



恒安國際集團有限公司

HENGAN INTERNATIONAL GROUP CO., LTD

(Incorporated in the Cayman Islands with limited liability)

(於開曼群島註冊成立的有限公司)

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2023

CLIMATE-RELATED DISCLOSURES REPORT

氣候相關披露報告



Content 目錄

- 3 一、 **GOVERNANCE**
治理
- 4 1.1. BOARD OF DIRECTORS
董事會
- 4 1.2. ESG COMMITTEE
ESG委員會
- 5 1.3. ESG WORKING GROUP
ESG工作小組
- 5 1.4. FUNCTIONAL DEPARTMENTS
集團職能部門
- 6 二、 **STRATEGY**
策略
- 6 2.1. IDENTIFICATION OF RISKS AND
OPPORTUNITIES
風險及機遇識別
- 9 2.2. COPING STRATEGIES
應對策略
- 22 2.3. SCENARIO ANALYSIS
情景分析
- 25 三、 **RISK MANAGEMENT**
風險管理
- 26 四、 **INDICATORS AND TARGETS**
指標與目標
- 27 4.1. GROUP GREENHOUSE GAS EMISSIONS
集團溫室氣體排放
- 29 4.2. ENVIRONMENTAL TARGETS OF
PAPERMAKING SECTOR
造紙板塊環境目標

Climate-related Disclosures Report 氣候相關披露報告

Climate change has become an important issue on the international political agenda, triggering widespread concern and discussion in the international community, and having deep implications for social development and the shared future for mankind. In 2023, at the 28th session of the Conference of the Parties (COP28) of the United Nations Framework Convention on Climate Change (UNFCCC) (《聯合國氣候變化框架公約》), the first Global Stocktake of greenhouse gas emissions (GST) was completed to track the progress made by United Nations Member States towards achieving the goals of the Paris Agreement (《巴黎協定》) in 2015 and call for transition away from fossil fuels, depicting the future of a gradual shift from traditional energy structures to net zero carbon emissions.

In 2020, China officially announced the goals of “dual carbon”, clarified the “dual carbon” top-level design and established the “1+N” policy system for carbon peaking and carbon neutrality, adhering to the combination of mitigation and adaptation, implementing a national strategy for actively responding to climate change, and improving its ability to prevent and resist climate risks.

As a responsible papermaking company, Hengan International Group Co., Ltd. (Hengan or the Group) closely follows the global trend of climate change development and national strategy, and continuously strengthens the Group’s overall initiatives to address climate change. Since 2016, Hengan has released annual Environmental, Social and Governance (ESG) reports to stay open to supervision from stakeholders, improve ESG management and secure information transparency. In addition, by voluntarily adopting the Task Force on Climate-related Financial Disclosures (TCFD) framework, Hengan delivered the first TCFD report in 2022, pursuing low-carbon transformation in various measures directed by climate-related strategies and goals that we established. In 2023, Hengan continued to carry out climate-related disclosures and improve the climate action plan, and carried out an inventory of greenhouse gas emissions throughout the value chain, to further improve our climate risk management.

In the process of acting on the “dual carbon” strategy, Hengan actively joined hands with all parties. In 2021, Hengan joined the Carbon Neutral Professional Committee of the China Energy Conservation Association and the “Belt and Road” Ecological Industry Cooperation Work Committee of the China Environmental Protection Federation as vice-chairman, demonstrated the positive attitude in addressing climate change, promoted consensus and co-operation on climate change issues in concert with all parties, and determined to achieve sustainability.

氣候變化問題已成為國際政治議程的重要議題，引發了國際社會的廣泛關注和討論，對社會發展和人類命運產生深遠的影響。2023年，《聯合國氣候變化框架公約》第28次締約方大會(COP28)完成了第一次全球溫室氣體排放量盤點(The Global Stocktake，簡稱「GST」)，了解各聯合國會員國在實現2015年《巴黎協定》氣候目標方面所取得的進展，並呼籲各國「轉型脫離」化石燃料，描繪了傳統能源結構逐漸轉向淨零碳排放的未來。

中國在2020年正式提出「雙碳」目標，明確「雙碳」頂層設計框架，並建立碳達峰碳中和「1+N」政策體系，堅持減緩和適應並重，實施積極應對氣候變化國家戰略，提高氣候風險防範和抵禦能力。

恒安國際集團有限公司(簡稱「恒安」、「本集團」)作為具有環境和社會責任感的造紙企業，緊跟世界應對氣候變化發展趨勢和國家戰略，持續強化集團應對氣候變化的整體舉措。自2016年起，恒安開始發佈年度環境、社會及管治(Environmental, Social and Governance，簡稱「ESG」)報告，接受各利益相關方監督，提高ESG管理水平，加強信息透明度。同時，依據氣候相關財務信息披露工作組(Task Force on Climate-related Financial Disclosures，簡稱「TCFD」)的框架，恒安於2022年啟動首份TCFD報告的編製工作，建立自身氣候相關戰略及目標，在經營各環節進行節能降碳實踐，努力推進企業綠色低碳轉型。2023年，恒安持續開展氣候相關披露，完善氣候行動計劃，開展全價值鏈溫室氣體排放盤查，進一步提升我們的氣候風險管理水平。

在貫徹落實「雙碳」戰略部署的過程中，恒安積極與各方攜手共行。2021年，恒安加入中國節能協會碳中和專業委員會及中華環保聯合會「一帶一路」生態產業合作工作委員會，在其中擔任副主任委員單位，展現自身在應對氣候變化方面的積極態度，與各方協同推動對氣候變化問題的共識和合作，彰顯了恒安在支持可持續發展方面的決心和毅力。

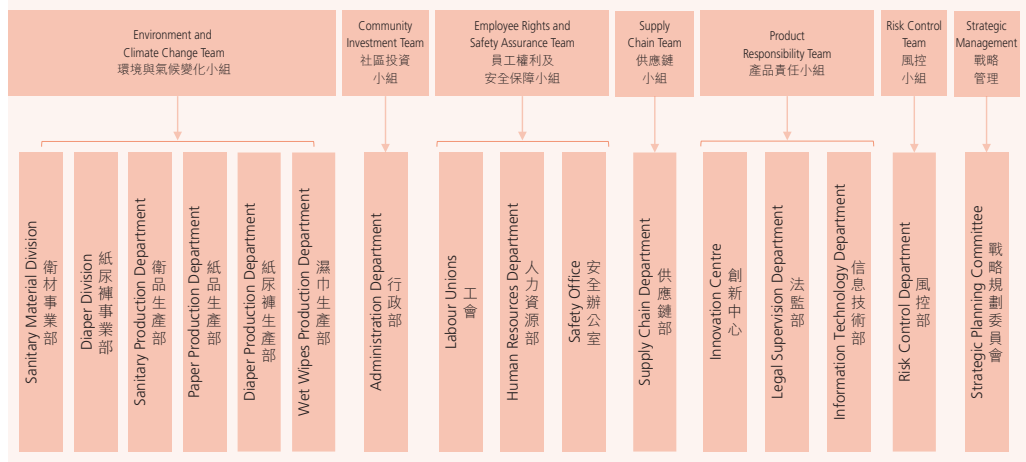
Climate-related Disclosures Report 氣候相關披露報告

1. GOVERNANCE

With a strong belief that, the importance of climate-related governance plays a key role in enabling sustainable development, Hengan integrates ESG and climate-related issues into the daily decision-making and management, and further refines the top-level design of ESG and climate-related governance. The Group has established a top-down four-level ESG and climate governance structure, comprising the Board of Directors, ESG Committee, ESG working group and functional departments, which are responsible for decision-making, monitoring, coordination, and execution of ESG and climate-related issues respectively. Members under this structure are committed to integrating ESG and climate-related governance into operations and management, continuously improving the level of sustainable management, and laying a solid foundation for the steady advancement of sustainable development.

一、治理

恒安堅信，重視氣候相關事宜管治在賦能可持續發展中發揮著關鍵作用。由此，本集團將ESG及氣候相關事宜化為考量因素融入企業的日常決策與管理，持續完善ESG及氣候相關事宜治理的頂層設計。本集團自上而下建立了四級ESG及氣候治理架構，包含董事會、ESG委員會、ESG工作小組及各相關職能部門，分別承擔ESG及氣候相關事宜的決策、監督、協調及執行職責，致力於將ESG及氣候治理理念貫穿本集團運營管理的各個環節，持續提升可持續發展管理水平，為穩步推進可持續發展各項工作打下堅實基礎。



Hengan ESG Governance Framework
恒安ESG治理架構

Climate-related Disclosures Report

氣候相關披露報告

1.1. Board of Directors

The Board of Directors is the highest decision-making body for ESG and climate-related issues and has the primary responsibility for ESG and climate-related issues of the Group. Based on the business operations and stakeholder demands, the Board of Directors monitors the climate-related risks and opportunities, and continuously strengthens the responsibilities of ESG and climate-related issues as follows:

- make decisions and oversight on the ESG and climate-related issues
- develop ESG and climate-related issues management mission, policy and strategy
- review ESG and climate-related goals
- approve the release of ESG Report and Climate-related Disclosures Report and disclosure of information
- identify the goals and priorities of ESG and climate-related issues for the next phase

The Board of Directors makes dynamic adjustments to ESG and climate-related issues in accordance with business principles and strategies to ensure that the goals on ESG and climate-related issues are always closely related to the Group's business. In 2023, the Board of Directors received a report from the ESG committee, gaining insights into the latest trends and compliance requirements regarding climate issues, the climate-related initiatives and performance of the Group, external stakeholders' demands, as well as recommendations for promoting low-carbon development. The Board of Directors expressed support and recognition for the Group's climate strategy and efforts gained.

