估 1 次碳排放管理績效目標達成情況 Assess the achievement of carbon emission management performance targets at least once a year
				碳市場政策跟蹤 Carbon market policy tracking	每季度梳理 1 次國內外政策動態 Sort out the dynamic domestic and overseas policy once a quarter
		加強現有產品和服務的要求及監管 Strengthen the requirements and supervision of the current products and services	與行業組織合作，制定管道、建材家居等領域綠色低碳產品標準，推動行業低碳轉型。提高產品的低碳表現，推動產品的低碳認證，替代高碳原料，轉換用能結構，加快技術創新，推進綠色製造。 Cooperate with industry organizations, develop green and low-carbon product standards in such fields as piping, building materials and home improvement, promote the low-carbon transformation of the industry. Improve the low-carbon performance of products, promote the low-carbon certification of products, replace high-carbon raw materials, transform the energy structure, accelerate the technological innovation and promote the green manufacturing.	能源消耗 Energy consumption	針對管道板塊：到 2025 年，單位產量總電耗強度較 2021 年上升幅度控制在 3% For the piping sector: By 2025, the increase in electricity consumption intensity per unit of production will be controlled below 3% compared with 2021.
				產品碳足跡認證 Product carbon footprint certification	提高對現有產品碳足跡認證的力度 Improve the carbon footprint certification of existing products
				金屬材料替換率 Metal material replacement rate	提高高碳金屬材料替換率 Improve the high-carbon metal material replacement rate
				光伏裝機容量 Installed photovoltaic capacity	光伏裝機容量保持增長，自有屋頂光伏應裝盡裝 The installed photovoltaic capacity keeps growing, with photovoltaics fully installed for own roofs
		推動能源綠色低碳轉型 Promote green and low-carbon energy transformation	提高可再生能源的使用比例，完善能源管理系統，聚焦於光伏儲能等關鍵產品，沉澱關鍵技術，加強綠色低碳投資，提升碳管理能力。 Increase the use ratio of renewable energy sources, improve the energy management system, focus on key products such as photovoltaic energy storage, accumulate key technologies, strengthen green and low-carbon investment and enhance the carbon management capacity.	新能源使用量及使用佔比 Use of new energy and the proportion	新能源使用佔比保持增長 The proportion of new energy use keeps growing

風險類型 Risk type		影響因素 Factor	行動內容 Action content	指標名稱 Indicator name	目標 Target
轉型風險 Transition risk	市場風險 Market risk	客戶行為變化 Changes in customer behavior	與行業協會合作，推動綠色標準的制定和宣導性政策的編制。通過市場調研和客戶行為分析，持續關注綠色消費市場的動態和消費者需求，持續優化產品、服務，以滿足消費者的綠色消費需求，並積極開發環保產品，減少產品在全生命週期中的碳排放。 Cooperate with industry associations to promote the development of green standards and advocacy policies. Through market research and customer behavior analysis, continuously pay attention to the dynamic green consumption market and consumers' demands, and continuously optimize products and services to satisfy the green consumption demands of consumers, and actively develop environmentally friendly products and reduce carbon emissions of products in the whole life cycle.	客戶綠色消費需求 Green consumption demands of customers	提升客戶綠色消費需求洞察力 Enhance the customers' insight into green consumption demands
		原料成本波動 Fluctuations in raw material costs	定期開展市場行情分析以預測材料價格，合理定價避免高採購成本。價格波動時，採用分批和按需採購策略，減輕價格波動影響。 Conduct market analysis to predict the material price, determine the price reasonably to avoid high procurement cost. In case of price fluctuation, adopt the batch and on-demand procurement strategy to mitigate the impacts of price fluctuation.	原材料價格跟蹤 Raw material price tracking	每季度整理對於關鍵原材料的市場行情分析，對市場供需、價格變化進行預測預警 Sort out the market analysis on key raw materials quarterly, make a prediction and give early warning for the market supply and demand and the price changes
	聲譽風險 Reputational risk	利益相關方關注 Stakeholder concerns	積極開展投資者交流活動，就 ESG 問題與投資人展開系統性溝通（如現場走訪等），主動回應投資者 ESG/ 氣候變化相關資訊問詢。 Actively carry out investor exchange activities, conduct systematic communication (such as on-site visits, etc.) with investors on ESG issues, and proactively respond to ESG/climate change related information inquiries of investors.	投資者溝通 Communication with investors	每季度主動針對 ESG/ 氣候變化相關事宜與投資者開展溝通 Proactively communicate with investors for ESG/ climate change related matters quarterly

風險類型 Risk type		影響因素 Factor	行動內容 Action content	指標名稱 Indicator name	目標 Target
機遇 Opportunities	商品和服務 Products and services	開發和 / 或增加 低碳商品和服務 Develop and/ or increase low carbon products and services	積極開發光伏、綠色農業、輸氫管道、核電輸電管等產品，以迎合低碳經濟的政策趨勢和市場需求，向政府或投資機構申請開發低碳商品的資金支持。對有潛在環境污染風險的化學品及原材料進行替換、配方調整等。	產品研發投入總額 Total investment in the product research & development	增加對低碳相關產品的技術研發投入及佔比 Increase the investment and proportion of technology research and development for low-carbon related products
			Actively develop photovoltaics, green agriculture, hydrogen transmission piping, nuclear power transmission piping and other products to meet the policy trend and market demand of low-carbon economy, apply to governments or investment institutions for financial support to develop low-carbon commodities. Replace the chemicals and raw materials with potential environmental pollution risks, and adjust the formula.		
	資源效率 Resource efficiency	採用更高效率的運輸方式 Take more efficient means of transportation	引入電動運輸工具如電動叉車、電動托盤車等，實施車間自動化改造，優化物料進倉入庫流程。建立網絡貨運平台，統一管理全集團物流運輸數據，實現運輸高效管理。	電動化運輸工具比例 Proportion of electric transportation tools	提升室內電動化運輸工具比例 Increase the proportion of indoor electric transportation tools
				貨運管理平台覆蓋面 Coverage of the freight management platform	貨運管理平台覆蓋全集團物流數據 Coverage data of the freight management platform in the logistics of the Group
				物流運輸使用新能源車比例 Proportion of new energy vehicles used in logistics transportation	短途貨運（300km 以內）優先選用新能源車運輸 New energy vehicles are preferred for short-distance freight services (within 300km)

風險類型 Risk type		影響因素 Factor	行動內容 Action content	指標名稱 Indicator name	目標 Target
機遇 Opportunities	資源效率 Resource efficiency	回收再利用 Recycle and reuse	優化結構和工藝設計，拓寬再生料的使用範圍，建立產品回收和以舊換新機制。持續發展廢酸、鋁泥、鋁灰等資源化處置業務，在生產過程中安裝餘熱回收裝置，提高熱回收效率。 Optimize the structure and process design, broaden the using scope of recycled materials and establish product recycling and trade-in mechanisms. Continuously develop waste acid, aluminum-containing sludge, aluminum ash and other resource disposal businesses, install waste heat recovery devices in the production process to improve the heat recovery efficiency.	塑膠不合格品回收利用率 Recycling rate of unqualified plastic products	塑膠不合格品的回收利用率達 98% The recycling rate of unqualified plastic products reaches 98%
				再生料覆蓋範圍 Coverage of recycled materials	擴大再生料的使用範圍，提高各產品線中再生料的使用比例 Expand the using scope of recycled materials, and increase the proportion of recycled materials used in each product line
				餘熱回收裝置覆蓋率 Coverage of waste heat recovery devices	增加餘熱回收裝置，提升裝置覆蓋率 Increase the waste heat recovery devices and increase the coverage of such devices
				無害廢棄物產生量 Non-hazardous waste generated	針對管道板塊，到 2025 年，無害廢棄物單位產量產生量控制在 1.0 噸 / 噸以下 For the piping sector: By 2025, the non-hazardous waste generated per unit of production is controlled below 1.0 tonne/tonne
				有害廢棄物產生量 Hazardous waste generated	針對管道板塊，到 2025 年，有害廢棄物單位產量產生量控制在 1.1 千克 / 噸以下 For the piping sector: By 2025, the hazardous waste generated per unit of production is controlled below 1.1 kg/tonne.

風險類型 Risk type		影響因素 Factor	行動內容 Action content	指標名稱 Indicator name	目標 Target
機遇 Opportunities	資源效率 Resource efficiency	減少用水量和耗水量 Reduce water supply and consumption	實施雨污分流，安裝循環水利用系統和處理設施，包括冷卻水塔、濾水系統等，以減少工業用水浪費。推行綠色辦公，設置節水標誌，舉辦節水宣傳活動。積極響應國家高標準農田建設政策，配合開發及推廣農業灌溉管道方面的產品。 Conduct rainwater and sewage diversion, install recycled water utilization system and disposal devices, including cooling towers and water filtration systems to reduce industrial water waste. Promote green office, set up water-saving signs, host water-saving publicity activities. Actively respond to the national high-standard farmland construction policies, cooperate with the development and promotion of agricultural irrigation piping products	循環用水總量 Total recycled water	生產環節循環用水量達到 0.5-1 噸 / 噸 The recycled water consumption of the production link reaches 0.5-1 tonne/tonne
				耗水量 Water consumption	針對管道板塊：到 2025 年，單位產量總耗水強度控制在 1.60 噸 / 噸以下 For the piping sector: By 2025, the water consumption intensity per unit of production is controlled below 1.60 tonne/tonne.
				節水宣傳活動開展頻次 Frequency of water-saving publicity activities	每年至少開展一場關於節約用水的相關活動 Carry out the relevant water-saving activities at least once a year

減緩氣候變化
Climate Change Mitigation

為響應綠色低碳發展趨勢，我們落實能源管理體系，著力制定碳管理制度，助力科學管控能源消耗量及溫室氣體排放量。此外，我們積極拓展核電管道、輸氫管道產品，佈局新能源產業，並結合區域業務重點配合進行儲能項目、智能化管理探索。

In response to the trend of green and low-carbon development, we are implementing an energy management system and focusing on establishing a carbon management system to scientifically manage and control energy consumption and greenhouse gas emissions. Additionally, we are actively expanding our portfolio of nuclear power piping and hydrogen piping, developing the new energy industry, and collaborating in regional business focuses to explore energy storage projects and intelligent management.

完善管理體系
Improving the Management System

我們貫徹能源管理體系（ISO 50001:2018）要求，編制《能源管理手冊》，內含《目標和指標及管理方案控制程序》《能源評審控制程序》《能源基準及績效參數制定控制程序》《記錄控制程序》等全流程管理控制文件，為實施、保持、改進本集團能源管理體系提供制度規範。

We formulate the *Energy Management Manual* in accordance with the requirements of the Energy Management System (ISO 50001:2018). The manual encompasses full-process management control documents, including the *Control Procedures for Objectives, Indicators, and Management Plans*, the *Control Procedures for Energy Evaluation and Review*, the *Control Procedures for Energy Baselines and Performance Parameter Assignment*, and the *Recording Control Procedures*. These documents establish institutional norms to guide the implementation, maintenance, and enhancement of the Group's energy management system.

此外，我們編制《碳管理辦法》《碳管理監督及績效考核辦法》《碳數據核算制度體系》《碳信息披露辦法》四項政策，明確各單位職責，強化對碳排放目標及路徑實現的宣導及推行。

In addition, we have formulated four policies, including the *Measures for Carbon the Management*, the *Measures for Supervision and Performance Evaluation of Carbon Management*, the *Carbon Data Accounting System*, and the *Measures for Carbon Information Disclosure*. These policies delineate the responsibilities of each unit to promote and follow the carbon emission targets and pathways.

加強節能減排
Enhancing Energy Saving and Emission Reduction

我們遵循《中華人民共和國節約能源法》等法律法規要求，堅持全生產週期節能降耗行動。本年度我們制定車間能效改進計劃，包括生產調度調整、設備更換技改，管理系統升級三大方向舉措，在節能降本方面取得卓越成效。

In conformity with laws and regulations, such as the *Energy Conservation Law of the People's Republic of China*, we adhered to energy conservation and consumption reduction actions during the whole production cycle. This year, we developed a plan to enhance workshop energy efficiency, focusing on three key measures: adjusting production schedules, replacing equipment and improving technologies, and upgrading management systems. As a result, we have achieved remarkable success in both energy savings and cost reduction.

能效改進方向 Direction of energy efficiency improvement	改進案例 Cases of improvement
生產調度調整 Production scheduling adjustments	- 車間谷電混料改造：在谷平電時滿負荷混料供料裝滿料倉，峰電時釋放存料，以「儲料」代替「儲能」，年節省電費 270 萬元。 Workshop transformation for off-peak periods: Fill the storage bin with full-load blended feed during off-peak hours, and release the stock during peak hours, thereby replacing "energy storage" with "material storage," resulting in an annual electricity cost saving of RMB 2.7 million. - 避峰生產制度：通過管理手段，實現混料、造粒及破碎工序只在用電平峰、低谷時段開展工作，造粒生產成本節省 22.10%，破碎工序成本節省 47.88%。 Off-peak production system: Through effective management, conduct mixing, granulation, and crushing processes during off-peak electricity load periods, resulting in a cost saving of 22.10% for the granulation process and 47.88% for the crushing process.
設備更換技改 Equipment replacement and technology improvement	- 擠出機更換：在 PPR 車間採用 1 台 385 千瓦節能高速生產線替換 2 台 252 千瓦舊的擠出機；在排水車間用 1 台 80 千瓦的新擠出機替代 1 台 130 千瓦的舊擠出機，兩項更換預計年節省用電量共計 110 萬度電。 Extrusion machines replacement: In the PPR workshop, one 385 kW energy-saving high-speed production line replaces two old 252 kW extrusion machines; in the drainage workshop, one new 80 kW extrusion machine replaces one old 130 kW extrusion machine. The two replacements are expected to save a total of 1.1 million kWh of electricity annually. - 真空泵改造：在給水車間用 2 台 30 千瓦的主氣液分離器代替 33 台 5.5 千瓦的真空泵；在 PPR 車間採用 2 台 75 千瓦的永磁變頻節能真空泵代替 33 台 15 千瓦的舊真空泵，兩項改造預計年節省用電量共計 270 萬度電。 Vacuum Pump Transformation: In the water supply workshop, two 30 kW main gas-liquid separators replace 33 original 5.5 kW vacuum pumps; in the PPR workshop, two 75 kW permanent magnet variable frequency energy-saving vacuum pumps replace 33 old 15 kW vacuum pumps. The two transformations are expected to save a total of 2.7 million kWh of electricity annually. - 注塑機發熱圈改造：採用遠紅外線發熱圈代替電熱絲發熱圈，能耗比原來的電熱絲發熱圈降低 53%，本年度已完成改造注塑機 45 台，預計年節省用電量 401 萬度電。 Injection machine heater transformation: Replace electric heaters with far-infrared heaters, reducing energy consumption by 53% compared to the original electric heaters. This year, the transformation of 45 injection machines has been completed, with an expected annual electricity saving of 4.01 million kWh. - 造粒機電機改造：採用 75 千瓦的三相交流永磁電機代替原來的普通 132 千瓦的三相交流電機，改造後電機綜合能耗同比下降 10%-15% 左右。本年度已完成 10 台造粒機改造，預計年節省用電量 300 萬度電。 Pelletizer electric motor transformation: Replace the original conventional 132 kW three-phase AC motor with a 75 kW three-phase AC permanent magnet motor. After the transformation, the comprehensive energy consumption of the motor decreases by about 10% to 15% year on year. 10 pelletizers have been transformed this year, with an expected annual electricity saving of 3 million kWh.
管理系統升級 Management system upgrade	- 中央系統可視化：裝配中央系統實現數字化可視化控制，隨時獲取電力、溫度、機器數量、能源餘量的量化數據。 Central system visualization: Install a centralized system to achieve digital visual control, allowing real-time access to quantified data on electricity, temperature, machine quantity, and energy reserves. - 能源管理智能化系統：上線自主研發的能源管理智能化系統，實現能源標準化統計。 Intelligent energy management system: Launch an independently developed intelligent energy management system online to achieve standardized energy statistics. - 聚乙烯電熔管件全自動生產系統：通過工業互聯網搭建多維度綜合監測體系，實現智能監控、數據採集、預警預報、具有穩定可控、效率高、良品率高等特點。 Fully automatic production system of PE electrofusion fittings: Establish a multi-dimensional comprehensive monitoring system through the industrial Internet to enable intelligent monitoring, data collection, early warning and prediction, featuring stability, controllability, high efficiency, and a high yield rate.

2023 年，本集團積極推進內部光伏項目的建設與發展，對內部光伏設施的總投資額達到了約 4.18 億元。該筆資金主要用於擴展和升級光伏發電系統，以提高能源自給能力，減少對傳統能源的依賴，進一步實現本集團的可持續發展目標。

In 2023, the Group actively promoted the construction and development of internal photovoltaic projects, with a total investment of approximately RMB 418 million in internal photovoltaic facilities. The funds were earmarked to expand and upgrade the photovoltaic power generation system and improve energy self-sufficiency, in a bid to lessen reliance on traditional energy, and further achieve the sustainable development goals of the Group.

2021-2023 年光伏發電量及節約電費
PV Power Generation and Electricity Bills Saved from 2021 to 2023

	光伏發電量 / 萬千瓦時 PV power generation/10,000 kWh	光伏消納電量 / 萬千瓦時 PV power consumption/10,000 kWh	節省電費效益 / 千元 Electricity bills saved /RMB 1,000	相當於節約標準煤 / 噸 Equivalent to standard coal saved/Tonne
2021	3,014	2,759	3,146	3,391
2022	2,733	2,585	3,421	3,176
2023	3,567	3,225	4,268	3,963

2021-2023 年能源消耗量
Energy Consumption from 2021 to 2023

	電能 / 萬千瓦時 Electricity/10,000 kWh	柴油 / 噸 Diesel/Tonne	汽油 / 噸 Gasoline/Tonne	天然氣 / 萬立方米 Natural gas/10,000 m ³	潤滑油 / 噸 Lubricating oil/Tonne
2021	118,437.92	4,107.16	984.57	320.50	86.38
2022	118,582.94	2,809.19	948.42	300.84	82.14
2023	138,886.08	3,775.86	3,098.24 ⁷	557.06	82.15

關鍵績效 KPIs

- 能源總耗量 **1,582,576.76** 兆瓦時
Total energy consumption **1,582,576.76** MWh
- 能耗密度 **51.27** 兆瓦時 / 百萬人民幣營收
Energy consumption intensity **51.27** MWh/revenue per million RMB

2021-2023 年範疇一及二溫室氣體排放量及 2023 年溫室氣體排放密度
Scope 1 and Scope 2 GHG Emissions from 2021 to 2023 and Emission Intensity in 2023

	直接排放量 (範疇一) /TCO ₂ e Direct emissions (Scope 1)/TCO ₂ e	間接排放量 (範疇二) /TCO ₂ e Indirect emissions (Scope 2)/TCO ₂ e	合計 (範疇一 + 範疇二) /TCO ₂ e Total (Scope 1 and Scope 2)/TCO ₂ e
2021	24,014.12	698,168.07	722,182.19
2022	18,228.11	677,205.31	695,433.42 ⁸
2023	33,346.78	790,663.20	824,009.98
2023 年溫室氣體排放密度 (TCO ₂ e/ 百萬人民幣營收) Greenhouse gas emission intensity in 2023(TCO ₂ e/revenue per million RMB)	1.08	25.61	26.69

⁷ 2023 年，本集團積極調整市場策略，聯動上下游及夥伴客戶，相關商務差旅增加導致汽油消耗量增大。

⁷ In 2023, the Group actively adjusted its market strategy, collaborated with upstream and downstream, partners and customers, and the increase in related business travel led to an increase in gasoline consumption.

⁸ 由於海外電網因子更新，我們對 2022 年數據追溯調整並進行重列。

⁸ Due to updates in overseas grid emission factors, we have adjusted and reorganized the data retrospectively for the year 2022.

2023 年範疇三溫室氣體排放量
Scope 3 GHG Emissions in 2023

範疇三類別 ⁹ Categories of Scope 3 ⁹		TCO ₂ e
類別 1 Category 1	外購商品與服務 ¹⁰ Purchased goods and services ¹⁰	54,937.45
類別 5 Category 5	運營中產生的廢棄物 ¹¹ Waste generated in operations ¹¹	84,388.29
類別 7 Category 7	僱員通勤 ¹² Employee commuting ¹²	10,825.90
類別 11 Category 11	售出產品的使用 ¹³ Use of sold products ¹³	245,980.40
總計 Total		396,132.04

數據計算參考標準
Data calculation reference standard

- 汽油、柴油產生的直接溫室氣體排放參考聯交所發佈的《環境關鍵績效指標匯報指引》計算；天然氣產生的直接溫室氣體排放參考國家發展改革委發佈的《工業其他行業企業溫室氣體排放核算方法與報告指南（實行）》計算。

Direct greenhouse gas emissions from gasoline and diesel are calculated using the *Reporting Guidance on Environmental KPIs* issued by the Stock Exchange. Direct greenhouse gas emissions from natural gas are calculated using the *Guidelines for Accounting and Reporting of Greenhouse Gas Emissions from Enterprises in Other Sectors of the Industry (for Trial Implementation)* issued by the National Development and Reform Commission.

- 外購電力及外購熱力產生的間接溫室氣體排放參考聯交所發佈的《環境關鍵績效指標匯報指引》計算，電力排放因子參考國家生態環境部《關於做好 2023—2025 年發電行業企業溫室氣體排放報告管理有關工作的通知》中規定的 2022 年度全國平均排放因子。

Indirect greenhouse gas emissions from the purchased electricity and heat are calculated according to the requirement of the *Reporting Guidance on Environmental KPIs* issued by the Stock Exchange. For the emission factors of electricity, we refer to the average emission factors nationwide in 2022, stipulated in the *Notice on Properly Managing the Reporting of Greenhouse Gas Emissions by Power Generation Enterprises from 2023 to 2025*, issued by the Ministry of Ecology and Environment of the People's Republic of China.

- 汽油、柴油、天然氣等能源消耗量參考聯交所發佈的《環境關鍵績效指標匯報指引》計算。

The consumption of energy sources such as gasoline, diesel, natural gas, etc., is calculated according to the *Reporting Guidance on Environmental KPIs* issued by the Stock Exchange.

⁹ 2023 年，本集團對範疇三溫室氣體排放量展開核算，計算標準參考 GHG Protocol《溫室氣體核算體系：企業價值鏈（範圍三）核算與報告標準》。

⁹ In 2023, the Group started accounting for Scope 3 GHG emissions. The calculation standard refers to GHG Protocol: *Corporate Value Chain (Scope 3) Accounting and Reporting Standard*.

¹⁰ 類別 1：外購商品與服務來源於本集團主要生產型企業採購的重點包裝物料（紙、塑料、五金、板材）及市政供水的排放。

¹⁰ Category 1: Purchased goods and services sourced from the emissions generated by key packaging materials (paper, plastic, hardware and plates) purchased by the main production-oriented enterprises of the Group and municipal water supply.

¹¹ 類別 5：運營中產生的廢棄物來源於本集團主要生產運營過程中產生，並由第三方處理的有害廢棄物及無害廢棄物的排放。

¹¹ Category 5: Waste generated in operations sourced from the emissions generated by hazardous wastes and non-hazardous wastes generated during the main production and operation of the Group and disposed of by third parties.

¹² 類別 7：僱員通勤來源於本集團僱員往返住所與工作場所產生的排放。

¹² Category 7: Employee commuting sourced from the emissions generated by employees of the Group commuting between home and workplace.

¹³ 類別 11：售出產品的使用來源於本集團售出的主要電器類產品於使用階段的排放，統計產品類型包括淨水器、新風電器、應急標誌燈、應急照明燈、集中電源、控制器。

¹³ Category 11: Use of sold products sourced from the emissions generated by the main electrical products sold by the Group during the use, and the types of statistical products include water purifiers, fresh air appliances, emergency sign lights, emergency lights, centralized power supplies and controllers.

優化資源利用

Optimizing Resource Utilization

本集團致力於推動資源循環利用，不斷提升生產營運過程中各類資源的利用效率，在辦公中倡導綠色循環理念，培養員工日常工作中的節約意識，以實現物盡其用，減少資源浪費。

The Group is committed to promoting resource recycling, continuously improving the utilization efficiency of various resources in the process of production and operations, vigorously advocating green and circular economy in business practice, and fostering employees' awareness of thrift in their day-to-day tasks, so as to make the best use of materials and tools and reduce resource waste.

打造循環經濟

Building a Circular Economy

我們響應國家「十四五」循環經濟發展規劃，發展循環經濟，生產過程中實現水資源利用最大化，遵循可持續包裝原則，選用環保材料，優化包裝方式，構建聯塑循環經濟模式。

In alignment with the national "14th Five-Year Plan" for advancing the circular economy, the Group champions circular economy practices. This entails maximizing water resource utilization in the production process, adhering to sustainable packaging principles, utilizing environmentally friendly materials, and optimizing packaging methods. Through these efforts, we aim to establish a circular economy model for China Lesso.

循環用水

Water Recycling

我們採用最新的全封閉循環水冷卻水利用系統，配置冷卻水塔為生產過程中的冷卻用水補充蒸發水分，對冷卻水塔揮發損耗開展熱能回收，從工業生產用水到冷卻水池實現管道全封閉模式，減少生產使用過程的用水浪費。截至 2023 年底，本集團共投入冷卻水塔 233 個，循環用水措施落地後每年預計將節水大約 105,000m³。

We utilize the latest fully-enclosed circulating cooling water system, featuring a cooling water tower to compensate for water evaporation during the cooling and production process, and recover the heat energy dissipated from the cooling tower evaporation. Additionally, we reduce water waste during the production process by implementing a fully enclosed piping mode from industrial water use to the cooling water pond. As of the end of 2023, the Group has installed a total of 233 cooling towers. With the implementation of water recycling measures, it is estimated that approximately 105,000 m³ of water will be saved annually.

2023 年

233 個

本集團共投入冷卻水塔
The Group has installed a total of 233 cooling towers

包裝材料節約

Reduction of Packaging Materials

我們加大使用 PE 膜纏繞式包裝替代套袋包裝，大幅減少包裝量，提高包裝緊密度；部分管材取消套裝帶，使用裸管標識貼紙以節省耗材；包裝使用環保水性油墨，節省油墨成本；積極研發液收縮膜等新材料，測試熱收縮膜效用，同步進行包材回收再利用，實現包裝節約。

We increase the use of winding packaging with PE films to replace bag packaging to significantly reduce the amount of packaging and enhance the compactness of packaging. For some pipes, to reduce the use of consumables, wrapping bands are replaced with logo stickers on bare pipes. The Group uses environmentally friendly water-based printer ink on packaging, thereby bringing down printer ink costs. It has actively developed new materials such as shrink film, testing the effectiveness of heat shrink film while recycling packaging materials simultaneously to achieve packaging reduction.

車間嚴格按照「包裝作業指導書」要求進行包裝作業，並根據訂單情況及排產的生產計劃，訂購相關包裝材料，嚴禁浪費；在半成品周轉方面，循環利用綠色膠箱、鐵框等，減少過程浪費。

The workshops strictly follow the requirements for packaging operations in the Packaging Operation Manual. Relevant packaging materials are purchased based on the order status and production plans to avoid waste. In terms of semi-finished product turnover, green plastic boxes and iron container frames are recycled to minimize process waste.

關鍵績效 KPIs

- 耗水量 **438.08** 萬噸（2022 年：370.78 萬噸）；耗水量密度 **140** 噸 / 百萬人民幣營收
4.3808 million tonnes of water consumed (2022: 3.7078 million tonnes); intensity: **140** tonnes / revenue per million RMB
- 循環利用水資源 **574.16** 萬噸（2022 年：566.05 萬噸）
5.7416 million tonnes of water resources recycled (2022: 5.6605 million tonnes)
- 包裝材料使用量 **37,653.57** 噸；包裝材料密度 **1.22** 噸 / 百萬人民幣營收
37,653.57 tonnes of packaging materials used; intensity: **1.22** tonnes / revenue per million RMB

推廣綠色辦公

Promoting Green Offices

我們貫徹《綠色辦公行動指南》，明確綠色辦公行動責任主體，號召全體員工及夥伴提升綠色低碳和節能環保意識。

We implement the *Guidance on Green Office Practices* by clarifying the responsible entities for green office practices and calling on all employees and partners to enhance green, low-carbon, energy-saving and environmental protection awareness.

在辦公區域，我們倡導節約用電用水，安排 24 小時巡檢關閉無人辦公區照明設備，落實垃圾分類與資源回收，統一管理各辦公用品，例如常用的墨盒採用可多次沖裝碳粉的方式，減少碳粉盒的廢棄數量；紙張雙面列印，廢紙張可用於列印非正式文件，有效提高資源綜合利用效率。此外，我們使用森林管理委員會（FSC）認證紙張用於名片列印，彰顯我們對可持續森林管理和環境保護的承諾。

In office areas, we advocate for energy and water conservation by arranging 24-hour patrols to turn off lighting equipment in unoccupied office areas. We implement waste sorting and resource recycling, and carry out unified management of office supplies. For example, we adopt refillable toner cartridges as commonly used ink cartridges to reduce the amount of discarded toner cartridges. We promote double-sided printing, and wastepaper can be used for printing non-formal documents, thereby effectively enhancing resource utilization efficiency. In addition, we adopt paper with the Forest Stewardship Council (FSC) certification for the name cards to demonstrate our commitment to sustainable forest management and environmental protection.

在生產區域，我們採用工廠製造執行系統（MES），領料、入庫、核查流程均為線上操作，實現單據無紙化，提升信息傳遞效率，減少紙張浪費。2023 年，我們的紙質類耗材共計 17,819 噸。

In the production area, we adopt Manufacturing Execution Systems (MES), where processes such as material claiming, warehousing, and verification are all performed online, achieving electronic receipts and raising the efficiency of information communication in an effort to minimize paper waste. In 2023, our total volume of paper consumables was approximately 17,819 tonnes.



多元共融 打造員工之家

Building a Diversified and Inclusive Home for Employees

中國聯塑始終秉持「以人為本」的僱傭理念，關注員工待遇及福利，依賴健全的員工權益保障制度以及完善的培訓與職業發展制度，打造一支富有創造力、生命力的員工隊伍，做有溫度的企業。

China Lesso firmly adheres to the "people-oriented" employment philosophy, prioritizing the compensation and benefits of our employees. We capitalize on robust systems to protect employee rights and interests, as well as comprehensive training and career development programs, to cultivate a workforce that is vibrant and innovative. Our aim is to make China Lesso a company that truly cares for its employees.

回應聯合國可持續發展目標
Response to SDGs

3

良好
健康與福祉

3

GOOD HEALTH
AND WELL-BEING

4

優質教育

4

QUALITY
EDUCATION

5

性別平等

5

GENDER
EQUALITY

8

體面工作和
經濟增長

8

DECENT WORK AND
ECONOMIC GROWTH

10

減少不平等

10

REDUCED
INEQUALITIES

17

促進目標實現的
夥伴關係

17

PARTNERSHIPS
FOR THE GOALS

重大性議題 Major issues	核心策略 Core strategies
多元與合規僱傭 Employment diversity and compliance	● 建立各類勞工政策保障員工基本權益，支持多元化與員工溝通的權利 Establish various labor policies to protect the basic rights and interests of employees, and support the diversity and the right to communicate with employees ● 完善招聘制度，杜絕各類歧視行為 Improve the recruitment system and stamp out all forms of discriminations
員工薪酬與福利 Employee remuneration and benefits	● 制定績效考核與薪酬管理制度，為員工提供有競爭力的薪酬 Develop performance appraisal and salary management systems to provide employees with competitive salary ● 關愛困難員工，提供優惠保險和教育福利 Care for employees in difficulty, and provide them with preferential insurance and educational benefits
員工培訓與發展 Employee training and development	● 發揮聯塑雲學堂線上學習平台優勢，建立學習地圖 Bring into play the advantages of Lesso Cloud School's online learning platform and establish a learning map
職業健康與安全 Occupational health and safety	● 制定完善的職業健康安全管理體系，踐行安全檢查及演練培訓等多項管理政策，保障員工安全 Develop a comprehensive occupational health and safety management system, implement multiple management policies such as safety inspection and drill training to ensure employee safety ● 定期開展員工健康與職業病體檢，舉辦心理健康講座及諮詢活動，關愛員工身心健康 Regularly conduct employee health and occupational disease examinations, carry out mental health lectures and counselling activities, and care for the physical and mental health of employees
員工關愛與幫扶 Employee care and support	● 舉辦體育及親子活動等，派發節日禮物，豐富員工生活 Organize sports and parent-child activities, distribute holiday gifts, and enrich employee life

關鍵績效 KPIs

● 員工培訓總時長 **374,631** 小時 (2022 年：346,519 小時)，期內開發培訓課程 **80** 門 (2022 年：91 門)
The total training time for employees is **374,631** hours (2022: 346,519 hours), with **80** training courses developed during the period (2022: 91 courses)

● 社會保險覆蓋率 **99.26%** (2022 年：99.28%)
The social insurance coverage rate is **99.26%** (2022: 99.28%)

保障員工權益

Safeguarding the Rights and Interests of Employees

中國聯塑從招聘錄用、薪酬管理、績效考核、培訓發展等多角度構建員工管理體系，確保員工享有平等的工作機會、開放的工作環境及豐富的薪酬福利，營造健康、和諧、富有生命力和創造力的企業環境。

China Lesso has set down the employee management system covering recruitment, salary management, performance appraisal, and training development, ensuring that employees enjoy equal working opportunities, open working environments, and extensive compensation benefits, and creating a sound, harmonious, vibrant, and creative corporate environment.