1.2. ESG Committee

In 2023, the Group established the ESG Committee, which is a specialized working body for ESG and climate-related issues. ESG Committee reports ESG and climate-related issues annually to and be monitored and reviewed regularly by the Board of Directors for its responsibilities under the Board of Directors' strategy:

- identify, assess and manage significant ESG & climate-related issues and risks to the Group's business

1.1. 董事會

董事會是本集團ESG及氣候相關事宜的最高決策機構，對集團ESG及氣候相關事宜工作承擔主要責任。董事會基於企業自身運營和利益相關方訴求，監督企業氣候相關的風險和機遇，並不斷強化以下ESG及氣候相關事宜職責：

- 決策和監管集團ESG及氣候相關事宜
- 制定ESG及氣候相關事宜的管理願景、方針及策略
- 檢討ESG及氣候變化相關目標與計劃落實
- 審批ESG報告及氣候相關披露報告的發佈和信息的披露
- 確認下階段的ESG及氣候相關事宜目標及工作重點

董事會亦將根據業務方針及策略對ESG和氣候相關事宜工作進行動態調整，確保本集團ESG和氣候相關事宜目標始終與集團業務關聯緊密，並具有實際意義。2023年，董事會聽取了一次ESG委員會工作匯報，了解了氣候議題最新趨勢與合規要求、本集團氣候相關工作部署、實施情況及績效、外部利益相關方訴求以及有關推進低碳發展建議，並對集團當前的氣候戰略方向與工作表示支持與認可。

1.2. ESG委員會

2023年本集團在董事會增設ESG委員會，其為ESG及氣候相關事宜的專門工作機構，負責根據董事會的策略方針承擔以下職責，並每年直接向董事會報告ESG及氣候相關工作執行成果，接受董事會的監督和進行定期檢討：

- 識別、評估和管理重要的ESG及氣候相關事宜及其對集團業務的風險

Climate-related Disclosures Report 氣候相關披露報告

- determine ESG & climate-related management goals and formulate ESG & climate change strategic plan
- oversee the implementation of ESG & climate change plan and work
- confirm with the Board of Directors in respect of the effectiveness of ESG & climate change risk management and internal control system
- supervise the release of ESG Report and Climate-related Disclosures Report and disclosure of information
- 確定ESG及氣候變化管理相關目標，制定ESG及氣候變化戰略計劃
- 監督ESG及氣候變化計劃的落實和工作開展
- 向董事會提供有關ESG及氣候變化風險管理和內部控制系統是否有效的確認
- 督導ESG報告及氣候相關披露報告的發佈和信息的披露

In 2023, the ESG Committee has completed the review of the progress and performance of the Group's goals for ESG and climate-related issues during the reporting period, which is in compliance with the Group's ESG and climate-related management strategy.

2023年，ESG委員會已完成報告期內的本集團ESG及氣候相關事宜各項目標進度和工作開展情況的檢視，整體符合本集團ESG及氣候相關事宜管理策略。

1.3. ESG Working Group

ESG Working Group is the coordinating body that composes of ESG department and representatives of functional departments, responsible for the following ESG & climate-related issues:

- maintain risk management and internal control system for ESG reporting and Climate-related Disclosures reporting
- carry out ESG reporting and Climate-related Disclosures reporting, and implement ESG & climate change strategies and goals
- collect ESG & climate change data and information regularly
- prepare ESG Report and Climate-related Disclosures Report

1.3. ESG工作小組

本集團ESG工作小組作為ESG及氣候相關事宜的協調機構，由集團ESG部及各相關職能部門代表組成，承擔以下ESG及氣候相關事宜職責：

- 維護ESG報告及氣候相關披露報告的風險管理和內部控制制度
- 推進ESG報告及氣候相關披露報告工作，落實ESG及氣候變化戰略與目標
- 定期收集ESG及氣候變化數據和信息
- 編撰ESG報告及氣候相關披露報告

1.4. Functional Departments

Functional departments, as a base, steadily support the coordination of ESG & climate-related issues, and cooperate with ESG working group in implementing ESG & climate-related issues to each functional department.

1.4. 集團職能部門

本集團各職能部門為ESG及氣候相關事宜的協調提供穩固的基層支撐，配合ESG工作小組落實各職能部門ESG及氣候相關事宜工作。

Climate-related Disclosures Report

氣候相關披露報告

2. STRATEGY

In the face of the severe challenge of global climate change, the Group is deeply aware of the impacts of climate change on ecosystems and human society. In response to the UN SDGs and “dual carbon” goals, we have considered the risks and opportunities associated with climate change as one of the key considerations in corporate strategic planning, and have continued to promote the research and development of green products, improvement of operational efficiency, energy transformation, circular economy and cleaner production. We have also comprehensively improved the monitoring and disclosure of climate-related information, and upgraded the mechanism for managing and assessing climate-related risks and opportunities to enhance the climate resilience of our operations.

2.1. Identification of risks and opportunities

Based on the TCFD framework and extensive industry research, Hengan ESG Committee regularly conducts assessments of climate-related risks and opportunities based on detailed risk types, on the basis of which, we have analyzed each risk type each risk type in relation to short-term, medium-term, and long-term impacts based on the Group’s business situation and development strategy, as well as internal and external stakeholder concerns.

Climate risks are divided into transition risks and physical risks :

- Transition risks represent economic or financial risks occurring when factors such as climate change policy, technology innovation, market sentiment and consumer preference affect the valuation of enterprise assets, mainly stemming from strengthened decarbonization requirements;
- Physical risks represent risks of extreme or abnormal weather events directly causing damage to economic activities, including event-driven impacts and long-term change in climate patterns.

二、策略

在面對全球氣候變化的嚴峻挑戰下，本集團深刻認識到氣候變化對生態系統和人類社會的影響。我們響應聯合國可持續發展目標（Sustainable Development Goals，簡稱SDGs）和國家「雙碳」目標，以可持續發展為核心，將氣候變化相關風險和機遇作為企業戰略規劃重要考量之一，持續推動自身綠色產品研發、運行效率提升、能源轉型、循環經濟和清潔生產，全面完善氣候相關信息監控與披露，升級氣候風險和機遇的管理與評估機制，以提高自身運營的氣候韌性。

2.1. 風險及機遇識別

依據TCFD框架和廣泛的同業調研，恒安ESG委員會定期按照詳細的風險類型開展氣候相關風險和機遇的評估，在此基礎上，我們根據本集團業務狀況和發展戰略，以及內部和外部利益相關方關注點，分析了每個風險類型與短期、中期和長期影響。

氣候風險分為轉型風險和物理風險：

- 轉型風險指應對氣候變化政策、技術創新、市場情緒及消費者偏好發生改變等影響企業資產估值帶來的經濟或金融風險，其主要源於加強脫碳工作的需求；
- 物理風險指極端天氣事件或氣候變化導致的長期影響對經濟活動直接造成損害的風險，包括事件驅動性影響和氣候模式的長期變化。

Climate-related Disclosures Report 氣候相關披露報告

In 2023, Hengan identified the following short-term (1–3 years), medium-term (3–5 years), and long-term (5–10 years) climate-related risks in both transition and physical dimensions:

2023年，恒安在轉型風險和物理風險兩個維度識別出了以下短期（1–3年）、中期（3–5年）和長期（5–10年）的氣候相關風險：

Risk/opportunity categories 風險/機遇類別	Type of risk 風險類型	Risk factors 風險因子	Business and financial impact 業務和財務影響	Coping strategies 應對策略	Scope of impact 影響範圍
Transition risk 轉型風險	Policy and legal risk 政策與法律風險	Tightened policies 監管政策收緊	Stricter climate compliance regulations may increase the probability of non-compliance events, and thus increase the cost of compliance 氣候合規監管趨嚴，可能會增加違規事件的發生概率，進而增加合規成本 Capacity expansion is restricted and may affect sales growth 產能擴增受限，可能影響銷售增長	<ul style="list-style-type: none"> Green production 綠色生產 Green storage 綠色倉儲 Green logistics 綠色物流 Carbon emission management 碳排放管理 Investment in renewable energy projects 投資可再生能源項目 	Medium to long term 中長期
		Increased pricing of GHG 碳排放成本升高	If carbon emissions are not effectively managed, the purchase of carbon emission equity such as Chinese Emission Allowances will result in higher operating costs and impact on the reputation of the enterprise 碳排放若未得到有效管理，購買配額等碳排放權益產品履約會帶來運營成本增加，並影響企業聲譽 Outdated production capacity and equipment face the risk of asset impairment, and their renewal and replacement will require additional investment 落後的產能和設備面臨資產減值風險，其更新替換會增加投資		
	Market risk 市場風險	Consumer's green preference 消費者綠色偏好	Consumer's green preference 消費者綠色偏好	May lose a significant number of environmentally conscious high-quality consumers 可能失去大量具有環保意識的高質量消費者 Impact the reputation of the company and consumers' trust in the brand 影響企業聲譽以及消費者對品牌的信任	<ul style="list-style-type: none"> Sustainable products 可持續產品 Responsible brand image 負責任品牌形象 Plastic reduction action 減塑行動
Lack of raw materials 原材料短缺			The supply of raw materials is insufficient to guarantee the continuity of production 原材料供應不足，無法保證生產連續性 Increase in raw materials prices and increase in production costs 原材料價格上漲，生產成本上升	<ul style="list-style-type: none"> Sustainable procurement 可持續採購 Intelligent supply chain management 供應鏈智能化管理 Supplier cooperation exchange 供應商合作交流 	

Climate-related Disclosures Report

氣候相關披露報告

Risk/opportunity categories 風險/機遇類別	Type of risk 風險類型	Risk factors 風險因子	Business and financial impact 業務和財務影響	Coping strategies 應對策略	Scope of impact 影響範圍
Physical risk 物理風險	Chronic risk 慢性風險	Rising mean temperatures 平均氣溫升高	<p>Increased demand for cooling equipment, along with increased cost of electricity consumption 降溫設備需求增加，同時增加用電成本</p> <p>Electricity limitation affects capacity 限電對產能造成影響</p> <p>Frequent mountain fires caused by high temperatures, affecting the supply of raw materials 高溫引發的山火頻發，影響原材料供應</p>	<ul style="list-style-type: none"> Installation of energy efficient air conditioning system 安裝高效節能的空調系統 Sustainable procurement 可持續採購 	Long-term 長期
		Water shortage 水資源短缺	<p>Water scarcity may result in a decrease or interruption in production capacity for companies, affecting the supply of upstream raw materials 水資源短缺可能會使得企業產能下降或中斷，影響上游原材料供應</p>	<ul style="list-style-type: none"> Water resources management 水資源管理 	Long-term 長期
	Acute risk 急性風險	Frequent extreme weather 極端天氣頻繁	<p>The risk of interruption in production, storage, transportation, and other processes will increase, disrupting operational workflows 生產、存儲、運輸等環節中斷風險增加，擾亂運營流程</p> <p>Impacting employees' travel, threatening employees' health and safety 影響員工出行，威脅員工健康與生產安全</p> <p>The costs of post-disaster reconstruction and insurance rise 受災後重建及保險成本上升</p> <p>Operational costs for operation and transportation increase 生產、運輸等運營成本增加</p>	<ul style="list-style-type: none"> Sustainable procurement 可持續採購 Intelligent supply chain management 供應鏈智能化管理 Flexible production supply system 柔性生產供應系統 	Short-term 短期
Transition opportunities 轉型機遇			<p>The market for green low-carbon products is showing a growing trend, and will attract new consumer groups and increase brand influence 綠色低碳產品市場呈現增長趨勢，綠色低碳產品會吸引新的消費群體以及增加品牌影響力</p> <p>The effective implementation of low-carbon operational measures will reduce the energy and resource consumption of products, enhancing the competitive advantage 低碳運營措施的有效實施，降低了產品的能源和資源消耗，提升了產品的競爭優勢</p>	<ul style="list-style-type: none"> Sustainable products 可持續產品 Green operations 綠色運營 	Medium to long term 中長期

Climate-related Disclosures Report 氣候相關披露報告

2.2. Coping strategies

Hengan recognizes that the risks and development opportunities arising from climate change will greatly impact our business strategy. As a result, based on international trends, Chinese macro environment, industry characteristics and its own business model, we have developed mitigation measures for the significant climate-related risks identified and sought opportunities from various aspects of our business, including improving operational efficiency, developing sustainable procurement, enhancing logistics sustainability and developing sustainable products.