員工多元與包容

Employee Diversity and Inclusion

員工是中國聯塑最為核心的資產，是我們長效發展的基石。多元的員工具備不同的視角和思考方式，本集團明確支持員工自由結社與集體談判的權利，聽取多元背景員工的更多想法和創新點。

As the core asset of China Lesso, employees are the cornerstone of our long-term development. Diverse employees have diversified perspectives and ways of thinking. Our group clearly supports the right of employees to free association and collective bargaining and listens to more ideas and innovative thoughts from employees with diverse backgrounds.

我們嚴格遵守《中華人民共和國勞動法》以及各營運地的勞工政策，制定《勞動關係管理辦法》及《員工手冊》，並發佈《關於包容多元化背景人才和尊重員工結社自由的聲明》及《人權聲明》，保障員工各項基本權益，遵循性別平等、機會平等和僱傭多元化原則，尊重員工結社自由。

In strict compliance with the *Labor Law of the People's Republic of China* and the labor policy of each operating location, we have formulated the *Methods for the Management of Labor Relations* and *Employees Manual*, and issued the *Statement on Inclusiveness of Talents with Diverse Background and Respect for Employee Freedom of Association and Human Rights Statement* to safeguard the basic rights and interests of employees, follow the principles of gender equality, opportunity equality, and employment diversity, and respect employee freedom of association.

本集團廣泛招聘、吸引和培養多元化人才，在做僱傭決策時公平公正地考慮不同背景的候選人，致力於建設多層次、高質量的人才梯隊。本集團認可和尊重員工參與任何合法社團或組建社團的權利，確保重大決策過程中的員工參與。我們召開職工代表大會，通過民主投票審議制度，收集員工議案。本集團工會人數 7,746 人，佔本集團員工總數的 38.02%。

The Group extensively recruits, attracts, and cultivates diverse talents, and fairly considers candidates with different backgrounds when making employment decisions, and is committed to building a multi-level and high-quality talent team. The Group recognizes and respects the right of employees to participate in any legitimate association or organize an association, ensuring their participation in the major decision-making process. We hold employee representative assemblies and collect employee proposals through democratic voting and deliberation systems. A total of 7,746 employees of the Group join labor union, accounting for 38.02% of the total employees.

關鍵績效 KPIs

- 員工總數 **20,372** 人（2022 年：17,557 人）
Total number of staff: **20,372** (2022: 17,557)
- 流失員工比率¹⁴：**25.57%**
Employee turnover¹⁴: **25.57%**

員工類別 Employee category		員工人數 Number of employee	員工比率 Employee ratio
按性別劃分 Classified by gender (單位：人) (Unit: person)	男性 Male	14,148	69.45%
	女性 Female	6,224	30.55%
按僱傭類型劃分 Classified by employment type (單位：人) (Unit: person)	全職 Full-time	20,371	99.99%
	兼職 Part-time	1	0.01%
按員工年齡劃分 Classified by employee age (單位：人) (Unit: person)	30 歲及以下 30 or below	4,903	24.07%
	31-50 歲 Aged 31-50	14,042	68.93%
	51 歲及以上 51 or above	1,427	7.00%
按學歷結構劃分 Classified by educational background structure (單位：人) (Unit: person)	高中及以下 High school or below	12,818	62.92%
	大專 Junior college	4,447	21.83%
	本科 Undergraduate	2,911	14.29%
	碩士及以上 Postgraduate or above	196	0.96%
員工類型結構 Employee hierarchy (單位：人) (Unit: person)	高層女性 Senior management (Female)	20	0.10%
	高層男性 Senior management (Male)	200	0.98%
	中層女性 Middle management (Female)	137	0.67%
	中層男性 Middle management (Male)	624	3.06%
	基層女性 Junior management (Female)	292	1.43%
	基層男性 Junior management (Male)	671	3.30%
	普通女性員工 Ordinary employees (Female)	5,777	28.36%
	普通男性員工 Ordinary employees (Male)	12,651	62.10%
員工地區結果 Employee region results (單位：人) (Unit: person)	華南 Southern China	8,644	42.43%
	華南以外地區 Other than Southern China	10,719	52.62%
	中國境外 Outside China	1,009	4.95%

流失員工分類 Classification of employee turnover		流失員工比率 ¹⁴ /Employee turnover ¹⁴
按性別劃分（單位：%） Classified by gender (Unit: %)	男性 Male	25.72%
	女性 Female	25.22%
按員工年齡劃分（單位：%） Classified by employee age (Unit: %)	30 歲及以下 30 or below	35.69%
	31-50 歲 Aged 31-50	22.12%
	51 歲及以上 51 or above	16.88%
按員工類型結構劃分（單位：%） Classified by employee hierarchy (Unit: %)	高層 Senior management	3.16%
	中層 Middle management	10.67%
	基層 Junior management	12.98%
	普通員工 Ordinary employees	26.65%
按職位劃分（單位：%） Classified by position (Unit: %)	高層行政人員 Senior executives	3.55%
	技術人員 Technical staff	21.55%
	行政管理人員 Administrative staff	16.67%
	生產人員 Production staff	28.89%
按地區劃分（單位：%） Classified by region (Unit: %)	華南 Southern China	19.89%
	華南以外地區 Other than Southern China	29.68%
	中國境外 Outside China	22.22%

廣東聯塑人力資源中心獲評「佛山市巾幗文明崗」
Guangdong Lesso Human Resources Center was awarded the title of "Foshan Women's Civilized Position"

廣東聯塑人力資源中心在職員工 31 人，其中女性職工佔比 77%，她們立足崗位，統籌人力資源管理和人才服務工作，拼搏進取，展現了新時代女性的智慧和擔當。2023 年 3 月 8 日，「三八」國際婦女節 113 週年大會暨巾幗事蹟報告會上，廣東聯塑人力資源中心獲評「佛山市巾幗文明崗」榮譽稱號。

Guangdong Lesso Human Resources Center has 31 employees, of whom 77% are female. They, based on their positions, coordinate human resource management and talent service work, strive to make progress, and demonstrate the wisdom and responsibility of women in the new era. Guangdong Lesso Human Resources Center was awarded the honorary title of "Foshan Women's Civilized Position" at the 113th Anniversary Conference of International Women's Day and Women's Achievements Report Conference on 8 March 2023.



創文明崗位，展巾幗風采
Creating Civilized Positions and Showcasing Women's Charm

本集團針對多元包容的聲明定期開展內部調查和評估，堅持履行聲明規定。鼓勵員工監督各組織落實情況，若發現違反規定的情形，員工可及時向工會、人力資源部舉報，對於所有被舉報的違規行為，本集團將認真調查並嚴肅處理。

The Group conducts internal investigations and evaluations on the statement of diversity and inclusiveness on a regular basis, and adheres to the provisions of the statement. Employees are encouraged to supervise the implementation of each organization. In case of any violations, employees can report them to the labor union and human resources department in a timely manner. For all the reported violations, the Group will investigate and handle them seriously.

¹⁴ 員工流失比率計算方式為【當年流失員工人數 / （年初 + 本期增加）】，由於供應鏈服務平台業務、部分工廠和輕資產管理公司收入佔比較低，故未納入流失率計算範圍。

¹⁴ The calculation of employee turnover is [number of employees turnover during the year/(Number of employees at the beginning of the period + Number of employees increased during the period)], the employee turnover scope excluding relatively low revenue share of the supply chain service platform business, factories and light asset management companies.

合理僱傭 Reasonable Employment

本集團遵循平等僱傭的原則，不以應聘人員與工作無關的個人特徵為標準，做出對應聘人員是否招聘依據的判斷。並在僱傭過程中保障員工基本權益，禁止職場歧視、強迫勞動等行為的發生。

The Group adheres to the principle of equal employment and does not make recruitment decisions based on personal characteristics unrelated to the job. Moreover, the basic rights and interests of employees are safeguarded during the employment to prohibit behaviors such as workplace discrimination and forced labor.

我們嚴格遵守《中華人民共和國勞動合同法》等法規政策要求，制定《招聘錄用制度》，並發表《關於杜絕歧視行為和性騷擾行為的聲明》。我們明確規定在員工招聘、僱傭、考核、晉升等方面，杜絕任何歧視行為，不得因員工性別、婚姻狀態、身體狀況、家庭背景、種族或懷孕狀態給予差別待遇，堅持同工同酬。本集團禁止任何員工在工作場所內進行任何形式的騷擾行為，尊重和保障所有員工的合法權益，堅持為員工創造平等公正的發展平台。

We strictly abide by the regulatory requirements of the *Labor Contract Law of the People's Republic of China*, and have developed the *Recruitment and Employment System* and issued the *Statement on Eliminating Discrimination and Sexual Harassment*. We clearly stipulate that any discrimination shall be eliminated in such aspects as employee recruitment, employment, appraisal, and promotion, and shall not give differential treatment to employees because of their gender, marital status, physical condition, family background, race, or pregnancy, and shall insist on equal pay for equal work. The Group prohibits any employee from engaging in any form of harassment in the workplace, respects and protects the legitimate rights and interests of all employees, and is committed to creating an equal and fair development platform for employees.

我們遵照《中華人民共和國未成年人保護法》和《禁止使用童工規定》，在《招聘錄用制度》中明確要求本集團下屬所有用人單位均不得招用不滿 16 週歲的未成年人（童工），並通過在招聘過程中核查員工身份信息的方式避免錯招童工。同時，我們在制度中明確依法禁止強制勞動行為，如發現涉嫌構成強迫勞動罪的行為，我們將立刻發起調查並將相關材料移送國家機關處理，並對直接負責的主管人員和其他直接責任人員進行處罰。2023 年，本集團及涉及的供應鏈中沒有歧視、使用童工和強制勞動的情況發生。

We comply with the *Law of the People's Republic of China on the Protection of Minors* and the *Regulations on the Prohibition of Child Labor*. In the *Recruitment and Employment System*, we explicitly require that all employers of the Group are prohibited from recruiting minors under the age of 16 (child labor), and we avoid the wrongful recruitment of child labor by verifying the identity information of employees during the recruitment process. In addition, we explicitly prohibit forced labor in the system in accordance with the law. In case of any suspected forced labor, we will investigate and pass the case to the national authority and penalize the directly responsible supervisors and other directly responsible personnel. In 2023, no discrimination or violations of child labor or forced labor were found in the Group or its supply chains.

關鍵績效 KPIs

- 勞動合同簽訂率 **100%**（2022 年：100%）
Employment contracts signing rate **100%** (2022:100%)

榮譽 Honors



獵聘網 2023 廣東非凡僱主
Guangdong Extraordinary Employer of 2023 on Liepin Website



高新產業最佳僱主品牌
Best Employer Brand of High-tech Industry



2023 年度佛山市和諧勞動關係企業
Foshan Harmonious Labor Relation Enterprise of 2023



2023 年度城市最佳僱主
City's Best Employer of 2023

薪酬福利 Compensation and Benefits

我們致力於打造公平合理且具有市場競爭力的薪酬福利，嚴格執行《中華人民共和國勞動法》及地方社會保障機制，制定了《薪酬管理制度》和《績效考核制度》，為員工提供有競爭力的薪酬福利，實現與員工的利益共享，保障人才的吸納與留存。

We make great efforts to provide fair, reasonable and competitive compensation benefits, strictly implement the *Labor Law of the People's Republic of China* and the local social security mechanism, and have formulated the *Compensation Management System* and the *Performance Appraisal System* to provide employees with competitive compensation and benefits, realize benefit sharing with employees, and ensure the recruitment and retention of talents.

績效激勵與積分管理 Performance incentive and points management

本集團陸續開展積分制管理，多維度、多角度評定員工績效，制定合理的薪酬水平和動態激勵機制，為考核表現優異的員工提供額外的績效工資並給予優先調薪的機會，充分調動員工積極性，有效提高管理效率。

The Group has successively carried out points system management to evaluate employees' performance from multiple dimensions and perspectives, set reasonable salary level and dynamic incentive mechanisms to provide employees who performed well in the assessment with additional performance-based pay and the opportunity of prioritized salary adjustment, fully mobilize the employees and effectively improve the management efficiency.

保險體系 Insurance system

我們建立全方位的保險制度體系，為員工購買醫療、養老、生育、失業、工傷等社會保險，並與保險公司達成協議，為員工提供更低價格、更好保障範圍的商業保險。在整合 26 項福利舉措後，我們推出「有福」員工福利計劃，增加了員工福利保險和聯塑員工專屬合作商家購物優惠的全新福利項目。另外，我們與教育部門溝通，邀請教育局領導開展入學政策解讀講座，幫助員工子女就近入學。

We have established a comprehensive insurance system to purchase social insurance, such as medical, pension, maternity, unemployment, and work-related injury insurance, and reached an agreement with insurance companies to provide employees with commercial insurance with lower prices and better coverage. After integrating 26 welfare measures, we launched the "Blessed" employee welfare plan, adding employee welfare insurance and exclusive cooperative merchants' shopping discounts for employees of Lesso. In addition, we communicated with the Education Bureau and invited leaders from the Education Bureau to hold lectures on the interpretation of the admission policy to help employees' children enter schools nearby.

關愛困難職工系列慰問活動持續開展 A Series of Visits to Employees in Difficulties

2023 年，本集團深入開展職工慰問活動，持續關愛一線員工，本年度共為 16 名困難職工送上新春慰問金、禮品，申請金秋助學金，購買職工互助保險服務，減輕職工的經濟負擔並增強其抵御風險的能力。

The Group paid visits to our employees and cared about our front-line employees in 2023. In total of 16 employees in difficulty were given New Year's cash and gifts this year, golden autumn student grants were applied for, and mutual insurance services were purchased for employees, thus reducing their economic burden and enhancing their ability to resist risks.



關愛困難員工
Caring for Employees in Difficulty

賦能員工成長

Empowering Employee Growth

建設人才梯隊

Building Teams of Talents

我們堅持以「人才梯隊建設」為中心，在本年度修訂了《招聘錄用制度》，完善招聘機制建設，並制定《人才庫建設與管理辦法》，建立內、外部人才庫，便於在發展過程中更快速地抓取和匹配合適人才。

We constantly centered on "development of talent teams", revised the *Recruitment and Employment System* this year, improved construction of the recruitment mechanism, and formulated the *Measures for the Construction and Management of Talent Pool* to establish internal and external talent pools, in an effort to capture and match suitable talents more quickly in the development.

我們對外通過網絡招聘、校園招聘會、校企合作、獵頭合作等方式進行招聘，並採取了招聘宣講會、公眾號、企業開放日、帶崗直播等招聘新模式，在行業和高層次人群中快速傳播企業品牌，提高招聘效率，並引進高層次人才。另外，內部招聘通過內部推薦、內部提拔等方式，實現內部人才靈活調動，提高人員利用效率。

We recruit talents through channels such as online recruitment, on-campus job fairs, school-enterprise cooperations, and headhunting cooperations, and adopt new recruitment modes such as recruitment information sessions, WeChat official accounts, enterprise open days, and live recruitment, so as to quickly promote corporate brands among industries and high-level talents, improve recruitment efficiency, and introduce top talents. In addition, internal recruitment can realize flexible transfer of internal talents and improve the efficiency of personnel utilization through ways such as internal recommendation and internal promotion.

關鍵績效 KPIs

- 本年度招聘用人計劃為 **5,634** 人，已完成招聘 **5,249** 人，招聘完成率為 **93%**
In 2023, the Group planned to recruit **5,634** employees, and **5,249** have been recruited with a recruitment completion rate of **93%**
- 2023 年共進行 **27** 場內部競聘，共提拔內部人才 **50** 人
A total of **27** internal competitions were conducted, and a total of **50** internal talents were promoted in 2023
- 「聯塑招聘」公眾號共發表 **32** 篇推文，關注人數達到 **27,200** 人
32 tweets were published on the official account of "Lesso Recruitment", with **27,200** followers
- 2023 年，參加「校園雙選會」**98** 場，校園宣講 **4** 次，招收應屆畢業生 **229** 人，同比增長 **99%**
In 2023, we participated in **98** campus recruitment fairs, gave **4** campus presentations, and recruited **229** fresh graduates, with a year-on-year increase of **99%**

「千百十」計劃進展

Progress of the "Thousand-Hundred-Ten" program

- 千（本集團招聘應屆生 **1,000** 人以上）：累計招聘應屆生 **1,226** 人
Thousand: (The Group recruited more than **1,000** fresh graduates): A total of **1,226** fresh graduates have been recruited
- 百（本集團三年新增校企合作院校 **200** 所）：目前累計合作院校 **175** 所
Hundred: (Over three years, the Group added **200** new school-enterprise cooperation colleges): Currently we have a total of **175** cooperative colleges
- 十（本集團各部門實習生任職佔正式員工約 **10%**）：目前招錄實習生部門佔比為 **80%**
Ten: (The number of interns in each department is approximately **10%** of the number of regular employees): Currently the proportion of departments with interns recruited is **80%**

開啟「帶崗直播」新型招聘形式 Starting a new recruitment form of "Live Recruitment"

2023 年，招聘管理中心共開展四場「帶崗直播」招聘活動，顯著提升招聘效率。2 月在獵聘直播間，總觀看量達 7,510 人次；3 月春季校招直播間 1 小時內，收到主動投遞簡歷 251 份；4 月參加「龍江直播帶崗」活動，通過政企共同打造雲平台，推廣僱主品牌；9 月秋季校招直播間觀看量達 1,737 人次，獲取近 200 份有效簡歷。

In 2023, the Recruitment Management Center conducted a total of four "Live Recruitment" activities, significantly improving the recruitment efficiency. In February, the total number of viewers in the Liepin live broadcast room reached 7,510; 251 resumes were received within one hour in the live broadcast room for spring campus recruitment in March; we participated in the "Longjiang Live Recruitment" activity in April, jointly created a cloud platform through government and enterprises cooperation, and promoted our employer brand; the number of viewers in the live broadcast room of autumn campus recruitment in September was 1,737 and nearly 200 valid resumes were received.



直播帶崗活動
Live Recruitment Activity

組織「企業開放日」活動 Organizing "Open Day" activities

2023 年，本集團共組織了 24 場「企業開放日」活動，聯合中山大學、華南理工大學、佛山科學技術學院等高校開展校企合作，安排對口專業的學生參觀「聯塑印象館」、自動化車間、研究院和聯塑學院，加強校企合作，提高應屆生就業吸引力。

In 2023, the Group organized a total of 24 "Open Day" activities, collaborated with colleges such as Sun Yat-sen University, South China University of Technology, and Foshan University to carry out school-enterprise cooperation, and designated students from counterpart majors to visit the "Lesso Impression Hall", the automation workshop, research institute, and Lesso College to strengthen school-enterprise cooperation and improve the employment attraction of fresh graduates.



「企業開放日」活動
"Open Day" Activities

開展校園招聘宣講會
Conducting campus recruitment workshop

2023 年 4 月，在佛山科學技術學院，聯塑班誥高級經理與學院機械專業學生進行了一場以「如何做好職業規劃」為主題的交流，並開展了關於聯塑班誥的招聘宣講會，進一步讓學生在獲得職場發展知識的同時了解中國聯塑，提高僱主品牌影響力。

The senior manager of Lesso Banhao had an exchange with the students majoring in machinery of the school on the theme of "How to make Career Plan" at Foshan University in April 2023, and held a recruitment information session on Lesso Banhao, further enabling students to understand China Lesso while gaining knowledge of career development and enhancing the influence of our employer brand.



招聘宣講會活動
Recruitment Information Session Activities

暢通職業通道
Smooth Career Channel

健全技能人才培养、評價、激勵制度，是企業實現高質量發展的重要支撐。中國聯塑重視員工的留存與發展，持續優化人才發展管理體系，為員工提供暢通的發展路徑、全面客觀的人才評價、高效實戰的加速培養，為員工提供多元化的職業發展機會。

A sound system for skilled talent training, evaluating, and motivating is an important support for enterprises to achieve high-quality development. China Lesso puts a new premium on the retention and development of employees, continuously optimizes the talent development management system, and provides employees with smooth development channel, comprehensive and objective talent evaluation, efficient and practical accelerated training, as well as diversified career development opportunities.

員工晉升
Employee Promotion

我們制定《職級職務管理辦法》，建立梯級結構及對應層級標準，明確職業發展空間。報告期內，本集團深入開展針對中層員工、基層管理崗位、技術崗位的人才盤點工作，並根據上一年盤點結果進行分析對比和應用，以進一步有針對性地進行人才培養。

We have formulated the *Job Grade Regulations*, established a cascade structure and corresponding hierarchical standards, and clarified the career development pathways. During the reporting period, the Group conducted in-depth talent review for the middle management, junior management and technical positions, and conducted analysis, comparison, and application based on the review results of the previous year to further implement targeted talent trainings.





人才培訓
Talent Training

中國聯塑開展多項多元培訓，並組織各類比賽，如崗位技能比武大賽等，對員工進行多方培育工作。

China Lesso has carried out a number of diversified trainings and organized various competitions such as job skill contest, cultivating employees in various ways.

人力資源管理集訓營
Human resource management training camp

5月15日，聯塑學院組織人力資源骨幹56人舉辦了HR專項集訓營，集訓營課程從人事、招聘、培訓、績效和員工關係等人力資源管理問題出發，採用積分制管理，提高了人力資源管理人員分析和解決問題的能力。

Lesso College organized 56 key HR staffers to hold a special HR training camp on 15 May. The courses of the training camp started from human resource management issues such as personnel management, recruitment, training, performance, and employee relations, and adopted the points system management, improving the abilities of HR managers to analyze and solve problems.



HR 集訓營
HR Training Camp

崗位技能比武大賽
Job Skills Competitions

2023 年，本集團共開設 362 個崗位技能比武項目，共 4,873 名員工參與競賽。通過崗位技能比武大賽促進員工以賽代練、以賽促學，更好地推動職工技能水平的提高。

In 2023, the Group launched a total of 362 job skills competition projects, with a total of 4,873 employees participating in the competition, promoting employees to practice and learn through job skills competitions and improving their skills.



崗位技能比武大賽
Job Skills Competitions

聯塑雲學堂 Lesso Cloud School

聯塑雲學堂作為線上學習平台，為不同類別的員工建立學習地圖，協助規劃各類學習課程，包括揚帆計劃、遠航計劃、領航計劃、掌舵計劃，積極做好管道、防水、新風、光伏、分銷等傳統產業和新產業的產品與銷售類培訓，完成「百千萬」後備人才培訓工作。

As an online learning platform, Lesso Cloud School creates learning maps for different types of employees, assists them in planning various learning courses, including the sailing plan, voyage plan, navigation plan, and steering plan, actively carries out product and sales training in the pipes, water resistance, fresh air, photovoltaics, distribution, and other traditional and new industries, and completes the training of "Hundred-Thousand-Ten Thousand" reserved talents.

關鍵績效 KPIs

- 參與培訓員工 **238,045** 人次 (2022 年: 194,672 人次) **238,045** employees participated in training (2022: 194,672)
- 培訓場次 **9,914** 場 (2022 年: 7,578 場) **9,914** training (2022: 7,578)
- 員工培訓總計 **374,631** 小時 (2022 年: 346,519 小時) Total employee training of **374,631** hours (2022: 346,519 hours)
- 累計開發課程 **348** 門 (2022 年: 268 門) Accumulated development of **348** courses (2022: 268 courses)
- 課程滿意度平均分 **9.51** 分 (滿分為 10 分) (2022 年: 9.30 分) The average score of course satisfaction was **9.51** points (out of 10) (2022: 9.30 points)

員工類別 Employee category		員工培訓人次 (次) Employee training (person-time)	員工培訓平均時長 (小時) Average employee training duration (hour)	員工培訓覆蓋率 (%) Employee training coverage rate(%)
按性別劃分 Classified by gender	男性 Male	161,440	17.96	100%
	女性 Female	76,635	19.38	100%
按員工類型結構劃分 Classified by employee hierarchy	高層 Senior management	661	4.73	100%
	中層 Middle management	11,688	24.17	100%
	基層 Junior management	10,975	26.23	100%
	普通員工 Ordinary employees	210,398	17.97	100%

目標 Goal

每名員工全年培訓時長不少於 **12** 小時
Each employee shall receive no less than **12** hours of training throughout the year.

內訓師培養 Internal trainer training

本集團制定《內訓師管理辦法》，選拔培養承擔培訓任務的在職員工。本年度設置內訓師工坊，根據培訓項目和課程採取 1 對 1 或 2 對 3 的形式開展課程。2023 年度，總計認證內訓師 209 名，新增 103 名。

The Group has formulated the *Internal Trainer Management Measures* to select and cultivate current employees who undertake additional training tasks. An internal trainer workshop was established this year, and courses were conducted in a 1-to-1 or 2-to-3 format based on training programs and courses. In 2023, a total of 209 internal trainers were certified, with 103 newly added.

第一屆微課大賽成功舉辦
The first microlecture competition was successfully held

2023 年，中國聯塑開展第一屆微課大賽，來自廣東聯塑及 12 家子公司共計 52 人參與生產製造、技術研發、行政管理、物流採購、財務資金、營銷服務、生活類七大類別的課程評比。本次大賽共 12 人獲獎，同時評選出 5 個優秀團隊，總計產出 65 個微課作品、5 個教學視頻。通過這一比賽，本集團引導內訓師課程開發技能向多媒體專業技能轉型。

China Lesso held the first microlecture competition in 2023, with a total of 52 employees from Guangdong Lesso and its 12 subsidiaries participating in the course evaluation of seven categories: production/manufacturing, technological R&D, administration, logistics and procurement, finance and funding, marketing and services, and life. A total of 12 employees won the award in this competition, and 5 excellent teams were selected, producing a total of 65 microlecture works and 5 teaching videos. The Group guided internal trainers to transform their course development skills into multimedia professionals through this competition.



微課大賽評議
Evaluation of the Microlecture Competition

技能提升

Skill Improvement

提升員工學歷

Upgrading Employees' Academic Qualifications

《繼續教育管理辦法》通過多項創新性學歷教育激勵員工主動提升，滿足本集團戰略發展對高素質人才的需求。我們為獲得畢業證書的員工提供本科 6,000 元，專科 4,000 元的學費補貼，為理工科畢業且在本集團繼續工作滿 2 年的學員提供額外獎勵 2,000 元。

2,000 元

為理工科畢業且在本集團繼續工作滿 2 年的學員提供額外獎勵

for each student who holds a science or engineering degree and continues to work in the Group for another 2 years.

人人持證上崗

Everyone should Work with a Certificate

中國聯塑制定了《員工職級及考證管理辦法》，持續推進「打造企業技能生態，實施人人持證上崗」工程。我們一方面內部對員工技能水平進行培訓認證，截至目前共認證「模具工」90 人、「電工」122 人、「起重裝卸機械操作工」203 人、「塑料注塑工」591 人、「塑料擠出工」441 人，並開展企業新型學徒制培養項目。同時，我們還開展內部職業認定，共認證 629 人，包括工程師、經濟師、會計師。另一方面，本集團積極引導和鼓勵員工參與外部技能認證。2023 年，廣東聯塑外部職稱持證人員 167 人，其中正高級 7 人，副高級 19 人，中級 79 人，初級 67 人；國家職業資格持證人員 4,115 人，技術工人持證上崗率 95.61%，「人人持證」率達 64.94%。

629 人

開展內部職業認定並認證

Carried out internal occupational recognition and certified

The *Management Measures for Continuing Education* was formulated to encourage employees to proactively improve their degrees and qualifications through a number of innovative academic educations, with an aim to meet the Group's strategic development needs for high-quality talents. For those who hold graduation certificates after the continuing education, we will provide tuition subsidy of RMB 6,000 for each undergraduate student and RMB 4,000 for each college student, and an additional RMB 2,000 for each student who holds a science or engineering degree and continues to work in the Group for another 2 years.

China Lesso has formulated the *Measures for the Management of Employee Rank and Certificate*, and continuously promoted the project of "creating an enterprise skill ecology and enabling everyone to work with a certificate". On the one hand, we have conducted skill trainings for internal employees and certified their skill level. Up to now, we have certified 90 "mold workers", 122 "electricians", 203 "lifting and loading machinery operators", 591 "plastic injection workers", and 441 "plastic extruders", and launched a new apprenticeship training program for the enterprise. At the same time, we also carried out internal occupational recognition, and certified 629 employees, including engineers, economists, and accountants. On the other hand, the Group actively guided and encouraged employees to participate in external professional skill certification. In 2023, Guangdong Lesso had 167 holders of external professional titles, including 7 senior professional titles, 19 deputy senior professional titles, 79 intermediate titles, and 67 primary titles; 4,115 holders of national professional qualifications, with 95.61% of skilled workers holding certificates and 64.94% of employees meeting the requirement of "Everyone should Work with a Certificate".

員工關懷

Employee Care

員工健康成長是企業可持續健康發展的重要途徑。我們建立健全的職業健康與安全管理體系，加強員工安全培訓，開展日常巡檢和定期維護，為員工創造安全無優的工作環境。在提供具有競爭力的、全面的薪酬福利體系的基礎上，中國聯塑開展多元化的人文關懷活動及員工福利，進一步強化員工對本集團的歸屬感。

Employee health and growth is a crucial pathway for the sustainable and healthy development of a company. We have established a robust occupational health and safety management system, strengthened employee safety training, conducted regular inspections and maintenance, and created a safe and optimal working environment for our employees. In addition to providing a competitive and comprehensive compensation and benefits system, China Lesso carries out diverse humanistic care activities and employee welfare initiatives to further enhance their sense of belonging to the Group.

關愛員工健康

Caring about Employee Health

我們依據《職業健康安全管理體系要求及使用指南》（GB/T45001-2020），制定了《特殊工種崗位人員管理辦法》《危險源辨識、風險評價和措施控制程序》《應急準備和響應程序》等控制程序，保護員工的健康與安全。

We have formulated control procedures such as the *Management Measures for Staff Working in Special Position*, the *Hazard Source Identification, Risk Assessment and Measure Control Procedures*, and the *Emergency Preparedness and Response Procedures* according to the *Occupational Health and Safety Management System Requirements and Guidelines for Use* (GB/T45001-2020) to protect employees' health and safety.

安全隱患排查 Investigation of Potential Safety Hazards

安排交叉安全檢查、專項安全檢查等，同時提升設備安全防護等級，組織內審及日常檢查，並圍繞設備進行全方位巡查，堅決消除安全隱患。

The Group conducts cross safety inspections and special safety inspections, while also enhancing the safety protection level of equipment. The Group organizes internal audits and daily checks, and conducts comprehensive inspections focused on equipment to decisively eliminate safety hazards.

改善作業環境 Improve the Working Environment

加裝噴霧設施，完善通風系統性能等，對工作場所進行定期檢測，防範危險有害物質超標，配備符合要求的如防砸鞋等勞動防護用品。

We install spraying facilities, improve the performance of the ventilation system, conduct regular inspections on the workplace to prevent dangerous and harmful substances from exceeding the standards, and provide labor protection products that meet the requirements such as anti-smashing shoes.

應急培訓演練 Emergency Training Drill

舉行安全生產、消防、環保、職業衛生等知識競賽，並組織開展了安全生產月、消防宣傳月、消防逃生演練、危險化學品洩漏演練、全員消防滅火器材使用培訓等活動。

The Group carries out knowledge competitions on such aspects as safe production, fire protection, environmental protection, and occupational health, and organizes activities such as Work Safety Month, Fire Safety Awareness Month, fire escape drill, hazardous chemical leakage drill, and trainings for all staff on the use of fire extinguishing equipment.