▶ *Green operations*

The paper industry is one of the first eight major industries in China to be included in carbon trading due to its long industrial chain and high energy consumption. In the context of the carbon-peak and carbon-neutral policies, optimizing the energy structure and promoting green development have become the inevitable choice for industrial survival and development. The Group adopts various measures in production, warehousing, logistics, and other operational processes, including but not limited to digital management upgrades, improvement of energy management systems, energy-saving technology renovations, etc., in order to continuously explore opportunities to improve energy utilization efficiency from the perspectives of management enhancement and technological improvement to improve sustainable operation, and help reduce energy consumption and greenhouse gas emissions.

- *Energy conservation management*

The Group strictly complies with the *Energy Conservation Law of the People's Republic of China* (《中華人民共和國節約能源法》), formulates the *Hengan Group Energy Saving and Consumption Reduction Management Policy* (《恆安集團節能降耗管理制度》), establishes an energy management system in the factories, and obtains ISO 50001 certification to regulate the use of energy in the production process. Through intelligent operation and energy-saving technology upgrades, the Group aims to improve energy utilization efficiency and steadily advance energy conservation and carbon reduction efforts.

2.2. 應對策略

恒安認識到氣候變化產生的風險及帶來的發展機遇將極大的影響我們的經營戰略、運營和財務業績，因此，我們根據國際趨勢、中國的宏觀環境、行業特點和自身商業模式，對識別出的氣候相關的重大風險制定了緩解措施，並從業務的不同方面尋求機會，包括提升運營效率、可持續採購、提升物流可持續性以及開發可持續的產品等。

▶ *綠色運營*

造紙行業由於產業鏈長，能耗高，是中國首批納入碳交易的八大行業之一。在碳達峰、碳中和的政策背景下，優化能源結構、推進綠色發展，已成為產業生存和發展的必然選擇。本集團在生產、倉儲、物流等多個運營環節採取包括但不限於，數智化管理升級、能源管理體系完善、節能技術改造等多項措施，從管理提升和技術改進的角度不斷挖掘提高能源利用效率的機會，提高可持續運營水平，助力減少能源消耗與溫室氣體排放。

- *節能管理*

本集團嚴格遵守《中華人民共和國節約能源法》，制定《恆安集團節能降耗管理制度》，並在工廠中建立能源管理體系並通過ISO 50001認證，以規範生產環節能源使用，並通過智能化運營、節能技術改造等方式，提高能源利用效率，穩步推進節能降碳工作。

Climate-related Disclosures Report

氣候相關披露報告

In terms of energy management, we have established an energy and power demand-side management platform and a paper industry energy management center system to monitor the energy data of various production companies and bases in real-time, promptly identify anomalies, and seek opportunities to enhance energy utilization efficiency. We implement a planned electricity use strategy in the factories, track, analyze, and evaluate monthly electricity consumption, and set electricity quotas for product production as operational performance indicators to effectively control energy consumption in production.

Regarding technical energy conservation, the Group has fully invested in low-energy consumption new equipment such as all-servo motors, boiler waste heat recovery systems, and magnetic levitation vacuum fans. Continuous upgrades of air compressors, improvements in compressed air pipeline systems, and installation of steam system condensate heat exchangers are carried out to achieve energy savings and efficiency improvements.

- *Green storage*

We are vigorously promoting the digitization, visualization, and informatization of warehouse operations, standardizing efficient management of energy use, and reducing greenhouse gas emissions in the warehousing process. We also fully consider energy efficiency in warehouse construction, setting up automated three-dimensional warehouses in large production bases to balance storage demands during peak and off-peak seasons, reduce transportation distances within warehouses, and minimize daily operational energy consumption, achieving an average electricity savings of 0.06 kWh per pallet of goods entering or leaving the warehouse. In addition, we are promoting the use of clean energy in the warehouse by installing photovoltaic power generation equipment on the warehouse roof. The diesel forklifts and short-haul trucks used in the warehouse have been completely replaced with electric vehicles, reducing environmental pollution from the source and helping to achieve green warehousing.

在能源管理方面，我們搭建能源電力需求側管理平台和紙業能源管理中心系統，實時監控下屬各生產公司和基地的能源數據，及時發現異常並進行改善，尋找提升能源利用效率的機會。我們落實工廠計劃性用電策略，並對月度用電量進行跟蹤、統計和評估，同時設定產品生產標箱用電額度，作為經營考核指標，以切實管控生產能源消耗。

在技術節能方面，本集團全面投入全伺服電動機、鍋爐餘熱再利用系統、磁懸浮真空風機等低能耗新設備，並持續進行空壓機升級、壓縮空氣管線改造、加裝蒸汽系統冷凝水換熱器等改造項目實現節能增效。

- *綠色倉儲*

我們大力推進倉儲數據化、可視化和信息化運作，規範高效管理能源使用，減少倉儲環節溫室氣體排放。我們在倉庫建設中充分考慮能源使用效率，在大型生產基地搭建自動立體倉庫以平衡淡旺季倉儲需求，減少倉庫內運輸路程與倉庫日常運營能耗，實現出入庫1托盤貨物，平均用電量節省0.06度。此外，我們在倉庫中推廣清潔能源的使用，在倉庫樓頂及廠房擴展光伏設備的建設，倉庫內使用的柴油叉車和短駁車也已全面替換為電動車，達成100%油改電成就，從源頭上減少環境污染，助推實現綠色倉儲。

Climate-related Disclosures Report 氣候相關披露報告

- *Installation of energy efficient air conditioning system*

Global warming has become increasingly intense, with sustained high temperatures sweeping through most countries and regions. At high temperatures, cooling equipment is needed to address the difficulty of working in excessively hot environments, thereby increasing electricity costs. Some regions also impose short-term power limits due to high temperatures, which affects the capacity of some of Hengan bases. In addition, high temperatures can cause quality problems such as discoloration of the packaging film of the product, resulting in dual consumption of manpower and materials.

We will lower the temperature by installing cooling equipment such as fans and air conditioners and choose the high-efficiency energy-saving ones to save energy consumption and electricity costs. We will also monitor the temperature and humidity in real-time in production workshops, warehouses, and other areas, issuing alerts in case of abnormalities, and taking timely countermeasures.

- *Investment in renewable energy projects*

The Group invests in renewable energy projects to increase the share of renewable energy use and reduce carbon emissions during operation.

Optimizing the energy structure is an important component of the Group's reduction of carbon emissions in the production process. Hengan has implemented a complete plant-wide roof photovoltaic equipment overlay in various factories throughout the country, including Hengan (China) Paper Co., Ltd., Hengan (Wuhu) Paper Co., Ltd., Hengan (Shaanxi) Paper Co., Ltd., Hengan (Henan) Paper Industry Co., Ltd., Hengan (Xiaogan) Household Goods Co., Ltd., Hengan (Zhejiang) Household Goods Co., Ltd. etc. As at the end of 2023, Hengan has launched photovoltaic power generation projects in 9 production companies with an installed capacity of 21MW, generating more than 21,600 MWh electricity for the year, equivalent to a reduction of 1.56 tons of carbon dioxide. Hengan will continue to increase investment in photovoltaic construction, continuously increasing the proportion of renewable energy consumption.

- *安裝高效節能的空調系統*

全球氣候變暖愈演愈烈，持續高溫席捲大部分國家和地區。高溫情況下，倉庫可能需要運行降溫設備解決溫度過高作業困難問題，從而增加用電成本。部分地區也因為高溫而進行短時間限電，對恒安部分基地的產能造成影響。此外，高溫還會導致產品包裝膜變色等質量問題，造成人力和物資的雙重過耗。

我們將通過安裝風扇、空調等降溫製冷設備，並且選擇高效節能類型以節約能耗和用電成本，並實時生產車間、倉庫等區域的溫度和濕度，在出現異常時發出預警，及時採取應對措施。

- *投資可再生能源項目*

本集團投資可再生能源項目，增加可再生能源使用比重，降低運營過程中的碳排放。

優化能源結構是本集團生產環節減少碳排放的重要組成部分。恒安已在全國多地工廠實現全廠房屋頂光伏設備覆蓋，包括恒安(中國)紙業有限公司、恒安(蕪湖)紙業有限公司、恒安(陝西)紙業有限公司、恒安(河南)紙業有限公司、恒安(孝感)家庭用品有限公司、恒安(浙江)家庭生活用品有限公司等下屬公司。截至2023年底，恒安已在9家生產公司開展光伏發電項目，裝機容量達21MW，全年發電超過2,160萬度，相當於減少1.56噸二氧化碳。未來，恒安將繼續加大光伏建設的投資力度，不斷增加可再生能源使用消費佔比。

Climate-related Disclosures Report

氣候相關披露報告

- *Water resources management*

As global climate change intensifies, water resources are becoming increasingly scarce, and water resources are an indispensable and important resource in Hengan's production and operation. We attach great importance to water resource management and conduct water risk assessment. In 2023, Hengan used the Aqueduct Water Risk tool of the World Resources Institute (WRI) Atlas to assess the water risk in the areas of its subsidiaries focusing on the risk level of water stress and coastal flood risk, promoting the application of water saving technologies and enhancing the recycling of water resources.

- *水資源管理*

隨著全球氣候變化加劇，水資源短缺日益嚴重，而水資源是恒安生產和運營過程中不可或缺的重要資源，因此恒安重視水資源管理，並開展水風險評估。2023年，恒安運用世界資源研究所(World Resources Institute, WRI)的「水道」水風險工具(Aqueduct Water Risk Atlas)對下屬各公司所在地區的水風險開展評估，並重點關注水壓力、沿海洪水風險兩項指標的風險程度，推進節水技術應用並加強水資源循環使用。

Water risk indicators 水風險指標	Risk level 風險級別	Number of sites 地點數量
Water pressure 水壓力	Extremely high risk 極高風險	11
	High risk 高風險	3
	Medium to high risk 中高風險	2
	Low to medium risk 低中風險	7
Coastal flood risk 沿海洪水風險	Low risk 低風險	5
	Extremely high risk 極高風險	1
	High risk 高風險	6
	Medium to high risk 中高風險	2
	Low to medium risk 低中風險	3
	Low risk 低風險	16

Climate-related Disclosures Report 氣候相關披露報告

We have upgraded our technology to introduce water-saving technologies and equipment, and established a sound water management system to reduce water capital in areas where water pressure risk is high. At the same time, Hengan protected the water resources of the place of operation in various ways, including filtering and reusing of paper wastewater through film to reduce the use of fresh water. All wastewater from Hengan factories was discharged into municipal sewage treatment plants after being treated at the wastewater treatment stations in the factories to ensure that the production wastewater is well-treated to protect the water quality of local water sources. Hengan also carried out special treatment and renovation of old fire and fire water networks and municipal water networks to reduce running and dripping during water use. Finally, the Group established water cisterns in factories to reduce the negative impact of drought or water stoppage on production and ensure the continued operation of the plants.

For coastal flood risks, the first step is to carry out waterproofing and flood-proofing designs and renovations on enterprise buildings to enhance their flood resistance and reduce damage to facilities and equipment caused by floods. Secondly, Hengan invests in constructing water conservancy facilities such as reservoirs, canals, and drainage systems to strengthen flood control capabilities, minimizing the impact of floods on enterprise facilities and production. Furthermore, Hengan develops emergency plans specifically for coastal floods, outlining emergency response procedures and assigning responsibilities clearly and ensuring timely and effective responses to floods when they occur.

- *Carbon credits management*

Hengan participates in the carbon emissions trading market, establishing a sound carbon emissions trading risk management strategy to timely supervise and respond to fluctuations in carbon emissions trading prices and market changes, in order to reduce the cost impact brought by carbon emissions trading, and manage the risk of cost growth for the Group.

針對水壓力風險較高的地區，我們通過技術升級，引進節水型工藝和設備，並建立完善的用水管理制度降低水資源消耗。同時，恒安採用多種方式保護運營所在地水資源，包括將造紙廢水經膜過濾後回用，以減少新鮮水使用，所有恒安工廠廢水均經過工廠內廢水處理站處理達標後排入市政污水處理廠，確保生產廢水完善處理保護當地水源水質。恒安還對老舊消防水管網及市政用水管網進行專項治理改造，減少用水過程中的跑冒滴漏。最後，本集團在工廠建立蓄水池，降低因乾旱或停水對生產造成的負面影響，確保工廠的持續運營。

對於沿海洪水風險，首先在企業建築上進行防水、防浸水設計和改造，提高建築抗洪水能力，減少洪水對企業設施和設備的損害。恒安還通過投資建設水利設施，包括水庫、水渠、排水系統等，增強防洪能力，減少洪水對企業設施和生產的影響。並通過制定沿海洪水的應急預案，明確應急響應流程和責任分工，確保在發生洪水時能夠及時有效地應對。

- *碳排放權管理*

恒安參與碳排放權交易市場，通過建立健全的碳排放權交易風險管理策略，及時監管和應對碳排放權交易價格波動和市場變化，以降低碳排放權交易帶來的成本影響，管理本集團成本增長風險。

Climate-related Disclosures Report

氣候相關披露報告

As at the end of 2023, five companies, including Hengan (China) Paper Co., Ltd., Hengan (Chongqing) Life Paper Co., Ltd., and Weifang Hengan Thermal Electric Co., Ltd., have been listed as key emitting entities to participate in the carbon emission information reporting and quota clearing fulfillment work. By participating in the carbon market, Hengan has raised its awareness of the cost of carbon emissions, thus greatly promoting the diffusion and application of low-carbon emission reduction technologies.

▶ Sustainable products

The green, low-carbon, and environmentally friendly consumption concept is quietly gaining popularity among the public, and the transition to green and low-carbon will also become a transformative direction for consumption upgrade. In January 2022, the National Development and Reform Commission and other departments issued the *Implementation Plan for Promoting Green Consumption* (《促進綠色消費實施方案》), which clearly states that by 2030, green consumption will become a conscious choice for the public, and green and low-carbon products will become mainstream in the market. In the future, the policy system related to the supply and consumption of green and low-carbon products will also be gradually improved, and it is expected that the market share of green and low-carbon products in China will increase significantly.

In the trend of vigorously promoting a green, low-carbon, civilized, and healthy lifestyle in China, Hengan incorporates considerations of ecology, environmental friendliness, and reduction of resource usage into product research and design. It collaborates with various stakeholders in the value chain to advance the development of green materials, reduce carbon footprint, and seize the market opportunities for sustainable products in a timely manner, striving to be a pioneer in green development.

- Hengan develops products using natural and green raw materials. For example, we utilize soy fiber non-woven fabric and Lyocell fiber made from pulp processed from fast-growing bamboo, wood, and other raw materials. We also research and develop technologies tailored for improving the application of such raw materials, aiming to use more natural materials that consume fewer resources during the growth process. In doing so, we not only reduce the carbon footprint of our products but also help protect the forests' ability to capture and store carbon.

截止2023年末，恒安已有恒安(中國)紙業有限公司、恒安(重慶)生活用紙有限公司、濰坊恒安熱電有限公司等5家公司參與碳排放信息報告和配額清繳履約工作。借助配額清繳履約工作的開展，恒安提高了對碳排放成本的認識，從而極大地促進了低碳減排技術的推廣和應用。

▶ 可持續產品

綠色、低碳、環保的消費理念正在大眾心裡悄然升溫，綠色低碳轉型也將成為消費升級的變革方向。2022年1月，國家發展改革委等部門印發《促進綠色消費實施方案》，其中明確了到2030年，綠色消費方式成為公眾自覺選擇，綠色低碳產品成為市場主流等主要目標。未來，有關綠色低碳產品供給和消費的政策體系也將逐步完善，預計綠色低碳產品在我國市場佔有率將大幅提升。

在我國大力倡導綠色低碳、文明健康的生活方式的趨勢下，恒安在產品研發和設計中加入生態與環境友好、資源使用減量化等因素的考量，並與價值鏈上各方攜手推進綠色材料發展減少碳足跡，以及時把握可持續產品市場機遇，爭當綠色發展的先行者。

- 恒安開發使用天然綠色原材料的產品。如採用大豆纖維無紡布，採用以速生竹子、木頭等原材料處理形成的漿粕為原料的萊賽爾纖維，同時研發適用於此類原材料應用改良的技術，以更多採用生長過程耗費更少資源的天然原材料，如此，不僅可以降低我們產品的碳足跡，同時幫助保護森林捕獲和儲存碳的能力。

Climate-related Disclosures Report 氣候相關披露報告

- We devote in research and promotion of biodegradable materials. In accordance with the requirements of the national standard *Evaluation Method for Degradability of Disposable Paper Products* (GB/T 39951-2021) (《一次性紙製品降解性能評價方法》) and others, we establish a biodegradation evaluation system to accelerate the assessment of the biodegradability performance of new materials, conduct in-depth research on the degradation mechanisms of biodegradable materials, and clarify the corresponding relationship between the shelf life of various materials and products and their degradation. We collaborate with suppliers, universities, research institutions, and others to conduct research and application of biodegradable materials, leveraging the advantages of external material application platforms, Hengan's application evaluation system, and market development capabilities. Together, we aim to create a comprehensive green material solution.
- Based on front-end R&D technologies and platforms, we incorporate the application of naturally biodegradable materials into our products. We have successively launched biodegradable spunlace non-woven fabrics made of 100% PLA fiber or a blend of PLA fiber with biodegradable fibers such as viscose, wood pulp, and bamboo fiber; biodegradable cotton soft wipes made from 100% tropical wood fiber; and sanitary pads made from 100% natural biodegradable pure cotton surface non-woven fabric. In diaper products, biodegradable materials have been applied to the surface layer, acquisition layer, backsheet, wood pulp, breathable film, and waistband, accounting for 70-80% of the composition.
- We are implementing lean projects in our products, reducing the weight of products and packaging through technological innovation, structural improvement, and lightweight materials. Taking the Anle series of diapers as an example, without compromising the consumer experience, we have reduced the weight of the bottom film from 18gsm to 17gsm. In addition, we have successfully developed a two-layer material structure of polypropylene (OPP) + polyethylene (PE) to replace the conventional three-layer composite film, effectively reducing the film thickness and reducing plastic usage by 11.76%.
- 我們探索研究與推廣生物降解材料，依據《一次性紙製品降解性能評價方法》(GB/T 39951-2021)等國標要求，建立生物降解評價系統，加快評估新型材料生物降解性能，深入研究生物降解材料降解機理，明確各種材料及產品保質期與降解的對應關係。我們與供應商、高校、科研機構等開展合作，結合外部材料應用平台和恒安應用評價體系及市場開發的能力優勢，對生物降解材料進行研究與應用，共同打造綠色材料整體解決方案。
- 基於前端研發技術和平台，我們在產品中融入天然可生物降解材料的應用，陸續推出以100%PLA纖維或以PLA纖維採用混紡部分黏膠、木漿、竹纖維等可降解纖維為原料製作的可降解水刺無紡布、採用100%熱帶木纖維的可生物降解棉柔巾、採用100%天然可降解純棉面層無紡布的衛生巾等產品。在紙尿褲產品中，可降解材料已經應用於面層、導流層、包裹層、木漿、透氣膜、腰貼部分，佔比可達70-80%。
- 我們在產品中開展精益化項目，通過技術改革、結構改良、材料輕量化等方式對產品及包裝進行減量化。以安兒樂等系列紙尿褲產品為例，在不影響消費者使用體驗的前提下，我們開展底膜輕量化，將克重由18gsm統一調整為17gsm。此外，我們成功研發聚丙稀(OPP)+聚乙稀(PE)的兩層材質結構取代常規的三層複合包膜，有效降低包膜厚度，減少11.76%的塑料用量。