開展「預防為主 生命至上」消防宣傳月活動

Launching the Fire Safety Awareness Month Activity of "Prevention First, Life Priority"

2023 年 11 月是第 32 個全國消防宣傳月，此次宣傳月的主題是「預防為主 生命至上」。我們開展了滅火實操現場指導、消防安全培訓、應急疏散演練等多元消防安全培訓和演練，在提高員工消防意識和自救能力的同時，也提升了消防安全管理體系的應急水平。

November 2023 is the 32nd National Fire Safety Awareness Month, and the theme of this Fire Safety Awareness Month is "Prevention First, Life Priority". We have carried out diversified fire safety trainings and drills such as on-site guidance of firefighting practice, fire safety training, and emergency evacuation drill, which not only improved employees' fire safety awareness and self-help abilities, but also enhanced the emergency level of the fire safety management system.



消防宣傳月活動
Fire Safety Awareness Month Activity

全面組織「人人講安全 個個會應急」安全生產月活動

Organizing the Work Safety Month Activity of "Everyone Talks About Safety and Everyone Knows How to Respond to Emergency" in an all-round way

在全國第 22 個安全生產月中，本集團開展了以「人人講安全 個個會應急」為主題的安全生產活動。總部和各子公司組織了消防演練、安全生產知識競賽和生產安全事故應急救援演練等活動，形成了濃厚的安全生產氛圍，提高了員工的安全意識和應急避險能力。

In the 22nd National Work Safety Month, the Group carried out the safe production activity with the theme of "Everyone Talks about Safety and Everyone Knows How to Respond to Emergency". The headquarters and each subsidiary organized fire drills, knowledge contests on safe production, and emergency rescue drills for production safety accidents, creating a strong atmosphere of production safety and improving employees' safety awareness and emergency avoidance abilities.



安全生產月活動
Work Safety Month Activity

績效獎勵機制 Performance Reward Mechanism

將職業安全績效與職業安全健康相關負責人薪酬全部掛鉤，按區域進行管理，在區域內發生工傷等問題實行全面追責制。

The occupational safety performance is fully linked to the salary of the person in charge of occupational safety and health and managed by region, and a comprehensive accountability system is implemented for problems such as work-related injuries in the region.

職業健康保障 Occupational Health Protection

本集團開展了 2023 年特殊工種職業健康體檢，並首次擴大體檢人員範圍，新增關鍵崗位（M4 以上職級）員工及高風險人群（45 歲以上女性、50 歲以上男性）。此外，我們還進行了職業危害因素系統識別，根據 2023 年職業危害因素檢測結果更新特殊工種及崗位明細，同時加強了對特殊工種調崗、離職等人員體檢結果的跟蹤。

In 2023, the Group carried out occupational health examination for special jobs, and expanded the scope of physical examination employees for the first time by adding employees in key positions (M4 and above) and high-risk groups (women over 45 years old and men over 50 years old). Besides, we have also systematically identified occupational hazard factors, updated the details of special jobs and positions according to the detection results of occupational hazard factors in 2023, and strengthened the tracking of physical examination results of employees who have been transferred and resigned from special jobs.

工傷處理小組 Work Injury Handling Team

設置工傷協調小組，由本集團法律、財務、案件、工會等部門的專業人員和高層領導組成。小組制定了嚴格的報告處理流程，重大傷亡事故按國家法律法規處理；同時工會亦設置獨立部門，組織活動慰問工傷事故家屬。

We have set up a work injury coordination team, which is composed of professionals and senior leaders from the legal department, finance department, case department, labor union, and other departments of the Group. The team has formulated strict reporting and handling procedures, and handled major casualties in accordance with national laws and regulations. The labor union has also set up an independent department to organize visits to the families of employees who had work-related accidents.

心理諮詢支持 Psychological counselling Support

定期舉辦安全健康講座，特別設立女性員工心理諮詢室，針對女性員工在親子關係、婚姻關係等家庭或工作中的問題，提供心理諮詢業務，保障女性員工的心理健康。

We hold regular safety and health lectures and set up a psychological counselling room for female employees to provide psychological counselling services for issues female employees face at home or at work, such as parent-child and spousal relationships, to safeguard the psychological health of female employees.

關鍵績效
KPIs

- 2023 年本集團開展工作場所職業病危害因素檢測 **28** 次，總計檢測崗位 **1,229** 個，其中超標崗位 **62** 個，超標率 **5.04%**，合格崗位 **1,167** 個，合格率 **94.96%**。
In 2023, the Group carried out **28** detections of occupational hazard factors in workplaces, with a total of **1,229** positions for detection, including **62** positions exceeding the standard, with an exceeding-standard rate of **5.04%**, and **1,167** qualified positions, with a pass rate of **94.96%**.
- 2023 年度參加職業病在崗體檢人數為 **3,168** 人，體檢合格 **3,167** 人，**1** 名職業禁忌症人員，已根據安全要求對此員工進行調崗處理。
In 2023, **3,168** employees took part in the on-the-job physical examination of occupational diseases, **3,167** employees passed the physical examination, and **1** employee had occupational contraindication. The employee has been transferred to another position according to the safety requirements.

職業健康與安全目標
Occupational Health and Safety Objectives

杜絕重大環境 / 安全事故
Put an end to major environmental/safety accidents
職業病為 **0**
No occupational disease

火災事故為 **0**
No fire accident
工傷發生率為 **5%** 及以下
The incidence rate of work-related injuries is **5%** and below

2021-2023 年本集團工傷及損失工作日數 Work Injuries and Lost Days Due to Work Injuries from 2021 to 2023			
	2021	2022	2023
因工傷損失工作日數 / 工作日 Lost days due to work injury (working day)	8,058	4,728	4,208.50
因工亡故人數 / 人 Number of work-related deaths (persons)	0	0	0
因工亡故比率 / % Work-related death rate (%)	0	0	0
千人工傷意外率 / ‰ Frequency rate of work-related injuries per 1,000 people (‰)	4.70	4.78	3.88

豐富員工生活
Enriching Employees' Life

中國聯塑持續關注員工在生活和工作上的平衡，積極開展員工關懷活動，為員工提供全方位切實保障，提升員工獲得感、幸福感。

China Lesso constantly cares for the balance between employees' life and work, and actively carries out employee care activities to provide employees with all-round practical protection and enhance their sense of gain and happiness.

- 為部分員工提供免費體檢；
Provide free physical examination for some employees;
- 舉辦傳統藝術親子活動、廠慶運動會、崗位技能大比武等活動；
Organize traditional parent-child art activities, factory celebration sports meetings, job skills contests, and other activities;
- 在五四青年節和七夕節開展飛盤活動和交友聯誼活動，舉辦中秋晚會；
Frisbee activities and friendship activities were held on May 4th Youth Day and Chinese Valentine's Day, and Mid-Autumn Festival party was held;
- 設立母嬰室，婦女節為女職工送上慰問品，夏季派發清涼飲品，傳遞關愛和祝福；
A maternal and infant room was set up, condolence products were presented to female workers on Women's Day, and cool drinks were distributed in summer to convey care and blessings;
- 集團內刊《聯塑時訊》創刊二十週年，在二十年間不斷傳遞企業文化，豐富員工文化生活。
The 20th anniversary of the publication of *Lesso News*, an internal magazine of the Group, has come. It continuously transmitted corporate culture and enriched the cultural life of employees in the past two decades.



中秋晚會
Mid-Autumn Festival Party



廠慶運動會
Factory Celebration Sports Meeting



社區籃球賽活動
Community Basketball Game



婦女節手繪玻璃畫活動
Hand-painted Glass Activity on Women's Day



五四青年節飛盤活動
Frisbee Activity on May 4th Youth Day



讀書分享會
Book Sharing Session

舉辦印尼獨立日紀念活動 -Berkarya Bersama untuk Indonesia
Holding Indonesia Independence Day Celebration - Berkarya Bersama untuk Indonesia

2023 年 8 月，印尼聯塑科技公司舉辦了印尼獨立日紀念活動，並開展了抓鰻魚比賽、拔河比賽等活動。此次活動增強了員工的凝聚力和團結協作的意識。

In August 2023, Indonesia Lesso Technology Co., Ltd. held the Indonesia Independence Day commemoration event, and carried out activities such as eel catching competition, and tug-of-war competition. Employees' cohesion and sense of unity and cooperation have been enhanced through this activity.



印尼獨立日紀念活動
Indonesia Independence Day Celebration



穩鏈固鏈 攜手共贏互利

Stabilizing and Solidifying the Chain for a Win-win Situation and Mutual Benefits

中國聯塑長期以來堅持與供應商和行業夥伴保持良好、穩定、緊密的合作關係，以全生命週期的高標準管理，規範供應商及經銷商的經營活動，並持續以培訓輔導等形式賦能合作伙伴，助力行業攜手發展。

China Lesso has maintained strong, stable, and close cooperative relationships with suppliers and industry partners over the long term. By implementing high standard management practices throughout the entire lifecycle, China Lesso ensures the proper and regulated business activities of its suppliers and distributors. Additionally, China Lesso continuously empowers its partners through training and coaching, helping to drive collaborative industry development.

回應聯合國可持續發展目標
Response to SDGs



重大性議題 Major issues	核心策略 Core strategies
供應商管理 Supplier management	- 設立並遵循供應商引入、評估與退出的全生命週期管理流程 Establish and follow the whole life cycle management process of supplier introduction, evaluation, and withdrawal - 將 ESG 要求納入供應鏈評估體系 Incorporate ESG requirements into the supply chain evaluation system - 拓展能力提升方式，賦能供應商夥伴成長 Expand the ways of improving abilities and empower the growth of supplier partners
經銷商管理 Distributors management	- 應用積分制管理模式，規範經銷商的經營活動 Use the points system management mode to normalize the business activities of distributors - 提供專業培訓課程，支持經銷商轉型升級 Provide professional training courses to support the transformation and upgrading of distributors
可持續採購 Sustainable procurement	- 發起供應商綠色倡議 Launch a green initiative of suppliers - 擴大低碳環保材料採購範圍 Expand the procurement scope of low-carbon environmental protection materials

關鍵績效 KPIs

- 執行《採購流程手冊》的供應商比例 **88.79%**
88.79% of suppliers executed the *Procurement Process Manual*
- 審查的供應商數量 **6,864** 個
6,864 suppliers have been examined
- 2,311** 次供應商培訓，共 **2,770** 家供應商參與培訓
A total of 2,311 supplier trainings were conducted, in which 2,770 suppliers participated

構建可持續供應鏈

Building a Sustainable Supply Chain

本集團建立規範的採購及供應鏈管理機制，通過嚴格的評價管理舉措，幫助供應商和經銷商提高履約能力，同時通過供應鏈緊密合作，實現各方優勢互補，提升行業供應鏈競爭力。

The Group has established normative procurement and supply chain management mechanisms to help suppliers and distributors improve their performance through strict evaluation and management measures. Meanwhile, the advantages of all parties can be complemented and the competitiveness of the industry supply chain can be enhanced through close cooperation in the supply chain.

規範流程管理

Standardizing the Process Management

中國聯塑致力於形成規範、公正、統一的供應商管理體系，制定並實施《供應商比選及採購定價內控流程手冊》《供應商入庫管理內控流程手冊》《採購流程手冊》《供應商准入制度》及《供應商 ESG 承諾書》等一系列供應鏈管理內部制度，明確供應商引入、評估與退出的全生命週期管理流程，分發供應商准入審核表，有效識別風險，提高供應商產品質量與服務能力，實現「保障生產需求、保證採購質量」的目標。

China Lesso is committed to forming a normalized, fair and unified supplier management system, and has formulated and implemented a series of internal supply chain management systems such as the *Internal Control Process Manual for the Comparison and Selection of Suppliers and Procurement Pricing*, the *Internal Control Process Manual for Supplier Access Management*, the *Procurement Process Manual*, the *Supplier Access System*, and the *Supplier ESG Commitment Letter* so as to clarify the whole life cycle management process including supplier introduction, evaluation and termination, distribute the supplier access audit form, effectively identify risks, and improve the supplier's product quality and service ability to achieve the goal of "ensuring production demands and ensuring the procurement quality".

本年度，已有 2,605 家供應商簽署《供應商 ESG 承諾書》，覆蓋了本集團主要供應商。該承諾書從勞工權益、職業健康與安全、可持續性、商業道德四方面明確了中國聯塑集團有限公司及其海內外所有子公司對供應商的 ESG 要求，確保供應商以符合相關法律法規及 ESG 要求的方式開展業務工作。

This year, 2,605 suppliers have signed the *Supplier ESG Commitment Statement*, covering the major suppliers of the Group. The commitment letter defines the ESG requirements of China Lesso Group Holdings Limited and all its subsidiaries at home and abroad for suppliers from four aspects: labor rights and interests, occupational health and safety, sustainability, and business ethics, with a view to ensuring that suppliers can conduct business in a way that complies with relevant laws, regulations, and ESG requirements.



供應商承諾遵循 ESG 要求 Supplier Promises to Comply with ESG Requirements

勞工權益 Labor rights and interests	職業健康與安全 Occupational health and safety	可持續性 Sustainability	商業道德 Business ethics
禁止使用童工 Prohibit the use of child labor	工作場所安全 Workplace safety	環境許可 Environmental permission	誠信經營 Good faith management
禁止強迫勞動 Prohibit forced labor	有害物質管理 Hazardous substance management	產品合規 Product compliance	知識產權及隱私保護 Intellectual property rights and privacy protection
工資與社會保障 Salary and social security	化學品安全 Chemical safety	資源管理 Resource management	商業機密保護 Trade secret protection
工作時間管理 Working time management	安全風險管理 Security risk management	節能減排 Save energy and reduce emissions	公平競爭 Fair competition
尊重人權 Respect the human rights	公共衛生 Public health		

此外，本集團對關鍵供應商採用「線上 + 線下」的審核方式，使用供應商准入審核表。其中，線下審核表涉及勞工標準、職業健康與安全、產品質量、商業道德及管理體系等六方面，共計 89 項評價要求。

在商業道德方面，我們亦要求供應商承諾遵守商業道德相關法律法規，禁止任何形式的腐敗、賄賂、敲詐、挪用公款、洗錢等違法行為，不得索取或接受賄賂和回扣，不得向有關人員提供金錢或有價物以牟取不正當利益。

In addition, the Group adopts the "online + offline" audit method for key suppliers and uses the supplier access audit form. Here, the offline audit form involves six aspects, including labor standards, occupational health and safety, product quality, business ethics, and management system, with a total of 89 evaluation requirements.

In terms of business ethics, we also require suppliers to promise to abide by laws and regulations related to business ethics, prohibit any form of corruption, bribery, extortion, misappropriation of public funds, money laundering, and other illegal acts, and not ask for or accept bribes and kickbacks, or provide money or valuables to relevant personnel to seek illegitimate interests.

2023 年供應商數量 Number of Suppliers in 2023

類別 Category	供應商數目（個） Number of suppliers
在庫供應商總數 Total number of suppliers in the database	16,285
按地區劃分 Classified by region	
華南 Southern China	8,098
華南以外地區 Other than Southern China	7,066
中國境外 Outside China	1,121
服務類供應商 Service providers	2,022
原輔材料供應商 Suppliers of raw and auxiliary materials	5,953

供應商管理流程
Supplier management process

本集團根據供應鏈管理制度，對供應商的合規性、環保性及必要的質量管理等方面提出要求，並全面推行供應商管理系統，將其貫穿於供應商篩選、准入及考核的全流程。

According to the supply chain management system, the Group puts forward requirements for the compliance, environmental protection, and necessary quality management of suppliers, and implements the supplier management system in an all-round way, which is integrated into the full process of supplier selection, admission, and appraisal.