Climate-related Disclosures Report

氣候相關披露報告

- Hengan actively shares innovative technologies and solutions for green materials with partners, explores effective ways and methods for plastic recycling, and contributes to the development of a circular economy. We closely follow national policies, actively respond to the “14th Five-Year Plan for Plastic Pollution Control”, plan to establish a sustainable plastic platform, develop biodegradable plastics in accordance with standards such as *Biodegradable Plastics and Products Degradation Performance and Labeling Requirements* (GB/T 41010-2021) (《生物降解塑料與製品降解性能及標識要求》), and apply them to products such as film bags, cotton wipes, and wet wipes. We also serve as the Vice Chairman of the Degradable Plastics Professional Committee of the China Plastics Association, working with members to implement national guidelines and policies, reflect industry requirements, and improve the overall level of the degradable plastics industry in China. We are also serve as the vice president of the Degradable Plastics Committee of the China Plastic Association, working with our members to implement the relevant national guidelines and policies, reflecting the requirements of the industry, and improving the overall level of the degradable plastics industry in China. In addition, we have joined the Green Recycled Plastics Supply Chain Joint Working Group (GRPG) as vice chairman and actively participated in the formulation and revision of industry standards for the use of plastics, such as the *Evaluation Guidelines for Easy Recycling and Recovery Design of Plastic Products* (《塑料製品易回收易再生設計評價通則》). In 2023, GRPG officially released China’s first local green recycled plastics production and marketing chain of custody standard, which means that China’s recycled plastics will be traceable. Hengan continued to pay attention to the key progress of the plastics recycling economy and China’s solutions and models for global plastics pollution control.
- 恒安積極與業內夥伴共享綠色材料的創新技術和解決方案，探討塑料循環利用的有效方式方法，助力循環經濟的發展進步。我們緊跟國家政策，積極響應《「十四五」塑料污染治理行動方案》，規劃建設塑料可持續平台，依據《生物降解塑料與製品降解性能及標識要求》(GB/T 41010-2021)等標準開發生物可降解塑料，應用於膜袋、棉柔巾和濕巾等產品，並擔任中國塑協降解塑料專業委員會副會長，與會員共同貫徹國家有關方針、政策，反映行業要求，提高我國降解塑料行業整體水平。此外，我們還加入綠色再生塑料供應鏈聯合工作組(Green Recycled Plastics Supply Chain Joint Working Group，簡稱「GRPG」)並擔任副理事長，積極參與《塑料製品易回收易再生設計評價通則》等行業塑料使用標準的制定與修訂。2023年，GRPG正式發佈中國首個本土綠色再生塑料產銷監管鏈標準，意味著我國再生塑料將實現可追溯。恒安持續關注塑料循環經濟關鍵進展與全球塑料污染治理的中國解決方案與模式。

Climate-related Disclosures Report 氣候相關披露報告

▶ *Responsible brand image*

We integrate sustainable development and climate change strategies into the Group's brand strategy. While promoting and enhancing our brand strengths, we expand the low-carbon ecological circle and be together with the consumers to create higher low-carbon benefits together.

The Group integrates sustainable concepts into the entire lifecycle of its products, implementing water conservation, reduction of plastic usage, and the use of solar energy in procurement, transportation, manufacturing, packaging, and other processes. In 2023, Hengan (China) Paper Co., Ltd., with its leading green manufacturing technology, became the third national-level green factory within the Group.

The Group is committed to conveying the concept of sustainable development to the public by brand influence through green publicity and marketing integrated with the environmental-friendly character of the products. On the occasion of World Earth Day in 2023, Hengan used its brand power to influence and guide consumer behavior by releasing posters advocating for "Harmony with Nature, A Better Home". The campaign aimed to raise awareness among the public about major environmental issues and hot topics, promote green consumption and sustainable living practices, so as to motivate the potential societal decarbonisation strength while raising the profile and reputation.

▶ *Sustainable procurement*

Hengan establishes and implements strict supplier selection criteria, choosing legal, clearly sourced, traceable, and renewable wood for pulp production. The Group rigorously selects raw material suppliers and requires them to adhere to the Group's pulp raw material procurement standards, thereby reducing supply chain compliance risks. Hengan assists suppliers in advancing forest certification, encourages them to meet the standards set by the Forest Stewardship Council (FSC), and conducts regular on-site visits to promote sustainable forestry management. The ratio of wood pulp traceable to forest land is maintained at a high level, and the sustainable management of paper companies is promoted by the market mechanism.

▶ *負責任品牌形象*

我們將可持續發展與氣候變化戰略融入本集團的品牌戰略中，在塑造負責任的品牌形象同時，擴大低碳生態圈，帶動消費者一同創造更大的低碳效益。

本集團將可持續理念融入到產品全生命週期中，在採購、運輸、製造、包裝等環節實施節約用水、減少塑料使用、應用光伏能源等實踐，2023年恒安(中國)紙業有限公司憑藉領先的綠色製造技術，成為本集團第三個國家級綠色工廠。

本集團致力於通過綠色宣傳和營銷手段，結合產品的環保特性，借助品牌的影響力，讓可持續發展理念深入大眾。在2023年世界地球日之際，恒安借助品牌力量去影響和引導消費者的行為，通過發佈海報，倡導「萬物心相印，家園更美好」，呼籲大眾關注主要環境問題及環境熱點，倡導綠色消費和綠色生活，在提升企業形象和聲譽的同時激發潛在的社會減碳力量。

▶ *可持續採購*

恒安建立和實施嚴格的供應商選擇標準，選用合法、產地清晰、可追溯、可再生木材用於紙漿生產，嚴格挑選原材料供貨商，並要求供應商遵守本集團的紙漿原材料採購標準，從而降低供應鏈合規風險。恒安幫助供應商推進森林認證，鼓勵供應商符合森林管理委員會(Forest Stewardship Council，簡稱「FSC」)認證的標準要求，並定期實地走訪供應商，倡導可持續林業管理，保持高水平的木漿可追溯到林地的比率，在市場機制的促使下，促進造紙企業永續經營。

Climate-related Disclosures Report

氣候相關披露報告

The Group focuses on ensuring the continuous and stable supply of key raw materials, striving to establish diversified supply channels and breaking away from exclusive suppliers. It gradually expands the sources of raw materials by collaborating with multiple wood pulp suppliers from various countries and regions such as China, the United States, and India. This approach reduces the impact of risks related to water, wind, and climate factors on Hengan caused by the origin of wood pulp materials and the production sites. By doing so, Hengan lowers cooperation risks in the supply chain, ensures the stability of raw material supply, enhances the sustainability of supply chain cooperation, and establishes secure warehouses to handle extreme situations like typhoons and heavy rain for order turnover.

- *Intelligent supply chain management*

Hengan has established the “Hengyigou” supplier management platform to track and evaluate the environmental impact of the supply chain, identify opportunities for improvement, and identify potential significant risks of key suppliers. Climate-related risk assessments are conducted for the locations of suppliers. Through real-time monitoring of the “Hengyigou” supplier management platform, we can obtain real-time weather data and supply chain information. Once shortages of raw materials or extreme weather conditions that may affect the stability of the supply chain are detected, we can take immediate measures, such as adjusting transportation routes, increasing inventory, and adjusting production plans, to reduce the impact on the supply chain. As of now, the system has been fully implemented in various types of suppliers nationwide, including production procurement, non-production procurement, spare parts procurement, logistics procurement, and outsourced finished product procurement.

本集團注重保障重要原材料持續穩定供應，致力於建立多元化供應渠道，打破獨家供應，逐步擴大原材料來源區域，與中國、美國、印度等多個國家與地區的多家木漿供應商進行合作，減少因木漿原材料產地與木漿生產地水風險、氣候風險等因素對恒安造成影響，從而降低供應鏈合作風險，保障原材料供應穩定性，提升供應鏈合作可持續性，並建立安全倉庫，以應對颱風和暴雨等極端情況下的訂單週轉。

- *供應鏈智能化管理*

恒安建立「恒宜購」供應商管理平台，跟蹤和評估供應鏈的環境影響，從而識別改進的機會，並對關鍵供應商潛在重大風險進行識別，對供應商所在地開展氣候相關風險評估。通過「恒宜購」供應商管理平台的實時監控可以實時獲取天氣數據和供應鏈信息，一旦發現原材料短缺或極端天氣等情況可能影響到供應鏈的穩定性，我們可以立即採取措施，如調整運輸路線、增加庫存、調整生產計劃等，以降低對供應鏈的影響。截止目前該系統已全面應用於全國生產採購，非生產採購，備品備件採購，物流採購和委外成品採購等多種供應商類型。

Climate-related Disclosures Report 氣候相關披露報告

- *Supplier cooperation exchange*

The Group strengthens communication and cooperation with suppliers to jointly promote sustainable development of the industry. Hengan regularly communicates with suppliers to discuss improving the environmental performance of products to understand the environmental performance of new products launched by suppliers, giving priority to environmentally friendly and low-carbon products or services. In 2023, Hengan will replace some traditional release papers with solvent-free release papers to reduce the use of gasoline solvents in the production process of release papers, thereby reducing greenhouse gas emissions in the raw material production process.

Based on cooperative communication, Hengan regularly conducts ESG risk assessments and on-site audits of suppliers (including environmental management, environmental emergencies, environmental impacts, and other evaluation indicators), and promotes suppliers to grasp trends in laws and policies in a timely manner through training and communication, taking effective measures to save energy and reduce carbon emissions. In addition to focusing on product design and material development, the Group collects carbon footprint reports from raw material suppliers, inspects the energy use of suppliers in the production process, and understands the carbon footprint situation contained in products starting from the material end. This is conducive to promoting the green transformation of products from the source and accelerating the overall lifecycle carbon reduction of products.

- *供應商合作交流*

本集團加強與供應商交流合作，共同推進行業可持續邊界。恒安不定期與供應商進行交流探討產品環保性能提升等內容。並了解供應商推出新品的環保相關表現，優先選擇環保低碳產品或服務。2023年恒安替換部分傳統離型紙改用無溶劑型離型紙，減少離型紙生產過程中的汽油溶劑使用，以減少原材料生產過程中的溫室氣體排放。

在合作交流的基礎上，恒安定期對供應商進行ESG風險評估和現場審核(包括環境管理、環境應急、環境影響等評估指標)，並通過培訓交流形式促進供應商及時把握法律政策的趨勢，採取有效措施節能減碳。在關注自身產品設計和材料開發之外，本集團收集原材料供應商碳足跡報告，盤查供應商在生產過程中的能源使用，了解產品從材料端開始所包含的碳足跡情況，有利於從源頭推進產品的綠色轉型，加速實現產品的全生命週期降碳。

Climate-related Disclosures Report

氣候相關披露報告

- *Green logistics*

The Group has established the Transportation Management System (TMS) and achieved 100% coverage of downstream suppliers, centrally coordinating urban distribution nationwide. By utilizing digital technology to collect and integrate logistics data, the system intelligently manages transportation orders and vehicle dispatch, enhancing shipment monitoring and logistics efficiency. The system enables online electronic signing, improving signing efficiency while achieving paperless office operations and reducing resource consumption.

We timely review transportation plans based on factors such as transportation energy consumption and logistics timeliness, giving priority to routes with lower energy consumption like maritime transport. We combine route optimization with volume optimization to reduce route duplication, increase loading rates, and minimize empty loads. We also carry out the Regional Distribution Center (RDC) direct delivery project, delivering products directly to customers from RDC warehouses to enhance transportation efficiency, saving approximately 600,000 kilometers of logistics mileage annually. Furthermore, we encourage logistics suppliers to use lightweight and new energy vehicles for transportation, increase the replacement of fuel vehicles, reduce energy consumption, and promote the development of green logistics.

In 2023, the Logistics Packaging Materials Special Task Force continues to focus on the optimization and upgrading of packaging materials. We are strengthening measures to reduce logistics packaging, widely adopting recyclable B2C turnover boxes to replace traditional disposable packaging materials, and promoting production line automation to ensure efficient and stable operation, effectively reducing resource waste, and promoting recycling.

- *綠色物流*

本集團建立物流運輸管理系統(Transportation Management System, 簡稱「TMS」)並100%覆蓋下游供應商,集中統籌全國城市配送工作,運用數字化技術採集和整合物流數據,智能管理運輸訂單和車輛排配,提升運單監控和物流效率。該系統實現在線電子化簽署,提升簽署效率的同時實現無紙化辦公,減少資源耗用。

我們根據運輸能源消耗、物流時效等因素及時梳理運輸計劃,優先考慮海運等能源消耗較少的路線,將運輸線路優化與運量優化相結合,減少運輸線路重複,同時提高裝載率,減少空載。我們還開展區域中心(RDC)倉直運項目,從RDC倉將產品直送客戶,提高運輸效率,全年節約物流里程共約60萬公里。此外,我們鼓勵物流供應商採用輕型車輛和新能源車輛進行運輸,加大燃油車的替換力度,降低能源消耗,推動綠色物流發展。

2023年,物流包裝材料專項小組持續專注於包材的優化與升級。我們強化物流包裝減量措施,廣泛採用可回收的B2C週轉箱替代傳統的一次性包裝材料,並推進產線自動化,保障產線高效穩定運行,有效減少資源浪費,推動循環利用。

Climate-related Disclosures Report 氣候相關披露報告

▶ *Flexible production supply system*

Climate change will lead to an increase in the frequency of extreme weather events such as heavy rain and typhoons, causing disruptions in production, storage, transportation, etc. (e.g. warehouse flooding), and disrupting operational processes. The costs of post-disaster reconstruction and insurance will also rise. Seasonal droughts may hinder waterway transportation, forcing some water transport to switch to land transport, leading to increased logistics costs. Additionally, extreme weather events may affect employee travel, posing a threat to employee health and safety.

Hengan is addressing the impacts of extreme weather events by developing a business continuity plan and utilizing intelligent means to create a flexible production and supply system. It monitors real-time extreme weather disaster warnings in the locations of suppliers and responds promptly and remedies when extreme weather such as wildfires and floods occur in procurement areas. In the event of extreme weather, emergency response and post-disaster management will be carried out according to the *Emergency Preparedness and Response Plan* (《應急準備與響應程》), and orders from areas affected by extreme weather-induced capacity disruptions will be transferred to unaffected areas. Safety warehouses will be established to handle order turnover during extreme situations like typhoons and heavy rain.

In the future, Hengan will continue to monitor short, medium, and long-term data related to climate change, deepen analysis to obtain more specific results, and provide guiding recommendations for subsequent strategic adjustments. For more information on climate change adaptation strategies, please refer to the *Hengan International Group 2023 Environmental, Social, and Governance Report* (《恒安國際集團2023年環境、社會及管治報告》).

▶ 柔性生產供應系統

氣候變化會導致暴雨、颱風等極端天氣的發生頻率增加，由此會導致生產、存儲、運輸等環節的中斷(比如倉庫滲水)，擾亂運營流程。受災後重建及保險成本也將上升；季節性乾旱會對水路運輸產生阻礙，導致部分水運被迫改為陸運，使得物流運輸成本上升。另外，極端天氣有可能影響員工出行，威脅員工健康與生產安全。

恒安通過制定業務連續性計劃，並借助智能化手段，打造柔性生產供應系統，以適應極端天氣帶來的影響。實時關注各供應商所在地極端天氣災害預警，在採購區域遭受山火、洪水等極端天氣時做到及時響應與補救。當極端性天氣發生時，將參照《應急準備與響應程》開展應急響應和善後處理，並將受極端天氣影響導致產能斷裂區域的訂單生產轉移至正常地區；建立安全倉庫，以應對颱風和暴雨等極端情況下的訂單週轉。

未來恒安將繼續監測與氣候變化相關的短中長期數據，同時加深分析以獲得更加具體的結果，為後續戰略調整提供指導性建議。更多氣候變化應對策略內容，請見《恒安國際集團2023年環境、社會及管治報告》。

Climate-related Disclosures Report

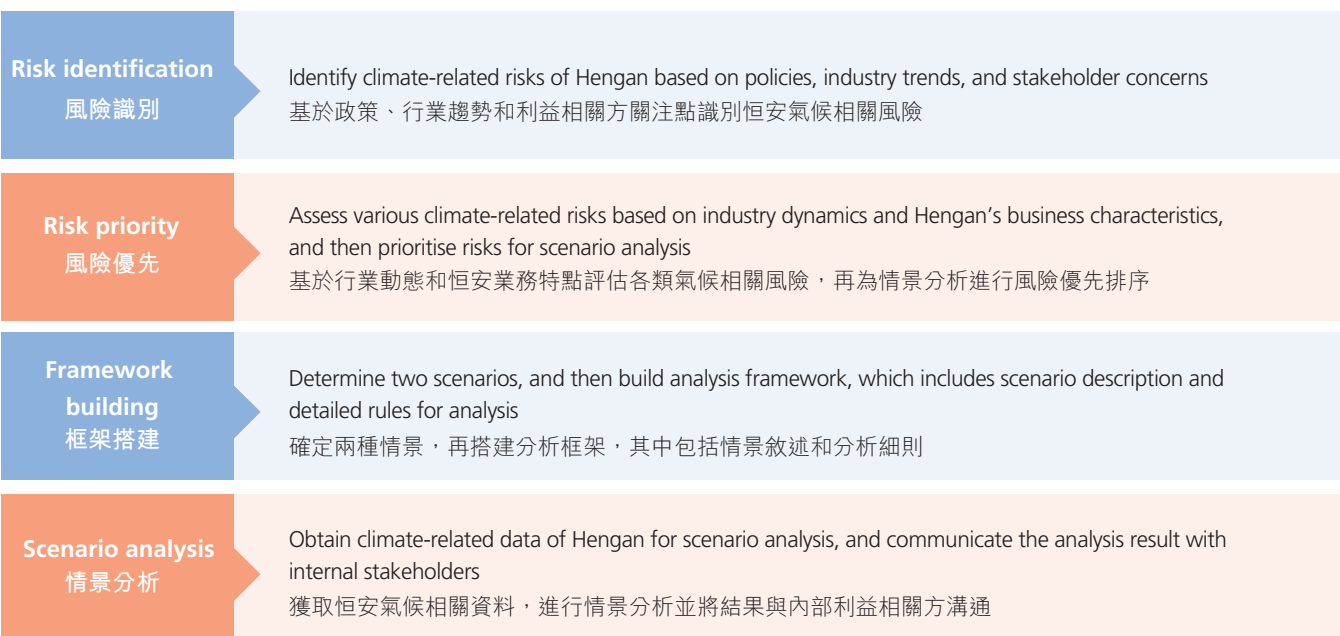
氣候相關披露報告

2.3. Scenario analysis

With the increasingly significant impact of climate change on economy development, it is of growing significance for enterprises to strengthen prevention of climate risks. To carry out prospective analysis of the climate risks facing the Group, Hengan conducts qualitative assessment of the potential impact of substantive climate transition risks and physical risks on the Group's business through simulating climate scenarios and pathways based on GHG emissions and other factors, applying the Representative Concentration Pathways (RCPs) introduced by IPCC.

2.3. 情景分析

隨著氣候變化議題在經濟發展中地位的凸顯，加強防範氣候風險對企業有愈加重要的意義。為前瞻性分析集團氣候風險，恒安運用IPCC的代表排放路徑(Representative Concentration Pathways，簡稱「RCPs」)，通過模擬基於溫室氣體排放和其他因素的氣候情景和路徑，定性評估實質性氣候轉型風險和物理風險對集團業務的潛在影響。



2.3.1 Selection of scenarios

We identify two scenarios of low and high GHG concentrations, representing an increase of 2°C and 4°C in global temperature respectively over pre-industrial levels, which define the transition period in which risks are driven by variables such as government and market effectiveness, and determine the relative severity of long-term risk impacts based on the extent to which variable transformation drives the transition to a low-carbon economy. In the low GHG concentration scenario, we analyze transition risks, while the analysis of physical risks is conducted simultaneously in the low and high GHG concentration scenarios.

2.3.1 情景選擇

我們確定了低溫室氣體濃度和高溫室氣體濃度兩種情景，分別對應全球氣溫較工業前水平升高2°C及4°C，這兩種情景定義了由政府 and 市場效力等變量驅動風險的轉型期，並按照變量轉換促使低碳經濟轉型的程度決定長期風險影響的相對嚴重性。在低溫室氣體濃度情景下我們分析轉型風險，對於物理風險的分析則在低、高溫室氣體濃度情境下同時進行。

Climate-related Disclosures Report 氣候相關披露報告

The emission pathway under this scenario is characterised by a sharp decline immediately after the initial peak. Under the assumption of this pathway, strict control measures are taken to reduce emissions, and it is possible to keep global temperature rise within 2°C by 2100 (compared to pre-industrial temperatures).

該情景下排放路徑的特點是在初始峰值後緊接着急速下降。該路徑假設採取嚴格的控制措施減少排放，在2100年有可能將全球氣溫升高控制在2°C以內(與工業前氣溫相比)。

Low GHG concentration scenario
(RCP 2.6)
低溫室氣體濃度
情景 (RCP2.6)

High GHG concentration scenario
(RCP 8.5)
高溫室氣體濃度
情景 (RCP8.5)

The emission pathway under this scenario is characterised by rising emissions. This scenario is consistent with the current pace of emissions and assumes that there are no other measures to constrain emissions, which could eventually lead to a global temperature increase of at least 4°C by 2100 (compared to pre-industrial temperatures).