准入 Admission	嚴格要求供應商的產品全部符合國家標準及本集團的企業標準。出台制度性文件要求，明確針對供應商的內控標準、驗收標準、生產工藝流程標準。 Suppliers are strictly required to comply with national standards and the Group's enterprise standards for all products. We issue system document requirements, clarifying internal control standards, acceptance standards, and production process standards for suppliers.
考察 Inspection	聯合生產、採購、品管等部門對供應商廠區進行實地考察或突擊檢查，並要求供應商披露他們上下游供應商、環保、工資發放、工作環境等方面的情況。 Production, procurement, quality control and other departments jointly conduct site visits or surprise inspections at suppliers' factories, during which suppliers are required to disclose details regarding their upstream and downstream suppliers, environmental protection, payroll, and working environment, etc.
評價 Assessment	設立供應商考核檔案，要求供應商遵守道德操守、尊重人權、遵守環保法律法規、資源循環利用等。依據《供應商評估內控流程手冊》，各部門定期且獨立對供應商進行打分評估。 We set up supplier appraisal files and required suppliers to comply with ethical conduct, respect human rights, comply with environmental laws and regulations, and recycle resources, etc. Suppliers regularly and independently scored and assessed by the relevant departments according to the <i>Supplier Assessment Internal Control Procedure Manual</i>.
退出 Termination	對低分供應商採取預警機制，提出整改意見，督促限期整改，否則取消合作並對其實施經濟處罰。 Early warning mechanisms, covering suggestions and deadlines for rectification and improvement will be imposed on underperformed suppliers. Otherwise, cooperation will be canceled and economic measures will be imposed.

關鍵績效 KPIs	- 執行《採購流程手冊》的供應商比例 88.79% 88.79% of suppliers executed the <i>Procurement Process Manual</i> - 審查的供應商數量 6,864 個 6,864 suppliers have been examined - 因為社會責任不合規被中止合作的供應商數量 14 個 14 suppliers were involved in the termination due to non-compliance of social responsibilities - 因反貪腐而終結合作關係的供應商數量 0 個 0 suppliers were involved in the termination due to anti-corruption action
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供應商風險管理
Supplier risk management

本集團將風險管控融入到整個供應鏈的管理中，持續完善供應商風險管理機制，確保供應鏈的競爭力和穩定性。我們定期對供應商風險進行識別與評估，有針對性地細化梳理並部署各類供應商風險相應的防範與應對方案，進而降低乃至規避供應鏈風險對企業的影響。

The Group integrated risk management and control into the whole supply chain management, and continuously improved the supply chain risk management mechanism to ensure competitiveness and stability of the supply chain. We regularly identify and evaluate supply chain risks, sort out and deploy corresponding prevention and response plans for various supply chain risks in a targeted manner so as to reduce or even avoid the impact of supply chain risks on the enterprise.

供應鏈風險點及控制點 Supply Chain Risk Points and Control Points		
流程 Process	主要風險點 Key Risk Points	主要控制點 Key Control Points
供應商入庫 Supplier admission	新供應商開發工作缺乏控制，可能導致引入的新供應商不符合要求 A lack of control in the development of new suppliers may result in new suppliers introduced do not meet the requirements	建立新供應商引入審核機制，包括文書審查、現場審查、樣品試用 We establish the new supplier introduction examination mechanism, including document review, on-site review, sample trial
	供應商主數據更新前未經過合理控制，供應商關鍵數據被不當修改，導致資金損失 A supplier's master data may not be properly controlled before update, and the supplier's key data may be improperly modified, resulting in capital loss	建立供應商庫信息更新審核機制，財務部對更新申請進行獨立審核 We establish the information update review mechanism for our supplier database, and the financial department shall independently review the update application
供應商退出 Supplier termination	無法短期內開發新的代替供應商；淘汰供應商存在未完結事項，導致車間停產、訂單無法推進 We may be unable to develop new alternative suppliers in short term; and there may be unfinished issues with the suppliers eliminated, resulting in workshop shutdown and suspension of order fulfillment	同一產品保證有 2 家或以上的供應商，維護良好供應商關係，根據實際情況進行配方的調整和改進 We ensure that there are 2 or more suppliers for the same product, maintain good relationship with suppliers, adjust and improve the formula according to the actual situation
物料試用 Material trial	物料試用環節不完善，缺乏有效的物料驗證機制 The material trial process may be defective, lacking an effective material verification mechanism	物料試用工作由負責質量核對和物料運用的技術部門開展。 The material trial work is carried out by the technical department responsible for quality inspection and material application.
經銷商管理 Distributor management	經銷商管理工作缺乏控制，可能導致經銷商產品質量標準、品牌及推廣、行為準則與商業操守不符合要求 A lack of control in the distributor management may lead to non-conformity of a distributor's product quality standards, brand and promotion, code of conduct and business ethics	利用積分制管理和信息化工具支持經銷商的規範管理，並提供多方位的培訓 We make use of points system management and information tools to support the standardized management of distributors, and provide training in all aspects
	經銷商交貨減少導致銷售訂單收縮，材料需求用量減少，造成材料積壓、去庫減慢，影響生產成本 A reduction of distributor delivery may lead to the reduction of sales orders and the reduction of material demand and consumption, resulting in material backlog and slow destocking and affecting the production cost	維護良好的經銷關係，提升經銷商服務工作，特定時期給予經銷商優惠政策 We maintain good distribution relationship, improve the service of distributors, and implement preferential policies for distributors in specific periods
物流管理 Logistics management	油價上調、交通堵塞等原因造成物流運輸成本增加、貨物運輸時間延長、車間停產 Reasons such as rising oil prices and traffic jams may increase logistics costs, lengthen transport time and halt production	採用公路運輸、鐵路運輸以及海運等多種運輸方式分散物流運輸的風險 We adopt road transport, railway transport, sea transport and other transport modes to reduce the risk of logistics transportation

踐行責任採購

Practicing Responsible Purchase

本集團遵循公開、公平、公正的採購原則，根據《採購流程手冊》《供應商行為守則》建立科學的供應商管理策略，落實對供應商質量把控與 ESG 管理。

The Group follows the procurement principles of openness, fairness and impartiality. We have established scientific supplier management strategies in accordance with the *Procurement Process Manual* and the *Code of Conduct for Suppliers* to implement quality control and ESG management of suppliers.

中國聯塑對供應商存在的經營情況、安全質量、環境及社會風險開展定期評估。針對代工類供應商，我們通過對實地考察、社會調研，以及覆蓋勞工準則、職業健康與安全、產品質量、環境保護、商業道德、管理體系的 ESG 評估，了解其在環保、節能、社會責任等方面的表現和貢獻，並將此項作為代工類供應商選取的重要參考信息。未來，我們計劃逐步將 ESG 績效表現納入各類供應商的准入和評估標準。

China Lesso carries out regular assessments on the operating conditions, safety and quality, environmental and social risks that exist in its suppliers. For OEM suppliers, we understand their performance and contribution to environmental protection, energy saving, and social responsibility through on-site visits, social research, and ESG assessments covering labor standards, occupational health and safety, product quality, environmental protection, business ethics, and management systems, and use this as an important reference for the selection of OEM suppliers. In the future, we will gradually incorporate ESG performance into the admission and evaluation criteria of suppliers.

此外，我們向供應商發起「綠色材料」「綠色包裝」「綠色運輸」的倡議，積極推進負責任供應鏈。我們向供應商提出使用共享托盤和包裝袋的回收計劃，提議碳酸鈣供應商使用噸包減少原包裝袋的使用。2023 年，中國聯塑對再生料的工廠進行考察，擴大低碳環保材料的採購範圍，推動企業綠色採購。

In addition, we have launched initiatives on "green materials", "green packaging" and "green transportation" to our suppliers to actively promote a responsible supply chain. We have proposed to our suppliers a recycling program of using shared pallets and bags, and proposed that calcium carbonate suppliers use flexible intermediate bulk containers to reduce the use of original bags. In 2023, China Lesso inspected factories of recycled materials to expand the procurement of low-carbon and environmentally friendly materials and promoted green procurement by enterprises.

促進能力提升

Promoting Capacity Improvement

本集團秉持與供應鏈合作夥伴共同成長的理念，持續推動供應商管理能力的提升。為提高供應商在環境、管治及質量方面的表現，我們通過技術交流會、實地考察等形式賦能供應商。2023 年，我們共開展 2,311 次供應商培訓，共 2,770 家供應商參與培訓。

Upholding the concept of growing together with our supply chain partners, the Group constantly promotes the improvement of our supplier management capabilities. In order to improve the performance of our suppliers in the areas of environment, governance and quality, we empower our suppliers through technical exchanges, on-site visits, etc. In 2023, we have conducted a total of 2,311 supplier trainings, in which 2,770 suppliers participated.

產品質量提升 Improvement of product quality

幫助供應商進行產品工藝提升，開展調試、檢測等現場指導工作。並且針對重點供應商建立質量檔案與質量交流群，確保供應商及時獲取客戶質量問題反饋，提高質量控制能力。

We help suppliers improve product processes, and carry out debugging, testing and other on-site guidance. In addition, we have established quality files and quality communication groups for key suppliers to ensure that suppliers can obtain customer feedback on quality problems and improve quality control ability in a timely manner.

物流運輸協助 Assistance in logistics and transportation

借助中國聯塑旗下貨滿運物流公司，向物流供應商、本集團經銷商提供優質的綜合物流運輸方案，提升物流信息化傳遞，助力供應鏈效率提升。

With the help of China Lesso's Huomanyun logistics company, we provided high-quality integrated logistics and transportation solutions to logistics suppliers and the Group's distributors, improve the information-based delivery of logistics, and help improve the efficiency of the supply chain.

綠色金融服務 Green financial services

對符合綠色標準的供應商給予貸款扶持，對滿足能耗環境目標的供應商提高貸款優惠。

We provided loan support to the suppliers that meet green standards, and increased loan concessions to the suppliers that reach the environmental target of energy consumption.

新能源項目推廣 Promotion of new energy projects

面向供應商推廣光伏發電項目，協助供應商實現節能減排。

We communicated information about photovoltaic power projects to suppliers for promotion and helped them achieve energy conservation and emission reduction.



改進供應商排水管析出問題

Improvements to Crystal Precipitation in Drain Pipe for Suppliers



貨滿運平台主頁

Homepage of Huomanyun Platform

助力經銷商成長 Helping Distributor Development

我們充分利用積分制管理和信息化工具，並提供店面管理、商務及法律等多方位的培訓，全方位助力經銷商發展。

We capitalized on points system management and information tools, and provided store management, business and legal training to help the development of distributors in all aspects.

加強經銷商管理 Strengthening Distributor Management

我們在激勵經銷商高標準經營的同時，將渠道各項業務管理與數字化結合，實現上下游信息暢通，打造共贏的經銷商生態信息一體化。

While motivating distributors to operate business at a high standard, we have realized the smooth flow of upstream and downstream information and created a win-win ecological information integration for distributors by combining business management of the channel with digitalization.



積分制管理

Points system management

根據《聯塑集團管道經銷商積分管理細則》，在對經銷商進行綜合評價的基礎上，新增市政產品堆場面積、規範裝卸貨等積分項，加強經銷商積分細則的規範性與全面性，激勵供應商以高於法律法規的要求開展經營活動。

According to the *Points Management Rules for Piping Distributors of Lesso Group* and on the basis of comprehensive evaluation of distributors, we have added points such as municipal product yard area and standardized loading and unloading, strengthened the standardization and comprehensiveness of distributor points rules, and encouraged suppliers to carry out business activities above the requirements of laws and regulations.



信息化管理

Information-based management

開發經銷商在線下單辦公系統、內部溝通系統、TMS 運輸管理系統、智能裝載系統，更新手機 APP 老闆通平台，實現下單、車輛定位、裝貨等全流程信息化管理，全面提升管理效率。

We have developed an online distributor order office system, internal communication system, transportation management system (TMS), intelligent loading system, and updated the Laobantong smartphone app platform, and achieving whole-process information-based management such as order placement, vehicle locating, and loading, etc. to improve overall management efficiency.

提供多樣化支持 Providing Diversified Support

本集團關注經銷商經營能力提升，以培訓賦能、開店扶持、商務支持、經銷商溝通等方式為經銷商全方位賦能。

Focusing on the improvement of distributors' operation ability, we empower the distributors in all aspects by means of training and empowerment, store opening support, business support and distributor communication.

培訓賦能 Training Empowerment

編寫《聯塑客戶雲學堂學習導航（2023 版）》，並將學習積分納入經銷商積分管理辦法，為經銷商和加盟商提供產品知識等各類培訓。2023 年，中國聯塑營銷學院已開展視頻課程 366 門，自行開發上傳課程 170 門。

We have prepared the *Learning Navigation of Cloud School for Lesso Customers (the 2023 Edition)* and incorporated learning points into the distributor points management method to provide distributors and franchisees with various types of trainings, including product knowledge training. In 2023, China Lesso Marketing Institute has carried out 366 video courses, including 170 courses independently developed and uploaded.

銷售渠道拓展 Expanding sales channels

建設網上商城、領尚滴滴及星鏈商城等在線平台，拓展經銷商的銷售渠道，助力經銷商轉型升級。

We have built online platforms such as the LS DiDi and LessoLink Mall online malls to expand distributor sales channels, helping them to transform and upgrade.

開店扶持 Supporting distributors in opening stores

扶持經銷商開專賣店和體驗館，協助經銷商為客戶提供更多的售前、售中、售後服務。

We have supported distributors in opening stores and experience spaces, helping them to provide more pre-sales, after-sales and sales-related services to customers.

商務支持 Business support

選派商務團隊長期駐點區域，對各區域市場經銷商進行維護管理並提供銷售、公關、談判等支持，保護經銷商權益。

The Group assigned business support teams to work in regional markets to maintain and manage relationships with local distributors, and provided them with sales, public relations and negotiation-related support to safeguard their rights and interests.

經銷商溝通 Distributor communication

本集團以經銷商大會、生態財務分享大會等形式，與經銷商共同探討發展新思路、新模式，為經銷商們提供工程設計、營銷推廣、價格策略等全方位資源支持。

We have discussed with distributors the new ideas and modes of development in the form of distributor conferences and eco-financial sharing conferences, and provided distributors with a full range of resources such as engineering design, marketing and promotion, and pricing strategies.

舉辦集團年度經銷商大會
Holding the annual distributor conference of the Group

2023年6月28日至7月8日，本集團舉行主題為「深耕管業 乘勢綠能 互惠共贏」的經銷商會議。會議公佈「2022經銷商積分優秀獎」獲獎金單，增設經銷商上台領獎環節，並為獲獎者精心準備了獎勵政策和豐厚獎品，有效增強經銷商團隊的凝聚力以及對中國聯塑未來發展的信心。

From 28 June to 8 July 2023, the Group held a distributor conference with the theme of "focusing on the pipe industry, riding on the momentum of green energy, and achieving mutual benefit and win-win situation". The meeting announced the winners of "2022 Distributor Points Excellence Award", added a session for distributors to receive their awards on stage, and prepared incentives and generous prizes for the winners. It has effectively enhanced the cohesion of the distributors' team as well as their confidence in the future development of China Lesso.



經銷商現場參觀
Site Visit of Distributors

烏魯木齊聯塑組織市政管道工程應用交流會
Urumqi Lesso organized municipal piping project application exchange meeting

2023年12月20日，烏魯木齊聯塑組織召開以「綠色建材、創新發展、財富共享」為主題的市政管道工程應用技術交流會。在會議後的答謝晚宴上，烏魯木齊聯塑對評選出的2023年新疆區域卓越經銷商、優秀經銷商、進步經銷商等進行嘉獎。

Urumqi Lesso organized municipal piping project application exchange meeting themed by "green building materials, innovative development, wealth sharing" on 20 December 2023. At the appreciation dinner after the meeting, Urumqi Lesso awarded the 2023 Excellent Distributors, Outstanding Distributors and Progressive Distributors for Xinjiang Area.



交流會現場
The Exchange Meeting Site

關鍵績效 KPIs

線下和在線直播
Offline and online live streaming

- 開展經銷商訓練營 **3** 個，培訓課程 **26** 門，培訓時長 **24** 小時，培訓人次 **4,035** 人次
We have launched **3** training camps for distributors, covering **26** training courses, **24** hours of training, and **4,035** trainees

視頻學習
Video learning

- 營銷學院視頻課程共計 **366** 門，月平均流覽量 **11,774** 人次，月平均學時 **5,511.42** 小時
The Marketing School has a total of **366** video courses, with an average monthly page view of **11,774** person-time and an average monthly class time of **5,511.42** hours

共創行業未來
Working Together for the Future of the Industry

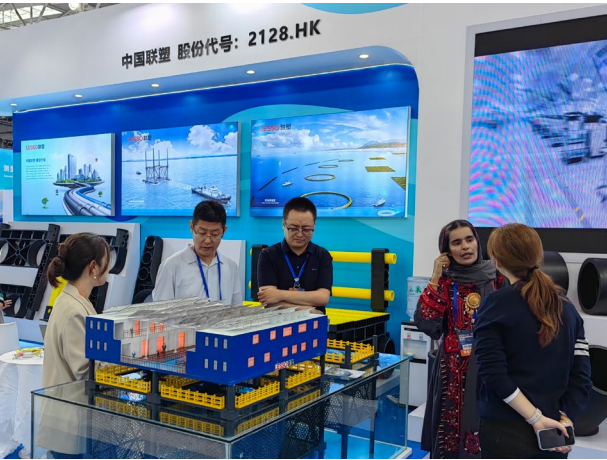
我們積極參與行業標準制定，與行業領先研發機構、企業開展產學研合作和戰略合作，參與行業交流活動，形成資源共享、優勢互補、互幫互助的行業氛圍，共同促進行業發展。

We actively participated in the formulation of industry standards, carried out industry-university-research cooperation and strategic cooperation with leading R&D organizations and enterprises in the industry, and participated in industry exchange activities, forming an industry atmosphere of resource sharing, complementing each other's strengths, helping each other and jointly promoting the development of the industry.

加強行業交流
Enhancing Industry Exchange

本集團積極參加青島海洋科技展、粵港澳大灣區城鎮水務技術與設備展覽會、中國進出口商品交易會（「廣交會」）、第五屆開發者大會，以及世界太陽能光伏暨儲能產業博覽會（「世界太陽能光伏大會」）等行業活動，共同推動行業技術交流與可持續發展。

The Group actively participated in industry events such as the Qingdao Marine Science & Technology Exhibition, Guangdong-Hong Kong-Macao Greater Bay Area Urban Water Technology and Equipment Exhibition, the China Import and Export Fair ("Canton Fair"), the 5th Developers Conference, and the Solar Photovoltaic & Energy Storage World Expo ("SPESWE"), to jointly promote the industry's technological exchanges and sustainable development.



中國聯塑農業產品亮相青島海洋科技展
Agricultural Products of China Lesso Shown at Qingdao Marine Science & Technology Exhibition



中國聯塑參與粵港澳大灣區城鎮水務技術與設備展覽會
China Lesso Participated in Guangdong-Hong Kong-Macao Greater Bay Area Urban Water Technology and Equipment Exhibition

亮相廣交會，加速品牌出海

Debating at canton fair, accelerating brand going overseas

2023 年 4 月 15 日，中國聯塑參與以「廣交世界 互利天下」為主題的第 133 屆廣交會，向全球客商全方位展示了包括管材管件、新能源（光伏組件、逆變器、儲能）及景興鋁模在內的大類產品系統，有力展現了我們的創新科技優勢，為品牌開拓海外市場奠定堅實基礎。

On 15 April 2023, China Lesso participated in the 133rd Canton Fair with the theme of "Canton Fair, Global Share", displaying a full range of product systems including pipes and fittings, new energy (photovoltaic modules, inverters, energy storage) and King Hing aluminum molds to the global merchants, which strongly demonstrated our innovative technological advantages, and laid a solid foundation for the development of our brands in the overseas market.



廣交會聯塑展位
Booth of China Lesso at Canton Fair

聯塑班皓斬獲世界太陽能光伏大會兩項行業大獎

Lesso Banhao won two industry awards at the WSPEIE

2023 年 8 月，聯塑班皓參與 2023 世界太陽能光伏大會，充分展示聯塑班皓光伏全場景產品應用的深度佈局，同時憑藉其高效組件產品的出色性能和卓越品質，斬獲優秀光伏企業和光伏組件優質企業大獎，獲得行業高度認可。

In August 2023, Lesso Banhao participated in the SPESWE 2023, fully demonstrating the in-depth deployment of Lesso Banhao's photovoltaic full-scene product applications. At the same time, with the outstanding performance and excellent quality of its high-efficiency module products, it won the awards of Outstanding Photovoltaic Enterprise and High-Quality Photovoltaic Module Enterprise, receiving high recognition from the industry.



聯塑班皓榮獲 2023 優秀光伏企業
Lesso Banhao Was Awarded 2023 Outstanding Photovoltaic Enterprise



聯塑班皓榮獲 2023 光伏組件優質企業
Lesso Banhao Was Awarded 2023 High-Quality Photovoltaic Module Enterprise

聯動多方合作

Multi-party Cooperation

本集團以資源共享、優勢互補為原則，與地方政府、企業、高校及研究機構開展合作，積極參與行業標準制定，持續加深產學研合作與戰略合作。

Based on the principle of resource sharing and complementing each other's advantages, the Group cooperated with local governments, enterprises, universities and research institutes, and actively participated in the formulation of industry standards, in order to deepen industry-university-research cooperation and strategic cooperation.

制定行業標準

Developing industry standards

本集團作為中國塑料管道行業中首個承擔國際標準制定的參與單位，先後擔任了 12 個標準化技術委員會委員單位工作，並於 2023 年參與 43 項國際、國家、行業、團體標準及國家標準設計圖集、技術規程等的制度修訂工作包括國際標準 2 項，國標標準 20 項，行業標準 12 項，團體標準 6 項，國家標準設計圖集 3 項。

As the first participant in the development of international standards in China's plastic pipe industry, the Group has served as a member of 12 technical committees for standardization and participated in the revision of 43 international, national, industry and group standards, national standard design atlases, and technical regulations, including 2 international standards, 20 national standards, 12 industry standards, 6 group standards and 3 national standard design atlases in 2023.



開展產學研合作

Carrying out industry-university-research cooperation

本集團不斷深化與中山大學、華南理工大學、廣東省科學院新材料研究所、廣州質量監督檢測研究院等高校及研究院的「產、學、研」合作關係，深入探索管道建材產業的前沿領域，攜手共建開放創新生態。

The Group constantly deepens the industry-university-research cooperation with Sun Yat-sen University, South China University of Technology, Institute of New Materials, Guangdong Academy of Sciences, Guangzhou Quality Supervision and Testing Institute and other universities and research institutes, and deeply explores the frontier fields of piping and building materials industry, in order to jointly build an open and innovative ecosystem.



推進戰略合作

Promoting strategic cooperation

本集團以「為健康美好空間永續」為品牌承諾，攜手合作夥伴共同成長。2023 年，我們與 TÜV 南德意志集團、中交一公局集團有限公司、孟加拉海灣集團、中電二公司及西安建工等重要夥伴達成戰略合作。

With the brand commitment to "Sustaining a Healthy, Scenic Living Space", the Group works and grows together with partners all the way. In 2023, we entered into strategic cooperation with key partners such as TÜV SÜD Group, China First Highway Engineering Co., Ltd, Bay Group Bangladesh, CESE2 and Xi'an Construction Engineering Group.



2023 年產學研合作名錄 Directory of Industry-University-Research Cooperation for 2023	
合作院校 Partner institutions	研究項目 Research projects
廣東省科學院新材料研究所 Institute of New Materials, Guangdong Academy of Sciences	「塑料用模具高耐磨耐蝕塗層的性能調控與服役失效機制研究」 Research on the performance regulation and service failure mechanism of high abrasion and corrosion resistance coatings for plastic molds
華南理工大學、華南師範大學 South China University of Technology, South China Normal University	「抗風浪海洋養殖網箱用高性能 PE 管道製造關鍵技術」 Key technology for manufacturing high performance PE pipes for anti-wave marine aquaculture cages
中山大學、華南師範大學、廣東省科學院新材料研究所 Sun Yat-sen University, South China Normal University, Institute of New Materials, Guangdong Academy of Sciences	「高性能環保聚氯乙烯（PVC）管道製造關鍵技術與產業化」 Key technologies and industrialization for high-performance and environmentally friendly polyvinyl chloride (PVC) pipe manufacturing
華南師範大學 South China Normal University	「智能 + 綠色環保新風系統關鍵技術研究與產業化」 Key technology research and industrialization of intelligent + green fresh air system
華南理工大學、華南智能機器人創新研究院 South China University of Technology, South China Robotics Innovation Research Institute	「面向非金屬產品工業製造的太赫茲高速無損檢測的高端裝備技術研究」 Research on high-end equipment technology of terahertz high-speed nondestructive testing for industrial manufacturing of nonmetallic products
華南師範大學 South China Normal University	「長餘輝聚合物材料用於塑料產品防偽的研究」 Research on the use of long afterglow polymer materials for anti-counterfeiting plastic products

聯塑班皓與 TÜV 簽署全方位戰略合作協議
Lesso Banhao and TÜV signed an all-round strategic cooperation agreement

2023 年 6 月 14 日，聯塑班皓與 TÜV 南德意志集團達成光伏組件產品的全方位戰略合作協議。此次戰略合作協議簽署進一步加深雙方在新能源領域光伏產品的一站式技術服務的合作與發展，有力推動聯塑班皓打造全球化、智能化、綠色化產業集群。

On 14 June 2023, Lesso Banhao and TÜV SÜD Group reached an agreement on the all-round strategic cooperation of photovoltaic module products. The signing of this strategic cooperation agreement further deepened the cooperation and development of one-stop technical service of photovoltaic products in the new energy field between the two sides, and strongly promoted Lesso Banhao to build a global, intelligent and green industrial cluster.



聯塑班皓與 TÜV 南德意志集團達成戰略合作
Lesso Banhao and TÜV SÜD Reached Strategic Cooperation

中國聯塑與中交一公局簽署戰略合作協議
China Lesso and China First Highway Engineering Co., Ltd signed a strategic cooperation agreement

2023 年 8 月 23 日，中國聯塑與中交一公局集團有限公司海外事業部簽署戰略合作協議。雙方決定針對海外市場建立全面戰略合作夥伴關係，運用各自的優勢和資源，實現優勢互補、互利共贏，共同促進企業國外業務發展。

On 23 August 2023, China Lesso and the overseas business department of China First Highway Engineering Co., Ltd signed a strategic cooperation agreement. The two parties decided to establish a comprehensive strategic partnership for the overseas market, leveraging their respective advantages and resources to achieve complementary advantages, mutual benefit and win-win situation, and jointly promote the development of enterprises' overseas business.



與中交一公局集團的戰略合作簽約儀式
Signing Ceremony of Strategic Cooperation with China First Highway Engineering Co., Ltd.

中國聯塑與中電二公司達成戰略合作
China Lesso and CESE2 reached strategic cooperation

2023 年 4 月 11 日，中國聯塑與中國電子系統工程第二建設有限公司戰略合作簽訂儀式在中國聯塑集團總部舉行，雙方將在工業研發上形成更緊密的合作。

On 11 April 2023, the signing ceremony of the strategic cooperation between China Lesso and China Electronics System Engineering No.2 Construction Co., Ltd. was held at the headquarters of China Lesso Group. The parties will form a closer partnership in industrial research and development.



與中電二公司的戰略合作簽約儀式
Signing Ceremony of Strategic Cooperation with CESE2



傳遞溫暖 共創幸福社區

Delivering Warmth and Creating Happy Communities

中國聯塑深明飲水思源之重要性，對社會的回報與反哺，是促進自身可持續發展不可或缺的一環。我們秉承責任與擔當的精神，倡導在經營發展中積極履行社會責任，主動參與社會公益、慈善捐贈、鄉村振興等活動，以實際行動助力當地社區經濟發展，共創幸福生活。

China Lesso deeply understands the importance of remembrance of the source of the water we drink. Returning and feeding back to society is an indispensable part of promoting our own sustainable development. Upholding the spirit of responsibility and commitment, we advocate the active fulfillment of social responsibility in business development, and take the initiative to participate in social welfare, charitable donations, rural revitalization and other activities, with an aim to boost the economic development of the local community and create a happy life through practical actions.

回應聯合國可持續發展目標
Response to SDGs

1 無貧窮

1 NO POVERTY

2 零饑餓

2 ZERO HUNGER

3 良好健康與福祉

3 GOOD HEALTH AND WELL-BEING

4 優質教育

4 QUALITY EDUCATION

9 產業、創新和基礎設施

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 減少不平等

10 REDUCED INEQUALITIES

11 可持續城市與社區

11 SUSTAINABLE CITIES AND COMMUNITIES

重大性議題 Major issues	核心策略 Core strategies
當地經濟發展 Local economy development	與當地社區建立合作關係，深化企業與社區聯繫 Build partnerships with local communities to deepen business-community linkages
鄉村振興 Rural revitalization	響應國家鄉村振興政策，積極拓展農業設施的應用，助力貧困地區經濟轉型 Respond to the national rural revitalization policy, actively expand the application of agricultural facilities, help the economic transformation of poor areas
公益慈善活動 Public service and philanthropic care activities	- 持續開展志願服務，扶持弱勢群體 - 組織慈善捐贈 Provide sustained volunteerism and support vulnerable groups Organize charitable donations

關鍵績效 KPIs

- 2023 年度，本集團累計對外捐贈 **388.28** 萬元
In 2023, the Group donated RMB **3.8828** million in total
- 2023 年度，員工參與志願活動 **68** 次
In 2023, our staff participated in **68** volunteering activities



助力鄉村振興

Supporting Rural Revitalization

推進鄉村振興是新時代建設農業強國的重要任務。中國聯塑高度重視美麗鄉村建設，持續貢獻先進產品與技術服務方案，應用於農業種植、畜牧漁業養殖等關鍵領域，保障民生供給、推動當地產業發展，致力於打破城鄉發展壁壘，共創農村美好新未來。

Promoting rural revitalization is an important task in building up China's strength in agriculture in the new era. Attaching great importance to the construction of beautiful villages, China Lesso keeps contributing advanced products and technical service solutions, which are applied in key areas such as agricultural planting, animal husbandry and fishery breeding, to safeguard people's livelihood and promote local industrial development. We are committed to breaking down the barriers between urban and rural areas, and creating a bright new future for the countryside.

管道賦能烏蘭察布標準化養殖基地建設

Empowering standardized farming base construction in Ulanqab with piping

中國聯塑為內蒙古烏蘭察布養殖場擴建項目提供環保衛生、耐用耐腐蝕的大口徑 PE 給水管及高承壓、零滲漏的 PE 鋼絲網複合管，有助於降低養殖污水滲漏風險，助力當地以綠色環保的方式推進標準化奶牛養殖基地現代化轉型建設。

China Lesso provided environmentally friendly, hygienic, durable and corrosion-resistant large-diameter PE water supply pipes and high pressure, zero-leakage PE wire mesh composite pipes for the farm expansion project in Ulanqab, Inner Mongolia, which helped reduce the risk of seepage of farm wastewater and helped the local community promote the modernization and transformation of standardized dairy farming bases in a green and environmentally friendly way.



內蒙古烏蘭察布養殖場擴建項目

Farm Expansion Project in Ulanqab, Inner Mongolia

湖南聯塑捐贈基礎設施建設用管

Hunan Lesso donated pipes for infrastructure construction

2023 年，湖南聯塑科技實業有限公司（「湖南聯塑」）向寧鄉市流沙河鎮大田方村捐贈了 4 萬元資金及價值 4 萬元的 PVC-U 排水管、雙壁波紋管、PVC 薄彎電線管等，用於支援山塘水利建設、美麗屋場建設以及特困村民的用電維護，改善當地居民生活條件，以實際行動助力美麗宜居鄉村建設。

In 2023, Hunan Lesso Technology Industrial Co., Ltd. ("Hunan Lesso") donated RMB 40,000 and PVC-U drainage pipes, double-wall corrugated pipes and PVC thin-bend electric wire pipes valued at RMB 40,000 to Datianfang Village, Liushahe Town, Ningxiang City, to support the construction of water conservancy in mountain ponds, the construction of beautiful housing estates as well as the maintenance of electricity for villagers in special hardship, and improve the living conditions of the local residents, contributing to the construction of a beautiful and livable countryside through practical actions.



湖南聯塑助力鄉村建設

Hunan Lesso Supports Rural Development

中國聯塑將秉承責任與擔當的精神，進一步深入鄉村，以專業優勢為鄉村振興發展提供多元先進環保綠色產品應用支撐，實現農業領域持續現代化，幫助農村地區突破發展地域性限制，助力建設美麗中國。

Upholding the spirit of responsibility and commitment, China Lesso will further extend its reach to the countryside, and provide diversified, advanced and environmentally friendly green product application support for rural revitalization and development with professional advantages, so as to realize sustainable modernization in the field of agriculture, help the rural areas break through the regional restrictions on development, and assist in the construction of a beautiful China.