該情景下排放路徑的特點是不斷上升。該路徑是沿着當前的軌跡發展，並假設沒有其他措施來約束排放，最終可能導致2100年全球氣溫升高至少4°C(與工業前氣溫相比)。

The Low GHG concentration scenario (RCP 2.6) is likely to result in higher transition risks due to the challenge of rapid and substantial reduction in GHG emissions, which involves changes in policies, legal environment and market, sharp rise in carbon pricing, large-scale technology upgrading and replacement, and reputation risks. With the success of the transition, physical risks will remain at a similar level to the current situation and moderate over time.

在低溫室氣體濃度情景(RCP 2.6)下，由於面臨迅速且大量減少溫室氣體排放的挑戰，轉型風險可能會處於較高水平，涉及到政策法律環境及市場的變化、碳排放成本大幅度上升、技術大規模更新換代以及聲譽風險等。隨著轉型成功，物理風險則會維持在與當前情況相似的水平，並隨著時間的推移逐漸緩和。

Climate-related Disclosures Report

氣候相關披露報告

The opposite is true for the High GHG concentration scenario (RCP 8.5), where transition risk is low due to the absence of effective government and market interventions to reduce carbon emissions. However, unlike the Low GHG concentration scenario, the physical risks herein such as rise in mean temperature, rise in sea level, water scarcity, and frequent extreme weather will rise sharply with the end of the transition period, directly destroying supply chain deployment, manufacturing process and normal life of the public, threatening market stability and consumer product purchasing power.

2.3.2 Assessment of Strategic Resilience

Scenario analysis reveals transition and physical risks with various degrees under different climate conditions, while we have already been equipped with certain climate resilience to face the challenge. Our manufacturing bases are distributed in different areas, which can effectively reduce the negative impact on overall operation and financial performance by regional extreme weather events. Also, our distribution of storage and logistic can enable the supply chain to resist all kinds of risks. We improve low-carbon transformation plan of the entire value chain step by step, from upstream suppliers, our own operation, storage and logistic to consumers, with joint forces and multiple actions at the same time, continue to reduce our operation's impact on environment and climate, improve our resilience against climate risks.

Through scenario analysis, we believe it is critical to take effective policy actions to limit rise in global temperature to well below 2°C and the rising cost of carbon emissions is the most possible policy action to have an impact in the short to medium term. Under this guidance, we have actively implemented relevant strategies that include, but are not limited to, optimizing our energy structure, improving energy efficiency, investing in renewable energy programs, and promoting environmentally friendly production methods throughout our supply chain. Furthermore, the Group will continue to collaborate with government, NGO and industrial partners to develop and implement innovative solutions to reduce carbon footprint and other greenhouse gas emissions. With these efforts, we aim to contribute to the global response to climate change and ensure the long-term sustainability of our company.

高溫室氣體濃度情景(RCP 8.5)下情況則恰好相反，由於政府和市場未對降低碳排放採取有效干預措施，轉型風險在該情景下水平較低。但相較低溫室氣體濃度情景，隨著轉型期結束，平均溫度上升、海平面上升、水資源短缺、極端天氣頻繁等物理風險水平在此種情景下將急劇上升，直接破壞供應鏈部署、生產製造流程和大眾正常生活，威脅市場穩定和消費者產品購買力。

2.3.2 策略韌性評估

情景分析揭露了我們在未來將面臨不同氣候條件下程度各異的轉型和物理風險，但我們已經具備一定的氣候韌性去迎接挑戰。我們的生產基地分佈於不同地區，可以有效減輕區域性極端天氣事件對整體運營和財務績效的影響，我們全面的倉儲和物流佈局也可以抵禦各類風險對供應鏈的衝擊。我們逐步完善貫穿全價值鏈的低碳轉型計劃，從上游供應商、供自身生產運營、倉儲物流到消費者，攜手共進，多措並舉，持續減少自身業務對環境與氣候的影響，提升應對氣候風險的抵禦能力。

通過情景分析，我們將有效的政策行動視為限制全球溫度上升低於2°C的關鍵，並認為在中短期內，碳排放成本升高是最可能產生影響因素。我們以此為指導，積極實施相關戰略，包括但不限於優化能源結構，提高能效，投資可再生能源項目，並在整個供應鏈中推廣環境友好型生產方式。此外，本集團將繼續與政府、非政府組織及行業夥伴合作，共同開發和實施創新解決方案，以減少碳足跡和其他溫室氣體排放。通過這些努力，我們旨在為全球應對氣候變化貢獻自己的力量，並確保公司的長期可持續發展。

Climate-related Disclosures Report 氣候相關披露報告

3. RISK MANAGEMENT

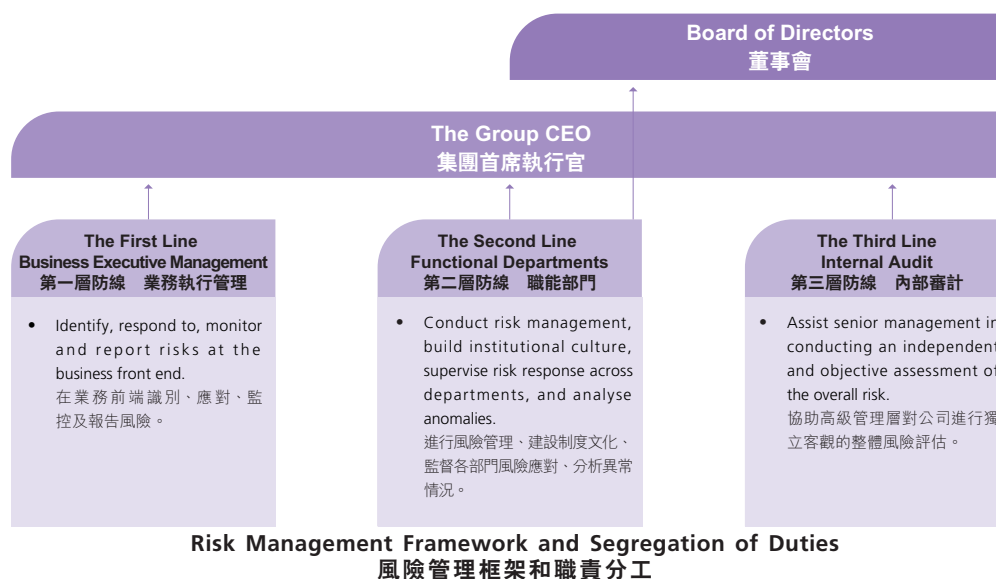
Hengan has realized that climate change has brought many uncertainties to business operations and market environment, which may lead to risks such as supply chain disruptions, resource shortages, rising production costs, etc. The effective management of climate risk will reduce the potential losses and will be a powerful aid to business stability. The Board of Directors of the Group acknowledges the overall responsibility for the design and implementation of the risk management system. Under its supervision, the management has established procedures to identify, assess and manage significant risks faced by the Group.

Hengan has established a risk management framework consisting of the “Three Levels of Defense” based on the Committee of Sponsoring Organizations of the Treadway Commission (COSO) internal control model. The Board of Directors and Chief Executive Officer (CEO) are jointly responsible for the Group’s risk management to identify, assess and manage significant risks faced by the Group:

三、風險管理

恒安已然意識到，氣候變化對企業運營和市場環境帶來了諸多不確定性，將可能導致供應鏈中斷、資源短缺、生產成本上升等風險，氣候風險的有力管理將降低企業潛在損失，對企業穩定發展將有強大助益。本集團董事會確認其對設計及執行風險管理系統的全面責任，在董事會監督下，管理層已確立既定程序，以識別、評估及管理本集團所面對之重大風險。

恒安依據特雷德委員會贊助組織委員會（COSO）內部控制模型，設立由「三層防線」組成的風險管理框架，由董事會及集團首席執行官共同負責本集團的風險管理，以識別、評估和釐定集團的重要風險：



Climate-related Disclosures Report

氣候相關披露報告

Each of the three levels of defense performs its own duties and cooperates with each other flexibly, which effectively guarantees the operational compliance of the enterprise. Business departments are responsible for identifying business-related risks. The functional departments such as the internal control department, the security management office and the finance department work together with business departments to integrate internal and external resources, and design and optimize the control processes for the various operational risks identified. Internal audit is the supervisory department for risk management of the Group, assessing the overall risk management effectiveness of the Group through annual audits and special audits, enhancing the awareness of risk management among employees and building a culture of risk management through training, publicity, routine inspections and other measures.

Hengan continuously improves the consideration of climate risk factors among the Group's significant risks, combines with the analysis of climate risks and financial risks including market risks, credit risks, and liquidity risks, to form a more comprehensive and complete management strategy. The strategy is ultimately integrated into the overall business operations strategy, enhancing the climate resilience while strengthening the reputation and influence in climate change management. In 2023, Hengan established the ESG Committee, which is responsible for creating and reviewing ESG & climate-related risk management and internal control systems to identify and prioritize climate-related risk issues, and providing recommendations to the Board of Directors to manage and mitigate ESG & climate-related risks.

4. INDICATORS AND TARGETS

The Group has always fulfilled its green commitment to the earth's ecological environment by improving the efficiency of natural resources and energy utilization and has been committed to reducing carbon emissions generated from operations. To lay the foundation for future carbon emissions reduction efforts, we have carried out carbon inventory, improved the system of climate- risk indicators based on the results of the carbon inventory and Hengan's climate-related strategies, and optimized the mechanism for collecting, accounting and disclosing greenhouse gas emission data of enterprise. The Group has set group-wide targets for reduction of energy intensity and greenhouse gas emissions intensity, as well as quantitative environmental targets such as reduction of energy consumption per ton of paper for the papermaking sector, with the target progress monitored and reviewed on an annual basis to track the progress and effectiveness of our climate action.

三層防線各司其職、靈活配合，有力保障企業運營合規。業務部門負責識別業務相關風險，內控部、安全管理辦公室、財務部等職能部門協同業務部門整合內外部資源，為識別出的各類運營風險設計和優化控制流程。內部審計是集團風險管理的監督部門，通過年度審計和專項審計等方式，整體評估集團風險管理效果，並通過培訓宣導、常規檢查等措施提升各級員工的風險管理意識，構建風險管理文化。

恒安不斷提升氣候風險因素在集團重要風險中的考量，結合分析氣候風險與市場風險、信用風險和流動性風險等財務風險，形成更加全面和完整的管理策略，最終納入企業整體商業運營戰略，在提升企業氣候韌性的同時加強企業在氣候變化管理方面的聲譽和影響力。2023年，恒安在董事會層面設置ESG委員會，負責建立及審閱ESG及氣候相關風險管理和內部控制制度，識別及釐定本公司氣候相關風險議題的優先次序，向董事會提供建議，從而實現管理和減輕本集團ESG及氣候變化相關風險。

四、指標與目標

本集團始終踐行對地球生態環境的綠色承諾，提高自然資源及能源的使用效率，致力於降低運營過程中產生的碳排放。為奠定未來碳減排工作的基礎，我們開展碳盤查行動，並基於碳盤查結果和恒安氣候相關戰略，完善氣候風險相關指標體系，優化企業溫室氣體排放數據收集、核算和披露機制。本集團設定針對造紙版塊的減少噸紙能耗密度等定量環境目標，並每年對目標的達成進度進行監督和檢討，以追蹤恒安氣候行動進度與效果。

Climate-related Disclosures Report 氣候相關披露報告

4.1. Group greenhouse gas emissions

Reducing greenhouse gas emissions is the core term in addressing climate change. In order to break the current deadlock of difficulties in data collection and management of GHG emissions within the company, and to gain a more accurate understanding of the current status of GHG emissions, we collaborated with professional organizations to conduct the first GHG emissions inventory in 2023. This GHG emissions inventory focused on identifying Scope 1, Scope 2, and Scope 3 GHG emission sources within the Group and establishing clear carbon inventory processes and reporting methods.