共築美好社區

Jointly Building Better Communities

企業在創造經濟效益的同時，也要積極參與社區服務，履行企業社會責任。中國聯塑建立《慈善社會公益項目管理辦法》，規範公益與捐贈行為，加強對慈善事業和公益活動的管理。我們與當地社區保持緊密聯繫，心繫弱勢群體，時刻關注當地社區存在的各類問題，並積極定期組織開展扶貧慰問、關愛特殊群體、扶持教育事業等多種公益活動與志願服務，共同營造互惠共生、共治共融的社區氛圍。

While creating economic benefits, enterprises should also actively participate in community services and fulfill their corporate social responsibilities. China Lesso has established the *Measures for the Management of Charitable and Social Welfare Projects* to regulate the behavior of public welfare and donations, and strengthen the management of philanthropy and public welfare activities. We maintain close ties with the local community, care about the vulnerable groups, and always pay attention to the various problems in the local community. We actively and regularly organize and carry out a variety of public welfare activities and volunteer services, such as poverty alleviation, care for special groups, support for education, etc., to jointly create a community atmosphere of mutual benefit, coexistence, co-governance and co-inclusion.

「聯愛萬家」新春愛心福袋活動順利開展

The "Connecting Millions of Families with Love" Spring Festival Blessing Bag Campaign successfully launched

中國聯塑密切關注周邊社區貧困人群，已連續 7 年冠名贊助「聯愛萬家」新春愛心福袋活動。2023 年 1 月 12 日上午，我們與龍江慈善會合作，捐贈總值約 6.1 萬元的新春福袋，惠及全鎮 226 戶低收入家庭，為困難人群帶去新春關懷。

China Lesso pays close attention to the poor in the surrounding communities, and has sponsored the "Connecting Millions of Families with Love" Spring Festival Blessing Bag Campaign for seven consecutive years. On the morning of 12 January 2023, we partnered with the Longjiang Charity Association to donate Spring Festival Blessing Bags with a total value of approximately RMB 61,000, benefiting 226 low-income families in the township and bringing Spring Festival care to those in need.



「聯愛萬家」新春愛心福袋活動
The "Connecting Millions of Families with Love" Spring Festival Blessing Bag Campaign

關愛特殊群體

Caring for special groups



龍江鎮敬老院常駐志願服務活動
Longjiang Township Resident Volunteer Activities in Residential Care Homes for the Elderly



聯塑黨委慰問殘障群體
Party Committee of Lesso Visited Disabled Groups

扶持教育事業

Supporting education



中國聯塑捐資為龍江中學興建體育館
China Lesso Donated Funds to Built Gymnasium for Longjiang Middle School



四川聯塑為困難學生捐贈眼部健康愛心包
Sichuan Lesso Donated Eye Health Care Packages for Students in Need

心繫當地社區

Caring about local communities



廣東聯塑組織員工獻血
Guangdong Lesso Organized Staff to Donate Blood



廣東聯塑捐助龍江鎮腎病患者關懷計劃
Guangdong Lesso Donated to Longjiang Kidney Disease Patient Care Program



廣東聯塑在 2023 年龍江慈善會上捐贈 200 萬元
Guangdong Lesso Donated RMB 2 Million at the 2023 Longjiang Charity Event

中國聯塑心繫社區，今後將進一步了解社區發展問題，開展公益活動及志願服務，攜手社區共同發展。

China Lesso cares about the community. In the future, we will further understand the community development issues, carry out public welfare activities and volunteer services, and work hand in hand with the community for common development.

未來展望

Outlook

我們致力於履行「為健康美好空間永續」的品牌承諾，基於中國聯塑可持續發展理念，攜手員工與合作夥伴，持續精進內部管理，積極發揮技術與產業優勢，共同為推動經濟、社會、環境的可持續發展貢獻力量。

我們將持續聚焦管道主業，調整產業結構，做強細分領域。堅持誠信經營、恪守商業道德的原則，構建可持續發展管理體系，持續完善公司治理結構，加強與利益相關方的溝通，確保本集團的可持續發展。我們將始終秉持「以人為本」的理念，充分尊重和保障員工權益，為員工提供完善培訓機制與公平的發展機會打造健康安全的工作環境和有競爭力的薪酬福利體系。我們將可持續發展理念融入業務營運中，踐行「綠色發展」理念，主動應對全球氣候變化問題，推動低碳轉型，降低生命週期各個階段對環境的影響，生產一流的綠色產品，為「健康美好空間永續」。科技工作者攻難題、攀高峯，助力釋放科技創新，提高產品性能和競爭力，引領產業創新的澎湃動能。我們始終將積極踐行企業社會責任作為本集團的長期戰略，利用自身專業和資源優勢在各領域積極開展公益項目，攜手社會各界力量為社會發展貢獻綿薄之力。

征程萬里風正勁，重任千鈞再奮進。新的一年，中國聯塑將直面更加高遠的明天，將可持續發展理念堅持貫徹下去，為人民打造美好生活，為城市建設美好生活空間，為社會創造更多價值。

We are committed to achieving the brand commitment to "Sustaining a Healthy, Scenic Living Space". Based on the sustainable development concept of China Lesso, we will join hands with our employees and partners to continuously improve our internal management, actively utilize our technological and industrial advantages, and jointly contribute to the promotion of the sustainable development of the economy, society and environment.

We will continue to focus on the main business of piping, adjust the industrial structure, and strengthen the segmented field. Upholding the principles of operating in good faith and adhering to business ethics, we will build a sustainable development management system, constantly improve our corporate governance structure and enhance communication with our stakeholders to ensure the sustainable development of the Group. Maintaining the "people-oriented" concept, we will fully respect and protect the rights and interests of employees, provide employees with a sound training mechanism and fair development opportunities, and create a healthy and safe working environment and competitive salary and benefit system for the employees. We will integrate the concept of sustainable development into our business operations, practice the concept of "green development", proactively respond to global climate change issues, promote low-carbon transformation, reduce the impact on the environment at all stages of the life cycle, and produce first-class green products for "Sustaining a Healthy, Scenic Living Space". Science and technology workers tackle difficult problems and scale new heights, releasing the momentum of promoting scientific and technological innovation, improving product performance and competitiveness, and leading industrial innovation. Taking the active practice of corporate social responsibility as the long-term strategy of the Group, we will make use of our professional and resource advantages to actively carry out public welfare projects in various fields, and join hands with all sectors of society to contribute to social development.

The wind is strong for our long journey, let's forge ahead again shouldering the most formidable tasks. In the new year, China Lesso will face a loftier tomorrow. We will persist in implementing the concept of sustainable development, with an aim to create a better life for the people, build a better living space for the city, and create more value for the society.

ESG 指標索引

ESG Indicators Index

環境			
Environment			
層面	指標編號	指標內容	所在報告位置
Aspect	Indicator No.	Content	Location in the Report
A1：排放物 A1: Emissions	一般披露 General Disclosure	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： 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。 Information on: a) the policies; and b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	堅持綠色營運 Insisting on Green Operation 應對氣候變化 Tackling Climate Change
	A1.1	排放物種類及相關排放數據。 The types of emissions and respective emission data.	廢棄物管理 Waste Management
	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）。 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).	減緩氣候變化 Climate Change Mitigation
	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）。 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	廢棄物管理 Waste Management
	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）。 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	廢棄物管理 Waste Management
	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。 Description of emissions target(s) set and steps taken to achieve them.	廢棄物管理 Waste Management 踐行綠色目標 Practicing Green Goals
	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。 Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	廢棄物管理 Waste Management 踐行綠色目標 Practicing Green Goals
A2：資源使用 A2: Use of Resources	一般披露 General Disclosure	有效使用資源（包括能源、水及其他原材料）的政策。 Policies on the efficient use of resources, including energy, water and other raw materials.	優化資源利用 Optimizing Resource Utilization
	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）。 Direct and/or indirect total 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).	減緩氣候變化 Climate Change Mitigation
	A2.2	總耗水量及密度（如以每產量單位、每項設施計算）。 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	優化資源利用 Optimizing Resource Utilization
	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。 Description of energy use efficiency target(s) set and steps taken to achieve them.	優化資源利用 Optimizing Resource Utilization 踐行綠色目標 Practicing Green Goals

社會			
Social			
層面	指標編號	指標內容	所在報告位置
Aspect	Indicator No.	Content	Location in the Report
A2：資源使用 A2: Use of Resources	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。 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and the steps taken to achieve them.	踐行綠色目標 Practicing Green Goals 優化資源利用 Optimizing Resource Utilization
A2：資源使用 A2: Use of Resources	A2.5	製成品所用包裝材料的總量（以噸計算）及（如適用）每生產單位佔量。 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	優化資源利用 Optimizing Resource Utilization
A3：環境及天然資源 A3: Environment and Natural Resources	一般披露 General Disclosure	減低發行人對環境及天然資源造成重大影響的政策。 Policies on minimising the issuer's significant impacts on the environment and natural resources.	應對氣候變化 Tackling Climate Change
A3：環境及天然資源 A3: Environment and Natural Resources	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。 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	踐行綠色目標 Practicing Green Goals
A4：氣候變化 A4: Climate Change	一般披露 General Disclosure	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。 Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	應對氣候變化 Tackling Climate Change
	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，及應對行動。 Description of significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	應對氣候變化 Tackling Climate Change
社會			
Social			
層面	指標編號	指標內容	所在報告位置
Aspect	Indicator No.	Content	Location in the Report
B1：僱傭 B1: Employment	一般披露 General Disclosure	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。 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.	保障員工權益 Safeguarding the Rights and Interests of Employees
	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。 Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region.	員工多元與包容 Employee Diversity and Inclusion
	B1.2	按性別、年齡組別及地區劃分的僱員流失比率。 Employee turnover by gender, age group and geographical region.	員工多元與包容 Employee Diversity and Inclusion
B2：健康與安全 B2: Health and Safety	一般披露 General Disclosure	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。 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.	關愛員工健康 Caring about Employee Health

層面 Aspect	指標編號 Indicator No.	指標內容 Content	所在報告位置 Location in the Report
B2：健康與安全 B2: Health and Safety	B2.1	過去三年（包括匯報年度）每年因工亡故的人數及比率。 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	關愛員工健康 Caring about Employee Health
	B2.2	因工傷損失工作日數。 Lost days due to work injury.	關愛員工健康 Caring about Employee Health
	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。 Description of occupational health and safety measures adopted, and how they are implemented and monitored.	關愛員工健康 Caring about Employee Health
B3：發展及培訓 B3: Development and Training	一般披露 General Disclosure	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。 Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	賦能員工成長 Empowering Employee Growth
	B3.1	按性別及僱員類別（如高級管理層、中級管理層）劃分的受訓僱員百分比。 The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	人才培訓 Talent Training
	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。 The average training hours completed per employee by gender and employee category.	人才培訓 Talent Training
B4：勞工準則 B4: Labour Standards	一般披露 General Disclosure	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。 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 labor.	合理僱傭 Reasonable Employment
	B4.1	描述檢討招聘慣例的措施以避免童工及強制勞工。 Description of measures to review employment practices to avoid child and forced labor.	合理僱傭 Reasonable Employment
	B4.2	描述在發現違規情況時消除有關情況所採取的步驟。 Description of steps taken to eliminate such practices when discovered.	合理僱傭 Reasonable Employment
B5：供應鏈管理 B5: Supply Chain Management	一般披露 General Disclosure	管理供應鏈的環境及社會風險政策。 Policies on managing environmental and social risks of the supply chain.	構建可持續供應鏈 Building a Sustainable Supply Chain
	B5.1	按地區劃分的供應商數目。 Number of suppliers by geographical region.	構建可持續供應鏈 Building a Sustainable Supply Chain
	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。 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	構建可持續供應鏈 Building a Sustainable Supply Chain
	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。 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	構建可持續供應鏈 Building a Sustainable Supply Chain
	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。 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	構建可持續供應鏈 Building a Sustainable Supply Chain

層面 Aspect	指標編號 Indicator No.	指標內容 Content	所在報告位置 Location in the Report
B6：產品責任 B6: Product Responsibility	一般披露 General Disclosure	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。 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.	嚴控產品質量 Controlling Product Quality Strictly 提升客戶體驗 Improving Customer Experience
	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。 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	嚴控產品質量 Controlling Product Quality Strictly
	B6.2	接獲關於產品及服務的投訴數目以及應對方法。 Number of products and service related complaints received and how they are dealt with.	提升客戶體驗 Improving Customer Experience
	B6.3	描述與維護及保障知識產權有關的慣例。 Description of practices relating to observing and protecting intellectual property rights.	知識產權保護 Intellectual Property Protection
	B6.4	描述質量檢定過程及產品回收程序。 Description of quality assurance process and recall procedures	產品召回機制 Product Recall Mechanism
B7：反貪污 B7: Anticorruption	B6.5	描述消費者資料保障及私隱政策，以及相關執行及監察方法。 Description of consumer data protection and privacy policies, and how they are implemented and monitored.	保護客戶信息 Protecting Customer Information
	一般披露 General Disclosure	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。 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.	反腐敗與反舞弊 Anti-Corruption and Anti-Fraud
	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。 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.	反腐敗與反舞弊 Anti-Corruption and Anti-Fraud
	B7.2	描述防範措施及舉報程序，以及相關執行及監察方法。 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	反腐敗與反舞弊 Anti-Corruption and Anti-Fraud
	B7.3	描述向董事及員工提供的反貪污培訓。 Description of anti-corruption training provided to directors and staff.	反腐敗與反舞弊 Anti-Corruption and Anti-Fraud
B8：社區投資 B8: Community Investment	一般披露 General Disclosure	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。 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.	傳遞溫暖 共創幸福社區 Delivering Warmth and Creating Happy Communities
	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）。 Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport).	傳遞溫暖 共創幸福社區 Delivering Warmth and Creating Happy Communities
	B8.2	在專注範疇所動用資源（如金錢或時間）。 Resources contributed (e.g. money or time) to the focus area.	傳遞溫暖 共創幸福社區 Delivering Warmth and Creating Happy Communities

意見反饋表

Feedback

尊敬的讀者：

您好！感謝您於百忙中閱讀我們的報告。期待您分享關於報告的任何意見與想法，幫助我們持續改進報告編制方式與社會責任工作表現。

Dear readers:

Thank you for taking the time to read this report. We look forward to receiving your opinions and suggestions, which will help us to improve the report preparation and enhance our performance in fulfilling social responsibility.

1. 以下哪個利益相關方最切合您的身份？What is the stakeholder type that best describes your position?

- ☐政府 Government ☐投資者 Investor ☐員工 Employee ☐客戶 Customer ☐供應商 Supplier
☐經銷商 Distributor ☐學術 / 科研機構 Academic/research institute ☐同行 Peer
☐社區與公眾 Communities and general public ☐福利團體 / 非政府組織 Welfare group/NGO ☐媒體 Media
☐其他（請註明） Other (please specify)

2. 您認為本報告 Your opinion on this report:

	很好 Very good	較好 Good	一般 Acceptable	較差 Poor	很差 Very poor
報告結構 Structure of the report					
信息披露 Information disclosure					
版式設計 Layout and design					
可讀性 Readability					
總體評價 Overall evaluation					

3. 哪個篇章最切合您的需要？（可選 2 項）

Which part(s) of this report is (are) the most useful to you? (You can select up to 2 items)

- ☐董事長致辭 Chairman's Message ☐關於我們 About Us ☐2023 責任榮譽 Responsibility Honors in 2023
☐奮楫篤行 賦能持續發展 Striving to Empower the Sustainable Development
☐穩抓品質 佈局多元品類 Quality Control for Layout of Multiple Categories
☐聚焦環境 引領低碳未來 Focusing on the Environment to Lead a Low-carbon Future
☐多元共融 打造員工之家 Building a Diversified and Inclusive Home for Employees
☐穩鏈固鏈 攜手共贏互利 Stabilizing and Solidifying the Chain for a Win-win Situation and Mutual Benefits
☐傳遞溫暖 共創幸福社區 Delivering Warmth and Creating Happy Communities ☐未來展望 Outlook

4. 您對我們的可持續發展報告或履責表現，還有哪些意見或建議？您可以通過中國聯塑 CSR 專用郵箱 csr@lesso.com 反饋給我們。

Do you have any other comments or suggestions regarding our Sustainable Development Report or performance? Please send your feedback to the dedicated CSR mailbox of China Lesso: csr@lesso.com.



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