Taking advantage of this carbon inventory opportunity, we also provided climate change and carbon-related training to key personnel, introducing carbon emissions involved in operation processes, enabling employees to have a clear understanding of carbon emission management, and effectively promoting carbon emission management across the Group. In the future, we will gradually set our own carbon reduction targets based on the carbon inventory data, and confirm the key points of carbon reduction plans according to the actual carbon emissions, in order to more effectively implement carbon reduction measures.

4.1.1 Accounting standards

The GHG emissions are measured by carbon dioxide equivalent according to the *Greenhouse Gas Protocol Corporate Accounting and Reporting Standard* (《溫室氣體核算體系：企業核算與報告標準》) and the *Greenhouse Gas Accounting System: Accounting and Reporting Standards for Enterprise Value Chain (Scope 3)* (《溫室氣體核算體系：企業價值鏈(範圍3)核算與報告標準》) issued by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), and with reference to the *Guidelines for the Calculation and Reporting of Greenhouse Gas Emissions from Paper and Paper Products Manufacturers (Trial)* (《造紙和紙製品生產企業溫室氣體排放核算方法與報告指南(試行)》) and the *Guidelines for Accounting Methods and Reporting of Greenhouse Gas Emissions of Power Generation Enterprises in China (Trial)* (《中國發電企業溫室氣體排放核算方法與報告指南(試行)》).

4.1. 集團溫室氣體排放

溫室氣體減排是應對氣候變化的核心詞，為了打破公司現在溫室氣體排放數據統計困難、管理難成體系的僵局，更準確地了解企業溫室氣體排放現狀，我們與專業機構合作，於2023年開展了首次溫室氣體排放盤查工作，全面摸排集團的範圍1、範圍2及範圍3溫室氣體排放源，建立明確的碳盤查流程和報告方式。

借助此次碳盤查的契機，我們也對各部門及工廠的主要責任人員進行了氣候變化和碳相關培訓，介紹生產運營環節中涉及到的碳排放，使員工清晰了解碳排放管理相關概念，從而有力推動全集團碳排放管理工作。未來我們將以碳盤查數據為基礎，逐步制定自身減碳目標，並根據各環節碳排放量的實際情況確認碳減排計劃重點，更加有力地開展降碳措施。

4.1.1 核算標準

本公司依據世界資源研究所(WRI)與世界可持續發展工商理事會(WBCSD)發佈的《溫室氣體核算體系：企業核算與報告標準》《溫室氣體核算體系：企業價值鏈(範圍3)核算與報告標準》，同時參考《造紙和紙製品生產企業溫室氣體排放核算方法與報告指南(試行)》《中國發電企業溫室氣體排放核算方法與報告指南(試行)》等標準進行溫室氣體核算和報告。

Climate-related Disclosures Report

氣候相關披露報告

4.1.2 Organizational boundary

The calculation scope of greenhouse gas emissions of Hengan covers 27 production companies and Weifang Hengan Thermal Power Co., Ltd.

4.1.3 Operational boundary

The Group identifies the greenhouse gas emissions associated with Hengan in accordance with the standard requirements, and categorizes the emissions by Scope 1 direct GHG emissions, Scope 2 indirect energy GHG emissions and Scope 3 other indirect GHG emissions.

4.1.4 GHG emissions

The GHG emissions of Hengan in Scope 1 and Scope 2 in 2023 are as follows:

4.1.2 組織邊界

恒安溫室氣體排放核算範圍為本集團旗下27家生產公司和濰坊恒安熱電有限公司。

4.1.3 運營邊界

本公司按標準要求識別與本公司相關的溫室氣體排放，並按範圍(Scope)1直接溫室氣體(GHG)排放、範圍2能源間接溫室氣體(GHG)排放和範圍3其他間接溫室氣體(GHG)排放進行分類。

4.1.4 溫室氣體排放量

經核算，恒安2023年範圍1和範圍2的溫室氣體排放情況如下：

GHG emission in Scope 1&2 (tons carbon dioxide equivalent, tCO ₂ e) 溫室氣體排放範圍1&2(噸二氧化碳當量, tCO ₂ e)	2023
Total GHG emissions: Scope 1 & Scope 2 總溫室氣體排放量：範圍1&範圍2	1,572,592
Scope 1: Direct GHG emissions 範圍1：直接溫室氣體排放	585,056
Scope 2: Indirect GHG emissions 範圍2：間接溫室氣體排放	987,536
Scope 1 & 2 based on GHG emission categories (tons carbon dioxide equivalent, tCO₂e) 根據溫室氣體排放種類劃分的範圍1&2(噸二氧化碳當量, tCO₂e)	
Carbon dioxide CO ₂ 二氧化碳 CO ₂	1,569,092
Methane CH ₄ 甲烷 CH ₄	404
Nitrous oxide N ₂ O 氧化亞氮 N ₂ O	1,589
Hydrofluorocarbons HFC _s 氫氟碳化物 HFC _s	1,402
Sulfur hexafluoride SF ₆ 六氟化硫 SF ₆	105

Climate-related Disclosures Report 氣候相關披露報告

In 2023, the GHG emissions of Hengan in Scope 3 are as follows:

經核算，恒安2023年主要範圍3溫室氣體排放情況如下：

GHG emission in Scope 3 (Kilotonnes CO ₂ equivalent, ktCO ₂ e) 溫室氣體排放範圍3(千噸二氧化碳當量, ktCO ₂ e)	2023
Total GHG emissions: Scope 3 範圍3溫室氣體排放總量	1,577
Category 1 — Purchased goods and services ¹ 類別1 — 購買的商品和服務 ¹	1,109
Category 2 — Capital goods 類別2 — 資本商品	6
Category 3 — Fuel and energy-related activities 類別3 — 燃料和能源相關活動	127
Category 4 — Upstream transportation and distribution & Category 9 — Downstream transportation and distribution 類別4 — 上游運輸和配送&類別9 — 下游運輸和配送	259
Category 5 — Waste generated in operations 類別5 — 運營中產生的廢物	3
Category 6 — Business travel 類別6 — 商務旅行	1
Category 7 — Employee commuting 類別7 — 僱員通勤	8
Category 12 — End-of-life treatment of sold products 類別12 — 處理壽命終止的售出產品	64

4.2. Environmental targets of papermaking sector

We have improved our product attributes and upgraded our manufacturing processes to meet the raising functionality and quality requirements of consumers. In addition, we have expanded our production capacity to meet the demands at the market end. As a result, the electricity and energy consumption per unit product of the papermaking sector of the Group increased in 2023 as compared to 2022. However, the energy consumption intensity per tonne of paper is 17% lower than the advanced value requirement of the *Energy Consumption Per Unit Product of Pulp and Papermaking* (《製漿造紙單位產品能源消耗限額》) (GB 31825-2015). Though the water consumption intensity per tonne of paper is higher than that in 2022, it is still 80.8% lower than the national standard upper limit of water withdrawal per tonne of product specified in *Water Quotas Part 5: Paper Products* (《取水定額第5部分：造紙產品》) (GB/T 18916.5-2012).

4.2. 造紙板塊環境目標

為了滿足消費者對於產品的功能和質量要求，我們進一步改變了產品屬性，並提升了製造工藝。此外，為了滿足市場端產品需求量，我們擴大了產能。因此，2023年本集團造紙板塊單位產品電耗和能耗相較於2022年有所提升，但是噸紙能耗密度比《製漿造紙單位產品能源消耗限額》(GB 31825-2015) 中的先進值要求低17%，噸紙耗水密度雖然較2022年有所上升，但依舊比《取水定額 第5部分：造紙產品》(GB/T 18916.5-2012) 中規定的每噸產品取水量的國家標準上限低80.8%。

¹ Category 1 — Purchased goods and services covers the Group's procurement of nine major raw materials such as wood pulp, polymers, nonwovens, plastics and cartons.

¹ 類別1 — 購買的商品和服務的排放涵蓋本集團採購木漿、高分子、無紡布、塑料、紙箱等9種主要原材料。

Climate-related Disclosures Report

氣候相關披露報告

Boundary 範圍	Metrics 指標	2023	2022	2021	Units 單位
Papermaking sector 造紙板塊	GHG emission intensity 溫室氣體排放密度	1.09	0.99	1.00	tCO ₂ e/tonne of paper 噸二氧化碳當量tCO ₂ e／噸紙
	Energy consumption intensity 能耗密度	0.35	0.31	0.32	tce/tonne of paper 噸標煤／噸紙
	Water consumption intensity 用水密度	5.8	5.6	5.2	tonnes/tonne of paper 噸／噸紙
	Wastewater intensity 廢水密度	3.3	3.1	3.0	tonnes/tonne of paper 噸／噸紙

On the basis of the previous target of electricity intensity per tonne of paper consumed, Hengan has further strengthened the requirements of the control targets for energy, greenhouse gases and water resources in 2023.

在此前噸紙耗電密度目標基礎上，2023年恒安進一步強化了能源、溫室氣體和水資源的管控目標要求。

Type 類型	Target 目標
Energy consumption intensity 能耗密度	By 2028, the energy consumption intensity of the papermaking sector will be controlled at 0.30–0.40 tce/tonne of paper 2028年前，造紙板塊能耗密度控制在0.30–0.40噸標煤／噸紙
Water consumption intensity 用水密度	By 2028, the water consumption intensity of the papermaking sector will be controlled at 5–6 tonnes/tonne of paper 2028年前，造紙板塊用水密度控制在5–6噸／噸紙
Wastewater intensity 廢水密度	By 2028, the wastewater intensity in the papermaking sector will be controlled at 3–3.5 tonnes/ton of paper 2028年前，造紙板塊廢水密度控制在3–3.5噸／噸紙



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